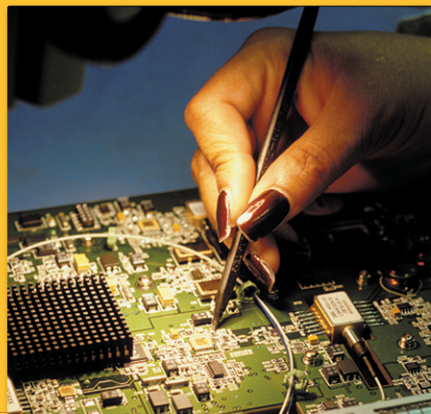
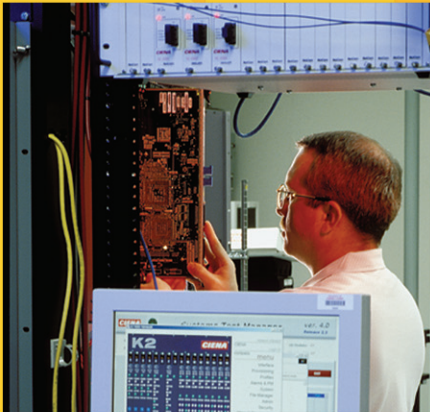


# MARYLAND

Department of Business & Economic Development

## Research Centers 2007



# **Research Centers 2007: Academic and Federal Research Centers in Maryland**

Data last updated in November, 2006. Republished in March, 2007.



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# About this report

This listing of scientific research centers and institutes in Maryland was compiled by the Maryland Department of Business & Economic Development. Originally created in 2002 and updated periodically through 2004, this version represents the most substantial improvement to the report since it was created.

The listing of research centers is organized as follows:

- **Affiliation**—All centers housed within a university are listed first (note the word “academic” in the center of the page header). They are followed by federal centers, and then a small number of private centers.
- **Parent organization**—Within each of the three affiliation groups (academic, federal, private), centers are grouped by the parent organization, such as “Johns Hopkins University” or “National Institutes of Health.” An abbreviation of the first parent organization of every page can be found in the right corner of the page header (“JHU”).
- **Centers that are administered jointly by more than one organization** are listed with a separate parent organization. An example is the Joint Center for Astrophysics, administered jointly by UMBC and NASA. It can be found at the end of the UMBC research centers since the parent organization is considered to be UMBC-NASA, not UMBC. Centers that are administered jointly by a universi-

ty and a federal agency are usually listed with a parent organization that lists the university name first.

- **Name of the center**—Within each parent organization, centers are listed alphabetically.

A limited number of private research centers are included. DBED recognizes that the list of private research centers is incomplete due to the proprietary nature of private research, but we welcome additional private research centers for inclusion in future versions of this list.

While this is believed to be the most comprehensive such listing available at the time of publication, DBED acknowledges the likelihood of omitting research centers that may be appropriate for inclusion. The ever-changing nature of scientific research also results in the creation of many new centers each year.

Additions, changes and corrections to this list are welcomed by DBED and will be incorporated into future versions. The scope of this project is to focus on research centers and institutes of a scientific nature. Centers and institutes that do not have a primary focus on scientific research will not be considered for inclusion at the discretion of DBED.

Please contact DBED at [researchcenters@choosemaryland.org](mailto:researchcenters@choosemaryland.org) with any suggestions regarding the content of this report.

# Acknowledgements

DBED wishes to thank the representatives of the research centers we contacted in the course of compiling this report. Without their help and cooperation, this report would not be possible.

DBED also acknowledges the following for their contributions:

- Will Baber, a former DBED employee who developed the original list of research centers in 2002;
- Katherine Schmitt, a DBED intern and undergraduate student at UMBC who conducted the research for this most recent update during the summer of 2006;
- Brian Darmody, Assistant Vice President for Research and Economic Development, University of Maryland;
- Dr. Charles K. Nicholas, UMBC Department of Computer Science and Electrical Engineering;
- Dr. John L. Eichelberger, Federal Laboratory Consortium, Mid-Atlantic Region.

# Research and Development in Maryland

The State of Maryland plays a leading role in science and technology research and development in the United States. The resulting explosion of knowledge has made the state a center of genomics, proteomics, computer science, aerospace engineering, bioinformatics, and physical science.

Federal and academic institutes and research centers in Maryland receive billions annually from the federal government in the form of research grants. This massive, on-going research effort takes place at over 350 federal and academic research centers in Maryland. This report of academic, federal and private R&D centers provide basic information about centers and institutes, including the name, the parent agency and any sub-agencies, a brief description of activities, an address and contact information, and keywords that help to identify the research thrust of the center.

Four major academic institutions—the University of Maryland College Park; the University of Maryland, Baltimore; the University of Maryland, Baltimore County; and the Johns Hopkins institutions—have created more than 250 research centers in science and technology. Some of these centers are operated in conjunction with federal agencies, state government, major universities around the U.S. and non-profit R&D foundations. More than a dozen federal agencies conduct R&D work in some 70 research centers in Maryland. These centers not only conduct research, they also award grants and contracts to Maryland businesses for research work and related services.

An important engine of R&D in Maryland and the U.S., the National Institutes of Health in Bethesda employs approximately 18,000 scientists, doctors, technicians and administrators. These individuals conduct research primarily in medical fields, but also in bioscience, computer science, and engineering. The federal government employs over 27,000 scientists and engineers in Maryland, more than in any other state.

Other major federal research facilities in Maryland include the National Institute of Standards and Technology, the Army Research Laboratory and the Food and Drug Administration. Many new research centers have been created in recent years in response to changing technology and needs, such as the National Biodefense Analysis and Countermeasures Center, part of the Department of Homeland Security, and the Institute for Cell Engineering at John Hopkins University, which is doing research into the biology of stem cells as well as other important research.

Maryland's universities, and most federal research centers, have business offices that coordinate with private industry to develop, evaluate or transfer technology. Maryland businesses benefit from development and evaluation services that are easy to access and save program development time and expenses. These unique assets are distributed around the state in suburban, urban, and rural locations.

**Bowie State University Satellite Operations and Control Center**

*Bowie State University (BSU); National Aeronautics and Space Administration (NASA)*

<http://apollo.cs.bowiestate.edu/mie/bsocc.html>

Bowie State University Satellite Operations and Control Center

Computer Science Bldg (CSB), Suite 208

14000 Jericho Park Road

Bowie, MD 20715-9465

Telephone: (301) 860-4000

Fax:

Personnel:

Keywords: Satellite

The Bowie State University Satellite Operations and Control Center is a joint venture between Bowie State University and NASA's Goddard Space Flight Center (GSFC) of the National Aeronautics and Space Administration (NASA), supported by Honeywell Technology Solutions, Inc. (HTSI). This unique program features a training facility and mission control center for NASA spacecraft, located on the Bowie State University campus. Under the supervision of professionals, students take part in the daily work of satellite flight operations, while earning several different levels of mission controller certification.

**Arthritis Center, Johns Hopkins**

*Johns Hopkins Medical Institutions (JHMI)*

*Division of Rheumatology, Department of Medicine*

<http://www.hopkins-arthritis.com>

Joan M. Bathon, Director

Arthritis Center, Johns Hopkins

Conducts research and clinical trials on various forms of arthritis and their therapies. The trials include studying how rheumatoid arthritis (RA) contributes to heart disease, whether people with RA would benefit from yoga, how to prevent and treat knee osteoarthritis, and the genetics of autoimmune diseases.

5501 Hopkins Bayview Circle, Suite 1B

Baltimore, MD 21224-

Telephone: (410) 550-8089

Fax: (410) 550-5601

Personnel: 26 faculty

Keywords: Gerontology, Genetics

**Asthma and Allergy Center**

*Johns Hopkins Medical Institutions (JHMI)*

*JHM Department of Medicine*

<http://www.hopkinsmedicine.org/allergy/index.html>

Bruce S. Bochner, M.D., Division Director

Asthma and Allergy Center

Conducts basic as well as clinical and translational research into the mechanisms of and therapies for allergies, asthma, and related problems. Specific research interests of the faculty include drug hypersensitivity, immunotherapy, childhood asthma, genetics and epidemiology of asthma, inflammatory cell recruitment and survival in allergic diseases, innervation of the airways, molecular mechanisms of gene regulation in the immune system, mast cell signaling, molecular genetics of asthma, and IgE receptor signal transduction.

5501 Hopkins Bayview Circle

Baltimore, MD 21224-6801

Telephone: (410) 550-2101

Fax:

Personnel: 25 researchers

Keywords: Clinical Trials, Genetics, Immunological



**Baltimore Huntington's Disease Center**

Johns Hopkins Medical Institutions (JHMI)

JHM Department of Psychiatry, Division of Neurobiology

<http://www.hopkinsmedicine.org/bhdc>

Christopher A. Ross, M.D., Ph.D., Director  
Baltimore Huntington's Disease Center

Laboratory research programs include basic studies of the biochemistry and cell biology of HD, and therapeutic studies in cell models and mouse models.

Meyer 2-181

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-1349

Fax:

Personnel: 7 faculty

Keywords: Biochemistry, Cell Culture

**Bayview Medical Center**

Johns Hopkins Medical Institutions (JHMI)

<http://www.hopkinsbayview.org>

Gregory F. Schaffer, CHE, President  
Bayview Medical Center

A teaching hospital that conducts clinical studies. Home to a comprehensive neonatal intensive care unit, a sleep disorders center, an area-wide trauma center, the state's only regional burn center, and a geriatrics center that enjoys a national reputation. Current clinical studies range from contraceptive to recreational drugs to sleep studies.

4940 Eastern Avenue

Baltimore, MD 21224-

Telephone: (410) 550-0100

Fax:

Personnel:

Keywords: Clinical Trials

**Breast Center at Johns Hopkins**

Johns Hopkins Medical Institutions (JHMI)

Johns Hopkins Medicine (JHM)

<http://www.hopkinsbreastcenter.org>

Lillie Shockney, Administrative Director  
The Breast Center at Johns Hopkins

The top ranked breast cancer treatment and research center in the United States. Research areas include hormone receptors, methylation, vaccine development, genetics, and causes of mets. Clinical research is also conducted. Recent studies include a study assessing the feasibility and safety of intraductal administration of pegylated liposomal doxorubicin (Doxil) in women with breast cancer and a Phase I/II Partial Breast Irradiation with Concurrent Chemotherapy study.

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-8964

Fax:

Personnel:

Keywords: Cancer, Clinical Trials, Vaccines



**Center for Laryngeal and Voice Disorders**

Johns Hopkins Medical Institutions (JHMI)

JHM Department of Otolaryngology-Head and Neck Surgery

<http://www.hopkinsmedicine.org/voice/index.html>

Dr. Paul Flint, Director

Center for Laryngeal and Voice Disorders, Johns Hopkins  
Outpatient Center

601 North Caroline Street, 6th Floor  
Baltimore, MD 21287-

Telephone: (410) 955-1654

Fax: (410) 955-6526

Personnel: 6 faculty

Keywords: Diagnostic, Genetics, Neurological

Conducts basic science and clinical research with an emphasis on the development and evaluation of diagnostic and therapeutic protocols. Also provides clinical treatment. Current research includes new surgical strategies for the treatment of laryngeal paralysis to deal with the problem of muscle atrophy associated with denervation, research into HGF-I gene therapy, electroportation and tissue specific gene transfer.

**Dana Center for Preventative Ophthalmology**

Johns Hopkins Medical Institutions (JHMI)

JHM Wilmer Eye Institute

<http://www.hopkinsmedicine.org/wilmer/research/dana.html>

The Dana Center for Preventative Ophthalmology, Johns  
Hopkins Hospital

600 North Wolfe Street  
Baltimore, MD 21287-

Telephone: (410) 955-5080

Fax:

Personnel:

Keywords: Eye, Public Health

Part of the Wilmer Eye Institute. In general, research in the Dana Center focuses on improving knowledge of risk factors for ocular disease and public health approaches to the prevention of these diseases and their ensuing visual impairment and blindness worldwide. Some specific examples include: estimation of the extent of clustering of ocular diseases such as trachoma and xerophthalmia within households and communities and the identification of risk factors associated with such clustering; development of statistical methods for assessing progression of visual field loss in glaucoma using automated perimetry; evaluation of the impact of vitamin A supplementation during pregnancy and infancy on birthweight and infant mortality in countries with endemic xerophthalmia and vitamin A deficiency; identification of nutritional risk factors for the development and progression of age-related eye disease such as cataract and age-related macular degeneration; community-based trials in Tanzania and an international trachoma study.

**F.M. Kirby Research Center for Functional Brain Imaging**

Johns Hopkins Medical Institutions (JHMI)

Kennedy Krieger Institute (KKI)

<http://mri.kennedykrieger.org/index.html>

Peter van Zijl, Director

F.M. Kirby Research Center, Johns Hopkins Hospital

707 North Broadway  
Baltimore, MD 21205-

Telephone: (443) 923-9500

Fax: (443) 923-9505

Personnel: 21 researchers

Keywords: Imaging

A research resource where imaging scientists and neuroscientists collaborate to study brain function using unique state-of-the-art techniques in a safe comfortable environment, to further develop these techniques, and to provide training and education in their use. Research conducted at the center ranges from Autism studies to Depression studies.

**Gastroenterology and Hematology Resource Center**

Johns Hopkins Medical Institutions (JHMI)

JHM Department of Medicine, Division of Gastroenterology and Hematology

<http://hopkins-gi.nts.jhu.edu/pages/latin/templates/index.cfm>

Dr. Jean Wang

Gastroenterology and Hematology Resource Center,  
Johns Hopkins Hospital

Blalock 413

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 502-3386

Fax: (410) 955-2108

Personnel: 50 staff

Keywords: Cancer, Clinical Trials, Diagnostic, Food,  
Gastrointestinal,

Seeks to advance the understanding, diagnosis, treatment, and prevention of disease of the gastrointestinal and liver organs with the ultimate goal of improving patient care. Includes both basic research and clinical research divisions. Their research seeks to conduct investigations in scientific fields related to the physiology or pathophysiology of the digestive tract and apply knowledge gained to improve the care of patients with related diseases. Recent and current research projects include physiology and molecular biology of the intestinal epithelial cells, the genetics of inflammatory bowel diseases, the molecular mechanisms of neoplasia of the GI tract and liver including colorectal cancer and hepatocellular carcinoma, regulation of liver regeneration, mechanisms of hepatic fibrosis, nutritional regulation of obesity, and physiology of alcohol metabolism. Current clinical trials include drug trials, evaluation of pancreatic cysts with endoscopic ultrasound, and inheritance of colon cancer: a sibling pair study.

**Greenberg Center for Skeletal Dysplasia**

Johns Hopkins Medical Institutions (JHMI)

Johns Hopkins Hospital Center for Skeletal Genetics

<http://www.hopkinsmedicine.org/greenbergcenter/Greenbrg.htm>

Victor McKusick, M.D., Director

Greenberg Center for Skeletal Dysplasia, Johns Hopkins  
Hospital

Blalock 1008

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-3071

Fax: (410) 502-2375

Personnel: 22 staff

Keywords: Clinical Trials, Musculoskeletal

The Kathryn and Alan C. Greenberg Center for Skeletal Dysplasias is dedicated to the medical care and education of persons with skeletal dysplasias, and to the clinical and laboratory investigation into these conditions. Toward this end, the Center brings together a multidisciplinary team of doctors and investigators dedicated to improving the quality of life for persons of short stature, and furthering basic scientific knowledge about the many causes of dwarfism. Clinical studies have included topics of achondroplasia, hypochondroplasia, psuedoachondroplasia, cartilage hair hypoplasia, chondroectodermal dysphasia, and diastrophic dysphasia.

**Johns Hopkins Comprehensive Transplant Center**

Johns Hopkins Medical Institutions (JHMI)

<http://www.hopkinsmedicine.org/transplant>

Robert A. Montgomery, Chief

Johns Hopkins Comprehensive Transplant Center

Harvey 611

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 614-5700

Fax: (410) 614-9270

Personnel: 161 staff

Keywords: Cardiovascular, Pulmonary

Conducts research on organ transplant issues including renal, hepatology, pulmonary, cardiology and pathology studies. The Center is a leading US transplant center.

**Johns Hopkins Epilepsy Center**

Johns Hopkins Medical Institutions (JHMI)

JHM Department of Neurology and Neurosurgery

<http://www.neuro.jhmi.edu/Epilepsy/keto.html>

Gregory Bergey, Director

Johns Hopkins Epilepsy Center

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-9100

Fax: (410) 614-0373

Personnel: 16 researchers

Keywords: Clinical Trials, Food, Diagnostic,  
Neurological

Conducts clinical and laboratory research on epilepsy, such as antiepileptic drug trials, programs studying the efficacy and mechanisms of the ketogenic diet, developing and improving surgical methods for treatment of seizures including new forms of surgery, as well as developing computer based methods for detection and analysis of seizure related activity on the EEG. Includes the Epilepsy Research Laboratory and the Seizure Treatment and Research Laboratory respectively at <http://erl.neuro.jhmi.edu/> and <http://www.neuro.jhmi.edu/Epilepsy/STARlab/index.htm> The Seizure Treatment and Research Laboratory conducts research and analysis on electromagnetic changes that occur in patients with intractable seizures using algorithms, observation, and data from subdural electrodes implanted in patients.

**Johns Hopkins Microarray Core Facility**

Johns Hopkins Medical Institutions (JHMI)

<http://www.microarray.jhmi.edu>

Forrest Spencer, Director

Johns Hopkins Microarray Core Facility

447 BRB

733 North Broadway

Baltimore, MD 21205-

Telephone: (410) 614-2536

Fax: (410) 955-0484

Personnel: 9 researchers

Keywords: Instrumentation

Aim is to provide cost-effective and time-efficient access to microarray technology, as well as an environment that facilitates effective analysis and sharing of microarray data. Data and information supplied by the Core are intended for research use only. This facility is not certified to supply data to be used in clinical care. It consists of two functionally separate units: Hybridization Unit and Analysis Unit. The Hybridization Unit currently provides labeled target production, hybridization, and data collection services for Affymetrix arrays. The Analysis Unit offers support for array analyses, provides access to commercially available software through shared seat licensing, and maintains a shared-access microarray database. Although open access data transfer is encouraged, confidential storage is also supported.

**Johns Hopkins Multiple Sclerosis Center**

Johns Hopkins Medical Institutions (JHMI)

JHM Department of Neurology and Neurosurgery

<http://www.hopkinsneuro.org/ms>

Dr. Peter Calabresi, Director

Johns Hopkins Multiple Sclerosis Center

Pathology 627

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 614-1522

Fax: (410) 502-6736

Personnel: 12 researchers

Keywords: Cell Culture, Clinical Trials

Primary research thrust is micro-biological and intra as well as inter-cellular specifically studying how the immune system and the nervous system interact, especially concerning white blood cell's interaction with the brain as well as studying to understand how nerve cells are injured through MS lesions and how to prevent or reverse the injury. Also conducts clinical trials to test new therapies including drug trials.

**Kelly G. Ripken Thyroid Tumor Center**

Johns Hopkins Medical Institutions (JHMI)

Johns Hopkins Medicine (JHM)

<http://thyroid-ripken.med.jhu.edu>

The Kelly G. Ripken Thyroid Tumor Center

The center conducts basic and clinical research on thyroid cancer. It also provides care to patients and training to physicians, including free thyroid testing. A recent research study was done on the effect of hyperthyroidism on cholesterol levels.

1830 East Monument Street, Suite 333

Baltimore, MD 21287-

Telephone: (410) 614-1174

Fax:

Personnel:

Keywords: Cancer, Clinical Trials

**Kennedy Krieger Institute**

Johns Hopkins Medical Institutions (JHMI)

<http://www.kennedykrieger.org>

Gary W. Goldstein, President and CEO

Kennedy Krieger Institute

707 North Broadway

Baltimore, MD 21205-

Telephone: (800) 873-3377

Fax: (443) 923-9405

Personnel: 115 staff

Keywords: Clinical Trials, Imaging, Bioinformatics, Genetics, Diagnostic

Research is directed towards child health and includes a large amount of clinical studies. Major topics of research include Advanced Brain Imaging Research, Autism Spectrum Disorders Research, Behavior and Feeding Disorders Research, Bioinformatics Research, Brain Tumor Research, CDC RISE (Research Initiatives for Student Enhancement), Center for Genetic Disorders of Cognition and Behavior, Cerebral Palsy and Other Movement Disorders Research, Educational Research, Genetic, Metabolic and Degenerative Brain Disorders Research, Learning and Other Cognitive Disorders Research, Mental Retardation/Developmental Disabilities Research Center (MRDDRC), Molecular Neuroscience Research, Neuro-Psychiatric Disorders Research, Neurobehavioral Research Unit (NBRU), Osteogenesis Imperfecta Registry, Rehabilitation Research, Research Training in Brain Injury Rehabilitation, Spinal Cord Injury and Paralysis Research, Traumatic and Environmental Brain Disorders Research.

**Marvin M. Shuster Center for Mobility and Digestive Disorders**

Johns Hopkins Medical Institutions (JHMI)

Bayview Medical Center

<http://www.hopkinsbayview.org/motil/index.html>

Brian Lacy, Ph.D., M.D., Director

Marvin M. Shuster Center for Mobility and Digestive Disorders

4940 Eastern Avenue

Baltimore, MD 21224-

Telephone: (410) 550-7854

Fax:

Personnel:

Keywords: Gastrointestinal, Clinical Trials

The Marvin M. Schuster Center for Motility and Digestive Disorders is the first center of its kind in the country designed as a complete research and care facility for people with gastrointestinal disorders. The Center is equipped with laboratory and clinical technologies, examination, and treatment areas. Current research studies are of women's health, drug addictions and obesity.

**Parkinson's Disease Research Center of Excellence**

Johns Hopkins Medical Institutions (JHMI)

JHM Department of Neurology and Neurosurgery

<http://www.neuro.jhmi.edu/hopkinspdmd/edu.htm>

Rebecca Dunlop, Nurse Coordinator

Parkinson's Disease Research Center of Excellence,  
Johns Hopkins Hospital

733 North Broadway, Suite 731

Baltimore, MD 21205-

Telephone: (410) 614-3359

Fax: (410) 614-9568

Personnel: 9 researchers

Keywords: Clinical Trials, Drug Development, Stem  
Cell, Genetics, Cell Culture

Conducts laboratory and clinical research into the cause and treatment of Parkinson's Disease. Research includes development of new drugs, study of the mechanisms of neuroprotection, regeneration and repair, including stem cell research. The center uses animal and cellular models of Parkinson's Disease (PD) to develop therapies. Specific topics of research are identification of genes for PD and other Parkinsonian syndromes, development of genetically engineered mouse models of PD and other syndromes, studies of the basic cell processes underlying PD-triggered death of dopamine neurons, studies on the sequential steps on the path to cell death in PD, as well as clinical trials to treat psychiatric and cognitive aspects of PD.

**Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins**

Johns Hopkins Medical Institutions (JHMI)

Johns Hopkins Medicine (JHM)

<http://www.hopkinskimmeltcancercenter.org>

Martin D. Abeloff, M.D., Director

Sidney Kimmel Comprehensive Cancer Center at Johns  
Hopkins

401 North Broadway

Baltimore, MD 21231-

Telephone: (410) 955-5222

Fax:

Personnel: 400 staff

Keywords: Cancer, Clinical Trials

Conducts basic and clinical research on cancer. Current research topics are cancer biology, cancer immunology, viral oncology, cancer prevention and control, chemical therapeutics, cancer imaging, hematologic malignancies and BMT, prostate cancer, breast cancer, gastrointestinal cancer, upper aerodigestive cancer, brain cancer, and female reproductive cancer. Clinical research is done in similar areas and many different types of cancer.

**Wilmer Eye Institute**

Johns Hopkins Medical Institutions (JHMI)

Johns Hopkins Medicine (JHM)

<http://www.hopkinsmedicine.org/wilmer/index.html>

Richard C. Thomas, Administrator

Wilmer Eye Institute, Johns Hopkins Hospital

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-5080

Fax:

Personnel: 38 researchers

Keywords: Eye

Conducts research on prevention of eye disease, as well as therapies and development of instruments for treating eye disease. Clinical services are also provided. Current research topics include the Baltimore pediatric eye disease study, macular photocoagulation study, excimer laser research, and a collaborative ocular melanoma study.

**Adaptive Microsystems Laboratory**

Johns Hopkins University (JHU)

Department of Electrical and Computer Engineering, Whiting School of Engineering

<http://bach.ece.jhu.edu>

Gert Cauwenberghs, Professor

Adaptive Microsystems Laboratory, The Johns Hopkins University

400-B Barton Hall

3400 North Charles Street

Baltimore, MD 21218-2686

Telephone: (410) 516-7701

Fax:

Personnel: 16 researchers

Keywords: Semiconductors, Software

Work extends to kernel learning machines which incorporate principles of statistical learning theory. Recently developed the Kerneltron, the world's first Support Vector "Machine" as a single-chip massively parallel VLSI array processor for adaptive pattern recognition and machine vision.

**Air and Missile Defense at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/airdefense/index.asp>

Rich Roca, Director of APL

Air and Missile Defense, The Johns Hopkins University, Applied Physics Laboratory

11100 Johns Hopkins Road

Laurel, MD 20723-6099

Telephone: (443) 778-5000

Fax: (443) 778-1093

Personnel: 4,000 staff at APL

Keywords: Rockets, Warfare

The work of the Air and Missile Defense business area enhances the operational capabilities of DoD systems that defend against high-performance cruise and ballistic missiles and threat aircraft in both overseas and overland environments. Provides practical solutions to emerging AMD challenges to ensure that the U.S. Navy and other military forces can defend themselves and others. Our work comprises research, development, engineering, and test and evaluation of current and future air defense and related systems and technologies.

**Alzheimer's Disease Research Center**

Johns Hopkins University (JHU)

School of Medicine

<http://www.alzresearch.org/index.cfm>

Donald Price, M.D. ADRC Director

Alzheimer's Disease Research Center, The Johns Hopkins University, Department of Pathology

Ross Building 558

720 Rutland Avenue

Baltimore, MD 21205-

Telephone: (410) 502-5164

Fax: (410) 955-9777

Personnel: 36 staff

Keywords: Gerontology

The overarching goal of the Center is to accelerate the discovery of new treatments that are directed at the basic mechanisms of disease, and to hasten the time when effective treatments for AD and related disorders become a reality. Includes clinical trials and basic research. Basic research studies include Assessing Memory Performance in Mouse Models of Ab Amyloidogenesis, Beta-amyloid modulation role of BACE1 and BACE2, Nicastrin and gamma secretase in AD, Nicastrin and presenilin dependent gamma secretase-1, Synapse formation in vitro, and Transynaptic cortical apoptosis mechanisms and therapy.

**Autoimmune Disease Research Center**

Johns Hopkins University (JHU)

<http://autoimmune.pathology.jhmi.edu/index.cfm>

Noel R. Rose, Director  
Autoimmune Disease Research Center, The Johns  
Hopkins University, Department of Pathology  
Ross Building 632  
720 Rutland Avenue  
Baltimore, MD 21250-  
Telephone: (443) 287-8911  
Fax: (410) 614-3548  
Personnel: 12 staff  
Keywords: Immunological, Diagnostic, Clinical Trials

Provides specialized clinical care for patients with all autoimmune disorders. Includes laboratory diagnostic and research facilities. The laboratory focuses on the study of myocarditis and thyroiditis. The clinical laboratory specializes in the detection of autoantibodies using immunofluorescence, hemagglutination or ELISA techniques.

**Bioethics Institute**

Johns Hopkins University (JHU)

JHSPH School of Nursing; Zanvyl Krieger School of Arts and Sciences

<http://www.hopkinsmedicine.org/bioethics/index.html>

Ruth Faden, Executive Director  
Bioethics Institute, The Johns Hopkins University

100 North Charles Street, Suite 740  
Baltimore, MD 21201-  
Telephone: (410) 516-8500  
Fax: (410) 516-8504  
Personnel: 43 staff  
Keywords: Health Policy

Brings the moral dimensions of health policy, medical care, and the biological, behavioral, and social sciences to the forefront of scholarship and practice and prepares the nation's next generation of leaders in bioethics; promotes research at the intersection of ethics, law, medicine, and science; and provides service to the government and the private sector.

**Biomedicine at the Johns Hopkins Applied Physics Laboratory**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/biomed/index.asp>

Rich Roca, Director of APL  
The Johns Hopkins University, Applied Physics  
Laboratory

11100 Johns Hopkins Road  
Laurel, MD 20723-6099  
Telephone: (443) 778-5000  
Fax: (443) 778-1093  
Personnel: 4,000 staff at APL  
Keywords: Biodefense, Warfare

APL is a 'hands-on' organization that directs and participates in all phases of systems development. We bring solid system engineering and integration credentials to the understanding of warfighter and critical civilian operational environments. We apply biotechnology, life sciences, and engineering to prevent and treat trauma by expanding our understanding of the injury environment and improving the engineering in treatment systems.



**Biostatistics Center**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.biostat.jhsph.edu/consult>

Michael Griswold, Director

The Johns Hopkins University, Department of Biostatistics

Its mission is to provide biostatistical and information science expertise in support of health research.

615 North Wolfe Street

Baltimore, MD 21205-2179

Telephone: (410) 955-3067

Fax: (410) 955-0958

Personnel: 34 faculty

Keywords: Bioinformatics

**Center for A Livable Future**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/clf/index.html>

Robert S. Lawrence, Director

Center for A Livable Future, The Johns Hopkins University

Its goals are: to increase the body of knowledge about the interconnections among diet, food production, human health, and the natural environment in order to influence public policy toward more equitable and sustainable systems, to engage public health professionals in the discovery of new knowledge, the communication of findings and the formation of public policy, and to raise individual and institutional awareness within the JHU community of our responsibility for environmental stewardship and, through curriculum, educational events and attention to university practices, effect behavior changes. CLF works to achieve its goals by funding research, communicating findings, and building partnerships.

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 614-7578

Fax:

Personnel: 9 staff

Keywords: Food, Public Health

**Center for Adolescent Health**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/adolescenthealth/About%20the%20Center/>

Freya Sonenstein, Ph.D., Director

The Center for Adolescent Health, The Johns Hopkins University

The Center for Adolescent Health is committed to assisting urban youth to become healthy and productive adults. Together with community partners, the Center conducts research that identifies the needs and strengths of young people and tests programs designed to promote the health and well-being of young people. Current research includes studies into youth development and youth mental health.

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (443) 287-7277

Fax:

Personnel: 24 researchers

Keywords: Mental Health

**Center for Advanced Metallic and Ceramic Systems**

Johns Hopkins University (JHU)

Dept. of Mechanical Engineering; Dept. of Materials Science & Engineering, Whiting School of Engineering

<http://www.wse.jhu.edu/camacs.html>

Kaliat T. Ramesh, Director

Center for Advanced Metallic and Ceramic Systems, The Johns Hopkins Univ., Whiting School of Engineering

3400 North Charles Street  
Baltimore, MD 21218-2686  
Telephone: (410) 516-7735  
Fax:  
Personnel: 7 researchers  
Keywords: Materials

The Center for Advanced Metallic and Ceramic Systems (CAMACS) investigates the fundamental mechanics and materials issues involved with advanced materials at small length scales and very short times. The Center has five thrusts: nanostructured metals, bulk metallic glasses, high-performance ceramics, metal-ceramic composites and dynamic failure and damage mechanisms. Research efforts include very large scale simulations of dynamic phenomena, novel experimental techniques for mechanical measurements at small scales and short times, and the synthesis and processing of nanostructured metals and bulk metallic glasses.

**Center for Algorithm Engineering**

Johns Hopkins University (JHU)

Department of Computer Science, Whiting School of Engineering

<http://www.cs.jhu.edu/labs/cae>

Michael T. Goodrich, Director

Center for Algorithm Engineering, The Johns Hopkins University, Department of Computer Science

3400 North Charles Street  
Baltimore, MD 21218-  
Telephone: (949) 824-9366  
Fax: (208) 693-4984  
Personnel: 7 staff  
Keywords: Internet, Computer Security

The Center for Algorithm Engineering studies the design and implementation of efficient algorithms and data structures. Motivating applications involve the Internet, information security, information visualization, scientific data mining, computational biology, computer graphics, and geometric computing.

**Center for Alternatives to Animal Testing (CAAT)**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://caat.jhsph.edu>

Alan Goldberg, Director

Center for Alternatives to Animal Testing (CAAT)

111 Market Place, Suite 840  
Baltimore, MD 21202-6709  
Telephone: (410) 223-1692  
Fax: (410) 223-1603  
Personnel: 18 staff  
Keywords: Veterinary

Promotes the use of alternatives to animals in biomedical research product safety testing, and education. Makes grants to support alternative research methods as well as publishing books, newsletters and an extensive website <http://altweb.jhsph.edu/>, and providing symposiums and workshops on alternative methods.

**Center for American Indian Health**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/caih/index.html>

Mathuram Santosham, Founder/Director

The Center for American Indian Health, The Johns Hopkins University

The mission of the Johns Hopkins Center for American Indian Health (CAIH) is to work in partnership with American Indian tribes to raise the health status and self sufficiency of American Indian people to the highest possible level. This mission is accomplished through three core activities: 1) research, 2) service, and 3) training. Research focuses on medical issues.

615 North Wolfe Street, E8132

Baltimore, MD 21205-

Telephone: (410) 955-3952

Fax: (410) 614-1419

Personnel:

Keywords: Health Policy

**Center for Autism and Developmental Disabilities Epidemiology**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/cadde/index.html>

Craig J. Newschaffer, PhD, Director

Center for Autism and Developmental Disabilities Epidemiology, Johns Hopkins Univ., Dept. of

The Johns Hopkins Center for Autism and Developmental Disabilities Epidemiology (CADDE) was established at the School of Public Health to increase understanding of the factors that lead to the development of autism and other developmental disabilities. The Center serves to foster communication, coordination, and collaboration among a multi-disciplinary team of researchers around the epidemiology of Autism Spectrum Disorders (ASD) and Developmental Disabilities (DD). We also strive to bring epidemiologic data and research to public health and educational practitioners, as well as to interested ASD and DD public constituencies.

615 North Wolfe Street, Suite E6031

Baltimore, MD 21205-

Telephone: (443) 287-3563

Fax: (410) 502-6652

Personnel: 15 staff

Keywords: Epidemiology, Mental Health

**Center for Cardiovascular Bioinformatics and Modeling**

Johns Hopkins University (JHU)

Department of Cardiology, School of Medicine

<http://www.ccbm.jhu.edu/index.php>

Raimond L. Winslow, Director

Center for Cardiovascular Bioinformatics and Modeling, The Johns Hopkins University

The mission of the Center for Cardiovascular Bioinformatics and Modeling (CCBM) is to develop new methods for the representation, storage, analysis and modeling of biological data, and to use these quantitative approaches to better understand cardiovascular function in both health and disease. Current research projects include a canine micro array, studying the physiologic genomics of heart failure, studying the proteomics of Adaptation to Ischemia/Hypoxia in Heart, Lung and Blood, and studying Anatomical and Electrical Remodeling in Heart.

201 Clark Hall

3400 North Charles Street

Baltimore, MD 21218-2686

Telephone: (410) 516-4116

Fax: (410) 516-5294

Personnel: 22 researchers

Keywords: Cardiovascular, Simulation/Modeling, Bioinformatics, Veterinary

**Center for Cervical Dysplasia**

Johns Hopkins University (JHU)

<http://www.hopkinsmedicine.org/cervicaldysplasia>

Mihaela Paradis, Study Coordinator  
Center for Cervical Dysplasia, The Johns Hopkins University

Phipps Building, Room 249C

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 502-0512

Fax: (410) 502-0621

Personnel: 5 researchers

Keywords: Cancer, Clinical Trials

Seeks a vaccination for cervical cancer. Does mostly clinical trials and cohort studies. Currently doing a cohort study on the effects of an extended treatment window.

**Center for Craniofacial Development and Disorders**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/craniofacial/Home/Index.cfm>

Ethilyn Wang Jabs, MD, Director  
Center for Craniofacial Development and Disorders

733 North Broadway

Baltimore, MD 21205-1832

Telephone: (410) 955-4160

Fax: (410) 502-5677

Personnel: 31 researchers

Keywords: Informatics

Educates and performs research on craniofacial disorders including cleft lip and palate, craniosynostosis, Apert syndrome, Crouzon syndrome and other disorders. The Center is currently conducting studies to understand the normal process of craniofacial development and the pathogenesis of genetic and teratogen-induced facial malformations, craniosynostosis, and oral clefting in humans, as well as in the model organisms zebrafish, mice, and rabbits. Researchers and clinicians of the Center are making scientific and technologic advances in craniofacial biology and medical treatment by utilizing computer visualization, informatics, biostatistical analysis, developmental biology, and molecular genetics. Through coordinated efforts among Center experts the mechanisms underlying craniofacial development are being revealed from the basic level of the genes to the morphologic and behavioral levels of facial appearance and psychosocial well being.

**Center for Environmental and Applied Fluid Mechanics**

Johns Hopkins University (JHU)

Whiting School of Engineering; the Krieger School of Arts and Science; the Applied Physics Laboratory

<http://www.jhu.edu/~ceafm>

Charles Meneveau, Director

Center for Environmental and Applied Fluid Mechanics,  
Johns Hopkins Univ., Dept. of Mechanical Engineering

Latrobe Hall 128

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-0463

Fax:

Personnel: 36 researchers

Keywords: Transportation, Biochemistry

The Center for Environmental and Applied Fluid Mechanics (CEAFM) fosters research and teaching involving fluid mechanics by bringing together students, faculty, and researchers from the Whiting School of Engineering, the Krieger School of Arts and Sciences, and the Applied Physics Laboratory. Research areas of the CEAFM faculty and students include fluid flow phenomena in engineering and science covering a wide range of spatial and temporal scales. This includes fluid flows that occur in industrial, transportation, and manufacturing applications, in ocean and coastal engineering, in the treatment of aquatic and air-borne contaminants, in planetary atmospheres and oceans, rivers, subsurface waters, and fluids deep in the earth's interior, in biological systems, and in the microscopic environments relevant to micro-fluidic engineering applications and to aquatic and atmospheric chemistry and biology.

**Center for Global Health**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH); Johns Hopkins School of Nursing

<http://www.hopkinsglobalhealth.org>

Thomas Quinn, Director

The Center for Global Health, The Johns Hopkins University

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-7635

Fax:

Personnel:

Keywords: Infectious Disease, Genetics, Clinical Trials

The Johns Hopkins Center for Global Health bridges the international work of the University's Bloomberg School of Public Health, School of Medicine and School of Nursing in a coordinated worldwide effort to combat HIV/AIDS, malaria, tuberculosis, malnutrition, hepatitis and other threats to health—especially in developing countries. Research includes many things such as genetics research in Washington, DC and treatment trials in various countries.

**Center for Hearing and Balance**

Johns Hopkins University (JHU)

<http://www.bme.jhu.edu/labs/chb>

Dr. Brad May, Professor

Center for Hearing and Balance, The Johns Hopkins University, Department of Otolaryngology

505 Traylor Research Building

720 Rutland Avenue

Baltimore, MD 21250-

Telephone: (410) 955-1080

Fax: (410) 955-6526

Personnel: 20 researchers

Keywords: Auditory

The Center includes researchers, teachers, clinicians, and others in the Hopkins medical community. The goal of the Center is to perform basic and clinical research, train basic and clinical investigators, and disseminate research results and relevant information to the medical community and the general public. Research is centered on auditory (hearing) and vestibular (balance) function in normal subjects and in patients with hearing and balance disorders, and on rehabilitation. Current research areas include representation and processing of complex acoustic stimuli, vestibular physiology and disorders, hair cell biophysics and synaptic transmission in the cochlea, anatomy and physiology of the auditory system, hearing impairment and tinnitus, oculomotor function and disorders, theoretical and computational neuroscience, and calcium channel and signaling.

**Center for Human Nutrition**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/Research/Centers/Nutrition>

Benjamin Caballero, Professor

Center for Human Nutrition, The Johns Hopkins University

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 095-5500

Fax:

Personnel: 52 faculty

Keywords: Food

The Johns Hopkins Center for Human Nutrition generates new knowledge, trains the next generation of nutrition scientists, and develops innovative approaches to domestic and international challenges in public health nutrition. Includes a micronutrient laboratory, a body composition/energy metabolism laboratory, a mass spectrometry laboratory, and clinical facilities at the Johns Hopkins Hospital, USDA Human Nutrition Research Center at Beltsville and the Pro-Health Center located in suburban Baltimore. Current areas of emphasis for the center are maternal-infant nutrition, micronutrient and mineral deficiencies, and obesity prevention intervention programs. Research is conducted in many locations around the world and emphasis is placed on working worldwide with research being conducted in India, Nepal, Peru, Malawi, China and many other locations, of course including Baltimore, Maryland.

**Center for Imaging Science**

Johns Hopkins University (JHU)

<http://cis.jhu.edu>

Michael I. Miller, Director  
Center for Imaging Science, The Johns Hopkins University  
301 Clark Hall

Center for Imaging Science at the Johns Hopkins University is affiliated with the Whitaker Biomedical Engineering Institute. The research program at CIS is organized around three principal themes: 1) Representation and synthesis of complex shapes and scenes; 2) Computationally efficient shape detection and recognition; 3) Image formation and sensor modeling.

Baltimore, MD 21218-  
Telephone: (410) 516-3826  
Fax: (410) 516-4594  
Personnel: 50 staff  
Keywords: Sensors, Imaging

**Center for Immunization Research**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/cir/aboutcir.htm>

Dr. Donald S. Burke, M.D.  
Center for Immunization Research, Johns Hopkins Univ.,  
Dept. of International Health, Div. of Disease Control

Since 1985, CIR investigators have been conducting safety, immunogenicity, and efficacy trials of new and improved vaccines in adults and children, and challenge studies in adult volunteers to characterize the virulence of wild-type viruses and to determine the efficacy of vaccines and antiviral agents. CIR investigators have also conducted surveillance for respiratory viruses in pediatric and adult populations and studies in adults and children to determine the safety of respiratory virus vaccines, and efficacy of antiviral drugs and a monoclonal IgA antibody against RSV fusion protein.

624 North Broadway  
Baltimore, MD 21205-  
Telephone: (410) 955-1622  
Fax: (410) 955-2791  
Personnel: 52 staff  
Keywords: Infectious Disease, Vaccines, Immunological

**Center for Inherited Disease Research**

Johns Hopkins University (JHU)

<http://www.cidr.jhmi.edu>

Jerry Roberts, Executive Director  
Center for Inherited Disease Research, National Human Genome Research Institute, Johns Hopkins University  
Suite 4076, MSC 9306  
5635 Fishers Lane  
Bethesda, MD 20892-  
Telephone: (301) 402-8837  
Fax:  
Personnel: 40 staff  
Keywords: Genomics

Established to provide genotyping and statistical genetics services for investigators seeking to identify genes that contribute to human disease. Since 1997, the center has genotyped over 148 subjects including at least 123 human subjects. CIDR concentrates primarily on multifactorial hereditary diseases. The CIDR is open to all investigators pending a peer review, and is supported by 13 institutes in the NIH through a federal contract to Johns Hopkins University.

**Center for Inherited Neurovascular Diseases (CIND)**

Johns Hopkins University (JHU)

School of Medicine

<http://www.cind.org>

Dr. Rigamonti, Director

Center for Inherited Neurovascular Diseases (CIND), The Johns Hopkins University

Phipps R100

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-2259

Fax:

Personnel: 12 faculty

Keywords: Genetics

Studies inherited cerebrovascular diseases and the treatment of affected individuals and families. The priority of the center is to determine which genes are responsible for selected forms of neurovascular disease, and to use this information to improve the diagnosis and treatment of affected individuals. The center is currently studying cerebral aneurysms, arteriovenous malformations and cavernous malformations.

**Center for Language and Speech Processing**

Johns Hopkins University (JHU)

<http://www.cisp.jhu.edu/index.shtml>

Frederick Jelinek, Director

Center for Language and Speech Processing, The Johns Hopkins University

Barton Hall

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-4237

Fax: (410) 516-5050

Personnel: 8 researchers

Keywords: Language

The Johns Hopkins Center for Language and Speech Processing (CLSP) was established in 1992 with support from the US Government (NSF, DARPA, DoD). Its aim is to promote research and education in the science and technology of language and speech. Novel ideas like nonreciprocal data sharing as an alternative to parameter tying, use of prosodic information for modeling pronunciation variation, a structured language model for exploiting syntactic dependencies, etc. are being investigated.

**Center for Materials Sensing and Detection**

Johns Hopkins University (JHU)

<http://engineering.jhu.edu/~cmsd>

Dr. Jim Spicer, Prof. of Materials Science and Eng.

Center for Materials Sensing and Detection, The Johns Hopkins University

102 Maryland Hall

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-8524

Fax: (410) 516-5293

Personnel: 4 faculty

Keywords: Materials

The Center for Materials Sensing and Detection employs a unique combination of selected technologies to solve the problem of explosives detection in the environment. Four unique program areas address a range of fundamental, technical issues associated with trace detection of explosive related compounds: Terahertz (THz) Imaging and Spectroscopy, Laser-Induced Breakdown Spectroscopy (LIBS), Cavity Ring Down Spectroscopy (CRDS), and Resonance Enhanced Multiphoton Ionization (REMPI).



**Center for Nondestructive Evaluation (CNDE)**

Johns Hopkins University (JHU)

Center for Nondestructive Evaluation (CNDE), The Johns Hopkins University

615 North Wolfe Street  
Baltimore, MD 21205-

Telephone:

Fax:

Personnel:

Keywords: Materials

The Johns Hopkins University Center for Nondestructive Evaluation (CNDE) was established in 1984 as an interdisciplinary center for research and instruction, drawing on the resources and talent of the School of Engineering, the Applied Physics Laboratory, and the School of Medicine. The NDE techniques developed and employed are especially useful to control and improve product quality in manufacturing processes and to assure the highest level of reliability for materials, parts, and products. The CNDE is dedicated to research which will lead to more sophisticated and accurate methods for the nondestructive evaluation of materials and systems and to the education of talented students who will enter the NDE field.

**Center for Osteonecrosis Research and Education**

Johns Hopkins University (JHU)

Department of Orthopaedic Surgery, School of Medicine

<http://www.hopkinsmedicine.org/avncenter/index.html>

Lynne C. Jones, Director

Center for Osteonecrosis Research and Education, The Johns Hopkins University

615 North Wolfe Street  
Baltimore, MD 21205-

Telephone:

Fax:

Personnel:

Keywords: Diagnostic, Orthopedics

Mission is to advance the knowledge of the etiology, pathogenesis, diagnosis and treatment of osteonecrosis. Current projects include a patient database, a study on alcohol intake and cigarette smoking, core depression studies and basic science studying the pathogenesis of osteonecrosis.

**Center for Tuberculosis Research**

Johns Hopkins University (JHU)

[http://www.jhsph.edu/dept/IH/Centers/TB\\_Research.html](http://www.jhsph.edu/dept/IH/Centers/TB_Research.html)

Center for Tuberculosis Research, The Johns Hopkins University

Room 1M02

1550 Orleans Street

Baltimore, MD 21231-

Telephone: (410) 955-1755

Fax:

Personnel:

Keywords: Public Health

The goal of the Johns Hopkins Center for Tuberculosis Research (CTR), founded in 1998, is to contribute to global tuberculosis control through a range of research initiatives in epidemiology, clinical trials, drug development, diagnostics, vaccine development, pathogenesis, and basic biology. The Center strives to be an internationally recognized center of excellence for research, training and clinical practice.

**Center for Urban Environmental Health**

Johns Hopkins University (JHU)

Department of Environmental Health Sciences, Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/dept/EHS/Centers/UrbanEnviroHlth/index.html>

John D. Groopman, Director

Center for Urban Environmental Health, The Johns Hopkins University

Researches and attempts to understand environmental public health risks in the urban environment. Current research topics includes a study of how Manganese activation of superoxide dismutase 2 in *Saccharomyces cerevisiae* requires MTM1, a member of the mitochondrial carrier family, and another study on prospective detection of codon 249 mutations in p53 in plasma of hepatocellular carcinoma patients.

615 North Wolfe Street  
Baltimore, MD 21205-  
Telephone: (410) 955-2212  
Fax:  
Personnel:  
Keywords: Environmental

**Center on Aging and Health**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/agingandhealth/index.html>

Linda Fried, M.D., MPH, Chair and LAC Admin.  
Center on Aging and Health, The Johns Hopkins University

The Center on Aging and Health (COAH) is dedicated to research that will prevent disease, disability, and improve the health and well-being of older adults. It seeks to foster interdisciplinary research and to train the next generations of research leaders essential to important discoveries for prevention and health promotion for an aging population, and translate these results so that they improve the health status of older adults.

615 North Wolfe Street  
Baltimore, MD 21205-  
Telephone: (443) 287-7277  
Fax:  
Personnel: 24 faculty  
Keywords: Gerontology

**Civilian Space at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/civilspace/index.asp>

Rich Roca, Director of APL

The Johns Hopkins University, Applied Physics Laboratory

The Civilian Space Business Area makes critical contributions to the missions of its major sponsor, the National Aeronautics and Space Administration (NASA), to meet the challenges of space science. Conducts research and space exploration, and develops and applies space science, engineering, and technology, including the production of one-of-a-kind spacecraft, instruments, and subsystems. Focuses primarily on the science discipline of space physics and planetary science. Provides leadership in developing innovative, cost-effective, end-to-end space missions. APL has designed, developed and launched 60 spacecraft and over 150 space instruments. Developing new space concepts, technology, and implementation strategies while also helping to heighten interest in scientist and engineering careers through space educational programs.

11100 Johns Hopkins Road  
Laurel, MD 20723-6099  
Telephone: (443) 778-5000  
Fax: (443) 778-1093  
Personnel: 4,000 staff at APL  
Keywords: Aerospace, Warfare

**Computational Interaction and Robotics Lab**

Johns Hopkins University (JHU)

Department of Computer Science, Whiting School of Engineering

<http://www.cs.jhu.edu/CIPS>

Gregory D. Hager, Professor  
Computational Interaction and Robotics Lab, The Johns  
Hopkins University, Dept. of Computer Science

Research areas include: Surgical Modeling, Vision-Based Human  
Computer Interaction, Image Segmentation, Xvision Real-time  
Tracking System, and Human Machine Collaborative Systems.

New Engineering Building 324B

3400 North Charles Street

Baltimore, MD 21218-2686

Telephone: (410) 516-5521

Fax: (410) 516-6134

Personnel:

Keywords: Computer-Human Interaction, Robotics,  
Real Time Systems

**Computational Sensory-Motor Systems Lab**

Johns Hopkins University (JHU)

Department of Electrical and Computer Engineering, Whiting School of Engineering

<http://etienne.ece.jhu.edu>

Dr. Ralph Etienne-Cummings, Professor  
Computational Sensory-Motor Systems Lab, The Johns  
Hopkins University

Research is based on the amalgamation of biological and  
computational techniques for realizing image processing and  
understanding using focal plane VLSI circuits and artificial neural  
networks and/or digital computers.

105 Barton Hall

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-3494

Fax:

Personnel:

Keywords: Computer Networking

**Distributed Systems and Networks Lab**

Johns Hopkins University (JHU)

Department of Computer Science, Whiting School of Engineering

<http://www.cnds.jhu.edu/>

Claudiu Danilov, Professor  
Distributed Systems and Networks Lab, The Johns  
Hopkins University, Department of Computer Science

Research focuses on creating the algorithms, protocols, and  
infrastructure tools that enable the development of correct  
distributed systems that scale to Internet size, with an emphasis  
on high performance and high availability. Some specific topics  
include survivable systems, messaging systems, and group  
communication.

3400 North Charles Street

Baltimore, MD 21218-2686

Telephone: (410) 516-5562

Fax: (410) 516-6134

Personnel:

Keywords: Internet, Software

**Drug Development Unit**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/Research/Resources/ddu.html>

Craig W. Hendrix

Drug Development Unit, The Johns Hopkins University

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-9707

Fax:

Personnel:

Keywords: Drug Development, Clinical Trials

The Drug Development Unit has been organized to provide all the personnel resources and services necessary to design, execute, analyze, and report a clinical research protocol. While our focus and expertise is in the area of inpatient studies of drugs, we offer support for other studies requiring close clinical monitoring.

Typically, funding sources are identified by the faculty investigator, but we can provide assistance in identifying industrial sponsors, or in preparation of clinical budgets and protocols to support grant submissions.

**Dynamical Systems and Control Laboratory**

Johns Hopkins University (JHU)

Department of Mechanical Engineering, Whiting School of Engineering

<http://robotics.me.jhu.edu/dscl>

Louis L. Whitcomb, Director

Dynamical Systems and Control Laboratory, The Johns Hopkins University, Dept. of Mech. Engineering

123 Latrobe Hall

3400 North Charles Street

Baltimore, MD 21218-2686

Telephone: (410) 516-6724

Fax: (410) 516-7254

Personnel:

Keywords: Robotics, Undersea

Research focuses on the dynamics and control of mechanical systems. Specific topic areas include nonlinear and adaptive control of robot systems; robot actuators and sensors; mechanical design; and control systems design for high-performance robot control. Pursuing research problems motivated by two application areas that share a common underlying analytical framework – (1) underwater robot vehicles and (2) robot manipulators.

Methodology is to address these fundamental enabling theoretical issues, and to experimentally validate the utility of theoretical results in actual working systems.

**Epidemiology-Genetic Program in Psychiatry**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/epigen/index.htm>

Dr. Ann Pulver, Director

Epidemiology-Genetic Program in Psychiatry, The Johns Hopkins University

1820 Lancaster Street, Suite 300

Baltimore, MD 21231-

Telephone: (410) 955-0455

Fax: (410) 955-0644

Personnel:

Keywords: Genetics, Biochemistry

Mission is to characterize the genetic (biochemical), developmental, and environmental components of bipolar disorder and schizophrenia. Current family studies are on schizophrenia and bipolar disorder.

**ERC for Computer-Integrated Surgical Systems and Technology**

Johns Hopkins University (JHU)

Whiting School of Engineering

<http://cisstweb.cs.jhu.edu>

Dr. R. Taylor

Engineering Research Center for Computer-Integrated Surgical Systems and Technology, Johns Hopkins Univ.

Wyman Park Center, Suite N418A

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-3837

Fax: (410) 516-3837

Personnel:

Keywords: Surgery

Seeks to develop novel computing methods, interfacial technologies and computer-integrated surgical systems to significantly change the way surgical procedures are carried out in the 21st century.

**Flow Cytometry Core Facility**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/flowcytometry/index.html>

Dr. Mark Soloski, Director

Flow Cytometry Core Facility, The Johns Hopkins University

Facility function is to perform flow cytometry analysis and cell sorting for researchers.

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-7852

Fax:

Personnel: 3 researchers

Keywords: Instrumentation

**Genetic Resources Core Facility**

Johns Hopkins University (JHU)

<http://grcf.med.jhu.edu>

Alan F. Scott, Dr. Director

Genetic Resources Core Facility, The Johns Hopkins University

The GRCF is an institutional service center of the Johns Hopkins University. The GRCF provides a number of services to aid researchers performing studies in molecular biology and genetics. These include a cornerstone for bioproducts, the Cell Center for cell line establishment, banking and related tissue culture services, the Fragment Analysis Facility for DNA-based test development and genotyping, and the DNA Analysis Facility for DNA sequencing and related services.

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 955-2553

Fax:

Personnel:

Keywords: Genetics

**George W. Comstock Center for Public Health Research and Prevention**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/comstockcenter/description.html>

Kathy Helzlsouer

The George W. Comstock Center for Public Health  
Research and Prevention, The Johns Hopkins University

1302 Pennsylvania Avenue  
Hagerstown, MD 21742-  
Telephone: (301) 797-7677

Fax:

Personnel: 7 researchers

Keywords: Cardiovascular, Cancer, Diagnostic, Public  
Health

The Center is composed of two units. The primary function of both units is research into causes and means of prevention of human disease, notably heart disease, cancer, and stroke. Both can offer consultation regarding community research, a base of operations, and a wealth of data for student and faculty research. Information from results of studies is used for epidemiology laboratory problems.

**High Throughput Biology Center**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/ibbs/research/HitCenter/index.html>

Jef Boeke

High Throughput Biology Center, The Johns Hopkins  
University

733 North Broadway  
Baltimore, MD 21205-  
Telephone: (410) 955-2481

Fax:

Personnel:

Keywords: Biochemistry, Cell Culture, Genetics,  
Robotics

The five independent research labs that make up the HiT Center push the frontiers of research technologies and apply those techniques to fundamental questions of biology. The HiT Center's four core components offer resources to study interactions of chemical compounds, gene products, cells and organisms and the networks formed by these interactions. The Microarray Core offers hybridization and analysis services and the Sequencing Core offers synthesis and sequencing services. The Proteomics Core provides mass spectrometry services and other protein-analyzing services. ChemCore is a compound screening and robotics service with access to compound libraries, skill in assay development, and the capability to deliver gene-specific reagents such as RNAi.

**Homeland Protection at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/homeprotect/index.asp>

Rich Roca, Director of APL

The Johns Hopkins University, Applied Physics  
Laboratory

11100 Johns Hopkins Road  
Laurel, MD 20723-6099  
Telephone: (443) 778-5000  
Fax: (443) 778-1093  
Personnel: 4,000 staff at APL  
Keywords: Warfare

Asymmetric or stateless warfare presents major challenges to the U.S. and its allies for developing effective defense and responses. Programs in APL's Homeland Protection Business Area represent critical contributions spanning a broad range of needed technologies and systems. Applies a strong systems engineering discipline to programs that support primarily the Departments of Defense and Homeland Security. These efforts encompass protecting and deterring terrorist-type attacks, responding to threats and hazards, reducing vulnerabilities, limiting potential damage, and enhancing response and recovery. Focus is on helping sponsors solve immediate problems, while continually looking ahead to identify the next threats and the countering technologies to foil them.

**Hopkins Ultraviolet Telescope Project**

Johns Hopkins University (JHU)

Henry A. Rowland Department of Physics and Astronomy

<http://praxis.pha.jhu.edu/hut.html>

Arthur F. Davidsen, Principal Investigator  
Hopkins Ultraviolet Telescope Project, The Johns  
Hopkins University

3400 North Charles Street  
Baltimore, MD 21218-2686  
Telephone: (410) 516-8594  
Fax: (410) 516-8260  
Personnel:  
Keywords: Astronomy

HUT's primary purpose is to observe wavelengths of light that are too short to be seen with the Hubble Space Telescope, although overlap is provided to allow direct comparison. The telescope has flown twice aboard the space shuttle, once in December 1990 and again in March 1995, as part of a package of instruments called the Astro Observatory. HUT has been used to observe hundreds of objects, ranging from nearby stars and planets to the most distant objects known in the Universe, the quasars.

**Immunogenetics Laboratory**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/hla>

The Immunogenetics Laboratory, The Johns Hopkins  
University

2041 East Monument Street  
Baltimore, MD 21205-2222  
Telephone: (410) 955-3600  
Fax: (410) 955-0431  
Personnel:  
Keywords: Immunological, Genetics

Its mission is to conduct innovative scientific research and technological development, provide quality laboratory services for the medical community and the patients it serves, and establish and maintain educational programs. Research activities are on immunogenetics of disease and alloreactivity, immunomodulation of alloreactivity, technological development, and population genetics.

**Infocentric Operations at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/io/index.asp>

Rich Roca, Director of APL  
The Johns Hopkins University, Applied Physics  
Laboratory

11100 Johns Hopkins Road  
Laurel, MD 20723-6099  
Telephone: (443) 778-5000  
Fax: (443) 778-1093  
Personnel: 4,000 staff at APL  
Keywords: Warfare

APL's Infocentric Operations (IO) business area provides proven capabilities for meeting the critical challenges and rising to the opportunities presented by information technology as an element of warfare. Exercising control over information – getting it, understanding it, disseminating it, protecting it, and sometimes attacking it – is key for maintaining the nation's strength. The rapid pace of change in the information age and the evolution of asymmetric threats represent a significant challenge to U.S. security. Approach consists of a system engineering perspective coupled with technical capabilities to meet the challenges of maintaining U.S. military and economic dominance in the new information environment.



**Institute for Basic Biomedical Sciences**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/ibbs/index.html>

Stephen Desiderio, Director

The Institute for Basic Biomedical Sciences, The Johns Hopkins University

733 North Broadway  
Baltimore, MD 21205-  
Telephone: (410) 614-2646

Fax:

Personnel:

Keywords: Genetics, Biochemistry, Proteins

The IBBS is supporting and creating interdisciplinary research groups in key scientific areas. The first such group is the High Throughput Biology Center, or HiT Center, which includes research and service in proteomics, microarray, gene and protein synthesis and sequencing and compound screening technologies.

**Institute for Cell Engineering**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/ice/about/index.html>

Chi V. Dang, Vice Dean for Research

The Institute for Cell Engineering, The Johns Hopkins University

Broadway Research Building, Room 115  
733 North Broadway  
Baltimore, MD 21287-

Telephone: (410) 955-2773

Fax: (410) 955-0185

Personnel:

Keywords: Immunological, Cell Culture, Stem Cell

ICE supports and houses scientists working to understand how cells' fates are determined and to harness that information in order to select, modify and reprogram human cells. While basic research will be the hallmark of ICE science, the ultimate goal is to mold engineered human cells into therapeutic transplants for a wide range of currently devastating diseases, including Parkinson's disease, Lou Gehrig's disease or amyotrophic lateral sclerosis (ALS), diabetes and heart failure. Research programs current include: Immunobiology, Neurobiology, Stem Cell Biology, and Vascular Cell Engineering.

**Institute for Computational Medicine**

Johns Hopkins University (JHU)

<http://www.icm.jhu.edu>

Raimond L. Winslow, Director

Institute for Computational Medicine, The Johns Hopkins University

201 Clark Hall  
3400 North Charles Street  
Baltimore, MD 21218-2686

Telephone: (410) 516-4116

Fax: (410) 516-5294

Personnel: 51 staff

Keywords: Diagnostic, Simulation/Modeling, Bioinformatics

The mission of the ICM is to develop quantitative approaches for understanding the mechanisms, diagnosis and treatment of human disease through applications of mathematics, engineering and computational science. Research will be focused in three broad areas: Biological Systems Modeling, Computational Anatomy and Bioinformatics.

**Institute for Genetic Medicine**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/geneticmedicine/regularindex.html>

Aravinda Chakravarti, Ph.D., Director

The Institute for Genetic Medicine, The Johns Hopkins University

733 North Broadway  
Baltimore, MD 21205-  
Telephone: (410) 502-7525

Fax:

Personnel:

Keywords: Genetics, Bioinformatics

The mission of the Institute is to further the understanding of human heredity and genetic medicine, and use that knowledge to treat and prevent disease. The Institute hosts all relevant teaching, patient care and research in human and medical genetics at Johns Hopkins and provides national and international leadership in genetic medicine. It serves as a focal point for interactions between diverse investigators to promote the application of genetic discoveries to human disease and genetics education to the public. The IGM catalyzes the spread of human genetic perspectives to other related disciplines by collaboration with other departments within Hopkins. Current research activities include: Bioinformatics and Computational Biology, Cellular Mechanisms, Complex Traits, Developmental Genetics, Genetic Disease Natural History and Treatment, Genomics, Molecular Basis of Human Disease, and Stem Cell Biology.

**Institute for Multi-Scale Modeling of Biological Interactions**

Johns Hopkins University (JHU)

<http://www.jhu.edu/immmbi>

Mario Amzel, Director

Institute for Multi-Scale Modeling of Biological Interactions, The Johns Hopkins University

114 Jenkins Hall  
3400 North Charles Street  
Baltimore, MD 21218-

Telephone: (410) 516-0218

Fax: (410) 516-4118

Personnel: 16 faculty

Keywords: Microbiology, Bioinformatics, Genetics, Proteins

The University of Delaware and Los Alamos National Laboratory are partnering with Hopkins on the institute. The institute will use mathematical models and simulations to understand biological systems in a variety of ways, from the interaction of proteins at the molecular level to the ways biochemical networks behave in organisms. Current research areas include quantum mechanical calculations, structural and statistical thermodynamics, atomic level and coarse grained modelling of biomacromolecular structures, their dynamics and structural transformations, macromolecular recognition and assembly, molecular motors, bioinformatics, analysis of micarray data, biological networks, dynamics of gene regulation and signal transduction, cell signaling, metabolic engineering and structural bioinformatics.

**Institute for Nanobiotechnology**

Johns Hopkins University (JHU)

<http://inbt.jhu.edu>

Peter C. Searson, Professor

The Institute for Nanobiotechnology, The Johns Hopkins University

114 NEB  
3400 North Charles Street  
Baltimore, MD 21218-

Telephone: (410) 516-6274

Fax:

Personnel:

Keywords: Nanotechnology/Biology, Environmental, Diagnostic

The Institute for Nanobiotechnology has been established at Hopkins to bring together expertise from the fields of nanotechnology, biotechnology, biology, medicine, and engineering to enable the creation of new knowledge and new technologies. In partnership with research facilities and universities throughout the country, the INBT will revolutionize health care and medicine by creating groundbreaking technologies based on nanotechnology. Research topics include Cellular and Molecular dynamics, health and the environment, diagnostics and therapeutics.

**Institute for Vaccine Safety**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.vaccinesafety.edu>

Neal A. Halsey, Director

Institute for Vaccine Safety, Johns Hopkins Bloomberg  
School of Public Health

615 North Wolfe Street, Suite W5041

Baltimore, MD 21205-

Telephone: (410) 955-2955

Fax: (410) 502-6733

Personnel: 20 staff

Keywords: Vaccines

Obtains and disseminates objective information on the safety of recommended immunizations. The Institute investigates safety questions, conducts methodological and empirical research on post-licensure vaccine safety evaluation, and undertakes individual research projects to obtain specific information regarding vaccine safety when existing information about the safety of a vaccine is insufficient or flawed.

**Integrated Imaging Center**

Johns Hopkins University (JHU)

Department of Biology

<http://www.jhu.edu/~iic>

J. Michael McCaffery, Director

Integrated Imaging Center, The Johns Hopkins University

Room B26, Mudd Hall

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-3321

Fax:

Personnel: 4 staff

Keywords: Instrumentation

Provides facilities and equipment for technical and scientific imaging for biosciences applications. Has both a light (LM) and an electron microscopy (EM) component to facilitate research into cellular/subcellular structure and function.

**James Buchanan Brady Urological Institute**

Johns Hopkins University (JHU)

School of Medicine

<http://urology.jhu.edu>

Robert H. Getzenberg, Research Director

James Buchanan Brady Urological Institute, The Johns  
Hopkins University

600 North Wolfe Street

Baltimore, MD 21287-

Telephone: (410) 614-3986

Fax: (410) 614-3695

Personnel: 25 researchers

Keywords: Genetics, Clinical Trials, Cancer

Research and clinical work on adult and pediatric urology. A multiple facility center including 6 different research laboratories. Recent research includes nerve sparing approaches for radical prostatectomy and cystectomy, pioneering gene therapy in urology, and discovering genes, mechanisms and causes of various Urological problems. Current clinical studies include drug trials, studies of new techniques used to discover cancer and studies of patients with specific history of disease to determine correlation.

**JHPIEGO Corporation**

Johns Hopkins University (JHU)

<http://www.jhpiego.org>

Leslie D. Mancuso, President and CEO  
JHPIEGO Corporation

1615 Thames Street  
Baltimore, MD 21231-3492  
Telephone: (410) 537-1800  
Fax: (410) 537-1473

Personnel:

Keywords: Public Health, Cancer, HIV/AIDS

JHPIEGO works on the front-line in low-resource settings throughout the world to help save and enhance the lives of women and their families. Through advocacy, education and performance improvement, JHPIEGO assists policymakers, educators and trainers in increasing access and reducing barriers to high-quality health services related to maternal and child care, family planning and reproductive health, HIV/AIDS prevention and care, infection prevention and cervical cancer prevention.

**JHU Vision, Dynamics and Learning Lab**

Johns Hopkins University (JHU)

Dept. of Biomedical Engineering, Center for Imaging Science (CIS); Whitaker Biomedical Engineering Institute

<http://www.vision.jhu.edu>

Dr. Rene Vidal, Professor  
Vision Lab, The Johns Hopkins University

319 Clark Hall  
3400 North Charles Street  
Baltimore, MD 21218-  
Telephone: (410) 516-6461  
Fax: (410) 516-4594

Personnel:

Keywords: Imaging, Robotics

Research spans a wide range of areas in biomedical imaging, computer vision, dynamics and controls, machine learning and robotics. In particular, the Center is interested in inference problems involving geometry, dynamics, photometry and statistics, such as (1) inferring models from images (image/video segmentation and structure from motion), static data (generalized PCA) or dynamic data (identification of hybrid systems), and (2) using such models to accomplish a complex mission (land a helicopter, pursue a team of evaders, follow a formation).

**Johns Hopkins Cardiac Surgery**

Johns Hopkins University (JHU)

<http://www.hopkinsmedicine.org/CardiacSurgery>

William A. Baumgartner, Cardiac Surgeon-in-Charge  
Johns Hopkins Cardiac Surgery

Blalock 618  
600 North Wolfe Street  
Baltimore, MD 21287-  
Telephone: (410) 955-2800  
Fax: (410) 955-3809

Personnel: 9 faculty

Keywords: Cardiovascular

Treatment of Cardiac problems and research into new treatments. Current research includes studies of: excitotoxicity in circulatory arrest-induced brain injury, in vivo mesenchymal stem cell grafting in cardiac muscle: molecular and physiological consequences, heterotrophic heart transplantation, and retrograde spinal cord perfusion via the inferior vena cava.

**Johns Hopkins Center for AIDS Research**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.hopkinsmedicine.org/aidsresearch>

J. Barlett, Director

Johns Hopkins Center for AIDS Research, School of  
Medicine & Johns Hopkins Health System

The Center for AIDS Research (CFAR) showcases four core services; Developmental Pilot Grant Programs, Flow Cytometry Core Facility, Monoclonal Antibody Core Facility, and a Clinical Research Core Facility.

720 Rutland Avenue

Baltimore, MD 21205-

Telephone:

Fax:

Personnel:

Keywords: HIV/AIDS, Instrumentation

**Johns Hopkins Malaria Research Institute**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://malaria.jhsph.edu>

Diane E. Griffin, Director

Johns Hopkins Malaria Research Institute, JHU  
Bloomberg School of Public Health

The Johns Hopkins Malaria Research Institute, centered in the Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, brings together scientists from a variety of disciplines to uncover the most elemental aspects of the disease, its control, and treatment. Research focuses on clinical studies, diagnosis, drugs, cell biology, drug development, vaccine development, structural biology, and vector biology.

615 North Wolfe Street, Room E5132

Baltimore, MD 21205-

Telephone: (410) 502-3377

Fax: (410) 955-0105

Personnel: 16 faculty

Keywords: Infectious Disease, Drug Trials, Vaccines

**Johns Hopkins University Information Security Institute**

Johns Hopkins University (JHU)

<http://www.jhuisi.jhu.edu>

Gerald M. Masson, Director

Johns Hopkins University Information Security Institute

The Johns Hopkins University Information Security Institute (ISI) is the University's focal point for research and education in information security, assurance and privacy. Research is in networking, wireless, systems evaluation, medical privacy and electronic voting, among other areas and is widely circulated among academics and policy-makers. Moreover, ISI is instrumental in homeland security efforts across Hopkins, including emergency health preparedness, bio-terrorism and national defense.

Wyman Park Building, 4th Floor

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-4250

Fax: (410) 516-8457

Personnel: 29 staff

Keywords: Computer Security, Computer Networking,  
Wireless, Biodefense

**Lab for Computational Motor Control**

Johns Hopkins University (JHU)

Whitaker Biomedical Engineering Institute

[http://www.bme.jhu.edu/~reza/research\\_page.html](http://www.bme.jhu.edu/~reza/research_page.html)

Reza Shadmehr, Director

Lab for Computational Motor Control, The Johns Hopkins University

419 Traylor Building

720 Rutland Avenue

Baltimore, MD 21205-2195

Telephone: (410) 614-2458

Fax: (410) 614-9890

Personnel: 11 researchers

Keywords: Robotics, Imaging

Uses tools from robotics, computational neuroscience, neurophysiology, and brain imaging to discover the principles of motor control in humans.

**Laboratory for Haptic Exploration**

Johns Hopkins University (JHU)

Department of Mechanical Engineering, Whiting School of Engineering

<http://www.haptics.me.jhu.edu>

Allison M. Okamura, Director

Laboratory for Haptic Exploration, The Johns Hopkins University

125 Latrobe Hall

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-7266

Fax: (410) 516-7254

Personnel:

Keywords: Robotics, Sensors

The Haptic Exploration Laboratory works with both robotic haptics and human-machine haptic interfaces. In the area of robotic haptics, the lab enables robots to explore the world through touch, using specialized robotic fingers and sensors and the appropriate planning and control. Also developing new finger designs and algorithms for autonomous and teleoperated haptic exploration. In the area of human-machine haptic interfaces, haptic interfaces are used to add the sense of touch to virtual and teleoperated environments. By creating physically-based mathematical models of interactions in real environments, the lab can enhance the realism of virtual environments. In addition, haptic feedback and active augmentation modes can improve the performance of robotic assistants in tele- and cooperative manipulation. This research has applications in many areas, including computer-assisted and simulated surgery, autonomous exploration of hazardous or remote environments, undersea salvage, enabling technologies, and manufacturing and design.

**Lighthouse at Johns Hopkins Bloomberg School of Public Health**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/ShipStudies/index.html>

Christine Barnes-Hilderbrand

The Lighthouse at JHU Bloomberg School of Public Health

1629 East Baltimore Street

Baltimore, MD 21231-

Telephone: (410) 502-5368

Fax:

Personnel:

Keywords: HIV/AIDS

The Lighthouse is a community-based research unit of the Health, Behavior and Society Department of the Johns Hopkins Bloomberg School of Public Health. Our mission is to conduct research that focuses on disease prevention and health promotion among urban disadvantaged populations, especially in Baltimore City, and to share our findings with those doing similar research. The Lighthouse research activities are primarily concerned with advancing the convention with regard to prevention of the transmission of HIV/AIDS. Research topics include: HIV Prevention Research, STD prevention research, HIV Epidemiology, and Access to Care and Adherence Intervention.

**Listening Center at Johns Hopkins**

Johns Hopkins University (JHU)

<http://thelisteningcenter.com>

John Niparko, M.D, Director  
The Listening Center at Johns Hopkins

Provides research and care for individuals with hearing disabilities. Recent research topics include childhood development after cochlear implantation, impact of cochlear implants on the functional health status of older adults, post-meningitic deafness and its implications for cochlear implant outcome and the impact of postivity or negativity of connexin 26.

601 North Caroline Street, Suite 6009  
Baltimore, MD 21287-

Telephone: (410) 955-9397

Fax: (410) 614-9167

Personnel: 21 staff

Keywords: Auditory

**Materials Research Science and Engineering Center**

Johns Hopkins University (JHU)

<http://www.pha.jhu.edu/groups/mrsec/index.html>

Prof. C.L. Chien  
Materials Research Science and Engineering Center,  
JHU Department of Physics and Astronomy

The Materials Research Science and Engineering Center (MRSEC) at the Johns Hopkins University (JHU), one of 26 MRSECs funded by the National Science Foundation, is composed of scientists at JHU, Brown University, and the National Institute of Standards and Technology (NIST). Research in the Center focuses on nanostructures made from novel materials that exhibit enhanced magneto-electronic properties. These include: materials with high spin polarization, especially half-metallic ferromagnets, materials with long carrier mean free path and spin diffusion lengths, heterogeneous layers that exhibit interfacial phenomena, multi-section quasi one-dimensional structures, lithographically patterned arrays of dots, antidots, nanowires, and other structures, nanowires with multi-functionality for chemical and biological applications.

3400 North Charles Street

Baltimore, MD 21218-

Telephone: (410) 516-8092

Fax: (410) 516-7239

Personnel: 24 researchers

Keywords: Materials, Nanotechnology/MEMS

**Middle Atlantic Mass Spectrometry Lab**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/mams>

Dr. Robert J. Cotter

Middle Atlantic Mass Spectrometry Lab, JHU School of  
Medicine, Dept. Pharmacology & Molecular Sciences

The MAMS laboratory focuses on biological and chemical research problems that can be solved using mass spectrometry. The laboratory places special emphasis on biomedical problems in conjunction with other researchers at the Johns Hopkins School of Medicine, and on the development of novel instrumentation that fundamentally improves the science of mass spectrometry. Current research projects include: Miniature MALDI-TOF Instruments, Peptide Residue Modification for Improved Sequencing by Mass Spectrometry, Tandem Time-of-flight (TOF/TOF) Mass Spectrometry, and AP MALDI of Sugars and Complexes.

725 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-3431

Fax: (410) 955-3420

Personnel: 8 staff

Keywords: Biochemistry



**Military Space at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/militaryspace/index.asp>

Rich Roca, Director of APL

The Johns Hopkins University, Applied Physics Laboratory

11100 Johns Hopkins Road

Laurel, MD 20723-6099

Telephone: (443) 778-5000

Fax: (443) 778-1093

Personnel: 4,000 staff at APL

Keywords: Aerospace, Warfare, Sensors, Satellite

Programs in APL's National Security Space Business Area focus on space solutions to critical military problems. Develops and conducts innovative experimental missions, build space instruments, and produces new applications to meet warfighter needs. Offers innovative engineering, advanced technology development, and a deep-rooted system engineering culture. The lab is developing effective space-based applications for future missions, including surveillance, space control, missile defense and homeland security. The lab is also providing enhanced space support for combat forces in navigation, communications, surveillance, reconnaissance, and targeting. The future-oriented programs concentrate on technologies and concepts such as space radar, space situational awareness, space-based surveillance, hyperspectral applications, space-based laser communications, unique sensor technology, microsat and nanosat missions, and launch-on-demand options.

**Mind-Brain Institute**

Johns Hopkins University (JHU)

<http://www.mb.jhu.edu>

Guy McKhann, Founding Director and Professor  
Mind-Brain Institute, The Johns Hopkins University

338 Kreiger Hall

3400 North Charles Street

Baltimore, MD 21219-

Telephone: (410) 516-8640

Fax:

Personnel: 55 staff

Keywords: Neurological

Dedicated to the study of the neural mechanisms of higher brain functions using modern neurophysiological, anatomical, and computational techniques. Research topics include shape processing in higher level visual cortex, functional organization of the primate visual system, and neurophysiology of tactile shape and texture perception.

**MRI Research Service Center**

Johns Hopkins University (JHU)

<http://www.hopkinsmedicine.org/Research/Resources/mri.html>

Paul Bottomley, PhD, Director

MRI Research Service Center, The Johns Hopkins University

MRI Building

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-4316

Fax:

Personnel:

Keywords: Imaging

Facility Function: Magnetic resonance imaging, spectroscopy, and functional imaging available. Two 1.5 Tesla imagers with spectroscopy are available, and a third, 3.0 Tesla imager will be available this year.

**Neuroengineering and Biomedical Instrumentation Lab**

Johns Hopkins University (JHU)

Department of Biomedical Engineering, School of Medicine

<http://www.jhu.edu/nthakor>

Nitish V. Thakor, Professor

Department of Biomedical Engineering, School of Medicine, The Johns Hopkins University

Traylor 701

720 Rutland Avenue

Baltimore, MD 21205-

Telephone: (410) 955-7093

Fax: (410) 955-0549

Personnel:

Keywords: Bioengineering, Nanotechnology/Biology, Diagnostic

Research is focused on five major areas. In the Neural Micro/Nano Systems area, the lab is interested in developing technologies for recording from neurons or brain and developing interfaces, at molecular/cellular and at systems level. In the Neural Signal Analysis area, the lab analyzes signals from neurons and brain using advanced mathematical/signal processing theories. The signal analysis results in interpretation of basic experiments, but also importantly clinically relevant tools of diagnosis of brain injury. The third concentration area is Neural Imaging, wherein there is being developed both optical and MRI imaging methodologies. The fourth area is Neural Prosthesis. The focus is to develop brain machine interface, signal analysis, control of multi-fingered dexterous prosthetic hand and sensory/haptic feedback. The final concentration area is Clinical Neuroengineering. The basic research projects study various models of brain injury (global ischemia/cardiac arrest, traumatic brain injury, epilepsy, coma) using electrophysiological,

**Precision Engagement at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/pe/index.asp>

Rich Roca, Director of APL

The Johns Hopkins University, Applied Physics Laboratory

11100 Johns Hopkins Road

Laurel, MD 20723-6099

Telephone: (443) 778-5000

Fax: (443) 778-1093

Personnel: 4,000 staff at APL

Keywords: Warfare

APL's Precision Engagement organization provides high-quality technical leadership and problem resolution in the conception, design, development, integration, and employment of detection and targeting, command and control, and engagement capabilities used for the projection of military effects appropriate to furthering national goals.

**Primary Care Policy Center for Underserved Populations**

Johns Hopkins University (JHU)

Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/hao/pcpc>

Barbara Starfield, Director

Primary Care Policy Center for Underserved Populations, The Johns Hopkins University

The Primary Care Policy Center for Underserved Populations (PCPC) engages in research, analysis, and education concerning the organization, financing, and mode of delivery for primary care to underserved and vulnerable populations.

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-3737

Fax:

Personnel:

Keywords: Health Policy

**Robert Packard Center for ALS Research**

Johns Hopkins University (JHU)

School of Medicine

<http://www.alscenter.org>

Kathryn Davis, Administrative Director

The Robert Packard Center for ALS Research at Johns Hopkins

McAuley Suite 110

5801 Smith Avenue

Baltimore, MD 21209-

Telephone: (410) 735-7677

Fax: (410) 735-7680

Personnel: 100 researchers

Keywords: Diagnostic, Neurological

Conducts research seeking a cure for Amyotrophic Lateral Sclerosis, also known as "Lou Gehrig's Disease." Their research is based on two approaches, first, finding the basic molecular or cellular cause of the disease and second, looking for new therapies or ways of attacking the disease. There are five teams at the center which are based around researching the following topics: basic mechanisms of the disease, models of human disease, experimental therapy, clinical investigations, clinical trials and the ALS clinic. The ALS clinic is part of the center, though located at Johns Hopkins Hospital, and provides support for ALS patients. Some recently completed projects include strategies to encourage grafted ES-derived motor neurons to regenerate in vivo, mapping the toxic domains of SOD1, and development of a mouse model of Amyotrophic Lateral Sclerosis 2 (ALS2).

**Ross Confocal Facility**

Johns Hopkins University (JHU)

Department of Gastroenterology, School of Medicine

<http://www.hopkinsmedicine.org/confocal>

Olga Kovbasnjuk, Director

Ross Confocal Facility, School of Medicine, The Johns Hopkins University

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 614-0134

Fax:

Personnel:

Keywords: Instrumentation

The Zeiss LSM 410 confocal microscope and accessories are installed at the Johns Hopkins University, in Ross 913. It is a multi-user facility available to both trained and untrained users. The instrument is designed for analysis of multiple dyes (e.g. multicolor immunofluorescence) and live cell confocal microscopy (e.g. intracellular regulation of pH and calcium). Current filter sets are designed for DAPI, AMCA, INDO-1, SPQ, Dansyl, FITC, Propidium Iodide, SNARF-1, Lucifer Yellow, Rhodamines, Texas Red, Cy3 and Cy5.

**School of Medicine Microscope Facility**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/micfac>

Douglas B. Murphy, Director

The School of Medicine Microscope Facility, The Johns Hopkins University

615 North Wolfe Street

Baltimore, MD 21205-

Telephone: (410) 955-4536

Fax:

Personnel: 3 staff

Keywords: Instrumentation

The purpose of the Microscope Facility is to assist investigators with research requiring light and electron microscopy and electronic imaging. The Facility occupies 2,000 sq. ft. of space on the ground floor of the Physiology Building in the Basic Sciences Complex and contains 5 electron microscopes, 2 confocal microscopes, 2 digital fluorescence microscopes, several computer workstations for image processing, and a comprehensive preparation laboratory. The Facility's staff members provide services for specimen preparation for electron microscopy and train users who wish to use any of the facility's microscopes on their own. The goal is to enhance the scope of research capability at Johns Hopkins, assure quality microscopy for presentations and publications, and provide state of the art biomedical imaging services. The Facility is open to researchers throughout the university.

**SCID Mouse Facility**

Johns Hopkins University (JHU)

School of Hygiene and Public Health

<http://www.hopkinsmedicine.org/Research/Resources/scid.html>

Richard Markham, Director  
SCID Mouse Facility, The Johns Hopkins University

This facility was developed for the purpose of reconstituting immunodeficient SCID mice with human immune cells, which can then be infected with the human immunodeficiency virus. Such mice can be used for studying the pathogenesis of viral infection and to evaluate the effect of immunoprophylactic and pharmacologic intervention on the course of infection. Space has also been allocated for experiments involving non-SCID mice and other biosafety level 3 pathogens, such as Hantavirus and tuberculosis.

615 North Wolfe Street  
Baltimore, MD 21205-  
Telephone: (443) 287-7277

Fax:

Personnel:

Keywords: Immunological, Cell Culture, Veterinary

**Science and Technology at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/sciencetech/index.asp>

Rich Roca, Director of APL  
The Johns Hopkins University, Applied Physics  
Laboratory

Science and Technology (S&T) is an important, future-oriented activity for the Applied Physics Laboratory. Basic and applied research and technology development provide the foundation for many APL programs and initiatives. By design, the S&T Business Area supports all APL's Business Areas. It represents a strategic investment to ensure future technological support for the sponsors. The creation, identification, and application of technology enable many of the critical contributions APL makes in solving complex problems. It also partners with other universities, peer organizations, and a small number of industrial organizations. Within the Laboratory's business structure, the S&T Business Area is a principal source of technological innovation critical to meeting APL sponsor needs. It serves as a portal to technological expertise across, within, and external to APL. Part of that role is to "scout out knowledge" to assure that programs have the technology support that enables APL to meet its mission.

11100 Johns Hopkins Road  
Laurel, MD 20723-6099  
Telephone: (443) 778-5000  
Fax: (443) 778-1093  
Personnel: 4,000 staff at APL  
Keywords: Warfare, Business Systems

**Sensory Communication and Microsystems Laboratory**

Johns Hopkins University (JHU)

<http://olympus.ece.jhu.edu>

Andreas Andreou, Group Leader  
Sensory Communication and Microsystems Laboratory,  
The Johns Hopkins University

Research in the Sensory Communication and Microsystems Laboratory is multidisciplinary and ranges from new technologies and devices to mixed analog/digital circuits, architectures, and algorithms for sensory microsystems with applications in sensor networks. Current projects include: silicon on sapphire CMOS, blowfly photoreceptor, MEMS in silicon on sapphire CMOS technology, and hybrid organic/inorganic microsystems.

223 Latrobe Hall  
3400 North Charles Street  
Baltimore, MD 21218-2686  
Telephone: (410) 516-8361  
Fax: (410) 516-8313  
Personnel: 11 researchers  
Keywords: Electronics, Sensors,  
Nanotechnology/MEMS

**Sloan Digital Sky Survey**

Johns Hopkins University (JHU)

<http://tarkus.pha.jhu.edu>

Alex Szalay, Professor  
Sloan Digital Sky Survey, The Johns Hopkins University

3701 San Martin Drive  
Baltimore, MD 21218-  
Telephone: (410) 516-7217  
Fax: (410) 516-5096  
Personnel: 15 researchers  
Keywords: Astronomy

The Sloan Digital Sky Survey (hereafter, SDSS) is a project to survey a 10000 square degree area on the Northern sky over a 5 year period. A dedicated 2.5m telescope is specially designed to take wide field (3 degrees in diameter) images using a 5x6 mosaic of 2048x2048 CCD's, in five wavelength bands, operating in drift scan mode. The total raw data will exceed 40 TB. A processed subset, of about 6 TB in size, will consist of 1 million spectra, positions and image parameters for over 200 million objects, plus a mini-image centered on each object in every color. The data will be made available to the public after the completion of the survey.

**Space Telescope Science Institute**

Johns Hopkins University (JHU)

<http://www.stsci.edu>

Matt Mountain, Director  
Space Telescope Science Institute, The Johns Hopkins University

3700 San Martin Drive  
Baltimore, MD 21218-  
Telephone: (410) 338-4700  
Fax:  
Personnel:  
Keywords: Astronomy

The Space Telescope Science Institute (STScI) is the astronomical research center responsible for operating the Hubble Space Telescope as an international observatory. It also includes the James Webb Space Telescope, and a Community Missions office. It has a number of research initiatives devoted to studying and understanding space.

**Spectroscopy and Imaging**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/Research/Resources/spectro.html>

Paul A. Bottomley, Director  
Spectroscopy and Imaging, The Johns Hopkins University

Traylor 2nd floor and MRI 110  
615 North Wolfe Street  
Baltimore, MD 21205-  
Telephone: (410) 955-4221  
Fax: (410) 614-1948  
Personnel:  
Keywords: Imaging, Instrumentation

Function is to provide state of the art equipment and expertise in the field of NMR Spectroscopy and Imaging to investigators in and around the Johns Hopkins School of Medicine. Currently, the facility has the following fully operational NMR spectrometers: 1) 11.8 T/89 mm vertical bore Bruker Avance-500 NMR Spectrometer suitable for experiments on liquids as well as microimaging, 2) a 4.7 T/40 cm horizontal bore Bruker Biospec Imaging/Spectroscopy instrument equipped with three sets of actively shielded gradients (gradient strength 40G/cm, 20G/cm and 5 G/cm, respectively) and a modern console using HP computer running RedHat Linux Operating System, and 3) 9.4 T/89mm vertical bore GE Omega NMR spectrometer equipped with actively shielded gradients (up to 135G/cm) and a SUN 4 based console.

**Spectroscopy, High Field (14.1T)**

Johns Hopkins University (JHU)

[http://www.hopkinsmedicine.org/Research/Resources/hi\\_fieldspectroscopy.html](http://www.hopkinsmedicine.org/Research/Resources/hi_fieldspectroscopy.html)

Dr. Ananya Majumdar, Facility Manager  
Spectroscopy, High Field (14.1T), The Johns Hopkins  
University

High resolution NMR studies of biological macromolecules  
including proteins and nucleic acids

615 North Wolfe Street  
Baltimore, MD 21205-  
Telephone: (410) 955-1775

Fax:

Personnel:

Keywords: Instrumentation, Proteins, Nucleic Acids

**Strategic Systems at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/strategic/strategic.asp>

Rich Roca, Director of APL  
The Johns Hopkins University, Applied Physics  
Laboratory

The critical challenge that strategic systems pose for government decision-makers is ensuring that these vital but rarely employed systems perform as intended. APL's strategic systems activities are focused in the Strategic Systems Business Area (SSBA) and the Strategic Posture Office (SPO). The SSBA has made critical contributions to the Navy's Fleet Ballistic Missile system program for more than 40 years. The SPO is rising to the challenge of re-defining strategic systems from the legacy nuclear mission to a broad set of responses to current and future national security challenges. The APL's track record demonstrates unequalled expertise in system development, and test, and evaluation. It is applying that knowledge to the newly expanded roles of strategic systems in DoD transformation. In a dynamic and difficult security environment, APL is leading the pursuit for new strategic solutions.

11100 Johns Hopkins Road  
Laurel, MD 20723-6099  
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Fax: (443) 778-1093  
Personnel: 4,000 staff at APL  
Keywords: Warfare

**Synthesis & Sequencing Facility**

Johns Hopkins University (JHU)

School of Medicine

<http://biolchem.bs.jhmi.edu/tssf/index.asp>

Dr. Peter L. Pedersen, Director  
The Synthesis & Sequencing Facility, Johns Hopkins  
University

The Facility has four purposes: peptide synthesis and purification, protein/peptide sequencing analysis, DNA synthesis and purification, and automated DNA sequencing.

Broadway Research Building, Room 372  
733 North Broadway  
Baltimore, MD 21205-  
Telephone: (410) 955-2739  
Fax: (410) 614-7566  
Personnel:  
Keywords: Genetics, Proteins

**Transgenic Mouse Core Facility**

Johns Hopkins University (JHU)

School of Medicine

<http://www.hopkinsmedicine.org/CORE/Home.htm>

Roger Reeves, Director

Transgenic Mouse Core Facility, The Johns Hopkins University

Services are: pronuclear injection to produce transgenic mice, blastocyst injections, cryopreservation of embryos and sperm, rederivation of cryopreserved embryos and sperm, rederivation of dirty mice, and derivation of new mouse ES cell lines.

725 North Wolfe St

Baltimore, MD 21205-

Telephone: (410) 614-3858

Fax: (410) 614-9745

Personnel: 6 staff

Keywords: Business Systems

**Undersea Warfare at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/undersea/index.asp>

Rich Roca, Director of APL

The Johns Hopkins University, Applied Physics Laboratory

Programs in APL's Undersea Warfare Business area support U.S. Navy and Joint missions that constitute this vital defense component. This work focuses on the systems and technologies of undersea military applications, helping maintain the security of our strategic and tactical submarines. The staff represents a broad set of skills and capabilities from science to engineering. The Laboratory is nationally recognized for its expertise in submarine detection systems based on first principles of physics, as well as our ability to build and test undersea prototype systems. APL is a major test organization, conducting extensive, complex R&D operations at sea. As submarine missions have changed over time, APL has continued to be a dependable partner with extensive knowledge of sponsor requirements and the experience to meet the challenges of today's undersea warfare environment.

11100 Johns Hopkins Road

Laurel, MD 20723-6099

Telephone: (443) 778-5000

Fax: (443) 778-1093

Personnel: 4,000 staff at APL

Keywords: Undersea, Warfare

**Urban Health Institute at Johns Hopkins**

Johns Hopkins University (JHU)

<http://urbanhealthinstitute.jhu.edu>

Claude Earl Fox, MD, M.P.H.

Urban Health Institute at Johns Hopkins

Community based participatory research and care in the urban environment. Community based participatory research involves community members in all stages of the process from identifying the health issues to collecting data to designing and implementing interventions.

111 Market Place, Suite 850

Baltimore, MD 21202-4036

Telephone: (410) 895-1100

Fax:

Personnel:

Keywords: Public Health



**Warfare Analysis at the Johns Hopkins Applied Physics Lab**

Johns Hopkins University (JHU)

Johns Hopkins University, Applied Physics Laboratory (JHU-APL)

<http://www.jhuapl.edu/areas/warfare/index.asp>

Rich Roca, Director of APL

The Johns Hopkins University, Applied Physics Laboratory

11100 Johns Hopkins Road

Laurel, MD 20723-6099

Telephone: (443) 778-5000

Fax: (443) 778-1093

Personnel: 4,000 staff at APL

Keywords: Warfare

Warfare Analysis has taken on increasing importance as the Military Services and the Joint Staff continue the process of transformation. The Department of Defense faces critical decisions as it strives to develop forces capable of dealing with new asymmetric threats as well as conducting conventional warfighting. APL's Warfare Analysis Programs conduct studies and analyses for the Department of Defense at the policy-making level and at the government planning level. We assist DoD decision-makers as they address the critical challenges of defining future defense needs and capabilities.

**Welch Center for Prevention, Epidemiology and Clinical Research**

Johns Hopkins University (JHU)

School of Medicine; Johns Hopkins Bloomberg School of Public Health (JHSPH)

<http://www.jhsph.edu/welchcenter>

Neil R. Powe, Director

Welch Center for Prevention, Epidemiology, and Clinical Research, The Johns Hopkins Medical Institutions

2024 East Monument Street, Suite 2-600

Baltimore, MD 21205-2223

Telephone: (410) 955-6953

Fax: (410) 955-0476

Personnel:

Keywords: Public Health, Diagnostic, Infectious Disease, Epidemiology

The Welch Center is a multidisciplinary research center affiliated with the Johns Hopkins School of Medicine and Bloomberg School of Public Health. The Center's work promotes the health of the public by generating the knowledge required to prevent disease and its consequences. Through patient-oriented research, the Welch Center evaluates the application of laboratory discoveries as well as the adoption of best practices in clinical settings and populations. The Center's research is focused on diseases and conditions that impose a substantial burden on the health and resources of the public. Welch Center faculty employ the full range of research methodology, including observational epidemiology, randomized controlled trials, and effectiveness and outcomes research.

**Whitaker Biomedical Engineering Institute**

Johns Hopkins University (JHU)

<http://www.bme.jhu.edu>

Murray B. Sachs, Director

The Whitaker Biomedical Engineering Institute at the JHU School of Medicine

720 Rutland Avenue

Baltimore, MD 21205-

Telephone: (410) 955-3131

Fax: (410) 502-9814

Personnel: 50 faculty

Keywords: Cardiovascular, Cell Culture, Imaging, Bioinformatics

An integrative research and education enterprise that will provide leadership in moving biomedical engineering to the forefront of biomedical science and practice. Research areas include: cell and tissue engineering, cardiovascular systems, biomedical imaging science, systems neuroscience, molecular and cellular engineering physiology, computational biology and bioinformatics, and neuroscience and neuroengineering.

**X-ray Imaging Animal Lab**

Johns Hopkins University (JHU)

<http://www.hopkinsmedicine.org/Research/Resources/animalimaging.html>

Dean Wong MD, Director  
X-ray Imaging Animal Lab, The Johns Hopkins University

615 North Wolfe Street  
Baltimore, MD 21205-  
Telephone: (443) 287-7277

Fax:

Personnel:

Keywords: Veterinary, Imaging

The lab has two spacious fluoroscopy suites with fixed table c-arms, a surgery suite, dark room area, animal prep area, and a conference room. The angio suites and surgery room are equipped with physiological monitoring equipment (end tidal CO<sub>2</sub>, invasive blood pressure, ECG), gas anesthesia machines, and defibrillators. There is also a portable x-ray machine available for radiographs.

**Center for Hazardous Substances in Urban Environments**

Johns Hopkins University (JHU); Morgan State University (MSU); University of Maryland School of Nursing

<http://www.jhu.edu/hsrc>

Dr. Edward Bouwer, Director  
Center for Hazardous Substances in Urban  
Environments, The Johns Hopkins University

810 Wyman Park Drive, Suite 100  
Baltimore, MD 21211-  
Telephone: (410) 516-7437  
Fax: (410) 516-0264

Personnel:

Keywords: Environmental

The U.S. Environmental Protection Agency (EPA) established the Hazardous Substance Research Centers (HSRC) Program to develop better, more cost-effective, faster, and safer methods to assess and clean-up environments contaminated with hazardous substances. Through a combination of laboratory- and field-scale research, CHSUE research addresses contaminants and sources that are known to be prevalent in urban environments. These include gas and particulate emissions of mercury, other toxic metals, and organic compounds from contaminated sites and hazardous waste incinerators; chromium, arsenic, nickel, zinc, and cadmium in waters and soils; and chlorinated solvents in waste site gases, soils, sediments, and groundwaters. No current research projects

**Advanced Realization and Characterization of Architectures for DSP Engineering**

Morgan State University (MSU)

School of Engineering

[http://www.eng.morgan.edu/centers\\_arcade.htm](http://www.eng.morgan.edu/centers_arcade.htm)

Charles Johnson-Bey  
Advanced Realization and Characterization of Arch. for  
DSP Eng., Morgan State Univ., School of Eng.

1700 East Cold Spring Lane  
Baltimore, MD 21251-  
Telephone: (443) 885-3333

Fax:

Personnel:

Keywords:

The main goal of the ARCADE Lab will be to maintain a state-of-the-art facility that allows Morgan State University students to be educated in research, design and implementation of DSP Systems using Reconfigurable Computing Architectures

**Center for Advanced Energy Systems and Environmental Control Technologies**

Morgan State University (MSU)

School of Engineering

[http://www.eng.morgan.edu/centers\\_caesect.htm](http://www.eng.morgan.edu/centers_caesect.htm)

Dr. S. W. Lee, Director

Center for Advanced Energy Systems and Env. Control Technologies, Morgan State Univ., School of Eng.

1700 East Cold Spring Lane

Baltimore, MD 21251-

Telephone: (443) 885-3333

Fax:

Personnel:

Keywords: Energy, Environmental

The Center for Advanced Energy Systems and Environmental Control Technologies (CAESECT) will develop fundamental technology to improve energy utilization across a wide range of industries. In education, it will impart a cross-disciplinary approach to students at all levels. In industrial collaboration, it will work to develop new methods for advanced energy systems design and environmental control technologies. Research Activities include: Laser-based LDV, PIV, and PDDPA Applications on Atomization Spray, Laser-based LDV, PIV, and PDDPA Application on FBC and CFB Modeling, Propulsion Combustion of the Rocket Engine, Design of Advanced Energy Systems, Advanced High Efficiency Emissions Control, Atmospheric Emission Control, Waste Management: Utilization and Disposal, Testing of Advanced Power System (FBC and CFB Testing, Hot Gas Clean Up and Gas Separation), Alternative Fuels /Renewal Energy, Advanced Material Science, Energy and Environmental Management and Assessment, and Computer Simulation with CFD and Numerical

**Center of Microwave/Satellite and RF Engineering**

Morgan State University (MSU)

School of Engineering

<http://comsare.eng.morgan.edu>

Duane Harvey, Director

Center of Microwave/Satellite and RF Engineering, Morgan State University, School of Engineering

1700 East Cold Spring Lane, SEB 335

Baltimore, MD 21251-

Telephone: (443) 885-3333

Fax:

Personnel: 42 researchers

Keywords: Simulation/Modeling

COMSARE's main focus remains microwave device and circuit simulation; however, we are now expanding by adding neural networks, electromagnetic simulation and software development to our repertoire. Current research includes COMSARE modeling process protocol, nexus modeler 2005, WiMax, digital radiometer and intelligent RF front end system.

**Engineering Visualization and Semiconductor Characterization Group**

Morgan State University (MSU)

School of Engineering

[http://www.eng.morgan.edu/centers\\_evscg.htm](http://www.eng.morgan.edu/centers_evscg.htm)

Craig Scott

Eng. Visualization and Semiconductor Characterization Group, Morgan State Univ., School of Engineering

1700 East Cold Spring Lane

Baltimore, MD 21251-

Telephone: (443) 885-3333

Fax:

Personnel:

Keywords: Electronics

The Engineering Visualization and Semiconductor Characterization Group is involved in enabling technology research that spans both group are: Developing high performance 3D graphics visualization tools for collaborative and interactive environments, Simulating and characterizing electronic structures and devices, and Investing methodologies for developing better insight on how electronic devices behave for both research and education.

**National Center for Transportation Management, Research and Development**

*Morgan State University (MSU)*

<http://www.eng.morgan.edu/%7Entc>

Dr. Z. Andrew Farkas, Director  
National Center for Transportation Management,  
Research and Development, Morgan State University  
Montebello - D206  
1700 East Cold Spring Lane  
Baltimore, MD 21251-  
Telephone: (443) 885-3666  
Fax:  
Personnel: 9 staff  
Keywords: Transportation

The National Center for Transportation Management, Research and Development, better known as the National Transportation Center (NTC), continues to undertake activities to optimize and improve transportation systems management and development. The theme, "Transportation: A Key to Human and Economic Development", continues to emphasize the human impacts of and interactions with surface transportation systems, particularly the socio-economic, efficiency, technological and safety aspects. Involves promotion of, and education and training in transportation related careers. Also does research on transportation related issues.

**International Center for Limb Lengthening**

*Sinai Hospital*

<http://www.mcllr.com>

John E. Herzenberg, M.D., Co-Director  
International Center for Limb Lengthening, Sinai Hospital  
of Baltimore

2401 West Belvedere Avenue  
Baltimore, MD 21215-  
Telephone: (410) 601-8700  
Fax: (410) 601-9576  
Personnel: 39 staff  
Keywords: Orthopedics

The International Center for Limb Lengthening (ICLL) is internationally recognized as the most experienced center for limb lengthening and reconstruction in the world, committed to providing the most comprehensive and technologically advanced treatments available for children and adults with upper and lower limb length discrepancies, short stature, limb deformities, nonunions, bone defects, bone infections, joint contractures, and arthritis.

**Computer Aided Design/Interactive Graphics Branch (CADIG)**

*United States Naval Academy (USNA)*

<http://www.usna.edu/CADIG>

Computer Aided Design/Interactive Graphics Branch  
(CADIG), U.S. Naval Academy

121 Blake Road  
Annapolis, MD 21402-5000  
Telephone:  
Fax:  
Personnel:  
Keywords: CAD, Software

CADIG's main function is to support the electronic classrooms and central systems for midshipmen courses and academic projects. CADIG also supports some general faculty, research and administrative efforts, as well as, providing some special support services. The support provided for the electronic classrooms and central systems include Application Software, Operating Systems, Workstations, File and Compute Servers, Print Servers, and Specialized Peripheral Devices.

**Center for Advanced Research in Biotechnology (CARB)**

University of Maryland Biotechnology Institute (UMBI)

<http://carb.umbi.umd.edu>

Dr. Edward Eisenstein, Director  
UMBI Center for Advanced Research in Biotechnology

9600 Gudelsky Drive  
Rockville, MD 20850-  
Telephone: (240) 314-6000  
Fax: (240) 314-6255  
Personnel: 15 researchers  
Keywords: Genomics

CARB conducts research and provides interdisciplinary training in fundamental problems at the forefront of biotechnology. Research at CARB centers on the structure, function, design and evolution of biological macromolecules, and relies on both theoretical and experimental approaches. Specific research topics include biophysics and molecular interactions, computational biology, genomics and proteomics, and structural biology.

**Center for Biosystems Research**

University of Maryland Biotechnology Institute (UMBI)

<http://www.umbi.umd.edu/~cab>

Donald Nuss, Director  
UMBI Center for Biosystems Research

5115 Plant Sciences Building

College Park, MD 20742-4450  
Telephone: (301) 405-1581  
Fax: (301) 314-9075  
Personnel: 14 researchers  
Keywords: Genomics, Bioengineering

Its mission is to: address fundamentally biological problems and derive practical solutions that benefit society, promote research and training in the application of multiple scientific disciplines to study complex biological systems, and facilitate commercial development by integrating advances in biotechnology with innovation in bioprocess engineering. Currently research is being conducted in pathobiology, biomolecular and metabolic engineering, and genome sciences.

**Center of Marine Biotechnology (COMB)**

University of Maryland Biotechnology Institute (UMBI)

<http://www.umbi.umd.edu/~comb>

Yonathan Zohar, Director  
UMBI Center of Marine Biotechnology

Columbus Center, Suite 236  
701 East Pratt Street  
Baltimore, MD 21202-  
Telephone: (410) 234-8800  
Fax: (410) 234-8896  
Personnel: 19 researchers  
Keywords: Environmental

The mission of the Center of Marine Biotechnology is to apply the tools of modern biology and biotechnology to study, protect and enhance marine and estuarine resources. COMB scientists conduct multidisciplinary research, development and educational programs covering the following disciplines: Aquaculture and Fisheries Biotechnology, Marine Environmental Biotechnology, Microbial and Extremophile Processes, Marine Natural Products and Functional Genomics. COMB's unique, state-of-the-art facilities include DNA synthesis, sequencing and quantifying equipment, fermentation systems for growth of extremophilic microorganisms, a core facility for transgenic work; our extensive, fully contained aquaculture facility is designed for conducting cutting-edge research to develop and improve finfish/shellfish production and hatchery technologies. □

**Institute of Human Virology (IHV)**

University of Maryland Biotechnology Institute (UMBI)

<http://www.ihv.org>

Robert C. Gallo, M.D., Director  
UMBI Institute of Human Virology

725 West Lombard Street  
Baltimore, MD 21201-

Telephone: (410) 706-8614

Fax: (410) 706-1952

Personnel: 80 researchers

Keywords: Immunological, Cancer, Infectious Disease,  
Clinical Trials, Vaccines, Veterinary

The Institute of Human Virology (IHV) is a world-class center of excellence focusing on chronic viral diseases and virally linked cancers. IHV is dedicated to biomedical research leading to improved treatment and prevention of these diseases and cancers. The Institute of Human Virology is the first research institute in the United States to link basic research, population studies and clinical research in an effort to discover new ways to diagnose and treat viral diseases. Its primary goals are to develop new treatments, cures, and, ultimately, prevention of chronic viral diseases. Research is mainly basic science, vaccine development and clinical trials and it includes animal models.

**Medical Biotechnology Center (MBC)**

University of Maryland Biotechnology Institute (UMBI)

<http://www.umbi.umd.edu/~mbc>

W. Jonathan Lederer, Director  
UMBI Medical Biotechnology Center

725 West Lombard Street  
Baltimore, MD 21201-

Telephone: (410) 706-8181

Fax: (410) 706-8184

Personnel: 45 researchers

Keywords: Cancer, Cardiovascular,  
Nanotechnology/Biology

The center includes faculty research laboratories, wet laboratory facilities for biomedical companies and an animal care facility. It includes the Institute of Molecular Cardiology, the Institute of Fluorescence, the Institute for Neurodegenerative Disease, the Program in Prion Diseases, the Program in Cell Structure and Development, the Program in Nanobiology, the Program in Cancer Biology and the Biodefense Initiative.

**University of Maryland Biotechnology Institute (UMBI)**

University of Maryland Biotechnology Institute (UMBI)

<http://www.umbi.umd.edu>

Dr. Jennie Hunter-Cevera, President  
University of Maryland Biotechnology Institute

Columbus Center, Suite 200  
701 East Pratt Street  
Baltimore, MD 21202-

Telephone: (410) 385-6300

Fax: (410) 385-6312

Personnel:

Keywords: Environmental, Proteins, Agriculture

Basic science of biotechnology and its application to human health, the marine environment, agriculture, and protein engineering/structural biology.

**Jocelyn Diabetes Center**

University of Maryland Medical Center (UMMC)

<http://www.umm.edu/joslindiabetes>

Thomas W. Donner, M.D., Director  
Jocelyn Diabetes Center, University of Maryland Medical Center

22 South Greene Street, N6W100  
Baltimore, MD 21201-  
Telephone: (888) 567-5468

Fax:

Personnel: 15 staff

Keywords: Diagnostic, Genetics, Clinical Trials

A comprehensive team approach to diabetes treatment with programs designed to help children and adults with diabetes take charge of their own health and well-being. Current research includes studies into the genetic basis of type 2 diabetes and treatment, investigation of the long term effects of blood glucose control on prevention and delay of diabetic complications, and clinical trials of new therapeutic agents for the treatment of diabetes and obesity.

**Maryland Brain Attack Center**

University of Maryland Medical Center (UMMC)

Departments of Neurology and Neurosurgery

<http://www.umm.edu/neurosciences/brainattack.html>

Marian P. LaMonte, M.D., M.S.N., Director  
Maryland Brain Attack Center, University of Maryland Medical Center

22 South Greene Street  
Baltimore, MD 21201-  
Telephone: (410) 328-3793

Fax:

Personnel: 9 members

Keywords: Diagnostic, Neurological

Provides care for patients experiencing strokes and other brain attacks. Through clinical research the center is developing new treatments to improve patient care. A recent breakthrough brought the development of Activase, (or t-PA, tissue plasminogen activator) which has been shown to reduce the chance of permanent disability following a stroke.

**Maryland Center for Multiple Sclerosis**

University of Maryland Medical Center (UMMC)

<http://www.umm.edu/ms>

Kenneth P. Johnson, M.D., Director  
Maryland Center for Multiple Sclerosis, University of Maryland Medical Center

11 South Paca Street, 4th Floor  
Baltimore, MD 21201-  
Telephone: (410) 328-5605

Fax: (410) 328-5425

Personnel: 11 staff

Keywords: Musculoskeletal

The Maryland Center for Multiple Sclerosis is recognized as a world leader in innovative research programs with the goal of finding effective therapies and eventually curing or preventing MS. Current research at the center has three goals: The first is to understand the cause of MS and the mechanisms by which the immune system and viruses can cause myelin damage; the second is to test the immunologic effects of novel drugs that are relevant to the treatment of MS; and the third is to train fellows who are interested in MS research.



**Maryland Epilepsy Center**

University of Maryland Medical Center (UMMC)

Departments of Neurology and Neurosurgery

<http://www.umm.edu/neurosciences/epilepsycenter.html>

Dr. Allan Krumholz., Director

Maryland Epilepsy Center, University of Maryland  
Medical Center

Provides comprehensive care to patients with epilepsy. Current research includes clinical drug trials to control seizures, localizing the focus of epilepsy, basic mechanisms of seizures, post-traumatic epilepsy, surgery for epilepsy, status epilepticus, and nonepileptic seizures.

22 South Greene Street

Baltimore, MD 21201-

Telephone: (800) 492-5538

Fax:

Personnel:

Keywords: Diagnostic, Clinical Trials, Neurological

**Maryland Heart Center**

University of Maryland Medical Center (UMMC)

<http://www.umm.edu/heart>

Dr. Mandeep Mehra, Chief, Division of Cardiology  
Maryland Heart Center, University of Maryland Medical  
Center

The Center is a regional referral center for the most difficult cardiac cases. The University of Maryland Heart Center offers a variety of services, including the latest diagnostic, medical and surgical procedures for high-risk patients. Also places a strong emphasis on educating patients about heart-healthy lifestyles, including proper nutrition and exercise.

22 South Greene Street

Baltimore, MD 21201-

Telephone: (800) 492-5538

Fax:

Personnel: 26 faculty

Keywords: Cardiovascular

**Maryland Stroke Center**

University of Maryland Medical Center (UMMC)

Departments of Neurology and Neurosurgery

<http://www.umm.edu/neurosciences/stroke.html>

Maryland Stroke Center, University of Maryland Medical  
Center

The Maryland Stroke Center is a regional center of excellence in stroke care and research. It is the first center in Maryland dedicated to comprehensive care of patients with cerebrovascular disease. Research includes studies of telemedicine for Brain Attack Consultation, technologies for rapid evaluation, diagnosis and treatment of Brain Attack, identification of new genetic and environmental risk factors for stroke, studies of stroke in young adults, mobile telemedicine for accelerated prehospital evaluation, clinical trials of investigational drugs for acute stroke, and clinical trials of strategies to prevent recurrent stroke and to improve recovery from stroke, studies of outcome after stroke, including predictors of return to work after stroke, and studies of the role of exercise in recovery after stroke, including exercise-induced brain neuroplasticity.

22 South Greene Street

Baltimore, MD 21201-

Telephone: (410) 328-5800

Fax:

Personnel:

Keywords: Diagnostic, Neurological

**Maryland Vascular Center**

University of Maryland Medical Center (UMMC)

<http://www.marylandvascularcenter.com>

William R. Flinn, M.D., Prof. of Surgery and Div. Chief  
Maryland Vascular Center, University of Maryland  
Medical Center

22 South Greene Street  
Baltimore, MD 21201-  
Telephone: (410) 328-5840  
Fax:  
Personnel: 5 researchers  
Keywords: Cardiovascular

Provides direct specialty services to all institutions within the University of Maryland Medical System (UMMS) and consultative services to other professionals and health care institutions throughout the State of Maryland and the entire Mid-Atlantic region. Research includes both basic research and clinical research into carotid artery disease, venous thromboembolism, and renal artery disease.

**Pediatric Cardiology Diagnostic Center**

University of Maryland Medical Center (UMMC)

Hospital for Children

<http://www.umm.edu/pediatrics/ped-cardiology.html>

Dr. Marcelo Cardarelli, Dir. of Pediatric Cardiac Surgery  
Pediatric Cardiology Diagnostic Center, University of  
Maryland Medical Center

22 South Greene Street  
Baltimore, MD 21201-  
Telephone: (410) 328-6666  
Fax:  
Personnel: 3 faculty  
Keywords: Diagnostic, Cardiovascular

The Pediatric Cardiology Diagnostic Center performs cardiac evaluations using the most advanced technology to diagnose structural and functional cardiac abnormalities in patients from infancy through young adulthood. Research activities include family study for recurrence risk of congenital heart disease and autonomic function testing in children.

**Sleep Disorders Center**

University of Maryland Medical Center (UMMC)

<http://www.umm.edu/sleep/index.html>

Steven M. Scharf, M.D. Ph.D., Director  
University of Maryland Sleep Disorders Center, University  
of Maryland Medical Center

22 South Greene Street  
Baltimore, MD 21201-  
Telephone: (410) 706-4771  
Fax:  
Personnel: 12 faculty  
Keywords: Diagnostic

Provides comprehensive diagnosis and treatment of the more than 80 different types of sleep disorders by a multidisciplinary team of specialists and a new state-of-the-art sleep laboratory. The University of Maryland Hospital for Children has a pediatric sleep laboratory for the diagnosis of sleep disorders in children.

**Tinnitus and Hyperacusis Center**

University of Maryland Medical Center (UMMC)

<http://www.umm.edu/tinnitus>

Susan L. Gold, Senior Audiologist  
Tinnitus & Hyperacusis Center, University of Maryland  
Medical Center

Provides patient care for Tinnitus and Hyperacusis. Has clinical and research programs.

419 West Redwood Street, Suite 370  
Baltimore, MD 21201-1734  
Telephone: (410) 328-1279  
Fax: (410) 328-5690  
Personnel: 4 faculty  
Keywords: Auditory, Diagnostic

**Biopolymer/Genomics Core Facility**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://medschool.umaryland.edu/biopolymer>

Lisa DeShong Sadzewicz, Director  
The Biopolymer/Genomics Core Facility, University of  
Maryland School of Medicine  
Howard Hall 569  
660 West Redwood Street  
Baltimore, MD 21201-  
Telephone: (410) 706-3339  
Fax: (410) 706-0287  
Personnel:  
Keywords: Genomics, Proteins

The Biopolymer/Genomics Core Facility provides basic molecular biology support services including DNA/RNA and peptide synthesis and DNA sequencing. Other services offered include microarray analysis of gene expression, genotyping, and custom protein purification, analysis and characterization.

**Center for Clinical Trials**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://medschool.umaryland.edu/cct/default.asp>

Timothy B. Gilbert, Director  
The Center for Clinical Trials, University of Maryland  
School of Medicine  
Health Sciences Facility 1, Room 150  
685 West Baltimore Street  
Baltimore, MD 21201-1559  
Telephone: (410) 706-2328  
Fax: (410) 706-4853  
Personnel:  
Keywords: Clinical Trials

CCT assists investigators in preparing for, implementing, and administering clinical studies, and also assists sponsors in placing and completing studies by facilitating contacts with University investigators and providing ongoing support and expertise in all study phases, from pre-study negotiation through project completion and reporting.

**Center for Computer Aided Drug Design**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/cadd/>

Alexander D. MacKerell Jr., Director

Center for Computer Aided Drug Design, Dept. of  
Pharmaceutical Sciences, Univ. of MD School of

HSF II, Room 629

20 Penn Street

Baltimore, MD 21201-

Telephone: (410) 706-7442

Fax:

Personnel: 12 researchers

Keywords: Drug Development

The Computer-Aided Drug Design (CADD) Center was created to foster collaborative research between biologists, biophysicists, structural biologists and computational scientists at the University of Maryland, Baltimore and beyond. The major goal of the CADD Center is to initiate these collaborations leading to the establishment of research projects to discover novel chemical entities with the potential to be developed into novel therapeutic agents. Current projects include dealing with glycogen phosphorylase, opioids/analgesics, and p56lck kinase.

**Center for Fluorescence Spectroscopy**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://cfs.umbi.umd.edu/cfs>

Joseph R. Lakowicz, Director

Center for Fluorescence Spectroscopy, Dept. of  
Biochemistry, University of Maryland School of Medicine

725 West Lombard Street

Baltimore, MD 21201-

Telephone: (410) 706-8409

Fax: (410) 706-8408

Personnel: 17 staff

Keywords: Instrumentation

Provides state-of-the-art time-domain and frequency-domain fluorescence instrumentation in studies of the structure, function, and dynamics of biological macromolecules. Research projects include probe chemistry, light quenching, multi-photon excitation, fluorescence sensing, fluoresce lifetime imaging microscopy, multi-pulse fluorescence, microsecond dynamics of macromolecules, and radioactive decay engineering.

**Center for Integrative Medicine**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://www.compmed.umm.edu>

Brian Berman, Director

The Center for Integrative Medicine, University of  
Maryland School of Medicine

Kernan Hospital Mansion

2200 Kernan Drive

Baltimore, MD 21207-6697

Telephone: (410) 448-6871

Fax: (410) 448-6875

Personnel:

Keywords: Clinical Trials

The Center for Integrative Medicine is involved in a broad range of research activities aimed at creating a full spectrum of knowledge about the safety and effectiveness of complementary and alternative medicine (CAM). Overall research agenda covers the continuum from bench to bedside including: basic science investigations of the mechanism of action of complementary therapies, clinical trials of the efficacy, safety, and cost-effectiveness of complementary therapies using randomized controlled trials, clinical trials, and outcome study designs, outcomes research involving the collection of data from a non-randomized clinic population to assess efficacy, safety, and cost-effectiveness of particular treatment approaches or combinations of treatment approaches in a real-life situation.

**Center for Nanomedicine and Cellular Delivery**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/nanomedicine>

Hamid Ghandehari, Director

Center for Nanomedicine and Cellular Delivery, Dept. of  
Pharmaceutical Sciences, UM School of Pharmacy

HSF II, Room 625

20 Penn Street

Baltimore, MD 21201-1075

Telephone: (410) 706-8650

Fax: (410) 706-5017

Personnel: 24 faculty

Keywords: Nanotechnology/Biology, Drug Development

The Mission of the Center for Nanomedicine and Cellular Delivery (CNCD) at the University of Maryland is to create a multidisciplinary research environment that will provide expertise and foster collaborations for the design, development and translation into clinic of nanosystems for therapeutic and diagnostic purposes. Research areas are: nanofabrication and characterization, delivery of bioactive agents, pharmacokinetics, transport and subcellular fate, translational research, computer aided drug design and formulation and drug development.

**Center for Occupational & Environmental Health and Justice**

University of Maryland, Baltimore (UMB)

School of Nursing

<http://nursing.umaryland.edu/resources/excellence.htm>

University of Maryland School of Nursing

655 West Lombard Street

Baltimore, MD 21201-1579

Telephone: (410) 706-3100

Fax:

Personnel:

Keywords: Environmental

The overall goal of the Center is to develop research infrastructure and research program in the area of environmental health promotion and risk reduction by augmenting existing research resources in the school.

**Center for Persistent Pain**

University of Maryland, Baltimore (UMB)

Dental School

<http://bms.dental.umaryland.edu/painctr>

Ron Dubner, Director

Organized Research Center on Persistent Pain,  
University of Maryland Dental School

666 West Baltimore Street, Room 5-A-12

Baltimore, MD 21201-

Telephone: (410) 706-7090

Fax:

Personnel: 22 researchers

Keywords: Dental

Dental research and therapies. Basic science research, translational approaches, clinical trials, and the management of pain are at the center of this research. Research includes studies into Sex differences and the neural basis of pain and analgesia, Visceral pain: sex differences and chronic bowel disease, Molecular and cell biology of nociceptors and ion channels, Glutamate receptors and their role in pain and hyperalgesia, Neonatal pain experience and persistent pain in the adult, Inflammatory cytokines and persistent pain, CNS modulation of persistent pain after injury, Craniomandibular motor function and pain, Experimental models of craniofacial muscle pain, Patient-specific attributes that contribute to the pathogenesis of signs and symptoms associated with pain, Gustatory and orotacile induced analgesia in newborns, Imaging the brain in pain, Evaluation of tricyclic anti-depressant medications for persistent orofacial pain, Psychological interventions and psychosocial patient profiles in persistent TMD pain, and Effect of acupuncture on pain as seen

**Center for Research on Aging**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://www.umaryland.edu/researchaging>

Jay S. Magaziner, Director

University of Maryland Center for Research on Aging

660 West Redwood Street, Suite 200

Baltimore, MD 21201-

Telephone: (410) 706-4567

Fax: (410) 706-4433

Personnel: 12 staff

Keywords: Gerontology, Food, Cancer, Cardiovascular

The center coordinates research and research training in those areas of gerontology that transcend traditional disciplinary lines and are amenable to an interdisciplinary approach to critical issues in aging research. It interfaces with the University's existing efforts in gerontology and geriatric medicine to develop research, educational and clinical programs that nurture and expand research and research funding in aging. Current research topics include Rehabilitation In Chronic Disease, Stroke Rehabilitation and Prevention, Hip Fracture, Obesity, Diabetes, and Nutrition, Exercise Physiology, Long-Term Care, Hypertension, Cardiovascular Disease, Interdisciplinary Geriatric Teams, Minority Health, Health Disparities, Health Services and Quality of Life, Pharmaceutical Care, Oral Health, Cancer and HIV, Neurocognitive Function, Peripheral Vascular Disease, Osteoarthritis, Osteoporosis, Pressure Ulcers, Adult Guardianship, End of Life Decision Making, Falls and Disability, Free Radicals, and Oxidative Stress.

**Center for Vaccine Development (CVD)**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://medschool.umaryland.edu/CVD>

Myron M. Levine, Director

Center for Vaccine Development, University of Maryland

685 West Baltimore Street, Room 480

Baltimore, MD 21201-1509

Telephone: (410) 706-5328

Fax: (410) 706-6205

Personnel: 29 faculty

Keywords: Vaccines

Works on genetically engineering and testing vaccines against cholera, typhoid, e coli and malaria and others. It is the only university vaccine center in the world engaged in the full range of vaccinology - from basic science through vaccine development, and clinical testing in MD and around the world based on grants. Focuses mostly on childhood diseases.

**Center on Drugs and Public Policy**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/cdpp>

Francis B. Palumbo, Executive Director

Center on Drugs and Public Policy, University of Maryland School of Pharmacy

515 West Lombard Street, 2nd Floor

Baltimore, MD 21201-

Telephone: (410) 706-0133

Fax: (410) 706-5394

Personnel: 11 researchers

Keywords: Business Systems

The CDPP specializes in providing credible, unbiased, and pragmatic solutions for government agencies, the pharmaceutical industry, professional organizations and private businesses on public health issues and practices involving medication use and regulatory matters. Main areas of research are health care policy, health care organization and finance studies, pharmaeconomics and outcomes research, pharmacoepidemiology, drug law and regulation, drug use studies, health services research, and international pharmaceutical policy.

**Claude D. Pepper Older Americans Independence Center**

University of Maryland, Baltimore (UMB)

Gerontology Programs

<http://www.gerontology.umaryland.edu/pepper.html>

Andrew P. Goldberg, Principal Investigator

The Claude D. Pepper Older Americans Independence Center

VA Medical Center, GRECC (18)

10 North Greene Street, Room 4B178

Baltimore, MD 21201-

Telephone: (410) 706-2449

Fax:

Personnel: 4 staff

Keywords: Gerontology

Conducts mechanistic and outcome-based research that emphasizes exercise rehabilitation, and provides research training in gerontology and geriatrics that will improve the lifestyle, independence, and functionality of older Americans with disability. The research focus is on older patients who are chronically disabled by hemiparetic stroke.

**Drug Information Service**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/UMDI>

Rachel A. Bongiorno, Director

Drug Information Service

20 North Pine Street, Room 760/61

Baltimore, MD 21201-

Telephone: (410) 706-7568

Fax: (410) 706-0754

Personnel: 3 staff

Keywords: Public Health

The mission of the UMDI is to provide comprehensive medical information to not only contract affiliated institutions, but also to the general public. The provision of service includes but is not limited to, patient-specific and adverse drug reaction consultations, guidelines for use, formulary monograph/review preparation and management, and newsletter support.

**Greenebaum Cancer Center**

University of Maryland, Baltimore (UMB)

In partnership with UM School of Medicine, UM Medical System, and UM Medical Center

<http://www.umgcc.org>

Kevin J. Cullen, Director

Greenebaum Cancer Center

22 South Greene Street

Baltimore, MD 21201-

Telephone: (800) 888-8823

Fax:

Personnel: 154 researchers

Keywords: Gastrointestinal, Cancer, Clinical Trials

Research is concerned with the discovery, development, mechanism of action, and delivery of new and better treatments for human cancers. The five areas of research are experimental therapeutics, gastrointestinal cancer program, hormone responsive cancers, molecular and structural biology, and viral oncology. Clinical trials are also conducted.



**MARCE - Biodefense and Emerging Infectious Diseases Research**

University of Maryland, Baltimore (UMB)

<http://marce.vbi.vt.edu/index.php/marce>

Myron Levine, M.D., DTPH., Principal Investigator  
MARCE Biodefense and Emerging Infectious Diseases  
Research, UMB Center for Vaccine Development

HSF-I, Room 480

685 West Baltimore Street

Baltimore, MD 21201-

Telephone: (410) 706-7588

Fax: (410) 706-6205

Personnel:

Keywords: Infectious Disease, Warfare, Biodefense

The Middle-Atlantic Regional Center of Excellence for Biodefense and Emerging Infectious Diseases Research (MARCE) focuses on research to enable rapid defenses against bioterror and emerging infectious diseases. Specific diseases under investigation include Anthrax, West Nile Virus, Smallpox, and Cryptosporidiosis, among others. The team is also working on needle-free vaccinations and new diagnostic tools. Six major research projects are centered around the MARCE. These include Anthrax, Emerging Viruses, Poxvirus, Tularemia, Low-Dose Enteric Pathogens, and Diagnostics.

**Maryland Psychiatric Research Center**

University of Maryland, Baltimore (UMB)

Department of Psychiatry, University of Maryland School of Medicine

<http://www.mprc.umaryland.edu>

William T. Carpenter, Director

Maryland Psychiatric Research Center

Spring Grove Hospital Center

55 Wade Avenue

Baltimore, MD 21228-

Telephone: (410) 402-7666

Fax:

Personnel: 18 researchers

Keywords: Imaging, Diagnostic, Mental Health

Dedicated to providing treatment to patients with schizophrenia and related disorders, educating professionals and consumers about schizophrenia, and conducting basic and translational research into the manifestations, causes, and treatment of schizophrenia. Includes the biostatistics center, the functional neuroimaging laboratory, the Maryland brain collection, a program studying neuroscience, outpatient research, research into schizophrenia related disorders and a treatment research program.

**Mucosal Biology Research Center**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://medschool.umaryland.edu/mbrc>

Dr. Alessio Fasano, Director

Mucosal Biology Research Center, University of Maryland  
School of Medicine

20 Penn Street

Baltimore, MD 21201-1192

Telephone: (410) 706-5500

Fax: (410) 706-5508

Personnel: 33 faculty

Keywords: Gastrointestinal, Genomics

Research to understand the molecular basis for human diseases of the gastrointestinal and respiratory tracts. The MBRC is also designed to establish joint ventures with innovative biotechnology and pharmaceutical companies in areas of translational research. Some basic research interests include studies on the regulation of the tyrosine phosphorylation-responsive, pulmonary vascular endothelial paracellular pathway through which cells, macromolecules, and fluid move, and studies on the control of fever and how changes in core temperature exert effects on key components of the pulmonary response to acute injury.

**National Study Center for Trauma and Emergency Medical Systems**

University of Maryland, Baltimore (UMB)

School of Medicine

<http://medschool.umaryland.edu/NSCforTrauma>

Jon M. Hirshon, Acting Director

National Study Center for Trauma and Emergency  
Medical Systems, Univ. of Maryland School of Medicine

701 West Pratt Street, Fifth Floor

Baltimore, MD 21201-

Telephone: (410) 328-5085

Fax: (410) 328-3699

Personnel: 26 staff

Keywords: Emergency Management/Training

Designated by the United States Congress in 1986 to serve as a focal point for research related to trauma, emergency medicine, and emergency medical systems. Research is currently being conducted into the biomechanics of car crashes, substance use/abuse and injury, prehospital emergency care, trauma care systems and disaster management, trauma/EMS informatics including telemedicine, injury prevention, and rehabilitation.

**Office of Substance Abuse Studies (OSAS)**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/~osas>

Tony Tommasello, Ph.D., Director

Office of Substance Abuse Studies, University of  
Maryland School of Pharmacy

515 West Lombard Street, Room 263

Baltimore, MD 21201-

Telephone: (410) 706-7513

Fax: (410) 706-0897

Personnel: 5 staff

Keywords: HIV/AIDS

The office conducts research and community service in the field of substance abuse and dependence. Recent research projects included an evaluation of outreach efforts of STAR, a community aid and advocacy group for people at-risk for substance abuse and HIV, a creation of a video shown to teens intended to decrease their chance of taking drugs, and an evaluation of outreach efforts by Health and Education Resource Organization that compared the effectiveness of mobile-van outreach to that of walk-ins.

**Peter Lamy Center for Drug Therapy and Aging**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/lamy>

Bruce Stuart, Executive Director

The Peter Lamy Center for Drug Therapy and Aging,  
University of Maryland School of Pharmacy

515 West Lombard Street, First Floor

Baltimore, MD 21201-

Telephone: (410) 706-2434

Fax: (410) 706-1488

Personnel: 15 researchers

Keywords: Public Health, Clinical Trials, Gerontology

The Peter Lamy Center conducts research that examines economic, social, and health issues surrounding appropriate medication use. We provide analyses to public and private decision makers to help them understand the salient tradeoffs in selecting medications, paying medication bills or implementing policies that affect prescription drug use. The center also does some clinical research with recent topics including examining the difference in care patients with depression receive and evaluating ambulatory older Americans referred by their community providers.

**Pharmaceutical Research Computing**

University of Maryland, Baltimore (UMB)

School of Pharmacy

<http://www.pharmacy.umaryland.edu/PRC>

Ilene Zuckerman, PharmD, Ph.D., Exec.Dir.  
Pharma. Res. Computing, Dept. of Pharmaceutical  
Health Svcs. Research, UM School of Pharmacy

Provides research support for faculty, post-doctoral fellows,  
graduate students and other researchers with data warehousing  
and analysis needs.

515 West Lombard Street, 2nd Floor

Baltimore, MD 21201-

Telephone: (410) 706-1753

Fax: (410) 706-1736

Personnel: 8 staff

Keywords: Business Systems

**Research Center for Neuroendocrine Influences on Pain**

University of Maryland, Baltimore (UMB)

<http://rcnip.umaryland.edu/>

Joel D. Greenspan, Principal Investigator  
Research Center for Neuroendocrine Influences on Pain,  
Dept. of Biomedical Sciences, UM Dental School

The objectives of the RCNIP are to support basic, clinical, and  
translational research aimed at identifying the biological bases for  
sex differences and neuroendocrine effects on pain and  
analgesia. The Center's work is focused on understanding the  
roles that these factors play in painful craniofacial and visceral  
disorders that disproportionately affect women. The Center's  
research program is diverse, and ranges from molecular studies to  
systems physiology studies to clinical studies.

666 West Baltimore Street, Room 5-A-24

Baltimore, MD 21201-

Telephone: (410) 706-2027

Fax:

Personnel:

Keywords: Clinical Trials

**Vocal Tract Visualization Lab**

University of Maryland, Baltimore (UMB)

Dental School

<http://speech.umaryland.edu/index.html>

Maureen Stone, Director  
Vocal Tract Visualization Lab, Dept. of Biomedical  
Sciences, University of Maryland Dental School

The Vocal Tract Visualization Laboratory does basic and applied,  
multidisciplinary research, mathematical and computer modeling,  
acquisition of experimental data, and technological development.  
The goal is to study tongue kinematics and dynamics from various  
perspectives including: linguistics, phonetics, speech science,  
dentistry, anatomy, physiology, and engineering. Research  
interests are modelling the tongue, tongue segmentation, and  
swallowing.

666 West Baltimore Street, 5A-12

Baltimore, MD 21201-

Telephone: (410) 706-1269

Fax: (410) 706-0193

Personnel: 12 researchers

Keywords: Dental, Simulation/Modeling

**Baltimore Ecosystem Study**

University of Maryland, Baltimore County (UMBC)

<http://www.ecostudies.org/bes>

Holly J. Beyar, Project Facilitator  
Baltimore Ecosystem Study, University of Maryland,  
Baltimore County  
TRC Building, Room 134  
5200 Westland Boulevard  
Baltimore, MD 21227-  
Telephone: (866) 583-7237  
Fax:  
Personnel: 80 researchers  
Keywords: Environmental

Aims to understand metropolitan Baltimore as an ecological system. The program brings together researchers from the biological, physical, and social sciences to collect new data and synthesize existing information on how both the built and wild ecosystems. The study specifically tries to understand the fluxes relationships and linkages in the system.

**Bioinformatics Research Center**

University of Maryland, Baltimore County (UMBC)

<http://www.brc.umbc.edu>

Françoise Seillier-Moiseiwitsch  
Bioinformatics Research Center, University of Maryland,  
Baltimore County  
Mathematics/Psychology Room 408  
1000 Hilltop Circle  
Baltimore, MD 21250-  
Telephone: (410) 455-3296  
Fax: (410) 455-8620  
Personnel: 33 faculty  
Keywords: Bioinformatics, Genetics

The center is dedicated to research activities in the area of computational biology and bioinformatics at UMBC. This would include the development and dissemination of analytical tools for genetics, molecular biology, genomics and proteomics.

**Center for Advanced Studies in Photonics Research**

University of Maryland, Baltimore County (UMBC)

*Physics, Computer Science and Electrical Eng.; Mathematics and Statistics; Chemical and Biochemical Eng.*

<http://www.umbc.edu/caspr>

Anthony M. Johnson, Ph.D., Director  
Center for Advanced Studies in Photonics Research  
(CASPR), UMBC

1000 Hilltop Circle  
Baltimore, MD 21250-  
Telephone: (410) 455-8440  
Fax:  
Personnel:  
Keywords: Photonics, Nanotechnology/MEMS

The Center for Advanced Studies in Photonics Research (CASPR) fosters advanced photonics research and technology development in the areas of optical communications, optical sensing and devices, nanophotonics, biophotonics, and quantum optics in order to benefit government, industry and scientific progress.

**Center for Architectures for Data-Driven Information Processing**

University of Maryland, Baltimore County (UMBC)

Department of Computer Science and Electrical Engineering

<http://www.csee.umbc.edu/cadip>

Charles K. Nicholas, Principal Investigator  
Center for Architectures for Data-Driven Information  
Processing, University of Maryland, Baltimore County  
ECS 211

1000 Hilltop Circle

Baltimore, MD 21250-

Telephone: (410) 455-2594

Fax: (410) 455-3969

Personnel: 3 faculty

Keywords: Software

CADIP's research mission is to explore software agents, large scale information storage and retrieval, and visualization. Is currently developing distributed, scalable, agent-based information management systems.

**Center for Information Security and Assurance**

University of Maryland, Baltimore County (UMBC)

Department of Computer Science and Electrical Engineering

<http://www.cisa.umbc.edu>

Dr. Alan T. Sherman, Director  
Center for Information Security and Assurance, University  
of Maryland, Baltimore County

1000 Hilltop Circle

Baltimore, MD 21250-

Telephone: (410) 455-3500

Fax: (410) 455-3969

Personnel: 24 staff

Keywords: Computer Security, Cryptology, Wireless,  
Internet

The UMBC Center for Information Security and Assurance (CISA) promotes research, education, and sound internal practices in information security and assurance. CISA's Cyber Defense Lab provides an isolated network of workstations available to UMBC students and faculty for research projects and classroom exercises. Faculty and students at UMBC actively engage in a broad spectrum of security research across several academic departments and research groups (see centers and faculty). Areas of interest include: cryptology, network security, internet security, intrusion detection, quantum cryptography, electronic commerce, secure software agents, key management for broadcast encryption, multicast security, cryptographic protocols, security for wireless systems, operating system security, security of health care information systems.

**Center for Urban Environmental Research and Education**

University of Maryland, Baltimore County (UMBC)

Technology Research Center

<http://www.umbc.edu/cuere>

Claire Welty, Director  
Center for Urban Environmental Research and  
Education, University of Maryland, Baltimore County

Technology Research Center 102

5200 Westland Boulevard

Baltimore, MD 21250-

Telephone: (410) 455-1763

Fax: (410) 455-1769

Personnel: 10 researchers

Keywords: Environmental

Recent research projects include: State of the Baltimore Region report, Creating an Urban Ecosystem of Blue and Green Space in the Greater Baltimore Region, The Definition and Measurement of Urban Sprawl, and Watershed 263 (goal of the W263 project is to test the hypothesis that reductions in impervious surface and increases in vegetation will result in significant changes in urban hydrology and nitrogen retention in an urban "sewershed").

**Center for Women and Information Technology**

University of Maryland, Baltimore County (UMBC)

<http://www.umbc.edu/cwit/index.html>

Claudia Morrell, Executive Director  
Center for Women and Information Technology,  
University of Maryland, Baltimore County

1000 Hilltop Circle, ITE 452  
Baltimore, MD 21250-  
Telephone: (410) 455-2822  
Fax: (410) 455-8931  
Personnel:  
Keywords:

The Center for Women and Information Technology (CWIT), established at the University of Maryland Baltimore County (UMBC) in July 1998, is dedicated to providing global leadership in achieving women's full participation in all aspects of information technology (IT). Women's participation in IT will strengthen the workforce, raise the standard of living for many women, and help to assure that information technology addresses women's needs and expands the possibilities for their lives.

**Fiber Optics Communication Institute**

University of Maryland, Baltimore County (UMBC)

Department of Computer Science and Electrical Engineering; Department of Mathematics & Statistics

<http://www.photonics.umbc.edu>

Gary Carter, Group Leader  
Optical Fiber Photonics Laboratory, Center for Advanced  
Studies in Photonics, UMBC  
TRC Building, Room #220  
5200 Westland Boulevard  
Baltimore, MD 21227-  
Telephone: (410) 455-3509  
Fax: (410) 455-6500  
Personnel: 16 researchers  
Keywords: Photonics

The lab's research activities include the following topics: solutions in optical fibers, high-data-rate optical fiber communications, optical fiber lasers, photonic crystal fibers, randomly varying birefringence in optical fibers, polarization mode dispersion and other polarization effects, recirculating loop experiments, network testbeds, optical communications systems simulator, and fiber amplifiers.

**Howard Hughes Medical Institute at University of Maryland, Baltimore County (UMBC)**

University of Maryland, Baltimore County (UMBC)

Department of Chemistry and Biochemistry

<http://www.hhmi.umbc.edu>

Dr. Michael Summers, Investigator  
Howard Hughes Medical Institute, Chemistry and  
Biochemistry Department, UMBC

1000 Hilltop Circle  
Baltimore, MD 21250-  
Telephone: (410) 455-2880  
Fax: (410) 455-1174  
Personnel: 36 staff  
Keywords: Instrumentation, Proteins, Biophysical

Structural and dynamical behaviors of bio-molecules using advanced multi-dimensional and multi-nuclear NMR methods. Current studies are focused on the application of nuclear magnetic resonance to studies of the structure and function of proteins and macromolecular interactions.

**Imaging Research Center**

University of Maryland, Baltimore County (UMBC)

Department of Visual Arts

<http://irc.umbc.edu/flash.html>

Dan Bailey, Director

Imaging Research Center, University of Maryland,  
Baltimore County

1000 Hilltop Circle, ITE 101

Baltimore, MD 21250-

Telephone: (410) 455-3373

Fax: (410) 455-1035

Personnel: 7 staff

Keywords: Imaging

The Imaging Research Center (IRC) is dedicated to investigating new technologies and their use for interpreting and presenting content. Since its inception in 1987, artists and researchers across disciplines have collaborated in the IRC's creative environment to develop new strategies and techniques in digital media. State-of-the-art facilities enable research in 3D visualization, immersive technologies, interactivity, installation, animation, high definition video, and sound.

**Institute for Global Electronic Commerce**

University of Maryland, Baltimore County (UMBC)

<http://www.igec.umbc.edu>

Tim Finin, Director

Institute for Global Electronic Commerce, University of  
Maryland, Baltimore County

1000 Hilltop Circle

Baltimore, MD 21250-

Telephone: (410) 455-3522

Fax: (410) 455-3969

Personnel: 20 staff

Keywords: e-commerce

The Institute for Global Electronic Commerce, drawing upon expertise and input from the corporate and university communities, is designed to promote the electronic transmission of commercial transactions through the connection of companies and universities and through the creation of new entities. Some recent and current projects are: Intelligent Lawyer Online System, Electronic Channel Broker, Trading Regulations Infrastructure for Small and Medium Enterprises, Dynamic Negotiating Agents F106, CIIMPLEX, EECOMS, Web/Data Mining and Personalization, Mobile web browsing, and Electronic Commerce and Digital Libraries.

**Institute for Language and Information Technologies**

University of Maryland, Baltimore County (UMBC)

Department of Computer Science and Electrical Engineering

<http://ilit.umbc.edu>

Sergei Nirenburg, Director

Institute for Language and Information Technologies,  
Computer Science and Electrical Engineering, UMBC

1000 Hilltop Circle, ITE 325

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Personnel: 3 faculty

Keywords: Language

ILIT, a new research center at the University of Maryland, Baltimore County (UMBC), combines basic research in language processing by computers with the development of practical information technology applications and knowledge acquisition tools.



**Interactive Systems Research Center**

University of Maryland, Baltimore County (UMBC)

Department of Information Systems

<http://www.isrc.umbc.edu>

Andrew Sears, Director

Interactive Systems Research Center, Information Systems Department, UMBC

Information Technology/Engineering Building

1000 Hilltop Circle

Baltimore, MD 21250-

Telephone: (410) 455-3883

Fax: (410) 455-1531

Personnel: 10 researchers

Keywords: Computer-Human Interaction

Mission is to investigate the design, implementation, and evaluation of interactive systems to support the development of systems that are usable and accessible. Research areas are: Collaborative editing, Context-aware adaptation in mobile environments, Content-based document conversion, Cross-cultural effect on computer-mediated communication or group decision-making, Cross cultural HCI and user interface design, Data entry for mobile devices, Designing effective distributed documents, Evaluating evaluation techniques, Guidelines for Design and Measurement of Interface Consistency on the Web, Information visualization tools for intrusion detection, Instant messaging, Perceived Security in E-Commerce, Reusing digital information: Search histories in information system user interfaces, Revisiting SRT & productivity, Situationally-induced impairments and disabilities, Tools and techniques for developing effective user interfaces, Ubiquitous computing, and Universal access to information technology.

**Laboratory for Advanced Information Technology (LAIT)**

University of Maryland, Baltimore County (UMBC)

Department of Computer Science and Electrical Engineering

<http://www.cs.umbc.edu/lait>

Laboratory for Advanced Information Technology, Computer Science and Electrical Engineering, UMBC

5401 Wilkens Avenue

Baltimore, MD 21228-

Telephone: (410) 455-3000

Fax: (410) 455-3969

Personnel: 18 researchers

Keywords: Artificial Intelligence, e-commerce, Electronics

The UMBC Laboratory for Advanced Information Technology (LAIT) is an interdisciplinary research group focused on advanced database and knowledge-based systems, intelligent agents, text and natural language processing, intelligent interfaces, information retrieval and hypertext systems, machine learning, and artificial life. Application areas include information retrieval, manufacturing planning and scheduling, electronic commerce, healthcare information systems and electronic publishing.

**Laboratory for Healthcare Informatics**

University of Maryland, Baltimore County (UMBC)

Department of Information Systems

<http://umbc7.umbc.edu/~canfield/lhipage.html>

Kip Canfield, Director

Laboratory for Healthcare Informatics, University of Maryland, Baltimore County

ACIV B 475, IFSM UMBC

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Fax: (410) 455-1073

Personnel: 1 faculty

Keywords: Computer Networking

LHI is an externally funded laboratory in the Department of Information Systems at UMBC. This laboratory focuses on improving the efficiency, effectiveness, and quality of healthcare with information technology. The primary areas of expertise are in the technical areas of database design/implementation and networking for healthcare research and clinical environments. LHI is active in the areas of computerized patient records, electronic data interchange, and collaborative information systems.

**Security Technology Research Group (STRG)**

University of Maryland, Baltimore County (UMBC)

Department of Computer Science and Electrical Engineering

<http://www.cs.umbc.edu/www/crypto>

Alan T. Sherman, Group Leader

Security Technology Research Group, Computer Science and Electrical Engineering, UMBC

1000 Hilltop Circle

Baltimore, MD 21250-

Telephone: (410) 455-3500

Fax: (410) 455-3969

Personnel: 12 staff

Keywords: Cryptology

Purpose of STRG is to promote interdisciplinary, interdepartmental research in all aspects of cryptology and its applications. Our Research Interests spread over many topics including application of cryptography to electronic commerce, electronic money and electronic payment system, security of the World Wide Web, and others.

**University of Maryland, Baltimore County (UMBC) Technology Center**

University of Maryland, Baltimore County (UMBC)

<http://www.umbc.edu/Business/Research>

Ellen Hemmerly, Executive Director  
UMBC Research Park Corporation

5523 Research Park Drive, Suite 310

Baltimore, MD 21228-

Telephone: (410) 455-8400

Fax: (410) 455-5901

Personnel:

Keywords: Business Systems

The University of Maryland, Baltimore County's business incubator, [techcenter@UMBC](mailto:techcenter@UMBC), is home to more than 20 start-up and emerging high-tech and bioscience companies. [techcenter@UMBC](mailto:techcenter@UMBC) also operates an Idea Lab to help UMBC students and faculty develop businesses. Includes [bwtech@umbc](mailto:bwtech@umbc) as its research center. [techcenter@UMBC](mailto:techcenter@UMBC) and [bwtech@UMBC](mailto:bwtech@UMBC) were designed to aid UMBC in enhancing its role as an economic engine for the state and the region by expanding University research opportunities, facilitating technology transfer between the University and the private sector, and creating both jobs and tax revenue.

**User System Environment Research (USER) Laboratory**

University of Maryland, Baltimore County (UMBC)

Department of Information Systems

<http://umbc7.umbc.edu/~norcio/userlab.html>

Dr. A. F. Norcio, Director

User System Environment Research Laboratory,  
Department of Information Systems, UMBC

1000 Hilltop Circle

Baltimore, MD 21250-

Telephone: (410) 455-3938

Fax: (410) 455-8479

Personnel:

Keywords: Computer-Human Interaction

The User lab houses a high-end 486 machine with a Verbex Voice Recognition System, two Mac System, two Mac 840 AV machines with speech recognition and multimedia capabilities, and a Unix-based NeXT machine as well as a SparcStation 2. Software tools include the NeuralWare neural network system, HyperLogic's CubiCalc fuzzy logic processor, ToolBook, Visual Basic, C++, and the AuthorWare Professional multimedia/interface-building tool kit.

**Goddard Earth Sciences and Technology Center**

University of Maryland, Baltimore County (UMBC); National Aeronautics and Space Administration (NASA)

<http://www.umbc.edu/gest>

Raymond M. Hoff, Director  
GEST Center, University of Maryland, Baltimore County

5523 Research Park Drive, Suite 320  
Baltimore, MD 21228-  
Telephone: (410) 455-6362  
Fax: (410) 455-8806  
Personnel: 126 staff  
Keywords: Astronomy

The Goddard Earth Sciences and Technology Center (GEST) is dedicated to furthering fundamental understanding of the coupled physical, chemical, and biological Earth systems and the effects of natural and anthropogenic changes upon the environment. This knowledge will improve our observations of, understanding of, and prediction capabilities for the Earth system, and will foster the development of sound environmental policy. GEST consortium institutions, led by the University of Maryland, Baltimore County, will collaborate with GSFC's Earth-Sun Exploration Division to produce vital new knowledge and to attract and train the next generation of Earth scientists.

**Joint Center for Astrophysics**

University of Maryland, Baltimore County (UMBC); National Aeronautics and Space Administration (NASA)

Department of Physics

<http://www.jca.umbc.edu>

Ian M George, Director  
Joint Center for Astrophysics, Department of Physics,  
University of Maryland, Baltimore County

1000 Hilltop Circle, Room 410  
Baltimore, MD 21250-  
Telephone: (410) 455-1518  
Fax: (410) 455-1072  
Personnel: 17 researchers  
Keywords: Energy, Astronomy

The Joint Center for Astrophysics is a cooperative venture between the University of Maryland, Baltimore County [UMBC] and the former Laboratory for High Energy Astrophysics [LHEA] (now reorganized as part of the Exploration of the Universe Division [EUD]) at the NASA Goddard Space Flight Center [GSFC] in Greenbelt, Md. Activities of the JCA include research in high energy astrophysics, developing educational opportunities in astronomy for UMBC students, and participation in outreach educational activities to the university and the surrounding community.

**Joint Center for Earth Systems Technology**

University of Maryland, Baltimore County (UMBC); National Aeronautics and Space Administration (NASA)

<http://www.jcet.umbc.edu>

Raymond M. Hoff, Director  
Joint Center for Earth Systems Technology, University of  
Maryland, Baltimore County

5523 Research Park Drive, Suite 320  
Baltimore, MD 21228-  
Telephone: (410) 455-6362  
Fax: (410) 455-1291  
Personnel: 18 faculty  
Keywords: Environmental, Remote Sensing

The Joint Center for Earth Systems Technology (JCET) operates under cooperative agreement between the University of Maryland Baltimore County and the NASA Goddard Space Flight Center (GSFC). JCET meets the common interest of UMBC and GSFC to develop new technology for environmental remote sensing. JCET's research focuses on four themes: (i) atmospheric radiation, (ii) observations, (iii) clouds and precipitation and (iv) interdisciplinary studies.

**Active Harmony: Dynamic Resource Management**

University of Maryland, College Park (UMCP)

Department of Computer Science; College of Computer, Mathematical and Physical Sciences

<http://www.dyninst.org/harmony>

Dr. Jeff Hollingsworth

Department of Computer Science, University of Maryland

4155 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-2708

Fax:

Personnel: 3 researchers

Keywords: Software

Active Harmony, a software architecture that supports distributed execution of computational objects in such environments through the following innovations: dynamic execution environment, automatic application adaptation, and shared-data interfaces.

**Alfred Gessow Rotorcraft Center**

University of Maryland, College Park (UMCP)

Department of Aerospace Engineering, A. James Clark School of Engineering

<http://www.aero.umd.edu/AGRC/>

Inderjit Chopra, Director

Alfred Gessow Rotorcraft Center, University of Maryland

3181 Glenn L. Martin Hall (#088)

College Park, MD 20742-

Telephone: (301) 405-2376

Fax:

Personnel: 7 faculty

Keywords: Aerospace

The Alfred Gessow Rotorcraft Center conducts research in rotorcraft aerodynamics, dynamics, composite structures, flight mechanics, CFD, acoustics, smart structures and transmission and gears. Unique facilities include two fully instrumented rotor rigs, a hover tower, and a 10' vacuum chamber. Research areas include: Computational aeroacoustics, Active control of noise using smart structures technology, Prediction, measurement and validation of vibration and loads, Active/passive damping control of rotor systems, Reconfigurable flight control system, Repair of composite structures, HUM: Fault detection and reconfiguration of rotorcraft transmission, Computational fluid dynamics for rotor wakes, Rotor tip vortex formation and decay using 3-D LDV system, Modeling of rotor wakes in maneuvering flight, Analysis and design of helicopter active control systems, Methodology development for rotor-head fault detection, Aeromechanics analysis of trailing-edge flap rotors, Refined modeling of coupled composite rotor, and Dynamic analysis of advanced tilt-rotor

**ALMECOM**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/active>

Don Perlis, Director

ALMECOM, University of Maryland

A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-2685

Fax: (301) 405-6707

Personnel: 6 researchers

Keywords: Real Time Systems, Artificial Intelligence

The acronym ALMECOM stands for Active Logic, Metacognitive Computation, and Mind. Active Logic is a time-sensitive formalism that has been developed with real-world applications and their challenges in mind. Active logic explicitly reasons in time, and incorporates a history of its reasoning as it runs. This characteristic makes active logic more flexible than traditional AI systems and therefore more suitable for commonsense, real-world reasoning. Current research includes real-time planning with deadlines, noting and resolving misidentification errors, noting and resolving contradictions, presuppositions in natural language and agents with common sense (this is all to programs computers with the ability to do or understand these things).

**Animal and Avian Sciences**

University of Maryland, College Park (UMCP)

College of Agriculture and Natural Resources

<http://ansc.umd.edu>

Gary Lapanne, Director of Administrative Services  
Animal and Avian Sciences, College of Agriculture and  
Natural Resources, University of Maryland  
Animal Sciences Center

Aquaculture, Behavior and Animal Welfare, Biometrics, Cell  
Biology and Biochemistry, Equine, Food Safety and Food  
Products, Dairy and Livestock Production Systems, Nutrition,  
Poultry Production, Physiology, Growth and Development,  
Reproduction (Animal) are the areas of study for this school, and  
many professors also have research projects on these topics.

College Park, MD 20742-2311

Telephone: (301) 405-1366

Fax: (301) 405-7980

Personnel: 38 faculty

Keywords: Veterinary, Food

**Aquatic Pathobiology Center**

University of Maryland, College Park (UMCP)

Virginia-Maryland Regional College of Veterinary Medicine

<http://aquaticpath.umd.edu>

Andrew S. Kane, Director  
Aquatic Pathobiology Center, University of Maryland

Research interests of the faculty encompass pathogenesis of cell  
injury, carcinogenesis, environmental and comparative pathology,  
molecular biology, immunology and aquaculture science. Ongoing  
research at the Aquatic Pathobiology Center focuses on aquatic  
toxicology, pathology, and aquatic animal models for human  
health and diseases.

8075 Greenmead Drive

College Park, MD 20742-

Telephone: (301) 314-6808

Fax: (301) 314-6855

Personnel: 5 researchers

Keywords: Environmental, Veterinary, Public Health

**Auditory Neuroethology Laboratory**

University of Maryland, College Park (UMCP)

Department of Psychology, College of Behavioral and Social Sciences

<http://www.bsos.umd.edu/psyc/batlab>

Cynthia F. Moss, Principal Investigator  
Auditory Neuroethology Laboratory, University of  
Maryland

1147 Biology/Psychology Building

College Park, MD 20742-

Telephone: (301) 405-0353

Fax:

Personnel: 13 researchers

Keywords: Auditory

Research in the Auditory Neuroethology Lab includes studies of  
auditory information processing, spatial perception, memory and  
sensorimotor integration. Using the echolocating bat as a model  
system, the lab's work combines acoustical, psychophysical,  
theoretical and neurophysiological research, with the goal of  
developing integrative theories on brain-behavior relations.  
Current projects include: Auditory Scene Analysis by Echolocation  
in Bats, Head-Related Transfer Function, Neural Mechanisms for  
Sensorimotor Integration, Auditory Perception and Social  
Communication in Greater Spear-Nosed Bats, Predator-Prey  
Interactions, Psychophysical Studies of Biosonar, Representation  
of space in the hippocampus of echolocating bats, and The Role  
of Tragus in Echolocating Bat, *Eptesicus fuscus*.

**Autonomous Vehicle Laboratory**

University of Maryland, College Park (UMCP)

Department of Aerospace Engineering, A. James Clark School of Engineering

<http://www.aero.umd.edu/research/avl.html>

Autonomous Vehicle Laboratory, Department of  
Aerospace Engineering, University of Maryland  
3181 Glenn L. Martin Hall (#088)

College Park, MD 20742-

Telephone: (301) 405-2376

Fax:

Personnel:

Keywords: Aerospace, Software,  
Nanotechnology/MEMS

The Autonomous Vehicle Laboratory (AVL) conducts research and development in the areas of advanced aerospace vehicle concepts that incorporate autonomous and intelligent software for making complex decisions. Applications include micro, mini and full-scale Uninhabited Air Vehicles, nano-satellites, and other robotic systems. Specific research interest of the faculty and students involved in the lab include: Adaptive and morphing structural wing concepts, Flight mechanics, stability and control, Integration of embedded hardware/software systems, Ubiquitous computing and virtual systems, Adaptive learning and control, Path planning and autonomous decision, Fault detection and system reconfiguration, Sensors for autonomous navigation, Anomalous situation response in flight management systems, Expendable UAV autopilot integration and testing, and Reconfigurable autopilot design, integration, and testing.

**Biomaterials Laboratory**

University of Maryland, College Park (UMCP)

Department of Chemical and Biomolecular Engineering, and Bioengineering Graduate Program

<http://www.ench.umd.edu/%7Ejpfisher/index.htm>

John Fisher

Biomaterials Laboratory, Department of Chemical and  
Biomolecular Engineering, University of Maryland  
2113 Chemical & Nuclear Engineering Building

College Park, MD 20742-

Telephone: (301) 405-7475

Fax: (301) 405-0523

Personnel: 11 researchers

Keywords: Materials, Bioengineering

Uses the principles of both engineering and life sciences to develop biomaterials that improve the quality of life of ill or injured patients. Begins with polymer science methods to synthesize novel hydrolytically degradable polymers and then fabricate these polymers into easily implantable biomaterials. Molecular and cellular biology principles are then incorporated to understand the interaction of cells, tissues, and higher life systems with these novel biomaterials. Areas of focus in our lab include the study of biomaterials for the delivery of therapeutics, scaffolds for orthopedic tissue engineering applications, and the interaction of biomaterials and tissues.

**Bioprocess Scale-Up Facility**

University of Maryland, College Park (UMCP)

Biotechnology Program

<http://www.mtech.umd.edu/Biotech/BSF.html>

Dr. William Bentley, Director

Bioprocess Scale-Up Facility, Biotechnology Program,  
University of Maryland

2103 Potomac Building (#092)

College Park, MD 20742-3415

Telephone: (301) 405-3909

Fax: (301) 405-8213

Personnel:

Keywords: Bioprocessing

The Bioprocess Scale-Up Facility (BSF) is the Biotech Program's modern bioprocessing laboratory dedicated to the development and scale-up of biotechnology products and processes. With more than 678 fermentations conducted since 1998 alone, the BSF has accelerated the R&D of local biotechnology leaders such as Human Genome Sciences, NIH and MedImmune, as well as growing Maryland start-ups such as Martek Biosciences and Digene Corporation.



**Bridge Engineering Software and Technology Center at UMCP**

University of Maryland, College Park (UMCP)

Department of Civil and Environmental Engineering, A. James Clark School of Engineering

<http://best.umd.edu/>

Chung C. Fu, Director

The BEST Center, Department of Civil and Environmental Engineering, University of Maryland

The Bridge Engineering Software & Technology (BEST) Center of the University of Maryland was established in 1986 to develop bridge related technology and provide a mechanism whereby the bridge oriented software which was developed for the Maryland State Highway Administration is made available on a commercial basis to other state design agencies and private consultants. To ensure that the services and software provided by the BEST Center is of demonstrable quality, in order to avoid potential liability, the State of Maryland has provided substantial resources to support the commercialization process.

College Park, MD 20742-

Telephone: (301) 405-2011

Fax: (301) 314-9129

Personnel:

Keywords: Software, Transportation

**Center for Advanced Life Cycle Engineering**

University of Maryland, College Park (UMCP)

<http://www.calce.umd.edu>

Michael Pecht, Director

CALCE Electronic Products and Systems Center, University of Maryland

1103 Engineering Lab Building

The Center for Advanced Life Cycle Engineering (CALCE) is dedicated to providing a knowledge and resource base to support the development of competitive electronic components, products and systems. Major efforts include: physics of failure, product qualification, risk management in electronic systems, lead-free initiative, prognostic health monitoring and thermal management of electronic systems.

College Park, MD 20742-

Telephone: (301) 405-5323

Fax: (301) 314-9269

Personnel:

Keywords: Electronics

**Center for Auditory and Acoustic Research (CAAR)**

University of Maryland, College Park (UMCP)

Institute for Systems Research

<http://www.isr.umd.edu/CAAR/caar.html>

Shihab A. Shamma, Director

Center for Auditory and Acoustic Research, Institute for Systems Research, University of Maryland

The Center for Auditory and Acoustic Research (CAAR) is a consortium of researchers from six universities working in partnership with Department of Defense laboratories and industry. Research topics include: Auditory processing, Detection, binding and recognition of auditory representations, Advanced models of human perception and performance, Hardware implementation and associated software, and Transitioning theory to applications.

College Park, MD 20742-

Telephone: (301) 405-6596

Fax: (301) 314-9920

Personnel: 8 researchers

Keywords: Auditory, Software



**Center for Automation Research (CfAR)**

University of Maryland, College Park (UMCP)

Dept. of Computer Science, Institute for Advanced Computer Studies (UMIACS); Institute for Systems Research

<http://www.cfar.umd.edu>

Rama Chellappa, Director

Center for Automation Research, University of Maryland

Contains the CVL, GVIL, KECK and LAMP labs. Research areas include computer science, advanced computer studies and systems research.

4417 A.V. Williams Building (#115)

College Park, MD 20742-3275

Telephone: (301) 405-4526

Fax:

Personnel: 19 researchers

Keywords:

**Center for Dynamics and Control of Smart Structures (CDCSS)**

University of Maryland, College Park (UMCP)

Institute for Systems Research; Electrical and Computer Engineering Department

<http://www.isr.umd.edu/CDCSS/cdcss.html>

Prof. R.W. Brockett, Director

Center for Dynamics and Control of Smart Structures

The Center is dedicated to research aimed at the design and control of smart structures. The Center's research is concerned with issues such as the coupling of elastomechanics and fluid mechanics with electro-physical influences such as piezo-electric effects, magnetostrictive effects, and electro capillary forces. Part of the Center's research mission is to study the use large arrays of MEMS actuators and sensors to control fluids and structures in several applications settings.

2233 A.V. Williams Building (#115)

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Fax: (301) 314-9920

Personnel:

Keywords: Nanotechnology/MEMS

**Center for Electronic Markets and Enterprises**

University of Maryland, College Park (UMCP)

Robert H. Smith School of Business

<http://www.rhsmith.umd.edu/ceme>

Joseph Bailey, Director

Center for Electronic Markets and Enterprises, Robert H. Smith School of Business, University of Maryland

Van Munching Hall

The purpose of the Center for Electronic Markets and Enterprises (CEME) is to foster multidisciplinary research on how the networked economy is transforming markets and businesses and to disseminate this research. Information technology (IT) makes possible new markets and business models. The Center sponsors research which explores the factors associated with the success and failure of these new models, the impact of new markets and businesses on the economy, and the design of new kinds of net centric organizations.

College Park, MD 20742-

Telephone: (301) 405-2174

Fax:

Personnel: 21 faculty

Keywords: Business Systems

**Center for Engineered Learning Systems**

University of Maryland, College Park (UMCP)

<http://www.isr.umd.edu/CELS>

Gary W. Rubloff, Director  
Center for Engineered Learning Systems, University of  
Maryland  
2145 A.V. Williams Building

College Park, MD 20742-  
Telephone: (301) 405-2949

Fax:

Personnel:

Keywords: Computer-Human Interaction

The goal of CELS is to promote the development of engineered learning systems (ELS) that support active learning experiences within pedagogically rich environments. Current projects are equiPSim (a semiconductor manufacturing process), learning historian (history-keeping tool which enables the learner to capture a history of actions), and simPLE (the software platform for CELS' engineered learning systems).

**Center for Environmental Energy Engineering**

University of Maryland, College Park (UMCP)

Department of Mechanical Engineering, A. James Clark School of Engineering

<http://www.enme.umd.edu/ceee>

Dr. Reinhard Radermacher, Director  
Center for Environmental Energy Engineering, University  
of Maryland  
4164 Martin Hall

College Park, MD 20742-  
Telephone: (301) 405-5286  
Fax: (301) 405-2025

Personnel:

Keywords: Environmental, Energy, Transportation

The Center for Environmental Energy Engineering, is a leader in research and education in environmentally responsible, economically feasible distributed energy conversion systems for buildings and transportation. The center is divided into four consortia based on the research pursued by each group. The consortia are Alternative Cooling Technologies & Application (ACTA), Integrated Systems Optimization (ISOC), Cooling, Heating and Power (CHP), Advanced Heat Transfer/Advanced Heat Exchangers (AHT/AHX).

**Center for Food, Nutrition and Agriculture Policy (CFNAP)**

University of Maryland, College Park (UMCP)

College of Agriculture and Natural Resources

<http://agresearch.umd.edu/CFNAP/index.cfm>

Richard Forshee, Ph.D., Deputy Director  
Center for Food, Nutrition, and Agriculture Policy,  
University of Maryland  
1122 Patapsco Building

College Park, MD 20742-  
Telephone: (301) 405-8222  
Fax: (301) 405-7979

Personnel:

Keywords: Agriculture, Food

The Center for Food, Nutrition, and Agriculture Policy (CFNAP) is dedicated to advancing rational, science-based food, nutrition, and agriculture policy and is chartered with the University of Maryland, College Park. Through its research, outreach, and educational programs, CFNAP examines complex, and oftentimes contentious, issues facing government policymakers, regulators, agribusinesses, food manufacturers, the media, and consumers.

**Center for Hypersonic Education and Research**

University of Maryland, College Park (UMCP)

Department of Aerospace Engineering, A. James Clark School of Engineering

<http://www.aero.umd.edu/research/chr.html>

Center for Hypersonic Education and Research,  
Department of Aerospace Engineering, University of  
3181 Glenn L. Martin Hall (#088)

College Park, MD 20742-

Telephone: (301) 405-2376

Fax: (301) 314-9001

Personnel:

Keywords: Aerospace, Nanotechnology/MEMS

Hypersonics research at Maryland falls roughly into the areas of fundamental flow physics and applied hypersonic vehicle studies while targeting the following specific research areas: Shock-shock interactions, Shock-vortex interactions, Sharp leading-edge physics, Shock physics, Hypersonic L/D and volumetrics, Hypersonic vehicle design with mission objectives, Fuel selection and hypersonic vehicle design, Inverse design of hypersonic inlets, Star bodies for minimum drag, Optimal hypersonic boost-glide trajectories, Reentry physics and high altitude flight, Spacecraft aeromaneuvering, and Micro engines.

**Center for Information Policy**

University of Maryland, College Park (UMCP)

College of Information Studies and the School of Public Affairs

<http://www.cip.umd.edu>

Lee Strickland, Director

Center for Information Policy, College of Information  
Studies, University of Maryland

4105 Hornbake Library

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Fax: (301) 314-9145

Personnel: 22 staff

Keywords: Business Systems

CIP is a multidisciplinary research center that analyzes and provides solutions to current policy issues relating to the convergence of information and technology. The primary focus of the Center is assisting clients in the public and private sectors regarding the many tactical and strategic issues arising from the creation, acquisition, dissemination, use, and preservation of information as both an essential business tool and an asset in a technology enhanced, digital environment. We do so by: Performing in-depth studies of the success of information use and management; Developing information policies and practices that are ethical, constitutionally and legally appropriate, and balance competing interests in our complex society; Presenting symposia that discuss information issues from diverse points of view and potential solutions; and Conducting executive briefings and customized training for staff and managers.

**Center for Micro Engineering**

University of Maryland, College Park (UMCP)

A. James Clark School of Engineering; College of Life Sciences

<http://www.glue.umd.edu/cemie>

Don DeVoe, Assoc. Prof. of Mechanical Engineering

Center for Micro Engineering, University of Maryland

5000 College Avenue, Suite 3121

College Park, MD 20742-6603

Telephone: (301) 405-8125

Fax: (301) 314-9477

Personnel:

Keywords: Nanotechnology/MEMS

CEMIE (pronounced "semi") activities address innovative research in MicroElectroMechanical Systems (MEMS) and Micro Systems Technology. The scope of research within CEMIE encompasses fundamental and applied investigations into microsystem design and fabrication, device characterization, and the integration of microscale devices and systems.

**Center for Nano Manufacturing and Metrology**

University of Maryland, College Park (UMCP)

<http://www.enme.umd.edu/cnmm/index.htm>

Michael R. Zachariah, Director  
The Center for Nano Manufacturing and Metrology,  
University of Maryland  
2125 Glenn L. Martin Hall

College Park, MD 20742-

Telephone: (301) 405-4311

Fax: (301) 314-9477

Personnel:

Keywords: Nanotechnology/MEMS

Mission is to advance the science and technology of manufacturing and realization of products based on the use of the unique properties achieved at the Nanoscale. We hope to foster synergistic collaborative activities between the University of Maryland and NIST. Current projects include: Automated Planning and On-Line Monitoring for Semi-Autonomous Nano-Assembly, Nanoimprint Lithography for the Manufacture of Organic Electronics Devices assembly, Manufacturing Technology for Nanopore Sensor Arrays with Nano/Micro Interfacing, and Accurate Three-dimensional Metrology of Focused Ion and Electron Beams.

**Center for Networked Communicating Control Systems**

University of Maryland, College Park (UMCP)

Department of Electrical and Computer Engineering, A. James Clark School of Engineering

<http://www.isr.umd.edu/CNCS/>

P.S. Krishnaprasad, Director  
The Center for Networked Communicating Control  
Systems, Inst. For Systems Res., Univ. of Maryland  
2233 A.V. Williams Building (#115)

College Park, MD 20742-3285

Telephone: (301) 405-6843

Fax: (301) 314-9920

Personnel:

Keywords: Computer Networking

The Center for Communicating Networked Control Systems is a multi-university, multidisciplinary center which has been established with the goal of providing the mathematical foundations needed to support the convergence and integration of control and communications technologies.

**Center for Networking of Infrastructure Sensors**

University of Maryland, College Park (UMCP)

Depts. of Civil and Environmental Eng., and Electrical and Computer Eng., A. James Clark School of Engineering

<http://www.cnis.umd.edu/>

Stuart Dennis Milner, Director  
Center for Networking of Infrastructure Sensors,  
University of Maryland  
0152 Martin Hall

Active research grants: Broadband Free Space Optical and RF Wireless Networks with Topology and Diversity Control, Optical Wireless Sensor Networks for Critical Infrastructure Surveillance, and Scalable Multiplayer Control of Joint Battlespace Networks.

College Park, MD 20742-3021

Telephone: (301) 405-6556

Fax:

Personnel:

Keywords: Broadband, Wireless, Photonics, Sensors

**Center for Risk and Reliability**

University of Maryland, College Park (UMCP)

Department of Mechanical Engineering, A. James Clark School of Engineering

<http://www.enre.umd.edu/centers.htm>

Ali Mosleh, Director

Center for Risk and Reliability, University of Maryland

2100 Marie Mount Hall

College Park, MD 20742-7531

Telephone: (301) 405-5215

Fax: (301) 314-9601

Personnel:

Keywords: Nanotechnology/MEMS, Software, Materials

CRE focused primarily on the research and development needs of the industry in product and process reliability. CTRS mainly addressed the research and development needs of the government agencies in risk analysis and risk-informed decision making. Reliability engineering faculty is engaged in a wide range of research activities both in reliability and in risk analysis. The subjects of study include systems (from large and complex to nano-level), software, human, organizations, complex process, and natural environment. The behavior of these complex entities are studied (a) on the phenomenological level to understand fundamental causes of failures or accidents and corresponding preventive measures, and (b) from a predictive perspective to assess the levels of reliability, safety, or security. Therefore the topics cover experimental work on materials and structures of components and systems, development of computational models and simulation codes, functional and causal modeling of complex systems, and analytical and probabilistic models.

**Center for Satellite and Hybrid Communications Networks (CSHCN)**

University of Maryland, College Park (UMCP)

University of Maryland Institute for Systems Research; A. James Clark School of Engineering

<http://www.cshcn.umd.edu>

Dr. John Baras, Director

CSHCN, Hybrid Networks Laboratory, Institute for Systems Research, University of Maryland

115 A.V. Williams Building

College Park, MD 20742-

Telephone: (301) 405-6606

Fax: (301) 314-8586

Personnel: 16 Faculty

Keywords: Wireless, Satellite, Internet, Computer Security, Photonics

The Maryland Hybrid Networks Center (HyNet) is one of 17 Commercial Space Centers sponsored by the National Aeronautics and Space Administration (NASA). Primary focus is to develop hybrid networks that link satellite and wireless systems with cellular, cable, Internet, and telephone networks. Research topics include security in communication networks; Internet over satellite; wireless and ad hoc networks; Internet traffic patterns; free-space optics and air traffic control systems.

**Center for Scientific Computation and Mathematical Modeling**

University of Maryland, College Park (UMCP)

College of Computer, Mathematical, and Physical Sciences (CMPS)

<http://www.cscamm.umd.edu/>

Eitan Tadmor, Director

Center for Scientific Computation and Mathematical Modeling, University of Maryland

4146 Computer Sciences Instructional Ctr. (#406)

Paint Branch Drive

College Park, MD 20742-3289

Telephone: (301) 405-0662

Fax: (301) 314-6674

Personnel: 6 faculty

Keywords: Simulation/Modeling

The primary goal of the Center is to foster research activity that highlights the interplay between novel computational algorithms and mathematical modeling, as complementary avenues to theory and experiment. CSCAMM encourages cross-fertilization of research activity that lies at the interface between different scientific fields utilizing scientific computation and mathematical modeling. Recent examples of such fields include weather forecasting based on multi-scale modeling/simulations of atmosphere-ocean-land interactions, nano-structures, protein folding and turbulence and transport in fluids and plasma.

**Center for Small Smart Systems**

University of Maryland, College Park (UMCP)

Department of Mechanical Engineering, A. James Clark School of Engineering

<http://www.enme.umd.edu/SSSC>

Amr Baz, Director

Center for Small Smart Systems, University of Maryland

Engineering Research Bldg. (#806), Room 4107

5000 College Avenue

College Park, MD 20742-

Telephone: (301) 405-5216

Fax: (301) 314-9477

Personnel:

Keywords: Materials

Its mission: Stimulate the growth of high quality research and education in the areas of design, fabrication, and physics of smart systems and devices integrated on a sub-millimeter scale. Foster multidisciplinary interaction between all the centers and faculty of the A. James Clark School of Engineering who are genuinely interested in developing cutting edge technologies for various aspects of small smart systems. Emphasize innovative approaches for effective utilization of material, manufacturing, information and energy technologies. Leverage the strengths existing in the College of Engineering in the areas of MEMS, information technology, smart materials and structures, nanotechnology, and systems integration, and Develop strong partnerships with industrial and government organizations.

**Center for String and Particle Theory**

University of Maryland, College Park (UMCP)

Department of Physics

<http://www.physics.umd.edu/cpst>

Dr. Sylvester J. Gates, Jr., Director

Center for String and Particle Theory, Dept. of Physics,  
University of Maryland

4121 Physics Building

College Park, MD 20742-

Telephone: (301) 405-6025

Fax:

Personnel:

Keywords:

Mission is to advance mathematical and theoretical physics through research in superstring/M-theory, theoretical particle physics and theoretical and mathematical physics. The center will also host lectures from distinguished physicists and small research workshops.

**Center for Superconductivity Research**

University of Maryland, College Park (UMCP)

<http://squid.umd.edu>

Richard L. Greene, Director

Center for Superconductivity Research, University of  
Maryland

0368 Physics Building

College Park, MD 20742-4411

Telephone: (301) 405-6129

Fax: (301) 405-3779

Personnel: 7 faculty

Keywords: Nanotechnology/MEMS, Photonics,  
Electronics, Materials, Superconductivity

The main themes of research at the present time are: Fundamental studies of high-T<sub>c</sub> superconductors and other highly correlated electron materials, Quantum computation and coherence, Nanoelectronics, nanomaterials and mesoscopic physics, Scanning probe microscopy (primarily SQUID and Microwave), and Spintronics, ferroelectrics, and optoelectronics (materials, basic physics and devices).

**Center for Technology and Systems Management**

University of Maryland, College Park (UMCP)

Department of Civil and Environmental Engineering

<http://ctsm.umd.edu/main/default.htm>

Bilal M. Ayyub, Director

Center for Technology and Systems Mgt., Dept. of Civil and Environmental Engineering, Univ. of Maryland

College Park, MD 20742-

Telephone: (301) 405-1956

Fax: (301) 405-2585

Personnel:

Keywords: Business Systems

The mission of the CTSM is to advance the state of the art of technology and systems analysis for the benefit of people and the environment. The focus is always on enhancing safety, efficiency and effectiveness. Following an assessment of a client's needs, unique programs and individual solutions are developed, drawing upon the past experiences of both the client and professional staff. Some example projects are: Assessment of the load potential for the passage of various truck configurations on representative bridge structures, American Trucking Association; Development of engineered marine system assessment methodology, National Maritime Center of the U.S. Coast Guard; Development of reliability curves for ice-making machines, Scotsman Ice, Inc.; Development of risk-based constructability guidelines for the mobile offshore base, Office of Naval Research, U.S. Navy; Early detection of reliability concerns, Ford Motor Company; and hosting and support of the web-based reliability software WSTAR, U.S. Army Corps of Engineers.

**Center for the Comparative and Evolutionary Biology of Hearing**

University of Maryland, College Park (UMCP)

Department of Biology, College of Chemical and Life Sciences

<http://www.ccebh.umd.edu/index.asp>

Arthur N. Popper, Director

Center for the Comparative and Evolutionary Biology of Hearing, Dept. of Biology, University of Maryland

Biology-Psychology Building

College Park, MD 20742-

Telephone: (301) 405-1940

Fax:

Personnel: 72 researchers

Keywords: Auditory, Veterinary

The C-CEBH has as its overall theme the study of auditory neuroscience, with considerable emphasis in many of our laboratories on questions that directly or indirectly related to issues on evolution and comparative hearing. The goal of this evolutionary and comparative approach is to develop a better understanding of the function auditory systems and the origins of vertebrate hearing. To this end, investigators in the C-CEBH use a wide range of animal models to understand the complexities of hearing among the vertebrates including humans. Research laboratories in C-CEBH use experimental models that include insects (Yager), fish (Popper), amphibians (Yager, Popper), reptiles (Dooling, Carr), birds (Carr, Dooling, Hall), and a variety of mammalian species including ferrets (Shamma, Simon), bats (Moss), and humans (Gordon-Salant, Poeppel, Leek, and Ryals). Research methods include molecular biology, neurophysiology, psychophysics, brain imaging, neuroethology, microscopy at all levels, and many more.

**Center For Agricultural and Natural Resource Policy**

University of Maryland, College Park (UMCP)

Department of Agricultural and Resource Economics, College of Agriculture and Natural Resources

<http://www.mdagrnpolicy.org>

James C. Wade

Center for Agricultural and Natural Resources Policy, University of Maryland

2119 Symons Hall

This Center provides research, education and outreach on public policies facing Maryland, the U.S. and the world.

College Park, MD 20742-5535

Telephone: (301) 405-1918

Fax: (301) 314-9091

Personnel: 11 researchers

Keywords: Agriculture



**Chaos Group**

University of Maryland, College Park (UMCP)

Departments of Physics, Math., and Electrical Eng.; Institute for Research in Electronics and Applied Physics

<http://www-chaos.umd.edu>

Edward Ott

Chaos Group, c/o Department of Physics, Univeristy of Maryland

Physics Building

Since the mid-1970s, the Chaos Group at Maryland has done extensive research in various areas of chaotic dynamics ranging from the theory of dimensions, fractal basin boundaries, chaotic scattering, controlling chaos, etc. The Chaos group is multidisciplinary including physics researchers, engineering and math.

College Park, MD 20742-

Telephone:

Fax:

Personnel: 13 faculty

Keywords: Simulation/Modeling

**Chaos Project: High Performance System Software – Applications**

University of Maryland, College Park (UMCP)

Department of Computer Science; UM Institute for Advanced Computer Studies (UMIACS)

<http://www.cs.umd.edu/projects/hpsl/Chaos.htm>

Alan Sussman

Chaos Project, c/o Department of Computer Science, University of Maryland

4145 A.V. Williams Building (#115)

Includes projects on tools for simulation coupling and data intensive computing. Data intensive computing has more specialized focus in active data repository, multiple query optimization and filtering scientific datasets on the computational grid.

College Park, MD 20742-

Telephone: (301) 405-3360

Fax:

Personnel: 6 researchers

Keywords:

**Cognitive Motor Neuroscience Lab**

University of Maryland, College Park (UMCP)

Department of Kinesiology, College of Health and Human Performance

<http://www.hhp.umd.edu/KNES/research/cmb.html>

Jane E. Clark, Ph.D

Cognitive Motor Neuroscience Lab, Department of Kinesiology, University of Maryland

HHP Building, Room 2351

The Cognitive Motor Neuroscience Laboratory focuses on neural and higher-level mechanisms underlying the selection, planning, learning, initiation, and execution of movement. Using an interdisciplinary approach, these processes are studied from infancy to the end of the lifespan. Research programs in the laboratory include adaptive sensorimotor control and integration, exercise psychophysiology, perceptual motor development, movement disorders, and computational motor neuroscience.

College Park, MD 20742-2611

Telephone: (301) 405-2450

Fax: (301) 405-5578

Personnel: 5 faculty

Keywords: Neurological

**Combined Array for Research in Millimeter-wave Astronomy (CARMA)**

University of Maryland, College Park (UMCP)

Department of Astronomy

<http://www.mmarray.org>

Stuart Vogel, Director

CARMA, c/o Department of Astronomy, University of Maryland

Computer and Space Sciences Bldg., Room 0203

College Park, MD 20742-2421

Telephone: (301) 405-2134

Fax: (301) 314-9067

Personnel: 20 researchers

Keywords: Instrumentation

CARMA is the most powerful millimeter-wave telescope in the world. CARMA is an array of 15 radio telescopes, located in the Inyo Mountains of California at an elevation of 7200 feet. It is can resolve detail at millimeter wavelengths comparable to what the Hubble Space Telescope can achieve at optical wavelengths. CARMA excels at studying the birth of stars, planets, galaxies, and the universe. It is operated by the California Institute of Technology, the University of California (Berkeley), the University of Illinois, and the University of Maryland.

**Composites Research Laboratory**

University of Maryland, College Park (UMCP)

Departments of Aerospace Engineering, Mechanical Engineering, and Materials Science Engineering

<http://www.core.umd.edu>

Dr. Norman M. Wereley, Director

Composites Research Laboratory, Univeristy of Maryland

Room 3180 Martin Hall

College Park, MD 20742-

Telephone: (301) 405-1927

Fax: (301) 405-9001

Personnel: 6 faculty

Keywords: Materials

The Composites Research Laboratory at the University of Maryland, College Park provides an environment for educational, research, and development activity in composite materials and structures. The goals of the laboratory are to promote the understanding and the use of composite materials, to maintain up-to-date manufacturing and testing facilities to conduct basic research, and to provide an accessible knowledge and technology base.

**Computational Linguistics and Information Processing Laboratory (CLIP)**

University of Maryland, College Park (UMCP)

University of Maryland Institute for Advanced Computer Studies (UMIACS)

<http://www.umiacs.umd.edu/research/CLIP/index.htm>

Bonnie Dorr, Amy Weinberg, and Louiqa Raschid

Computational Linguistics and Information Processing Lab, UMIACS

3357 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-6444

Fax: (301) 314-2644

Personnel: 28 researchers

Keywords: Language

Part of the Neural Modeling Group. The language analysis group consists of two main entities: The Natural Language Group and the Database Group. The natural language group focuses on several areas of broad scale multilingual processing, e.g., machine translation, scalable Tran liguinal document detection, and cross-language information retrieval. The database group focuses on architectures for wide area computation with heterogeneous information servers, e.g., scientific discovery from biomolecular data sources.

**Condensed Matter Theory Center**

University of Maryland, College Park (UMCP)

Department of Physics

<http://www.physics.umd.edu/cmtc>

Dr. Sankar Das Sarma, Director  
Condensed Matter Theory Center, Department of  
Physics, University of Maryland  
Physics Building

The sole purpose of CMTC is to maintain sustained excellence in theoretical condensed matter physics (defined in the broadest possible sense) at the University of Maryland.

College Park, MD 20742-4111

Telephone: (301) 405-6145

Fax: (301) 314-9465

Personnel:

Keywords:

**COSMIC Project: Compiling for Advanced Architectures**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/cosmic>

Chau-Wen Tseng  
COSMIC Project: Compiling for Advanced Architectures,  
Dept. of Computer Science, University of Maryland  
4135 A.V. Williams Building (#115)

The goal of the COSMIC project is to support efficient machine-independent programming of advanced architectures. To achieve our goal, we attempt to solve important problems with practical significance, combining sound theoretical foundations with solid empirical validation. Research directions include interactions between optimizations and architectures, compiler support for eXplicit Multi-Threading, data layout optimizations for high performance architectures, compiler and run-time support for adaptive irregular computations, and compiling for software distributed-shared-memory systems.

College Park, MD 20742-

Telephone: (301) 405-8010

Fax: (301) 405-6707

Personnel: 4 researchers

Keywords: Simulation/Modeling, Software

**CVM: Coherent Virtual Machine**

University of Maryland, College Park (UMCP)

Department of Computer Science; UM Institute for Advanced Computer Studies (UMIACS)

<http://www.cs.umd.edu/projects/cvm>

Dr. Peter Keleher  
CVM: Coherent Virtual Machine, c/o Dept. of Computer  
Science, University of Maryland  
4157 A.V. Williams Building (#115)

Development of software distributed shared memory for use of multiple systems working on the same problem. Project goals include Multiple protocol support, Extensibility, Multi-threading support, On-line reconfiguration, Heterogeneity, Race detection, and tapes.

College Park, MD 20742-3255

Telephone: (301) 405-0345

Fax: (301) 405-6707

Personnel: 3 researchers

Keywords: Software

**DSSL Laboratory**

*University of Maryland, College Park (UMCP)*

*Department of Computer Science*

<http://www.cs.umd.edu/projects/dssl>

Bobby Bhattacharjee

DSSL Laboratory, Department of Computer Science,  
University of Maryland

4147 A.V. Williams Building (#115)

The Distributed Systems Software Laboratory (DSSL) provides a collection of UNIX systems for conducting systems research. It consists of a collection of personal computers, 2-4 multi-processors (using AMD, PowerIII, and MIPS processors), an easily re-configurable collection of Ethernet switches, and high speed networks (such as Myrinet).

College Park, MD 20742-

Telephone: (301) 405-1658

Fax: (301) 405-6707

Personnel:

Keywords: Software

**Dynamical Systems and Accelerator Theory Group**

*University of Maryland, College Park (UMCP)*

*Department of Physics*

<http://www.physics.umd.edu/dsat>

Alex J. Dragt, Principal Investigator

Dynamic Systems and Accelerator Theory Group,  
Department of Physics, University of Maryland

3124C Physics Building

The University of Maryland Dynamical Systems and Accelerator Theory Group has been carrying out long-term research work in the general area of Dynamical Systems with a particular emphasis on applications to Accelerator Physics. This work is broadly divided into two tasks: The Computation of Charged Particle Beam Transport and The Computation of Electromagnetic Fields and Beam-Cavity Interactions.

College Park, MD 20742-

Telephone: (301) 405-6053

Fax: (301) 314-9525

Personnel: 2 faculty

Keywords: Real Time Systems

**East-West Space Science Center**

*University of Maryland, College Park (UMCP)*

*Department of Physics*

Roald Z. Sagdeev

East-West Space Sciences Center, Department of  
Physics, University of Maryland

Room 2309A Computer and Space Sciences Bldg.

Currently the Center is involved in a few projects with NASA. One major project is called lunar reconnaissance orbiter which is an unmanned spacecraft, and is planned to launch in 2008. The Center also involved in discussions on energy issues and global environment.

College Park, MD 20742-4111

Telephone: (301) 405-8051

Fax:

Personnel: 3 faculty

Keywords: Aerospace

**Experimental Nuclear Physics Group**

University of Maryland, College Park (UMCP)

Department of Physics

<http://www.physics.umd.edu/enp>

Experimental Nuclear Physics Group, Department of  
Physics, University of Maryland  
Physics Building

The Experimental Nuclear Physics Group at the University of Maryland carries out studies of the nuclear many body problem in terms of nucleons, hadrons, quarks and gluons using a variety of intermediate- and high-energy probes at accelerators in the United States, Canada, Europe and Japan.

College Park, MD 20742-4111

Telephone: (301) 405-3401

Fax: (301) 314-9525

Personnel: 11 staff

Keywords: Energy

**Experimental Software Engineering Group (ESEG)**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/SoftEng/ESEG>

Victor R. Basili

Experimental Software Engineering Group, Department  
of Computer Science, University of Maryland  
4111 A.V. Williams Building (#115)

The Experimental Software Engineering Group (ESEG) of the University of Maryland views the study of software engineering as a laboratory science. Specific research projects are centered around formalizing various aspects of (a) the Quality Improvement Paradigm (QIP), (b) the Experience Factory (EF), and (c) the Goal/Question/Metric approach (GQM). The QIP is aimed at building descriptive models of software processes, products, and other forms of experience, experimenting with and analyzing these models, in order to build improvement-oriented, packaged, prescriptive models.

College Park, MD 20742-

Telephone: (301) 405-2668

Fax: (301) 405-3691

Personnel: 9 staff

Keywords: Software

**Fraunhofer Center - Maryland**

University of Maryland, College Park (UMCP)

Fraunhofer Center for Experimental Software Engineering, Maryland

<http://fc-md.umd.edu>

Dr. Rance Cleaveland, Executive Director

Fraunhofer CESE, University of Maryland

4321 Hartwick Road, Suite 500

College Park, MD 20742-3290

Telephone: (301) 403-2705

Fax: (301) 403-8976

Personnel: 14 researchers

Keywords: Software

The leading competence center for applied research and technology transfer in experimental software engineering. FC-MD supports research and development in the field of software engineering and its enabling technology. Collaborates with private-sector companies, government agencies, and academic institutions to develop innovative, actionable approaches to address their software issues. Mission is to advance the state-of-the-practice in software development and acquisition organizations by applying state-of-the-art research results. Its approach is based on the following fundamental principles: applying empirical methods to evaluate processes and products, identifying improvement areas and proposing changes, understanding the impact of changes on measures of success, utilizing experience to guide technical and management choices, tailoring solutions for specific customer contexts and transferring proven technologies into practice.

**Glenn L. Martin Wind Tunnel**

University of Maryland, College Park (UMCP)

<http://www.windtunnel.umd.edu>

Jewel Barlow, Director  
Glenn L. Martin Wind Tunnel, University of Maryland

2102 Wind Tunnel Building (#081)

College Park, MD 20742-3215

Telephone: (301) 405-6861

Fax: (301) 314-9628

Personnel: 6 staff

Keywords: Aerospace

The Glenn L. Martin Wind Tunnel is a state of the art low speed wind tunnel that has been actively involved in aerodynamic research and development since 1949. The list of research and development tests carried out includes work on aircraft of many types and many other vehicles and devices. More than 1900 tests have been conducted to date. The Wind Tunnel can be used by companies if the University is contacted.

**Global Land Cover Facility**

University of Maryland, College Park (UMCP)

Department of Geography; UM Institute for Advanced Computer Studies (UMIACS)

<http://glcf.umiacs.umd.edu/index.shtml>

John Townshend, Principal Investigator  
Global Land Cover Facility, UM Institute for Advanced  
Computer Studies

3166 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone:

Fax:

Personnel: 13 researchers

Keywords: Environmental

The Global Land Cover Facility (GLCF) provides earth science data and products to help everyone to better understand global environmental systems. In particular, the GLCF develops and distributes remotely sensed satellite data and products that explain land cover from the local to global scales. GLCF research focuses on determining land cover and land cover change around the world. Land cover is the discernible vegetation, geologic, hydrologic or anthropogenic features on the planet's land surface. These features, such as forests, urban area, croplands and sand dunes, can be measured and categorized using satellite imagery. Land cover change can be assessed by comparing one area with two images taken at different dates. Determining where, when, how much and why change occurs with land cover is a crucial scientific concern. It is imperative that appropriate tools be made available to better manage and adapt to change.

**Graphics and Visual Informatics Laboratory**

University of Maryland, College Park (UMCP)

Department of Computer Science; UM Institute for Advanced Computer Studies (UMIACS)

<http://www.cs.umd.edu/gvil/home.html>

Amitabh Varshney, Director  
Graphics and Visual Informatics Laboratory, UM Institute  
for Advanced Computer Studies

4406 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-1213

Fax: (301) 405-6707

Personnel:

Keywords: CAD, Software

The mission of GVIL is to improve the efficiency and usability of visual computing applications in science, engineering, and medicine. The scope of this laboratory's research covers design of algorithms and data structures for reconciling realism and interactivity for very large graphics datasets, rapid access to distributed graphics datasets across memory and network hierarchies, and study of the influence of heterogeneous display and rendering devices over the visual computing pipeline. The activities of the laboratory involve development of visual computing tools and technologies to support the following research-driving applications: protein folding and rational drug design, navigation and interaction with mechanical CAD datasets, and ubiquitous access to distributed three-dimensional graphics datasets.

**High Performance Systems Software Lab**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/hpssl>

Dr. Jeff Hollingsworth

High Performance Systems Software Lab, Department of  
Computer Science, University of Maryland

4155 A.V. Williams Building (#115)

Projects include: Chaos Project, Coherent Visual Machine,  
Dyninst, Harmony, and the Omega Project.

College Park, MD 20742-

Telephone: (301) 405-2708

Fax:

Personnel: 5 faculty

Keywords: Simulation/Modeling, Software, Systems  
Integration

**Human Computer Interaction Lab (HCIL)**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/hcil>

Alison Druin, Director

Human Computer Interaction Lab, UM Institute for  
Advanced Computer Studies

A.V. Williams Building (#115)

The Human-Computer Interaction Lab (HCIL) at the University of Maryland conducts research on advanced user interfaces and their development processes. Interdisciplinary research teams study the entire technology development life-cycle which includes the initial technology design, implementation issues, and evaluation of user performance. Current work includes: information visualization, interfaces for digital libraries, multimedia resources for learning communities, zooming user interfaces (ZUIs), technology design methods with and for children, and instruments for evaluating user interface technologies.

College Park, MD 20742-

Telephone: (301) 405-2769

Fax: (301) 405-6707

Personnel: 42 staff

Keywords: Computer-Human Interaction

**Hypersonics Group**

University of Maryland, College Park (UMCP)

Department of Aerospace Engineering, A. James Clark School of Engineering

<http://www.ena.umd.edu/CHER>

Mark Lewis, Director

Hypersonics Group, Department of Aerospace  
Engineering, University of Maryland

Room 3188 Martin Hall

Provides a multidisciplinary environment for graduate and undergraduate students to study and conduct research in the field of hypersonic flight. Ongoing projects cover the range of applications from cruisers through trans-atmospheric and reentry vehicles. Research activities, focused on propulsion, fluid dynamics, inverse design, and vehicle optimization and integration, are conducted in conjunction with industrial partners and government laboratories. Most recently, experimental studies of waverider based projectiles, examination of the impact of fuel selection on hypersonic vehicle design, and a focus on missile class bodies, have been the primary activities in the center program.

College Park, MD 20742-

Telephone: (301) 405-1133

Fax:

Personnel:

Keywords: Aerospace



**Institute for Physical Science and Technology (IPST)**

University of Maryland, College Park (UMCP)

College of Computer, Mathematical, and Physical Sciences (CMPS)

<http://www.ipst.umd.edu>

Dr. Rajarshi Roy, Director

Institute for Physical Science and Technology, University of Maryland

4211 Computer & Space Sciences Building (#224)

College Park, MD 20742-2431

Telephone: (301) 405-4874

Fax: (301) 314-9363

Personnel:

Keywords: Proteins, Biochemistry, Biophysics, Simulation/Modeling, Software

The Institute for Physical Science and Technology is a research institute where research in interdisciplinary areas that fall outside the boundaries of traditional academic departments is the primary mission. Research includes the AMO group, Biophysics Group, Chaos Group, Chemical Physics, Cosmic Ray Physics, Protein Folding, Fluctuations and Critical Phenomena, Intense Laser-Matter Interactions, Laboratory for Computation and Visualization, Plasma Science, Space and Upper Atmosphere Physics, Space Physics, Statistical Mechanics on Surfaces, Statistical Physics, and the Zeno Experiment.

**Institute for Research in Electronics and Applied Physics**

University of Maryland, College Park (UMCP)

A. James Clark School of Engineering; College of Computer, Mathematical, and Physical Sciences (CMPS)

<http://www.ipr.umd.edu>

Daniel P. Lathrop, Director

Institute for Research in Electronics and Applied Physics, University of Maryland

Energy Research Facility (Bldg. #223)

Paint Branch Drive

College Park, MD 20742-3511

Telephone: (301) 405-4951

Fax: (301) 314-9437

Personnel:

Keywords: Electronics, Materials

Research includes: Charged Particle Beams for Advanced Accelerator Application, High Power Microwave Generation, Materials Processing Laboratory for Advanced Materials, Experimental Plasma Physics, Laboratory for Ion Beam Research and Applications (LIBRA), Plasma Theory Group, Nonlinear Dynamics Research and Plasma Processing of Materials.

**Institute for Systems Research**

University of Maryland, College Park (UMCP)

A. James Clark School of Engineering

<http://www.isr.umd.edu>

Eyad H. Abed, Director

Institute for Systems Research, University of Maryland

A.V. Williams Building (#115), Second Floor

College Park, MD 20742-

Telephone: (301) 405-6615

Fax:

Personnel: 45 faculty

Keywords: Systems Integration

The institute develops design and control methodologies for integrating components and technologies in complete systems. ISR's research agenda is a drive to advance and exploit fundamental methodological tools for solving systems engineering problems, including intelligent control; modeling and optimization; communications and signal processing; computing; operations research; human factors; reliability and risk assessment; and systems integration. The five research emphases are: Global Communications System - moving information globally and efficiently, Sensor-Actuator Network - connecting, understanding and controlling the physical world, Next-Generation Product Realization Systems - developing product streams and manufacturing systems, Societal Infrastructure Systems - supporting people and society through intelligent systems design, and Cross-Disciplinary Systems Education - developing technical, business and societal leaders.

**Isotope Geochemistry Lab**

University of Maryland, College Park (UMCP)

Department of Geology

<http://www.geol.umd.edu/pages/facilities/igl.htm>

Richard J. Walker, Director

Isotope Geochemistry Lab, Department of Geology,  
University of Maryland

The Isotope Geochemistry Laboratory ( IGL ) is part of the Geochemistry Laboratories of the Department of Geology. The IGL comprises a set of laboratories for the preparation and isotopic analysis of a wide range of geological materials. These laboratories include separate Mass Spectrometry (2), Chemistry (2), Mineral Separation and Rock Preparation facilities. The mission of the IGL is to produce the highest quality isotope data, to innovate in techniques development and applications, to train students and visitors the techniques involved in gathering such data, and to maintain itself as a world-class isotope measurement facility.

College Park, MD 20742-

Telephone: (301) 405-4089

Fax: (301) 405-3597

Personnel:

Keywords: Environmental

**Joint Institute for Knowledge Discovery**

University of Maryland, College Park (UMCP)

<http://zaphod.mindlab.umd.edu:16080/JIKD>

James A. Hendler

Joint Institute for Knowledge Discovery, Department of  
Computer Science, Univ. of Maryland

A.V. Williams Building (#115)

JIKD will explore both research and technology application opportunities in a wide range of knowledge technologies including database research, social network analysis, human language technology, semantic web applications, human computer interaction, multimedia databases, and probabilistic predictive reasoning. Some current research projects are: Email and Speech -- This project strives to help users make sense of large digital email and speech data collections by formulating and applying innovative ideas and software solutions, Probabilistic Linkage and Activity Inference -- This project focuses on probabilistic method usage with respect to Entity Resolution, Probabilistic Ontologies, Probabilistic Ontology Browsers, and Spatio-Temporal Activity Identification, and Annotation and Evaluation -- This project explores data source "ground truthing" which, in-turn, allows researchers to measure their approach efficacy against known criteria. It also probes new ground truthing tool approaches and mechanisms for maintaining and serving

College Park, MD 20742-

Telephone: (301) 314-6611

Fax:

Personnel:

Keywords: Computer-Human Interaction, Internet,  
Software

**Keck Laboratory for the Analysis of Visual Motion**

University of Maryland, College Park (UMCP)

<http://www.umiacs.umd.edu/users/lsd/kecklab.html>

Larry S. Davis

Keck Laboratory for the Analysis of Visual Motion, UM  
Institute for Advanced Computer Studies

4111 A.V. Williams Building (#115)

The Keck Laboratory for the Analysis of Visual Motion was established in 1997 through a grant from the Keck Foundation,. The Laboratory will be used to explore fundamental problems in the recovery of three dimensional models of human movements. The Laboratory will include a large set of digital color cameras that will simultaneously view a person perform an action. Previous research included using advanced optimization procedures, to between four and seven synchronized video data streams of the person in motion. The time-varying articulation of the 3D model was then superimposed onto the viewpoints to show the accuracy of the recovery process.

College Park, MD 20742-

Telephone: (301) 405-6718

Fax:

Personnel:

Keywords: Computer-Human Interaction

**Laboratory for Automation Psychology and Decision Process**

University of Maryland, College Park (UMCP)

Department of Psychology; University of Maryland Institute for Advanced Computer Studies (UMIACS)

<http://lap.umd.edu/lap/>

Dr. Kent L. Norman

Laboratory for Automation Psychology and Decision  
Process, Dept. of Psychology, Univ. of Maryland  
3111 Biology-Psychology Building

Dedicated to understanding the cognitive processes involved at the human/computer interface. Current projects involve survey design, dynamic decisions, sports decisions, computer rage and accessibility.

College Park, MD 20742-4411

Telephone: (301) 405-5938

Fax: (301) 314-9566

Personnel:

Keywords: Computer-Human Interaction

**Laboratory for Computation and Cultural Dynamics**

University of Maryland, College Park (UMCP)

University of Maryland Institute for Advanced Computer Studies (UMIACS)

<http://www.cs.umd.edu/projects/lccd>

Dana Nau, Director

Laboratory for Computation and Cultural Dynamics, UM  
Institute for Advanced Computer Studies

A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-2684

Fax: (301) 405-6707

Personnel: 13 staff

Keywords: Simulation/Modeling

The purpose of the laboratory is to develop the theory and algorithms required for tools to support decision making in cultural contexts. Examples of such decision-making situations include: US government officials who need understand other cultures in order to achieve their missions; Law enforcement officials working to prevent crime and reduce conflict; E-government strategists and practitioners working for better governance in international organizations and developing countries; Decision-makers in foreign cultures who want to help improve their people's quality of life; and Decision-makers in countries recovering from conflicts and disasters.

**Laboratory for Computation and Visualization**

University of Maryland, College Park (UMCP)

Institute of Physical Science and Technology

<http://lcv.umd.edu/>

Prof. Anil Deane, Director

Laboratory for Computation and Visualization, Inst. of  
Physical Science and Tech., Univ. of Maryland

4364 Computer & Space Sciences Building (#224)

College Park, MD 20742-

Telephone: (301) 405-4865

Fax: (301) 314-9363

Personnel: 21 staff

Keywords: Computer-Human Interaction

High-performance scientific computing and data visualization. The LCV performs three essential functions: research in computation and visualization, primarily in the areas of fluid dynamics and magneto-hydrodynamics (MHD); provides general computing facilities for the Institute for Physical Science and Technology (IPST); houses several Applied Mathematics (AMSC) students.

**Laboratory for Crustal Petrology**

University of Maryland, College Park (UMCP)

Department of Geology

<http://www.geol.umd.edu/pages/faculty/BROWN/lcp.html>

Michael Brown, Director

Laboratory for Crustal Petrology, Department of Geology,  
University of Maryland

College Park, MD 20742-

Telephone: (301) 405-4080

Fax: (301) 314-7970

Personnel: 3 researchers

Keywords: Environmental

Research in the Laboratory for Crustal Petrology is concerned with understanding the origin and evolution of the earth's crust, which includes crust-mantle interactions and processes of recycling within the crust. In order to understand crustal recycling, faculty and students are investigating the pressure-temperature-time-deformation evolution of metamorphic belts, and the generation, segregation, transfer and emplacement of granite within the earth's crust. This work involves integration between field studies, petrology and geochemistry, utilizing additional facilities in the Isotope Geochemistry Laboratories within the Department of Geology and the Electron Microprobe Analyzer within the Center for Microanalysis.

**Laboratory for Language And Media Processing (LAMP)**

University of Maryland, College Park (UMCP)

University of Maryland Institute for Advanced Computer Studies (UMIACS)

<http://lamp.cfar.umd.edu>

Amy Weinberg & David Doermann, Co-Directors

Laboratory for Language and Media Processing, UM  
Institute for Advanced Computer Studies

3357 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-6444

Fax: (301) 314-2644

Personnel: 48 researchers

Keywords: Language

This lab is composed of two groups, the media analysis group and the language analysis group. The media analysis group is focused on providing tools and techniques for access to large heterogeneous databases of multimedia information objects. The primary theme of the research is to provide automatic access to information sources by addressing issues involved in initial processing, organization, manipulation and retrieval. The language analysis group consists of two main entities: The Natural Language Group and the Database Group. The natural language group focuses on several areas of broad scale multilingual processing, e.g., machine translation, scalable Translingual document detection, and cross-language information retrieval. The database group focuses on architectures for wide area computation with heterogeneous information servers, e.g., scientific discovery from biomolecular data sources.

**Laboratory for Millimeter-Wave Astronomy (LMA)**

University of Maryland, College Park (UMCP)

Department of Astronomy

<http://bima.astro.umd.edu/general/lma.html>

Stuart Vogel, Director

Laboratory for Millimeter-Wave Astronomy, Department  
of Astronomy, University of Maryland

Computer and Space Sciences Bldg., Room 0203

College Park, MD 20742-2421

Telephone: (301) 405-2134

Fax: (301) 314-9067

Personnel: 15 researchers

Keywords: Astronomy

The Laboratory for Millimeter-Wave Astronomy (LMA) is an organization set up within the Department of Astronomy to manage Maryland's 20% participation in the Berkeley Illinois Maryland Array (BIMA), a millimeter-wave radio array in Hat Creek, California. The LMA group is interested in understanding the basic physical properties of star forming regions in our own and nearby galaxies, the properties of the interstellar medium in general, galactic dynamics and the overall structure of the Milky-Way, and external galaxies. They primarily use millimeter transitions in the low lying levels of simple molecules like CO and the very good spatial resolution available with BIMA (0.5 arcsec) to study the morphology and dynamics of molecular clouds, which are thought to be stellar nurseries and a tracer of the galactic disk. They also develop both hardware and software in support of these observations.

**Laboratory of Comparative and Functional Neuroanatomy**

University of Maryland, College Park (UMCP)

Department of Psychology, College of Behavioral and Social Sciences

<http://www.bsos.umd.edu/psyc/Brauthlab/index.html>

Steven E. Brauth, Director

Laboratory for Comparative and Functional Neuroanatomy,  
Dept. of Psychology, Univ. of Maryland

The lab is devoted to the study of auditory-vocal learning in budgerigars in an effort to understand the underlying neural mechanisms involved in auditory-vocal learning. It studies pathway tracing, functional neuroanatomy, and developmental studies.

College Park, MD 20742-4411

Telephone: (301) 405-5939

Fax:

Personnel: 8 researchers

Keywords: Auditory

**Laboratory of Comparative Psychoacoustics**

University of Maryland, College Park (UMCP)

Department of Psychology, College of Behavioral and Social Sciences

<http://www.bsos.umd.edu/psyc/dooling/intro.htm>

Robert Dooling, Director

Laboratory of Comparative Psychoacoustics, Department  
of Psychology, Univ. of Maryland

Research in the Laboratory of Comparative Psychoacoustics is aimed at understanding how animals communicate with one another using sound and whether there are parallels with how humans communicate with one another using speech and language. Specific projects are on vocal learning and vocal development in budgerigars, the regeneration of auditory hair cells and recovery of hearing and the vocalizations in small birds following hearing damage, and the effect of noise on hearing. Other studies focus on how small birds localize sounds, how they perceive complex sounds such as bird vocalizations and human speech, and how the bird ear functions.

College Park, MD 20742-

Telephone: (301) 405-5925

Fax:

Personnel:

Keywords: Auditory

**Laser Sensor Lab / Maryland Optics Group**

University of Maryland, College Park (UMCP)

Department of Electrical and Computer Engineering, A. James Clark School of Engineering

<http://www.eene.umd.edu/LaserLab>

Christopher C. Davis

Laser Sensor Lab / Maryland Optics Group, Dept. of  
Electrical and Computer Eng., Univ. of Maryland

Research in the Maryland Optics Group covers a broad range of topics including Free Space Optical (FSO) Communications, biosensors, near-field antenna characterization, nano-optics, plasmon spectroscopy, and fiber and free-space laser interferometry. Coherent, hybrid, homodyne and heterodyne fiber sensors have been studied that can be used for remote electrical and magnetic field measurement, for mapping the surface structure of optical components with high spatial resolution, and for identifying patterns of birefringence in GaAs and related electronic and photonic devices.

College Park, MD 20742-

Telephone: (301) 405-3637

Fax: (301) 314-9281

Personnel: 3 faculty

Keywords: Sensors, Photonics, Electronics

**Maruti Hard Real-time System Project**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/maruti>

Dr. Ashok Agrawala, Principal Investigator  
The Maruti Hard Real-time System Project, Dept. of  
Computer Science, University of Maryland  
4149 A.V. Williams Building (#115)

The purpose of the Maruti project is to create an environment for the development and deployment of critical applications with hard real-time constraints in a reactive environment. Such applications must be able to execute on a platform consisting of distributed and heterogeneous resources and operate continuously in the presence of faults.

College Park, MD 20742-

Telephone: (301) 405-2525

Fax: (301) 405-6707

Personnel: 8 researchers

Keywords: Real Time Systems

**Maryland Agricultural Experiment Station (MAES)**

University of Maryland, College Park (UMCP)

College of Agriculture and Natural Resources

<http://agresearch.umd.edu>

Dr. Cheng-i Wei, Dean and Director  
Maryland Agricultural Experiment Station, University of  
Maryland  
1296 Symons Hall

The Maryland Agricultural Experiment Station (MAES) funds research conducted primarily by 115 faculty located within the College of Agriculture and Natural Resources, University of Maryland at College Park. Faculty utilize MAES' 10 research facilities, grouped into four research centers by geographical regions, for research that meets State, national, and international agricultural, environmental, economic, and social needs. The goal of these centers is to conduct research and provide rapid delivery of information to clientele in the region and State through interdisciplinary research and Extension programs.

College Park, MD 20742-5551

Telephone: (301) 405-2072

Fax: (301) 314-9146

Personnel: 115 faculty

Keywords: Agriculture

**Maryland Center for Advanced Transportation Technology**

University of Maryland, College Park (UMCP)

Department of Civil and Environmental Engineering

<http://www.ence.umd.edu/CATT>

Philip J. Tarnoff, Director

Maryland Center for Advanced Transportation  
Technology (CATT), University of Maryland  
Engineering Research Bldg. (#806), Suite 3102  
5000 College Avenue

College Park, MD 20742-6602

Telephone: (301) 403-4525

Fax: (301) 403-4591

Personnel:

Keywords: Transportation

Mission is to foster the development and application of innovative approaches to existing and emerging transportation needs through research, education, and deployment assistance. The CATT provides a bridge between the intelligent transportation systems (ITS) community, the information technology community and other disciplines essential to the successful application of ITS.



**Maryland Center for Agro-Ecology, inc.**

University of Maryland, College Park (UMCP)

College of Agriculture and Natural Resources

<http://www.agroecol.umd.edu>

Harry R. Hughes, President

Maryland Center for Agro-Ecology, Inc.

P.O.Box 169

Cheston Lane

Queenstown, MD 21658-

Telephone: (410) 827-6202

Fax:

Personnel:

Keywords: Environmental

The Center supports a variety of public and private sector research projects of benefit to Maryland's farms and forests, owners and operators. Its mission is to develop innovative policies and foster new understandings that will help secure a viable future for the farms and productive forests so central to the state's economy and quality of life.

**Maryland Center for Automotive Research and Testing**

University of Maryland, College Park (UMCP)

Department of Mechanical Engineering, A. James Clark School of Engineering

<http://www.mcart.umd.edu>

David Holloway

The Maryland Center for Automotive Research and Testing, Dept. of Mech. Eng., Univ. of Maryland

2181 Glenn L. Martin Hall

Focus Areas: Vehicle Dynamics Research & Testing, Hybrid Electric Vehicle Transmission Design, Modeling & Controls, and Powertrain Performance.

College Park, MD 20742-

Telephone: (301) 405-5281

Fax: (301) 405-5281

Personnel:

Keywords: Transportation, Simulation/Modeling

**Maryland Center for Integrated Nano Science and Engineering**

University of Maryland, College Park (UMCP)

A. James Clark School of Engineering; Colleges of Computer, Math., & Phys. Sciences, and Chem. & Life Sciences

<http://www.nanocenter.umd.edu>

Gary W. Rubloff, Director

Maryland Center for Integrated Nano Science and Engineering, University of Maryland

Kim Engineering Building

The Maryland Center for Integrated Nano Science and Engineering brings together cross-disciplinary groups of outstanding scientists and engineers to advance the frontiers of science and to develop nanotechnologies which improve our world. Research activities include: Scanning nanoprobe techniques, particle synthesis and nonmanufacturing, locating measuring and controlling nanoparticles, nanoelectronics, nanomanufactured systems, microsystem platforms for nanoscale research and technology, biomolecular engineering, nano-bio technology, combinatorial materials science and discovery, and complex multifunction and smart materials.

College Park, MD 20742-

Telephone: (301) 405-2949

Fax: (301) 314-9920

Personnel:

Keywords: Nanotechnology/MEMS,  
Nanotechnology/Biology



**Maryland Fire and Rescue Institute (MFRI)**

University of Maryland, College Park (UMCP)

<http://www.mfri.org>

Steven T. Edwards, Director  
Maryland Fire and Rescue Institute, University of  
Maryland

Plans, researches, develops, and delivers quality programs to enhance the ability of emergency services providers to protect life, the environment, and property. MFRI is the State's fire and emergency service training agency. Includes Center for Firefighter Safety and Research Development

4500 Paint Branch Parkway  
College Park, MD 20742-  
Telephone: (301) 226-9960  
Fax: (301) 314-1497  
Personnel:  
Keywords: Emergency Management/Training

**Maryland Information Network Dynamics (MIND) Laboratory**

University of Maryland, College Park (UMCP)

University of Maryland Institute for Advanced Computer Studies (UMIACS)

<http://www.umiacs.umd.edu/mind>

Dr. Ashok Agrawala, Director  
Maryland Information and Network Dynamics Lab

The MIND Lab is an initiative of the University of Maryland which collaborates with private industry and government agencies to foster new, large-scale computer science projects in the areas of wireless networking, information services, information-centric applications, networking infrastructure and information assurance and security

8400 Baltimore Avenue  
College Park, MD 20740-  
Telephone: (301) 314-6604  
Fax: (301) 314-9734  
Personnel: 32 staff  
Keywords: Wireless, Computer Networking, Computer  
Security

**Maryland NanoCenter**

University of Maryland, College Park (UMCP)

A. James Clark School of Engineering; Colleges of Computer, Math., & Phys. Sciences, and Chem. & Life Sciences

<http://www.noncenter.umd.edu>

Gary W. Rubloff, Ph.D., Director  
Maryland NanoCenter, University of Maryland

Kim Engineering Building

College Park, MD 20742-  
Telephone: (301) 405-2949  
Fax: (301) 314-9920  
Personnel:  
Keywords: Nanotechnology/Biology,  
Nanotechnology/MEMS

Maryland NanoCenter promotes major nano research and education initiatives, provides one-stop shopping for those seeking expertise and/or partnerships at Maryland, and supplies infrastructure to facilitate nano activities at Maryland through equipment, staff support, and informational and administrative functions. The mission of Maryland NanoCenter is to enhance the coherence and effectiveness of the University of Maryland nano community through a strategy based on: coordinating shared state-of-art experimental facilities; developing best practices for administrative infrastructure supports; providing coherent, broad visibility at state, national, and international levels; encouraging and facilitating nano program growth and fund-raising; guiding the evolution of coordinated educational programs for the nano workforce of the future; and promoting the development and transfer of nanotechnology and related intellectual property to the marketplace.

**Maryland Technology Enterprise Institute**

University of Maryland, College Park (UMCP)

A. James Clark School of Engineering

<http://www.mtech.umd.edu>

Dr. Herbert Rabin, Director

Maryland Technology Enterprise Institute (MTECH),  
University of Maryland

2120 Potomac Building (#092)

College Park, MD 20742-3415

Telephone: (301) 405-3906

Fax: (301) 403-4105

Personnel:

Keywords: Business Systems

The Maryland Technology Enterprise Institute (MTECH), a unit of the A. James Clark School of Engineering, accelerates new ventures, spurs economic growth, and brings university innovation to Maryland companies through technology entrepreneurship and partnership programs. MTECH Ventures provides entrepreneurship education to technology creators and delivers a portfolio of services and resources to entrepreneurs committed to bridging the gap between technical ideas and viable ventures. MTECH Partnerships leverages university innovation for Maryland companies.

**Mobile Computing and Multimedia Laboratory (MCML)**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/mcml/index.html>

Satish K. Tripathi, Director

Mobile Computing and Multimedia Laboratory, UM  
Institute for Advanced Computer Studies

A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-2772

Fax: (301) 405-6707

Personnel: 7 researchers

Keywords: Wireless

The mission of the Mobile Computing and Multimedia Laboratory (MCML) is to perform innovative research in the areas of mobile computer communications and multimedia systems. Members of the lab are investigating wireless and mobility problems such as routing protocols and algorithms, resource and service location protocols, performance evaluations of NFS and TCP, and mechanisms to improve throughput over wireless links. In addition, issues related to (video) data encoding and compression, resource allocation, traffic characterization and shaping, and multimedia teleconferencing are also being addressed. Finally, a new class of operating system especially suitable for multimedia applications has been designed and developed.

**National Center of Excellence for Aviation Operations Research (NEXTOR)**

University of Maryland, College Park (UMCP)

<http://www.isr.umd.edu/NEXTOR>

Michael O. Ball, Director

National Center of Excellence for Aviation Operations  
Research (NEXTOR), University of Maryland  
4471 Van Munching Hall

College Park, MD 20742-

Telephone: (301) 405-2227

Fax:

Personnel: 4 faculty (at College Park)

Keywords: Aerospace

Strategic goal is to lead the aviation community by advancing new ideas and paradigms for aviation operations, educating and training aviation professionals, and promoting knowledge transfer among industry, government and academic leaders. NEXTOR's research team holds expertise in a wide range of technological areas, including: Air traffic management and control, Safety data analysis, Communications, data collection, and distribution, Human Factors, System Performance and Assessment Measures, and Aviation Economics.

**NetCalliper: Fine Grained Network Measurements**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/netcalliper>

Dr. Ashok Agrawala

NetCalliper Project, Department of Computer Science,  
University of Maryland

4149 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-2525

Fax:

Personnel: 9 researchers

Keywords: Computer Networking, Internet

The NetCalliper project at the University of Maryland, College Park is a new approach to studying network dynamics, treating the Internet as a primary example. The goal of this project is to understand the dynamic characteristics of a network, and to look at how current practices, as well as new techniques, are applicable to the design and operation of computer networks. Its approach to improving the understanding of network dynamics is to measure the network characteristics using a low-overhead probing tool called NetDyn, which is designed to acquire short-term, fine grained, as well as long-term behaviors. The knowledge of the dynamics is then taken into accounts in constructing deterministic and stochastic models reflecting the realistic characteristics of the network.

**Neural Systems Laboratory**

University of Maryland, College Park (UMCP)

Dept. of Electrical and Computer Eng. and The Inst. for Systems Research, A. James Clark School of Engineering

<http://www.isr.umd.edu/Labs/NSL/nsl.html>

Shihab A. Shamma, Director

Neural Systems Laboratory, The Institute for Systems  
Research, University of Maryland

2202 A.V. Williams Building (#115)

College Park, MD 20742-

Telephone: (301) 405-6596

Fax: (301) 314-9920

Personnel: 15 researchers

Keywords: Robotics, Auditory

The Neural Systems Laboratory studies the functionality of the mammalian auditory system through a wide range of disciplines and techniques ranging from theoretical models to neurophysiological investigations and psychoacoustical experiments. Current Projects include: Rapid task-related plasticity of spectrotemporal receptive fields in primary auditory cortex, Applications and robotic implementations of auditory processing, Spectrotemporal analysis in the auditory cortex, and Physiological basis of auditory streaming in auditory cortex.

**Norbert Wiener Center for Harmonic Analysis and Applications**

University of Maryland, College Park (UMCP)

Department of Mathematics, College of Computer, Mathematical and Physical Sciences

<http://www.norbertwiener.umd.edu>

John J. Benedetto, Director

The Norbert Wiener Center for Harmonic Analysis and  
Applications, University of Maryland

2211 Mathematics Building

College Park, MD 20742-

Telephone: (301) 405-5158

Fax: (301) 314-6710

Personnel: 10 staff

Keywords: Software, Imaging

The Norbert Wiener Center has three goals: Research Activities in harmonic analysis and applications; Education in the Mathematics of Advanced Industrial Technology (MAIT); and Interaction within the Harmonic Analysis Community. Examples of projects include: algorithm for fast data acquisition in magnetic resonance imaging, concurrent signal processing algorithms, waveform design, sigma-delta quantization, spectral wavelets sets, uncertainty principles and signal decomposition, and p-adic wavelet theory.

**Omega Project**

University of Maryland, College Park (UMCP)

High Performance Software Systems Laboratory, Department of Computer Science

<http://www.cs.umd.edu/projects/omega/index.html>

William W. Pugh

Omega Project, High Performance Systems Software Laboratory, University of Maryland

4143 A.V. Williams Building (#115)

Part of the High Performance Software Systems Laboratory. The Omega project has two major components. One component is the Omega test, a system for manipulating sets of affine constraints over integer variables. The other part is developing frameworks for analyzing and transforming programs.

College Park, MD 20742-

Telephone: (301) 405-2705

Fax: (301) 405-6707

Personnel: 6 researchers

Keywords: Simulation/Modeling, Software

**Parallel Understandings Systems Group**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.cs.umd.edu/projects/plus/plus.html>

Dr. James A. Hendler, Director

Parallel Understandings Systems Group, Department of Computer Science, University of Maryland

3270 A.V. Williams Building (#115)

The PLUS group is an Artificial Intelligence research group in the Dept. of Computer Science at the University of Maryland at College Park. It is also associated with the High Performance Systems Software Lab and the Advanced Information Technology Lab. Some Current Research Areas: Knowledge Representation on the World-Wide Web - SHOE, Multi-modal Adventures for Group Interaction and Collaboration - MAGIC Lab, Personal Electronic Teller of Stories - PETS (collaboration with HCIL2), Parallel Knowledge Representation - PARKA, and Autonomous Mobile Robotics Laboratory - AMRL.

College Park, MD 20742-

Telephone: (301) 405-2696

Fax: (301) 405-6707

Personnel: 13 researchers

Keywords: Artificial Intelligence

**PCHASM Laboratory**

University of Maryland, College Park (UMCP)

Department of Computer Science; UM Institute for Advanced Computer Studies (UMIACS)

<http://www.cs.umd.edu/projects/pchasm>

Dr. Jeff Hollingsworth, Director

PCHASM Laboratory, Department of Computer Science, University of Maryland

4155 A.V. Williams Building (#115)

The PCHASM laboratory seeks to apply ideas developed in the high-end scientific computing area to commercial applications including databases and mixed media. It consists of a network of commodity personal computers connected by a high speed LAN. Current projects include Harmony-Active Resource Management, Program Coupling, Performance Measurement, and Non-dedicated cluster clumping.

College Park, MD 20742-

Telephone: (301) 405-2708

Fax:

Personnel: 8 researchers

Keywords: Computer Networking

**Perceptive Interfaces and Reality Laboratory**

University of Maryland, College Park (UMCP)

University of Maryland Institute for Advanced Computer Studies (UMIACS)

<http://www.umiacs.umd.edu/labs/pirl>

Ramani Duraiswami, Director

Perceptive Interfaces and Reality Laboratory, Center for Automation Research, University of Maryland

3365 A.V. Williams Building (#115)

College Park, MD 20742-3275

Telephone: (301) 405-4526

Fax: (301) 405-4526

Personnel:

Keywords: Computer-Human Interaction

Perceptual Interfaces are concerned with extending human computer interaction to use all modalities of human perception. Current research efforts are focused at including vision, audition, and touch in the process. The goal of perceptual reality is to create virtual and augmented versions of the world, that are perceptually identical to the human with the real world. The goal of creating perceptual user interfaces is to allow humans to have natural means of interacting with computers, appliances and devices using voice, sounds, gestures, and touch. Another portion of the lab's research is concerned with creating prosthetic devices for the vision and hearing impaired, by mapping inputs from one modality into equivalent ones in another, so that computationally augmented input streams can be created with extra content from the missing modality.

**Photonic Switching and Integrated Optoelectronics Lab**

University of Maryland, College Park (UMCP)

Department of Electrical and Computer Engineering, A. James Clark School of Engineering

<http://www.enee.umd.edu/photonics>

Mario Dagenais, Principal Investigator

Photonic Switching and Integrated Electronics Laboratory, University of Maryland

2128 Kim Engineering Building

College Park, MD 20742-

Telephone: (301) 405-3684

Fax:

Personnel: 8 researchers

Keywords: Photonics, Biochemistry

Research areas include: Optoelectronics components for datacom and telecom, Chem-Bio Sensing and Environmental Monitoring, Microwave Optoelectronics, Photonic Crystals, and Surface Plasmons.

**Planetary Data System (PDS) Small Bodies Node (SBN)**

University of Maryland, College Park (UMCP)

Department of Astronomy

<http://pdssbn.astro.umd.edu>

Michael F. A'Hearn, Node Administrator

Planetary Data System (PDS) Small Bodies Node (SBN), Dept. of Astronomy, Univ. of Maryland

2337 Computer & Space Sciences Building (#224)

College Park, MD 20742-

Telephone: (301) 405-6076

Fax:

Personnel: 10 researchers

Keywords: Astronomy

The Planetary Data System (PDS) is a distributed archive of solar system data prepared in a standard format for use primarily by astronomical observers and mission planners, as well as educators and students. The Small Bodies Node (SBN) specializes in data concerning asteroids, comets and interplanetary dust. Activities at PDS data nodes like the SBN include: restoring datasets from past missions, formatting and archiving data from current and on-going programs, coordinating the creation and archiving of data from campaigns still in the planning stages, supporting the archive, so that the files are available to the community, and assisting users in interpreting the data.

**Plant Nematology Laboratory**

University of Maryland, College Park (UMCP)

College of Chemical & Life Sciences; College of Agriculture & Natural Resources

<http://www.agnr.umd.edu/users/nrsl/entm/nematology/nematology.html>

Sandra Sardanelli, Director  
Plant Nematology Laboratory, Entomology Department,  
University of Maryland  
3169 Plant Sciences Building

College Park, MD 20742-4454

Telephone: (301) 405-7877

Fax: (301) 314-9290

Personnel:

Keywords: Agriculture

Nematology Facility Research and Outreach projects address current issues relating to plant-parasitic nematodes (microscopic roundworms) and their effect on the economics of agriculture within the state of Maryland. Basic and adaptive research, outreach and regulatory projects are conducted in coordination in the University of Maryland System, the Maryland Department of Agriculture and the Beltsville Agricultural Research Center. Two economically significant nematode species, *Heterodera glycines* (Soybean Cyst Nematode) and *Meloidogyne incognita* (Root-Knot Nematode) are the focus of ongoing investigations. Recent emphasis includes the application of a Moisture Replacement System (MRS) developed in this laboratory for nematode bioassay. The MRS is utilized as an efficient and predictable means for advancing both culture (increase and maintenance of nematode populations for research application) and bioassay capabilities associated with evaluations of biological and cultural management strategies and their effects on nematode population

**Plasma Mass Spectrometry Laboratory**

University of Maryland, College Park (UMCP)

Department of Geology

<http://www.geol.umd.edu/%7Emcdonoug/la-icp-ms.html>

William F. McDonough, Director  
The Plasma Mass Spectrometry Laboratory, Department  
of Geology, University of Maryland  
Chemistry Building, Ground Floor

College Park, MD 20742-

Telephone: (301) 405-5561

Fax:

Personnel:

Keywords: Materials

The Plasma Laboratory provides the tools necessary for characterizing the chemical and isotopic compositions of materials, including the ability to provide micron scale analyses. The research agenda is broad and reaches beyond that of the Earth and Planetary Sciences (i.e., including Chemistry, Biology, Material Sciences, Archeology, etc). The primary focus, however, is using the chemical and isotopic analyses of materials to elucidate the processes involved in the origin and evolution of the Earth and other terrestrial bodies in the solar system.

**Program in Neuroscience and Cognitive Science**

University of Maryland, College Park (UMCP)

<http://www.nacs.umd.edu>

Cynthia F. Moss, Director  
Program in Neuroscience and Cognitive Science,  
University of Maryland  
2239 Biology-Psychology Building

College Park, MD 20742-

Telephone: (301) 405-8910

Fax: (301) 314-9358

Personnel: 103 researchers

Keywords: Neurological

NACS Graduate Program offers world-class interdisciplinary training in several broad areas: Systems neuroscience, molecular and cellular neuroscience, computational and cognitive neuroscience, and cognitive science. Within and across these areas, NACS has faculty with internationally renowned research programs in vision, audition, sensorimotor integration, synaptic plasticity, language and communication, learning, memory and decision making, and neuromorphic engineering. These research programs are housed in over 12 different departments, which participate in the NACS Graduate Program in College Park. Includes partnerships with the National Institutes of Health and Children's National Medical Center.



**Remote Sensing and Remote Inference**

University of Maryland, College Park (UMCP)

Department of Atmospheric and Oceanic Science

<http://www.atmos.umd.edu/research/remswweb/remswweb.html>

Dr. Michael King, EOS Senior Project Scientist  
Remote Sensing and Remote Inference, Dept. of  
Atmospheric and Oceanic Science, Univ. of Maryland

Activities include development of inference techniques, algorithm implementation and evaluation, and use of remotely sensed information in climate modeling and research. Topics span terrestrial, oceanic, and atmospheric disciplines, and include research on retrieval of trace gases (e. g., ozone), greenhouse gases (e. g., water vapor), aerosols, modeling of surface processes, as well as inference of surface fluxes and properties, such as radiation, salinity, rainfall, net primary productivity, and sea level.

College Park, MD 20742-2425

Telephone: (301) 614-5636

Fax: (301) 614-5620

Personnel: 20 researchers

Keywords: Remote Sensing, Environmental

**Smart Materials and Structures Research Center**

University of Maryland, College Park (UMCP)

Department of Mechanical Engineering, A. James Clark School of Engineering

<http://www.enme.umd.edu/smsrc>

Amr M. Baz, Director  
Smart Materials and Structures Research Center,  
Mechanical Engineering Dept., Univ. of Maryland  
2137 Engineering Building

The Smart Materials and Structures Research Center (SMSRC) was formed in 1994 to catalyze the development of existing and new smart materials and structures technologies, and to educate a new generation of multidisciplinary engineers. Projects conducted by SMSRC researchers: Micromechanics of Structurally Embedded Fiber Optic Sensors, Simultaneous Strain/Temperature Sensor Development, Long Tapered Fiber Vibration Mode Sensors, Three-strain Sensor Development Using Microcavities and Gratings, Planar Waveguide High Temperature Sensors, Embedded Fiber Optic Sensors for Health Monitoring of Composite Reinforced Filament Wound Pressure Vessels, Fiber Optic Sensor Development for Shock Loading Applications, Shape Sensing Using Distributed Fiber Optic Sensor Technology, and Long Period Grating Biochemical Sensors.

College Park, MD 20742-

Telephone: (301) 405-8410

Fax: (301) 405-8331

Personnel:

Keywords: Materials, Photonics

**Space Systems Laboratory**

University of Maryland, College Park (UMCP)

Department of Aerospace Engineering, A. James Clark School of Engineering

<http://www.ssl.umd.edu>

Dr. David L. Akin, Director  
Space Systems Laboratory, University of Maryland

Room 2100D Neutral Buoyancy Res. Facility (#382)

The Space Systems Laboratory (SSL) is focused on experimental research aimed at understanding and improving the nation's ability to perform useful work in space. Current research in the Space Systems Laboratory is focused on space robotics, extravehicular activity (EVA), space suit design, space human factors, and theory and application of adaptive nonlinear control. The SSL currently has four robotic systems either in development or under test, including a telerobotic flight experiment being developed for NASA for flight at the end of this decade. In 1992, the Neutral Buoyancy Research Facility (NBRF) was completed. The NBRF is the only neutral buoyancy facility located on a college campus, and gives the SSL world-class research facilities.

College Park, MD 20742-

Telephone: (301) 405-1138

Fax:

Personnel: 46 researchers

Keywords: Astronomy, Robotics



**Stable Isotope Laboratory**

University of Maryland, College Park (UMCP)

[http://www.geol.umd.edu/%7Ejfarquha/stable\\_isotope\\_lab.htm](http://www.geol.umd.edu/%7Ejfarquha/stable_isotope_lab.htm)

James Farquhar  
Stable Isotope Laboratory, University of Maryland

Provides a variety of analytical capabilities and opportunities for stable isotope research. There are facilities for analysis of a wide array of traditional and non-traditional stable isotope ratios using gas source isotope ratio mass spectrometry.

0223 Chemistry Building

College Park, MD 20742-  
Telephone: (301) 405-8611  
Fax:  
Personnel:  
Keywords: Instrumentation

**University of Maryland Institute for Advanced Computer Studies (UMIACS)**

University of Maryland, College Park (UMCP)

Department of Computer Science

<http://www.umiacs.umd.edu>

Professor V.S. Subrahmanian, Director  
University of Maryland Institute for Advanced Computer  
Studies (UMIACS)  
A.V. Williams Building (#155)

The UMIACS faculty conduct research programs covering a broad range of areas, addressing both fundamental core computer science issues and fundamental problems at the interface between computer science and other disciplines. Includes: Center for Automation Research, Center for Bioinformatics and Computational Biology, Center for Human Enhanced Secure Systems, Computational Linguistics and Information Processing, Computer Vision Laboratory, Distributed Systems Software Laboratory, Fraunhofer Center at Maryland, Global Land Cover Facility, Graphics and Visual Informatics Laboratory, Human Computer Interaction Laboratory, Keck Lab for the Comp. Modeling of Visual Movement, Language and Media Processing Laboratory, Laboratory for Computational Cultural Dynamics, Laboratory for Parallel and Distributed Computing, Maryland Information and Network Dynamics Lab, and the Perceptual Interfaces and Reality Laboratory.

College Park, MD 20742-  
Telephone: (301) 405-6728  
Fax: (301) 405-8488  
Personnel:  
Keywords: Bioinformatics, Genetics, Computer-Human  
Interaction

**Earth System Science Interdisciplinary Center**

University of Maryland, College Park (UMCP); Earth Sciences Directorate at the NASA/Goddard Space Flight Center  
Departments of Atmospheric & Oceanic Science, Geology, Geography

<http://www.essic.umd.edu>

Antonio J. Busalacchi, Director  
Earth System Science Interdisciplinary Center, University  
of Maryland  
2213 Computer & Space Sciences Building (#224)

The goal of ESSIC is to enhance our understanding of how the atmosphere, ocean, land, and biosphere components of the Earth interact and the influence of human activities on this system. This is accomplished via studies of the interaction between the physical climate system and biogeochemical cycles. The major research thrusts are studies of Climate Variability and Change, Atmospheric Composition and Processes, the Global Carbon Cycle (including Terrestrial and Marine Ecosystems/Land Use/Cover Change), and the Global Water Cycle. This research is accomplished via analyses of in situ and remotely sensed observations together with component and coupled ocean-atmosphere-land models. Together this provides a foundation for understanding and forecasting changes in the global environment and regional implications. Data assimilation and regional downscaling provide the means by which the observations and models are linked to study the interactions between the physical climate system and biogeochemical cycles from global to regional scales.

College Park, MD 20742-2425  
Telephone: (301) 405-5599  
Fax:  
Personnel:  
Keywords: Environmental

**Joint Institute for Food Safety and Applied Nutrition**

University of Maryland, College Park (UMCP); Food and Drug Administration (FDA)

<http://www.jifsan.umd.edu>

Jianghong Meng, Interim Director  
Joint Institute for Food Safety and Nutrition, University of  
Maryland  
0220 Symons Hall

The institute will provide the scientific basis for ensuring a safe, wholesome food supply as well as provide the infrastructure for contributions to national food safety programs and international food standards. Operated in conjunction with FDA.

College Park, MD 20742-  
Telephone: (301) 405-8382  
Fax: (301) 405-8390  
Personnel:  
Keywords: Food

**Cooperative Institute for Climate Studies**

University of Maryland, College Park (UMCP); National Oceanic and Atmospheric Administration (NOAA)

Colleges of Computer, Mathematical and Physical Sciences, and Behavioral and Social Sciences

<http://essic.umd.edu/cics/>

Phillip Arkin, Director  
ESSIC Cooperative Institute for Climate Studies,  
University of Maryland  
2203 Computer & Space Sciences Building (#224)

The Institute was established as a mechanism to foster the following: Collaborative research between NOAA and the University in studies of satellite climatology, climate diagnostics, modeling and prediction, Serve as a center for scientists and engineers who when working on problems of mutual interest, could focus on studies contributing to the understanding of the earth-ocean-atmosphere climate system, climate modeling, climate prediction, and satellite climatology, Stimulate the training of scientists and engineers in appropriate disciplines in the atmospheric and earth sciences. Research topics include: Remote Sensing For Weather, climate and Oceans, Modeling, Satellite Precipitation: Analysis and Validation, and Understanding Climate Variability.

College Park, MD 20742-2425  
Telephone: (301) 405-2147  
Fax:  
Personnel:  
Keywords: Satellite, Environmental

**Materials Research Science and Engineering Center (MRSEC)**

University of Maryland, College Park (UMCP); National Science Foundation

<http://mrsec.umd.edu>

E.D. Williams, Director  
Materials Research Science and Engineering Center,  
University of Maryland  
Room 2120 Physics Building

The Maryland MRSEC carries out nationally recognized fundamental research on surfaces and interfaces of materials with potential impact on the next generation of opto- and nano-electronic devices, and on complex oxides with potential applications in memory, switches and sensors. The research is closely integrated with a continuing educational outreach program that has a direct impact on the education of a diverse population of K – 12 students and teachers.

College Park, MD 20742-4111  
Telephone: (301) 405-8349  
Fax: (301) 405-7993  
Personnel: 44 researchers  
Keywords: Materials, Photonics,  
Nanotechnology/MEMS, Electronics

**Center for Energetic Concepts Development**

University of Maryland, College Park (UMCP); Naval Surface Warfare Center (NSWC)

<http://www.enme.umd.edu/CECD>

Dr. Davinder K. Anand, Director  
Center for Energetic Concepts Development, University  
of Maryland  
3120 Glenn L. Martin Hall (#088)

Established to foster continued advancements in energetics manufacturing, science and research, while educating the next generation of energetics experts. Current projects: functionally graded energetic materials, lean financial processes workshop, MK125 rapid improvement event, microfabricated sequential-leaf time delay mechanisms and nanostructured energetic materials.

College Park, MD 20742-

Telephone: (301) 405-5294

Fax: (301) 314-9477

Personnel:

Keywords: Energy, Electronics, Materials

**Neural Modeling Group**

University of Maryland, College Park (UMCP); University of Maryland, Baltimore (UMB)

Dept. of Computer Science; UM Institute for Advanced Computer Studies (UMIACS); UMB Dept. of Neurology

<http://www.cs.umd.edu/~reggia/neural.html>

James A. Reggia  
Neural Modeling Center, Department of Computer  
Science, University of Maryland  
A.V. Williams Building (#115)

A joint research center of UMCP and UMB. Projects include neural network dynamics, learning in neural networks, self-organizing maps, cognitive/cortical modeling, and modeling ischemic stroke.

College Park, MD 20742-

Telephone: (301) 405-2686

Fax: (301) 405-6707

Personnel: 7 researchers

Keywords: Neurological

**Center for Environmental Science (UMCES)**

University System of Maryland

<http://www.ca.umces.edu>

Donald F. Boesch, President  
University of Maryland Center for Environmental Science  
(UMCES)

P.O. Box 775

2020 Horns Point Road

Cambridge, MD 21613-

Telephone: (410) 228-9250

Fax: (410) 263-7138

Personnel: 82 researchers

Keywords: Environmental

Comprehensive program of research, education and service related to the environment and non-agricultural natural resources. Has three laboratories: Appalachian laboratory; Horn Point laboratory; and the Chesapeake Biological laboratory.

**Agricultural Research Service, Animal and Natural Resources Institute**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Research Center (BARC), Agricultural Research Service

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12-65-00-00](http://www.ars.usda.gov/main/site_main.htm?modecode=12-65-00-00)

Thomas J. Sexton, Director

ARS Animal and Natural Resources Institute

Building 200, Room 217, BARC-East

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-8431

Fax:

Personnel:

Keywords: Agriculture, Food

The Animal and Natural Resources Institute (ANRI) is located at the Henry A. Wallace Beltsville Agricultural Research Center (BARC) in Beltsville, Maryland. The research mission of the Animal and Natural Resources Institute (ANRI), is to conduct research and to develop technology transfer programs that ensure high quality and safe food while protecting the natural resource base and the environment. ANRI consists of twelve laboratories that each obtain a specific research goal: Animal Improvement Programs Laboratory, Animal Parasitic Diseases Laboratory, Biotechnology and Germplasm Laboratory, Bovine Functional Genomics Laboratory, Environmental Management & ByProduct Lab, Environmental Microbial Safety Laboratory, Food Technology & Safety Laboratory, Growth Biology Laboratory, Hydrology & Remote Sensing Laboratory, Instrumentation & Sensing Laboratory, and the Sustainable Agricultural Systems Laboratory.

**Agricultural Research Service, Beltsville Agricultural Research Center (BARC)**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Research Center (BARC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12-00-00-00](http://www.ars.usda.gov/main/site_main.htm?modecode=12-00-00-00)

Phyllis E. Johnson

Agricultural Research Service, Beltsville Agricultural Research Center (BARC)

Building 003, Room 223, BARC-West

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-6078

Fax:

Personnel: 200 staff

Keywords: Agriculture, Food

The Beltsville Area consists of ARS programs at the Beltsville Agricultural Research Center in Beltsville, MD; the US National Arboretum in Washington D.C.; and worksites in Chatsworth, NJ; Presque Isle, ME; and McMinnville, TN. ARS conducts research to develop and transfer solutions to agricultural problems of high national priority and provide information access and dissemination in order to ensure high-quality safe food and other agricultural products, assess the nutritional needs of Americans, sustain a competitive agricultural economy, enhance the natural resource base and the environment, provide economic opportunities for rural citizens, communities, and society as a whole. Research topics are very broad.

**Agricultural Research Service, Beltsville Human Nutrition Research Center (BHNRC)**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Research Center (BARC), Agricultural Research Service

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12350000](http://www.ars.usda.gov/main/site_main.htm?modecode=12350000)

Dr. Allison A. Yates, Director

Agricultural Research Service, Beltsville Human Nutrition Research Center (BHNRC)

Building 307-C, Room 117, BARC-East

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-8157

Fax: (301) 504-9381

Personnel:

Keywords: Agriculture, Food

Contains the Phytonutrients Laboratory, Food Composition Laboratory, Diet and Human Performance Laboratory, Nutrient Data Laboratory, Nutrient Requirements and Functions Laboratory and the Food Surveys Research Group

**Agricultural Research Service, Diet and Human Performance**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Res. Center. (BARC), Beltsville Human Nutrition Res. Center (BHNRC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12352000](http://www.ars.usda.gov/main/site_main.htm?modecode=12352000)

Beverly A Clevidence, Research Leader

ARS Diet and Human Performance, Beltsville Human Nutrition Research Center (BHNRC)

Researching the role of diet and lifestyle in preventing chronic diseases, to enhance health and quality of life. One of seven units in the BHNRC

Building 307-B, Room 215, BARC-East

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-8157

Fax: (301) 504-9381

Personnel:

Keywords: Food, Public Health

**Agricultural Research Service, Food Composition Laboratory**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Res. Center. (BARC), Beltsville Human Nutrition Res. Center (BHNRC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12351500](http://www.ars.usda.gov/main/site_main.htm?modecode=12351500)

Dr. James M. Harnly, Research Leader

ARS Food Composition Laboratory, Beltsville Human Nutrition Research Center (BHNRC)

The mission of the Food Composition Laboratory is to develop innovative measurement systems for the determination of food components that influence human health.

Building 161, Room 102, BARC-East

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-8356

Fax: (301) 504-8314

Personnel:

Keywords: Food

**Agricultural Research Service, Food Surveys Research Group**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Res. Center. (BARC), Beltsville Human Nutrition Res. Center (BHNRC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12-35-50-00](http://www.ars.usda.gov/main/site_main.htm?modecode=12-35-50-00)

Ms. Alanna Moshfegh, Research Leader

ARS Food Surveys Research Group, Beltsville Human Nutrition Research Center (BHNRC)

The mission of the Food Surveys Research Group is to monitor and assess food consumption and related behavior of the U.S. population by conducting surveys and providing the resulting information for food and nutrition-related programs and public policy decisions. The Food Surveys Research Group is one of seven units in BHNRC of the USDA, Agricultural Research Service.

Building 307-C, Room 117, BARC-East

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-8157

Fax: (301) 504-9381

Personnel:

Keywords: Food

**Agricultural Research Service, Foreign Disease Weed Science Research Unit**

Department of Agriculture (USDA)

Agricultural Research Service

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=19200000](http://www.ars.usda.gov/main/site_main.htm?modecode=19200000)

Dr. Douglas G. Luster, Research Leader  
ARS Foreign Disease Weed Science Research Unit

The USDA, Agricultural Research Service, Foreign Disease-Weed Science Research Unit has two distinct missions united by a common relationship to plant pathology and the unit's unique P-3 plant pathogen laboratory and greenhouse containment facilities. The mission of the foreign disease program is to develop techniques for the rapid detection and identification of new and emerging crop pathogens. The mission of the weed biological control program is to collect foreign pathogens overseas from weeds in their native habitat, and to evaluate, characterize and release the pathogens in the U.S. for biological control of introduced weeds, leading to improved, sustainable weed control practices in agricultural systems with reduced dependence on chemical herbicides. □

1301 Ditto Avenue  
Fort Detrick, MD 21702-5023  
Telephone: (301) 619-7344  
Fax:  
Personnel: 53 staff  
Keywords: Agriculture

**Agricultural Research Service, Nutrient Data Laboratory**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Res. Center. (BARC), Beltsville Human Nutrition Res. Center (BHNRC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12354500](http://www.ars.usda.gov/main/site_main.htm?modecode=12354500)

Ms. Joanne Holden, Supervisory Nutritionist  
ARS Nutrient Data Laboratory, Beltsville Human Nutrition  
Research Center (BHNRC)

The Nutrient Data Laboratory (NDL) has the responsibility to develop USDA's National Nutrient Database for Standard Reference, the foundation of most food and nutrition databases in the US, used in food policy, research and nutrition monitoring. One of seven units in the BHNRC

Building 307-C, Room 117, BARC-East  
10300 Baltimore Avenue  
Beltsville, MD 20705-  
Telephone: (301) 504-8157  
Fax: (301) 504-9381  
Personnel:  
Keywords: Food

**Agricultural Research Service, Nutrient Requirements and Functions**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Res. Center. (BARC), Beltsville Human Nutrition Res. Center (BHNRC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12-35-25-00](http://www.ars.usda.gov/main/site_main.htm?modecode=12-35-25-00)

Joseph Urban, Supervisory Microbiologist  
ARS Nutrient Requirements and Functions, Beltsville  
Human Nutrition Research Center (BHNRC)

Investigating the role of nutrition on health and immune function. One of 7 units in the BHNRC.

Building 307-C, Room 117, BARC-East  
10300 Baltimore Avenue  
Beltsville, MD 20705-  
Telephone: (301) 504-8157  
Fax: (301) 504-9381  
Personnel:  
Keywords: Food, Public Health, Immunological

**Agricultural Research Service, Phytonutrients Laboratory**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Res. Center. (BARC), Beltsville Human Nutrition Res. Center (BHNRC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12350500](http://www.ars.usda.gov/main/site_main.htm?modecode=12350500)

Earl Howard Harrison, Research Leader

ARS Phytonutrients Laboratory, Beltsville Human Nutrition Research Center (BHNRC)

Building 307-C, Room 119, BARC-East

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-8396

Fax: (301) 504-9456

Personnel:

Keywords: Food, Bioinformatics

Its mission: "Molecules to meals: Understanding the health-promoting effects of phytochemicals" It does this by: Determining the environmental conditions that affect the phytonutrient content of fruits and vegetables important in the American diet, Defining the intestinal absorption and metabolism of important phytonutrients in humans, Determining the molecular targets of phytonutrients using cell culture and animal models of human diseases such as cancer and cardiovascular disease, and Using genomics, proteomics and bioinformatics in human feeding trials to develop biomarkers of phytonutrient intake and effects in humans.

**Agricultural Research Service, Plant Sciences Institute**

Department of Agriculture (USDA)

Henry A. Wallace Beltsville Agricultural Research Center (BARC)

[http://www.ars.usda.gov/main/site\\_main.htm?modecode=12-75-00-00](http://www.ars.usda.gov/main/site_main.htm?modecode=12-75-00-00)

Wanda W. Collins, Institute Director

ARS Plant Sciences Institute, Beltsville Agricultural Research Center (BARC)

Building 003, Room 231, BARC-West

10300 Baltimore Avenue

Beltsville, MD 20705-

Telephone: (301) 504-6591

Fax:

Personnel:

Keywords: Agriculture, Food

The Plant Sciences Institute develops biological, chemical, and physical processes and principles that will: improve pest management systems, improve crop quality, and production efficiency, lead to new varieties, improve food quality, improve conservation of natural resources, improve environmental quality, support regulatory and action agencies, respond to research needs identified by farmers and other "customers" and contribute to advances in biotechnology. The Institute's mission is accomplished through programs in 14 laboratories. The labs are: Fruit Laboratory, National Germplasm Resources Laboratory, Chemicals Affecting Insect Behavior Laboratory, Bee Research Laboratory, Insect Biocontrol Laboratory, Molecular Plant Pathology Laboratory, Nematology Laboratory, Soybean Genomics and Improvement Laboratory, Systematic Botany and Mycology Laboratory, Systematics Entomology Laboratory, Vegetable Laboratory, Produce Quality and Safety Laboratory, Crop Systems and Global Change Laboratory, and the

**NIST - Building and Fire Research Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.bfrl.nist.gov>

Dr. James Hill, Director

NIST Building and Fire Research Laboratory

100 Bureau Drive, Stop 8600

Gaithersburg, MD 20899-8600

Telephone: (301) 975-5900

Fax: (301) 975-4032

Personnel:

Keywords: Emergency Management/Training

The Building and Fire Research Laboratory studies building materials; computer-integrated construction practices; fire science and fire safety engineering; and structural, mechanical, and environmental engineering. Products of the laboratory's research include measurements and test methods, performance criteria, and technical data that supports innovations by industry and are incorporated into building and fire standards and codes. Research areas are Enhanced Building Performance, Fire Loss Reduction, High Performance Construction Materials and Systems, and Homeland Security.



**NIST - Chemical Science and Engineering Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.cstl.nist.gov>

Dr. William F. Koch, Director  
NIST Chemical Science and Technology Laboratory

100 Bureau Drive, Stop 8300  
Gaithersburg, MD 20899-8300

Telephone: (301) 975-8301

Fax: (301) 975-3845

Personnel:

Keywords: Materials, Energy, Electronics, Food,  
Biochemistry, Aerospace

CSTL is the primary reference laboratory for chemical measurements, entrusted with developing, maintaining, advancing, and enabling the chemical measurement system for the United States of America, thereby enhancing industry's productivity and competitiveness, establishing comparability of measurements to facilitate equity of global trade, and improving public health, safety, and environmental quality. CSTL has focused its activities along eleven programmatic lines: Automotive and Aerospace, Biomaterials, Pharmaceuticals and Biomanufacturing, Chemical and Allied Products, Energy Systems, Environmental Technologies and Services, Health and Medical Products/Services, Industrial and Analytical Instruments and Services, Forensics and Homeland Security, Microelectronics, and Food and Nutritional Products. Research areas are biochemical science, process measurements, surface and microanalysis science, physical and chemical properties, and analytical chemistry.

**NIST - Electronics and Electrical Engineering Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.eeel.nist.gov/>

William E. Anderson, Director  
NIST Electronics and Electrical Engineering Laboratory

100 Bureau Drive, Stop 8100  
Gaithersburg, MD 20899-8110

Telephone: (301) 975-2220

Fax: (301) 975-4091

Personnel:

Keywords: Energy, Electronics

The Electronics and Electrical Engineering Laboratory provides the fundamental basis for all electrical measurements in the United States. In close consultation with industry, it tailors research and calibration programs to meet the most critical measurement needs for the manufacture and operation of electrical and electronic systems, including semiconductor, magnetic, radio frequency, microwave, optical, optoelectronic, and superconducting equipment; flat-panel displays; electronic instrumentation; and electrical power apparatus and systems.

**NIST - Information Technology Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.itl.nist.gov>

Cita Furlani, Director  
NIST Information Technology Laboratory

100 Bureau Drive, Stop 8900  
Gaithersburg, MD 20899-8900

Telephone: (301) 975-6478

Fax:

Personnel:

Keywords: Simulation/Modeling, Computer Networking

The Information Technology Laboratory (ITL) has the broad mission of supporting U.S. industry, government, and academia with measurements and standards that enable new computational methods for scientific inquiry, assure IT innovations for maintaining global leadership, and re-engineer complex societal systems and processes through insertion of advanced information technology. Through its efforts, ITL seeks to enhance productivity and public safety, facilitate trade, and improve the quality of life. Major areas of focus are Computer Security, Digital Information Access, Computational Modeling and Virtual Measurements, Software Conformance and Advanced Networking.

**NIST - Manufacturing Engineering Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.mel.nist.gov>

Dale Hall, Director  
NIST Manufacturing Engineering Laboratory

100 Bureau Drive, Stop 8200  
Gaithersburg, MD 20899-8200  
Telephone: (301) 975-6478  
Fax: (301) 975-8295  
Personnel:  
Keywords: Business Systems

MEL is the premier national resource for rapid, high quality solutions to measurements and standards problems in the U.S. manufacturing industry's use of leading edge technology. Its mission is to satisfy the measurements and standards needs of U.S. manufacturers in mechanical and dimensional metrology and in advanced manufacturing technology by conducting research & development, providing services and participating in standards activities.

**NIST - Materials Science and Engineering Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.msel.nist.gov>

Richard Kayser, Director  
NIST Materials Science and Engineering Laboratory

100 Bureau Drive, Stop 8500  
Gaithersburg, MD 20899-8500  
Telephone: (301) 975-5658  
Fax:  
Personnel:  
Keywords: Business Systems, Materials

MSEL provides technical leadership for the nation's materials measurement and standards infrastructure. Expertise in ceramics, polymers, metallurgy, neutron characterization, and materials reliability is used to anticipate and respond to industry needs in areas such as microelectronics, automotive, and health care, as well as to provide standard reference materials and develop measurement methods. The Laboratory houses the nation's only fully equipped cold neutron research facility, the NIST Center for Neutron Research.

**NIST - MicroElectroMechanical Systems (MEMS) Project**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://mems.nist.gov>

Michael Gaitan, Director  
NIST MicroElectroMechanical Systems (MEMS) Project

100 Bureau Drive, Stop 8124  
Gaithersburg, MD 20899-8124  
Telephone: (301) 975-2070  
Fax: (301) 948-4081  
Personnel: 10 researchers  
Keywords: Nanotechnology/MEMS

The Micro-Electro-Mechanical Systems (MEMS) project is focused on the development of new MEMS-based sensors and actuators for measurement applications. The functions in a multidisciplinary environment with collaborations in the NIST laboratories in Chemistry, Materials Science, Physics, Biotechnology, and Building and Fire Research. Current activities in the project include thermal-based elements, mechanically resonant structures, microwave elements, and microfluidic systems. The project is also involved in developing MEMS test structures, test methods, and standards to characterize device properties for device performance and reliability testing. These MEMS-based test structures are also being utilized to characterize thin film properties in mainline semiconductor fabrication processes.

**NIST - Physics Laboratory**

Department of Commerce, National Institute of Standards and Technology (NIST)

<http://www.physics.nist.gov>

Katharine B. Gebbie, Director  
NIST Physics Laboratory

100 Bureau Drive, Stop 8400  
Gaithersburg, MD 20899-8400  
Telephone: (301) 975-4200

Fax:

Personnel:

Keywords: Electronics, Photonics

The Physics Laboratory is one of the major operating units of the National Institute of Standards and Technology (NIST). Its mission is to support United States industry by providing measurement services and research for electronic, optical, and radiation technologies. The Laboratory pursues directed research in the physical sciences; develops new physical standards, measurement methods, and data; conducts an aggressive dissemination program; and collaborates with industry to commercialize inventions and discoveries.

**Center for Coastal Monitoring and Assessment**

Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)

<http://ccma.nos.noaa.gov>

Russell Callender, Director  
NOAA Center for Coastal Monitoring and Assessment

1305 East-West Highway, Room 8419  
Silver Spring, MD 20910-  
Telephone: (301) 713-3028  
Fax: (301) 713-4388  
Personnel:  
Keywords: Environmental

The Center for Coastal Monitoring and Assessment's mission is to assess and forecast coastal and marine ecosystem conditions through research and monitoring. The scientists of CCMA conduct field observations on regional and national scales. The center provides the best available scientific information for resource managers and researchers, technical advice, and accessibility to data. CCMA's science addresses five major environmental stressors: Pollution, Land and Resource Use, Invasive Species, Climate Change, and Extreme Natural Events. CCMA's accomplishments include: mapped 30% of U.S. coral reefs so far, and efforts continue to map the rest; has maintained a contaminant monitoring program (Mussel Watch) in the U.S. coastal waters and estuaries since 1986; developed new techniques for defining and managing marine protected areas; mapped benthic habitats of U.S. coral reefs in the Caribbean, Northwest and Main Hawaiian Islands and Grays Reef National Marine Sanctuary; and developed new ways to forecast harmful

**Center for Satellite Applications and Research**

Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)

National Environmental Satellite, Data, and Information Service (NESDIS)

<http://www.orbit.nesdis.noaa.gov/star/index.php>

Dr. Alfred E. Powell, Director  
NESDIS Center for Satellite Applications and Research

World Weather Building, Suite 701  
5200 Auth Road  
Camp Springs, MD 20746-  
Telephone: (301) 763-8127  
Fax:  
Personnel:  
Keywords: Satellite

The Center for Satellite Applications and Research (STAR) is the science arm of the National Environmental Satellite, Data and Information Service (NESDIS), which acquires and manages the nation's operational Earth-observing satellites. NESDIS provides data from these satellites, and conducts research to make that possible. STAR's mission is to transfer satellite observations of the land, atmosphere, ocean, and climate from scientific research and development into routine operations, and to offer state-of-the-art data, products and services to decision-makers.

**Center for Sponsored Coastal Ocean Research**

Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)

<http://www.cop.noaa.gov/>

Robert Magnien, Director  
NOAA Center for Sponsored Coastal Ocean Research

N/SCI2 SSMC4  
1305 East-West Highway  
Silver Spring, MD 20910-  
Telephone: (301) 713-3338  
Fax: (301) 713-4044  
Personnel:  
Keywords: Environmental

The Center for Sponsored Coastal Ocean Research (CSCOR) develops and improves predictive capabilities for managing the Nation's use of its coastal resources through competitive research programs. CSCOR uses a mix of regional ecosystem and targeted studies to address pressing national issues affecting coastal communities. Such an approach allows CSCOR to address complex coastal issues within a coordinated, interdisciplinary framework. CSCOR and the other NCCOS centers focus on five key stressors or causes of ecosystem change: climate change, extreme natural events, pollution, invasive species, and land and resources use. CSCOR research seeks to understand the impacts of these stressors on coastal ecosystems, including the human dimension of social and economic impacts. Within these 5 broad stressor categories, CSCOR conducts research programs that span a range of spatial and geographic scales in ecosystems from coastal watersheds to the outer boundary of the U.S. Exclusive Economic Zone (200 miles from U.S. coastline).

**National Weather Service**

Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)

<http://www.nws.noaa.gov>

David L. Johnson, Director  
NOAA National Weather Service

1325 East-West Highway  
Silver Spring, MD 20910-  
Telephone: (301) 713-4000  
Fax:  
Personnel:  
Keywords: Environmental

The National Weather Service (NWS) provides weather, hydrologic, and climate forecasts and warnings for the United States, its territories, adjacent waters and ocean areas, for the protection of life and property and the enhancement of the national economy. NWS data and products form a national information database and infrastructure which can be used by other governmental agencies, the private sector, the public, and the global community.

**Office of Oceanic and Atmospheric Research**

Department of Commerce, National Oceanic and Atmospheric Administration (NOAA)

National Environmental Satellite, Data, and Information Service (NESDIS)

<http://www.oarhq.noaa.gov>

Richard W. Spinrad, Ph.D., Director  
NOAA Office of Oceanic and Atmospheric Research

1315 East-West Highway  
Silver Spring, MD 20910-  
Telephone: (301) 713-2458  
Fax:  
Personnel:  
Keywords: Environmental

The Office of Oceanic and Atmospheric Research (OAR) or "NOAA Research" provides the research foundation for understanding the complex systems that support our planet. Working in partnership with other organizational units of the National Oceanic and Atmospheric Administration, a bureau of the Department of Commerce, NOAA Research provides better forecasts, earlier warnings for natural disasters and a greater understanding of the Earth. Its role is to provide unbiased science to better manage the environment, nationally and globally. For a short description of each respective research of each division see: <http://www.noaa.gov/research.html>

**Armed Forces Radiobiology Research Institute**

Department of Defense (DoD)

Defense for Personnel and Readiness; Defense for Health Affairs; Uniformed Services Univ. of Health Sciences

<http://www.afrrri.usuhs.mil>

Patricia K. Lillis-Hearne, COL, MC, Director  
Armed Forces Radiobiology Research Institute

The Armed Forces Radiobiology Research Institute (AFRRI), a triservice laboratory chartered by the U.S. Congress in 1961, conducts research in the field of radiobiology and related matters essential to the operational and medical support of the U.S. Department of Defense and the military services. AFRRI research, conducted by principal investigators under the direction of the scientific director, encompasses five research thrusts: Biodosimetry, Military Metals, Radiation Countermeasures, Radiation Infection Treatment, and Radiation Neutralization.

8901 Wisconsin Avenue  
Bethesda, MD 20889-5603  
Telephone: (301) 295-1210

Fax:

Personnel:

Keywords: Materials

**Army - Aberdeen Test Center**

Department of Defense (DoD)

Department of the Army; Army Test & Evaluation Command

<http://www.atc.army.mil>

Cynthia Grove  
Army - Aberdeen Test Center

STECS-AC

Aberdeen Proving Ground, MD 21005-5059

Telephone: (410) 278-4639

Fax:

Personnel:

Keywords: Warfare

Aberdeen Test Center (ATC) is a Major Range and Test Facility Base (MRTFB), operating under the guidance of Department of Defense (DoD) Directive 3200.11 and is a national asset with the mission to primarily support DoD test and evaluation (T&E) requirements. ATC also conducts testing for federal, state and local governments, academia, private industry, and foreign governments. ATC is the DoD lead test center for automotive testing, manned and unmanned ground vehicles (MGVs and UGVs), guns and munitions (direct fire and small arms) testing, and live fire vulnerability/lethality testing. Major missions include: Automotive – Wheeled and Tracked Vehicles (conducting 80% of the Army Automotive testing); Firepower; Survivability/Lethality; Warfighter (Soldier Systems and Support Equipment, Training Exercises); Military Environmental Technologies; and Maritime Systems.

**Army Medical Research and Development**

Department of Defense (DoD)

Army Medical Research and Materiel Command, Department of the Army

<https://mrmc-www.army.mil/index.asp>

USAMRMC, Medical Research and Development

504 Scott Street  
Fort Detrick, MD 21702-5012  
Telephone: (301) 619-7439

Fax:

Personnel:

Keywords: Infectious Disease, Warfare, Biodefense

Plans, executes, and reviews the Army Medical Department's Research, Development, Test, and Evaluation Program. The research is divided into four programs: Military Infectious Diseases Research Program (MIDRP), Combat Casualty Care Research Program (CCCRP), Military Operational Medicine Research Program (MOMRP), and Medical Chemical and Biological Defense Research Program (MCBDRP).

**Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground**

Department of Defense (DoD)

Army Medical Research and Materiel Command, Department of the Army

<http://chemdef.apgea.army.mil>

Brian J. Lukey, Col. Commander

Army Medical Research Institute of Chemical Defense

Mission is to discover and develop medical countermeasures to chemical warfare agents and to train and educate personnel in the medical management of chemical casualties.

3100 Ricketts Point Road

Aberdeen Proving Ground, MD 21010-5400

Telephone: (410) 436-3277

Fax: (410) 436-1960

Personnel:

Keywords: Biodefense, Emergency  
Management/Training, Warfare

**Army Medical Research Institute of Infectious Diseases, Ft. Detrick**

Department of Defense (DoD)

Army Medical Research and Materiel Command, Department of the Army

<http://www.usamriid.army.mil>

Col. George W. Korch, Jr., Commander

Army Medical Research Institute of Infectious Diseases  
(AMRIID)

Attn: MCMR-UIZ-R

1425 Porter Street

Frederick, MD 21702-5011

Telephone: (302) 619-2833

Fax:

Personnel: 650 staff

Keywords: Infectious Disease, Vaccines, Diagnostic,  
Drug Development

USAMRIID has spearheaded research to develop medical solutions—vaccines, drugs, diagnostics, and information—to protect our service members from biological threats. Our unique capabilities include biosafety level-3 and -4 laboratories, world-class expertise in the generation of biological aerosols for testing candidate vaccines and therapeutics, and fully-accredited animal research facilities.

**Army Research Laboratory - Advanced Computer and Info. Sciences Directorate - APG**

Department of Defense (DoD)

Army Research Laboratory, Department of the Army

<http://www.arl.army.mil/main/Main/default.cfm?Action=30&Page=30>

Army Research Laboratory - Advanced Computer and  
Info. Sciences Directorate - APG

Attn: AMSRD-ARL-O-PA

2800 Powder Mill Rd

Adelphi, MD 20783-1197

Telephone: (301) 394-3590

Fax:

Personnel:

Keywords: Warfare, Real Time Systems, Environmental

The U.S. Army Research Laboratory's (ARL's) Computational and Information Sciences Directorate (CISD) is the principal Army organization for research and development in computational and information sciences. CISD is responsible for and directly oversees leading research initiatives in information science and technology & computational science, as well as in atmospheric and environmental sciences. CISD, in collaboration with academic and industry partners, conducts basic and applied research resulting in technologies that support state-of-the-art capabilities in the analysis, distribution, and/or assimilation of real or simulated digitized battlespace information. CISD manages and executes a DOD Major Shared Resource Center (MSRC) for high performance computing (HPC). It also oversees the Army High Performance Computing Research Center (AHPARC) for research initiatives in computational sciences, the Army Center of Excellence in Information Sciences (ACEIS), and the Communication & Networks Alliance (part of the Collaborative



**Army Research Laboratory - Computational and Information Sciences Directorate, Adelphi**

Department of Defense (DoD)

Army Research Laboratory, Department of the Army

<http://www.arl.army.mil/main/Main/default.cfm?Action=30&Page=30>

Army Research Laboratory - Computational and Information Sciences Directorate - Adelphi

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Telephone: (301) 394-3590

Fax:

Personnel:

Keywords: Warfare, Real Time Systems, Environmental

The U.S. Army Research Laboratory's (ARL's) Computational and Information Sciences Directorate (CISD) is the principal Army organization for research and development in computational and information sciences. CISD is responsible for and directly oversees leading research initiatives in information science and technology & computational science, as well as in atmospheric and environmental sciences. CISD, in collaboration with academic and industry partners, conducts basic and applied research resulting in technologies that support state-of-the-art capabilities in the analysis, distribution, and/or assimilation of real or simulated digitized battlespace information. CISD manages and executes a DOD Major Shared Resource Center (MSRC) for high performance computing (HPC). It also oversees the Army High Performance Computing Research Center (AHPCRC) for research initiatives in computational sciences, the Army Center of Excellence in Information Sciences (ACEIS), and the Communication & Networks Alliance (part of the Collaborative

**Army Research Laboratory - Human Research and Engineering**

Department of Defense (DoD)

Army Research Laboratory, Department of the Army

<http://www.arl.army.mil/main/main/default.cfm?Action=31&Page=31>

Army Research Laboratory - Human Research and Engineering

Attn: AMSRD-ARL-O-PA

2800 Powder Mill Rd

Adelphi, MD 20783-1197

Telephone: (301) 394-3590

Fax:

Personnel:

Keywords: Warfare

The U.S. Army Research Laboratory's Human Research and Engineering Directorate (HRED) is the principal Army organization for research and development (R&D) in the human dimension. HRED conducts a broad-based program of scientific research and technology directed toward optimizing Soldier performance and Soldier-machine interactions to maximize battlefield effectiveness. HRED also executes an analysis mission that provides the Army with human factors leadership to ensure that Soldier performance requirements are adequately considered in technology development and system design. HRED coordinates technologies within the Army, other services and their laboratories, industry, and academia to leverage basic and applied research opportunities for the benefit of the Army

**Army Research Laboratory - Sensors and Electron Devices Directorate**

Department of Defense (DoD)

Army Research Laboratory, Department of the Army

<http://www.arl.army.mil/main/Main/default.cfm?Action=32&Page=32>

Army Research Laboratory - Sensors and Electron Devices Directorate

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2800 Powder Mill Rd

Adelphi, MD 20783-1197

Telephone: (301) 394-3590

Fax:

Personnel:

Keywords: Sensors, Electronics, Photonics, Energy

The U.S. Army Research Laboratory's Sensors and Electron Devices Directorate (SEDD) is the principal Army organization for research and development in sensors and electron devices. SEDD conducts innovative research to provide the Army with affordable enabling technology in electro-optic smart sensors, multifunction radio frequency (RF), autonomous sensing, power generation and management, and signature management. SEDD coordinates technologies within the Army, other services and their laboratories, industry, and academia to leverage basic and applied research opportunities for the benefit of the Army.



**Army Research Laboratory - Survivability/Lethality Analysis**

Department of Defense (DoD)

Army Research Laboratory, Department of the Army

<http://www.arl.army.mil/main/main/default.cfm?Action=33&Page=33>

Army Research Laboratory - Survivability/Lethality Analysis

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2800 Powder Mill Rd

Adelphi, MD 20783-1197

Telephone: (301) 394-3590

Fax:

Personnel:

Keywords: Warfare

The U.S. Army Research Laboratory's Survivability and Lethality Analysis Directorate (SLAD) is the Army's primary source of survivability, lethality, and vulnerability (SLV) analysis and evaluation support, adding value over the entire system life cycle. SLAD's main purpose is to ensure that our Soldiers and systems can survive and function on the battlefield. SLAD is committed to supporting the Army in achieving its modernization goals by helping to acquire systems that will assist Soldiers in surviving in all environments against the full spectrum of battlefield threats. SLAD's value to the Army is based upon its unique SLV scientific and engineering skills as well as its unique analytical tools used to conduct SLV investigations, simulations, and lab/field experiments.

**Army Research Laboratory - Weapons and Materials Research Directorate**

Department of Defense (DoD)

Army Research Laboratory, Department of the Army

<http://www.arl.army.mil/main/main/default.cfm?Action=35&Page=35>

Army Research Laboratory - Weapons and Materials Research Directorate

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2800 Powder Mill Rd

Adelphi, MD 20783-1197

Telephone: (301) 394-3590

Fax:

Personnel:

Keywords: Warfare, Materials, Robotics

The U.S. Army Research Laboratory's Weapons and Materials Research Directorate (WMRD) is the principal Army organization for research and development in weapons and materials technologies. WMRD conceives, exploits, matures, and transitions novel concepts and technologies in the areas of weapons, protection, robotics, and materials to enhance the lethality and survivability of America's ground forces. WMRD also solves technical problems associated with developmental and fielded weapon systems and provides technology and support for enhanced survivability and lethality system assessment and for the Army's decision-making process. WMRD coordinates technologies within the Army, other services and their laboratories, industry, and academia to leverage basic and applied research opportunities for the benefit of the Army.

**Army Test & Evaluation Command**

Department of Defense (DoD)

Department of the Army

<http://www.atec.army.mil>

Jeanne Rapley

Army Test & Evaluation Command

Attn: AMSTE-JA-P

Aberdeen Proving Ground, MD 21005-

Telephone: (410) 278-1109

Fax: (410) 278-1135

Personnel:

Keywords: Warfare

The U.S. Army Test and Evaluation Command (TECOM) is the Army's principal materiel testing organization for weapons and equipment. TECOM tests military hardware of every description under precise conditions across the full spectrum of arctic, tropical, desert, and other natural and controlled environments on highly instrumented ranges and test courses. TECOM has nine test centers, including the U.S. Army Combat Systems Test Activity located at Aberdeen Proving Ground. This test center's capabilities are in: direct fire; robotics; fire control; clothing/personal/general equipment; vehicles/support equipment; sensors/signatures; lethality/vulnerability; transportability; and high explosive warhead/fuse.

**Center for Environmental Health Research**

Department of Defense (DoD)

Army Med. Res.Inst. of Chemical Defense (USAMRICD); U.S.Army Med. Res. and Materiel Command

<http://www.usacehr.org/index.htm>

Army Center for Environmental Health Research

Attn: MCMR-CDE-Z

568 Doughten Drive

Fort Detrick, MD 21702-5010

Telephone: (301) 619-7685

Fax:

Personnel:

Keywords: Environmental

Once a biological warfare testing laboratory, the completely renovated building includes state-of-the-art aquaculture facilities and laboratories specifically designed for aquatic toxicology and molecular biology. The staff is an interdisciplinary team of scientists and technicians who are dedicated to improving risk assessment methods and to developing biomonitoring technologies for military environmental health hazards.

**Edgewood Chemical Biological Center**

Department of Defense (DoD)

Army Materiel Command, Army Res., Dev. and Engineering Command, Dept. of the Army

<http://www.ecbc.army.mil/index.htm>

Jim Zarzycki, Technical Director

Edgewood Chemical Biological Center

Attn: AMSRD-ECB-AP-B/Michel E3330

5183 Black Hawk Road

Aberdeen Proving Ground, MD 21010-5424

Telephone: (410) 436-3610

Fax: (410) 436-2014

Personnel: 1,500 staff

Keywords: Biodefense

ECBC is the nation's principal research and development center for non-medical chemical and biological defense. ECBC develops technology in the areas of detection, protection, and decontamination and provides support over the entire lifecycle - from basic research through technology development, engineering design, equipment evaluation, product support, sustainment, field operations and disposal.

**National Geospatial-Intelligence Agency (NGA)**

Department of Defense (DoD)

[http://www.nga.mil/portal/site/nga01/index.jsp?front\\_door=true](http://www.nga.mil/portal/site/nga01/index.jsp?front_door=true)

Navy Rear Adm. Robert B. Murrett, Director

National Geospatial-Intelligence Agency, Public Affairs Division,

Attn: MS D-54

4600 Sangamore Road

Bethesda, MD 20816-5003

Telephone: (800) 455-0899

Fax:

Personnel:

Keywords: GIS/Cartography

The National Geospatial-Intelligence Agency (NGA) provides timely, relevant, and accurate geospatial intelligence in support of national security objectives. Geospatial intelligence is the exploitation and analysis of imagery and geospatial information to describe, assess, and visually depict physical features and geographically referenced activities on the Earth. Information collected and processed by NGA is tailored for customer-specific solutions. By giving customers ready access to geospatial intelligence, NGA provides support to civilian and military leaders and contributes to the state of readiness of U.S. military forces. NGA also contributes to humanitarian efforts such as tracking floods and fires, and in peacekeeping. NGA is a member of the U.S. Intelligence Community and a Department of Defense (DoD) Combat Support Agency. Headquartered in Bethesda, Md., NGA operates major facilities in the St. Louis, Mo. and Washington, D.C. areas. The Agency also fields support teams worldwide.

**Naval Air Warfare Center, Aircraft Division (NAWCAD) - Patuxent River**

Department of Defense (DoD)

Naval Air Systems Command, Department of the Navy

<http://www.nawcad.navy.mil>

Rear Adm. Jeffrey A. Wiering, Commander

Naval Air Warfare Center, Aircraft Division (NAWCAD)

Building 304, Unit 10

22541 Millstone Road

Patuxent River, MD 20670-5304

Telephone: (301) 342-1133

Fax: (301) 342-1134

Personnel: 32,000 staff

Keywords: Business Systems, Aerospace, Rockets,  
Warfare

NAVAIR, Naval Air Systems Command, working with industry, delivers high quality, affordable products and support to the operating forces. Products and services include: aircraft, avionics, air-launched weapons, electronic warfare systems, cruise missiles, unmanned aerial vehicles, launch and arresting gear, training equipment and facilities, and all other equipment related to Navy and Marine Corps air power. NAVAIR provides total life cycle support of all naval aviation weapon systems including research, design, development, and engineering; acquisition; test and evaluation; training facilities and equipment; repair and modification; and in-service engineering and logistics support.

**Naval Explosive Ordnance Disposal Technology Division**

Department of Defense (DoD)

Naval Sea Systems Command (NAVSEA), Department of the Navy

<https://naveodtechdiv.jeodnet.mil>

Naval Explosive Ordnance Disposal Technology Division  
(NAVEODTECHDIV)

2008 Stump Neck Road

Indian Head, MD 20640-5070

Telephone: (301) 744-6807

Fax:

Personnel:

Keywords: Warfare

The Naval Explosive Ordnance Disposal Technology Division (NAVEODTECHDIV) is a field activity of the Naval Sea Systems Command (NAVSEA). Located 30 miles South of Washington, D.C. in Charles County, Maryland, NAVEODTECHDIV is a unique support activity administered by the U.S. Navy and utilized by all the Armed Services who work together to determine Joint Explosive Ordnance Disposal (EOD) requirements. It is committed to providing excellent engineering and technical services in support of Joint Service EOD programs and other customer requirements.

**Naval Medical Research Center**

Department of Defense (DoD)

Department of the Navy

<http://www.nmrc.navy.mil>

Captain Louis E. Antosek, Commander

Naval Medical Research Center

503 Robert Grant Avenue

Silver Spring, MD 20910-

Telephone: (301) 319-7400

Fax: (301) 319-7410

Personnel:

Keywords: Warfare, Biodefense, Infectious Disease,  
Dental

Focusing on finding solutions both to conventional medical problems on the battlefield such as bleeding, and to non-conventional weapons such as thermobaric blast, biological agents, or radiation. Research is being conducted in the fields of Infectious Diseases, Biological Warfare Defense, Dental Research, and Combat Casualty Care. □

**Naval Surface Warfare Center - Carderock Division (NSWCCD)**

*Department of Defense (DoD)*

*Naval Sea Systems Command (NAVSEA), Department of the Navy*

<http://www.dt.navy.mil/>

Captain Charles D. Behrle, Commander  
Carderock Division, Naval Surface Warfare Center  
(NSWCCD)

9500 MacArthur Boulevard  
West Bethesda, MD 20817-5700

Telephone:

Fax:

Personnel: 3,800 researchers

Keywords: Undersea, Warfare

The Division houses world-class facilities and laboratories. As a major component of the Naval Sea Systems Command the Carderock Division provides cradle-to-grave support for its technical products over an enormous range of scientific areas related to surface and undersea platforms. The Division addresses the full spectrum of applied maritime science and technology, from the theoretical and conceptual beginnings, through design and acquisition, to implementation and follow-on engineering. This includes all technical aspects of improving the performance of ships, submarines, military water craft, and unmanned vehicles, as well as research for military logistics systems. In addition, the Division is uniquely chartered by Congress to support America's maritime industry. Includes the National Maritime Technology Information Center (NMTIC).

**Naval Surface Warfare Center - Indian Head Division (IHDIV)**

*Department of Defense (DoD)*

*Naval Sea Systems Command (NAVSEA), Department of the Navy*

<http://www.ih.navy.mil/>

Captain Neil C. Stubits, USN, Commander  
Indian Head Division, Naval Surface Warfare Center  
(IHDIV)

101 Strauss Avenue  
Indian Head, MD 20640-  
Telephone: (301) 744-4304

Fax:

Personnel: 1,200 staff

Keywords: Warfare, Materials

As a Department of Defense (DoD) Energetics Center, the Indian Head Division, Naval Surface Warfare Center (IHDIV/NSWC) is a leader in the Navy's Energetics Enterprise—its job is to research and provide energetics and energetic systems for our fighting forces around the globe. "Energetic systems" refers to explosives, propellants, pyrotechnics and their immediately related components. Complimenting our energetic materials formulation work, we research, develop, test and engineer the range of technologies necessary to deliver ordnance to the military.

**Uniformed Services University of Health Sciences**

*Department of Defense (DoD)*

*Military Health System (MHS)*

<http://www.usuhs.mil/>

Charles L. Rice, M.D., President  
Uniformed Services University

4301 Jones Bridge Road  
Bethesda, MD 20814-  
Telephone: (301) 295-3013

Fax:

Personnel:

Keywords: Public Health, Genomics, Proteins

The university's research program covers a range of clinical and other topics important to both the military and public health. Researchers are making important new efforts in state-of-the-art fields that cut across disciplines, such as genomics, proteomics, and drug-delivery mechanisms.

**Walter Reed Army Institute of Research (WRAIR)**

*Department of Defense (DoD)*

*Walter Reed Army Medical Center*

<http://wrair-www.army.mil>

Col. Kenneth A. Bertram

Walter Reed Army Institute of Research

503 Robert Grant Avenue

Silver Spring, MD 20910-7500

Telephone: (301) 319-9000

Fax:

Personnel:

Keywords: Materials, Warfare, Immunological,  
Veterinary, Infectious Disease

Its mission is to conduct biomedical research that is responsive to Department of Defense and U.S. Army requirements and delivers life saving products including knowledge, technology, and medical materiel that sustain the combat effectiveness of the warfighter.

Research divisions include: Biochemistry, Neurosciences Psychology, Experimental Therapeutics, Pathology, Military Casualty Research, Retrovirology, Regulated Activities, Veterinary Medicine, Preventative Medicine and Communicable Diseases and Immunology.

**National Center for Health Statistics**

*Department of Health and Human Services (HHS)*

*Centers for Disease Control and Prevention (CDC)*

<http://www.cdc.gov/nchs>

Ed Sondik, Director

National Center for Health Statistics

Metro IV Building

3311 Toledo Road

Hyattsville, MD 20782-

Telephone: (301) 458-4000

Fax:

Personnel:

Keywords: Public Health

Uses a variety of approaches to efficiently obtain information from the sources most able to provide information. Collects data from birth and death records, medical records, interview surveys, and through direct physical exams and laboratory testing. NCHS is a key element of our national public health infrastructure, providing important surveillance information that helps identify and address critical health problems. Statistics include state by state breakdown, and are on topics such as accidents, alcoholism, heart disease, homicide, life expectancy, stroke and suicide.

**Fogarty International Center**

*Department of Health and Human Services, National Institutes of Health (NIH)*

<http://www.fic.nih.gov>

Roger I. Glass, Director

Fogarty International Center, National Institutes of Health

Building 31, Room B2C29

31 Center Drive, MSC 2220

Bethesda, MD 20892-2220

Telephone: (301) 496-2075

Fax: (301) 594-1211

Personnel: 71 staff

Keywords: Public Health

The Fogarty International Center, the international component of the NIH, addresses global health challenges through innovative and collaborative research and training programs and supports and advances the NIH mission through international partnerships.

**National Cancer Institute**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.cancer.gov>

John E. Niederhuber, Director  
National Cancer Institute

9000 Rockville Pike  
Bethesda, MD 20892-  
Telephone: (800) 422-6237

Fax:

Personnel:

Keywords: Cancer, Genomics

Seeks to provide, coordinate, and manage information technology, and to advance computational science, particularly in respect to the discovery of biomedical knowledge. NIH wants to stimulate new ways of combining skills and disciplines in the physical, biological, and social sciences to realize the great promise of 21st century medical research. Research is focused on cancer, specifically large-scale genome sequencing and other investigations of the disease.

**National Cancer Institute - Frederick**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.ncifcrf.gov>

National Cancer Institute at Frederick

P.O. Box B  
1050 Boyles Street  
Frederick, MD 21702-1201  
Telephone: (301) 846-1000

Fax:

Personnel:

Keywords: Cancer

The National Cancer Institute at Frederick (NCI-Frederick), part of the National Institutes of Health (NIH), is one of two NCI campuses. The NCI's clinical researchers and the NIH Clinical Center are located on the NIH campus in Bethesda. The NCI's Frederick campus is located within Fort Detrick, a U.S. Army base. NCI-Frederick focuses on direct research aimed at identifying the causes of cancer, AIDS, and related diseases. More than 100 scientists are investigating the genetic, molecular, environmental, and behavioral factors that contribute to human cancers, as well as identifying new targets for cancer diagnosis, treatment, and prevention. NCI-Frederick also provides core scientific expertise and advanced technology development to NCI, NIAID (the National Institute for Allergy and Infectious Diseases), and other components of NIH via the Research Technology Program (RTP) and other programs directed by SAIC-Frederick, Inc., a subsidiary of Science Applications International Corporation.

**National Cancer Institute - Rockville**

Department of Health and Human Services, National Institutes of Health (NIH)

National Cancer Institute (NCI)

<http://ttb.nci.nih.gov>

Karen Maurey, M.S., Acting Branch Chief  
National Cancer Institute Technology Transfer Branch

Executive Plaza South, Suite 450  
6120 Executive Boulevard  
Rockville, MD 20852-  
Telephone: (301) 496-0477

Fax:

Personnel:

Keywords: Cancer

The Technology Transfer Branch (TTB) provides a complete array of services to support the National Cancer Institute's technology development activities. To ensure that these activities comport with Federal statutes, regulations and the policies of the National Institutes of Health, a large part of TTB's responsibilities includes the day-to-day negotiations of transactional agreements between the NCI and outside parties, including universities, pharmaceutical and biotechnology companies. These agreements provide for: the exchange of research materials under the Simple Letter of Agreement (SLA); collaborative research conducted under cooperative research and development agreements (CRADAs); preclinical and clinical studies of the safety and efficacy of new pharmaceuticals under clinical trial agreements (CTAs); and exchange of confidential information under confidential disclosure agreements (CDAs).

**National Center for Complimentary and Alternative Medicine**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://nccam.nih.gov>

Stephen E. Straus, M.D.  
National Center for Complimentary and Alternative  
Medicine (NCCAM)

9000 Rockville Pike  
Bethesda, MD 20892-  
Telephone: (888) 644-6226  
Fax:  
Personnel: 75  
Keywords:

The National Center for Complementary and Alternative Medicine (NCCAM) is the Federal Government's lead agency for scientific research on complementary and alternative medicine (CAM). The mission of NCCAM is to: Explore complementary and alternative healing practices in the context of rigorous science, Train complementary and alternative medicine researchers, Disseminate authoritative information to the public and professionals.

**National Center for Research Resources**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.ncrr.nih.gov>

Dr. Barbara M. Alving, Director  
Office of Science Policy and Public Liaison, National  
Center for Research Resources  
One Democracy Plaza, Room 984  
6701 Democracy Boulevard, MSC 4874  
Bethesda, MD 20892-4874  
Telephone: (301) 435-0888  
Fax: (301) 480-3558  
Personnel:  
Keywords: Diagnostic

NCRR provides laboratory scientists and clinical researchers with the environments and tools they need to understand, detect, treat, and prevent a wide range of diseases. This support enables discoveries that begin at a molecular and cellular level, move to animal-based studies, and then are translated to patient-oriented clinical research, resulting in cures and treatments for both common and rare diseases. NCRR connects researchers with one another and with patients and communities across the nation to harness the power of shared resources and research.

**National Center on Minority and Health Disparities**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.ncmhd.nih.gov>

National Center on Minority Health and Health Disparities

6707 Democracy Boulevard, Suite 800  
Bethesda, MD 20892-5465  
Telephone: (301) 402-1366  
Fax: (301) 480-4049  
Personnel:  
Keywords:

The mission of the National Center on Minority Health and Health Disparities (NCMHD) is to promote minority health and to lead, coordinate, support, and assess the NIH effort to reduce and ultimately eliminate health disparities. In this effort NCMHD will conduct and support basic, clinical, social, and behavioral research, promote research infrastructure and training, foster emerging programs, disseminate information, and reach out to minority and other health disparity communities.



**National Eye Institute**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nei.nih.gov>

National Eye Institute

31 Center Drive, MSC 2510  
Bethesda, MD 20892-2510  
Telephone: (301) 496-5248  
Fax:  
Personnel: 280 staff  
Keywords: Eye, Genetics

The NEI conducts and supports research that helps prevent and treat eye diseases and other disorders of vision. This research leads to sight-saving treatments, reduces visual impairment and blindness, and improves the quality of life for people of all ages. NEI-supported scientists are working toward transplanting healthy cells into diseased retinas. This research may lead to new treatments for people with blinding retinal diseases, including AMD and retinitis pigmentosa. NEI-supported scientists are developing "neuroprotection" methods that will prevent or slow glaucoma cell damage and promote the survival of retinal cells damaged by glaucoma. Researchers are exploring gene-based treatments to slow some forms of retinal degeneration.

**National Heart, Lung and Blood Institute**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nhlbi.nih.gov>

Elizabeth G. Nabel, Director  
National Heart, Lung, and Blood Institute

Building 31, Room 5A48  
31 Center Drive, MSC 2486  
Bethesda, MD 20892-  
Telephone: (301) 496-4236  
Fax:  
Personnel: 200 staff  
Keywords: Clinical Trials, Diagnostic, Pulmonary,  
Cardiovascular

The Institute plans, conducts, fosters, and supports an integrated and coordinated program of basic research, clinical investigations and trials, observational studies, and demonstration and education projects. Research is related to the causes, prevention, diagnosis, and treatment of heart, blood vessel, lung, and blood diseases, and sleep disorders.

**National Human Genome Research Institute**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.genome.gov>

Francis Collins, Director  
Office of Communications and Public Liaison, National  
Human Genome Research Institute (NHGRI)  
Building 31, Room 4B09  
31 Center Drive, MSC 2152, 9000 Rockville Pike  
Bethesda, MD 20892-2152  
Telephone: (301) 402-0911  
Fax: (301) 402-2218  
Personnel:  
Keywords: Genomics

The National Human Genome Research Institute led the Human Genome Project for the National Institutes of Health, which culminated in the completion of the full human genome sequence in April 2003. Now, NHGRI moves forward into the genomic era with research aimed at improving human health and fighting disease. Current projects include the genome sequencing program, clinical research and the ethical, legal and social implications research program.

**National Institute of Allergy and Infectious Diseases**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www3.niaid.nih.gov>

Anthony S. Fauci, M.D., Director  
Office of Communications and Public Liaison, National  
Institute of Allergy and Infectious Diseases (NIAID)

6610 Rockledge Drive, MSC 6612  
Bethesda, MD 20892-6612

Telephone: (301) 496-5717

Fax: (301) 402-3573

Personnel:

Keywords: Infectious Disease, Immunological, Vaccines

The National Institute of Allergy and Infectious Diseases (NIAID) conducts and supports basic and applied research to better understand, treat, and ultimately prevent infectious, immunologic, and allergic diseases. For more than 50 years, NIAID research has led to new therapies, vaccines, diagnostic tests, and other technologies that have improved the health of millions of people in the United States and around the world.

**National Institute of Arthritis and Musculoskeletal and Skin Diseases**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.niams.nih.gov>

Stephen I. Katz, Director  
Off. of Commun. and Public Liaison, Ntl. Inst. of Arthritis  
and Musculoskeletal and Skin Diseases (NIAMSD)

Building 31, Room 4C02  
31 Center Drive, MSC 2350  
Bethesda, MD 20892-2350

Telephone: (301) 496-8190

Fax: (301) 480-2814

Personnel:

Keywords: Musculoskeletal

The mission of the National Institute of Arthritis and Musculoskeletal and Skin Diseases is to support research into the causes, treatment, and prevention of arthritis and musculoskeletal and skin diseases, the training of basic and clinical scientists to carry out this research, and the dissemination of information on research progress in these diseases.

**National Institute of Biomedical Imaging and Bioengineering (NIBIB)**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nibib1.nih.gov>

Roderic I. Pettigrew, Director  
National Institute of Biomedical Imaging and  
Bioengineering (NIBIB)

Democracy Plaza Two  
6707 Democracy Boulevard  
Bethesda, MD 20892-

Telephone:

Fax:

Personnel:

Keywords: Imaging, Diagnostic,  
Nanotechnology/Biology, Bioengineering

The National Institute of Biomedical Imaging and Bioengineering (NIBIB) is dedicated to improving human health through the integration of the physical and biological sciences. The research agenda of the NIBIB will dramatically advance the Nation's health by improving the detection, management, understanding, and ultimately, the prevention of disease. NIBIB-supported research brings advances in fields ranging from physics to nanotechnology to bear on the challenges of diagnosing, preventing and treating disease.

**National Institute of Child Health and Human Development**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nichd.nih.gov>

Duane Alexander, Director  
National Institute of Child Health and Human  
Development  
Building 31, Room 2A32  
31 Center Drive, MSC 2425  
Bethesda, MD 20892-2425  
Telephone: (800) 370-2943  
Fax: (301) 984-1473  
Personnel:  
Keywords: Public Health, Clinical Trials

The mission of the NICHD is to ensure that every person is born healthy and wanted, that women suffer no harmful effects from reproductive processes, and that all children have the chance to achieve their full potential for healthy and productive lives, free from disease or disability, and to ensure the health, productivity, independence, and well-being of all people through optimal rehabilitation. To reach this goal, the NICHD: conducts and supports laboratory research, clinical trials, and studies with people that explore health processes, examines the impact of disabilities, diseases, and defects on the lives of individuals, and sponsors training programs for scientists, doctors, and researchers to ensure that NICHD research can continue.

**National Institute of Dental and Craniofacial Research**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nidcr.nih.gov>

Lawrence A. Tabak, D.D.S., Ph.D., Director  
National Institute of Dental and Craniofacial Research  
  
Building 31, Room 2C39  
31 Center Drive, MSC 2290  
Bethesda, MD 20892-2190  
Telephone: (301) 402-7364  
Fax: (301) 480-4098  
Personnel:  
Keywords: Dental, Clinical Trials, Infectious Disease

The mission of the National Institute of Dental and Craniofacial Research (NIDCR) is to improve oral, dental and craniofacial health through research, research training, and the dissemination of health information. We accomplish our mission by: performing and supporting basic and clinical research, conducting and funding research training and career development programs to ensure an adequate number of talented, well-prepared and diverse investigators, coordinating and assisting relevant research and research-related activities among all sectors of the research community, and promoting the timely transfer of knowledge gained from research and its implications for health to the public, health professionals, researchers, and policy-makers. This is accomplished through 4 research centers: the Center for Integrative Biology and Infectious Diseases, the Center for Clinical Research, the Center for Health Promotion and Behavioral Research, and the Center for Biotechnology and Innovation.

**National Institute of Diabetes and Digestive and Kidney Diseases**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.niddk.nih.gov>

Dr. Griffin P. Rodgers, Director  
Off. of Commun. and Public Liaison, National Institute of  
Diabetes and Digestive and Kidney Diseases  
Building 31, Room 9A04  
31 Center Drive, MSC 2560  
Bethesda, MD 20892-2560  
Telephone:  
Fax:  
Personnel:  
Keywords: Public Health, Food, Biochemistry,  
Toxicology, Gastrointestinal

The National Institute of Diabetes and Digestive and Kidney Diseases conducts and supports research on many of the most serious diseases affecting public health. The Institute's Division of Intramural Research encompasses the broad spectrum of metabolic diseases such as diabetes, inborn errors of metabolism, endocrine disorders, mineral metabolism, digestive diseases, nutrition, urology and renal disease, and hematology. Basic research studies include biochemistry, nutrition, pathology, histochemistry, chemistry, physical, chemical, and molecular biology, pharmacology, and toxicology. NIDDK extramural research is organized into divisions of program areas: Division of Diabetes, Endocrinology, and Metabolic Diseases, Division of Digestive Diseases and Nutrition, and Division of Kidney, Urologic, and Hematologic Diseases. The Division of Extramural Activities provides administrative support and overall coordination. A fifth division, the Division of Nutrition Research Coordination, coordinates government nutrition research efforts.

**National Institute of General Medical Sciences**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nigms.nih.gov>

Jeremy M. Berg, Ph.D, Director  
National Institute of General Medical Sciences

45 Center Drive, MSC 6200  
Bethesda, MD 20892-6200  
Telephone: (301) 496-7301

Fax:

Personnel:

Keywords: Diagnostic, Cell Culture, Genetics,  
Biochemistry, Bioinformatics

The National Institute of General Medical Sciences supports basic biomedical research that increases understanding of life processes and lays the foundation for advances in disease diagnosis, treatment, and prevention. The Institute's programs encompass the areas of cell biology, biophysics, genetics, developmental biology, pharmacology, physiology, biological chemistry, bioinformatics, computational biology, and minority biomedical research and training. NIGMS is organized into the following divisions: Division of Cell Biology and Biophysics, Division of Genetics and Developmental Biology, Division of Pharmacology, Physiology, and Biological Chemistry, Division of Minority Opportunities in Research, and the Center for Bioinformatics and Computational Biology.

**National Institute of Health: Clinical Center**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://clinicalcenter.nih.gov/index.cgi>

National Institute of Health: Clinical Center

9000 Rockville Pike  
Bethesda, MD 20892-  
Telephone: (301) 496-2563  
Fax: (301) 402-2984  
Personnel:  
Keywords: Clinical Trials

The NIH Clinical Center will serve as the nation's premier research hospital for conducting clinical research to improve the health of human kind. It will also serve as a national resource for clinical research by developing diagnostic and therapeutic interventions, enhancing systems to ensure the safe, efficient, and ethical conduct of clinical research, training clinical researchers, and leading the response to the nation's public health needs. As the nation's clinical research center, the NIH Clinical Center is dedicated to improving human health by providing an outstanding environment that facilitates: development of diagnostic and therapeutic interventions; training of clinical researchers; and, development of processes to ensure the safe, efficient, and ethical conduct of clinical research.

**National Institute of Mental Health**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nimh.nih.gov>

Dr. Thomas R. Insel, Director  
Public Information and Communications Branch, National  
Institute of Mental Health  
Room 8184  
6001 Executive Boulevard, MSC 9663  
Bethesda, MD 20892-9663  
Telephone: (301) 443-4513  
Fax: (301) 443-4279  
Personnel:  
Keywords: Public Health, Mental Health

The NIMH mission is to reduce the burden of mental illness and behavioral disorders through research on mind, brain, and behavior. This public health mandate demands that we harness powerful scientific tools to achieve better understanding, treatment, and eventually, prevention of these disabling conditions that affect millions of Americans. To fulfill its mission, the Institute: conducts research on mental disorders and the underlying basic science of brain and behavior, supports research on these topics at universities and hospitals around the United States, collects, analyzes, and disseminates information on the causes, occurrence, and treatment of mental illnesses, supports the training of more than 1,000 scientists to carry out basic and clinical research, and communicates information to scientists, the public, the news media, and primary care and mental health professionals about mental illnesses, the brain, behavior, mental health, and opportunities and advances in research in these areas.

**National Institute of Neurological Disorders and Stroke**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.ninds.nih.gov>

Story C. Landis, Ph.D., Director  
National Institute of Neurological Disorders and Stroke

P.O. Box 5801

Bethesda, MD 20824-  
Telephone: (301) 496-5751

Fax:

Personnel:

Keywords: Neurological, Diagnostic

The mission of NINDS is to reduce the burden of neurological disease - a burden borne by every age group, by every segment of society, by people all over the world. To support this mission, NINDS: conducts, fosters, coordinates, and guides research on the causes, prevention, diagnosis, and treatment of neurological disorders and stroke, and supports basic research in related scientific areas, provides grants-in-aid to public and private institutions and individuals in fields related to its areas of interest, including research project, program project, and research center grants, operates a program of contracts for the funding of research and research support efforts in selected areas of institute need, provides individual and institutional fellowships to increase scientific expertise in neurological fields, conducts a diversified program of intramural and collaborative research in its own laboratories, branches, and clinics, and collects and disseminates research information related to neurological disorders.

**National Institute of Nursing Research**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://nintr.nih.gov/nintr/index.html>

Patricia A. Grady, Director  
National Institute of Nursing Research

Room 5B-05  
31 Center Drive  
Bethesda, MD 20892-2178  
Telephone: (301) 496-0207

Fax:

Personnel:

Keywords: Clinical Care

The National Institute of Nursing Research supports clinical and basic research to establish a scientific basis for the care of individuals across the life span-from management of patients during illness and recovery to the reduction of risks for disease and disability, the promotion of healthy lifestyles, promoting quality of life in those with chronic illness, and care for individuals at the end of life. NINR accomplishes its mission by supporting grants to universities and other research organizations as well as by conducting research intramurally at laboratories in Bethesda, Maryland. NINR research includes all age groups and is based on adequate gender and minority representation.

**National Institute on Aging**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nia.nih.gov>

National Institute on Aging

Building 31, Room 5C27  
31 Center Drive, MSC 2292  
Bethesda, MD 20892-  
Telephone: (301) 496-1752  
Fax: (301) 496-1072

Personnel:

Keywords: Gerontology

NIA's mission is to improve the health and well-being of older Americans through research, and specifically, to support and conduct high-quality research on aging processes, age-related diseases, and special problems and needs of the aged, as well as train and develop highly skilled research scientists from all population groups, develop and maintain state-of-the-art resources to accelerate research progress, and disseminate information and communicate with the public and interested groups on health and research advances and on new directions for research.

**National Institute on Alcohol Abuse and Alcoholism**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.niaaa.nih.gov>

Dr. Ting-Kai Li, Director  
National Institute on Alcohol Abuse and Alcoholism  
(NIAAA)

5635 Fishers Lane, MSC 9304

Bethesda, MD 20892-9304

Telephone:

Fax:

Personnel:

Keywords: Genetics, Toxicology

NIAAA provides leadership in the national effort to reduce alcohol-related problems by: conducting and supporting research in a wide range of scientific areas including genetics, neuroscience, epidemiology, health risks and benefits of alcohol consumption, prevention, and treatment, coordinating and collaborating with other research institutes and Federal Programs on alcohol-related issues, collaborating with international, national, state, and local institutions, organizations, agencies, and programs engaged in alcohol-related work, and translating and disseminating research findings to health care providers, researchers, policymakers, and the public. Current research initiatives are in the following topics: Basic Research on Medications Development for Alcohol-Use Disorders, Genetic Studies of Vulnerability to Alcohol, Mechanisms and Markers of Alcohol-Induced Organ Damage and Organ Protection, Behavioral and Genetic Risk Factors for Alcoholism, Long-term, and Community-Based Prevention of Alcohol Problems at Specific Life Stages: Underage Populations

**National Institute on Deafness and other Communication Disorders (NIDCD)**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nidcd.nih.gov>

Dr. James F. Battey, Jr, Director  
Off. of Health Commun. and Public Liaison, Natl. Inst. On  
Deafness and other Communication Disorders

31 Center Drive, MSC 2320

Bethesda, MD 20892-2320

Telephone: (301) 496-7243

Fax: (301) 402-0018

Personnel:

Keywords: Auditory

NIDCD is mandated to conduct and support biomedical and behavioral research and research training in the normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language. The Institute also conducts and supports research and research training related to disease prevention and health promotion; addresses special biomedical and behavioral problems associated with people who have communication impairments or disorders; and supports efforts to create devices which substitute for lost and impaired sensory and communication function. NIDCD accomplishes its mandate through the Division of Intramural Research, which conducts research in laboratories at the NIH, and the Extramural Research Program, a program of research grants, career development awards, individual and institutional research training awards, center grants, and contracts to public and private research institutions and organizations. As a whole, the Institute supports and conducts approximately 600 research projects.

**National Institute on Drug Abuse**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.nida.nih.gov>

Nora D. Volkow, Director  
National Institute on Drug Abuse

Room 5213

6001 Executive Boulevard

Bethesda, MD 20892-9561

Telephone: (301) 443-1124

Fax:

Personnel:

Keywords: Toxicology

NIDA's mission is to lead the Nation in bringing the power of science to bear on drug abuse and addiction. NIDA supports over 85 percent of the world's research on the health aspects of drug abuse and addiction. NIDA supported science addresses the most fundamental and essential questions about drug abuse, ranging from the molecule to managed care, and from DNA to community outreach research. Its goal is to ensure that science, not ideology or anecdote, forms the foundation for all of our Nation's drug abuse reduction efforts.



**National Institutes of Health Bioengineering Consortium (BECON)**

Department of Health and Human Services, National Institutes of Health (NIH)

<http://www.becon.nih.gov>

Dr. Daniel C. Sullivan, Director  
National Institutes of Health Bioengineering Consortium  
(BECON)

9000 Rockville Pike  
Bethesda, MD 20892-  
Telephone:

Fax:

Personnel: 73 researchers

Keywords: Imaging, Bioinformatics, Sensors,  
Nanotechnology/Biology, Bioengineering

The Bioengineering Consortium (BECON) is the focus of bioengineering activities at the NIH. The Consortium consists of senior-level representatives from all of the NIH institutes, centers, and divisions plus representatives of other Federal agencies concerned with biomedical research and development. Research topics for the Consortium include Bioimaging, Bioinformatics, Biological Sensors, Nanotechnology and Nanoscience, and Tissue Engineering.

**National Biodefense Analysis and Countermeasures Center (NBACC)**

Department of Homeland Security (DHS)

DHS Science & Technology Directorate

<http://www.dhs.gov/dhspublic/display?content=4377>

National Biodefense Analysis and Countermeasures  
Center

Attn: BAA 05-02

7435 New Technology Way, Suite A

Frederick, MD 21703-9401

Telephone: (301) 682-3662

Fax:

Personnel: 120 staff

Keywords: Biodefense

NBACC is a proposed facility to be located at the National Interagency Biodefense Campus at Fort Detrick. The mission of NBACC is to provide an integrated and responsive biosecurity enterprise for homeland security, law enforcement, medical, and veterinary communities. The NBACC will execute two of the seven biosecurity program areas of the Science-based Threat Analysis and Response Program Office, Office of Research and Development, Directorate of Science and Technology. The two program areas to be executed at NBACC will be Biological Threat Characterization and Bioforensics Operations and Research. The other five biosecurity program areas are Agricultural Security, Knowledge Management and Dissemination, Sensors and Signatures Research, Surveillance and Response, and Systems Engineering and Analysis.

**Patuxent Wildlife Research Center**

Department of the Interior

U.S. Geological Survey

<http://www.pwrc.usgs.gov>

Judd A. Howell, Director

USGS Patuxent Wildlife Research Center

12100 Beech Forest Road, STE 4039

Laurel, MD 20708-4039

Telephone: (301) 497-5503

Fax: (301) 497-5505

Personnel:

Keywords: Veterinary

The Center develops and manages national inventory and monitoring programs and is responsible for the North American Bird Banding Program and leadership of other national bird monitoring programs. The Center's scientific and technical assistance publications, wildlife data bases, and electronic media are used nationally and worldwide in managing biological resources. Researches amphibians, reptiles, and birds, biodiversity, contaminants, monitoring, populations and wetlands and communities.



**VA Center of Excellence in Exercise & Robotics for Neurological Disorders**

Department of Veterans Affairs

Rehabilitation Research & Development Service

<http://www.vard.org/cent/baltimore.html>

Richard Macko, MD

Center for Excellence in Exercise and Robotics for Neurological Disorders

Baltimore VAMC, RR&D Center (153)

10 North Greene Street

Baltimore, MD 21201-

Telephone: (410) 605-7000

Fax:

Personnel:

Keywords: Neurological, Robotics

The VA Center for Excellence in Exercise and Robotics for Neurological Disorders is focused on identifying and testing exercise-related ways to improve function and minimize disability in the context of neurological illness. The center was funded in 2005 and is located in the Baltimore VA Medical Center. In addition to student and resident training in research, the Center is coordinating three distinct research studies examining different aspects of exercise and robotics: Velocity vs. Duration; Modular Lower Extremity Robotics-Assisted Exercise After Stroke; and Reshaping Exercise Habits and Beliefs (REHAB) Following Stroke.

**Veterans Health Administration (VHA), Baltimore**

Department of Veterans Affairs

<http://www.vamhcs.med.va.gov/facilities/baltimore.htm>

Veterans Health Administration

10 North Greene Street

Baltimore, MD 21201-

Telephone: (410) 605-7000

Fax: (410) 605-7901

Personnel:

Keywords: Diagnostic, Musculoskeletal, Neurological, Mental Health, Gerontology, Cardiovascular

Baltimore VA Medical Center offers veterans state-of-the-art medical technology, clinical services and research programs. One of the largest funded research and development programs in the VA system, including studies in diabetes, immunology, oncology, virology, cellular biology and infectious diseases. Geriatric Research, Education and Clinical Center, one of only 21 in the VA system nationwide, conducts research on the prevention of stroke and cardiovascular disease through exercise and nutrition therapy in older veterans. The Baltimore VA Medical Center coordinates one of only two MS Centers of Excellence throughout the VA. The center is responsible for facilitating clinical care, research and education for patients with MS in the Eastern part of the country. The Baltimore VA Medical Center is also the home base for one of VA's eight Mental Illness Research, Education and Clinical Centers. This program is dedicated to improving the provision of health care to veterans suffering from severe mental illness.

**Environmental Science Center, EPA**

Environmental Protection Agency (EPA)

<http://www.epa.gov/region3/esc/index.htm>

Robin Danesi

Environmental Science Center, U.S. Environmental Protection Agency

701 Mapes Road

Fort Meade, MD 20755-5350

Telephone: (410) 305-2607

Fax:

Personnel:

Keywords: Environmental

The facility provides office space for 150 people and consolidates six leased facilities into one government-owned site. The facility represents a partnership between the Region 3 and EPA HQ. Approximately 2/3 of the 70 laboratories at the facility support Region 3 personnel including Analytical Services and Quality Assurance Branch, the Field Inspection Program, and the Mid Atlantic Integrated Assessment Program. The remaining laboratories support HQ Office of Pesticides Program Personnel and the Baltimore resident office of EPA's Criminal Investigation Division. At the Environmental Science Center, EPA scientists conduct tests on soil, air and water samples to determine the presence of pollutants and other contaminants. EPA microbiologists test drinking water to ensure its safety. Hospital disinfectants are tested to ensure the validity of their claims and chemists develop the analytical methods necessary to monitor pesticide residues in food. Science center staff also inspect and investigate manufacturing facilities, hazardous waste sites, and

**Center for Biologics Evaluation and Research**

Food and Drug Administration (FDA)

<http://www.fda.gov/cber>

Jesse L. Goodman, Director  
Center for Biologics Evaluation and Research (CBER),  
U.S. Food and Drug Administration

Ensures the safety, potency and effectiveness of biological products for the prevention, diagnosis, and treatment of disease. Regulates allergenics, blood, cellular and gene therapy, devices, tissues, vaccines, and xenotransplantation.

1401 Rockville Pike, Suite 200N

Rockville, MD 20852-1448

Telephone: (800) 835-4709

Fax:

Personnel:

Keywords: Diagnostic, Genomics, Vaccines, Cell Culture

**Center for Veterinary Medicine**

Food and Drug Administration (FDA)

<http://www.fda.gov/cvm/default.html>

Stephen F. Sundlof, DVM, Ph.D., Director  
Center for Veterinary Medicine, U.S. Food and Drug Administration

The Center for Veterinary Medicine (CVM) regulates the manufacture and distribution of food additives and drugs that will be given to animals. These include animals from which human foods are derived, as well as food additives and drugs for pet (or companion) animals. CVM is responsible for regulating drugs, devices, and food additives given to, or used on, over one hundred million companion animals, plus millions of poultry, cattle, swine, and minor animal species. (Minor animal species include animals other than cattle, swine, chickens, turkeys, horses, dogs, and cats.)

7519 Standish Place

Rockville, MD 20855-

Telephone: (240) 276-9300

Fax:

Personnel:

Keywords: Veterinary

**Chemical Propulsion Information Analysis Center (CPIAC)**

Johns Hopkins University (JHU); Department of Defense (DoD)

JHU Whiting School of Engineering

<http://www.cpia.jhu.edu>

Chemical Propulsion Information Analysis Center, The Johns Hopkins University

CPIAC is the U.S. national clearinghouse and technical resource center for data, reports, and analyses related to system and component level technologies for chemical, electrical, and nuclear propulsion for rockets, missiles, and space and gun propulsion systems. CPIAC also provides technical and administrative support to the Joint Army-Navy-NASA-Air Force (JANNAF) Interagency Propulsion Committee, the primary technical information exchange platform for the U.S. propulsion industry.

10630 Little Patuxent Parkway, Suite 202

Columbia, MD 21044-3204

Telephone: (410) 992-7300

Fax: (410) 730-4969

Personnel:

Keywords: Energy, Rockets

**NASA Goddard Space Flight Center**

National Aeronautics and Space Administration (NASA)

<http://www.nasa.gov/centers/goddard/home/index.html>

Dr. Edward J. Weiler , Director  
NASA Goddard Space Flight Center

8800 Greenbelt Road  
Greenbelt, MD 20771-  
Telephone: (301) 286-2000  
Fax:  
Personnel: 9,000 staff  
Keywords: Astronomy

The mission of the Goddard Space Flight Center is to expand knowledge of the Earth and its environment, the solar system and the universe through observations from space. To assure that our nation maintains leadership in this endeavor, it is committed to excellence in scientific investigation, in the development and operation of space systems and in the advancement of essential technologies. In pursuit of this challenge, the Center will: Conduct a preeminent program of research in the space and Earth science disciplines using measurements from space complemented by suborbital, ground-based and laboratory measurements and by theoretical investigations, Develop and operate a broad spectrum of flight missions that are responsive to the needs of the science community, Provide and operate spaceflight tracking and data acquisition network, Develop innovative technology and instruments critical to the success of our mission, and Develop and maintain advanced information systems for the display, analysis, archiving and distribution of space and Earth science

**Planetary Geodynamics Laboratory, Goddard Space Flight Center**

National Aeronautics and Space Administration (NASA)

Goddard Space Flight Center, Solar System Exploration Division

<http://denali.gsfc.nasa.gov>

Herb Frey, Chief  
Planetary Geodynamics Laboratory, NASA Goddard  
Space Flight Center  
Code 698  
8800 Greenbelt Road  
Greenbelt, MD 20771-  
Telephone: (301) 614-6467  
Fax: (301) 614-6522  
Personnel: 44 staff  
Keywords: Astronomy

The mission of the Planetary Geodynamics Laboratory is to conduct research into the structure, dynamics and evolution of the solid Earth and planets, using in situ and remote sensing data, to better understand: The dynamics of the solar system and the climatic and potential impact effects that result for us on Earth, How and why the Earth is similar to - and different from - other planetary bodies in the solar system, the current and likely future state of the Earth, especially as regards hazards to humans, and the likely location of other habitable environments in the solar system. Major elements include Geomagnetism, Crustal Deformation, Topography and Surface Change, Orbital-Rotational-Climate Interaction, Planetary Geology and Geophysics. The research activities of the Planetary Geodynamics Laboratory comprise a broadly based effort, centered on measuring, modeling, and interpreting the configuration and motion of the crust, mantle, and core of the Earth. Similar efforts are also directed toward understanding the Moon, Mars, and Venus.

**Research Associate Directorate**

National Security Agency (NSA)

<http://www.nsa.gov/research/index.cfm>

Research Associate Directorate, National Security Agency

9800 Savage Road, Suite 6541  
Fort Meade, MD 20755-6541  
Telephone: (443) 445-7159  
Fax:  
Personnel:

Keywords: Signals/Communications, Computer  
Networking, Electronics,  
Nanotechnology/MEMS

The Research Associate Directorate conducts leading-edge research to support signals intelligence and information assurance missions. The NSA has developed valuable technologies in: advanced mathematics, advanced computing, communications and networking, information processing, microelectronics, and other technologies. There is also a program developing security enhanced linux.

**Laboratory for Physical Sciences (LPS)**

National Security Agency (NSA); University of Maryland College Park (UMCP)

<http://www.lps.umd.edu>

Laboratory for Physical Sciences

8050 Greenmead Drive  
College Park, MD 20740-  
Telephone: (301) 935-6400  
Fax: (301) 935-6723  
Personnel:  
Keywords:

The Laboratory for Physical Sciences is a unique facility where university and federal government personnel collaborate on research in advanced communication and computer technologies. Faculty and students from the UMCP Departments of Physics, Electrical and Computer Engineering, and Materials and Nuclear Engineering all conduct research in LPS laboratories in the areas listed above.

**Smithsonian Environmental Research Center (SERC)**

Smithsonian Institution

<http://www.serc.si.edu>

Smithsonian Environmental Research Center

647 Contees Wharf Road  
Edgewater, MD 21037-  
Telephone: (443) 482-2200  
Fax:  
Personnel: 180 researchers  
Keywords: Environmental

The Smithsonian Environmental Research Center (SERC) leads the Nation in research on linkages of land and water ecosystems in the coastal zone, and provides society with knowledge to meet critical environmental challenges in the 21st century. Research areas include: effects of global change, biodiversity and invasions, land use and landscape ecology, coastal foodwebs, biogeochemical cycles and nutrient availability, biocomplexity, and plant and animal population dynamics.

**Alion Chemical Surety Facility**

Alion Science and Technology

<http://www.alionscience.com/index.cfm?fuseaction=labs.view&labid=13>

Laura Rodriguez  
Alion Chemical Surety Facility

2107 Laurel Bush Road, Suite 201  
Bel Air, MD 21015-  
Telephone: (410) 569-0192  
Fax:  
Personnel:  
Keywords:

The Alion Chemical Surety Facility is authorized by the U.S. Army to conduct research, development, testing and evaluation (RDT&E) activities with live chemical warfare agents. Located at the U.S. Army Edgewood Chemical and Biological Center (ECBC) near Edgewood, Maryland, the facility is authorized to perform surety tasks related to chemical/biological defense, homeland security, chemical materiel destruction processes and decontamination testing. The facility incorporates a range of analytical equipment to support customer requirements, including: High Performance Liquid Chromatograph - Ion Trap Mass Spectrometer w/ Atmospheric Pressure Chemical Ionization (APCI) and Electro Spray Ionization (ESI) interfaces for analysis of chemical agent degradation products; a state-of-the art Gas Chromatograph - Ion Trap Mass Spectrometer for analysis of chemical agents and decomposition products down to the levels that are required to assess potential health hazards.

**Alion Science and Technology - EMI/EMC Test Laboratories**

*Alion Science and Technology*

<http://www.alionscience.com>

Bahman Atefi, Chairman and CEO  
Alion Science and Technology - EMI/EMC Test  
Laboratories

185 Admiral Cochrane Drive  
Annapolis, MD 21401-  
Telephone: (410) 573-7000

Fax:

Personnel: 2,600 staff

Keywords: Business Systems

Alion Science and Technology is an employee-owned technology solutions company delivering technical expertise and operational support to the Department of Defense, civilian government agencies and commercial customers. Has five locations in Maryland including, the Information Technology Modeling and Simulation Research Laboratory (Lanham), the EMI/EMC Test Laboratory (Annapolis), the Locomotive Simulator Facility (Annapolis), and the Chemical Surety Facility (Edgewood).

**Alion Science and Technology - Info. Technology Modeling and Simulation Res. Laboratory**

*Alion Science and Technology*

<http://www.alionscience.com>

Bahman Atefi, Chairman and CEO  
Alion Science and Technology - Info. Technology  
Modeling and Simulation Res. Laboratory

4301 Forbes Boulevard  
Lanham, MD 20706-  
Telephone: (301) 469-6211

Fax:

Personnel: 2,600 staff

Keywords: Business Systems

Alion Science and Technology is an employee-owned technology solutions company delivering technical expertise and operational support to the Department of Defense, civilian government agencies and commercial customers. Has five locations in Maryland including, the Information Technology Modeling and Simulation Research Laboratory (Lanham), the EMI/EMC Test Laboratory (Annapolis), the Locomotive Simulator Facility (Annapolis), and the Chemical Surety Facility (Edgewood).

**American Red Cross - Holland Laboratory for Biomedical Sciences, Rockville**

*American Red Cross*

[http://www.redcross.org/services/biomed/0,1082,0\\_237\\_00.html](http://www.redcross.org/services/biomed/0,1082,0_237_00.html)

Roger Y. Dodd, V.P. Res. & Dev., and Director  
American Red Cross - Jerome H. Holland Laboratory for  
the Biomedical Sciences

15601 Crabbs Branch Way  
Rockville, MD 20855-  
Telephone: (301) 738-0575

Fax:

Personnel: 250 researchers

Keywords: Infectious Disease, Instrumentation

Housed in the Jerome H. Holland Laboratory for the Biomedical Sciences in Rockville, Maryland, the Red Cross biomedical R&D program investigates transfusion-transmissible infections and facilitates improvements in blood collection, processing, and provision. The program's researchers include internationally respected experts in transfusion technology, transfusion-transmitted diseases, and blood component biology. Comprehensive knowledge of the transfusion field and strong relationships with industry partners enable the program's scientists to assess new equipment and technologies and to investigate and recommend procedures to improve patient outcomes. Includes research into transmissible diseases and blood components.

**Battelle, Eastern Science and Technology Center**

*Battelle Corporation*

<http://nationalecurity.battelle.org/default.aspx>

Stephen E. Kelly, Senior V.P. and General Manager  
Battelle, Eastern Science and Technology Center

1201 Technology Drive  
Aberdeen, MD 21001-  
Telephone: (866) 238-8355

Fax:

Personnel: 200 researchers

Keywords: Business Systems, Public Health,  
Biochemistry, Emergency  
Management/Training, Environmental

Battelle is a global science and technology enterprise that develops and commercializes technology and manages laboratories for customers. One of its major research facilities is in Aberdeen, MD. The \$20 million BEST Center, which opened in December 2002, is home to state-of-the-art laboratories and more than 200 scientists, engineers and technical staff, with the goal of better serving biotechnology and health sciences industries and government, public health and academic clients in need of high-value biological and chemical sciences and technology research. The center serves a varied client base with expertise in engineering, public health, knowledge management, studies, analysis and strategic planning. Core skills include: chemical, biological, radiological, nuclear (CBRN) technical support, analytical and forensic services, biotechnology, building protection, systems analysis and program management, engineering products and services, health promotion and preventive medicine, public health and emergency management,

**Biomedical Research Institute (BRI)**

*Biomedical Research Institute (BRI)*

<http://www.afbr-bri.com>

Dr. James L. Leef, Director  
Biomedical Research Institute

BRI is a not-for-profit organization conducting research on malaria and schistosomiasis vaccines, primarily for government agencies.

12264 Wilkins Avenue  
Rockville, MD 20852-  
Telephone: (301) 881-3300  
Fax: (301) 881-7640  
Personnel:  
Keywords: Vaccines

**Mitretek Systems**

*Mitretek Systems*

<http://www.mitretek.org>

Dr. Lydia W. Thomas, President and CEO  
Mitretek Systems

7008 Security Boulevard, Suite 302  
Windsor Mill, MD 21244-  
Telephone: (410) 277-4341

Fax:

Personnel:

Keywords: Environmental, Energy, Transportation

Mitretek Systems is a nonprofit, 501(c)(3), scientific research and engineering corporation that operates in the public interest. Our expertise in conjunction with our objectivity and independence allows us to effectively address challenges of national significance. Mitretek conducts basic and applied research and undertakes systems engineering analyses to create scientific knowledge and technological solutions that strengthen the nation and benefit the public in the areas of criminal justice, environment, healthcare, energy, homeland security and public safety, transportation, and telecommunications. Maryland locations include Baltimore, Bethesda, Camp Springs, College Park, Greenbelt, Linthicum, Silver Spring, Suitland, and Windsor Mill.

**Joint Global Change Research Institute (JGCRI)**

*Pacific Northwest National Laboratory; University of Maryland*  
*PNNL Fundamental Science Directorate; UM Division of Research*  
<http://www.globalchange.umd.edu>

R. Cesar Izaurralde, Director  
The Joint Global Change Research Institute, University of Maryland

8400 Baltimore Avenue, Suite 201  
College Park, MD 20740-2496  
Telephone: (301) 314-6751  
Fax:  
Personnel: 26 staff  
Keywords: Environmental

Devising strategies to minimize the threat of global climate change requires the integration of broad topics in science, economics, technology, and policy. In March 2001, Pacific Northwest National Laboratory and the University of Maryland announced the creation of the Joint Global Change Research Institute, designed to bring together a critical mass of interdisciplinary experts to address global change challenges. The strong global ties and network of the Joint Institute connect its efforts in climate change to national and international policy communities. It is also developing educational opportunities to train university students in these areas.

**Science Applications International Corporation (SAIC)**

*Science Applications International Corporation (SAIC)*  
<http://www.saic.com>

Ken Dahlberg, CEO and Chairman of the Board  
Science Applications International Corporation (SAIC)

20201 Century Boulevard  
Germantown, MD 20874-  
Telephone: (301) 428-7640  
Fax:  
Personnel:  
Keywords: Clinical Trials, Energy, Environmental, e-commerce, Wireless, Transportation

Contracting with both companies and the federal government, this large employee owned company provides services in many areas including: consulting services, life sciences including drug trials, criminal justice, maritime, national security, criminal justice, data mining and data warehousing, outsourcing, energy, physical and cyber security, environment, software development, eSolutions, space, federal contract vehicles, systems integration and program management, financial services, telecommunications, health care, training, imagery, transportation, IT, wireless and knowledge management. Numerous locations throughout Maryland.

**The Aerospace Corporation - Columbia**

*The Aerospace Corporation*  
<http://www.aero.org>

Dr. William F. Ballhaus Jr., President and CEO  
The Aerospace Corporation

8840 Stanford Boulevard, Suite 4400  
Columbia, MD 21045-5852  
Telephone: (410) 312-1400  
Fax: (410) 312-2915  
Personnel: 3,500 staff  
Keywords: Aerospace

The Aerospace Corporation has provided independent technical and scientific research, development, and advisory services to national-security space programs since 1960. It is a federally funded research and development center (FFRDC) for the United States Air Force and the National Reconnaissance Office and supports all national-security space programs.



**The Aerospace Corporation - Silver Spring**

*The Aerospace Corporation*

<http://www.aero.org>

Dr. William F. Ballhaus Jr., President and CEO  
National Polar-orbiting Operational Environmental  
Satellite System (NPOESS) Integrated Program Office

8455 Colesville Road, Suite 1450  
Silver Spring, MD 20910-3320  
Telephone: (301) 427-2080  
Fax: (301) 427-2164  
Personnel: 3,500 staff  
Keywords: Aerospace

The Aerospace Corporation has provided independent technical and scientific research, development, and advisory services to national-security space programs since 1960. It is a federally funded research and development center (FFRDC) for the United States Air Force and the National Reconnaissance Office and supports all national-security space programs.

**The Aerospace Corporation - Suitland**

*The Aerospace Corporation*

<http://www.aero.org>

Dr. William F. Ballhaus Jr., President and CEO  
The Aerospace Corporation

FB4, Room 3316  
4700 Silver Hill Road  
Suitland, MD 20746-  
Telephone: (301) 457-5154  
Fax: (301) 457-5713  
Personnel: 3,500 staff  
Keywords: Aerospace

The Aerospace Corporation has provided independent technical and scientific research, development, and advisory services to national-security space programs since 1960. It is a federally funded research and development center (FFRDC) for the United States Air Force and the National Reconnaissance Office and supports all national-security space programs.

**The Institute for Genomic Research (TIGR)**

*The Institute for Genomic Research (TIGR)*

<http://www.tigr.org>

Claire M. Fraser-Liggett, Ph.D, President and Director  
The Institute for Genomic Research

9712 Medical Center Drive  
Rockville, MD 20850-  
Telephone: (301) 795-7000  
Fax: (301) 838-0208  
Personnel: 30 researchers  
Keywords: Genomics, Bioinformatics

The Institute for Genomic Research (TIGR) is a not-for-profit center dedicated to deciphering and analyzing genomes – the complex molecular chains that constitute each organism's unique genetic heritage. Since it was founded in 1992, TIGR has been at the forefront of the genomics revolution, deepening the understanding of life and producing results with wide-ranging applications in medicine, agriculture, energy, the environment and biodefense. In 1995, TIGR helped launch the genome era with its landmark publication of the first full DNA sequence of a free-living organism, the bacterium *Haemophilus influenzae*. Programs include: Panthema, Pathogen Functional Genomics Resource Center, Microbial Sequencing Center, and Tree of Life. There are also five research groups studying plant genomics, microbial genomics, parasite genomics, viral genomics, bioinformatics, and mammalian genomics.

**Southern Research Institute**

University of Alabama at Birmingham

<http://www.sri.org>

Tina Rogers, Interim President and CEO  
Southern Research Institute

431 Aviation Way  
Frederick, MD 21701-  
Telephone: (301) 694-3232

Fax:

Personnel:

Keywords: Business Systems, Energy

Southern Research Institute is a diversified network of collaborative centers for scientific discovery and technology development. Southern Research is a recognized leader in leveraging more than 60 years of achievement to create innovative solutions for public and private sector clients in the pharmaceutical sciences, automotive, engineering, and environment and energy industries.

**J. Craig Venter Institute**

Venter Institute

<http://www.venterinstitute.org>

J. Craig Venter Institute

9704 Medical Center Drive  
Rockville, MD 20850-  
Telephone: (240) 268-2605  
Fax: (240) 268-4000  
Personnel: 200 researchers  
Keywords: Genomics

J. Craig Venter Institute is a not-for-profit research institute dedicated to the advancement of the science of genomics; the understanding of its implications for society; and the communication of those results to the scientific community, the public, and policymakers. Includes research in human genomic medicine, environmental genomics, synthetic biology and biological energy.

# Common Abbreviations

<i>Full name of agency or university</i>	<i>Abbreviation</i>
Bowie State University	.BSU
Beltsville Agricultural Research Center	.BARC
Centers for Disease Control	.CDC
Food and Drug Administration	.FDA
Johns Hopkins Bloomberg School of Public Health	.JHSPH
Johns Hopkins Medical Institutions	.JHMI
Johns Hopkins Medicine	.JHM
The Johns Hopkins University	.JHU
Johns Hopkins University, Applied Physics Laboratory	.JHU-APL
Morgan State University	.MSU
National Aeronautics and Space Administration	.NASA
National Institute of Health	.NIH
National Institutes of Standards and Technology	.NIST
National Oceanic and Atmospheric Administration	.NOAA
National Security Agency	.NSA
U.S. Department of Defense	.DoD
U.S. Geological Survey	.USGS
U.S. Naval Academy	.USNA
University of Maryland, Baltimore	.UMB
University of Maryland, Baltimore County	.UMBC
University of Maryland Biotechnology Institute	.UMBI
University of Maryland Center for Environmental Science	.UMCES
University of Maryland, College Park	.UMCP
University of Maryland Medical Center	.UMMC
University of Maryland Medical System	.UMMS
University of Maryland University College	.UMUC
Veterans Health Administration	.VHA

# Keywords

DBED developed a list of keywords for internal sorting and query purposes. The keywords are included with each listing immediately below the contact information at the bottom of the left side of the listing. A full list of the keywords is provided below.

To the extent these keywords are properly assigned to the research centers, they provide a means for identifying appropriate research centers by field of study. DBED acknowledges that the assignment of keywords is subjective and may not be complete, and therefore welcomes suggestions for assigning keywords from the research center.

Aerospace	Drug Development	Nucleic Acids
Agriculture	Drug Trials	Orthopedics
AIDS/HIV	e-Commerce	Photonics
Artificial Intelligence	Electronics	Proteins
Astronomy	Emergency	Public Health
Auditory	Energy	Pulmonary
Biochemistry	Environmental	Real Time Systems
Biodefense	Epidemiology	Remote Sensing
Bioengineering	Eye	Robotics
Bioinformatics	Food	Rockets
Biophysical	Forensic	Satellite
Bioprocessing	Gastrointestinal	Semiconductors
Biosciences	Genetics	Sensors
Broadband	Genomics	Signals/Communications
Business Systems	Gerontology	Simulation/Modeling
CAD	GIS/Cartography	Software
Cancer	Health Policy	Stem Cells
Cardiovascular	Imaging	Superconductivity
Cell Culture	Immunological	Surgery
Clinical Care	Infectious Disease	Systems Integration
Clinical Trials	Instrumentation	Toxicology
Computer Networking	Internet	Transportation
Computer Security	Language	Undersea
Computer-Human Interaction	Materials	Vaccines
Cryptography	Mental Health	Veterinary
Data Storage	Microbiology	Video Communications
Database Systems	Musculoskeletal	VOIP
Dental	Nanotechnology/Biology	Warfare
Dermatological	Nanotechnology/MEMS	Wireless
Diagnostic	Neurological	



*Martin O'Malley, Governor ■ Anthony G. Brown, Lt. Governor ■ David W. Edgerley, Secretary*