Center for Study of Gene Structure and Function

Hunter College
City University of New York

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New York, NY 10065

http://genecenter.hunter.cuny.edu

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ABOUT THE GENE CENTER

The Center for Study of Gene Structure and Function (Gene Center) at Hunter College of the City University of New York was established in 1985 through the vision of James Wyche, Harvey Ozer (former Program Coordinators for the Gene Center) and Richard Mawe (former Program Director of the Gene Center) with the support of the "Research Centers in Minority Institutions" Program of the National Center for Research Resources of the National Institutes of Health.

The Gene Center's enterprise initially encompassed only the participation of researchers in the fields of biology and chemistry. However, modern research increasingly demands the elimination of intellectual silos and the promotion of interactions among investigators from many disciplines and ethnicities. The Gene Center fulfilled these demands by expanding to include researchers in the fields of biopsychology, biophysics, bio-anthropology, and researchers from the Hunter School of Social Work and in Urban Public Health.

Since the Gene Center's inception, the growing number of papers published in peer-reviewed journals and the number and amount of grants obtained by the faculty have been the most visible hallmarks of its success. The Gene Center provides a vibrant research environment marked by workshops on cutting-edge research techniques; frequent research colloquia and seminars by guest scientists; an annual international symposium, which is a major event on the New York scientific calendar; and a strong emphasis on collaborative translational research. In addition, the Gene Center encourages bright undergraduates, especially minorities, to develop a career in biomedical research by hosting a Summer Program for Undergraduate Research and supports the professional development of minority scientists through the JustGarciaHill science web site.

The Gene Center is a key partner in the Clinical and Translational Science Center, an enterprise that also includes the Weill Cornell Medical College, Memorial Sloan-Kettering Cancer Center, the Hospital for Special Surgery and the Hunter College School of Nursing. The Clinical Translational Science Center was established in 2007 with the aim of accelerating translational research. The overall goal is to facilitate the transition of laboratory work into state-of-the-art clinical research (T1 research), provide research that improves patient care (T2) and health outcomes in the general community (T3). The Gene Center encourages collaborations among its members and with scientists at these and other institutions. In conjunction with the Clinical Translational Science Center and Weill Cornell Medical College, the Gene Center offers qualified pre-doctoral research associates the opportunity to pursue a certificate in Clinical Translational Research from Weill Cornell Medical College. This track culminates in a PhD from Hunter College of the City University of New York with a certificate or Master's in Clinical Investigation from Weill Cornell Medical College. The Gene Center also participates in a national consortium, the Research Centers in Minority Institutions Translational Research Network which facilitates, collaboration, large scale projects and sharing of facilities among Research Centers in Minority Institutions.

MISSION

- To develop and prepare the next generation of American scientists, including minorities under-represented in the sciences
- To recruit and equip outstanding faculty, including minorities
- To develop and share core research facilities
- To implement strategies for scientific networking
- To build unique collaborations among biologists, biochemists, biopsychologists, biophysicists, bio-anthropologists, and clinicians
- To transform basic research discoveries into clinical applications

GOALS

- Continue to increase and diversify the research faculty with emphasis on:
  - Recruitment of faculty historically underrepresented in the sciences
  - Mentoring of junior faculty to increase their competitiveness in acquiring extramural support and enhancing their visibility as researchers
  - Improve the research environment by increasing the contributions of post-doctoral fellows and graduate students in the research enterprise
- Sponsor complementary activities such as colloquia, workshops, and symposia
- Strengthen the research infrastructure
- Train and encourage students to pursue graduate study in biomedical research
- Participate in translational research with the Clinical Translational Science Center and with the Research Centers in Minority Institutions Translational Research Network

ACCOMPLISHMENTS THROUGH 2010

HIRED OUTSTANDING FACULTY RESEARCHERS

- 20 new outstanding tenure-track faculty members
- 12 are members of groups underrepresented in science

DEVELOPED RESEARCH FACILITIES

- 17 research labs constructed/renovated
- 5 core research facilities constructed
- 3 core research facilities renovated/upgraded

GENE CENTER FELLOWS – PHD STUDENTS

- 13 US Nationals supported by the Gene Center since the program began
- 137 PhD students graduated from Gene Center labs since the program began

GENE CENTER SYMPOSIA (1987-2010)

- 23 international symposia

2010 - Autism: Integrating Genes, Brain and Behavior

- Total attendance exceeds 600 (students, faculty, clinicians); there are 60 poster presentations
- Sheila McClure, Director RCMI/NCRR/NIH delivers opening remarks
- Gene Center collaborates with the New York Academy of Sciences to produce annals, a brief report that provides rapid, high-profile dissemination of the symposium proceedings as concise summaries

2009 - Translational Cancer Research: Bench, Bedside and Community

- Dr. Sidney McNairy, Director RCMI/NCRR/NIH delivers opening remarks
- Gene Center collaborates with the New York Academy of Sciences to create podcast and annals
- Gene Center creates its first online synchronized slide/video recordings of the symposium
- Speakers include faculty members from the Clinical Translational Science Center

2008 - Frontiers of Nanotechnology & Biotechnology: Integrating and Intervention

- Gene Center co-sponsors first symposium with the Clinical Translational Science Center
- Julianne Imperato-McGinley, Principal Investigator of the Clinical Translational Science Center and Willie McCullough, Director, Research Facilities Improvement Program, National Center for Research Resources of the National Institutes of Health/National Institute of Health delivers opening remarks
- Symposium committee includes members from the Clinical Translational Science Center

2007 - Evolution, Health and Disease

- Keynote speaker: Luigi Luca Cavalli-Sforza
- Speaker: Arata Kochi, World Health Organization

2005 (January) - Chemical Biology: Intervention in Cells Based on Chemical Principles

2005 (December) - Minorities, Race, Genomics and Health Inequities: What are the Connections?

- The Gene Center organizes two symposia this year
- Gene Center collaborates with the New York Academy of Sciences to create eBriefing

2004 - Life and Death in the Brain

- Speaker: Eric Kandel, recipient of the 2000 Nobel Prize in Physiology or Medicine for his research on the physiological basis of memory storage in neurons

2002 - Singing in the Brain

- The Gene Center's first two-day symposium
- Speaker: Eric Jarvis, 2002 recipient of the National Science Foundation's Alan T. Waterman Award
- Proceedings in Annals of the New York Academy of Sciences (Volume 1016; Editors H. Philip Zeigler and Peter Marler)

2001 - Connection to the Nano World

2000 - Molecular Pathways to Cancer

1999 - Virtual Higher Education? Critical Perspective

- Speaker: Neil Postman, author of Amusing Ourselves to Death: Public Discourse in the Age of Show Business (1985)

1998 - Materials for the 21st Century and Beyond

- Speaker: Jean-Marie Lehn, recipient of the 1987 Nobel Prize in Chemistry and David Baltimore, recipient of the 1997 Nobel Prize in physiology address conference participants

1997 - Biotechnology: How Basic Research Drives Medical Applications

- Speaker: Alan Colman, PPL Therapeutics, United Kingdom (helped clone Dolly the sheep in 1996 with Ian Wilmut et al.)

1996 - Glycoconjugates: Cellular Messengers and Mediators

1995 - Apoptosis (Programmed Cell Death)

1994 - New Approaches to Cancer Chemotherapy

1993 - Neurobiology

- Speaker: Sidney Altman, recipient of the 1989 and 1992 Nobel Prize in Physiology or Medicine for his research on the physiological basis of memory storage in neurons

1992 - The World of RNA

1991 - Signal Transduction

- Speaker: Robert Horvitz, recipient of the 2002 Nobel Prize in Physiology.

1990 - HIV and AIDS: Designing the Next Generation of Anti-Viral Agents

1989 - Molecular Basis of Gene Regulation

1988 - Molecular Basis of Development: From Genes to Organism

1987 - Recognition of DNA by Proteins and Drugs

- The Gene Center organizes its first international symposium, with support from the Research Centers for Minority Institutions, National Center for Research Resources, and National Institute of Health

COLLABORATIVE NETWORKS

- Clinical Translational Science Center with the Weill Cornell Medical Center, Memorial Sloan-Ketterinng Cancer Center, Hospital for Special Surgery, Hunter College School of Nursing, and Cornell University Cooperative Extension in NYC
- 18 Research Centers for Minority Institutions Research Translational Network sites

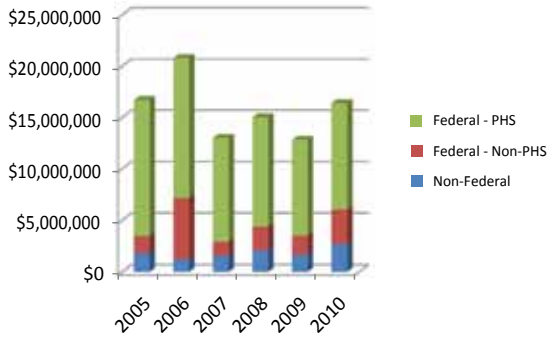
GENE CENTER RANKING

- NIH funding rank among all Research Centers for Minority Institutions Centers (18) – 7th
- NIH funding rank among Research Centers for Minority Institutions Centers without a Medical School (8) – 2nd

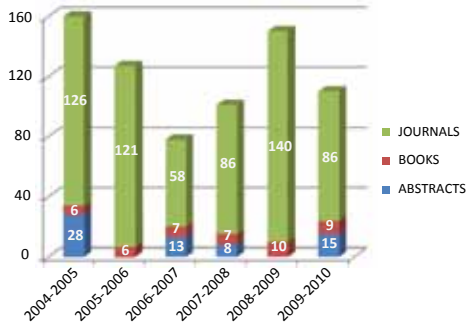
NIH FUNDING

- Hunter College NIH ranking – 217th
- Hunter College NIH R01 awards
  - 14 in 2003
  - 20 in 2006
  - 20 in 2008
  - 9 in 2009
  - 10 in 2010
- $13.2M award from NCRR for 2005-2010
- $2.6M ARRA award in 2009

GENE CENTER EXTERNAL GRANT FUNDING



GENE CENTER PUBLICATIONS 2004-2010



FUNDING AGENCIES

The Gene Center receives support primarily from the Research Centers in Minority Institutions Program of the Division of Research Infrastructure of the National Center for Research Resources of the National Institutes of Health (http://www.ncrr.nih.gov/research_infrastructure/research_centers_in_minority_institutions/), Grant Number G12 RR-03037, and a Clinical and Translational Science Award grant to the Clinical and Translational Science Center, (http://www.med.cornell.edu/ctsc) – UL RR024996.

The **Research Centers in Minority Institutions Program** of the National Institutes of Health enhances the research capacity and infrastructure at minority colleges and universities that offer doctorates in health sciences. http://www.ncrr.nih.gov/research_infrastructure/research_centers_in_minority_institutions/

The **National Center for Research Resources** 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, to move to animal-based studies, and then be translated to patient-oriented clinical research, resulting in cures and treatments for both common and rare diseases. The National Center for Research Resources connects researchers with one another, as well as with patients and communities across the nation, to harness the power of shared resources and research. http://www.ncrr.nih.gov

The **National Institutes of Health**, a part of the U.S. Department of Health and Human Services, is the primary federal agency for conducting and supporting medical research. Composed of 27 Institutes and Centers, the National Institutes of Health provides leadership and financial support to researchers in every state and throughout the world. Its mission is science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability. http://www.nih.gov

The mission of the **Clinical and Translational Science Center** is to provide an environment that allows optimal use of our considerable multi-institutional assets and the diversity of our patient population to move translational research seamlessly from bench to bedside and into the community. The Clinical Translational Science Center acts as a conduit through which essential resources, technological tools and education programs for all partners can be efficiently shared and managed.

Integral to Weill Cornell's Strategic Plan for Research, which was initiated seven years ago, the plan for the Clinical Translational Science Center brought to fruition the integration of existing inter-institutional resources among neighbors on York Avenue and partner institutions in the immediate area. The resulting cluster of East Side institutions forms a unique and cohesive biomedical complex fulfilling the National Institutes of Health roadmap initiative of breaking down institutional silos and barriers separating scientific disciplines to accelerate the clinical application of basic science discoveries. http://www.med.cornell.edu/ctsc

ADMINISTRATION

Hunter College President, Jennifer Raab, is the Principal Investigator of the Research Centers in Minority Institutions grant.
Dr. Robert Dottin is the Program Director (on sabbatical).
Dr. Jesus Angulo is the Interim Program Director.
Dr. Rodrigo Valles is the Associate Program Director.
An External Advisory Committee appointed by the Principal Investigator and the Program Director in consultation with the Research Centers in Minority Institution, National Centers for Research Resources, National Institutes of Health, monitors, evaluates and helps shapes the activities of the Gene Center.
Dr. Julianne Imperato-McGinley is the Director and Principal Investigator of the Clinical Translational Science Center grant.
Dr. Robert Dottin is the Principal Investigator of the Hunter portion of the the Clinical Translational Science Center grant.

GENE CENTER MEMBERS

The Gene Center currently has 53 faculty researchers investigating a broad spectrum of exciting areas in biomedical research. Their work includes determining the structure of proteins and nucleic acids by x-ray diffraction and molecular modeling; characterizing protein-protein interactions involved in signal transduction; discovering the mechanisms of neuron regeneration; designing new therapeutic drugs; and using nanotechnology for medical therapeutics.

Gene Center members are highly respected leaders engaging in research that is recognized and rewarded at the highest levels:

In 1997, Dr. Jill Bargonetti-Chavarri, Professor of Biological Sciences, received the Presidential Early Career Award for Scientists and Engineers, the highest governmental honor bestowed on scientists at the beginning of their research careers. Bargonetti was commended for her research on P53, a gene that helps suppress tumor cells, and her multicultural approach to teaching.

In 2005, Dr. Derrick Brazill, Assistant Professor of Biological Sciences, received the prestigious Presidential Early Career Award for Scientists and Engineers after winning a 2004 Faculty Early Career Development Program Award from the National Science Foundation for his work on cell density sensing in Dictyostelium.

Dr. Marie T. Filbin, a Distinguished Professor of Biological Sciences, was named co-recipient of the prestigious Ameritec Prize for Paralysis Research.

Dr. Steven Greenbaum, Professor of Physics, was one of 10 individuals to receive the 2002 Presidential Awards for Excellence in Mathematics, Science and Engineering Mentoring text. For over twenty years, Dr. Greenbaum has inspired and mentored students who have become major figures in industry, academia and research institutions including MIT, NASA Goddard Institute for Space Studies, Duke University, and DuPont.

RESEARCH HIGHLIGHTS OF GENE CENTER MEMBERS

JILL BARGONETTI, PHD

Dr. Bargonetti has worked on cancer biology in the area of tumor suppression since 1990. From 1990 until 1994 she worked with Professor Carol Prives with whom she co-authored 10 publications which were amongst the first to establish the structure and function of wild-type p53 and oncogenic mutant variants of p53.

Elucidating Pathways that Regulate p53 Function

The tumor suppressor p53 is mutated in greater than 50% of cancers and such cancers often produce dominant gain-of–function oncogenic mutant p53. Therapeutic approaches that do not target the p53 pathway, but rather focus on activating alternative pathways for the initiation of cell death, could prove to be more effective treatments that will shift current clinical practice to focus on the p53 status of a cancer. Dr. Bargonetti and her colleagues are currently working on defining effective ways to kill cancer cells that either have mutant p53 or dysfunctional p53 due to over-expression of the oncogenic protein Mdm2. High level expression of the estrogen receptor in breast cancers can cause high levels of oncogenic Mdm2. The studies in her laboratory will advance our understanding of novel therapeutics that induce p53-independent cell death for cancer treatment options that respond to the challenges of chemotherapeutic resistance.

Educating the Next Generation of Multi-ethnic Scientists

Dr. Bargonetti has graduated 10 PhD recipients who have worked on projects elucidating how p53 and Mdm2 function as well as determining how specific forms of DNA-damage can induce p53-independent cancer cell death.

Awards Received

Dr. Bargonetti was awarded the Presidential Early Career Award for Scientists and Engineers by President Bill Clinton in 1997. She received research grants from the National Science Foundation, the National Institutes of Health, the American Cancer Society, the Department of Defense Breast Cancer Research program, and the Breast Cancer Research Foundation. She was a member of the National Cancer Policy Board from 2002 until 2005 (a board of the Institution of Medicine and National Research Council of the National Academies) and continues to consider how cancer therapy can be improved through targeted treatments.

http://biology.hunter.cuny.edu/index.php?option=com_content&view=article&id=73%3Ajill-bargonetti&Itemid=44

WAYNE HARDING, PHD

Dr. Harding, Assistant Professor of Chemistry, joined Hunter College in September 2006. His research encompasses medicinal chemistry and natural products drug discovery, with a particular focus on CNS-active agents. Throughout his career Dr. Harding has isolated and characterized over 40 natural products, more than 20% of which were new metabolites. Prior to his appointment at Hunter College, he was involved in research projects investigating chemical transformations and biological evaluations on the hallucinogenic diterpene natural product salvinorin A. Current projects in the Harding lab typify his research interests:

1) Synthesis and structure-activity relationship (SAR) studies on the aporphine alkaloid nantenine as an antagonist of the club drug MDMA ("Ecstasy").

"Ecstasy" (MDMA) is a drug of abuse that causes several adverse effects in humans including the development of a "fever-like" increase in body temperature known as hyperthermia. Hyperthermia can in turn lead to serious kidney and liver damage. Studies show that Ecstasy users underperform in certain memory and cognitive tasks. Some Ecstasy users meet the criteria for addiction to the drug. Currently, there are no medications specifically approved to treat Ecstasy overdose or addiction.

The naturally occurring alkaloid nantenine from the plant Nandina domestica, was shown to reverse hyperthermia as well as a range of other MDMA-mediated effects in animal studies. This compound blocks 5-HT2A receptors and a1A adrenergic receptors present in the central nervous system. In order to improve the potency of nantenine in blocking the effects of MDMA, is the Harding lab aims to improve the 5-HT2A and a1A blocking activity of the compound. However, before this can be done it must first be understood what portions of the molecule are responsible for binding to and blocking these receptors. This information is obtained through a structure-activity relationship (SAR) study, wherein small structural changes are made to the molecule via synthetic chemistry methods and the effect of these changes is then evaluated at the receptors in question.

Dr. Harding's lab has synthesized several derivatives of nantenine for SAR studies at 5-HT2A and a1A receptors. These efforts resulted in the identification of a molecule with a 12-fold increase in its ability to block the 5-HT2A receptor as compared to nantenine. The lab optimized the chemical synthesis of the nantenine analogs using a microwave-assisted direct arylation reaction recently developed in the lab.

2) Chemical and biological investigations of CNS-active plants.

Dr. Harding's lab is currently isolating and characterizing natural products from plants with reputed CNS activity. Once isolated the compounds are submitted for CNS receptor binding assays and behavioral assays as necessary. In addition to validating or refuting widely held ethnopharmacological claims, these investigations have the promise of uncovering novel molecules that may be useful as selective CNS receptor probes or as chemical templates for drug development efforts.

Dr. Harding collaborates with pharmacologists from Research Triangle Institute, the University of Arkansas Medicine School and the Mount Sinai School of Medicine.

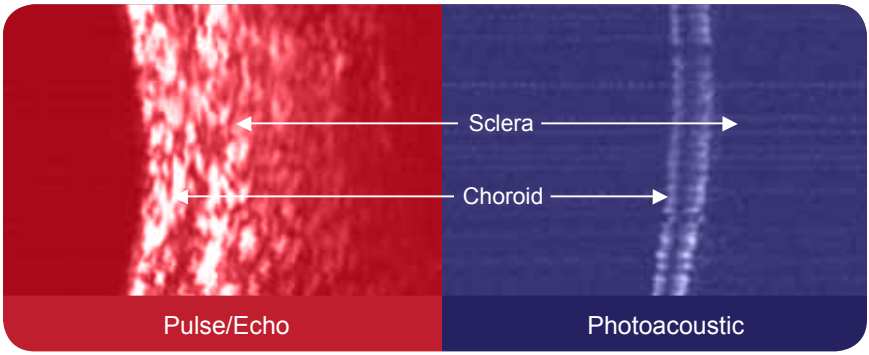
http://www.hunter.cuny.edu/chemistry/faculty/Wayne/Wayne

YING-CHIH CHEN, PHD

Dr. Y.C. Chen, Professor of Physics and Astronomy, joined Hunter College in 1987. Dr. Chen received his undergraduate degree in physics from National Taiwan University, Taipei, Taiwan. He obtained his MA, MPh and PhD degrees in physics from Columbia University where he continued as a Postdoctoral Fellow From 1978-1980. Before pursuing an academic career, Dr. Chen was a scientist and research manager with Exxon Enterprises (1979 to 1983) and GTE Laboratories (1983 to 1987), where he participated in the development of diode lasers for the world's first fiber-optic communication systems and optical disk drivers. At Hunter College, Dr. Chen teaches physics and special optics courses, and conducts research on laser physics, laser spectroscopy, nonlinear optics, and the application of lasers to biomedical imaging and sensing.

Since 2008, Dr. Chen has been working with Dr. Ronald Silverman of the Ophthalmology Department of Weill Cornell Medical College to develop photoacoustic imaging techniques for clinical examination of ocular tissues. Dr. Silverman was using pulse/echo ultrasound to image the eye. By way of the Clinical Translational Science Center, he collaborated with Dr. Chen whose expertise is in applications of focused scanning laser technology. Their studies resulted in vastly improved resolution (10 fold) of photo-acoustic imaging over pulse/echo ultrasound imaging. As a result of this breakthrough it will be possible to image many anatomical eye abnormalities/tumors at earlier stages or in greater detail. The team is conducting further studies to improve contrast using nano-particles and to reduce laser scattering for improved detection of tumors of the eye and skin. The winter 2010 issue of NCRR Reporter, which focuses on collaboration, highlighted the results. The article is available at: http://www.ncrr.nih.gov/publications/ncrr_reporter/winter2010/research_to_reality.asp

Dr. Chen is a staff member of the New York State Center for Advanced Technology for Photonics Applications at CUNY, which provides technology support for the photonic industry in New York State. He has over 100 publications that cover a wide range of topics in optics. He currently holds 9 U.S. patents.



http://www.hunter.cuny.edu/physics/faculty/chen/home

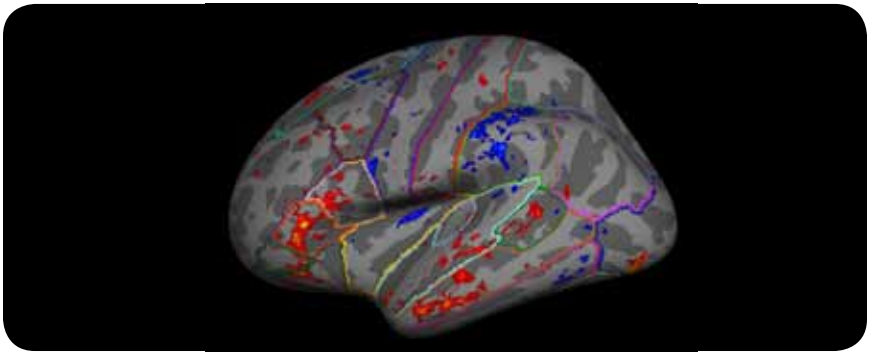
MARIANN WEIERICH, PHD

Neural and Behavioral Mechanisms of Affective Processing

Dr. Mariann Weierich, Assistant Professor of Psychology, joined Hunter College in 2009. Before coming to Hunter, she held a postdoctoral position at Martinos Center for Biomedical Imaging (Massachusetts General Hospital/Harvard Medical School). Dr. Weierich received her PhD in clinical psychology from Yale University in 2005. She also has training in cognitive psychology (vision science) and neuroscience. Dr. Weierich's research focuses on how the brain and the visual system process affective information. In healthy people, the brain and the visual system prioritize negative information over positive or neutral information, physiologically arousing over non-arousing information, and novel over familiar information. These tendencies are present in most people, and they allow people to prioritize objects or locations that might have an immediate influence on their well-being. However, when the normal pattern of processing in the brain and the visual system is over-active or under-active, people experience problems. At the extremes, anxiety states and disorders, including posttraumatic stress disorder (PTSD), are characterized by maladaptive neural and behavioral processing of affect. Dr. Weierich uses a variety of methods, including computerized visual tasks modified from vision science and functional magnetic resonance imaging (fMRI), to investigate the mechanisms underlying both normative and maladaptive affective processing.

Dr. Weierich conducts behavioral experiments centering on the role of visual attention in affect and anxiety. Some of these experiments involve state-of-the-art eye-tracking technology in scene perception, which allows measurement of how people might actually direct their attention to threatening information in the world. Dr. Weierich also uses fMRI to measure patterns of brain activation underlying scene processing in people with anxiety, trauma-exposure, and PTSD.

Figure. Left lateral view of disengagement from negative minus neutral stimuli in healthy participants. Greater activation in dorsolateral prefrontal cortex (control of affective responding) and lesser activation in parietal cortex (motor response) suggest delayed disengagement from negative minus neutral stimuli.



http://www.hunter.cuny.edu/psychology/faculty/clinical-psychology/weierich-1

GENE CENTER CORE FACILITIES

The Gene Center has a series of core facilities dedicated to providing the latest equipment and knowledge necessary to assist researchers in their work. These facilities provide foundational research support and technology for our research consortium.

- X-ray Diffraction Facility
- Nuclear Magnetic Resonance Facility
- Digital Bio-Imaging Facility
- Network Facility
- Animal Care Facility
- FACS Facility (Flow-Cytometry)
- Internet2 Videocollaboration Facility

GENE CENTER EVENTS

The Gene Center sponsors scientific events such as:

- an annual international symposia, hosted in conjunction with the Clinical Translational Science Center
- seminars
- colloquia

These events are essential to the professional development of faculty, graduate researchers and students.

GENE CENTER EDUCATIONAL PROGRAMS

The Summer Program for Undergraduate Research (SPUR) is a program designed to increase the number of students, primarily minorities, entering science careers. The program plays a significant role by encouraging and preparing them to pursue graduate studies in science research at a crucial time in their undergraduate studies.

The Gene Center Predoctoral Translational Research Associate Program will recruit and support outstanding U.S. and permanent resident PhD candidate researchers into Gene Center labs. The program is similar to the existing Gene Center Fellows program, but promotes translational research, culminating in a PhD from Hunter College, City University of New York with a certificate Master's degree in Translational Research from the Clinical Translational Science Center with Weill Cornell Medical College.

The Gene Center Postdoctoral Support Program provides opportunities for recent PhD researchers, many of whom are from communities underrepresented in the sciences, to continue to pursue their research interests in a biomedical field. The program serves to increase the research productivity at the at the Gene Center, which relies significantly on contributions by postdoctoral researchers.

Please visit http://genecenter.hunter.cuny.edu for more information.

HUNTER COLLEGE CLINICAL TRANSLATIONAL SCIENCE CENTER AWARDEES

Gene Center scientists have been actively involved in several collaborative research projects with scientists at Weill Cornell Medical College and Memorial Sloan-Kettering Cancer Center. The table below shows Hunter College 2007-2010 Clinical Translational Science Center awardees.

** indicates investigator was a previous Gene Center pilot project awardee.

	Awardee	Topic
	2010 - 2012	
	Darrell Wheeler	Improving community health outcomes
	Robert Dottin	
	Yuhang Ren	Estrogen anti-inflammatory actions in the CNS
	**Vanya Quinones-Jenab	Facilitation of electron transfer as novel therapeutic approach
	**Maria Figueiredo-Pereira	Effect of mercapto pyridyl ligands on amyloid-beta aggregation
	Hiroshi Matsui	Label-free cancer cell detection with electric sensor chips
	Shirzab Jenab	Biochemical attenuation of methamphetamine toxicity
	Richard Chappell	Development of a self-referencing zinc probe for prostate cancer
	2008-2010	
	**Lynn Francesconi	Production of 89Zr and radiolabeling of monoclonoal antibodies
	Thomas Schmidt-Glenewinkel	Translational approach to stabilizing proteasome function
	Ying Chih Chen	Photoacoustic imaging of superficial tissues
	Michael Drain	Glycosylated Porphyrinoids for Therapeutics and Imaging
	Robert Dottin	Enhancing Communication Among Research Collaborators

	Awardee	Topic
	2007-2009	
	**Marie Filbin	Activation of soluble adenylyl cyclase to promote axonal regeneration in vivo
	Shirzab Jenab	Neurotoxic effects of methamphetamine
	David Mootoo	C-glycoside based cancer vaccines
	Ben Ortiz	T cell receptor-alpha gene locus control
	**Vanya Quinones-Jenab	Are estrogens antihyperalgesic effects on inflammatory pain mediated through activation of the HPA axis?

EDUCATION AWARDS TO HUNTER COLLEGE GRADUATE STUDENTS AND POSTDOCS

The CTSC offers both postdoctoral KL2 and pre/post-doctoral TL1 training awards (awards to cross-train students and researchers in translational research including areas such as human subjects research, biomarkers, IRBs, HIPPA, clinical trial design, and analysis, and biomedical informatics) to eligible investigators from across the CTSC partner institutions. The table below shows Hunter College Gene Center graduate student and postdoctoral fellows awardees.

Awardee	Award Type	Specialty
2010		
Paige Yellen	TL1	Genetics
Marie McAnuff		Signal Transduction
2008		
Natura Myeku	TL1	Neurodegeneration

RESOURCES

The Gene Center provides a number of resources available to faculty, postdoctoral fellows and graduate students to enhance learning and research.

- Pilot projects
- Professional development workshops
- Study Skills for Budding Scientists web site
- Infrastruture support
- Weill Cornell Online Library Access
- Collaborative tools in Internet2 video facility for members to interact with researchers from the CTSC, RTRN and the IDEA community

AFFILIATIONS

- Justgarciahill (www.justgarciahill.org)
- Leadership Alliance (www.theleadershipalliance.org)
- New York City Minority Student Network