



## FROM THE ASSOCIATE PROVOST FOR RESEARCH

### IBC Electronic Submission Process Expands

In November 2007 MUSC introduced the ability to submit applications on line to the Institutional Biosafety Committee (IBC) as part of the Electronic Research Management Applications package (ERMA). Since then MUSC investigators have submitted more than 110 applications for use of recombinant DNA, microbes, and/or biotoxins.

A recently released enhancement to ERMA enables an electronic process to amend active, approved IBC registrations. Investigators can initiate this process from a link on the checklist page for each approved IBC registration.

The next improvement – coming soon – will be an online continuing review application. Instead of re-registering each year by submitting an entire application, investigators will be able to submit an annual checklist form for two years following initial IBC approval, along with an amendment application for any changes not previously submitted as an amendment. When the electronic continuing review system is operational, PIs whose IBC registrations are due for renewal will receive automated reminders.

While termination has not yet been converted to an electronic on-line process, the termination form is available as a link on the ERMA IBC investigator home page at <http://erma.musc.edu/> and the IBC web site (<http://research.musc.edu/ori/ibc/forms.htm>). Investigators should complete and submit this form when no longer using an IBC registered agent and before leaving MUSC so the IBC can ensure that registered agents are properly transferred or disposed.

Investigators who are currently registered with the IBC or plan to be soon should go to <http://erma.musc.edu> to check out the electronic registration and amendment process. Anyone with questions, problems, and suggestions concerning the electronic IBC registration process may contact Cynthia Karr, PhD, IBC Program Manager ([karrc@musc.edu](mailto:karrc@musc.edu)). For issues concerning laboratory inspection, safety protocols, and additional assistance with IBC registration, the primary contact is Daniel Eisenman, PhD, Biosafety Officer ([eisenman@musc.edu](mailto:eisenman@musc.edu)).

## Abstracts for American Head and Neck Society meeting are due January 9, 2009

The American Head and Neck Society (AHNS) invites interested parties to participate in its 2009 Annual Meeting. Held during the Combined Otolaryngology Spring Meetings (COSM), this two-day meeting will present the best scientific findings related to head and neck cancer treatment from a clinical and research perspective.

Interested participants may submit abstracts on-line now. **Deadline for submission is Monday, January 9, 2009.** Abstracts may be selected for either oral or poster presentations. Accepted abstracts will be published in the on-site Final Program.

All participants may compete for one of the following AHNS-sponsored awards:

- *Robert Maxwell Byers Award* – \$1,000 for the best clinical research paper submitted to the meeting. All accepted oral presenters may compete for this award.
- *Best Resident Basic Science Research Paper* – \$500. Only residents in training can compete for this award and must attest that they performed at least 80% of the work.
- *Best Resident Clinical Paper* – \$500. Only residents in training can compete for this award and must attest that they performed at least 80% of the work.
- *Best Prevention and Early Detection Papers* – \$500 for 1<sup>st</sup> place, \$250 for 2<sup>nd</sup> place. All accepted oral presenters may compete for this award.

Participants wishing to compete for an award must submit a completed manuscript to the Chair of the Awards Committee by April 3, 2009 to be eligible. All participants who intend to submit a manuscript for competition must check the appropriate box on the abstract submission form. Only previously unpublished manuscripts will be considered.

Authors of abstracts accepted for oral presentations must submit a full manuscript to the AHNS journal, *Archives of Otolaryngology-Head & Neck Surgery* by 5 pm EST Friday, May 1, 2009. This deadline precedes the start of the meeting by several weeks..

Anyone with relevant subject matter may submit an abstract for the meeting, whether or not a member of AHNS. For more information, please visit [www.ahns.info/abstracts](http://www.ahns.info/abstracts).

Source: MUSC Broadcast message, Oct. 9, 2008

## Mock site visit for Program Project Grant (PPG) on Dec. 12<sup>th</sup> will be good learning experience

Members of the MUSC research community will have an excellent opportunity to observe the peer review process in action first-hand on Friday, December 12<sup>th</sup>, when a team of collaborative researchers led by Dr. Barbara Tilley will participate in a mock site visit to fine-tune a Program Project Grant (PPG) proposal they plan to submit to the National Institute on Aging in late January. The Office of Research Development is coordinating the special review meeting on behalf of the research team, which includes faculty investigators

from the Departments of Biostatistics, Bioinformatics & Epidemiology, Family Medicine and Surgery.

The title of the Program Project is “Perceived Discrimination and the Health of Minority Elders.” It entails 4 research sub-projects that are equivalent to individual R01-type research projects as well as two cores, the Administrative Core directed by Dr. Tilley, and the Methods Core directed by Dr. Mulugeta Gebregziabher. The research projects are:

- Project 1    Telemore Length, Perceived Discrimination, and Aging-Related Diseases  
                  PI: Arch Mainous, PhD, Professor of Family Medicine, MUSC
- Project 2    Discrimination, Acculturation, and Management of Diabetes and CVD in Older Latinos  
                  PI: Vanessa Diaz, MD, Assistant Professor of Family Medicine
- Project 3    Effect of Perceived Discrimination on Referral and Recruitment to Clinical Trials  
                  PI: Barbara Tilley, PhD, Professor of Biostatistics, Bioinformatics & Epidemiology
- Project 4    Addressing Disparities in Non-small Cell Cancer Surgical Resection Rates  
                  PI: Marvella Ford, PhD, Associate Professor of Biostatistics, Bioinformatics & Epidemiology

Peer reviewers for this special grantsmanship event include: Ron Acierno, PhD, Associate Professor of Psychiatry & Behavioral Sciences at MUSC; Anthony Coelho, MD, Senior Associate with Health Research Associates of Rockville, MD and former Senior Review Officer at the National Institutes of Health; Brent Egan, MD, Professor of Medicine and Pharmacology at MUSC; David Garr, MD, Professor of Family Medicine at MUSC; Elizabeth LeTourneau, PhD, Associate Professor of Psychiatry & Behavioral Sciences, MUSC; and Deanne Hilfinger Messias, PhD, RN, FAAN, Associate Professor of Nursing and Graduate Director of Women’s and Gender Studies, University of South Carolina Carolina’s Arnold School of Public Health.

All interested members of the MUSC research community – students, trainees, junior and established investigators – are invited to observe. The session will begin promptly at 2:30 on Friday, December 12<sup>th</sup>, in the Hollings Cancer Center Conference Room (Rm. 120) and conclude by 6:30 pm.

For more information about the mock site visit, please email Peggy Schachte, Director of the Office of Research Development at [schachte@musc.edu](mailto:schachte@musc.edu) or Heather Ferguson, [fergush@musc.edu](mailto:fergush@musc.edu), or call 792-5828.

### **Apply now for beam time on Oak Ridge National Laboratory resources**

Oak Ridge National Laboratory is accepting proposals for beam time at the High Flux Isotope Reactor (HFIR) and the Spallation Neutron Source (SNS) facilities until noon ET on **January 5, 2009**, via the web-based proposal system. This call is for experiments to run from March through September 2009. Details about the Call for Proposals are available on the ORNL Neutron Sciences website at <http://neutrons.ornl.gov/> or download the flyer [here](#).

*Source: MUSC’s broadcast email, November 17, 2008.*

### **Next Research Project Grant (RPG) Retreat will be Saturday, January 24<sup>th</sup>**

The Office of Research Development (ORD) will offer the next Research Project Grant (RPG) Retreat on Saturday, January 24<sup>th</sup>, from 8:30 AM to 1:30 PM in the Hollings Cancer Center Conference Center (1<sup>st</sup> floor HCC). The purpose of RPG Retreats is to give investigators an opportunity to participate in pre-submission critiques of research grant applications. The ultimate objective is to enhance grant competitiveness and likelihood of success.

At each RPG Retreat three to five investigators present summaries of research grant or career development award proposals they plan to submit or, in the case of a revised application, resubmit in the near future. A panel of peer reviewers provides constructive criticism and suggestions to strengthen the proposal. Members of the audience also contribute suggestions or ask questions about the research aims or design.

Investigators at any career point – from early-stage to established – who want constructive criticism on a research proposal are encouraged to sign up as a presenter. All members of the MUSC research community are encouraged to attend as audience participants. The opportunity to learn by example is significant.

Presenters must plan to attend the full program, while audience members and other colleagues may be more flexible. A range of refreshments is provided. RPG Retreats do not involve any fees or charges, as they are part of the Office of Research Development's portfolio of institutional services offered at no cost to participants.

The presenters on January 24<sup>th</sup> will include: Bernadette Cortese, PhD, Postdoctoral Scholar, Department of Psychiatry and Behavioral Sciences; Lisa Cunningham, PhD, Assistant Professor of Pathology and Laboratory Medicine; Cynthia Hudson, DNSc, Assistant Professor of Nursing; and Michael Hughes, MD, Assistant Professor of Surgery.

Individuals interested in presenting or attending on January 24<sup>th</sup> or a future RPG Retreat should contact Peggy Schachte, Director, MUSC Office of Research Development, 792-0868, e-mail [schachte@musc.edu](mailto:schachte@musc.edu). Additional information and on-line registration are available at <http://research.musc.edu/rpgretreat.html>.

### **Word spreads at MUSC regarding myPeerReview database**

The Office of Research Development (ORD) offers a searchable on-line database of MUSC faculty with peer review experience. myPeerReview is a service to MUSC researchers and trainees, especially new investigators, who are looking for mentoring or advice with regard to submitting a grant proposal or scientific paper for publication.

To develop myPeerReview initially, ORD garnered information from biographical sketches regarding service on grant and editorial review panels at the national level. Types of reviews range from ongoing service on a standing study section or editorial board to special emphasis panels and ad hoc reviews.

In November the database added 47 new members and now includes. Approximately 250 researchers and a total of 457 peer review committee entries and 853 journal entries.

Sponsors of interest include: National Institutes of Health, Agency for Healthcare Research and Quality, National Library of Medicine, Health Services and Resources Administration, Department of Defense, American Cancer Society, American Heart Association, Juvenile Diabetes Association International, National Science Foundation, National Aeronautics and Space Administration and Department of Energy. Examples of journal editorial service include: Journal of Neuroscience Research, The Journal of Nutrition, Behavior Modification and the American Journal of Epidemiology.

Developed by ORD in conjunction with Satya Phanse and John Imholz of MUSC's Information Services, myPeerReview is available on the MUSC Research Website at <http://research.musc.edu/myPeerReview.html>

ORD invites all members of the MUSC research community to improve and expand the database by adding, updating and/or correcting their information. As always, ORD welcomes your comments and suggestions about this service as well as other ORD activities and offerings. Please email your queries concerning the database to Janet Johnson ([johnsjn@musc.edu](mailto:johnsjn@musc.edu)).

#### **Grantsmanship seminar and consultations are available December 11-12**

The Office of Research Development's Winter Grantsmanship Seminar will be presented by Anthony Coelho, PhD, on the afternoon of Thursday, December 11<sup>th</sup>. Dr. Coelho is a Senior Associate with Health Research Associates and has been consulting with MUSC investigators on grantsmanship issues during the past two years. Prior to becoming a grantsmanship consultant, Dr. Coelho served for 15 years as a senior administrator at the National Institutes of Health, and before that was a well-funded NIH investigator at the University of Texas-San Antonio.

Dr. Coelho's seminar is a lecture-style presentation covering the NIH organization, peer review system, grantsmanship tips, and ABCs of an R01-style proposal. It will occur in College of Nursing Building Room 220, from 3:00 to 5:00 PM on Thursday, December 11<sup>th</sup>. It is an excellent opportunity for anyone wishing to learn about NIH grant application and peer review processes from someone with experience on both sides – from inside the NIH administration as well as an NIH-funded researcher and reviewer.

In addition, Dr. Coelho will be available for grantwriting consultations with individual investigators or research teams on the morning of Thursday, December 11<sup>th</sup> and all day on Friday, December 12<sup>th</sup>.

If you are interested in attending the workshop or signing up for a consultation, please contact Heather Ferguson at [fergush@musc.edu](mailto:fergush@musc.edu) or 792-5828. The Office of Research Development offers these activities at no charge as a service to members of the MUSC community.

### **MUSC's Cell and Molecular Imaging Core serves as Olympus Reference Site**

MUSC's Cell and Molecular Imaging Core is proud to serve as an Olympus Reference Site, housing an Olympus FluoView1000 MPE intravital confocal/multiphoton microscope in the School of Pharmacy, (QF414). This state-of-the-art microscope is configured especially for intravital imaging of tissues and organs in living animals. A multiphoton infrared laser and multiple visible wavelength lasers permit visualization of a wide range of fluorophores with optics especially designed for deep tissue imaging.

MUSC investigators are welcome to use the instrument for their research projects. There will be an hourly fee for use of the microscope that has not been set yet. Please email Dr. Venkat Ramshesh at [ramshes@musc.edu](mailto:ramshes@musc.edu) for more information about this microscope.

### **NSF 101 Workshop is Dec. 18<sup>th</sup>**

Mark your calendar for Thursday, December 18 at 4 pm, Room 433 BSB, to join us for an informal dialogue with Dr. Greg Warr, former Professor of Biochemistry and Molecular Biology at MUSC. Greg is currently a Program Director in the Biological Sciences Directorate at the National Science Foundation. He has kindly offered to share first hand information on NSF opportunities, programs, review processes, requirements and other nuances of the agency. Dr. Joann Sullivan from MUSC's Office of Research Development will also provide guidance on NSF proposal mechanics. The workshop will likely last to about 5:15 or so. Please email [sullivan@musc.edu](mailto:sullivan@musc.edu) any questions/issues that you would like to be addressed specifically.

### **State-of-the-art computational biology resource opens at MUSC**

The new MUSC Computational Biology Resource Center (CBRC) provides state-of-the-art computational infrastructure to enable MUSC scientists to tackle complex biological problems. Using advanced computer algorithms can reveal new insights that will enhance research productivity and discovery.

At the heart of the CBRC is a dedicated 16-node, 132 CPU computing cluster armed with a host of biological databases and applications for drug discovery, molecular modeling, structure determination and bioinformatics. Examples of new capabilities include the following.

- Virtual screening of chemical databases: Physical screening of a thousand or more drug-like molecules is not feasible. Using parallel processing for virtual screening of chemical databases can overcome this physical impracticality.
- Data mining: The enormity of public databases prevents data mining with conventional computers. Parallel processing on the cluster can be used to render 3D structures from whole genomes or mine knowledge from millions of PubMed records.
- Modeling crystal structures. Homology modeling of families of proteins, molecular dynamics studies, docking studies and solving structures from X-ray diffraction or NMR data are normally slow, cumbersome processes on conventional computers. Using the cluster we can solve the crystal structure of a macromolecule in minutes!

- Analyzing intracellular signaling pathways and networks: Rapid, in silico molecular evolution of sequences across millions of generations can be done in hours. The resulting lineage relationships reveal the architecture of intracellular signaling pathways. Analyses of networks have moved from a glacial pace into the realm of real-time, experimental methods.

The CBRC encourages broad use of the facility. Interested individuals may contact Dr. Starr Hazard at [hazards@musc.edu](mailto:hazards@musc.edu). Information is available at: [http://cbrc.musc.edu/homepage/CBRC\\_1\\_index.html](http://cbrc.musc.edu/homepage/CBRC_1_index.html).

Source: MUSC's broadcast message, November 6, 2008.

### **NIH Pioneer and New Innovator awards competitions are now open**

The National Institutes of Health (NIH) are seeking applicants for the 2009 NIH Director's Pioneer Awards and New Innovator Awards. Both programs support exceptionally creative scientists who take highly innovative, potentially high-impact approaches to major challenges in biomedical or behavioral research.

The Director's Pioneer Awards provide up to \$2.5 million in direct costs over five years. Scientists at any career stage may apply.

New Innovator Awards provide up to \$1.5 million in direct costs over five years. Early career investigators who have not received an NIH regular research (R01) or similar NIH grant are eligible.

The agency expects to fund up to 10 Pioneer Awards and 24 New Innovator Awards in Sept. 2009. The Pioneer Award proposal submission period closes Dec. 17, 2008. The New Innovator Award competition proposal submission period extends from Dec. 15, 2008 to Jan. 15, 2009.

For additional information please go to <http://nihroadmap.nih.gov/pioneer> and <http://nihroadmap.nih.gov/newinnovator>.

Source: MUSC's broadcast email, November 10, 2008.

### **Update from NIH: Ignore Automated Emails from Grants.gov for NIH FOAs requiring Paper Application Submission**

The National Institutes of Health (NIH) is in the process of reposting approximately 100 opportunities in Grants.gov that require paper application submission. This action may result in receipt of automated e-mail notification of a change from Grants.gov. Please note that there are no changes to the content of these funding opportunities. The Funding Opportunity Announcements (FOAs) are still active. For additional information please see NIH Guide Notice [NOT-OD-09-022](#).

## South Carolina Clinical & Translational Research Institute (SCTR)

### **December 8 seminar will showcase role of biomedical informatics in CTSA initiatives**

The Department of Biostatistics, Bioinformatics, and Epidemiology will sponsor a scientific presentation by Richard H. Scheuermann, PhD, Professor of Pathology and Director of Biomedical Informatics for the Clinical and Translational Science Award (CTSA) program at UT Southwestern Medical Center. Dr. Scheuermann's presentation is entitled, "The Role of Informatics in Support of the NIH Clinical and Translational Science Award Program." An abstract of the presentation follows.

The National Institutes of Health's Clinical and Translational Science Award (CTSA) Program has begun its third year with 38 academic health centers currently supported. Although 13 key function areas were identified as components of each CTSA program, it has become increasingly clear that the Informatics Key Function plays an important role in support of each of the other key function areas. Each institution has established priority development and support areas for informatics. At U.T. Southwestern Medical Center at Dallas, the development and deployment of informatics systems to support tissue banking, clinical trials management and clinical data warehousing have been early priority areas. In the future, we will leverage experience in developing large research databases and analytical applications for the National Institute of Allergy and Infectious Diseases (<http://www.bioheathbase.org>) and (<http://www.immport.org>) in order to integrate results from mechanistic laboratory research with clinical data from electronic medical records. In addition to support for local priorities, the Informatics Key Function Committee, composed of representatives from each of the CTSA institutions, has been pursuing several consortium-wide projects to establish data standards and resource repositories for use by all institutions in order to achieve better interoperability between clinical and translational research programs.

Dr. Scheuermann's seminar is scheduled for **Monday, December 8, from 12 noon to 1 pm, in BSB 402**. Interested individuals may contact Dr. Jim Zheng at 876-1123 for more information.

### **SCTR calls for proposals for K12 Mentored Career Development Program Award**

The South Carolina Clinical and Translational Research Institute (SCTR) includes a K12 Mentored Career Development Program as a component of the CTSA Initiative. The goal of the SCTR K12 program is to foster the discipline of clinical research and increase clinical research capacity through training junior faculty who will bridge clinical and translational research training and achieve independent investigator status.

This year one Scholar will be selected for a career development award to begin July 1, 2009. The program includes a supportive environment, start-up research funds, salary support, an annual supply budget, and access to core faculty who provide expertise and guidance in research design, measurement and questionnaire design, study coordination, data management, biostatistical analysis, publishing and presenting research, and grant writing.

Eligible candidates include current junior faculty and senior fellows with pending faculty appointment effective July 1, 2009, who have a health-related doctoral degree and who are committed to a career in clinical and translational research. Appropriate degrees include both clinical (e.g., MD, DrPH, DPT, DO, DDS, DMD, DVM, PharmD) and non-clinical doctoral degrees (e.g., PhD, ScD).

Applications are due **February 19, 2009** by noon. Please visit <http://www.sctrinstitute.org/education/k12.html> or contact Randal Davis at [ctsa@musc.edu](mailto:ctsa@musc.edu) for more information.

### **GCRC 3rd annual drop-in party will be December 19<sup>th</sup>**

MUSC's General Clinical Research Center invites all past, present and potential researchers and collaborators to the 3<sup>rd</sup> annual Holiday Drop-In Party on December 19<sup>th</sup> from 2:00 to 3:30 PM in GCRC Conference Room (Room 214A, CSB). The GCRC will be celebrating another successful year and formally announcing our name change to SCTR Clinical and Translational Research Center. Highlights will include homemade refreshments, good company, and useful information for future research studies.

### **Upcoming Lunch-n-Learn on subject recruitment**

At the next SCTR Lunch-n-Learn event, Dr. Teresa Kelechi will talk about cost-saving subject recruitment strategies. Dr. Kelechi is Director of the Recruitment and Retention Core of the South Carolina Clinical and Translational Research Institute. She has been extremely successful recruiting subjects from a general population as well as hard-to-reach populations in South Carolina. Bring your lunch and your questions to the GCRC Conference Room – 214 Clinical Sciences Building – on Wednesday, December 17<sup>th</sup> from 12:00-12:45 PM.

### **SCTR/GCRC launches MUSC Umbilical Cord Blood Bank as an innovative research resource**

The MUSC General Clinical Research Center (GCRC), with support from the Departments of Pediatrics and Obstetrics/Gynecology, has established the MUSC GCRC Umbilical Cord Blood Bank (UCBB). This bank is a collection of human umbilical cord sera and DNA available for IRB-approved research at MUSC. All subjects provide consent for collection of this blood and for access to the mother/infant dyad MUSC medical record.

Human umbilical cord blood has typically been discarded after birth in developed nations. However, cord blood contains a wealth of information regarding fetal health, the intrauterine environment, genetic predisposition for disease, and the effects of maternal health on fetal well-being. This blood provides information of interest in obstetrical research, neonatal research, evaluation of fetal origin of disease, and evaluation of genetic factors in disease. In addition, access to umbilical cord samples provides basic scientists with an uncomplicated approach to initiate the translation of their research to clinical medicine.

Despite the accessibility of such samples, a research-oriented umbilical cord blood bank is an untapped resource in our country. Recent literature and internet searches identified not a single research-purposed bank of umbilical cord blood in the United States. The umbilical cord banks common in the United States are designated for retrieval of stem cells for transplantation.

Initiation of the Medical University of South Carolina (MUSC) Umbilical Cord Blood Bank (UCBB) will provide a unique investigational resource to this community and serve as an important bridge for translational research. Therefore, the General Clinical Research Center at MUSC has launched a special initiative with the following specific aims:

**Specific Aim 1:** To initiate umbilical cord blood collection, processing, and storage in order to establish an Umbilical Cord Blood Bank (UCBB) at MUSC.

**Specific Aim 2:** To maintain the UCBB with availability to all investigators demonstrating MUSC Institutional Review Board (IRB) and GCRC advisory committee approval for study protocol.

Investigators who would like to access this collection of sera and DNA for study at MUSC should contact the GCRC for protocol approval. The GCRC web site is <http://www.gcrc.musc.edu/>. In addition, the GCRC has many laboratory services available to support the processing of these samples for investigation. Further questions regarding the UBCC may be addressed to Dr. Sarah Taylor at [taylorse@musc.edu](mailto:taylorse@musc.edu)

The MUSC GCRC will formally merge with MUSC's Clinical and Translational Science Award (CTSA) initiative, the South Carolina Clinical and Translational Research Institute (SCTR) at the end of calendar 2008. For additional information about a comprehensive range of services and resources supporting clinical and translational research, please contact the SCTR SUCCESS Center at 792-8300 or go to the website at <http://www.sctrinstitute.org/>

## FROM THE OFFICE OF RESEARCH AND SPONSORED PROGRAMS

### ORSP offers electronic research systems training

The Office of Research and Sponsored Programs is pleased to announce training sessions for 2009. Four different programs are offered covering electronic research systems in use by the University and an introductory seminar for those involved with grants administration at MUSC.

- **Grants Administration 101** provides an overview of the basics of research administration and the internal procedures required for proposal processing within the University. It is geared toward those who are new to research and/or new to MUSC and those wanting to refresh their knowledge of the research process.
- **Cayuse424** is a web based application for preparing and submitting federal applications through the grants.gov portal. This hands-on lab provides guidance in using this application to take advantage of its many useful features.
- **HBI Research Reporting** is a tool that provides intranet access to grant information via your web browser. Multidimensional, modifiable views are presented as graphs, reports and text interpretations. Each view can drill-down to a more detailed level. All proposal and award information is available at your fingertips.

- **Electronic Routing of Research Proposals** uses the electronic Proposal Data Sheet (ePDS) system to provide for the routing and approval of research proposals to necessary individuals and to ORSP. A system overview is provided with tips for routing to assure a smooth approval process.

There is no fee and all classes are open to all MUSC employees. For more information visit the ORSP training site at <http://research.musc.edu/orsp/registration.htm>.

### **New Assistant Director joins ORSP**

Mr. David Azbill has been named as the new assistant director for the Office of Research and Sponsored Programs effective December 1, 2008. Mr. Azbill comes from the University of Kentucky where he was a senior grants administrator in the central research administration office. Please join ORSP in welcoming David to MUSC.

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## RESEARCH OPPORTUNITIES & DEADLINES

### ADDICTIVE DISORDERS

**Other index terms:** Behavioral Sciences & Mental Health, Bioinformatics, Biostatistics, Health Differences & Disparities, Neurosciences  
**Title:** Secondary Data Analyses for Substance Abuse Research (R21/R33)  
**Agency:** National Institute on Drug Abuse (NIDA)  
**LOI Deadline:** December 29, 2008  
**Application Deadline:** January 28, 2009  
**CFDA Number:** 93.279  
**RFA Identification:** RFA-DA-09-020  
**Link:** <http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-09-020.html>

- **Purpose.** This funding opportunity, issued by the National Institute on Drug Abuse invites Phased Innovation (R21/R33) grant applications from organizations/institutions that propose to conduct secondary analyses of rich biological data sets related to substance abuse research and to advance data and computational infrastructure relevant to the proposed analyses.
- **Mechanism of Support.** This FOA will utilize the Exploratory/Developmental Phased Innovation (R21/R33) grant mechanism. Applicants will submit a single application organized into two phases, beginning with discussion of the R21 phase followed by discussion of the R33 phase. Applicants using only the R21 mechanism or only the R33 mechanism will not be considered.
- **Funds Available and Anticipated Number of Awards.** NIDA intends to commit approximately \$2,000,000 in FY 2009 to fund 7 to 10 grants. Funding will be based on scientific and technical merit, program priorities, and availability of funds. Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration of each award also will vary.
- **Budget and Project Period.** The total project period for an application submitted in response to this funding opportunity may not exceed 4 years. Awards will support milestone driven exploratory/feasibility "proof of concept" studies (R21 phase, up to two years), with possible rapid transition to expedited development (R33 phase, up to three years, depending upon the requested period for the R21 phase). Direct costs are limited to \$260,000 over a R21 two-year period, with a maximum of \$200,000 allowed in any single year. The R33 award phase will be limited to \$240,000 in direct costs per year. NIDA anticipates that a maximum of 50%-70% of the funded R21 phase awards will progress to the R33 award.
- **Application Research Plan Component Length.** Page limit of 25 pages.

#### Examples of research topics

Studies may involve, but are not limited to:

- Integrating data to reveal novel molecular and signaling pathways and/or neural circuitry related to, or involved in substance abuse, drug seeking or other related motivated behavior
- Identifying regional brain activity or structural brain changes associated with development, pharmacological exposures, or environmental factors such as stress
- Identifying regional brain activity or structural brain changes associated with development, pharmacological exposures, or environmental factors such as stress, exploring for possible interactions with race/ethnicity
- Exploring possible correlations between regional brain activity and assessments of cognition, behavior and/or phenotype
- Exploring possible correlations between phenotypic observations and measurements of tissue and other biomarkers relevant to addiction

- Exploring possible correlations between phenotypic observations and measurements of tissue and other biomarkers relevant to addiction in racial/ethnic minority populations
- Exploring possible genetic and environmental factors and their interaction on vulnerability to drug use and addiction in racial/ethnic minority populations
- Exploring possible correlations across genetic variations and/or haplotypes within gene sets to reveal relationships among genes and gene variants putatively related to addiction
- Exploring possible correlations among animal and human data sets with respect to phenotypic behaviors and expression
- Analyzing genetic sequence data in combination with other information such as functional genetic elements (e.g. from epigenetic data or copy number variation) to provide insights into a mechanistic understanding of gene function or gene expression.
- Investigating relationships among gene and gene variants, messenger RNA and protein expression and the epigenetic and other factors affecting them
- Investigating relationships among gene, messenger RNA and protein expression and addiction or related phenotypes with animal models or post mortem brain tissue.
- Identifying genetic regulatory networks relevant to addiction and related phenotypes
- Conducting comparative or other analyses relevant to substance abuse research across time, biological entities, or biological scales (such as molecules and cells, or cells and circuits)
- Mining databases such as the database of Genotype and Phenotype (dbGaP: <http://www.ncbi.nlm.nih.gov/sites/entrez?db=gap>) which can be used to discover rare variations that cause common disease outcomes
- Examining comparisons of genetic association data from other countries for possible gene x environment interactions that could be elucidated from detailed analysis of foreign derived datasets
- Combining data from different trials in the NIDA Clinical Trials Network database as well as from other sources to perform a wide variety of secondary analyses, such as subgroup analyses (by gender, ethnic group) on treatment effectiveness, retention and HIV risk behavior; patterns in using multiple illicit drugs; correlation between outcomes from different assessment instruments; and other analyses on mediators and moderators of treatment effectiveness.
- Integrating biological and contextual data to explore relationships among genetic, biological, social, and contextual factors, including their influence upon behavior, using data from large datasets such as Ad Health and NHANES
- Exploring ligand/biomolecule interactions to identify putative bioactive molecules and targets for drug abuse and addiction research and treatment

Where applicable, data must be analyzed by sex/gender, or a convincing scientific rationale for not doing so must be provided.

NIDA strongly encourages applicants to address the influence of factors related to race/ethnicity and minority status on any research proposed, where applicable and appropriate.

## AGING

**Other index term:** Training & Career Development  
**Title:** Medical Student Training in Aging Research Program – MSTAR Program  
**Agency:** American Federation for Aging Research  
**Application Deadline:** February 6, 2009  
**Link:** <http://www.afar.org/medstu.html>

Sponsored by a group of funders and administered by the American Federation for Aging Research (<http://afar.org/>), the 2009 Medical Student Training in Aging Research Program provides first-year medical students with an enriching experience in aging-related research and geriatrics under the mentorship of top experts in the field.

The program introduces students to research and academic experiences that they might not otherwise have during medical school. This introduction has led many physicians-in-training to pursue academic careers in aging, ranging from basic science to clinical research to health services research.

Students participate in an eight- to twelve-week structured research, clinical, and didactic program in geriatrics. Students may train at a National Training Center supported by the National Institute on Aging, located at the following institutions:

- David Geffen School of Medicine at the University of California, Los Angeles – 18 positions (includes positions at the University of California, San Francisco and University of Colorado at Denver Health Sciences Center)
- Harvard Medical School – 7 positions
- Johns Hopkins University School of Medicine – 18 positions
- University of California, San Diego School of Medicine – 18 positions
- University of Hawaii School of Medicine – 5 positions
- University of Michigan School of Medicine – 18 positions (includes positions at Wayne State University School of Medicine)
- University of Pittsburgh School of Medicine – 18 positions (includes positions at University of Texas Medical Branch at Galveston and University of Texas Health Science Center at San Antonio)

Research projects are offered in basic, clinical, and health services research relevant to older people. Eligible applicants are allopathic or osteopathic medical students in good standing who will have successfully completed one year of medical school at a U.S. institution by June 2009. Applicants must be citizens or non-citizen nationals of the United States, or have been legally admitted for permanent residence.

The stipend level is approximately \$1,731 per month. A minimum of eight weeks of time is required and up to twelve weeks of funding is available. For complete program information please visit the AFAR web site (<http://www.afar.org/medstu.html>). Materials include a sample application and a short video about the program.

## BEHAVIORAL SCIENCES & MENTAL HEALTH

**Other index terms:** Biostatistics & Epidemiology, Community Outreach & Engagement, Ethics & Responsible Conduct of Research, Health Disparities

**Title:** Methodology and Measurement in the Behavioral and Social Sciences (R01), (R21), (R03)

**Agency:** Office of Behavioral and Social Science Research  
National Center for Complementary and Alternative Medicine  
National Cancer Institute  
National Heart, Lung, and Blood Institute  
National Institute on Aging  
National Institute on Alcohol Abuse and Alcoholism  
National Institute of Biomedical Imaging and Engineering  
*Eunice Kennedy Shriver* National Institute of Child Health and Human Development  
National Institute on Drug Abuse  
National Institute on Deafness and Other Communication Disorders  
National Institute of Dental and Craniofacial Research  
National Institute of Environmental Health Sciences  
National Institute of Neurological Disorders and Stroke  
National Institute of Nursing Research  
Office of Dietary Supplements

**LOI Deadline:** 30 days prior to standard application due dates

**Application Deadline:** Standard dates apply, please see  
<http://grants1.nih.gov/grants/funding/submissionschedule.htm>

**PAR Identification:** PAR-08-212, PAR-08-213, PAR-08-214

**CFDA Numbers:** 93.393, 93.396, 93.399, 93.213, 93.233, 93.837, 93.839, 93.865, 93.121, 93.115, 93.853, 93.361, 93.866, 93.273, 93.173, 93.279, 93.286

**Links:** <http://grants.nih.gov/grants/guide/pa-files/PAR-08-212.html> (R01)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-213.html> (R21)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-214.html> (R03)

- **Purpose.** The goal of this Funding Opportunity Announcement (FOA) is to encourage research that will improve the quality and scientific power of data collected in the behavioral and social sciences, relevant to the missions of the participating NIH Institutes and Centers.
- The participating NIH Institutes and Centers invite qualified researchers to submit research grant applications aimed at improving and developing methodology and measurement in the behavioral and social sciences through innovations in research design, data collection techniques, measurement, and data analysis techniques.
- Research that addresses methodology and measurement issues in diverse populations, issues in studying sensitive behaviors, issues of ethics in research, issues related to confidential data and the protection of research subjects, and issues in developing interdisciplinary, multimethod, and multilevel approaches to behavioral and social science research is particularly encouraged, as are approaches that integrate behavioral and social science research with biological, physical, or computational science research or engineering.
- **Mechanism of Support.** This FOA will utilize the NIH Research Project Grant (R01) mechanism and runs in parallel with [PAR-08-213](#) and [PAR-08-214](#), which solicit applications under the Exploratory/Developmental (R21) and Small Research Grant (R03) award mechanisms, respectively.
- **Funds Available and Anticipated Number of Awards.** Awards issued under this FOA are contingent upon the availability of funds and the submission of a sufficient number of meritorious applications.
- This Funding Opportunity Announcement (FOA) encourages applications addressing four general areas of methodology and measurement research in the social and behavioral sciences. These areas, discussed in detail in the Funding Opportunity Announcement, include research design, data collection techniques, measurement, and data analysis. Within the broad spectrum of research defined by these areas, applicants are particularly encouraged (but are not required) to consider studies that address one or more of the following key issues:
  - 1) Methodology and measurement issues in developing innovative interdisciplinary, multimethod, and multilevel research designs for use in behavioral and social science research, with special emphasis on both developing new technologies and addressing the analytical complexities associated with the integration of behavioral, social, and biological data.
  - 2) Methodology and measurement issues in research relating to diverse populations, for example, populations that are distinctive by virtue of age, gender, sexual orientation, ethnicity, culture, including culture-specific medical systems, socio-economic status, literacy, language, or disability.
  - 3) Methodology and measurement issues in studying how dramatic changes in economic, social, environmental, physical, or political context affect human health and well-being, including developing new methods if older ones are no longer valid in the face of significant changes in populations and societies over the last several decades.
  - 4) Methodology and measurement issues in studying potentially sensitive behaviors, such as sexual behavior and abortion, and covert or illegal behaviors such as drug use, abuse, and violence.
  - 5) Methodology and measurement issues that facilitate incorporating measures of social environment with genetic data or enhance bringing genetic measures into studies of social epidemiology.
  - 6) Methodology and measurement issues concerning ethics in research, with emphasis on the topics of informed consent, assessment of risk and benefit, and selection and retention of subjects, and ensuring subjects' confidentiality.

Multidisciplinary and interdisciplinary approaches are strongly encouraged. Potential applicants are urged to explore the ideas and methods developed in social science and behavioral fields other than their own and to consider the development and integration of behavioral and social science measures with those of the biomedical, physical, or computational sciences or engineering. Consulting relevant literature and collaborating with colleagues from other disciplines may provide important opportunities for cross-fertilization in developing improved methodology and measurement.

## CANCER

**Other index terms:** Clinical & Translational Research, Drug Discovery & Development  
**Title:** Erythropoiesis Stimulating Agents and Tumor Progression (R01), (R21)  
**Agency:** National Cancer Institute (NCI)  
**Application Deadline:** Standard dates apply, please see <http://grants1.nih.gov/grants/funding/submissionschedule.htm>  
**PA Identification:** PA-09-023, PA-09-024  
**CFDA Numbers:** 93.393, 93.396  
**Links:** <http://grants.nih.gov/grants/guide/pa-files/PA-09-023.html> (R01)  
<http://grants.nih.gov/grants/guide/pa-files/PA-09-024.html> (R21)

This funding opportunity announcement (FOA), issued by the National Cancer Institute (NCI), invites applications for research projects that investigate the effects of Erythropoietin (EPO) on tumor cell growth. EPO has been widely used to relieve the anemia associated with renal failure. In addition, EPO and other erythropoiesis stimulating agents (ESAs) have recently been used to treat the anemia associated with cancer chemotherapy. However, several clinical trials involving administration of ESAs, have suggested that ESAs may accelerate tumor progression and increase mortality in cancer patients. It is therefore important to understand the biology of ESAs on tumor cell growth and apoptosis. The purpose of this FOA is to stimulate high quality research on the effects of ESAs on tumor cell biology and tumor progression.

Using the NIH Exploratory/Developmental Grant (R21) funding mechanism, this FOA focuses on early and conceptual stages of research projects.

### Research projects may include, but are not limited to, studies that ask the following questions:

- How is the erythropoietin receptor expression regulated in non-hematopoietic tissues both malignant and benign? Such investigations can and should involve improved methods for detecting EPO receptors on cells beyond the currently available antibody.
- Can the effects of ESAs on cell proliferation in appropriate cell culture models (e.g., mammary tumor and head and neck tumor cells) be determined and related to our understanding of the effects of EPO on normal erythroid progenitor cells?
- Is ESA induction of anti-apoptotic proteins (e.g. Bcl-2, Bcl-xL) in appropriate tumor cell models related to an increase in resistance to apoptosis, in response to therapeutic agents or physiological stimuli?
- What signal transduction pathways can be definitively identified as regulating apoptosis or cell proliferation in EPO responsive tumor cell lines?
- Can animal models of human malignant disease (e.g. genetically engineered mice) be identified in which the pharmacological effects of ESAs on tumor growth and progression can be determined and studied systematically?
- What are the effects of ESAs on tumor vasculogenesis or angiogenesis in appropriate model systems?
- What are the effects of ESAs on tumor invasiveness and migration both in *in vitro* and *in vivo* model systems?
- Does constitutive signaling through a dysregulated EPO receptor contribute to tumor growth or survival *in vivo* or *in vitro*?

## CARDIOVASCULAR SCIENCES

**Other index terms:** Bioinformatics, Computational Biology, Imaging, Metabolomics, Proteomics  
**Title:** The Role of Cardiomyocyte Mitochondria in Heart Disease: An Integrated Approach (R01)  
**Agency:** National Heart, Lung, and Blood Institute (NHLBI)  
**LOI Deadline:** April 20, 2009  
**Application Deadline:** May 19, 2009  
**RFA Identification:** RFA-HL-10-002  
**CFDA Number:** 93.837  
**Link:** <http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-10-002.html>

### Executive Summary

- **Purpose.** The National Heart, Lung, and Blood Institute (NHLBI) invites applications for collaborative research projects to develop an integrated understanding of cardiomyocyte mitochondria and its contributions to myocardial adaptations and heart disease progression by combining functional data with information derived from powerful new technologies.
- **Mechanism of Support.** This FOA will utilize the R01 grant mechanism.
- **Funds Available and Anticipated Number of Awards.** The NHLBI intends to commit approximately \$4 million in total costs in FY2010, and up to \$16 million over four years, to fund up to six grants under this FOA. Awards issued under this FOA are contingent upon availability of funds and the submission of a sufficient number of meritorious applications.
- **Budget and Project Period.** Budgets for direct costs of up to \$500,000 per year and a project duration of up to four years may be requested for a maximum of \$2,000,000 direct costs over a four-year project period. Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration of each award will also vary. The total amount awarded and the number of awards will depend upon the numbers, quality, duration, and costs of the applications received.
- **Application Research Plan Component Length:** The R01 application Research Plan component of the PHS398 (Items 2-5) may not exceed 25 pages, including tables, graphs, figures, diagrams, and charts (see [http://grants.nih.gov/grants/funding/funding\\_program.htm](http://grants.nih.gov/grants/funding/funding_program.htm)).
- **Eligible Institutions/Organizations.** Institutions/organizations listed in Section III, 1.A. <<http://grants.nih.gov/grants/guide/rfa-files/RFA-HL-10-002.html#SectionIII1A>> are eligible to apply.

### Research Objectives

#### **Objectives:**

This initiative will support development of an integrated understanding of cardiomyocyte mitochondria by combining functional data with information derived from advances in “-omics” technologies, such as genomics, proteomics, metabolomics, and in new imaging tools. Investigators are expected to correlate *in vitro* and *in situ/in vivo* studies to build a cohesive and comprehensive understanding of the cardiomyocyte mitochondrial function as it relates to heart disease and failure within the cell and whole organ.

#### **Purpose and Rationale:**

This FOA requires multidisciplinary teams with expertise in cardiac physiology, mitochondrial biology, and relevant advanced technologies to work together to improve understanding of the role of cardiomyocyte mitochondrial dysfunction and adaptation (e.g.: heart failure, ischemic injury and protection, diabetic cardiomyopathy, aging). The inclusion of bioinformatics and/or computational modeling expertise is strongly encouraged.

Cardiomyocyte mitochondria are complex organelles that play a critical role in cardiac cellular energy metabolism, calcium homeostasis, biogenesis, and regulation of cell death. Although mitochondrial dysfunction has been implicated in various cardiac pathologies, altered mitochondrial function in physiological and pathophysiological processes within cardiac myocytes is extensive, complex, and not fully understood. In

addition, the majority of the current data has been derived from isolated mitochondria studies, which may limit our understanding of the role and responses of the mitochondria in its physiological environment. Significant gaps in the understanding of cardiomyocyte mitochondrial biology in health and disease remain. However, recent technological advances could permit better meaningful assessments of the role of cardiomyocyte mitochondria, particularly with respect to quantitative and real time in situ/in vivo measurements.

Combining functional studies of cardiomyocyte mitochondria with advances in “omics” and imaging technologies should provide a more comprehensive and integrated understanding of the critical role of mitochondria in adaptation to myocardial stress and the development and progression of heart disease. Computational approaches and bioinformatic tools will permit integration of multiple types of biomedical data and the exploration of cardiomyocyte mitochondria responses to perturbations. Such an integrative understanding can accelerate identification of novel therapeutic targets and permit the design of effective new strategies for early detection, prevention, and treatment of heart diseases.

The goal of this program is to develop a comprehensive understanding of genomic, proteomic, metabolomic, and functional information in cardiomyocyte mitochondria by bringing investigators from different disciplines together to focus on developing an integrative understanding of the role of cardiomyocyte mitochondria in health and disease.

Examples of research topics may include, but are not limited to, integration of functional data with:

- *Proteomic and computational biology techniques:* Perform spatial and/or temporal analysis of the dynamic posttranslational modification of proteins during myocardial ischemia and reperfusion. Utilize computational models to help identify key therapeutic targets that can be modified by cardioprotective strategies.
- *Imaging and genomic techniques:* Use novel imaging agents to assess mitochondrial function during the development of heart failure. Use transgenic models to explore genomic influences on this progression and identify processes that can be altered to prevent or delay the onset of clinical disease.
- *Metabolomic and imaging techniques:* Define the chemical activity of all metabolites and reactive species in the mitochondrial matrix to accurately characterize the kinetics of enzyme systems formed. Identify changes in mitochondrial metabolism, biogenesis, apoptosis, and stress-sensing in diabetic cardiomyopathy.
- *Proteomic and genomic techniques:* Compare mitochondrial proteomic and genomic profiles of adaptive cardiac hypertrophy to pathophysiological cardiac hypertrophy. Evaluate the functional significance of gene and protein modifications for the development of disease.
- *Computational biology and imaging techniques:* Develop and validate a computational model of cardiomyocyte mitochondrial function based upon in situ measurements of both sarcolemmal and mitochondrial membrane potential using voltage-sensitive dyes and of both mitochondrial and cytoplasmic ion activities. Extend the hypothesis-generating and predictive capacity of computational models to better understand, prevent, diagnose, and treat heart diseases.

To foster new collaborations and facilitate partnerships among different disciplines, programs will comprise multidisciplinary R01 grant applications. This FOA will require multidisciplinary teams with expertise in cardiac physiology, mitochondrial biology, and relevant advanced technologies to work together to improve understanding of the role of cardiomyocyte mitochondrial dysfunction and adaptation. Applications with multiple PDs/PIs are allowed. However, within each R01 grant, a lead PD/PI must be identified who will be the point of contact to NHLBI staff. A minimum 20% effort is required for lead PD/PI. Applications must justify the choice of team members and how this set of approaches will provide a new and integrated understanding of the role of cardiomyocyte mitochondria in health and disease.

Each application to this FOA must:

- Provide a model organism sharing plan. The model organism sharing policy is available at [http://grants2.nih.gov/grants/policy/model\\_organism/](http://grants2.nih.gov/grants/policy/model_organism/)
- Provide a sharing plan for any computational models developed as a result of support provided by this FOA.
- Responsiveness Criteria: The focus of the investigation must be on cardiac mitochondria. Applications responsive to this FOA must comprise of multidisciplinary teams with expertise in cardiac physiology, mitochondrial biology, and relevant advanced technologies. The inclusion of bioinformatics and/or computational modeling expertise is strongly encouraged. As this FOA aims to focus on developing an integrative understanding of the role of cardiomyocyte mitochondria in heart disease and adaptation, the main thrust of applications must be to understand the functioning of the cardiomyocyte biology in mammalian model systems.

Examples of applications which would be considered non-responsive to this FOA are:

- Applications not focused on cardiomyocyte mitochondria
- Applications that focus on non-mammalian models
- Applications that focus predominantly on technology development
- Applications with the goal of continuing high-throughput genomic and proteomic facilities, large clinical studies, or the establishment of epidemiological cohorts that collect data for future studies

Prior to peer review, NHLBI staff will screen all submitted application for their responsiveness to the goals of this FOA. Nonresponsive applications will be returned.

## INSTRUMENTATION & FACILITIES

**Title:** Shared Instrumentation Grant Program (S10)  
**Agency:** National Center for Research Resources (NCRR)  
**Application Deadline:** March 23, 2009  
**PAR Identification:** PAR-09-028  
**CFDA Numbers:** 93.389  
**Link:** <http://grants.nih.gov/grants/guide/pa-files/PAR-09-028.html>

The purpose of this funding opportunity is to continue the competitive National Center for Research Resources (NCRR) Shared Instrumentation Grant (SIG) Program initiated in Fiscal Year 1982. Results of the most recent study, "The National Survey of Academic Research Instruments and Instrumentation," published in 1997 identified bioanalytical equipment of the type provided through this Program as the top most priority. The objective of the program is to make available to institutions expensive research instruments that can only be justified on a shared-use basis and for which meritorious research projects are described. The SIG Program provides a cost-effective mechanism for groups of NIH-supported investigators to obtain commercially-available, technologically sophisticated equipment costing more than \$100,000. The maximum award is \$500,000. Cost-sharing is not required.

This program is designed to provide for the acquisition or updating of expensive shared-use instrumentation not generally available through other NIH mechanisms. Proposals for research on advancing the design or for the development of new instrumentation will not be considered.

Types of instrumentation supported include, but are not limited to, nuclear magnetic resonance systems, electron and confocal microscopes, mass spectrometers, protein and DNA sequencers, biosensors, x-ray diffractometers and cell sorters. Support will not be provided for general purpose equipment or purely instructional equipment, personal computers, personal workstations, printers, and Ethernet interfaces. Proposals for "stand alone" computer systems will be considered only if the instrument is solely dedicated to the research needs of a broad community of NIH-supported investigators.

For purpose of eligibility, a major user group of three or more investigators must be identified. A minimum of three major users must be Principal Investigators on NIH peer reviewed research grants at the time of the application and award. The application should also show a clear need for the instrumentation by projects supported by multiple NIH peer review research grants (including, but not limited to those listed above) and demonstrate that these projects will require at least 75 percent of the total usage of the instrument. [Please note: A typical group includes 12-15 NIH-funded investigators on average.]

If the major user group does not require total usage of the instrument, access to the instrument should be made available to other users upon the advice of the internal advisory committee (see below). These users need not be NIH awardees, but priority should be given to NIH-supported scientists engaged in biomedical/behavioral research. To promote cost effectiveness, to encourage optimal sharing among individual investigators, research groups and departments, and to foster a collaborative multidisciplinary environment, the instrument should be integrated into a central core facility, whenever possible.

Interested individuals at MUSC may contact Peggy Schachte ([schachte@musc.edu](mailto:schachte@musc.edu)) or Joann Sullivan ([sullivan@musc.edu](mailto:sullivan@musc.edu)) in the MUSC Office of Research Development (792-5828) for additional information and assistance regarding the NIH Shared Instrumentation Program.

## NEUROSCIENCES

**Other index terms:** Addictive Disorders, Behavioral Sciences & Mental Health, Bioengineering & Bio-imaging  
**Title:** Brain Imaging Studies of Negative Reinforcement in Humans (R01), (R21)  
**Agency:** National Institute on Drug Abuse (NIDA)  
**LOI Deadline:** January 19, 2009  
**Application Deadline:** February 19, 2009  
**CFDA Number:** 93.279  
**RFA Identification:** RFA-DA-09-008 (R01); RFA-DA-09-009 (R21)  
**Links:** <http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-09-008.html> (R01)  
<http://grants.nih.gov/grants/guide/rfa-files/RFA-DA-09-009.html> (R21)

This FOA issued by National Institute on Drug Abuse, National Institutes of Health, solicits Exploratory/Developmental Grant (R21) applications from institutions/ organizations that propose to investigate brain processes in humans underlying how aversive events control behavior in order to stimulate a program of clinical neuroscience research on negative reinforcement / avoidance learning. On the basis of pre-clinical studies, negative reinforcement has re-emerged as a contributing factor in the basic processes of substance abuse. The range of processes engaged by the human brain to avoid aversive outcomes are much less well understood than that of brain processes engaged by positive outcomes. For the purpose of this FOA negative reinforcement and avoidance learning are considered synonymous and refer to behaviors and cognitive strategies that are learned and maintained in order to minimize or eliminate the occurrence of aversive events. Aversive events may be either environmental stimuli or internal states. Applications for this FOA are expected to propose exploratory, hypotheses-generating or proof of concept studies regarding the brain regions or processes in humans that underlie avoidance learning including behaviors and cognitive strategies maintained by negative reinforcement. This FOA is also appropriate for the development of new tasks in humans that may be used in future brain imaging studies to target specific brain processing areas affected by negative reinforcement/avoidance learning. The studies proposed in response to this FOA may be conducted in healthy individuals, substance-abusing populations (current or abstinent) or individuals at risk for substance abuse. However, all applications must address how the proposed investigations are relevant to advancing the understanding of substance abuse.

Because this FOA is intended to stimulate research on a broad range of topics examining brain processes in humans underlying Negative Reinforcement / Avoidance Learning, research gaps that might be addressed include, but are not limited to the following questions:

- Are the same brain processes and brain networks involved in positive reinforcement also involved in negative reinforcement and avoidance learning or are there distinct brain networks and processes?
- Can specific roles and processes be associated with individual brain regions, specific networks, or neurotransmitter/neurochemical systems?
- Can individual differences be accounted for by psychological, biological or environmental variables, including genetic variation, gender, development, socio-economic status or social influences?
- What brain processes are engaged during reduction or extinction of avoidance behaviors? Are they the same or different than the brain processes that are involved in acquisition?
- How are the brain processes involved in negative reinforcement/avoidance learning altered by chronic drug use? Are such brain processes similarly affected by all drug classes or are some processes differentially sensitive to specific drug classes?
- Do brain processes involved in negative reinforcement/avoidance learning vary as a function of risk factors related to substance abuse, substance abuse severity, or during abstinence and recovery?
- How is the neural basis of active avoidance different from other situations that involve varying levels of aversive outcomes such as passive avoidance, escape or punishment?

It is emphasized that these topics do not represent programmatic priorities set by NIDA, but are merely illustrative, and therefore should not be considered as being either comprehensive or exclusive.

## NEUROSCIENCES

**Other index term:** Training & Career Development  
**Title:** Basic Neurobiological Science Grant  
**Agency:** Whitehall Foundation  
**Application Deadlines:** January 15, April 15, October 15  
**Link:** <http://www.whitehall.org/about/>

The Whitehall Foundation, through its program of grants and grants-in-aid, assists scholarly research in the life sciences. It is the Foundation's policy to assist those dynamic areas of basic biological research that are not heavily supported by Federal Agencies or other foundations with specialized missions. In order to respond to the changing environment, the Whitehall Foundation periodically reassesses the need for financial support by the various fields of biological research.

The Foundation emphasizes the support of young scientists at the beginning of their careers and productive senior scientists who wish to move into new fields of interest. Consideration is given, however, to applicants of all ages. The chief criteria for support are the quality and creativity of the research as well as the commitment of the Principal Investigator (a minimum time allocation of 20% is required). The principal investigator **must hold** no less than the position of assistant professor, or the equivalent, in order to participate in the application process. The applicant need not be in a tenure track position but must be an independent researcher and have Principal Investigator status at his/her institution.

The Foundation does not award funds to investigators who have substantial existing or potential support, even if it is for an unrelated purpose. Applications may be held in abeyance until the results of other funding decisions are determined. While it is difficult to assign a specific dollar amount to this policy and each case is unique, the Foundation currently defines "substantial" as *approximately* \$200,000 per year (including both direct and indirect expense but excluding the Principal Investigator's salary).

The Foundation is currently interested in basic research in neurobiology, defined as follows: *Invertebrate and vertebrate (excluding clinical) neurobiology, specifically investigations of neural mechanisms involved in sensory, motor, and other complex functions of the whole organism as these relate to behavior. The overall goal should be to better understand behavioral output or brain mechanisms of behavior.*

The Foundation does not support research focused primarily on disease(s) unless it will also provide insights into normal functioning.

**NURSING**

**Other index terms:** Autoimmune & Rheumatic Disorders, Cancer, Clinical Research, Health Services Research

**Title:** Nursing Research and Evidence-Based Practice Grants in Auto-immune Diseases and Cancer

**Agency:** Daisy Foundation

**Application Deadline:** March 1, 2009

**Link:** <http://www.daisyfoundation.org/>

New funding is available from the Daisy Foundation (<http://www.daisyfoundation.org/>) for nurses seeking to improve treatment of patients with autoimmune diseases and cancer. The Daisy Foundation was established in 1999 to recognize and support exceptional nurses around the United States.

Applications are now being accepted for the foundation's J. Patrick Barnes Research Grant, which funds nursing research and evidence-based practice projects. Two types of grants will be awarded: large grants of up to \$5,000 each for projects that can be completed within two years and small grants of up to \$1,000 each for projects completed within twelve months.

The program supports registered nurses who continually evaluate and improve their practice by seeking answers to clinical questions. Additional information and the grant application form are available at the Daisy Foundation Web site (<http://www.daisyfoundation.org/>).

**PHARMACOLOGICAL & TOXICOLOGICAL**

**Other index terms:** Child & Adolescent Health, Clinical & Translational Research, Drug Discovery & Development, Metabolomics, Proteomics

**Title:** Developmental Pharmacology (R03), (R21)

**Agency:** *Eunice Kennedy Shriver* National Institute of Child Health and Human Development  
National Institute of Environmental Health Sciences  
National Institute of Mental Health

**LOI Deadlines:** December 21, 2008, April 21, 2009, August 21, 2009, December 21, 2009, April 23, 2010

**Application Deadlines:** January 21, 2009, May 21, 2009, September 21, 2009, January 21, 2010, May 21, 2010

**CFDA Numbers:** 93.865, 93.113, 93.242

**PAR Identifications:** PAR-08-215, PAR-08-216

**Links:** <http://grants.nih.gov/grants/guide/pa-files/PAR-08-215.html> (R03)  
<http://grants.nih.gov/grants/guide/pa-files/PAR-08-216.html> (R21)

The Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), and participating Institutes within the National Institutes of Health (NIH) invite grant applications for research related to developmental pharmacology. The goal of this funding opportunity announcement (FOA) is to encourage multidisciplinary, investigator-initiated, basic and translational research in developmental pharmacology with particular emphasis on the role of ontogeny on drug metabolizing enzymes, transporters, receptors and signaling pathways activity across developmental periods from fetal life to adolescence.

- **Mechanism of Support.** This FOA will use the NIH Exploratory/Developmental (R21) grant mechanism and runs in parallel with a FOA of identical scientific scope, **PAR-08-215** that solicits applications under the NIH Small Research Grant (R03) award mechanism and **PAR-07-416** that solicits applications under the R01 grant mechanism.
- **Funds Available and Anticipated Number of Awards.** Because the nature and scope of the proposed research will vary from application to application, it is anticipated that the size and duration

of each award will also vary. The total amount awarded and the number of awards will depend upon the mechanism, numbers, quality, duration, and costs of the applications received.

### Research Objectives

This initiative seeks to stimulate interdisciplinary collaboration of clinical, translational and basic researchers working in complementary areas of research in developmental therapeutics. Knowledge accrued in developmental biology studies need to be applied to the study of the pharmacology of drugs used across the course of development in an integrated manner. Incorporation of genomics, pharmacogenomics, proteomics, cell biology and metabolomics in developmental pharmacologic research is encouraged. The long term goal of this initiative is to provide the scientific basis for the rational use of drugs in children of all ages. Proposals developed as a result of this initiative must be "patient oriented" and designed to answer research questions of clinical significance.

### Scope

Examples of study areas include but are not limited to:

- Analysis and comparison of cell, tissue, organ-specific effects of drug responses across various developmental stages: e.g. changes in receptor coupling second messengers, and signal transduction pathways;
- Use of sensitive, specific rapid methods (e.g. microarray or proteomic) to identify predictive biomarkers of drug response in children (beneficial and adverse);
- Inducibility and imprinting of genes involved in pharmacokinetics or pharmacodynamics;
- Regulation and ontogenetic expression of DMEs, transporters, receptors, and related proteins including mechanisms involved, impact of disease processes, and roles of endogenous and exogenous modulators;
- The use of appropriate established and innovative techniques for the study of ontogeny from a pharmacological perspective is encouraged (e.g., knockout animals and drug applications in vivo, gene expression over time in living animals; in vitro-in silico-in vivo correlations). An overriding consideration in the proposed research must be the appropriateness of testing models and extrapolation of animal data to humans;
- Development and application of methodologies based on metabolomics technologies to determine the effect of drugs on metabolic pathways at different developmental stages.
- Synergistic studies that reach across two or more of these areas are welcomed and interdisciplinary and multidisciplinary research is especially encouraged.

## WOMEN'S HEALTH

**Other index terms:** Clinical & Translational Research, Training & Career Development  
**Title:** Women's Reproductive Health Research (WRHR) Career Development Program (K12)  
**Agency:** Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)  
Office of Research on Women's Health (ORWH)  
**LOI Deadline:** February 27, 2009  
**Application Deadline:** March 27, 2009  
**RFA Identification:** RFA-HD-08-014  
**CFDA Number:** 93.865  
**Link:** <http://grants.nih.gov/grants/guide/rfa-files/RFA-HD-08-014.html>

The purpose of this Funding Opportunity Announcement (FOA) issued by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) and the Office of Research on Women's Health (ORWH) is to build a national capacity of junior investigators in women's reproductive health research, provide junior faculty with state of the art training in women's reproductive health research in an academic setting, stimulate women's reproductive health research over a variety of disciplines, and secure an outstanding research experience for junior faculty leading to a career as a successful independent

investigator.

The goal of the Women's Reproductive Health Research (WRHR) Career Development Program is to promote the performance of research and transfer of findings that will benefit the health of women. This will be accomplished by supporting research career development of obstetrician-gynecologists, to be known as WRHR Scholars. These K12 Program grant awards will ultimately result in a well-qualified cadre of academic obstetrician-gynecologist (ob/gyn) investigators who will help strengthen the research capacity in health professional institutions and meet the need for highly skilled scientists with a clinical background who can address the increasing research opportunities in women's reproductive health.

### **Objectives and Scope**

The overall objective of the WRHR Program is to bridge clinical training with research independence through a mentored research experience leading to an independent scientific career addressing women's reproductive health concerns. This FOA represents a continued expansion of ongoing research efforts to generate numbers of ob/gyn physician scientists who would be able to obtain independent support to conduct research in women's reproductive health.

### **Types of Research and Experimental Approaches**

The research scope for applicants encompasses all areas of obstetrics and gynecology and its related subspecialties: maternal-fetal medicine, gynecologic oncology, reproductive endocrinology and infertility, and female pelvic medicine and reconstructive surgery, as well as relevant fields such as, adolescent gynecology, and the reproductive health of women with disabilities. Projects may be basic science, translational, and/or clinical research, but must be within the biomedical and biobehavioral purview of the NIH. Research with a primary focus on health care delivery, health care services, or health policy is outside the scope of this FOA. Programs focused on somatic health, for example, breast, cardiovascular or musculoskeletal systems, should similarly not be proposed.