



FROM THE ASSOCIATE PROVOST FOR RESEARCH

The South Carolina Light Rail comes to MUSC

Overview

The South Carolina LightRail (SCLR) is a state-funded high speed network dedicated to education, research and healthcare in South Carolina. The SCLR has points of presence at the state's three major research universities – the Medical University of South Carolina, the University of South Carolina, and Clemson University. It is a fiber optic network with 16 10Gigabit channels available for use. The SCLR is connected to the Internet and Internet2 as well as the National Lambda Rail, a national high speed broadband network also dedicated to education and research.

The SCLR can be used for high definition and full motion video conferencing as well as rapid massive file transfers, uploads and downloads and remote computational resources. The SCLR is also configured for telemedicine and telehealth applications, providing secure transmissions to protect Private Health Information (PHI) and other sensitive data.

SCLR CONNECTIVITY WITHIN MUSC

1. Gigabit speeds are available on all access layer switches across MUSC with the exception of the College of Health Professions and the Clinical Sciences Building.
2. The Quad and Walton Research Buildings as well as the older houses on Bee Street are incapable of Gigabit to the desktop speeds due to the internal wiring of the buildings.
3. If you have a new or recent desktop computer you may have a Network Interface Card that automatically reads the Layer Switch in your building and adjusts your speeds to either 100MB or 1GB as allowed by the switch.
4. Anyone in areas other than CHP, CSB, Quad and Research Buildings, can have Gigabit bandwidth to their desktops with the addition of a Gigabit speed Network Interface Card which costs about \$100.

For more information regarding SCLR connectivity at MUSC please contact Roger Poston at postonwr@musc.edu. For more information regarding the South Carolina Light Rail in general, please visit the website at <http://www.sclightrail.org/>.

Laptop Encryption

All faculty are strongly encouraged to have their laptops – whether personally or institutionally owned – encrypted if they contain Personal Health Information (PHI) or sensitive data of any kind. Encryption takes a couple of hours; the laptop maybe running while the software runs in the background. Encryption is free and can be arranged by calling the Help Desk at 2-9700.

Second in a series of informal talks with Dr. Stephen M. Lanier – April 14

University Research Council is sponsoring discussions with Stephen M. Lanier, PhD, Associate Provost for Research, on topics related to the Federal Stimulus Package and other research support updates on April 14, 2009 from 12:00 to 1:00 p.m. in room EL 107 (Education/Library Building).

Please join us for the second of a regular, informal series on research support and resources.

New Equipment Expands Capability of Research Machine Shop

To paraphrase a famous science writer, new directions in science are very often launched by new tools. Such new tools include new research devices and equipment that are not commercially available. MUSC has the capability to produce custom items via the MUSC Research Machine Shop Facility. The shop operates as a University Research Resource Facility under the Office of the Associate Provost for Research, Dr. Stephen M. Lanier, providing services to researchers throughout the university and the Charleston area.

The shop can provide design and construction of new devices and research equipment as well as modification and repair of commercially available equipment. This shop recently added new capability in the form of a computer numerical control (CNC) turning center. The shop already had a CNC milling machine; the new machine extends computer controlled machining capabilities to include complex round shapes.

The shop facility was originally established in relation to the Clemson-MUSC Bioengineering Program, but was subsequently extended to offer services to the entire local research community, including the other colleges and the Fort Johnson research entities. The shop's efforts are split between work on grants that partially support the shop and fee-for-service jobs that are charged on an hourly basis. Major funding for the new machine came from the NHLBI Cardiovascular Proteomics Center at MUSC.

Investigators needing shop services are invited to contact machinist Johnny Mole at 792-9077, or facility director Dan Knapp at 792-5830. More information as well as a work request form are available on the MUSC web page under Research Shared Facilities.

AAHRPP site visit – May 19-21

The Association for the Accreditation of Human Research Protection Programs (AAHRPP) will conduct a site visit at MUSC May 19-21. AAHRPP accredits high-quality human research protection programs in order to promote excellent, ethically sound research. More information on the site visit and how AAHRPP affects MUSC operations will be provided at a Town Hall meeting on April 28 with Dr. Stephen M. Lanier. Details of the Town Hall meeting will follow in the coming weeks.

Charleston Dragon Boat Festival – Team ReSurge

The Second Annual Charleston Dragon Festival will be held May 2, 2009 at Brittlebank Park. The festival is organized by Dragon Boat Charleston, a wellness program for cancer survivors and their supporters.



Just as last year, 21 outstanding MUSC research scientists and staff will be paddling their team to victory in the 45-foot dragon boats, wearing bright blue race shirts with the team name, ReSurge, emblazoned across the front.

MUSC's Finance and Administration team, Dragon Assets, will be competing as well.

Pledges raised by the paddlers, will go to support the work of Dragon Boat Charleston— now with more than 150 active members and the Roper Saint Francis Cancer Center. Anyone caring to join the MUSC ReSurge team or organize a group of 21 paddlers should contact Leslie Kendall for more information (kendalkk@musc.edu).

MUSC pilot project proposals in sex/gender differences and neuroscience are due May 15

In October 2007, the National Institute on Drug Abuse and the Office of Research on Women's Health renewed a 5-year award for Drs. Kathleen T. Brady and Ronald E. See, funding a research center focused on sex and gender-based multidisciplinary research at MUSC. One of the goals of the center is to catalyze women's health-related research throughout the MUSC campus. This goal will be primarily facilitated by the support of pilot projects at MUSC.

The purpose of the Pilot Program is to provide short-term seed grant funds to promising postdoctoral fellows and junior faculty (less than 5 years from postdoctoral training/terminal degree) at MUSC to collect initial data for an R03, R21 or R01 submission. The project must focus on a neuroscience-related topic and explore either sex/gender differences or disorders/treatments as they uniquely relate to women. The project can be clinical, translational or basic science. Consistent with the NIH Roadmap Initiative and the vision of MUSC's SCTR, projects involving multidisciplinary teams and/or translational research efforts are especially encouraged.

Individuals interested in submitting a pilot project for consideration should follow the guidelines posted on the MUSC SCOR web page at the link below. Proposals must be submitted by May 15, 2009 for funding in July 2009. Address inquiries to Sarah Gainey, Women's Research Center Coordinator, at smithsar@musc.edu.

<http://www.musc.edu/psychiatry/research/cns/SCOR/About%20SCOR/aboutscor.htm>.

Source: MUSC's broadcast message, March 23rd.

Save the Date for AHRQ's Third Annual Conference – September 13-16

The 2009 conference of the Agency for Healthcare Research and Quality (AHRQ), "Research to Reform: Achieving Health System Change," will be held September 13-16, 2009, at the North Bethesda Marriott Conference Center, in Bethesda, MD. The conference will feature exciting opportunities to learn about AHRQ's latest research aimed at accelerating system-wide improvements in the quality, safety, efficiency and effectiveness of care. Conference sessions will feature leading experts involved in AHRQ-sponsored research and implementation projects. A complete agenda of these sessions and other activities is currently in development. Details regarding registration and other key information will be posted on the [website](#).

Source: AHRQ Electronic Newsletter, March 4th

South Carolina Science, Technology and Health Conference will be April 14-16

The South Carolina Science, Technology and Health Conference will consist of three days of scientific presentations, job forums, workshops, poster sessions and symposia on a variety of topics. There will be a series of invited plenary lectures on topics of general interest. The first of these lectures, focusing on the molecular basis of diabetes and the impact of this disease in South Carolina, will be delivered by Dr. John W. Baynes, (USC), the 2004 recipient of the Governor's Award for Excellence in Scientific Research and a life-long researcher in the field of diabetes.

Other plenary lectures will feature past recipients of the Governor's Awards for Excellence in Scientific Research, SC Research Centers of Economic Excellence Endowed Chair holders, and invited speakers of national reputation.

The conference is offered on Tuesday, April 14th through Thursday, April 16th at the Columbia Metropolitan Convention Center. New information about this event includes:

2. Student registration is free thanks to support by a grant from the SC EPSCoR/IDeA Office.
3. Postdoctoral fellows can register at a discounted rate of \$25.

The Conference will include the following symposia:

- The [2nd SC Bioinformatics Symposium](#) (April 14-15, 2009), organized by SC INBRE
- The [SC Bioengineering Symposium](#) (April 14-15, 2009), organized by SC INBRE and the SC Bioengineering Alliance
- The [2009 SC Health Disparities Symposium](#) (April 14-15, 2009), organized by the USC/Claflin University Center of Excellence in Cervical Cancer and HIV (Project EXPORT), Institute for Partnerships to Eliminate Health Disparities, and USC
- The [Annual Meeting of the SC Junior Academy of Science](#) (April 16, 2009)

Each Symposium will include oral and poster sessions. For more information, please visit the SC Science, Technology and Health Conference website at <http://www.sthconference.com/home.html>.



NIH announces availability grant supplements from Recovery Act Funds

The National Institutes of Health (NIH) recently published several announcements concerning the availability of administrative supplements and competitive revisions for existing research grants utilizing funds provided through the American Recovery and Reinvestment Act (ARRA). Please see the links below for more information, and be sure to read the specific guidance for the Institute(s) or Center(s) pertaining to the parent grant.

- NIH Announces the Availability of Recovery Act Funds for Administrative Supplements <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-056.html>
- NIH Announces the Availability of Recovery Act Funds for Competitive Revision Applications <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-058.html>
- NIH Announces the Availability of Recovery Act Funds for Administrative Supplements Providing Summer Research Experiences for Students and Science Educators <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-060.html>

FOR MUSC ARRA Applications

ARRA funds have special terms and conditions and must be monitored and reported on separately. In order to identify these funds, MUSC applicants should select "ARRA (Recovery Funds)" as the Program Type on the electronic Proposal Data Sheet (ePDS). This will alert the ORSP and OGCA staff that these funds are subject to these modified terms. The HHS-ARRA award terms can be found at

http://grants.nih.gov/grants/policy/NIH_HHS_ARRA_Award_Terms.pdf

Source: MUSC's ORSP e-mail announcement, March 25, 2009.

NSF describes Recovery Act implementation

The National Science Foundation (NSF) has notified presidents of colleges and universities and heads of other NSF awardee institutions of its strategies for implementing the \$3 billion provided to the agency through the American Recovery and Reinvestment Act (ARRA). According to the NSF Director, Dr. Arden L. Bement, Jr., the "majority" of the \$2 billion allocated for research and related activities will be used for unfunded, highly rated proposals that are already "in house" and will be reviewed and/or awarded prior to Sept. 30. Furthermore, NSF will consider high quality proposals that were declined on or after Oct. 1, 2008, due to lack of funding; some of these decisions may be reversed. Additionally, this spring, NSF plans to post Recovery Act solicitations for its Major Research Instrumentation program, Academic Research Infrastructure program, and the Science Masters program. Stimulus-funded grants will be "standard grants with durations of up to 5 years." NSF also plans to prioritize funding for new investigators and high-risk, high-return research projects.

For additional information regarding NSF's implementation plan, please go to <http://www.nsf.gov/recovery>.

Source: AAMC STAT, March 23, 2009.

Enactment of the FY 2009 NIH Executive Level I annual salary cap

On March 19, 2009, NIH published Notice Number: [NOT-OD-09-069](#), an update to Notice Number: [NOT-OD-09-037](#) regarding Fiscal Year (FY) 2009 information on the salary limitation in the NIH Guide for Grants and Contracts.

Every year since 1990 Congress has legislatively mandated a provision limiting the direct salary that an individual may receive under an NIH grant. For FY 2009, Public Law 111-8: *Omnibus Appropriations Act, 2009* restricts the amount of direct salary to Executive Level I of the Federal Executive Pay scale. **Effective January 1, 2009, the Executive Level I salary level increased to \$196,700.**

Now that the **FY 2009 Appropriation has been officially enacted**, grantees are allowed to **charge salary up to the current cap amount of \$196,700 retroactively to January 1st, 2009** (proportionate to % FTE on grant projects and subject to availability of funds). Please continue to use the updated salary cap level for planning purposes and new proposal submissions.

Should anyone have questions concerning this notice and/or clarification, please contact your assigned Grant Administrator in ORSP or call 792-3838 for assistance.

Source: NIH NOT-OD-09-069, released March 19, 2009:
(<http://grants.nih.gov/grants/guide/notice-files/NOT-OD-09-069.html>)

State EPSCoR/IDeA Office issues call for DEPSCoR preproposals

The South Carolina EPSCoR/IDeA Office has issued a call for pre-proposals for the statewide package to be submitted to the FY2009 Department of Defense EPSCoR (DEPSCoR) Program. The SC EPSCoR/IDeA web site has the details posted at <http://www.scepscoridea.org/EPSCoR/DEPSCoR.html>.

MUSC is eligible to submit up to 3 proposals; therefore an internal selection process is necessary. **A “Request to Proceed” for full proposal development is due in the Office of Research Development by Friday, April 3, by 5 pm. The full proposal is due at the DoD on May 4, 2009.**

Investigators are encouraged to consider this program, keeping in mind the following historical observations and program requirements:

- (1) With a few exceptions, biomedical research projects have not been selected for funding through DEPSCoR. Also, note that DEPSCoR **research interests generally do not embrace the congressionally mandated medical research programs** in the various cancers, etc.
- (2) Successful DEPSCoR proposals have been led by investigators who have excellent relationships with their DoD Program Managers. Participating DoD agencies are the Army Research Office (ARO), Air Force Office of Scientific Research (AFOSR) and Office of Naval Research (ONR).
- (3) DEPSCoR projects are generally single investigator projects focused on DoD-mission oriented research. Research infrastructure (e.g., equipment, research training) can also be supported if it supports DoD-related research.

- (4) Requests may be made for a minimum of \$100K and maximum \$2 million total costs (direct + indirect) over a 3-year period. Most awards are anticipated to range from \$300K to \$600K total costs for a three-year period. **A minimum 1:2 match is also required** (at least \$1 from non-federal sources to match \$2 of DoD requested funds).

Questions about the program or budget? Contact Joann Sullivan in the Office of Research Development at 2-0870 or sullivan@musc.edu.

ORD can help with special bio sketches for NIH Challenge (RC1) and GO (RC2) grants

The Office of Research Development offers assistance with biographical sketches for MUSC faculty and staff as a general service. This service is available to help investigators who are preparing proposals for the new "stimulus grant" mechanisms recently announced by the National Institutes of Health, namely, Challenge (RC1) and Grand Opportunities or GO (RC2) grants. These special mechanisms limit the biographical sketch format to two pages total, citing no more than 10 publications. The guidelines for RC1 and RC2 grants are available online at <http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-09-003.html> and <http://grants.nih.gov/grants/guide/rfa-files/RFA-OD-09-004.html>.

Investigators who would like ORD to format biographical sketches for RC1/RC2 submissions or other grant submissions – whether NIH or other federal or nonfederal sponsor – should contact Janet Johnson at 792-0872 or johnsjn@musc.edu.

South Carolina Clinical & Translational Research Institute (SCTR)

News and Announcements

- Collexis (<http://www.sctrinstitute.org/success/research.html>) is available to all MUSC researchers who need assistance with collaborations, mentor-matching, and multidisciplinary team building.
- SCTR now has more than **30 services available** to MUSC researchers.
- **Monthly Lunch-n-Learns** will be held on the *third Wednesday of every month from 12-1*. These Lunch-n-Learns are sponsored by SUCCESS Center, RESCUE, and LCARP. The next Lunch-n-Learn will be on April 15th from 12-1, Library EL Room 109. The topic will be Record Retention and Storage.
- The new **Research Study Registry** is now open to the public. It is being displayed on the hospital and university web pages. The MUSC Call Centers and Recruitment Coordinators will be referring to this website when they receive inquiries about research studies. If you are an investigator with an IRB approved study, please make sure that you register.

Looking for a way to capture and organize your research data electronically?

REDCap (Research Electronic Data Capture) is a secure, web-based application designed exclusively to support data capture for research studies*. REDCap provides: 1) an intuitive interface for data entry (with data validation); 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages (SPSS, SAS, Stata, R); 4) procedures for importing data from external sources; and 5) advanced features, such as branching logic and calculated fields.

For more information, or for details about scheduling a free training and consultation, please call 792-8300 or visit: <http://www.sctrinstitute.org/redcap/>

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RESEARCH OPPORTUNITIES & DEADLINES

AGING

Other index terms: Behavioral Sciences & Mental Health, Community Engagement & Outreach
Title: Brookdale Foundation Seeks Proposals for Alzheimer's Disease Respite Program
Agency: Brookdale Foundation
Application Deadline: July 1, 2009
Link: <http://fconline.foundationcenter.org/pnd/15017245/brookdalefdn>

A program of the Brookdale Foundation Group (<http://www.brookdalefoundation.org/>), the Brookdale National Group Respite Program awards seed grants to organizations working to develop and implement social model group respite programs.

The goals of the program are to provide persons with Alzheimer's disease or a related dementia with opportunities to engage in meaningful social and recreational activities in a secure and supportive setting in order to maximize their cognitive and social abilities, and to provide relief and support to family members and other primary caregivers.

Funding is available for up to forty organizations working to develop new dementia-specific programs. Applicants must be non-profit 501(c)(3) organizations or public agencies. All proposed programs must provide day services specifically for people affected by Alzheimer's disease or other related disorders. Grant funds may not be used to support or expand the hours, days, or service capacity of existing programs.

Selected organizations will each receive grant support of \$7,500 in the first year, renewable for \$3,000 in the second year. The sponsoring organization must provide a 1:1 match of cash or equivalent in-kind support.

Complete program guidelines are available at the Brookdale Foundation Web site (<http://fconline.foundationcenter.org/pnd/15017245/brookdalefdn>).

ALTERNATIVE & COMPLEMENTARY MEDICINE

Other index terms: Biostatistics & Epidemiology, Clinical & Translational Research, Health Services & Outcomes
Title: Translational Tools for Clinical Studies of CAM Interventions (R01)
Agency: National Center for Complementary and Alternative Medicine (NCCAM)
LOI Deadline: Not applicable
Application Deadline: July 17, 2009
RFA Identification: RFA-AT-09-002
CFDA Number: 93.213
Link: <http://grants.nih.gov/grants/guide/rfa-files/RFA-AT-09-002.html>

This Funding Opportunity Announcement (FOA) issued by the National Center for Complementary and Alternative Medicine (NCCAM) of the National Institutes of Health (NIH) encourages investigator(s)-initiated applications that propose to develop, enhance, and validate translational tools to facilitate rigorous study of complementary and alternative medicine (CAM) approaches that are in wide use by the public. Recent data from the National Health Interview Survey [<http://www.cdc.gov/nchs/nhis.htm>] establish that Americans are utilizing CAM approaches to promote health and well-being, to treat or prevent disease, and for symptom relief. CAM approaches being widely used include massage and manipulative therapies, meditation, yoga, and acupuncture. Health conditions, particularly chronic pain,

are the most commonly cited reasons for their use. This FOA focuses on encouraging the development of improved research methodology to study safety, efficacy, and clinical effectiveness of widely used CAM approaches, such as: mind-body interventions, manual therapies, yoga, and acupuncture. This FOA is not focused on the study of natural products, such as herbal therapies.

- **Mechanism of Support.** This FOA will utilize the NIH Research Project Grant (R01) award grant mechanism.
- **Funds Available and Anticipated Number of Awards.** The NCCAM intends to commit up to \$3 million per year (total costs) to support approximately 4 – 6 grants. The total amount awarded and the number of awards will depend upon the quality, duration, and costs of the projects that are proposed. Awards issued under this FOA are contingent upon the availability of funds and the submission of a sufficient number of meritorious applications.
- **Budget and Project Period.** A maximum of \$300,000 (direct costs) per year may be requested. The total project period for an application submitted in response to this funding opportunity may not exceed 5 years.

CHILD & ADOLESCENT HEALTH

Other index terms: Behavioral Sciences & Mental Health, Clinical & Translational Research, Neurosciences, Signal Transduction

Title: Developmental Psychopharmacology (R01), (R21)

Agency: National Institute on Alcohol Abuse and Alcoholism (NIAAA)
National Institute of Mental Health (NIMH)
Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
National Institute on Drug Abuse (NIDA)

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

PA Identifications: PA-09-111; PA-09-112

CFDA Numbers: 93.242, 93.865, 93.279

Links: <http://grants.nih.gov/grants/guide/pa-files/PA-09-111.html> (R01)
<http://grants.nih.gov/grants/guide/pa-files/PA-09-112.html> (R21)

The purpose of this Funding Opportunity Announcement (FOA) is to request research grant applications to examine the neurobiological impact of psychotherapeutic medications upon the immature brain, with particular emphasis upon mapping the precise developmental profile of physiological response to psychotropic agents used in the treatment of mental disorders in children. Relevant research includes studies in model systems, including animals, and in human populations.

Research Objectives

The overarching goal of this research initiative is to determine the neurobiological consequences of acute or chronic psychotherapeutic drug administration during juvenile development, from childhood through adolescence. Focused study of drug effects across developmental periods of therapeutic exposure will provide clues to the relevant neural circuits contributing to the disorders as well as sites mediating therapeutic and/or adverse CNS effects. Related research using model systems may also address the biological basis of adverse or paradoxical responses to specific drug classes. Relevant research proposals may include basic or clinical approaches to examine neurobiological and functional endpoints within defined brain circuitry at critical developmental windows. Investigations in model organisms may examine molecular, genetic, neurochemical, physiological, and behavioral effects of early drug administration in both juvenile and adolescent animals. In vivo systems should emulate drug concentrations, doses and routes of administration used in children; age of exposure and duration of drug administration should also be considered. Model systems may assess species, sex, and age differences in the kinetics and metabolism of drugs over the range of therapeutic doses. Integrative studies in non-human primates and preliminary studies in other species are encouraged to identify gene-environment interactions and relevant signaling mechanisms

modulated by developmental drug exposure. Research approaches to address these questions could include, but are not limited to, the following:

Molecular mechanisms and neurobiological outcomes of psychotherapeutic drug treatment: *in vitro* and *in vivo* studies in model organisms are required to characterize the neurobiological and behavioral responses to acute and chronic exposure to psychotropic drugs and to identify corresponding cellular and molecular substrates at specific points along the developmental continuum. Examples of relevant medications include antidepressants, antipsychotics, anxiolytics, mood stabilizers and therapeutic doses of stimulants, as well as drugs used in the treatment of developmental disorders including autism and Fragile X syndrome. Relevant applications may also consider the context of spatiotemporal and sex-specific drug responses.

Examples of relevant research goals include, but are not limited to:

- Examine the impact of psychotherapeutic agents upon the genetic, cellular and molecular processes modulating developmental events, including migration, differentiation, synaptogenesis, regressive processes, postnatal neurogenesis and plasticity, within specific brain regions implicated in pediatric behavioral and psychiatric disorders.
- Analyze and compare the cell- and region-specific effects of drug responses among developmental stages: e.g., changes in receptor coupling, second messengers, signal transduction pathways, response to hormones.
- Identify developmental changes in molecular and cellular signaling (examples above) that contribute to age-related changes in drug effects on neural transmission and behavior
- Analyze the role of modulatory factors, including neurotrophic proteins, hormones, chemokines, and cytokines, and related signal transduction pathways in drug responses during specific developmental stages.
- Investigate the impact of drugs upon the developmental trajectory and function of non-neuronal cells (e.g., astrocytes and oligodendrocytes), including assessment of gliogenesis, myelination and synapse formation and function.
- Characterize effects of drug treatment on gene responses during the establishment and refinement of neural circuitry, with emphasis on transcriptional and posttranscriptional regulation of developmentally modulated genes.
- Develop and apply genetic models employing regionally and temporally selective manipulations of gene expression in brain to study anatomical, molecular, neurochemical, and signaling pathways mediating drug-induced behavioral changes across development.
- Establish alternative model systems to identify genetic, molecular and cellular processes, including gene-environment interactions and signaling mechanisms, contributing to developmental stage-specific drug responses.
- Examine the combined consequences of early environment and psychotherapeutic drug administration on neurobiological and behavioral measures across development.
- Employ model systems to characterize molecular mechanisms underlying individual variations in drug responses, including emergence of therapeutic and/or adverse effects across development.
- Develop improved reagents for visualizing drug action in developing animals *in vivo* for ultimate translation into juvenile populations.
- Develop strategies for identifying novel psychotherapeutic medications with fewer adverse effects.

Age-appropriate behavioral paradigms: Develop and refine behavioral paradigms to assess effects of psychotherapeutic drug administration on cognitive and emotional measures in model organisms during juvenile and adolescent development. Behavioral models should be amenable to studies of the neural pathways, transmitters, and signaling molecules responsible for therapeutic and adverse effects of drugs.

Examples of relevant research goals include, but are not limited to:

- Establish objective and reliable measures to mirror specific clinical behavioral attributes associated with psychiatric disorders occurring in children and/or that serve as specific markers of psychotherapeutic drug efficacy.
- Develop and refine developmentally stable behavioral measures for examining effects of therapeutic doses of psychotropic medications on affect, anxiety, attention, cognition, play, social behavior,

impulsivity, response to novelty, and learning and memory across development.

Clinical studies: develop and expand clinical studies to examine possible effects of psychotherapeutic administration on juvenile and adolescent development as assessed by behavioral and brain measures obtained during childhood.

Examples of relevant research goals include, but are not limited to:

- Utilize non-invasive imaging techniques to study the effects on the brain of psychotropic medication in children.
- Employ brain imaging techniques to assess the effects of childhood drug administration on brain development.
- Identify brain regions responsible for the therapeutic and negative effects of therapeutic doses of psychotherapeutic medications.
- Develop valid biochemical, imaging, and pharmacogenetic biomarkers or objective behavioral outcome measures for assessing clinical efficacy and safety of psychotherapeutic medications

NIMH Statement of Interest: Applications submitted to the NIMH in response to this FOA should address research objectives relevant to the NIMH Strategic Plan <http://www.nimh.nih.gov/about/strategic-planning-reports/index.shtml> and the National Advisory Mental Health Council Workgroup Report, "Transformative Neurodevelopmental Research in Mental Illness" http://www.nimh.nih.gov/about/advisory-boards-and-groups/namhc/neurodevelopment_workgroup_report.pdf.

NICHD Statement of Interest: The NICHD is interested in the possible impact of psychopharmacological treatment on developmentally relevant clinical parameters including cognitive development, physical growth and sexual maturation. Relevant studies may also address developmental changes in the pharmacokinetics, metabolism, disposition and pharmacodynamics of psychotropic medications commonly used in children and adolescents, including examination of gender and ethnic differences in these measures. Mechanisms of adverse drug reactions to psychotropic medications is another area appropriate for this funding opportunity.

NIDA Statement of Interest: The NIDA is interested in the possible impact of psychotherapeutic pharmacologies on the emergence of addictive diseases later in life as function of treatment within critical periods of development. As such treatments may confer vulnerability or resilience to addictive processes, they should be coupled with the study of neuroadaptations that occur as a consequence of exposure to abused substances during development, including structural and functional changes in the brain, neurotoxicity, neuroprotection, tolerance and sensitization, and comorbidity with other disease states. Studies of sex differences in response to psychotherapeutic treatment will also be considered appropriate for this FOA.

COMMUNITY CARE & OUTREACH

Title: Robert Wood Johnson Foundation Local Funding Partnerships 2009-2010
Agency: Robert Wood Johnson Foundation
RFA Identification: RFA-MH-09-150
Link: <http://www.rwjf.org/applications/solicited/cfp.jsp?ID=20605>

Across America in small towns and big cities, on street corners and town squares, in homes, schools and prisons, *Robert Wood Johnson Foundation Local Funding Partnerships* goes to where health happens. Funded through the Foundation's Vulnerable Populations Portfolio, Local Funding Partnerships (LFP) projects address some of society's most daunting and seemingly intractable health problems head-on at the community level.

These projects are brought forward by local grantmakers who propose a funding partnership by nominating community initiatives that offer new solutions to significant health or health care problems. Through this matching grants program, LFP brings together the Robert Wood Johnson Foundation, local funders and local

organizations so better health can take root in our communities.

Eligibility criteria

- Projects must be new, innovative, collaborative and community-based. Significant program expansions—into new regions or to new populations—may also be considered. Please note that these funds may not be used to maintain existing projects.
- Projects must be nominated by a local grantmaker committed to participating as one of the funding partners
- Local funding partners must be willing to work with grantees to obtain sufficient dollar-for-dollar matching funds throughout the grant period. These funders may include independent and private foundations, family and community foundations, and corporate and other philanthropies
- Matching funds must represent new funding specifically designated to support the proposed project. In-kind services may not be used to match Foundation funds.

Total awards

- Up to \$6 million is available for the 2010 grant cycle
- Up to 14 matching grants of between \$200,000 to \$500,000 each will be awarded

[More details and how to apply.](#)

HEALTH DIFFERENCES & DISPARITIES

Other index terms: Aging, Training & Career Development
Title: Promoting Careers in Aging and Health Disparities Research (K01)
Agency: National Institute on Aging (NIA)
Application Deadline: Standard dates apply, please see <http://grants1.nih.gov/grants/funding/submissionschedule.htm>
CFDA Number: 93.866
PAR Identification: PAR-09-136
Link: <http://grants.nih.gov/grants/guide/pa-files/PAR-09-136.html>

- **Purpose:** The purpose of this FOA, “Promoting Careers In Aging and Health Disparities Research (K01)” is to provide support and protected time to eligible individuals who have been determined by the grantee institution to be committed to a career in health disparities research related to aging and who are members of or knowledgeable about health disparity population groups. Nationally, health disparity population groups include but are not limited to African Americans, Hispanic Americans, American Indians/Alaska Natives, Native Hawaiians, Pacific Islanders, the medically underserved, low socioeconomic populations and rural populations.
- **Mechanism of Support:** This Funding Opportunity Announcement (FOA) will utilize the Mentored Research Scientist Development Award (K01) Mechanism.
- **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.
- **Budget and Project Period:** An applicant may request a project period of 3-5 years and a budget for direct costs of up to \$150,000 per year in response to this FOA.
- **PHS 398 Career Development Award Supplemental Form Component Sections:** Items 2-5 (Candidate Information) and 10-13 (Research Plan) are limited to a total of 25 pages.

Research Career Objectives

The Mentored Research Scientist Development Award (K01) provides support for a sustained period of “protected time” for intensive research career development under the guidance of an experienced mentor, or sponsor, in the biomedical, behavioral or clinical sciences leading to research independence. The expectation is that through this sustained period of research career development and training, awardees will launch independent research careers and become competitive for new research project grant (R01) funding.

In the United States today the most severe health problems are concentrated among minority groups and

elders from disadvantaged backgrounds who bear a substantial burden. Research is critically needed to develop basic knowledge, innovative treatments, techniques and programs focused on challenges of reaching racial, ethnic, economic and educationally disadvantaged groups, and on understanding diseases that disproportionately affect the elderly members of these groups and provide appropriate care and treatment.

Disparities in the burden of illness, disease and death experienced by older African Americans, Hispanic Americans, Asian Americans/Pacific Islanders, American Indians/Alaska Natives, and other health disparity population groups as compared to the U.S. population as a whole, can be improved. NIA recognizes that each group is unique and disparities vary within and between groups such that not all experience excess deaths or high prevalence of the same diseases. Additionally, the NIA recognizes the importance of a diverse research workforce committed to research aimed at redressing health disparities where they exist and assisting in the breakdown of racial, cultural and ethnic barriers and stereotypes.

Although the NIH currently provides many opportunities to develop research careers for individuals that are underrepresented in aging sciences, the National Academies of Science publication *Assessment of NIH Minority Research Training Programs: Phase 3, (2005)*, <http://fermat.nap.edu/catalog/11329.html#toc> provides strong support to the idea that diversity in the scientific workforce remains a critically important area for advancing the biomedical and behavioral research enterprise and reducing health disparities.

Almost no area of late life health disparity is excluded and inquiry is required to address built environments (places of residence, geographical segregation of medical services, unsafe neighborhoods, safe walking & driving); lifespan experiences (life-long disability, societal role in health to include discrimination, end-of-life health expenditures, elder mistreatment, social gradient and inferior quality early life education); culture (traditional foods, resistance to formal medical care, multigenerational caregiving); policy and economics (has the Medicare drug act made a difference to disparities? Do other recent changes in implementation and direction of federal and state health programs act to increase or decrease disparities in late life?); basic biology, including studies on animal models, of age-related diseases that disproportionately affect racial or minority groups (prostate cancer, cardiovascular disease); as well as aging-related diseases and conditions that disproportionately affect racial and ethnic minority groups (differential diagnosis of Alzheimer's disease, burden of illness, and comparative studies).

Current NIA research in the area of cognitive tests suggest that these tests cannot reliably differentiate subtle impairment associated with the early stages of dementia from the early effects of normal aging that in ethnic and minority populations and among those with few years of schooling; thus a misdiagnosis of dementia is more likely among cognitively normal African Americans as compared to whites.

Research is further needed to assist policymakers in decisions about allocation of public health resources consistent with the primary causes of health disparities in the U.S. with a particular emphasis on risk factors for chronic diseases and injuries. Additionally, there are a number of factors that work against a healthy profile for the U.S. Hispanic elderly population. Research is needed to examine existing data sets for relationships among health, mortality and low levels of human capital, access to and use of health care to include uninsured older Hispanics, issues of increased westernization and a diet based on highly processed foods, as well as research to address lingering effects of early child health on burden of disease and disability after age 60.

Opportunities to reduce disparities fall into but are limited to several categories, including: broad efforts to reduce socioeconomic inequalities; increasing the number of people with health plan coverage; increasing physical and cultural access to health care; reducing disparities in the quality of care that patients receive; public health strategies to reduce risk factors for chronic diseases and injuries at the community level; and public health strategies to reduce risk that target individuals who may not be in the same community.

INFECTIOUS DISEASES

Other index term: Global & International Health
Title: International Collaborations in Infectious Disease Research (ICIDR) (U01)
Agency: National Institute of Allergy and Infectious Diseases (NIAID)
LOI Deadline: June 23, 2009
Application Deadline: July 23, 2009
RFA Identification: RFA-AI-09-010
CFDA Number: 93.856
Link: <http://grants.nih.gov/grants/guide/rfa-files/RFA-AI-09-010.html>

- **Purpose.** This Funding Opportunity Announcement (FOA) encourages applications from U.S. institutions proposing collaborative research with foreign [non-U.S.] investigators and organizations to study infectious diseases of the greatest public health significance in resource-constrained countries. This work is expected to increase scientific knowledge on public health related issues, enhance relevant research experience for U.S. and foreign investigators, promote the development of research capacity, and encourage future collaborative relationships.
- **Mechanism of Support.** This FOA will utilize the U01 cooperative agreement grant mechanism.
- **Funds Available and Anticipated Number of Awards.** The NIAID expects to award \$6.3 million in total costs in response to this FOA to support 5 to 9 new and/or competing renewal grants.
- **Budget and Project Period.** The total project period for an application submitted in response to this funding opportunity may not exceed five years. Direct costs are limited to \$500,000 in year 1. Future year recommended levels are limited to 3% escalation costs.

All applications must be focused on a single pathogen or disease entity.

Topics of interest for this program are limited to research on infectious diseases, including emerging infections that are of the greatest public health significance within the collaborating country. Except as noted below, research on any relevant infectious disease is appropriate. Applications proposing studies on the following diseases and pathogens are specifically encouraged:

- Zoonotic diseases, including Leptospirosis, Brucellosis, Melioidosis, Rickettsioses
- Leprosy and Buruli ulcer
- Viral pathogens, especially Enterovirus 71 and Monkey Pox
- Respiratory diseases, including Tuberculosis, Pneumococcal infections, Influenza, N. meningitides, and S. pneumoniae.
- Sexually transmitted infections: Bacterial Vaginosis, Haemophilus ducreyi and Trichomoniasis
- Parasitic diseases and vectors
- Hepatitis E in pregnant women
- NIAID Category A, B, and C priority pathogens
(<http://www3.niaid.nih.gov/topics/BiodefenseRelated/Biodefense/research/CatA.htm>), especially Enterotoxigenic E. coli, Shigella, Hantaviruses, Dengue, Rift Valley Fever, Japanese Encephalitis Virus and West Nile Virus

NURSING

Other index term: Cancer
Title: Oncology Nursing Society (ONS) Research Fellowship Award
Agency: Oncology Nursing Society (ONS) Foundation
Application Deadline: Jun 01, 2009
Link: <http://www.ons.org/awards/foundawards/fellowships.shtml>

The purpose of the Oncology Nursing Society (ONS) Foundation Research Fellowship Program is to support short-term oncology research training and mentorship. Individuals with a doctorate degree in nursing or a related discipline are funded to work with an investigator who has an existing program of research that is

relevant to oncology nursing and the proposed activities of the fellowship. Fellows may study with a mentor residing at their present or home institution or travel to the mentor's institution. The program of activities may involve two to three months of intensive study in one continuous block of time or several shorter visits spread out over a maximum of 12 months. Funding preference is given to fellowship programs of activities that address the ONS Research Priorities and Research Agenda.

The applicant must be a registered nurse with an interest in oncology and with a completed doctoral degree in nursing or a related discipline.

Current or previous postdoctorate fellows that have been funded by another agency are eligible for these awards. Foundation fellows are eligible for one award as a beginning researcher and a second award as an established researcher. ONS Foundation Board of Trustees members are not eligible for a fellowship award.

A nonrefundable fee of \$25 is required at the time the application is submitted.

STEM CELL RESEARCH

Other index terms: Regenerative Medicine, Training & Career Development
Title: Career Enhancement Award for Stem Cell Research (K18)
Agency: National Heart, Lung, and Blood Institute (NHLBI)
 National Cancer Institute (NCI)
 National Institute on Alcohol Abuse and Alcoholism (NIAAA)
 National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
 National Institute of Environmental Health Sciences (NIEHS)

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

PA Identifications: PA-09-110
CFDA Numbers: 93.233, 93.837, 93.838, 93.839, 93.398, 93.271, 93.847, 93.113
Link: <http://grants.nih.gov/grants/guide/pa-files/PA-09-110.html>

The purpose of the Career Enhancement Award for Stem Cell Research (K18) is to encourage investigators to obtain the training and career development they need to appropriately use stem cells in their research. The use of stem cells in biomedical research offers the potential for significant advances in the next decades, provided investigators not only understand this potential, but are equipped to take advantage of it. Human embryonic stem cells (hESC) have only recently become available, and most investigators are not prepared to handle, maintain, or properly study hESCs. Likewise, the potential of human adult or cord blood, and even animal, stem cells for understanding, treating, and curing human disease is great. Prospective applicants are encouraged to contact the relevant Institute or Center (IC) staff for IC-specific programmatic and budgetary information: Table of Institute and Center Contacts.

Research Objectives

The overall goal of NIH-supported career development programs is to help ensure that a diverse pool of highly trained scientists is available in adequate numbers and in appropriate research areas to address the Nation's biomedical, behavioral, and clinical research needs. The NIH Career Enhancement Award for Stem Cell Research (K18) is intended to enable investigators to change the direction of their research careers or to take time from their regular professional responsibilities to broaden their scientific background by acquiring new research capabilities, specifically in the use of human or animal embryonic, adult, or cord blood stem cells. The use of stem cells in biomedical research offers the potential for significant advances in the next decades, provided investigators not only understand this potential, but are equipped to take advantage of it. Human embryonic stem cells (hESC) have only recently become available and most investigators are not prepared to handle, maintain, or properly study hESCs. Likewise, the potential of human adult or cord blood, and even animal, stem cells for understanding, treating and curing human disease is great. This Career Enhancement Award is meant to provide the opportunity and necessary protected time for investigators to gain experiences that will enable them to take full advantage of stem cells in their research. Applicants must

propose a research career development program suitable for their level of experience and scientific interests, and seek an environment where the training and career development can occur. All training and career development should be carefully tailored to meet the individual needs of the applicant and should, usually, include a description of a research project involving stem cells. The proposed training and career development may include both didactic as well as laboratory-based instruction in the growth, management, and application of human, or animal, embryonic stem cells or adult stem cells for the broad areas of interest supported by the NIH.

The project period will typically be six months to one year, although up to two years may be appropriate in some situations. Part-time career development activities can be accommodated. Prospective applicants are advised to discuss the length of the career development period they are proposing with the appropriate Institute contact.

Applicants must hold a doctoral degree, may need to hold independent peer-reviewed research support at the time the award is made (see IC provisions), and commit a minimum of 6 person-months (equivalent to 50% of full-time professional effort) conducting research and relevant career development activities during the period of the award. Depending on the sponsoring Institute or Center (IC), scientists whose work is primarily theoretical may apply for this award in the absence of external research grant support (see [Section III](#) and also IC-specific provisions). Receipt of prior support may impact on eligibility for the K18 award. Before submitting an application, investigators should verify that they will be able to pursue stem cell research after their training and career development supported by the K18 ends by familiarizing themselves with the policies governing the use of stem cells at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-02-014.html>. The sponsoring institution must demonstrate a commitment to provide the environment, resources and the protected time required for the candidate to perform the activities included in the proposed research and career development plans.

Note: NIH Institutes and Centers have unique scientific purviews and different program goals and initiatives. Therefore, applicants are strongly encouraged to contact the NIH staff for IC-specific programmatic and budgetary information: [Table of Institute and Center Contacts](#).

Eligible Individuals

Project Director/Principal Investigator (PD/PI): Also referred to as the *Applicant* or *Candidate*, individuals with the skills, knowledge, and resources necessary to carry out the proposed research and career activities are invited to work with their institution to develop an application for support. Individuals from underrepresented racial and ethnic groups, individuals with disabilities, and individuals from disadvantaged backgrounds are always encouraged to apply for NIH support.

Citizenship and Residency: Only U.S. citizens or non-citizen nationals, or individuals lawfully admitted for permanent residence who have a currently valid Permanent Resident Card (USCIS Form I-551), or some other verification of legal admission as a permanent resident prior to the time of award, are eligible for this award. Non-citizen nationals, although not U.S. citizens, owe permanent allegiance to the U.S. They are usually born in lands that are not states but are under U.S. sovereignty, jurisdiction, or administration. Individuals on temporary or student visas are not eligible.

Degree and Research: All applicants for this award must have a clinical or research doctoral degree and be actively engaged in research of interest to the NIH. Applicants should have completed at least three years of postdoctoral work prior to applying for this K18. All applicants must identify a stem cell expert with a record of providing the type of supervision required by this award who is willing to serve as mentor. The mentor must have a history of research productivity and peer-reviewed research support and prior recorded experience of fostering academic growth and productivity.

Level of Effort: As a K18 award applicant, you must be able to devote at least 6 person-months (equivalent to 50% full-time professional effort) to your proposed program of didactic and/or research training and career development in stem cell research. You may devote your full-time effort to the award, however.

Renewals: Awards are not renewable.

TRAINING & CAREER DEVELOPMENT

Other index term: Honors & Awards
Title: Kauffman Postdoctoral Fellowship Program to Help Scientists Launch Businesses
Agency: Ewing Marion Kauffman Foundation
Application Deadline: May 1, 2009
Link: <http://www.kauffman.org/entrepreneurship/entrepreneur-postdoctoral-fellows-program.aspx>

The Ewing Marion Kauffman Foundation (<http://www.kauffman.org/>) is accepting applications for its new Entrepreneur Postdoctoral Fellowship program, which will train scientists to commercialize their technology innovations into start-up businesses.

The program will provide twelve scientific postdoctoral researchers in the United States with the opportunity to turn their research and ideas into an entrepreneurial venture. Participants will receive training on how to evaluate their research for marketplace potential and will learn the process of taking promising research forward for commercialization. Each fellow will be matched with a business mentor who has a science background, will receive a customized internship experience, and will be enrolled in intensive entrepreneurship workshops, where they will network with entrepreneurs and experts from the legal, business, and financial communities. Fellows will also work with an academic advisor to understand specifically how to commercialize their innovations and research findings by starting a business.

Each fellow will receive a salary stipend and benefits for a one-year period, beginning with the program launch in the fall of 2009. Compensation will be based on the Postdoctoral Researcher Salary Guidelines and benefits policies of the fellow's home institution. The fellow will also receive a travel and conference stipend to attend a business or entrepreneurship conference.

Postdoctoral researchers (U.S. citizens, residents, and all others legally in the U.S.) at U.S. institutions are eligible to apply. The candidate must have received either a PhD or MD and be in a postdoctoral research position by the start of the fellowship program to be eligible.

For complete program information please visit the Kauffman Foundation website at <http://www.kauffman.org/entrepreneurship/entrepreneur-postdoctoral-fellows-program.aspx>.

WOMEN'S HEALTH

Other index terms: Addictive Disorders, Child & Adolescent Health, Clinical & Translational Research, Pharmaceutical & Toxicological Sciences
Title: Medications Development for the Treatment of Pregnant/Postpartum Women with Substance Related Disorders and/or In Utero Substance Exposed Neonates (R01), (R21)
Agency: National Institute on Alcohol Abuse and Alcoholism (NIAAA)
Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
National Institute on Drug Abuse (NIDA)
Application Deadline: Standard dates apply, please see <http://grants1.nih.gov/grants/funding/submissionschedule.htm>
CFDA Number: 93.279
PA Identifications: PA-09-106; PA-09-107
Links: <http://grants.nih.gov/grants/guide/pa-files/PA-09-106.html> (R01)
<http://grants.nih.gov/grants/guide/pa-files/PA-09-107.html> (R21)

Purpose. The purpose of this FOA is to foster the development of novel pharmacological strategies for the treatment of pregnant/postpartum women with Substance Related Disorders (SRDs) and/or in utero substance exposed neonates. To that end, this FOA issued by NIDA, National Institutes of Health, will

encourage applications to implement preclinical and clinical research directed towards: 1) the identification, evaluation, and development of safe and effective novel pharmacotherapies (e.g., new chemical entities or immunotherapies) for the treatment of pregnant/postpartum women with SRDs and/or in utero substance exposed neonates, and/or 2) the evaluation of the safety and efficacy of FDA approved medications (e.g., medications approved for a different indication) for the treatment of pregnant/postpartum women with SRDs and/or in utero substance exposed neonates.

Applications may focus on pharmacotherapies for the treatment of substance abuse/dependence and its complications during pregnancy or the postpartum period and/or the treatment of the complications associated with in utero substance exposure. Substances of abuse include nicotine, cannabis, methamphetamine, cocaine, opioids, hallucinogens, inhalants, phencyclidine, and prescription medications such as analgesics, sedatives, hypnotics, anxiolytics, and alcohol. Preclinical and clinical research may focus on currently FDA-approved and/or novel investigational medications, including immunotherapies. This Funding Opportunity Announcement is designed to encourage preclinical or clinical research, such as human laboratory studies as well as Phase II and Phase III clinical trials.

Research topics of interest include but are not limited to:

- The testing of new chemical entities which would act as full agonists, partial agonists, or antagonists in pregnancy animal models.
- Medicinal chemistry efforts and associated pharmacological testing directed at the discovery of leads and lead optimization relevant to medications development for the treatment of substance exposure in pregnant/post partum women and in utero substance exposed neonates.
- Preclinical and clinical research on the effects of withdrawal and detoxification in pregnant animal models and pregnant women with SRDs.
- Preclinical testing of medications that may affect the interaction between cannabinoid, opioid and dopamine systems in pregnant animal models.
- Optimization of dosing for approved medications for SRDs by testing them in pregnant women and their in utero substance-exposed neonates.
- Research on the safety and efficacy of various pharmacotherapies for smoking cessation applied during pregnancy (i.e., establish the risk/benefit ratio)
- Efficacy studies on pharmacologic interventions related to specific drug exposure using cardiovascular measures, dosing and tapering protocols, and plasma concentrations of research medications in pregnant/postpartum women and substance exposed neonates.
- Designing clinical trials that specifically address the pharmacotherapy needs of substance exposed pregnant/postpartum women and in utero substance exposed neonates.
- Comparison and efficacy studies of the drugs currently used in the treatment of Neonatal Abstinence Syndrome (NAS).
- Studies of the effects of medications for the treatment of SRDs on the neonate.
- Studies on the elimination of agonist and partial agonist treatment medications, such as methadone or buprenorphine in the newborn at various gestational ages.
- Evaluation of pharmacotherapy strategies for co-morbid SRDs in pregnant women and in utero substance-exposed neonates.
- Evaluation of adjunctive behavioral strategies for medication treatments of SRDs and co-morbid SRDs in pregnant women and in utero substance-exposed neonates.
- Research on systematic abstinence scoring methods to determine the severity of withdrawal and the need for pharmacotherapy.
- Preclinical and clinical effects of treatment medications on developmental outcomes of prenatal exposure to substances of abuse.