

## SC INBRE BIOINFORMATICS PILOT PROJECT PROGRAM

SC EPSCoR/IDeA Solicitation Number: 11-101

### Important Dates

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**Release Date:** Thursday, February 10, 2011

**Submission of Proposals:** Monday, May 2, 2011 in the South Carolina EPSCoR/IDeA Office

**Anticipated Period of Performance:** July 1, 2011 – June 30, 2012

**Award Amount:** Up to \$10,000

**Anticipated Number of Awards:** Up to 5

### Program Information

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The goal of the SC INBRE Bioinformatics Pilot Project Program is to stimulate interest in the application of genomics and bioinformatics methods to undergraduate and graduate student research throughout the INBRE and South Carolina Clinical and Translational Research Institute (SCTR) networks. Funded projects will generate preliminary data for presentations, publications and grant proposals by faculty and their students.

Projects should propose to work with one of the following INBRE-supported facilities with resources necessary to complete the research. These facilities include:

- NMR Facility at Claflin University  
Dr. Muthakrishna Raja – Associate Professor ([mraja@claflin.edu](mailto:mraja@claflin.edu), 803-535-5673)
- Microarray Facility at the University of South Carolina  
Dr. Kim Creek – Director ([Creekk@sccp.sc.edu](mailto:Creekk@sccp.sc.edu), 803-777-0952)
- Proteogenomics Core Facility at the Medical University of South Carolina  
Dr. Scott Argraves – Director ([argraves@musc.edu](mailto:argraves@musc.edu), 843-792-5482)
- The Instrumentation Resource Facility at the University of South Carolina School of Medicine  
Dr. Bob Price – Director ([bob.price@uscmed.sc.edu](mailto:bob.price@uscmed.sc.edu), 803-733-3392)
- Stem Cell Facility at the Medical University of South Carolina  
Dr. Richard Visconti – Director ([visconrp@musc.edu](mailto:visconrp@musc.edu), 843-792-6024)

For additional information about the facility resources, contact the directors listed above. Other facilities in the state, or the services of commercial facilities may also be used, if the services required by the project are not provided by the facilities listed above.

Projects will also benefit from the computational and data storage resources of SC INBRE's Bioinformatics Core, Dr. Homayoun Valafar, Director ([homayoun@cec.sc.edu](mailto:homayoun@cec.sc.edu), 803-777-2404)

### Eligibility

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Proposals are being accepted from institutions of higher education in the SC INBRE network. The SC INBRE network is comprised of Claflin University, Clemson University, the College of Charleston, Francis Marion University, Furman University, the Medical University of South Carolina, South Carolina State University, the University of South Carolina, the University of South Carolina Beaufort and Winthrop University. Proposals are also encouraged from affiliated members of SCTR and interested students and faculty at primarily undergraduate institutions (PUI) across the state.

Projects must be implemented by faculty and student teams. Teams should consist of at least one undergraduate or graduate student, and at least one faculty member. Individuals may only be involved in a single proposal per funding period. The

proposal should identify a faculty member to serve as the Principal Investigator (PI). Any other personnel (faculty or students) should be listed as Co-Principal Investigators (Co-PI).

The SC EPSCoR/IDeA Program welcomes proposals from all qualified scientists, engineers and educators and strongly encourages women, minorities and persons with disabilities to compete fully in its programs. In accordance with federal statutes and regulations, no person on grounds of race, color, age, sex, national origin or disability shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving financial assistance from the SC EPSCoR/IDeA Program, although some programs may have special requirements that limit eligibility.

### **Proposal Guidelines**

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The Project Description section of proposals must not exceed five pages in length. Proposals must be prepared with 1" margins and a font size no smaller than 11pt. All proposals must include an authorized institutional representative's signature on both the Cover Sheet and Budget Page.

The Principal Investigator (PI) identified on the Cover Sheet shall be the designated contact person for the project and is expected to provide leadership in coordinating and integrating its activities. The PI will be held accountable for all scientific and programmatic responsibilities, including required reporting (see Award and Reporting Requirements). The Authorized Institutional Representative identified on the Cover Sheet will be held responsible for all fiscal obligations.

#### **All Pilot Project proposals must be assembled in the following sequence:**

- Cover Sheet for proposal to the SC EPSCoR/IDeA Program (Appendix A).
- Project Description, (maximum five pages) including Specific Aims, a brief Significance and Innovation section, and a Research Plan. A competitive proposal will describe a focused set of experiments, including gene expression analysis by microarrays with any of the available platforms, high throughput DNA sequencing, proteomics, or any other application that require bioinformatics methods of data analysis. The likelihood that the experiment proposed will yield data suitable for publication and usable as preliminary data for an extramural grant proposal will be one of the most important criteria for review. If the proposed research is translational in nature and/or you can foresee practical applications of the anticipated results, make sure to state that in the Significance and Innovation section.
  - Human Subjects. If research involves human subjects, discuss the use of human subjects as it is required in NIH grant applications. Provide targeted enrollment tables, a certificate of training in HS research for the PI, and proof of IRB approval for the project. No activities involving human subjects can be initiated without appropriate IRB approval of the protocol. If plans include research with human subjects, initiate the process for IRB approval at the same time at which you are submitting this proposal to SC INBRE. If your proposal does not involve human subjects, state so.
  - Vertebrate Animals. Describe the project's animal protocols according to NIH guidelines, addressing the required five points for animal use protocols. Research involving vertebrate animals must be approved by the IACUC before any work on the project can start. If plans include research with animals for this application, and there is not yet have approved protocol, please initiate the process at the time of submission of this proposal. As for HS research, work on projects cannot begin until approval is obtained. If the research does not involve vertebrate animals, please state so.
  - Biosafety. Discuss the biosafety aspects of the proposed work and, if necessary, file for approval from the Institutional Biosafety Committee at the same time in which you submit this proposal to SC INBRE. If there are no biohazards, please state so.
  - Plans for Further Development of the Work. Describe plans for publication and use of the data in grant proposals. If specific opportunities for funding have been identified that would apply to your research, list them here. If you plan to present your work at a specific local, regional, or national/international meeting, indicate which meeting you plan to send your work to. If you anticipate that the experiments proposed will allow you to set up a new collaboration, briefly describe it.
- Budget Page for the project (Appendix B). See Budget section below for specific instructions.
- Budget Explanation of estimated costs. Include support requested or available from other sources, including institutional, local, and federal agencies (maximum one page).
- Biographical Sketch of PI (maximum four pages, Appendix C).
- Literature Cited (no page limit).

## Budget

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Allowable costs are those for materials and supplies necessary for the proposed project and the costs of arrays (Affymetrix or Agilent (or other dual-label) platform) and reagents. Salary support for faculty is not allowable, but in some cases limited support for student time may be considered. Limited support for travel may be granted only if travel is necessary for the execution of the experiments proposed. Costs of registration/travel to meetings and publication costs will not be covered under this award. Indirect costs are not allowed.

Awardees should ensure that costs claimed under SC EPSCoR/IDeA grants are allowable and reasonable.

## Submission Instructions

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Complete proposals, including a signed Cover Sheet and Budget Page, must be submitted no later than 5:00pm on Monday, May 2, 2011. Award periods of performance may vary, but funds must be expended by June 30, 2012.

All proposals must be submitted to the South Carolina EPSCoR/IDeA Program, as a single PDF file with a signed Cover Page and Budget Page, via email to Nick Younginer ([nicholas.younginer@scra.org](mailto:nicholas.younginer@scra.org)).

**Incomplete or late submissions will not be accepted.**

## Proposal Selection

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All proposals that meet the eligibility requirements and guidelines will be evaluated based upon the extent to which they meet specific criteria, including:

- Technical merit of the proposed project;
- Potential to generate presentations, publications or grant proposals;
- Qualifications of project personnel;
- Reasonableness of budget; and
- Broader impact within the INBRE network, including involvement of underrepresented minorities within the research team: African-Americans, Pacific Islanders, Hispanics or Latinos, Native Americans, women, and/or persons with disabilities.

## Award and Reporting Requirements

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Principal Investigators will receive notice of the Pilot Project award/declination via e-mail.

Award recipients are required to provide the SC EPSCoR/IDeA state office with project data for evaluation and reporting purposes. Accordingly, the PI must submit a comprehensive Pilot Project Progress Report no later than ninety (90) days after the expiration of their award. Further instructions for the preparation and submission of progress reports will be sent to the PI within 30 days after the expiration of the award. Final invoices for reimbursement must be received by May 31, 2011.

The PI is responsible for providing the following:

- Progress reports, including an abstract summary of the supported activity, summary of expenditures, project plans for the future, and project achievements (grants, publications, presentations, etc.) **For a period of time after the expiration of the award, SC EPSCoR/IDeA will continue to contact the PI for outcome-related data such as grants, publications, etc.**

**Failure to provide any requested materials for award or evaluation purposes will constitute default under this program. In such cases, the SC EPSCoR/IDeA Program reserves the right to recover all previously expended funds issued under the related award and the right to refuse any future proposals for consideration of funding.**

## Contact Information

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General inquiries regarding this program should be made to:

Nicholas Younginer  
Senior Program Assistant  
[nicholas.younginer@scra.org](mailto:nicholas.younginer@scra.org)

## COVER SHEET FOR PROPOSAL

SC EPSCoR/IDeA SOLICITATION NAME AND NUMBER				DATE SUBMITTED	
IS THIS PROPOSAL BEING SUBMITTED TO ANOTHER AGENCY? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, LIST NAME(S):					
NAME OF AWARDEE INSTITUTION (INSTITUTION OF PI)			ADDRESS OF AWARDEE ORGANIZATION, INCLUDING 9 DIGIT ZIP CODE		
NAME OF COLLABORATING ORGANIZATION			ADDRESS OF PERFORMING ORGANIZATION, IF DIFFERENT, INCLUDING 9 DIGIT ZIP CODE		
IS AWARDEE ORGANIZATION (Check All That Apply) <input type="checkbox"/> FOR-PROFIT ORGANIZATION <input type="checkbox"/> SMALL BUSINESS <input type="checkbox"/> MINORITY BUSINESS <input type="checkbox"/> WOMAN-OWNED BUSINESS EMPLOYER IDENTIFICATION NUMBER (EIN) OR TAXPAYER IDENTIFICATION NUMBER (TIN)					
TITLE OF PROPOSED PROJECT					
REQUESTED AMOUNT \$		PROPOSED DURATION (1-12 MONTHS) Months		REQUESTED STARTING DATE	
TARGETED AGENCY OR ORGANIZATION (IF APPLICABLE)		SUBTOPIC (IF APPLICABLE)		FEDERAL PROPOSAL SUBMISSION DEADLINE	
CHECK APPROPRIATE BOX(ES) IF THIS PROPOSAL INCLUDES ANY OF THE ITEMS LISTED BELOW <input type="checkbox"/> PROPRIETARY & PRIVILEGED INFORMATION <input type="checkbox"/> VERTEBRATE ANIMALS <input type="checkbox"/> HUMAN SUBJECTS <input type="checkbox"/> HAZARDOUS MATERIALS INCLUDING REGULATED BIOLOGICAL MATERIALS AND/OR RADIOACTIVE AND/OR OTHER REGULATED CHEMICALS/MATERIALS <input type="checkbox"/> INTERNATIONAL COOPERATIVE ACTIVITIES: COUNTRY/COUNTRIES INVOLVED _____					
NAME	HIGHEST DEGREE	YEAR OF DEGREE	TELEPHONE NUMBER	EMAIL ADDRESS	
PI					
Co-PI					
Co-PI					
Co-PI					
PI DEPARTMENT			PI MAILING ADDRESS		
PI FAX NUMBER					

**CERTIFICATION PAGE**

**Certification for Principal Investigators and Co-Principal Investigators**

I certify to the best of my knowledge that:

- (1) The statements herein (excluding scientific hypotheses and scientific opinions) are true and complete; and
- (2) The text and graphics herein as well as any accompanying publications or other documents, unless otherwise indicated, are the original work of the signatories or individuals working under their supervision. I agree to accept responsibility for the scientific conduct of the project and to provide the required project reports if an award is made as a result of this proposal. I understand that the willful provision of false information or concealing a material fact in this proposal or any other communication submitted is a criminal offense (U.S.Code, Title 18, Section 1001).

Name (Typed)	Signature	Date
PI		
Co-PI		
Co-PI		
Co-PI		

**Certification for Authorized Organizational/Institutional Representative**

By signing and submitting this proposal, the individual applicant or the authorized official of the applicant firm or company certifies that:

- (1) The statements made herein are true and complete to the best of their knowledge;
- (2) It agrees to accept the award terms and conditions and should these terms not be met, to negotiate a fair and reasonable plan to reimburse the South Carolina EPSCoR/IDeA Program/South Carolina Research Authority for expenditures incurred under the award;
- (3) The organization or its principals are not presently disbarred, suspended, proposed for disbarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal or State department or agency;
- (4) The organization is not delinquent on any Federal or State debt;
- (5) The organization operates as a drug-free workplace;
- (6) Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: Title VI of the Civil Rights Act of 1964 (P.L. 88-352, Title IX of the Education Amendments of 1972, as amended (20 U.S.C. § 1681-1683, and 1685-1686), Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), the Age Discrimination Act of 1975, as amended (42 U.S.C. § 6101-6107);
- (7) No funds will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of a Member of Congress in connection with the awarding of any Federal contract, grant, loan or cooperative agreement;
- (8) Submission of a complete proposal, including a signed Cover Sheet and Budget Page, signifies the applicant's agreement to release the proposal for external review; and
- (9) Failure to submit a proposal to the targeted agency or organization as listed on page 1 of the Cover Sheet will constitute DEFAULT under the related program. Further, SC EPSCoR/IDeA reserves the right to recover all previously expended funds issued under the related award and the right to refuse any future proposals for SC EPSCoR/IDeA funding.

Name (Typed)	Signature	Date
Telephone Number	Fax Number	Email Address



Program Director/Principal Investigator (Last, First, Middle):

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.  
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME		POSITION TITLE	
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY

**NOTE: The Biographical Sketch may not exceed four pages. Follow the formats and instructions below.**

**A. Personal Statement**

Briefly describe why your experience and qualifications make you particularly well-suited for your role (e.g., PD/PI, mentor, participating faculty) in the project that is the subject of the application.

**B. Positions and Honors**

List in chronological order previous positions, concluding with the present position. List any honors. Include present membership on any Federal Government public advisory committee.

**C. Selected Peer-reviewed Publications**

NIH encourages applicants to limit the list of selected peer-reviewed publications or manuscripts in press to no more than 15. Do not include manuscripts submitted or in preparation. The individual may choose to include selected publications based on recency, importance to the field, and/or relevance to the proposed research. When citing articles that fall under the Public Access Policy, were authored or co-authored by the applicant and arose from NIH support, provide the NIH Manuscript Submission reference number (e.g., NIHMS97531) or the PubMed Central (PMC) reference number (e.g., PMCID234567) for each article. If the PMCID is not yet available because the Journal submits articles directly to PMC on behalf of their authors, indicate "PMC Journal - In Process." A list of these Journals is posted at:

[http://publicaccess.nih.gov/submit\\_process\\_journals.htm](http://publicaccess.nih.gov/submit_process_journals.htm). Citations that are not covered by the Public Access Policy, but are publicly available in a free, online format may include URLs or PMCID numbers along with the full reference (note that copies of publicly available publications are not accepted as appendix material.)

**D. Research Support**

List both selected ongoing and completed research projects for the past three years (Federal or non-Federally-supported). *Begin with the projects that are most relevant to the research proposed in the application.* Briefly indicate the overall goals of the projects and responsibilities of the key person identified on the Biographical Sketch. Do not include number of person months or direct costs.

Program Director/Principal Investigator (Last, First, Middle): Hunt, Virginia, L.

**BIOGRAPHICAL SKETCH**

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2.  
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Hunt, Virginia Lively		POSITION TITLE Associate Professor of Psychology	
eRA COMMONS USER NAME (credential, e.g., agency login) huntvl			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of California, Berkeley	B.S.	05/90	Psychology
University of Vermont	Ph.D.	05/96	Experimental Psychology
University of California, Berkeley	Postdoctoral	08/98	Public Health and Epidemiology

**A. Personal Statement**

The goal of the proposed research is to investigate the interaction between drug abuse and normal aging processes. Specifically, we plan to measure changes in cognitive ability and mental and physical health across a five-year period in a group of older drug users and matched controls. I have the expertise, leadership and motivation necessary to successfully carry out the proposed work. I have a broad background in psychology, with specific training and expertise in key research areas for this application. As a postdoctoral fellow at Berkeley, I carried out ethnographic and survey research and secondary data analysis on psychological aspects of drug addiction. At the Division of Intramural Research at the National Institute on Drug Abuse (NIDA), I expanded my research to include neuropsychological changes associated with addiction. As PI or co-Investigator on several previous university- and NIH-funded grants, I laid the groundwork for the proposed research by developing effective measures of disability, depression, and other psychosocial factors relevant to the aging substance abuser, and by establishing strong ties with community providers that will make it possible to recruit and track participants over time. In addition, I successfully administered the projects (e.g. staffing, research protections, budget), collaborated with other researchers, and produced several peer-reviewed publications from each project. As a result of these previous experiences, I am aware of the importance of frequent communication among project members and of constructing a realistic research plan, timeline, and budget. The current application builds logically on my prior work, and I have chosen co-investigators (Drs. Gryczynski and Newlin) who provide additional expertise in cognition, gerontology and geriatrics. In summary, I have a demonstrated record of successful and productive research projects in an area of high relevance for our aging population, and my expertise and experience have prepared me to lead the proposed project.

**B. Positions and Honors****Positions and Employment**

1998-2000	Fellow, Division of Intramural Research, National Institute of Drug Abuse, Bethesda, MD
2000-2002	Lecturer, Department of Psychology, Middlebury College, Middlebury, VT
2001-	Consultant, Coastal Psychological Services, San Francisco, CA
2002-2005	Assistant Professor, Department of Psychology, Washington University, St. Louis, MO
2005-	Associate Professor, Department of Psychology, Washington University, St. Louis, MO

### **Other Experience and Professional Memberships**

1995- Member, American Psychological Association  
1998- Member, Gerontological Society of America  
1998- Member, American Geriatrics Society  
2000- Associate Editor, Psychology and Aging  
2003- Board of Advisors, Senior Services of Eastern Missouri  
2003-04 NIH Peer Review Committee: Psychobiology of Aging, ad hoc reviewer  
2005-09 NIH Risk, Adult Addictions Study Section, member

### **Honors**

2003 Outstanding Young Faculty Award, Washington University, St. Louis, MO  
2005 Excellence in Teaching, Washington University, St. Louis, MO  
2008 Award for Best in Interdisciplinary Ethnography, International Ethnographic Society

### **C. Selected Peer-reviewed Publications (Selected from 42 peer-reviewed publications)**

#### **Most relevant to the current application**

1. Merrylye, R.J. & Hunt, V.L. (2004). Independent living, physical disability and substance abuse among the elderly. *Psychology and Aging*, 23(4), 10-22.
2. Hunt, V.L, Jensen, J.L. & Crenshaw, W. (2007). Substance abuse and mental health among community-dwelling elderly. *International Journal of Geriatric Psychiatry*, 24(9), 1124-1135.
3. Hunt, V.L, Wiechelt, S.A. & Merrylye, R. (2008). Predicting the substance-abuse treatment needs of an aging population. *American Journal of Public Health*, 45(2), 236-245. PMID: PMC9162292
4. Hunt, V.L., Newlin, D.B. & Fishbein, D. (2009). Brain imaging in methamphetamine abusers across the life-span. *Gerontology*, 46(3), 122-145.
5. Hunt, V.L. & Sher, K.A. (2009). Successful intervention models for older drug-abusers: Research across the life-span. *American Psychologist*, in press. NIHMSID: NIHMS99135

#### **Additional recent publications of importance to the field (in chronological order)**

1. Gryczynski, J., Shaft, B.M., Merrylye, R., & Hunt, V.L. (2002). Community based participatory research with late-life addicts. *American Journal of Alcohol and Drug Abuse*, 15(3), 222-238.
2. Shaft, B.M., Hunt, V.L., Merrylye, R., & Venturi, R. (2003). Policy implications of genetic transmission of alcohol and drug abuse in female nonusers. *International Journal of Drug Policy*, 30(5), 46-58.
3. Hunt, V. L., Marks, A.E., Shaft, B.M., Merrylye, R., & Jensen, J.L. (2004). Early-life family and community characteristics and late-life substance abuse. *Journal of Applied Gerontology*, 28(2),26-37.
4. Hunt, V.L., Merrylye, R. & Jensen, J.L. (2005). The effect of social support networks on morbidity among elderly substance abusers. *Journal of the American Geriatrics Society*, 57(4), 15-23.
5. Hunt, V.L., Pour, B., Marks, A.E., Merrylye, R. & Jensen, J.L. (2005). Aging out of methadone treatment. *American Journal of Alcohol and Drug Abuse*, 15(6), 134-149.
6. Hunt, V.L, Marks, A.E., Venturi, R., Crenshaw, W. & Ratonian, A. (2006). Community-based intervention strategies for reducing alcohol and drug abuse in the elderly. *Addiction*, 104(9), 1436-1606. PMID: PMC9000292
7. Merrylye, R. & Hunt, V.L. (2006). Randomized clinical trial of cotinine in older nicotine addicts. *Age and Ageing*, 38(2), 9-23. PMID: PMC9002364
8. Hunt, V.L., Jensen, J.L. & Merrylye, R. (2008). *The aging addict: ethnographic profiles of the elderly drug user*. NY, NY: W. W. Norton & Company.
9. Hunt, V.L. (2009). Contrasting ethnicity with race in the older alcoholic. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, in press. PMID: PMC Journal – In Process.
10. Hunt, V.L. (2009). Intervening successfully with the older methadone patient. *Journal of Applied Gerontology*, 13(4), 67-79.

