



MEDICAL UNIVERSITY OF SOUTH CAROLINA SPECIALIZED CENTER OF RESEARCH EXCELLENCE (SCORE) ON SEX DIFFERENCES: CAREER ENHANCEMENT CORE SCHOLAR PROGRAM

Principal Investigators: Aimee McRae-Clark, PharmD and Kevin Gray, MD
Career Enhancement Core Director: Kathleen Brady, MD, PhD
Program Manager: Amanda Wagner, MA, LPC (wagne@musc.edu)

KEY DATES

Call for Applications:	May 1, 2024
Letters of Intent Due:	June 3, 2024
Program Applications Due:	July 5, 2024
Notification of Awards:	August 2024
Earliest Appointment Start Date:	September 2024

KEY INFORMATION

Number of Openings:	1
Term:	1-2 years
Effort Requirement:	50% maximum
Type of Research Supported:	Basic or Clinical Research
Amount of Non-Salary Research Support:	\$20,000/year

OVERVIEW

In August 2023, the National Institute on Drug Abuse and the Office of Research on Women's Health renewed a 5-year award for Drs. Aimee McRae-Clark and Kevin Gray, funding a research center focused on sex and gender-based multidisciplinary research at MUSC. One of the goals of the center is to foster research career development in the areas of sex and gender differences and understanding sex as a biological variable. The Career Enhancement Core facilitates this goal via intensive mentoring support of early career faculty focused on sex and gender differences, particularly as they pertain to stress in human health and disease, at MUSC.

The purpose of this Career Enhancement Core is to provide salary support and research funds to promising junior faculty and senior fellows/post-doctoral trainees pending faculty appointment with a doctorate and less than 5 years of research training at MUSC to collect initial data for an R03, R21, or R01 submission. The project must focus on sex and gender differences as they uniquely relate to stress-related disorders. The project can be either clinical or basic science, and projects involving multidisciplinary teams and/or translational research efforts are especially encouraged.

Scholars will be selected for a career development award to begin as early as **September 2024**. Applicants must be on faculty or eligible to join the faculty by this date. Scholars will receive 1-2 years of salary support commensurate with 50% effort per year (see Salary & Time Commitment under "Eligibility") to pursue basic/clinical research.

The program includes a supportive environment, start-up research funds, and access to core faculty who provide expertise and guidance in research design, measurement techniques, study coordination, data management, biostatistical analysis, research dissemination, and grant writing. Applicants should develop a training and research plan in consultation with an eligible mentor (faculty with research funding and expertise in sex/gender differences and stress-related disorders) and apply according to the instructions outlined below.

ELIGIBILITY

Junior faculty and senior fellows/post-doctoral trainees pending faculty appointment with a doctorate and less than 5 years of research training who are committed to a career in basic or clinical research in sex and gender differences, particularly as they pertain to stress-related disorders. Scholars are scientists with doctoral-level professional degrees who represent a broad range of disciplines, professions, specialties, and sub-specialties, and who can develop into future leaders of clinical research. Examples include MD, PhD, DO, DDS, DMD, and PharmD. All candidates with clinical doctorates are expected to have completed the specific requirements leading to clinical certification.

Salary & Time Commitment. A maximum of 50% of a Scholar's full-time professional effort must be devoted to the program for the training and research activities. The remaining effort can be divided among other research, clinical and teaching activities if these activities are consistent with the proposed goals of the SCORE CEC program.

Citizenship. By the time of award, the individual must be a citizen or a non-citizen national of the United States or have been lawfully admitted for permanent residence (i.e., possess a currently valid Permanent Resident Card USCIS Form I-551, or other legal verification of such status).

Prior research experience. Scholars may not have served as the principal investigator (PI) or equivalent on an NIH research project (R01), as PI of a subproject of a program project (P01), center grant or equivalent, or received support from a mentored career development (K-series) grant (including but not limited to K23, K12, KL2, K01, or K08 support). During the period of this award, Scholars are encouraged to apply for independent research grant support.

SCHOLAR SELECTION CRITERIA

The following criteria will be used by the SCORE CEC Steering Committee to evaluate applications from Scholar candidates. Top candidates will be interviewed in person.

- Candidate must show evidence of interest in and commitment to sex/gender-based research as a career objective.
- Candidate must show evidence of research interest and mentor expertise in an area related to stress in human health and disease.
- Candidates must be able to define a specific research question or set of questions to be addressed during the program (see Application Instructions). There should be some relationship between the topic and past or current activity, although a case can be made for using the program as a transition into a new area. The applicant must indicate how the SCORE will be used to prepare for a program of research on the chosen topic. The significance of the topic, likelihood of future funding, and the applicant's commitment will be part of the selection criteria. The topic must be consistent with program objectives, specifically a focus on sex and gender differences and stress-related disorders.
- Candidates as Scholars must devote a maximum of 50% of full-time professional effort (6.0 person months) to the SCORE CEC Pilot Project Program.
- Scholars must choose mentors from clinical/laboratory settings that have actively funded research programs. In addition to active funding, mentors must be able to provide a research-supportive environment including access to critical resources such as laboratories, patients, data sets and community settings.
- The candidate's clinical or laboratory experience, previous work and/or research interests will be taken into account in assessing the match between the candidate and mentor's research interests. The mentor's expertise, accessibility, mentorship experience, resources and enthusiasm for the applicant will be taken into account. The primary mentor needs to be a NIH-funded investigator. In certain situations, Scholars may elect to have a co-mentor who is not a NIH-funded investigator serve on the mentorship team.

PROGRAM REQUIREMENTS

1. **Duration of the Award.** Scholars will receive 1-2 years of salary support at a maximum of 50% effort per year (not to exceed \$50,000 in salary support). Each year of funding is contingent on satisfactory participation in SCORE CEC activities and progress toward the Scholar's individual career goals, and continued support from the Scholar's mentor and department.
2. **Career Development Plan.** At the time of program entry, a needs assessment will be conducted to develop an individualized program that meets the needs of each Scholar and satisfies the general goals and objectives of the program. While each Scholar will have an individually tailored career development plan, all will participate in a unified core curriculum designed to address the following objectives: (1) Increase scientific knowledge and provide for professional development; (2) Provide fundamental research skills; (3) Enhance research presentation skills; and (4) Improve scientific writing skills. Scholars are required to write and submit an extramural grant application by the end of their second year of SCORE CEC program support.
3. **Mentors.** Each Scholar appointed to the SCORE CEC Pilot Project program must have both a primary and co-mentor. All proposed mentors must be: 1) accomplished investigators in the area of sex and gender differences and stress-related disorders, 2) actively involved in federally funded sex and gender difference-related clinical or basic research, and 3) have a successful record of engendering his or her Scholars' independence as evidenced by Scholars' research

productivity and ability to obtain independent research funding. Proposed mentors must have independent NIH research funding (e.g., R01, P50) or equivalent at the time of the SCORE CEC award and be committed to mentoring the Scholar throughout their total period of development under the award. In addition, a primary mentor must be familiar with faculty and resources at MUSC and have the necessary resources and research staff to support the Scholars' training and research. Mentors will also help to assure that 50% of the Scholar's total work week is protected from clinical and administrative duties, and fully available for the SCORE CEC training plan and research activities.

APPLICATION

Completed applications must be submitted online by **5:00 PM on July 5th, 2024**, adhering to the instructions provided. A letter of intent (LOI), including proposed project title and mentors, is requested by **June 3rd, 2024**. LOIs may be sent directly to the SCORE Program Manager (Amanda Wagner) at wagne@musc.edu.

Please submit your application at <https://redcap.musc.edu/surveys/?s=AJNCR84K7F>

SCORE CEC PROGRAM APPLICATION INSTRUCTIONS

1) CANDIDATE'S NIH BIOSKETCH

Refer to PHS 398 instructions located at <http://grants2.nih.gov/grants/funding/phs398/phs398.html>

2) MENTORS' NIH BIOSKETCH

Refer to PHS 398 instructions located at <http://grants2.nih.gov/grants/funding/phs398/phs398.html>

3) MENTOR STATEMENT AND TRAINEE TABLE

The candidate's primary mentor must complete a Mentor's Statement and Trainee Table. Primary Mentor should be specific about resource commitment to the Scholar's research. A letter of support and NIH biosketch must be included from each co-mentor and any additional mentors.

4) DEPARTMENT/DIVISION CHAIR STATEMENT

The candidate's Department/Division Chair must provide a statement indicating support for the proposed research. Senior fellow/post-doctoral trainee applicants must also provide a letter from their Department Chair ensuring a faculty appointment if SCORE CEC Scholar funding is awarded.

5) CANDIDATE'S STATEMENT (not to exceed 5 pages)

Using the subheadings listed below, address the following topics while bearing in mind the Scholar Selection Criteria found on page 2 of this document.

Candidate's Background

- Provide evidence of your commitment to a research career in sex/gender differences and stress-related disorders.
- Describe your previous research experience, including your role in the project(s).
- Highlight examples of your productivity (e.g., pursuing an original research question, analyzing data, pursuing extramural funding, and presenting or publishing your findings).

Career Goals

- State your short-term and long-term research career goals, including the type of research you plan to conduct and the potential impact your research will have on sex/gender differences research.
- Explain how participating in the SCORE project program will prepare you to compete successfully for an NIH grant, such as an R03, R21, or R01.
- Justify the need for protected time afforded through this SCORE career development award.

Training Plan

- Explain what additional training you need to achieve your research career development goals in the area of sex/gender differences and stress-related disorders. Identify specific areas where you have deficiencies and describe how you will obtain additional training in each area.
- Provide a timeline of your proposed training plan.
- Describe the role of your mentors. Be specific and refer back to your proposed training and/or research plan whenever possible.

Career Potential

- Explain how you will benefit from this SCORE project program and how it will contribute to the development of your independent career in sex/gender differences.
- Comment on the leadership role(s) you expect to play in your department/division in 5-10 years.

6) ABSTRACT (not to exceed 1 page)

Include Project Title, Key Words, and Research Abstract.

7) RESEARCH PLAN

The applicant should work closely with their mentor on writing the research plan. Propose a line of investigation consistent with program objectives, specifically a focus on basic or clinical investigation relevant to sex/gender differences and stress-related disorders. There should be some relationship between the choice of topic and past or current research activity, although a case can be made for using the program as a transition into a new area. *Organize the Research Plan according to the section headings provided below. Note page limits for each section.*

1. Specific Aims (1 page limit)

State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved.

2. Research Strategy (6-page limit)

Organize the Research Strategy using the instructions provided below. Start each section with the appropriate section heading – Significance, Innovation, or Approach. Include any tables, graphs, figures, diagrams, or charts in this section. If an applicant has multiple Specific Aims, then the applicant may address Significance, Innovation and Approach for each Specific Aim individually, or may address Significance, Innovation and Approach for all the Specific Aims collectively.

a. Significance

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice.
- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive the field will be changed if the proposed aims are achieved.

b. Innovation

- Explain how the application challenges and seeks to shift current research or clinical practice paradigms.
- Describe any novel theoretical concepts, approaches or methodologies, instrumentation, or interventions to be developed or used, and any advantage over existing methodologies, instrumentation, or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation, or interventions.

c. Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted, as well as any resource sharing plans as appropriate.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high-risk aspects of the proposed work.
- Address whether minorities and both men and women will be included.
- Applicants are strongly encouraged to take advantage of assistance provided by the SCORE Biostatistical Research Core when preparing their application. Consults can be requested by contacting Amanda Wagner at wagne@musc.edu.

3. Bibliography and References Cited (no page limit)

4. Protection of Human Subjects (no page limit)

If applicable, provide justification for involvement of human subjects for research that involves human subjects. Address the following: 1) risk to subjects, 2) adequacy of protection against risks, 3) potential benefits to the subjects and others, 4) importance of the knowledge to be gained, and 5) data and safety monitoring for clinical trials. For additional information, please refer to

http://grants.nih.gov/grants/peer/guidelines_general/Review_Human_Subjects_20130508.pdf.

5. Vertebrate Animals (no page limit)

If applicable, provide justification for the involvement of live vertebrate animals as part of the scientific assessment according to the following five points: 1) proposed use of the animals, and species, strains, ages, sex, and numbers to be used; 2) justifications for the use of animals and for the appropriateness of the species and numbers proposed; 3) adequacy of veterinary care; 4) procedures for limiting discomfort, distress, pain and injury to that which is unavoidable in the conduct of scientifically sound research including the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices; and 5) methods of euthanasia and reason for selection if not consistent with the AVMA Guidelines on Euthanasia. For additional information, please refer to <http://grants.nih.gov/grants/olaw/VASchecklist.pdf>.

8) BUDGET AND JUSTIFICATION

Refer to PHS 398 instructions located at <http://grants2.nih.gov/grants/funding/phs398/phs398.html>

Complete a budget and budget justification for research-related expenses (maximum \$20,000) and salary support (maximum \$50,000) for Year 01. Funding can be used for the following types of expenses: (a) research supplies, equipment, and technical personnel; (b) tuition, fees, and books related to didactic courses or career development; (c) statistical services including assistance with data entry and management and software consultation; and (d) travel to research meetings or training workshops (\$3,000 maximum for travel unless justification for additional funds provided and approved by SCORE leadership)- each Scholar is expected to submit an abstract for presentation at a national scientific meeting annually as well as attend the ORWH SCORE annual meeting.

Formatting Information

File type: PDF only

Font: Arial, 11 point

Margins: 0.5"

Paper size: 8 ½" x 11"

Note: Please DO NOT submit any supplementary materials (e.g. appendices) as these will not be reviewed.

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