

Post-doctoral Training Program at UT-Austin

NIH-Institutional Research and Academic Career Development Awards (IRACDA) Program

The purpose of the IRACDA program is to develop a diverse group of highly trained biomedical and behavioral scientists to address the nation's biomedical, behavioral and clinical research needs. The program promotes consortia between research-intensive institutions (RII) and partner institutions that have a historical mission and a demonstrated commitment to providing training, encouragement and assistance to students from groups underrepresented in the biomedical and behavioral research enterprise of the nation. The IRACDA program combines a traditional mentored postdoctoral research experience with an opportunity to develop academic skills, including teaching, through workshops and mentored teaching assignments at a partner institution. The program is expected to facilitate the progress of postdoctoral candidates toward research and teaching careers in academia. Other goals are to provide a resource to motivate the next generation of scientists at partner institutions and to promote linkages between RIIs and partner institutions that can lead to further collaborations in research and teaching. All IRACDA programs have a strong research base and the mentored research experience must fall within the scope of the NIGMS mission.

Collaborative Opportunities for Research Educators (CORE) at UT-Austin

The NIH-IRACDA program "Collaborative Opportunities for Research Educators" (CORE) builds on emerging research strengths of the Department of Chemistry and Biochemistry at the University of Texas at Austin and academic excellence at UT-Austin and two minority-serving undergraduate partner institutions, including St Edward's University and Southwestern University. This program will train the next generation of future scientific leaders to pursue academic careers in biomedical science and also foster changes in science education by implementing a new paradigm for research-centric learning at the undergraduate level. The educational component is modeled on an innovative program established at UT-Austin termed the Freshman Research Initiative that couples intensive training and research-focused mentoring of freshmen with integrated transition into thematic research streams. The four major cornerstones of our program include: i) post-doctoral participation in NIH-supported research projects at UT-Austin, ii) development of collaborative research opportunities between UT-Austin and two local undergraduate institutions, iii) training of the post-doctoral fellows as research-educators, and iv) translation of research-oriented training at the freshmen level to the partner undergraduate institutions. A lasting impact of our program is the dynamic merging of post-doctoral and undergraduate research with the hypothesis that cultivating research-intensive education at the undergraduate level will enhance recruitment and retention of under-represented students in science. Three to five postdoctoral fellows will be recruited each year, with each postdoctoral term spanning two to three years. The CORE program will provide other professional development activities that include a CORE boot camp, a Journey to Academia workshop, a grantsmanship workshop, training in the responsible conduct of research, development of lab-specific safety practices, a spring symposium to facilitate networking opportunities, an internal grant competition for the postdoctoral fellows to gain support for their own undergraduate research projects, a lecture videotaping session, and a series on lab management. A target of 50% minority participation, as well as 50% female participation, has been established for the proposed CORE program and qualified applicants are those who have completed a doctorate in chemistry, biochemistry, molecular biology, or a closely related field and express a strong interest in academic careers.

Contact: Dr. Jenny Brodbelt (PI), jbroadbelt@cm.utexas.edu

<https://sites.cns.utexas.edu/core>



**NIH-IRACDA Post-doctoral Training Program:
Collaborative Opportunities for Research Educators
(CORE) at the University of Texas at Austin**

Application

PERSONAL INFORMATION

Full Name: _____
Last
First
MI

CONTACT INFORMATION:

Mailing Address _____
Street

_____ City State Zip Code

Phone Number: _____

Email Address: _____

EDUCATION / RESEARCH

Undergraduate Institution _____ Major _____ Date of Degree _____

Ph.D. Degree Institution _____ Major _____ Date of Degree _____

Names of two individuals who have agreed to write letters of recommendation for you:

Check here if you do not wish to provide the information below.

Ethnicity (U.S. Citizens and Permanent Residents only)

- | | | |
|---|---|---|
| <input type="checkbox"/> African American | <input type="checkbox"/> Asian/Pacific American | <input type="checkbox"/> Caucasian |
| <input type="checkbox"/> Hispanic/Latino/Chicano/Puerto Rican | <input type="checkbox"/> Native American | <input type="checkbox"/> Other (please specify) |

Citizenship

City and Country of Birth: _____ U.S. Citizen Permanent Resident Non-U.S. Citizen

Gender: Female Male

"I certify that the information submitted in this application is complete and correct to the best of my knowledge."

 Signature Date

Required elements of the application:

- 1) CV including a list of published, accepted, and submitted peer-reviewed manuscripts. Please do not include “manuscript in preparation”. Please include your undergraduate and graduate GPAs.
- 2) A personal statement (1-2 double spaced pages) describing your research and teaching experience, research and teaching interests, participation in outreach activities as an undergraduate or graduate student, specific faculty mentors of interest at UT Austin, and future career goal(s).
- 3) Two letters of recommendation which may be submitted by email to:

jbrodbelt@cm.utexas.edu

Faculty Participants from University of Texas at Austin*

Name	Research area
Jenny Brodbelt (PI)	Ultraviolet photodissociation mass spectrometry for analysis of biomolecules
Eric Anslyn	Chemometric supramolecular chemistry for enantiomeric excess
Dean Appling	Mammalian mitochondrial one-carbon metabolism
Jeff Barrick	Systems biology approach for mutations on cell physiology
Kevin Dalby	Structure, function, inhibition of mitogen-activated protein kinases
Ron Elber	Dynamics of biomolecules
Andy Ellington	Genetic circuits based on allosteric ribozymes
Walt Fast	Enzymology of dimethylarginase: Inhibition of nitric oxide production
George Georgiou	Protein engineering for human therapeutics
Brent Iverson	Protease engineering: enzyme directed evolution
Mike Krische	Synthesis of bioactive molecules: green chemistry
Ben Liu	Mechanisms of biosynthetic formation of deoxy sugars
Stephen Martin	Synthesis of bioactive targets; protein-ligand interactions
Ed Marcotte	Network-directed discovery of polygenic disease genes
Rick Russell	Probing dead-box proteins as general RNA chaperones
Lauren Webb	Mapping electrostatic interactions at protein interfaces
Marvin Whiteley	Cell communication and pathogenesis of <i>P. aeruginosa</i>
Chris Whitman	Structure and mechanism in the tautomerase superfamily

*All are affiliated with the Department of Chemistry or Department of Cellular and Molecular Biology.

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