

# WOMEN in Cell Biology

## The IRACDA Program Helps Launch Careers in Research and Teaching

If you are a recent PhD graduate interested in a career that combines research and teaching, the Institutional Research and Academic Career Development Awards (IRACDA) program may be of value to you. The objective of the program is to build partnerships between research-intensive universities and minority-serving institutions (MSIs) in the U.S. that will simultaneously develop student and faculty talent, promote institutional change, and leverage diversity.



Olivia George



Triscia Hendrickson

### National IRACDA Program Network

The IRACDA program was launched just over 10 years ago through the vision of Clifton Poody, Director of the Minority Opportunities in



Gloriana Trujillo



Angela Wandinger-Ness

Research programs at the National Institute of General Medical Sciences (NIGMS), with input from institutional training directors across the country. Recently, Shiva Singh assumed responsibility for heading the IRACDA program at NIGMS. There are now 17 programs supporting 192 postdoctoral trainees and 37 MSI partners. Eight IRACDA program directors are women, and two are present or former ASCB Women in Cell Biology (WICB) Committee members. Each IRACDA institution has a unique flavor based on location, number of fellows, whether the research emphasis is interdisciplinary or focused, and the nature of its MSI partner. (MSIs range from community colleges to research universities.)

A list of the currently funded IRACDA institutions with website links is available on the NIGMS IRACDA homepage ([www.nigms.nih.gov/Training/CareerDev/MOREInstRes.htm](http://www.nigms.nih.gov/Training/CareerDev/MOREInstRes.htm)).

IRACDA programs<sup>1</sup> include several that emphasize cell biology:

- Academic Science Education and Research Training (ASERT; University of New Mexico)
- IRACDA Scholars in Science (University of California, San Francisco)
- Training in Education and Critical Research Skills (Tufts University)

### Skill Development

IRACDA aims to leverage diversity to increase the number of highly qualified science faculty and stimulate undergraduate interest in, and access to, research-oriented science

careers through targeted skill development. IRACDA fellows formulate individualized career development plans that include customized research training plus classroom teaching experience at a partner MSI.

The program allows fellows to spend about 25% of their time enriching their educational skills, including receiving:

- Training in pedagogy
- Hands-on experience developing courses and curricula that emphasize student-centered learning
- Training in linking learning objectives to assessment
- Practical experience in classroom teaching and student mentoring

Educational training may occur through local resources/workshops/classes and in partnership with education mentors at the MSIs. Some IRACDA fellows have competed to participate



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in the National Science Foundation Faculty Institutes for Reforming Science Teaching: Focus on Postdoctoral Scholars program and in Howard Hughes Medical Institute/National Academy of Sciences faculty development programs that emphasize undergraduate biology curriculum development.

Fellows spend the remaining 75% of their time developing their research skills, through work in cutting-edge research areas with program-affiliated research mentors of their choosing. Training in responsible conduct in research, communication skills, grant writing, scientific writing, and job hunting are among career development opportunities offered by most programs.

### Networking with a Community of Peers at Local and National Levels

IRACDA programs offer the opportunity to forge new partnerships with program faculty at the home institution and at partnered MSIs through formal mentor interactions, annual retreats, and career symposia, among other joint activities. But training is not limited to local interactions. Networking with faculty and peers can also extend to other IRACDA programs, conferences, and workshops. For example, IRACDA fellows receive funds for travel to research meetings, faculty development workshops, and the annual IRACDA conference.

The annual IRACDA conference is hosted by a different program each year and provides important opportunities for demonstrating research and education scholarship and for learning about job prospects and new research and teaching strategies. The poster session is a great venue to network among peers and faculty from other institutions; the atmosphere is conducive to exchanging ideas and sharing knowledge. The benefits of networking are many, from sharing ideas and knowledge to making important connections that may lead to the next career step. Networking among peers can also be a key source of valuable advice and support, which can help increase the chances of finding funding and job opportunities and building new collaborations. By meeting face-to-

face and sharing contact information, IRACDA fellows make lasting friendships so that exchange can continue in spite of distance.

### Perspectives of IRACDA Participants on Landing a Job and Career Impact

Several scientists who have participated in IRACDA programs report that the experience has been important for their careers. Nicole Gerardo is currently an assistant professor in Biology at Emory University. She states that IRACDA training at the University of Arizona Postdoctoral Excellence in Research and Teaching program helped her while interviewing and meeting with prospective colleagues with interests in teaching, research, or a combination of the two. Gerardo explains, “My combination of postdoctoral teaching and research experience gave me some way in which I could relate to everyone that I met with during the interview process.” Once in the new position, Gerardo

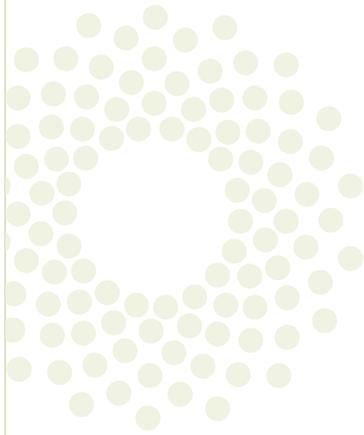
says she had a lot to learn to get started, but she felt less nervous about the teaching process than colleagues who did not participate in IRACDA.

Laurie Krug is currently an assistant professor at Stony Brook University in the Department of Molecular Genetics and Microbiology, and Sarah Stabenfeldt is an assistant professor at Arizona State University in the School of Biological and Health Systems Engineering. Both participated in the FIRST program at Emory University, and both had multiple interviews and job offers. They attribute their competitive edge to excellent mentoring, like-minded peers, a strong teaching portfolio, and knowledge about new pedagogical techniques and active learning developed through their IRACDA training. They will be using these skills in their classrooms.

### How to Apply for IRACDA Postdoctoral Fellowship Positions

Most IRACDA training programs require applicants to provide a curriculum vita, recommendation letters, and a personal statement that details career goals and research and educational experiences. In some cases,

**IRACDA fellows formulate individualized career development plans that include customized research training plus classroom teaching experience at a partner [minority-serving institution].**



the programs encourage prospective fellows to contact potential research mentors before applying to the program, while other programs assist fellows in finding a research lab once they are accepted into the program.

Candidates go through a competitive evaluation process, which usually includes interviews with the program director and research and teaching mentors and a seminar presentation. The IRACDA training programs solicit applications annually from recent PhD graduates, usually in the spring with a fall start date. Fellows who are selected for the program receive full stipend support as well as a modest sum for research and/or teaching supplies. Individuals seeking to achieve excellence as both educators and research scientists, women, and those from disadvantaged or underrepresented minority groups are strongly encouraged to apply. ■

—*Olivia George, University of New Mexico; Triscia Hendrickson, Morehouse College; Gloriana Trujillo, University of New Mexico; Angela Wandinger-Ness, University of New Mexico*

## Notes

Olivia George and Gloriana Trujillo are ASERT fellows. Triscia Hendrickson participated in the FIRST program at Emory University. Angela Wandinger-Ness is PI of ASERT.

<sup>1</sup>The other IRACDA programs are Fellowships in Research and Science Teaching (FIRST; Emory University); Houston Education and Research Training Program (Baylor College of Medicine); IRACDA New Jersey/New York for Science Partnerships in Research & Education (University of Medicine & Dentistry of New Jersey, Robert Wood Johnson Medical School); Medical University of South Carolina IRACDA; Mentored Experiences in Research, Instruction, and Teaching (University of Alabama at Birmingham); Northwestern University Select Teaching and Research Training Program (Northwestern University); PENN—Postdoctoral Opportunities in Research and Teaching (University of Pennsylvania); Postdoctoral Excellence in Research and Teaching (University of Arizona); Professors for the Future (University of California, San Diego); SPIRE (University of North Carolina, Chapel Hill); Stanford University IRACDA; University of Kansas—Haskell Indian Nations University IRACDA; University of Minnesota IRACDA; Virginia Commonwealth University IRACDA.

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