Panelists willing to be contacted with follow up questions

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Recommended articles and blog posts

- [It's a Viable Career Path](#)
- [How the Job Search Differs at Community Colleges](#)
- [Networking for scientists: An opportunity, not a waste of time](#)
- [A teacher who does science or a scientist who teaches?](#)
- [Becoming competitive for a teaching (and research) position part I](#)
- [Becoming competitive for a teaching (and research) position part II](#)
- [I have an interview! Now what?](#)
- [Working at a primarily undergraduate institution](#)
- [How to write a teaching philosophy statement when you don't have a lot of classroom experience (or even if you do)](#)
- [Thoughts on MOOCs](#)
- [The National Science Foundation’s two-criteria review](#)
- [Writing effective letters of evaluation](#)
NIH/IRACDA Program
A Win for Both
Post-Docs and PUI Partner Institutions

Margaret A. Carroll, Ph.D.
Medgar Evers College/CUNY
PUI Teaching Mentor
for Post-Docs in the IRACDA/INSPIRE program at Rutgers

Based upon a presentation given April 3, 2016
at the Experimental Biology Conference-San Diego, California
ASBMB EPD Session –Integrating Complementary Skills into Graduate and Post-Doc Training
IRACDA is sponsored by NIH/NIGMS
Institutional Research and Academic Career Development Awards

IRACDA Program Purpose - to develop a group of highly trained biomedical scientists to address the Nation’s biomedical workforce needs.

Diversity in the U.S. Science and Engineering (S&E) Workforce


Source: NIGMS 5 Year Strategic Plan, March 2015

GOAL 2: Support the Development of a Highly Skilled, Creative & Diverse Biomedical Research Workforce
IRACDA - Institutional Research and Academic Career Development Awards

IRACDA Program Purpose - to develop a group of highly trained biomedical scientists to address the Nation’s biomedical workforce needs

IRACDA Program Strategy - to promote effective consortia between research-intensive institutions (RII) and partner institutions*

*Typically partner institutions are PUIs and/or CC with a history/commitment of serving student from groups underrepresented in the biomedical research enterprise

IRACDA Program Support – IRACDA fellows receive a traditional 3 yr mentored postdoctoral research experience at an RII and

Opportunities to develop critical academic/teaching skills through pedagogical workshops, seminars & other related enrichment activities and

Mentored teaching assignments at the (UG) partner institution
IRACDA - Institutional Research and Academic Career Development Awards

IRACDA Program Objectives – the specific objectives of the program are:

1. Develop the research, teaching, and other skills that are needed by postdoctoral scholars in order to conduct high-quality research and pursue an independent research and teaching career in an academic environment;

2. Foster the development of research-oriented science curricula, using contemporary teaching strategies, at partner institutions;

3. Promote links between RII s and partner institutions that can lead to further collaborations in faculty research and student training.

Program Expectation is for trained IRACDA Fellows to gain access to STEM careers, across the academic pipeline (RII, MSI and PUIs), which promote excellence in both research and teaching.
Currently there are 22 funded IRACDA programs*

Dr. Gary Brewer
Dr. Martha Soto
Project Co-Directors

Rutgers “INSPIRE”
State University of NJ
Rutgers Biomedical and
Health Sciences – Robert Wood Johnson
Medical School (RWJMS)
Piscataway, NJ

*https://publications.nigms.nih.gov/multimedia/map/iracda/
The IRACDA “INSPIRE” Program at Rutgers*
(IRACDA New Jersey/New York for Science Partnerships in Research & Education)

- Provides 3 years of mentored post-doc research experience at Rutgers/RWJMS
- Training in educational methods, including mentored teaching at a nearby Minority-Serving Institution (MSI) partner school

IRACDA/INSPIRE MSI partner schools
- **Medgar Evers College-CUNY**
  Dr. Edward J. Catapane, Program Coordinator
- **New Jersey City University**
  Dr. Cindy Arrigo, Program Coordinator
- **William Paterson University**
  Dr. Emily Monroe, Program Coordinator

* [http://rwjms.rutgers.edu/research/postdoc/inspire/index.html](http://rwjms.rutgers.edu/research/postdoc/inspire/index.html)
Medgar Evers College (MEC) is a 4-year undergraduate institution (PUI) located in Central Brooklyn currently serving about 6500 students.

Where is Medgar Evers College?

MEC is an urban, public, commuter college that awards both AS and BS degrees.

MEC is also part of the 18 college system that comprises the City University of New York (CUNY), an urban public institution serving over 250,000 undergraduate and graduate students.
Medgar Evers College
an urban, public, commuter college

MEC is a Minority Serving Institution

Ethnicity

- Females - 73%
- Average age - 27
- 1st Generation college - 55%
- Part-timers - 38%

entering freshmen
1/3 + remedial reading/writing
1/2 + remedial math

MEC students are “non-traditional” in a number of ways

Almost 30% of MEC students are STEM majors and
90% of them are in the Department of Biology

Spring 2015 data
INSPIRE Post-Docs on MEC Campus
Benefits to MEC STEM Curriculum

INSPIRE Post-Docs:

- Give research presentations to our Science Clubs & UG classes
- Receive formal pedagogy training at the RII and bring many new teaching and learning ideas/techniques to our STEM classrooms
- As recent PhDs, can inspire/assist MEC faculty in lecture/lab course & curriculum revisions to better prepare UGs for success in graduate school
- Can inspire/assist in developing new STEM courses at MEC
- Enhance MEC on-campus research through development and collaborations with MEC faculty on new research projects
INSPIRE Post-Docs on MEC Campus

Benefits to MEC Students

- MEC Students benefit by having an additional instructor in the course
- INSPIRE Post-docs use many active-learning techniques in the classroom and are very effective at incorporating their own research into lecture topics
- INSPIRE post-doc interact with our UGs in and out of the classroom
- INSPIRE post-docs increase student interest and knowledge of research careers and the importance of biomedical research
- As recent PhDs, INSPIRE Post-docs are excellent sources of information about how to get into and navigate graduate school
- Excellent role models helping to build up MEC student self-confidence about research careers & applying to graduate school
INSPIRE Post-Docs on MEC Campus
Benefits to the INSPIRE Post-Doc Fellows

- INSPIRE Fellows get real life experience teaching in a PUI/MSI classroom
- Learn about the difference in faculty responsibilities at a PUI compared to faculty responsibilities at a RII
- Learn about and participate in course/curriculum development and the approval mechanism
- Develop skills on creating appropriate course exams and how to assess student learning
- Develop a Teaching/Profession Development Mentor relationship at the partner institution to help with job search, provide LORs and to give advice on career advancement at PUIs
- Have opportunities for “mock interviews” at the partner institution to better prepare them for successful job applications to PUIs
So if you want an academic career....where should it be?

STEM faculty at an RII

Research-oriented “professing professor”

Professor is more likely to be an established STEM researcher focused in managing his/her research lab and advancing his/her research career

Interacts mostly with grad students, post-docs and research colleagues

Low teaching load
Mostly grad, upper-level or team taught courses
Grad students often teach the UG labs
Grad students help manage very large UG intro STEM courses the professor may be assigned to

Tenure/Promotion
Research Accomplishments, External Grant Funding, Publications and Citations

STEM faculty at a PUI

Student-oriented “teaching professor”

Professor is more likely to be an experienced teacher interested in UG student mentoring and enhancing STEM student development

There are no grad students or post-docs – time spent purely with UGs & dept. colleagues

High teaching load
You’re on your own – no grad students!
Professors teach lab and lecture sections
Class size is much smaller but intro STEM courses can still be up to 100 students

Tenure/Promotion
Teaching Excellence, Student Mentoring, Student Advisement, Curriculum Development, Committee Work, Community Outreach, “Scholarly Work”
Moving forward......STEM faculty at an RII

From... Research-oriented “professing professor”  

To... **Research-oriented “teacher scholar”**

Still expected to be an **established STEM researcher** focused on managing your research lab and advancing your research career

**Tenure/Promotion**

Your Tenure and Promotion will **still** be highly dependent upon your Research Accomplishments, External Grant Funding, Publications and Citations

**HOWEVER...Even at RII**s

There is a growing movement to place more emphasis on improving **UG teaching and learning**, especially in the **STEM disciplines**, and to include/attract a diverse group of **UGs** as active researchers in their labs

**Why?**

America needs more scientists, including a more diverse pool of scientists, in order for the US to maintain our status in a more globally & technologically advancing society and

We also need more scientifically literate **US citizens**

**IRACDA Fellows** can help us meet these needs by having the passion and training to improve **UG STEM interest and education** at a RII
Moving forward.....STEM faculty at a PUI

From.... Student-oriented “teaching professor” ➔ To.... Student-oriented “teaching STEM scholar”

Still expected to be experienced teacher involved in UG student mentoring and enhancing STEM student development

Tenure/Promotion
Your Tenure/Promotion will still be highly dependent on Teaching Excellence, as well as your involvement in Student Mentoring, Student Advisement, Curriculum Development, Committee Work, Community Outreach and “Scholarly Work”

HOWEVER
There is a growing movement, at PUIs across the country to increase emphasis on faculty “Scholarly Work” ...and the expectations are that PUI faculty should be conducting research, publishing research articles, and securing external funding for their research

Why?
Increasing UG faculty involvement in research and relating activities will increase opportunities for UG STEM majors to participate in faculty-mentored research

UG student research experiences = “high-impact educational practice” that engages STEM students and has been shown to yield greater educational outcomes

IRACDA Fellows are very well suited to address this need because of their excellent research training, in combination with their pedagogical training and demonstrated passion for UG teaching,
Acknowledgments

Drs. Gary Brewer and Martha Soto
Co-Directors of INSPIRE at Rutgers
and
Dr. Edward J. Catapane
MEC Program Coordinator for INSPIRE
and
NIH/NIGMS

Special thanks to all the IRACDA Fellows for having a career passion that seeks to promote excellence in research with excellence in teaching across all levels of Academia from Community Colleges to PUls to Research Intensive Institutions