

Education, Outreach, Diversity (EOD) Report

AAAS Meeting, October 30, 2014

Jeanette L. Miller, UD

RII – Track -2 IIA 1330446

Education, Outreach & Diversity

► Goal:

Inspire a diverse group of undergraduate and graduate students to enter STEM careers equipped with skills and experience in collaborative, multidisciplinary research.



EOD Team 2014



Sally Beaman, URI



Beth Chajes, UD



Amy Dunkle, URI



Steve Exler, UVM



Lillian Gamache, UVM



Art Gold, URI



Yolanda Williams-Bey, UD



Janice Hudson, UD



Jeanette Miller, UD



Amy Slocum, UD



Lindsay Wieland, UVM

Education, Outreach & Diversity

- ▶ Year 1-2 Accomplishments:
 - ▶ Undergraduate recruitment and selection process
 - ▶ Online application tools
 - ▶ Inclusion of partner community colleges, HBCUs, MSIs

- ▶ UG Short course design & implementation
- ▶ Multimedia project by 4 UG teams
- ▶ Pre-Post evaluations for undergraduates



Education, Outreach & Diversity

Year 1-2 Accomplishments, cont'd.

- ▶ Recruitment of 8 graduate students and postdocs
- ▶ Communications & social media networks
- ▶ Joint economics course

- ▶ UGs (n=13) 62% female, 31% first-generation, 31% Pell grant eligible
- ▶ Graduate & postdoctoral (n=8) 50% female, 12.5% UR



Communications

Year 1 Dissemination to Communities of Interest

- ▶ Press releases on award announcement
- ▶ Website and logo created: www.NEWRnet.org
- ▶ News stories posted on website
- ▶ Social media postings - Facebook, Twitter
- ▶ Poster presentation at EPSCoR national meeting
- ▶ Attendance at professional meetings by group members
- ▶ Print materials --including undergraduate internship recruitment postcard



PAID SUMMER UNDERGRADUATE RESEARCH INTERNSHIPS IN DE, RI & VT
\$4500 stipend; required travel and on campus housing provided

Interested in learning more about protecting our water resources, and getting good information to decision-makers? Conduct full-time team research for 10 weeks in Vermont, Rhode Island or Delaware.

INVESTIGATE:

- > The impact of climate variability and extreme weather events on water quality and quantity
- > How to provide valuable and rapid information to stakeholders for more efficient and better informed decision making.



INTERNSHIP DATES: TUESDAY, JUNE 3 - TUESDAY, AUGUST 12, 2014

Summer Short Course at the University of Delaware – June 2014



► Goals:

- Introduce interns to NEWRnet research concepts and methods
- Provide background information and demonstrate purpose of the research
- Create a network among interns and atmosphere of collaboration among EPSCoR jurisdictions
- Kick off the summer of research with some fun!

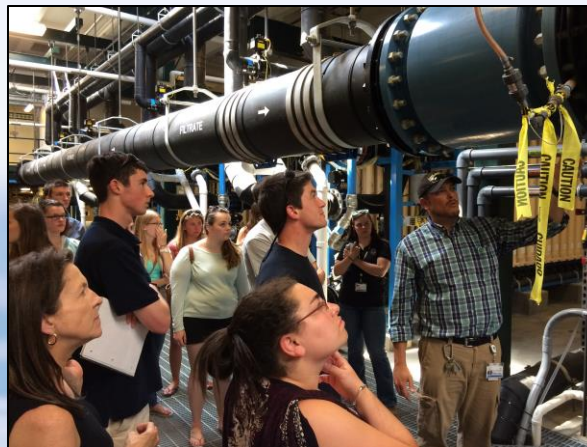
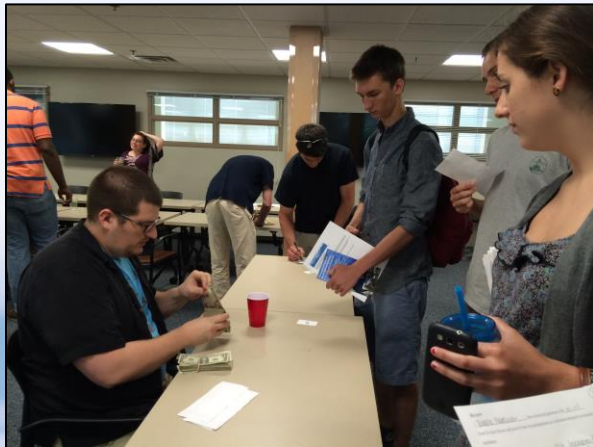
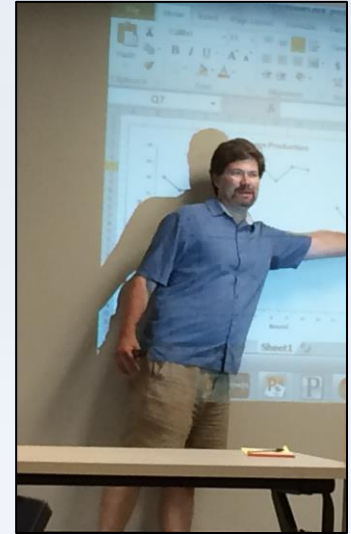


Summer Short Course at the University of Delaware



► June 4

- AM - What is NEWRnet? – Orientation talks addressing key research areas
- PM – Field visits to Brandywine Creek & the Wilmington drinking water treatment facility



Summer Short Course at the University of Delaware



- ▶ **June 4** - NEWRNet group at the Wilmington, DE water treatment facility



Summer Short Course at the University of Delaware

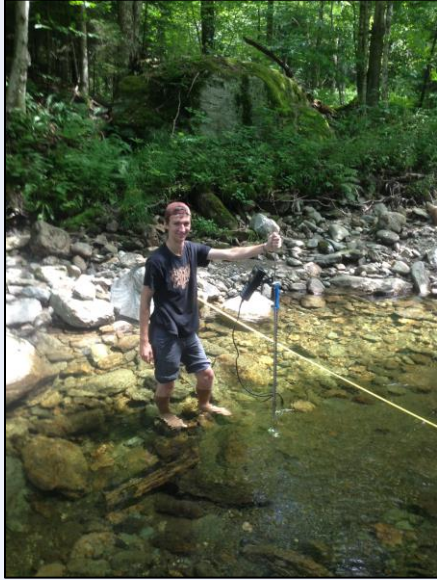


► June 5

- AM – Pulse of the Watershed; Field Visit to Fair Hill Natural Resource Area
- PM – Lums Pond State Park - and the zip line!



Vermont



Rhode Island



Undergraduate Research Symposium, August 12, 2014 University of Delaware



**North East Water
Resources Network
Undergraduate
Symposium**



**Guest speakers
Student poster session
Video presentations**

Undergraduate Research Symposium, August 12, 2014

- ▶ Hosted by the University of Delaware
- ▶ Summer research poster session
- ▶ Student video presentations
- ▶ Guest speakers:
 - ▶ Andrew Schroth (U. Vermont)
 - ▶ Lyndie Hice-Dunton (DE Natural Estuarine Research Reserve)



Graduate Student Involvement

University of Vermont GRAs:

- ▶ Linyuan Shang (Experimental Economics)
 - ▶ Integrating phosphorus module in Daycent model into a hydrological RHESSys model
- ▶ Matthew Vaughan (Rubenstein School of Environment and Natural Resources)
 - ▶ Deploying an array of sensors throughout northern Vermont to record high-resolution river water quality data



Graduate Student Involvement

University of Rhode Island:

Buddini Karawdeniya (Chemistry)

Electroless plating of thin gold films
directly onto silicon nitride thin films
and into micropores

Haoran Miao (Environmental and
Natural Resource Economics)

Experiment programming and
implementation, working papers,
academic conferences, UG mentoring



Graduate Student Involvement

University of Delaware:

Janice Hudson (Geography)

Currently assisting with the coordination of set-up, collection, and analysis of throughfall chemistry samples from all states.



Doug Rowland, Catherine Winters
(Water Science & Policy)

Assessment of carbon and nitrogen responses in watershed runoff using high-frequency, in-situ water quality sensors



Postdoctoral Fellow

University of Delaware:

Jacob Fooks, Ph.D.

Working with Kent Messer in
experimental economics
research.



Broader Impacts: Outreach to K-12 Schools



- ▶ Year 1:
 - ▶ Hiring and placement of graduate students and postdocs in NEWRnet labs; mentoring established

- ▶ Year 2:
 - ▶ Field trips involving six 7th/8th grade class groups by graduate students
Provided experience communicating to STEM students.



Evaluation: Have we met our goals?

Goal	Status
Recruit graduate students and postdoctoral fellows (8)	✓
Establish mentoring	✓
Establish undergraduate recruitment process	✓
Implement UG short course & symposium	✓
Launch joint economics course	✓
UGs report increased interest in STEM careers	✓
Diversity achieved in student gender, disability status, SES	✓



Student Testimonials

...see what life is like outside of the classroom. – NEWRnet UG

This internship has given me great hands-on experiences ... and spend my entire summer outdoors. It's the perfect job. – NEWRnet UG

I walked into this opportunity completely overwhelmed with the choices I have to make in a year when I graduate. Now I can walk away with valuable skills such as researching and networking – and what I think is most important – confidence as I go into the work force. – NEWRnet UG



Discussion

