ABSTRACT

Exposure to research opportunities in toxicology and environmental sciences is key to the development of the next generation of scientists. The Community Outreach and Engagement Core of the NIHES Center for Environmental Exposures and Disease at the University of Medicine and Dentistry of New Jersey-Robert Wood Johnson Medical School and the Rutgers University has developed a summer research fellowship program to promote toxicology and environmental sciences as careers in biomedical research. The program consists of 10-week basic science and translational research experiences for undergraduates and was also designed to include weekly events including laboratory safety and responsible conduct of research training, a field trip to a pharmaceutical company, career development and research seminars and student presentations. Participants of the 2012 summer research program ranked the field trip as the most valuable weekly activity followed by presentations from toxicologists and environmental health scientists. Based on pre- and post-survey results, over 60% of respondents reported that a career as a scientific researcher was most appealing based upon satisfaction from strong research, the perceived benefit of scientific knowledge to the community, and an overall interest in science. In addition, 87.5% of respondents want to continue pursing research after completion of the summer research program. This includes five students pursuing Ph.D. degrees beginning in 2012 or 2013. A summer research program engages undergraduate students in full-time research experiences and provides unique opportunities to promote toxicology and environmental sciences as research areas for the next generation of scientists and enhance career development skills. Supported by ES020721, ES00520, and ASPEI SUMI.

DEVELOPMENT OF SUMMER PROGRAM

Objective

Promote toxicology and environmental health sciences as careers in biomedical research to undergraduate students.

Funding

Institutional

Department Support
Dean of School of Pharmacy
Graduate school

Societies

American Society for Pharmacology and Experimental Therapeutics (ASPET)

Extramural

NIHES Summer Training Grant
NIHES Center Community Outreach and Education Core (OCOE)

Administration

Program Directors:
Ocelo Long & Lauren Alexander, School of Pharmacy

Admissions Committee

Support: Student Assistants & Students

Training

Laboratory Safety and Research
Responsible Conduct of Research
Graduate School Poster
Career Development

Outcomes

Awards

Teaching Awards
Research Awards
\n
National Recognition

National Recognition of ASPEI
Amphiphiles Group

Outcomes

Linkedin group is used to monitor long-term outcomes.

2012 SUMMER RESEARCH PROGRAM

Participants

University: Rutgers
Academic Year: Juniors
Ethnic Background: Asian

Weekly Meeting Schedule

Week 1
Thursday: Lab Safety and Research
Friday: Lab Safety and Research

Week 2
Thursday: Lab Safety and Research
Friday: Lab Safety and Research

Week 3
Thursday: Lab Safety and Research
Friday: Lab Safety and Research

Week 4
Thursday: Lab Safety and Research
Friday: Lab Safety and Research

Field Trip to Bristol-Myers Squibb

Discussions and tours with scientists were centered on General Toxicology, Operations, Veterinary Sciences, Histopathology, Clinical Pathology, Immunotoxicology, Reproductive Toxicology and Genetic Toxicology.

Research Topics

Molecular Toxicology

Genotoxicity

Research on human health

Program Evaluation

The Survey Monkey website was used to evaluate student satisfaction.


Field Trip to Bristol-Myers Squibb

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Research Topics

Molecular Toxicology

Genotoxicity

Research on human health

Figure 1.

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