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Students Can be Important Link Between Academia and Practice

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Students Can Be an Important Link Between Academia and Practice

Editor's Note: In an effort to promote the growth of the environmental health profession and the academic programs that fuel that growth, NEHA has teamed up with the Association of Environmental Health Academic Programs (AEHAP) to publish two columns a year in the *Journal*. AEHAP's mission is to support environmental health education to ensure the optimal health of people and the environment. The organization works hand in hand with the National Environmental Health Science and Protection Accreditation Council (EHAC) to accredit, market, and promote EHAC-accredited environmental health degree programs. AEHAP focuses on increasing the environmental health workforce, supporting students and graduates of EHAC-accredited degree programs, increasing diversity in environmental health degree programs, and educating the next generation.

This column will provide AEHAP with the opportunity to share current trends within undergraduate and graduate environmental health programs, as well as their efforts to further the environmental health field and available resources and information. Furthermore, professors from different EHAC-accredited degree programs will share with the *Journal's* readership the successes of their programs and the work being done within academia to foster the growth of future environmental health leaders.

Chuck Treser is the interim executive director for AEHAP. He is also a principal lecturer emeritus in the Department of Environmental and Occupational Health Sciences at the University of Washington, Seattle. Jason Marion is an associate professor in the Department of Environmental Health at Eastern Kentucky University. He is the current president of AEHAP.

If you have been following the concerns about the aging of the professional environmental health workforce, the importance of succession planning, and the drive to enhance the professional qualifications of en-

vironmental public health practitioners, then it should come as no surprise that students represent an important piece of the puzzle for solving this environmental health workforce issue. Students graduating from bachelor

degree programs in environmental health, accredited by the National Environmental Health Science and Protection Accreditation Council (EHAC), are in high demand for entry-level positions with public and private sector employers.

First, these students have a rigorous background in the natural and physical sciences. Second, they have gained an understanding of practical experience in the field through their practice-based education and work done during their required internship. Many of these student internships are performed on site with local, state, and federal health agencies; environmental protection agencies; private sector manufacturing; and other businesses practicing industrial hygiene and safety, including engineering and consulting firms. Third, many of these students have gone beyond sitting in the classroom and participating in a practical internship and have actively engaged with research that confirms, expands, and/or challenges our knowledge of environmental factors and conditions that affect human health and well-being.

Since 2005, the Association of Environmental Health Academic Programs (AEHAP) has conducted a Student Research Competition, inviting both undergraduate and graduate students from EHAC-accredited institutions to submit a paper detailing a current research project in which they have played a significant role. Through funding provided by the Centers for Disease Control and Prevention/National Center for Environmental Health (CDC/NCEH, award no. EH13-1304) and NSF International, AEHAP has been able to provide

a monetary award and travel support to bring outstanding students to the National Environmental Health Association's (NEHA) Annual Educational Conference (AEC) & Exhibition each year to present their research findings.

The recent recipients of the AEHAP Student Research Competition award are listed below.

2016

- **Scott Biebas**, Undergraduate Student, Baylor University
Research: Residual Soil Lead in an Urban Residential Neighborhood in West Dallas Affected by Historic Lead Smelter Activities
Faculty mentor: Dr. Trey Brown
- **Ethan Fuhrman**, Undergraduate Student, University of Wisconsin-Eau Claire
Research: Airborne Particulates Around Frac Sand Plants Using EPA-Certified Instrument
Faculty mentor: Dr. Crispin Pierce
- **Marissa Taylor**, Undergraduate Student, Western Carolina University
Research: Identification of La Crosse, Dengue, Chikungunya, and Zika Vectors Collected From Sticky Traps Using Morphological and Molecular Methods
Faculty mentor: Dr. Brian Byrd
- **Joshua Volkan**, Graduate Student, East Carolina University
Research: Evaluation of Barrier Sprays for Mosquito Control in Eastern North Carolina
Faculty mentors: Drs. Stephanie Richards and Jo Anne Balanay

2015

- **Amanda Bewley**, Undergraduate Student, West Chester University
Research: GMO Corn and Incidence of Insecticide-Related Injuries
Faculty mentor: Dr. Charles Shorten
- **Linzi Thompson**, Undergraduate Student, East Central University
Research: UV Photoactivation of Titanium Dioxide Nanoparticles: Enhanced Photo-oxidation of Natural Organic Matter in Aqueous Systems
Faculty mentor: Dr. Doug Weirick
- **Abigail Tompkins**, Undergraduate Student, Western Carolina University
Research: Fog Machine Aerosol Nanoscale Characterization
Faculty mentor: Dr. Burton Ogle

- **Adam Mannarino**, Graduate Student, East Carolina University
Research: Noise Exposure Assessment Among Groundskeepers: A Pilot Study
Faculty mentor: Dr. Jo Anne Balanay

Below is a list of the recent NSF International Scholars.

- **2016: Melanie Keil**, Undergraduate Student, Colorado State University
Research: Examining Use of Third Party Standards in Municipal Drinking Water System Plumbing Component Regulations and Recommendations
Faculty mentor: Dr. Judy Heiderscheidt
- **2015: Natasha Borgen**, Undergraduate Student, University of Washington
Research: NSF International Survey: U.S. States Response to NSF/ANSI Standards 350 and 350-1 Standards for Onsite Water Reuse Treatment Systems
Faculty mentor: Chuck Treser

These are just a few examples of the students who are better prepared to address traditional and emerging environmental health threats. These students are able and eager to tackle the challenges presented by emerging infectious diseases; legacy toxic chemicals and materials polluting the land and water; an international food supply with transportation issues, new processes, and ingredients; occupational health and safety problems as the economy transforms from manufacturing to service industries; and more.

Guiding and supporting these students is something we can all do. Environmental health students benefit when they engage with practitioners and the whole profession benefits from the enthusiasm many students bring to meetings and interactions. In both academic and nonacademic work, there are few greater rewards than mentoring and encouraging students who are capable of successful careers in our profession.

Custard (2016) wrote the following:

The professional legacy each of us leaves will not be in the programs we created or the awards we were honored with, but in the young professionals we trained, mentored, encouraged, and inspired (p. 7).

AEHAP fully agrees. Collectively, NEHA members can support students and career development in some way. First, we can all visit with students and be inquisitive during

student presentations at NEHA's AEC and at state or regional affiliate meetings. Second, students may need mentors for internships or practical projects that generate results warranting presentation. Mentorship is a highly rewarding experience and many practitioners are near an EHAC-accredited school that would welcome project ideas, mentors, and practical experience opportunities for their students. Third, we can continue to identify and implement better strategies for encouraging greater levels of student participation and engagement in our state affiliate conferences.

Reviews for the 2017 AEHAP and NSF International student competitions are underway for the NEHA 2017 AEC in Grand Rapids, MI, which will have a session spotlighting top student research. The benefits and excitement generated from these student research competitions are known fully by the folks who attend their presentations and help make these programs possible.

Please be sure to thank Dr. David Gilkey, Colorado State University, for championing these programs for the last several years through 2016. Please welcome Dr. Clint Pinion, Eastern Kentucky University, for taking over duties this year as chair of these competitions. In addition, the competition is greatly enhanced for the students through the support of CDR Jasen Kunz (CDC/NCEH), Stan Hazen (NSF International), and Dr. David Dyjack (NEHA) for increasing student visibility and engagement at NEHA's AEC.

On behalf of our students and member programs, we look forward to seeing you at the NEHA 2017 AEC in Grand Rapids! 🐾

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Reference

Custard, B. (2016). Building the future environmental health workforce. *Journal of Environmental Health*, 78(6), 6–7.