

▶ DIRECT FROM AEHAP



Kim Hall, PhD
Western
Carolina
University



Benjamin J.
Ryan, MPH,
PhD, REHS
Baylor University

Building the Environmental Health Workforce Through Scientific Knowledge and Intentional Collaboration

Editor's Note: In an effort to promote the growth of the environmental health profession and the academic programs that fuel that growth, the National Environmental Health Association 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.

This column provides AEHAP with the opportunity to share current trends within undergraduate and graduate environmental health programs, as well as efforts to further the environmental health field and available resources.

Dr. Kim Hall is an associate professor within the Environmental Health Program at Western Carolina University. Dr. Benjamin Ryan is the past president of AEHAP and a clinical associate professor within the Department of Environmental Science at Baylor University.

Collaboration between organizations involved in education, training, and credentialing is a fundamental component to supporting the next generation of environmental health professionals. The Association of Environmental Health Academic Programs (AEHAP) promotes and supports students of programs accredited by the National Environmental Health Science and Protection Accreditation Council (EHAC). The mission of EHAC (2020) is to enhance the education and training of students in environmental health science and protec-

tion. Graduates of EHAC-accredited degree programs are equipped with the scientific knowledge and skills required to directly enter the environmental health workforce and are recognized for their ability to “hit the ground running” as practitioners.

By fulfilling its mission, EHAC supports the National Environmental Health Association (NEHA, 2022) mission to build, sustain, and empower an effective environmental health workforce. AEHAP, EHAC, and NEHA share a common goal of addressing the severe environmental health workforce shortage and

possess the ability to address this challenge. Now is the time for intentional and focused collaboration between these organizations in support of education, training, and credentialing that addresses environmental health workforce needs.

Supporting Faculty Development

Faculty of EHAC-accredited degree programs are tasked with educating and training students to join the environmental health workforce, but it is necessary to acknowledge that education and training are different constructs (Knechtges & Kelley, 2015). Academicians focus on education, providing the scientific knowledge and critical thinking abilities that serve as the foundation for practice, while practitioners shepherd the translation of that knowledge into practice through training. Faculty of EHAC-accredited degree programs are a mix of academicians and practitioners but their ratios differ between programs, potentially resulting in limited exposure to practical training in the classroom. The challenges of recruiting environmental health practitioners to academia are likely similar to those of other professions, which can include retirement and lack of postgraduate education (Bishop et al., 2016). Internship experiences help bridge the gap between student education and training; however, those experiences are short in duration and can be limited to a particular area of environmental health.

EHAC-accredited degree programs have the unique opportunity to bolster their abilities to educate and train students regardless of faculty backgrounds and experience. Investing in and promoting professional development

opportunities for faculty of EHAC-accredited degree programs will improve the student educational experience to fully support the mission of EHAC. AEHAP can support EHAC-accredited degree programs in these efforts, and ultimately NEHA, by investing in faculty professional development opportunities for academicians to gain the training and practical experiences necessary to enrich student education, success, and likelihood of earning the Registered Environmental Health Specialist/Registered Sanitarian (REHS/RS) credential postgraduation.

The NEHA Annual Educational Conference (AEC) & Exhibition could be leveraged by bringing together EHAC faculty and practitioners in sessions focused around discussion of the latest trends, developments, and knowledge in the environmental health field. These sessions could also allow practitioners to share the types of skills that are most important when hiring new graduates and how EHAC-accredited degree programs best prepare students for their internship and professional experiences. Building capacity for faculty internships with local health departments, similar to the National Environmental Public Health Internship Program administered by NEHA and supported by the Centers for Disease Control and Prevention, would provide an avenue for traditional academicians to actively connect their knowledge to skill, further supplementing instructional efforts.

Engaging the Environmental Health Profession

Connection between faculty and practitioners through professional development must be intentional to maximize student benefit. Information shared during the NEHA AEC is valuable but represents only a snapshot in time. The rapidly evolving nature of environmental health requires a commitment to ongoing communication and collaboration between EHAC-accredited degree programs and practitioners beyond an annual event, and in ways that connect students to the environmental health profession early and often.

The widespread use of virtual engagement as a result of the COVID-19 pandemic provides a useful mechanism to more frequently and directly connect faculty and students with practitioners. Development of a monthly Practice-to-Classroom webinar series that brings

together environmental health professionals and EHAC-accredited degree programs to discuss trends in the field could build on the information sharing momentum generated at the NEHA AEC. Additionally, a webinar series that highlights the diversity of the profession and meaningful career opportunities could serve as an excellent student recruitment tool for EHAC-accredited degree programs.

Engaging the environmental health profession benefits students by involving them in the profession, effectively providing the support necessary to successfully transition from student to practitioner. The Student Environmental Health Association (SEHA) was launched by AEHAP during the 2019–2020 academic year with the goal of bringing together people knowledgeable in and zealous for environmental health to promote advancement of the science and practice. Student organizations have value because they support academic and career success while also building leadership capacity (Reese, 2003). Connecting SEHA chapters with NEHA regional vice-presidents and state-level environmental health associations, whether virtually or in person, will allow students to supplement classroom learning, begin building professional networks, and explore environmental health career paths.

Identifying and Accessing Resources

The networking potential of SEHA chapters is exceptional as is their capability to foster a sense of community among environmental health faculty, students, and professionals. An environmental health community committed to success and support of workforce needs will require collective efforts that are diverse, purposeful, and readily accessible. Establishing an online community of practice, including a resource repository that EHAC faculty and environmental health practitioners could access and contribute, could create an invaluable toolbox to educate and train the next generation of environmental health professionals. Such resources might include instructional videos, interviews with practitioners and program alumni, and virtual trainings and webinars. Furthermore, identifying and including resources that encourage and prepare students to sit for the REHS/RS credential exam would support the mission of NEHA. A vibrant community of practice

could also serve to connect SEHA chapters to one another, creating opportunities for shared learning and peer networking.

Approximately 50% of the environmental health workforce will be eligible for retirement by 2023, with one quarter expected to retire (Bogaert et al., 2019; Gerding et al., 2020). Deliberate and thoughtful collaboration among educators, practitioners, and credentialing organizations is essential. This collaboration will ensure scientific knowledge can be used by environmental health practitioners to address challenges related to air quality, food safety, water quality, healthy homes, vectors and pests, waste management, disease outbreaks, biodiversity protection, and emergency preparedness.

Achieving this science-based practice approach is both vital and the cornerstone to protecting public health and well-being into the future. For example, ambient and indoor air pollution increases the risk of cardiovascular, respiratory, and developmental diseases as well as premature death. Water access and quality and biodiversity protection are key to minimizing the risk of pandemics and effective waste management is essential to reduce possible secondary impacts on human health and the environment (Organisation for Economic Co-operation and Development, 2020). As we emerge from the COVID-19 pandemic and strive to “Build Back Better,” now is the time to use the lessons learned and commit to these partnerships to protect the communities we serve. 🐼

Corresponding Author: Kim Hall, Associate Professor, Environmental Health Program, School of Health Sciences, Western Carolina University, Cullowhee, NC.
Email: kkhall@wcu.edu.

References

- Bishop, C.C., Boyle, D.M., Carpenter, B.W., & Hermanson, D.R. (2016, March 1). Transitioning into academia: A new pathway for practitioners. *Journal of Accountancy*. <https://www.journalofaccountancy.com/issues/2016/mar/accounting-professor-pathways.html>
- Bogaert, K., Castrucci, B.C., Gould, E., Sellers, K., Leider, J.P., Whang, C., & Whitten, V. (2019). The Public Health Workforce Interests and Needs Survey (PH WINS 2017): An expanded perspective on the

state health agency workforce. *Journal of Public Health Management and Practice*, 25(Suppl. 2), S16–S25. <https://doi.org/10.1097/PHH.0000000000000932>

Gerding, J.A., Brooks, B.W., Landeen, E., Whitehead, S., Kelly, K.R., Allen, A., Banaszynski, D., Dorshorst, M., Drager, L., Eshenaur, T., Freund, J., Inman, A., Long, S., Maloney, J., McKeever, T., Pigman, T., Rising, N., Scanlan, S., Scott, J., . . . Sarisky, J. (2020). Identifying needs for advancing the profession and workforce in environmental health. *American Journal of Pub-*

lic Health, 110(3), 288–294. <https://doi.org/10.2105/AJPH.2019.305441>

Knechtges, P.L., & Kelley, T.R. (2015). Educating future environmental health professionals. *Environmental Health Insights*, 9, 23–26. <https://doi.org/10.4137/EHI.S33105>

National Environmental Health Association. (2022). *Mission*. <https://www.neha.org/about-neha/mission>

National Environmental Health Science and Protection Accreditation Council. (2020). *Mission, history and purpose*. <https://www.nehspace.org/about-ehac/>

Organisation for Economic Co-operation and Development. (2020, April 21). *OECD policy response to coronavirus (COVID-19): Environmental health and strengthening resilience to pandemics*. <https://www.oecd.org/coronavirus/policy-responses/environmental-health-and-strengthening-resilience-to-pandemics-73784e04/>

Reese, S. (2003). Career and technical student organizations: Building our future. *Techniques: Connecting Education and Career*, 78(2), 18–23.

PROGRAMS ACCREDITED BY THE NATIONAL ENVIRONMENTAL HEALTH SCIENCE AND PROTECTION ACCREDITATION COUNCIL

The following colleges and universities offer accredited environmental health programs for undergraduate and graduate degrees (where indicated). For more information, please contact the schools directly or visit the National Environmental Health Science and Protection Accreditation Council website at www.nehspace.org.

Baylor University†

Waco, TX
Bryan W. Brooks, MS, PhD (UG)
bryan_brooks@baylor.edu
Benjamin Ryan, PhD (G)
benjamin_ryan@baylor.edu

Benedict College

Columbia, SC
Milton A. Morris, MPH, PhD
morrism@benedict.edu

Boise State University

Boise, ID
Kimberly Rauscher, MA, ScD
kimberlyrauscher@boisestate.edu

California State University at Northridge†

Northridge, CA
Nola Kennedy, PhD
nola.kennedy@csun.edu

California State University at San Bernardino

San Bernardino, CA
Lal S. Mian, PhD
lmian@csusb.edu

Central Michigan University

Mount Pleasant, MI
Rebecca Uzarski, PhD
uzars2r1@cmich.edu

Colorado State University

Fort Collins, CO
Joshua Schaeffer, PhD, CIH
joshua.schaeffer@colostate.edu

East Carolina University†

Greenville, NC
William Hill (UG)
hillw@ecu.edu

Stephanie Richards, PhD (G)
richardss@ecu.edu

East Central University

Ada, OK
Michael Bay, PhD
mbay@ecok.edu

East Tennessee State University†

Johnson City, TN
Kurt Maier, MS, PhD
maier@etsu.edu

Eastern Kentucky University†

Richmond, KY
Vonia Grabeel, MPH, RS (UG)
voniam.grabeel@eku.edu
D. Gary Brown, DrPH, CIH, RS, DAAS (G)
gary.brown@eku.edu

Fort Valley State University††

Fort Valley, GA
Oreta Samples, PhD
sampleso@fvsu.edu

Illinois State University

Normal, IL
Guang Jin, PhD, PE
gjin@ilstu.edu

Indiana University–Purdue University Indianapolis

Indianapolis, IN
Mark Wood, MEM, PhD
woodmw@iu.edu

Mississippi Valley State University†

Itta Bena, MS
Swatantra Kethireddy, PhD
swatantra.kethireddy@mvsu.edu

Missouri Southern State University

Joplin, MO
Teresa Boman, PhD
boman-t@mssu.edu

Montana State University

Bozeman, MT
Seth Walk, PhD
seth.walk@montana.edu
Mari Eggers, PhD
mari.eggers@montana.edu

North Carolina Central University

Durham, NC
John Bang, MD, PhD
jjbang@ncsu.edu

Ohio University

Athens, OH
Michele Morrone, PhD
morrone@ohio.edu

Old Dominion University

Norfolk, VA
Anna Jeng, ScD
hjeng@odu.edu

State University of New York, College of Environmental Science and Forestry

Syracuse, NY
Lee Newman, PhD
lanewman@esf.edu

Texas Southern University

Houston, TX
Zivar Yousefipour, PhD
zivar.yousefipour@tsu.edu

The University of Findlay†

Findlay, OH
Kim Lichtveld, PhD
lichtveld@findlay.edu

University of Georgia, Athens

Athens, GA
Anne Marie Zimeri, PhD
zimeri@uga.edu

University of Illinois Springfield††

Springfield, IL
Lenore Killam, DPA
lkill2@uis.edu

University of Washington

Seattle, WA
Tania Busch-Isaksen, MPH, PhD, REHS
tania@uw.edu

University of Wisconsin Eau Claire

Eau Claire, WI
Crispin Pierce, PhD
piercech@uwec.edu

University of Wisconsin Oshkosh

Oshkosh, WI
Sabrina Mueller-Spitz, DVM, PhD
muellesr@uwosh.edu

West Chester University

West Chester, PA
Lorenzo Cena, PhD
lcena@wcupa.edu

Western Carolina University

Cullowhee, NC
Bryan Byrd, MSPH, PhD
bbyrd@email.wcu.edu

Western Kentucky University†

Bowling Green, KY
Jacqueline Basham, MPH (UG)
jacqueline.basham@wku.edu
Edrisa Sanyang, PhD (G)
edrisa.sanyang@wku.edu

†University also has an accredited graduate program.

††Accredited graduate program only.

Note. G = graduate; UG = undergraduate.