

## **Panelist Biographies**

### **Amy Burnside**

Research Assistant Professor, Department of Veterinary & Animal Sciences  
Flow Cytometry Core Facility Manager  
University of Massachusetts Amherst

Amy Burnside graduated from Smith College in 1995 with a BA in Biochemistry. After working three years as a veterinary technician, she entered the Veterinary Biotechnology and Biomedical Science doctoral program at UMass Amherst. Her doctoral work centered on whole animal cloning and the process by which somatic cells are/can be reprogrammed into stem cell like cells. Upon receiving her PhD in 2001, she worked at UMass Amherst as a postdoctoral fellow in the lab of Deborah Good, where she investigated transcriptional regulation of an obesity related gene, Nhlh-2. After extensive bench work during her PhD and postdoctoral research, she worked at Smith College, where she managed and taught laboratory classes for the Biochemistry program. Her past connections and experience in molecular biology led to her back to UMass Amherst in 2008. As a Visiting Research Assistant Professor in the lab of Lisa Minter, Amy was introduced to flow cytometry technology and she became a Research Assistant Professor and manager of the UMass Flow Cytometry Core Facility in 2011. Her current job allows her to work with researchers all over the UMass campus, training users on the operation of flow facility instrumentation and assisting with experimental design, data acquisition and analysis. She also operates some of the more technical instrumentation and maintains other various facets of the facility. Teaching is still part of her repertoire and she co-teaches a Fundamentals in Veterinary and Biomedical Laboratory Science course and supports outreach education events for local middle and high school students.

### **Caitlyn Butler**

Assistant Professor, Department of Civil and Environmental Engineering  
University of Massachusetts Amherst

Caitlyn Butler is an assistant professor at the University of Massachusetts, Amherst in the Department of Civil and Environmental Engineering. Her research focuses on energy and resource recovery in wastewater treatment, emphasizing the use of bioelectrochemical systems in remediating environmental contaminants. Recently, she and her research team constructed a microbial fuel cell coupled with a traditional composting latrine in Ghana as a potential sanitation technology for developing areas. Caitlyn came to UMass Amherst from the Department of Engineering in the College of Technology and Innovation at Arizona State University, where she was also an assistant professor. In the Department of Engineering at ASU, she was part of an innovative project-based undergraduate curriculum that emphasized active learning environments. Prior to that, she did her graduate work in Environmental Engineering at the University of Notre Dame, completing her Ph.D. in 2010. She received her bachelor's degree in Engineering Science in 2004 as part of the first class of engineers to graduate from Smith College, an all-women's college.

**Dawn Holmes**

Associate Professor, Department of Biology  
Western New England University

Dawn Holmes received her B.S. degree in Biology from the University of California, Santa Cruz. As an undergraduate at UCSC, she was particularly interested in animal behavior and conservation biology. After completing her degree, she pursued her interest in animals and the environment by spending 5 years working for such government agencies as the USGC-BRD, the Resources Management division of Hawaii Volcanoes National Park, the Tropical Forest Research Centre in Australia, and the Department of Conservation in New Zealand. After this 5 year stint as a conservation biologist, she decided to study subsurface ecology and pursued a Ph.D. in the department of Microbiology at UMass Amherst. Dawn's research focused on microbial communities associated with uranium bioremediation and electricity production by microbial fuel cells. After completing her Ph.D. in 2003, she continued this work as a Senior Research Associate (Microbiology) until 2008, when she was hired for a tenure-track position in the Department of Physical and Biological Sciences at Western New England University (WNE). Dawn continues to teach at WNE as an Associate Professor and works as an Adjunct Professor at UMass Amherst. Her current responsibilities include teaching lecture and laboratory courses, advising undergraduate biology students, helping to develop a major in Sustainability at WNE and supervising undergraduate research projects. She also collaborates with the U.S. Department of Energy (DOE) Joint Genome Institute on a project that allows undergraduate institutions to interpret and analyze microbial genomes selected for analysis by the GEBA (Genomic Encyclopedia of Bacteria and Archaea) project, and with Dr. Derek Lovley in the Department of Microbiology at UMass Amherst on projects focusing on hydrocarbon degradation by iron-reducing hyperthermophilic archaea.

**Kelly Anne McKeown**

Assistant Professor, Department of Biology  
Westfield State University

Kelly Anne McKeown, a native of Toronto, pursued her Bachelor of Science at McGill University with a joint major in Physics and Physiology. She then moved to Massachusetts to obtain a Masters in Exercise Science with a concentration in Biomechanics from UMass Amherst. While studying human movement, she became interested in the development of locomotion from the molecular and cellular level, which inspired her to pursue a Ph.D. in Molecular and Cellular Biology at UMass Amherst. Her research focus is on understanding the spinal networks involved in the development of locomotion, using zebrafish as a model system. She joined the faculty at Westfield State University in 2010, where she teaches Anatomy and Physiology, Developmental Biology and Molecular Biology Techniques. In her spare time, she can be found running while pushing her 1 year old.

**Lisa Rapp**

Professor, Department of Biology; Chair, Biotechnology Program  
Springfield Technical Community College

Lisa Rapp received her B.S. in Biochemistry from UMass Amherst in 1990, completing a year of undergraduate research on yeast centromere function in the lab of Molly Fitzgerald-Hayes. She received her Ph.D. in Molecular Biology from the University of Connecticut Health Center in 1996, where her research focused on the use of polyomavirus as a model system for studying transcription. She completed her post-doctoral training at the New England Medical Center/Tufts University School of Medicine, where she conducted research on a transforming protein of human and bovine papillomavirus. Lisa joined the faculty of Springfield Technical Community College (STCC) in 1999 as Chair of the Biotechnology Program. At STCC, she teaches courses including Biochemistry, Nutrition, Genetics, and Biotechnology. While at STCC, she has hosted professional development workshops for local high school biology teachers to help them use engaging biotech curricula to bring knowledge and enthusiasm for biotechnology to high school students. She is also a member of the Massachusetts Life Science Education Consortium (MLSEC), a statewide group of community college biotechnology educators sponsored by the Massachusetts Biotechnology Council/MassBioEd. This committee has worked with biotechnology industry partners to design competencies for biotechnology program graduates, plan curriculum and collaborate on student internship opportunities.