

Kari L. Clase

- PhD 2001, Biochemistry and Molecular Biology, Purdue University
- BS 1994, Biochemistry, Old Dominion University

Academic Experience:

- Professor. 2014 – Present, Department of Agricultural and Biological Engineering/ Technology, Leadership, and Innovation, Purdue Polytechnic Institute, Purdue University
- Associate Professor. 2010 – 2014, Department of Agricultural and Biological Engineering/ Technology, Leadership, and Innovation, Purdue Polytechnic Institute, Purdue University
- Assistant Professor. 2004 - 2010. Department of Agricultural and Biological Engineering/ Industrial Technology, Computer and Informational Technology, College of Technology, Purdue University.
- Assistant Professor. 2003 – 2004. Medical Biochemistry, Center for Medical Education, Ball State University.
- Assistant Director. 2002 – 2003. Biotechnology Certificate Program, Biology Department, Ball State University
- Adjunct Instructor. 2000 – 2002. Ivy Tech Community College

Other:

- Director. 2014 – Present, Biotechnology Innovation and Regulatory Science Center, Purdue University
- Lead Scientist. 2004 – 2010. Bindley Bioscience Center, Discovery Park, Purdue University
- Coordinator. 2004 – 2010. Biotechnology Program, College of Technology, Purdue University

Certifications:

Professional Organizations: Entrepreneurial Leadership Academy; American Association of Pharmaceutical Scientists; European Science Education Research Association; American Society for Biochemistry and Molecular Biology; American Association for the Advancement of Science

Honors and Awards (past five years):

- Purdue University Faculty Scholar, Purdue University, 2016 - present
- Outstanding Faculty in Learning, Purdue Polytechnic Institute, Purdue University, 2016
- College of Agriculture Bravo Award, Purdue University, 2014
- College of Agriculture TEAM Award, Purdue University, 2014

Service Activities (past five years):

Internal:

External:

1. National Institute for Pharmaceutical Technology & Education (NIPTE), Education Committee, 2017-present.

Select Publications (past five years):

1. Mishra, C., Clase, K. L., Bucklin, C. J., & Daniel, K. L. (2018). Improving Students' Representational Competence through a Course-Based Undergraduate Research Experience. In *Towards a Framework for Representational Competence in Science Education* (pp. 177-201). Springer, Cham.
2. Mraz, J.A., Daniel, K.L., Boyce, C.J., Mishra, C., Ali, L. & Clase, K.L. (2018). Student Identities in Authentic Course-Based Undergraduate Research Experience. Manuscript accepted. *Journal of College Science Teaching*.

3. Byrn, S., **Clase, K.L.**, Ekeocha, Z. (2017). An Education Strategy to Respond to Medicine Inequality in Africa. *The Journal of Pharmaceutical Sciences*. 106(7): 1693-1696.
4. Byrn, S., **Clase, K.L.**, McCord, Jordyn, K., Kihore, Nsabo., Stepanovic, M., GDT Final Report. *The American Journal of Pharmaceutical Education*. (under review)
5. Byrn, S., **Clase, K.L.**, Sustainable Medicines in Africa. *Journal of Pharmaceutical Sciences*. (under review)
6. Li, T., **Clase, K.L.**, Li, W., Traynor, A., A Model for Assessment of Bioenergy Competency: Development and Validation. *Journal of Psychoeducational Assessment*. (under review)
7. Pope, W.H., Bowman, C.A., Russell, D.A., Jacobs-Sera, D., Asai, D.J., Cresawn, S.G., Jacobs, W.R., Hendrix, R.W., Lawrence, J.G., and Hatfull, G.F., Science Education Alliance Phage Hunters Advancing Genomics and Evolutionary Science, Phage Hunters Integrating Research and Education, Mycobacterial Genetics Course (2,664 undergraduate authors and 199 faculty, including **K.L. Clase**) (2015). Whole genome comparison of a large collection of mycobacteriophages reveals a continuum of phage genetic diversity. *eLife*. 4:e06416
8. The isolation, sequencing and analysis of the hundreds of *M. smegmatis* bacteriophage genomes was performed by an integrated research and education program, called the SEA-PHAGES program, funded by HHMI. This enabled 2,664 undergraduate students and 199 faculty, including **Dr. Clase**, from institutions across the United States and at the University of KwaZulu-Natal in South Africa to contribute to the phage discovery and sequencing project, and co-authored this report. SEA-PHAGES therefore shows that it is possible to successfully incorporate genuine scientific research into an undergraduate course, and that doing so can benefit both the students and researchers involved.

Presentations

1. Mishra, C., Daniel, K.L., & Clase, K.L. (August, 2016). Role of Students' Self-Reflection in a Course-Based Undergraduate Research Experience. Poster submitted for presentation at the Modelling and Model-Based Reasoning in STEM Conference, Purdue University, West Lafayette, Indiana.
2. Clase, K. L., Mishra, C., Li, T., & Parker, L.C. (June, 2017). An Assessment Model for Representational Competence and Systems Thinking Embedded in SEA-PHAGES Instruction. Poster submitted for presentation at the Science Education Alliance Symposium, Howard Hughes Medical institute, Ashburn, Virginia.
3. Samarapungavan Ala, Pelaez N., Gardner, S., Clase, K.L., & Mishra, C. (June, 2018). Contextualizing students' understanding of methods for gathering and interpreting evidence in biology. Oral presentation in the symposium Unpacking Dimensions of Evidentiary Knowledge and Reasoning in the Teaching and Learning of Science at International Society of the Learning Sciences, London, UK.
4. **Clase, K.L.** (2017). Development and Implementation of Master's of Science in Biotechnology Innovation and Regulatory Science (BIRS) Program in Collaboration with NM-AIST at the Eastern and Southern Africa Higher Education Centers of Excellence Project. Tanzania.
5. **Clase, K.L.** (2016). Describing Teacher Conceptions of Technology in Authentic Science Inquiry Using TPACK as a Lens at the 2016 National Association Research in Science Teaching Annual Meeting. Baltimore, MD.

Professional Development (most-recent activities)

2. Smith College: Executive Education for Women; Phoenix, Arizona, February 2018.
3. Linkage: Global Institute for Leadership Development (GILD) Asia, 2017 Global Institute for Leadership, Singapore, July 2017.
4. Linkage: Global Institute for Leadership Development (GILD), Women in Leadership Institute, Dallas, Texas, November 2017.