

Sharyn K. Freyermuth, Ph.D.

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EDUCATION

- Ph.D. **Duke University**, Durham, North Carolina (May 1991)
Biochemistry and Genetics, Thesis Advisor: Robert E. Webster, Ph.D.
Dissertation title: *Studies on the TolA and TolB proteins: components of a multistep translocation system in Escherichia coli.*
- BS **University of Georgia**, Athens, Georgia (1984)
Major: Genetics, *Summa Cum Laude*; Member of University Honors Program; National Merit Scholar; Phi Beta Kappa
Undergraduate Research: *Restriction map analysis and sequencing of a soybean actin gene with Richard B. Meagher, Ph.D.*; Department of Genetics, University of Georgia

PROFESSIONAL EXPERIENCE

- Assistant Dean for Academic Programs**, University of Missouri *June 2009-present*
- College of Agriculture, Food & Natural Resources
- Interim Assistant Dean for Academic Programs**, University of Missouri *July 2008-May 2009*
- College of Agriculture, Food & Natural Resources
- Teaching Assistant Professor**, University of Missouri *Sept 2004 - present*
- Biochemistry Department, College of Agriculture, Food and Natural Resources
Courses taught include *Biotechnology in Society*, a 3 hour lecture/discussion class for non-majors; *Molecular Biology Laboratory* a 3 hour writing intensive laboratory class for majors; *Exploring Bioethics through Fact and Fiction*, a 1 hour seminar course targeted to pre-med, honors students; *Foundations for College Success*, a 1 hour seminar course for freshmen; *Senior Seminar in Biochemistry* a 1 hour capstone course for majors to present their research. Additional duties include co-facilitating the Biochemistry Freshman Interest Group, advising majors and assisting with Summer Welcome advising for entering freshmen majors.
- Resident Instruction Resident Instructor**, University of Missouri *Aug 1998 – Aug 2004*
- Biochemistry Department, College of Agriculture, Food and Natural Resources (100% teaching)
- Postdoctoral Fellow**, University of Missouri *Aug 1992 – July 1998*
- Biochemistry Department, College of Agriculture, Food and Natural Resources
Postdoctoral research with Joseph C. Polacco, Ph.D.; Biochemistry Department, University of Missouri; NSF Postdoctoral Fellowship in Plant Biology (1993-1996); Research area: *Molecular and genetic studies of soybean urease activation.*
- Postdoctoral Fellow**, University of Colorado – Boulder *Aug 1991 – July 1992*
- Department of Molecular, Cellular and Developmental Biology
Postdoctoral research with L. Andrew Staehelin, Ph.D.; Department of Molecular, Cellular and Developmental Biology, University of Colorado. Research area: *Functional and structural studies on the plant cell wall polysaccharide xyloglucan.*

SELECTED HONORS/AWARDS

- Outstanding Senior Teaching Award, College of Agriculture, Food and Natural Resources, University of Missouri – Columbia, Spring 2007
- Outstanding Instructor in Biochemistry, College of Agriculture, Food and Natural Resources, University of Missouri – Columbia, Fall 2002

GRANTS AND FELLOWSHIPS

- NSF CCLI Grant: *Addressing the Assessment Gap in Undergraduate Science: Development of Innovative Assessments for Learning in Biotechnology (DIAL-B)* (\$149,980) – 1/2009-12/2010. Designing, testing, and dissemination of innovative assessments for biotechnology.
- USDA Higher Education Challenge Grant: *Searching the deep sea for clues to enhance agricultural carbon fixation* (\$265,621) – 9/2008-8/2010. Collaboration between MU, UCLA and University of South Florida. Development of curricular materials to allow students to isolate and characterize novel autotrophic microbes.
- [See additional information about USDA Higher Education Challenge Grants and curricula developed at <http://www.biochem.missouri.edu/biotech-ed.>]
- USDA Grant: MU Multicultural Scholars Program - Passport to Success (\$144,000) - 12/1/2006-6/1/2010. Four year scholarships for 6 minority students.

COMMITTEES/SERVICE/PROFESSIONAL ORGANIZATIONS

- Biochemistry Undergraduate Education Committee
- CAFNR International Programs Committee
- North American Colleges and Teachers of Agriculture
- National Science Teachers Association
- Science Teachers of Missouri
- Sigma Xi, The Scientific Research Society
- The Phi Beta Kappa Society, Secretary-Treasurer for Alpha of Missouri

RESEARCH PUBLICATIONS/CURRICULUM

- Siegel, M.A., Halverson, K.L., Freyermuth, S.K., & Clark, C.G. (under review). Rubrics for science learning: Beyond grading. *CBE—Life Sciences Education*.
- Halverson, K., Siegel, M.A., & Freyermuth, S. (2009). Lenses for framing decisions: Undergraduates' decision making about stem cell research. *International Journal of Science Education*. Vol. 31, No. 9, 1 June 2009, pp. 1249–1268.
- Halverson, K.H., Freyermuth, S.K., Siegel, M.A., & Clark, C. (under review). Socioscientific conceptions: What undergraduates misunderstand about stem-cell research. *International Journal of Science Education*
- Kathleen M. Scott*, et. al. *The genome of Deep-sea Vent Chemolithoautotroph Thiomicrospira crunogena XCL-2*. PLoS Biology, Volume 4 (Dec 2006).
- Freyermuth, Shari, Bruce McClure, Gerald Hazelbauer, Cheryl Kerfeld, and Niki Whitley (2005) *Biotechnology Education Activities CD*.