

## Lisa K. Elfring

### (a) Professional Preparation

University of California, Santa Cruz	B.A.	1983-1987	Biology
University of California, Santa Cruz	Ph.D.	1989-1994	Molecular, Cell, and Developmental Biology
Whitehead Institute for Biomedical Research, MIT	Postdoctoral	1994-1997	Genetics and cell biology

### (b) Appointments

2016-present	Assistant Vice Provost, Instruction and Assessment, University of Arizona, Tucson, Arizona.		
2016-2017	Co-Director, University of Arizona STEM Learning Center		
2009-present	Associate Professor, Department of Molecular and Cellular Biology		
2009- 2016	Associate Professor, Department of Chemistry/Biochemistry, University of Arizona		
2007-2009	Associate Professor, Department of Biochemistry and Molecular Biophysics		
2002-2007	Senior Lecturer/Biology Educator, Department of Biochemistry and Molecular Biophysics, University of Arizona, Tucson, Arizona		
1998-2002	Adjunct Lecturer/Biology Educator, Department of Biochemistry and Molecular Biophysics, University of Arizona, Tucson, Arizona		

### (c) Products

#### Most relevant, science education

Elfring, Lisa K. Helping Teachers in the Evolution-Teaching Dilemma: Understanding Evolution by Kostas Kampourakis (book review). In press: CBE Life Sciences Education, Winter 2016.

Burd, G.D., Tomanek, D., Blowers, P., Bolger, M., Cox, J., Elfring, L., Grubbs, E., Hunter, J., Johns, K., Lazos, L., Lysecky, R., Milsom, D., Novodvorsky, I., Pollard, J., Prather, E., Talanquer, V., Thamvichai, K., Tharp, H., Wallace, C. Developing faculty cultures for evidence-based teaching practices in STEM: A progress report. A chapter in *Transforming Institutions: 21<sup>st</sup> Century Undergraduate STEM*. Purdue University Press: West Lafayette, IN.

Hester, Susan H., Buxner, Sanlyn, Elfring, Lisa K., Nagy, Lisa. Integrating quantitative thinking into an introductory biology course improves students' mathematical reasoning in biological contexts. *CBE: Life Science Education* 13 (1): 54-64, 2014.

Offerdahl, E. G., L. K. Elfring, E. Vierling, M. Ziegler, and T. O. Baldwin. Reading Questions in Large-Lecture Courses: Limitations and Unexpected Outcomes. *Journal of College Science Teaching*, **37**(4): 43-47, 2008.

Baldwin, Thomas O., Lisa Elfring, Erika Offerdahl. PhD in Biochemistry (Education)! *Biochemistry and Molecular Biology Education* **36** (4): 251-252, 2008.

#### Additional, peer-reviewed science publications

Lee, L. A.\*, L. K. Elfring\*, G. Bosco, and T. L. Orr-Weaver. A genetic screen for suppressors and enhancers of the PAN GU cell cycle kinase identifies Cyclin B as a critical target. *Genetics* **158**:1545-1456, 2001.

\*These two authors contributed equally to this work.

Elfring, L. K., C. Daniel, O. Papoulos, R. Deuring, M. Sarte, S. Moseley, S. J. Beek, W. R. Waldrip, G. Daubresse, A. DePace, J. A. Kennison, and J. W. Tamkun. Genetic analysis of *brahma* (*brm*): the Drosophila homolog of the yeast chromatin remodeling factor SWI2/SNF2. *Genetics* **148**:251-266, 1998.

Elfring, L. K., J.M. Axton, D.D. Fenger, A. W. Page, J. L. Carminati, and T. L. Orr-Weaver. The Drosophila PLUTONIUM protein is a specialized cell cycle regulator required at the onset of embryogenesis. *Molecular Biology of the Cell* **8**: 583-593, 1997.

Elfring, L. K., R. Deuring, C. M. McCallum, C.L. Peterson, and J. W. Tamkun. Identification and characterization of Drosophila relatives of the yeast transcriptional activator SNF2/SWI2. *Molecular and Cellular Biology* **14**: 2225-2234, 1994.

**(d) Synergistic Activities:**

**Co-PI on an NSF-IUSE grant, Authentic Scientific Practices in the Classroom: A Model-Based Inquiry Curriculum for Introductory Biology Laboratory** (2016-present). This project is investigating the use of models as teaching tools in the Introductory Cell and Molecular Biology laboratory course.

**Co-PI on an NSF-IUSE grant, Developing Instructional Teams for Evidence-Based Instruction in Large Collaborative Learning Environments** (2017-present). This project is investigating models for the effective use of a teaching team in large, active-learning courses and includes faculty and team member training on communication, formative assessment, and characteristics of effective active-learning tasks.

**Co-PI on the University of Arizona's AAU-STEM project** (2013-2016). This three-year award funded the adoption of research-based teaching methods in five introductory STEM courses (including Introductory Biology) and the design of a coordinated professional-development program to increase faculty awareness of active-engagement teaching strategies.

**Introductory Cell and Molecular Biology Coordinator** (2011-2016). I taught a ~500-student lecture section of Introductory Cell and Molecular Biology and coordinated the team of instructors who taught the lecture and laboratory sections of this high-enrollment course. With support from the AAU-STEM grant, the team developed common learning objectives, some common curriculum, and created a common final exam to facilitate meaningful cross-section assessment.

**PULSE (Partnership for Undergraduate Life Science Education) fellow** (2016-present) and member of the Southwest Regional and Ambassadors Circles. This national organization promotes alignment of undergraduate curriculum at various types of higher-education institutions with the Vision and Change recommendations for life-science education reform, and focuses on department-level change to bring about changes in the curriculum.