Kam D. Dahlquist, Ph.D.
Professor of Biology
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Last modified: September 5, 2018

EDUCATION

Ph.D. **University of California, Santa Cruz** March 2000
Molecular, Cellular, and Developmental Biology Program
Advisor: Joseph D. Puglisi, Ph.D.
Committee: Harry F. Noller, Ph.D., Manuel Ares, Jr., Ph.D.
Thesis: Interaction of Translation Initiation Factor IF1 with the E. coli Ribosomal A Site

B.A. **Pomona College, Claremont, California** May 1993
Biology, *cum laude*

University College, Oxford University, Oxford, England Fall 1991
Study Abroad Program
Specialized tutorial in Philosophy of Science

POSITIONS HELD

Professor 2017–present
Department of Biology, Loyola Marymount University, Los Angeles, California

Affiliate Faculty Bioethics Institute, LMU 2013–present

William F. McLaughlin Chair of Biology, LMU 2010–2012

Associate Professor, Department of Biology, LMU 2009–2017

Assistant Professor, Department of Biology, LMU 2005–2009

Assistant Professor 2003–2005
Department of Biology, Vassar College, Poughkeepsie, New York

Postdoctoral Fellow 2000–2003
Gladstone Institute of Cardiovascular Disease, University of California, San Francisco

Adjunct Lecturer Spring 2000
Department of Biology, Santa Clara University, Santa Clara, California

Visiting Researcher 1997–2000
Department of Structural Biology, Stanford University, Stanford, California

Research Assistant 1994–1997
Department of Biology, University of California, Santa Cruz, California

GRANTS, FELLOWSHIPS, HONORS, AWARDS

Kadner-Pitts Research Grant 2017–2018
$11,600, *Experimental, Mathematical Modeling, and Data Visualization Methods to Investigate the Properties of the Gene Regulatory Network Controlling the Cold Shock Response in Budding Yeast*

ASBMB Travel Grant 2016
$500, to present at the American Society for Biochemistry and Molecular Biology Annual Meeting, April 2-5, 2016, San Diego California

National Institute for Mathematical and Biological Synthesis (NIMBioS) 2015–2017
Working Group, *Unpacking the Black Box: Teaching Quantitative Biology*,
Invitation-only, collaborative group with face-to-face meetings held at the University of Tennessee, Knoxville and an online collaboration between meetings

Elizabeth and Michael Rudinica Endowed Prize for Student-Faculty Research 2015
Seaver College of Science and Engineering, Loyola Marymount University

Kadner-Pitts Research Grant 2015–2016
Department of Biology, Loyola Marymount University
$13,400, *Extending and Refining the Mathematical Model of the Gene Regulatory Network Controlling the Cold Shock Response in Budding Yeast*

ASBMB Thematic Best Poster Award in Systems Biology 2012
$500, for poster presented at the American Society for Biochemistry and Molecular Biology Annual Meeting, April 20-24, 2012, San Diego, California

ASBMB and NSF Travel Grant 2012
$2,250, to present at the American Society for Biochemistry and Molecular Biology Annual Meeting, April 20-24, 2012, San Diego California

NSF-DMS Mathematical Biology, MCB Genes and Genome Systems 2009–2015
$246,123, *Collaborative Research and RUI: Stochastic Dynamic Network Models of Gene Regulation under Environmental Stress*
Principal Investigator: **Kam D. Dahlquist**; *Co-Principal Investigator*: Ben G. Fitzpatrick

Loyola Marymount University Center for Teaching Excellence Travel Grant, $740 2009

NSF-UBM (Interdisciplinary Training for Undergraduates in Biological and Mathematical Sciences) 2007–2010
$240,000, *Analysis of Stress in Biological Systems*
Principal Investigator: Ben G. Fitzpatrick; *Co-Principal Investigators*: Wendy J. Binder, Erika Camacho, **Kam D. Dahlquist**, Gary A. Kuleck; *Faculty Associates:* Philippa M. Drennan, Martin G. Ramirez, *Interdisciplinary Research Project* with Ben G. Fitzpatrick entitled, *Modeling Gene Expression Networks in Saccharomyces cerevisiae*

W.M. Keck Foundation 2007–2010
$300,000, *Equipment for the Molecular Analysis and Imaging Laboratory*
Principal Investigator: Gary A. Kuleck; *Co-Principal Investigators:* **Kam D. Dahlquist**, David Moffet, Martin G. Ramirez, Carl R. Urbinati

Kadner-Pitts Research Grant 2007–2008
Department of Biology, Loyola Marymount University
$10,000, *Mapping Gene Regulatory Networks in Yeast using DNA Microarrays, Mathematical Modeling, and GenMAPP*

Merck-AAAS Undergraduate Science Research Program 2006–2008
$120,000 ($60,000 plus $60,000 matching funds from Loyola Marymount University)
Chemical and Biological Aspects of Pollution in the Ballona Wetlands
Principal Investigator: M. Catherine McElwain; *Director and Co-Principal Investigator:* **Kam D. Dahlquist**; *Co-Principal Investigators:* Rachel Adams, Lambert Doezema, John Dorsey, Philippa M. Drennan, Gary A. Kuleck, Jim Landry, Jeremy McCallum, David Moffet, Martin G. Ramirez, James Roe, and Carl R. Urbinati, *Interdisciplinary Research Project* with David Moffet and Carl R. Urbinati entitled *Identifying Soil Bacteria and Biochemical Pathways in the Ballona Wetlands for the Bioremediation of Organic Pollutants*

Academic Technology Grant, Loyola Marymount University 2007
$4,000, *Introducing DNA Microarray Technology in the New Laboratory Course, Biology 478: Molecular Biology of the Genome*

Dartmouth Faculty Summer Institute Travel Award and Stipend August 2006
ELSI Reunion and Conference, Dartmouth University, Hanover, New Hampshire

Summer Research Grant for New Faculty, Loyola Marymount University 2006
$4,000, *The Transcriptional and Proteomic Response to Cold Shock and Recovery in Saccharomyces cerevisiae*

Merck-AAAS Undergraduate Science Research Program 2005
Principal Investigator: Richard B. Hemmes, Department of Biology, Vassar College
Interdisciplinary Research Project with Eric S. Eberhardt, Department of Chemistry, Vassar College entitled *Examining the Molecular Details of Oxidative Stress from the Genome to the Proteome*
[I declined my share of the funding upon my move to Loyola Marymount University]

Mellon Faculty Conversations Award, Vassar College 2004–2005
$2,000, *Effective Grading: A Tool for Learning and Assessment*

Dartmouth Faculty Summer Institute Travel Award and Stipend July 2004
Ethical, Legal, and Social Implications of the Human Genome Project
Dartmouth University, Hanover, New Hampshire

Sigma Xi, Full Membership 2004
Associate Membership 1992

Carolyn Grant Endowment for Embodied Learning, Vassar College 2004
$2,000, Sponsored a visit by Jean Couch to lead workshops on *Balanced Posture* for *Introduction to Biological Thought: The Human Genome* and the campus community

GAANN Fellowship, U.C. Santa Cruz 1995–1997

Phi Beta Kappa 1993
Vaile Prize in Biology, Pomona College 1993
Senior Service Award, Pomona College 1993
Eda May Haskell Library Prize, Pomona College 1993

Best Seminar in Plant or Microbial Biology 1992
West Coast Undergraduate Research Conference in the Biological Sciences

RESEARCH EXPERIENCE

Professor 2017–present
Department of Biology, Loyola Marymount University, Los Angeles, California
Current Research Projects:
- Determining the gene regulatory network controlling the global transcriptional response of budding yeast, *Saccharomyces cerevisiae*, to cold shock and recovery (2003–present);
- Modeling the dynamics of this gene regulatory network through the development of the GRNmap software (2006–present);
- Visualizing the results of the dynamical network model through the development of the GRNsight software (2014–present);

Research advisor for 13 undergraduates from the 2017–2018 academic year to the present.

Associate Professor 2009–2017
Department of Biology, Loyola Marymount University, Los Angeles, California
- In addition to the projects above, creation of GenMAPP-compatible Gene Databases using the XMLPipeDB software suite for the analysis of published microarray data (2006–2016).

Research advisor for 42 undergraduates from 2009–2017.

Assistant Professor 2005–2009
Department of Biology, Loyola Marymount University, Los Angeles, California
- In addition to the projects noted above, identifying soil bacteria and biochemical pathways in the Ballona Wetlands for the bioremediation of organic pollutants (2006–2008)

Research advisor for 8 undergraduates and 1 Master's level student from 2005–2008.

Assistant Professor 2003–2005
Department of Biology, Vassar College, Poughkeepsie, New York
- Transcriptional and Proteomic Response of *Saccharomyces cerevisiae* to Cold Shock and Recovery
- Creation of MAPPs, Gene Databases, and Documentation for GenMAPP software

Research advisor for a total of 6 undergraduate students from 2003–2005.

Postdoctoral Fellow 2000–2003
Gladstone Institute of Cardiovascular Disease, University of California, San Francisco
Advisor: Bruce R. Conklin, M.D.; *Topic:* Pathway-based analysis of microarray data; project management, design, testing, and documentation of the GenMAPP software

Visiting Researcher 1997–2000
Department of Structural Biology, Stanford University, Stanford, California
Dissertation Advisor: Joseph D. Puglisi, Ph.D.

Research Assistant 1994–1997
Department of Biology, University of California, Santa Cruz
Dissertation Advisor: Joseph D. Puglisi, Ph.D.

Rotation Student 1993–1994
Department of Biology, University of California, Santa Cruz
Advisor: Jack K. Okamuro, Ph.D.
Topic: Identification of additional members of the *Apetala2* family in *Arabidopsis thaliana*
Advisor: Jerry F. Feldman, Ph.D.
Topic: Mapping of the *Period2* locus in *Neurospora crassa*

Undergraduate Researcher Summer 1993
Howard Hughes Summer Institute, University of California, Santa Cruz
Advisor: Jane Silverthorne, Ph.D.
Topic: Characterization of phytochrome genes in *Ginkgo biloba*

Undergraduate Researcher 1991–1992

Department of Biology, Pomona College, Claremont, California

Advisor: David W. Becker, Ph.D.

Topic: Effect of heat stress on photosynthesis in a high-temperature strain of the green alga, *Chlorella pyrenoidosa*

TEACHING EXPERIENCE

College Level

Department of Biology, Loyola Marymount University 2005–present

Biology 201: Cell Function (2005–2011, 2013–2015, 2017)

- Sophomore-level requirement in four-semester lower division curriculum for biology, biochemistry, and health and human sciences majors
- Course coordinator 2009–2011, 2013–2015, 2017

Biology 275: Human Genetics (2006)

- Fulfills University core requirement for non-science majors

Biology 367/Computer Science 367: Biological Databases (2008-2010, 2013, 2015, 2017)

- Cross-listed and team taught with John David N. Dionisio, Ph.D., Department of Electrical Engineering and Computer Science
- Interdisciplinary student teams create GenMAPP Gene Databases for unicellular pathogens by modifying XMLPipeDB open source software for the analysis of published microarray data
- Course website: https://xmlpipedb.cs.lmu.edu/biodb/fall2015/index.php/Main_Page

Biology 368: Bioinformatics Laboratory (2008, 2010–2011, 2014, 2016)

- Projects include sequence and structural analysis of the gp120 protein of HIV and analysis of DNA microarray experiments
- Course website: http://www.openwetware.org/wiki/BIOL368/F14

Biology 388/Mathematics 388: Biomathematical Modeling (2011, 2013, 2015, 2017)

- Cross-listed and team taught with Ben G. Fitzpatrick, Ph.D., Department of Mathematics
- Students create mathematical models of nitrogen metabolism and use the GRNmap and GRNsight software for modeling gene regulatory networks in budding yeast
- Course website: http://www.openwetware.org/wiki/BIOL398-04/S15

Biology 439: Molecular Biology Applications (2006–2007)

- Intensive laboratory course in molecular biology
- Students performed semi-independent cloning project based on my dissertation research

Biology 478: Molecular Biology of the Genome (2007–2010, 2013–2018)

- Subject of 2007 LMU Academic Technology Grant
- Intensive laboratory course in molecular biology; student-performed DNA microarray experiments contribute to dataset deposited in NCBI Gene Expression Omnibus database

Biology 498/Computer Science 698: Special Studies in Bioinformatics (2006)

- Master's-level course cross-listed with Computer Science, team taught with John David N. Dionisio, Ph.D., Department of Electrical Engineering and Computer Science
- Project-based course initiated development of the XMLPipeDB software suite using open source tools and the SourceForge development environment

Biology 585: Issues in Biotechnology (2007, 2014, 2016, 2018)

- Seminar and capstone experience for biology majors
- Read, present, and discuss articles from the primary biotechnology literature, followed by discussion of the ethical, legal, and social implications

Honors 240: On the Nature of Things (2009)

- University core requirement for students in the Honors Program
- An examination of the history, philosophy, and nature of scientific discovery, theory, and practice, focusing on recent advances in biotechnology and genomics, epistemology, and genetic determinism

Delivered Guest Lecture in the following courses

- BIOE630: Genetic Medicine (October 2009)
- BIOL 114: Biology for Engineers (March 2009)
- PHIL 666: Philosophy of Science (October 2008)
- CMSI 686: Database Systems (April 2007)
- MATH 298: Biomathematics (April 2007)
- CMSI 598/698: Open Source Software Development Workshop (Summer 2006)
- MGMT 498: Technology Ventures (March 2006)
- CMSI 486: Introduction to Database Systems (October 2005)

Department of Biology, Vassar College (Assistant Professor) 2003–2005

Introduction to Biological Thought: The Human Genome

- Students used MAPPFinder to analysis a publicly available cancer microarray dataset
- Students learned scientific writing step-by-step, culminating in a final draft of a review of a primary research article about a gene involved in cancer

Principles of Genetics

- Students used GenMAPP to draw a biochemical pathway and analyze microarray data related to their "wet" lab work
- Emphasized the "practical" aspects of successful scientific research through special exercise in teamwork
- Genetics and Society presentations, papers, and discussions taught students about the ethical implications of genetics research

Bioinformatics

- Project-based computer laboratory using GenMAPP, MAPPFinder, and other bioinformatics software
- Students designed web sites to showcase their work
- Emphasized presentation skills and reading primary scientific literature

Department of Biology, Santa Clara University (Adjunct Lecturer) Spring 2000

Molecular Biology

- Taught lecture and lab to 20 upper-division, biology majors; was solely responsible for course content
- Developed lab exercise based on thesis research where students cloned different mutations in 16S rRNA into an *E. coli* expression vector and analyzed the phenotype of the mutant cells
- Developed bioinformatics lab exercise based on tools publicly available on the web

Department of Biology, Stanford University (Course Assistant) Winter 1998

Cell Biology

- Led discussion of research articles

Department of Biology, U.C. Santa Cruz (Teaching Assistant) Fall 1994

Concepts in Biology

- Lectured when professor was out of town

Howard Hughes Summer Institute, U.C. Santa Cruz (Teaching Assistant) Summer 1994

Molecular and Cell Biology Laboratory

- Supervised semi-independent research projects on the cloning of *frequency* homologues in different species of fungi

K-12

Herbert Hoover Middle School and U.C. San Francisco (Scientist Volunteer) 2001–2002
Science and Health Education Partnership Triad Science Club
- Developed and led hands-on activities, including gel electrophoresis

Mission Hill Junior High School, U.C. Santa Cruz (Elective Teacher) Fall 1994
Project SAME: Science and Math Equity
- Taught a girl-only elective class on building simple machines with the Lego-Logo system

PUBLICATIONS

Peer-reviewed Research (*indicates undergraduate co-author)

Dahlquist, K.D., Dionisio, J.D.N., Libeskand-Hadas, R, Bargagliotti, A.E. (2018) Breaking Boundaries in Computing in Undergraduate Courses *Journal of Research in STEM Education* **4**: 81-100.

Eaton, C.D., Callendar, H.L., **Dahlquist, K.D.**, LaMar, M.D., Ledder, G., Schugart, R.C. (2017) A "Rule of Five" Framework for Models and Modeling to Unify Mathematicians and Biologists and Improve Student Learning, *PRIMUS: Problems, Resources, and Issues in Mathematics Undergraduate Studies, in press*. DOI: 10.1080/10511970.2018.1489318. Available on the arXive preprint server at https://arxiv.org/abs/1607.02165v2.

Dahlquist, K.D., Dionisio, J.D.N., Fitzpatrick, B.G., Anguiano, N.A.*, Varshneya, A.*, Southwick, B.J.*, Samdarshi, M.* (2016) GRNsight: a web application and service for visualizing models of small- to medium-scale gene regulatory networks. *PeerJ Computer Science* **2**:e85. DOI: 10.7717/peerj-cs.85.

Dahlquist, K.D., Fitzpatrick, B.G., Camacho, E.T., Entzminger, S.D.*, and Wanner, N.C.* (2015) Parameter Estimation for Gene Regulatory Networks from Microarray Data: Cold Shock Response in *Saccharomyces cerevisiae*. *Bulletin of Mathematical Biology*, **77**: 1457-1492, published online September 29, 2015. DOI: 10.1007/s11538-015-0092-6.

Demir, E., Cary, M.P., Paley, S., Fukuda, K., Lemer, C., Vastrik, I., Wu, G., D'Eustachio, P., Schaefer, C., Luciano, J., Schacherer, F., Martinez-Flores, I., Hu, Z., Jimenez-Jacinto, V., Joshi-Tope, G., Kandasamy, K., Lopez-Fuentes, A.C., Mi, H., Pichler, E., Rodchenkov, I., Splendiani, A., Tkachev, S., Zucker, J., Gopinath, G., Rajasimha, H., Ramakrishnan, R., Shah, I., Syed, M., Anwar, N., Babur, O., Blinov, M., Brauner, E., Corwin, D., Donaldson, S., Gibbons, F., Goldberg, R., Hornbeck, P., Luna, A., Murray-Rust, P., Neumann, E., Reubenacker, O., Samwald, M., van Iersel, M., Wimalaratne, S., Allen, K., Braun, B., Whirl-Carrillo, M., Cheung, K.H,, **Dahlquist, K.**, Finney, A., Gillespie, M., Glass, E., Gong, L., Haw, R., Honig, M., Hubaut, O., Kane, D., Krupa, S., Kutmon, M., Leonard, J., Marks, D., Merberg, D., Petri, V., Pico, A., Ravenscroft, D., Ren, L., Shah, N., Sunshine, M., Tang, R., Whaley, R., Letovksy, S., Buetow, K.H., Rzhetsky, A., Schachter, V., Sobral, B.S., Dogrusoz, U., McWeeney, S., Aladjem, M., Birney, E., Collado-Vides, J., Goto, S., Hucka, M., Le Novère, N., Maltsev, N., Pandey, A., Thomas, P., Wingender, E., Karp, P.D., Sander, C., and Bader, G.D. (2010) The BioPAX Community Standard for Pathway Data Sharing. *Nature Biotechnology* **28**: 935-942. DOI: 10.1038/nbt.1666

Ogando, D.G., **Dahlquist, K.D.**, Alizadeh, M., Kunchithapautham, K., Li, J., Yu, N., LaVail, M.M., Rohrer, B., Vollrath, D., and Danciger, M. (2010) Candidate Genes for Chromosomes 6 and 10 Quantitative Trait Loci for Age-related Retinal Degeneration in Mice. *Molecular Vision* **16**: 1004-1018.

Dionisio, J.D.N. and **Dahlquist, K.D.** (2008) Improving the Computer Science in Bioinformatics Through Open Source Pedagogy *ACM SIGCSE Bulletin* **40**: 115-119. DOI: 10.1145/1383602.1383648.

Salomonis, N., Hanspers, K., Zambon, A.C., Vranizan, K., Lawlor, S.C., **Dahlquist, K.D.**, Doniger, S.W., Stuart, J., Conklin, B.R., & Pico, A.R. (2007) GenMAPP 2: New Features and Resources for Pathway Analysis. *BMC Bioinformatics* **8**: 217. DOI: 10.1186/1471-2105-8-217.

Segal, M.R., **Dahlquist, K.D.**, & Conklin, B.R. (2003) Regression Approaches for Microarray Data Analysis. *Journal of Computational Biology* **10**: 961-980. DOI: 10.1089/106652703322756177.

Doniger, S.W., Salomonis, N., **Dahlquist, K.D.**, Vranizan, K., Lawlor, S.C., & Conklin, B.R. (2003) MAPPFinder: Using Gene Ontology and GenMAPP to Create a Global Gene-Expression Profile from Microarray Data. *Genome Biology* **4**: R7. DOI: 10.1186/gb-2003-4-1-r7.

Dahlquist, K.D., Salomonis, N., Vranizan, K., Lawlor, S.C., & Conklin, B.R. (2002) GenMAPP, A New Tool for Viewing and Analyzing Microarray Data on Biological Pathways. *Nature Genetics* **31**: 19-20. DOI: 10.1038/ng0502-19.

Dahlquist, K.D. & Puglisi, J.D. (2000) Interaction of Translation Initiation Factor IF1 with the *E. coli* Ribosomal A site. *Journal of Molecular Biology* **299**: 1-15. DOI: 10.1006/jmbi.2000.3672.

Recht, M.I., Douthewaite, S., **Dahlquist, K.D.**, & Puglisi, J.D. (1999) Effect of Mutations in the A site of 16S rRNA on Aminoglycoside Antibiotic-Ribosome Interaction. *Journal of Molecular Biology* **286**: 33-43. DOI: 10.1006/jmbi.1998.2446.

Recht, M.I., Fourmy, D., Blanchard, S.C., **Dahlquist, K.D.**, & Puglisi, J.D. (1996) RNA Sequence Determinants for Aminoglycoside Binding to an A-site rRNA Model Oligonucleotide. *Journal of Molecular Biology* **262**: 421-436. DOI: 10.1006/jmbi.1996.0526.

Reviews, Book Chapters, Conference Proceedings

Dahlquist, K.D., editor (2010) Proceedings of the 11th Annual Bioinformatics Open Source Conference (BOSC) 2010. *BMC Bioinformatics* **11**(Suppl 12): S1-S13.

Dahlquist, K.D. (2004) Using GenMAPP and MAPPFinder to View Microarray Data on Biological Pathways and Identify Global Trends in the Data. In *Current Protocols in Bioinformatics* (Baxevanis, A.D., Davison, D.B., Page, R., Stein, L., Stormo, G., eds.), John Wiley & Sons, Inc., New York, N.Y., pp. 7.5.1-7.5.26.

Puglisi, J.D., Blanchard, S.C., **Dahlquist, K.D.**, Eason, R.G., Fourmy, D., Lynch, S.R., Recht, M.I., & Yoshizawa, S. (1999) Aminoglycoside Antibiotics and Decoding. In *The Ribosome: Structure, Function, Antibiotics, and Cellular Interactions* (Garrett, R.A., Douthewaite, S.R., Liljas, A., Matheson, A.T., Moore, P.B., & Noller, H.F., eds.), pp. 419-429. ASM Press, Washington, D.C.

Dahlquist, K. & Puglisi, J.D. (1995) Investigating the Structure and Function of Translation Initiation Factor 1. *Nucleic Acids Symposium Series* **33**: 170-171.

Preprints and Under Review

Dahlquist, K.D., Aikens, M.L., Dauer, J.T., Donovan, S.S., Eaton, C.D., Highlander, H.C., Jenkins, K.P., Jungck, J.R., LaMar, M.D., Ledder, G., Mayes, R.L., Schugart, R.C. (2017) An Invitation to Modeling: Building a Community with Shared Explicit Practices, submitted to *CBE—Life Sciences* Education on 25 August, 2017, under revision. Available at *PeerJ Preprints* 5:e3215v1 https://doi.org/10.7287/peerj.preprints.3215v1.

Software, Databases, and Datasets (*indicates undergraduate co-author)

NCBI Gene Expression Omnibus Series GSE83656

Dahlquist K.D., Abdulla, H.*, Arnell, A.J.*, Arsan, C.*, Baker, J.M.*, Carson, R.M.*, Citti, W.T.*, De Las Casas, S.E.*, Ellis, L.G.*, Entzminger, K.C.*, Entzminger, S.D.*, Fitzpatrick, B.G., Flores, S.P.*, Harmon, N.S.*, Hennessy, K.P.*, Herman, A.F.*, Hong, M.V.*, King, H.L.*, Kubeck, L.N.*, La-Anyane, O.M.*, Land, D.L.*, Leon Guerrero, M.J.*, Liu, E.M.*, Luu, M.D.*, McGee, K.P.*, Mejia, M.R.*, Melone, S.N.*, Pepe, N.T.*, Rodriguez, K.R.*, Rohacz, N.A.*, Rovetti, R.J., Sakhon, O.S.*, Sampana, J.T.*, Sherbina, K.*, Terada, L.H.*, Vega, A.J.*, Wavrin, A.J.*, Wyllie, K.W.*, Zapata, B.B.* (2016) Global transcriptional response of wild type and transcription factor deletion strains of *Saccharomyces cerevisiae* to the environmental stress of cold shock and subsequent recovery. Dataset of 137 DNA microarray hybridizations performed by undergraduate students as part of independent research and the course Biology 478: Molecular Biology of the Genome from 2006 to 2016. A manuscript describing this dataset is in preparation.

GRNmap (Gene Regulatory Network Modeling and Parameter Estimation)
Co-Principal Investigator with Ben G. Fitzpatrick and in collaboration with John David N. Dionisio and undergraduate research students, 2014–present
Availability (Open Source BSD license): http://kdahlquist.github.io/GRNmap/index.html, https://github.com/kdahlquist/GRNmap/

GRNsight (Web Application and Service for Visualizing Models of Gene Regulatory Networks)
Co-Principal Investigator with John David N. Dionisio and Ben G. Fitzpatrick and in collaboration with undergraduate research students, 2014–present
Availability (Open Source BSD license): http://dondi.github.io/GRNsight/index.html, https://github.com/dondi/GRNsight

XMLPipeDB (A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources) and Gene Databases for 19 species:
Arabidopsis thaliana, 2007, 2009; *Bordetella pertussis*, 2015; *Burkholderia cenocepacia*, 2015; *Chlamydia trachomatis*, 2013; *Escherichia coli* K12, 2006, 2009; *Helicobacter pylori*, 2011; *Leishmania infantum*, 2014; *Leishmania major*, 2014; *Mycobacterium smegmatis*, 2011; *Mycobacterium tuberculosis* H37Rv, 2010; *Plasmodium falciparum*, 2009; *Pseudomonas aeruginosa* PAO1, 2010; *Salmonella typhimurium*, 2011; *Shewanella oneidensis*, 2015; *Shigella flexneri*, 2015; *Sinorhizobium meliloti*, 2013; *Staphylococcus aureus* MRSA 252, 2010, *Streptococcus pneumoniae*, 2013; and *Vibrio cholerae*, 2009, 2010, 2016. Co-Principal Investigator with John David N. Dionisio, and in collaboration with 16 undergraduate research students, 1 Master's student, and students in the Biology/Computer Science 367: Biological Databases courses, 2006–present;
Availability (Open Source LGPL license): http://xmlpipedb.cs.lmu.edu, https://github.com/lmu-bioinformatics/xmlpipedb

GenMAPP (Gene Map Annotator and Pathway Profiler) 1.0 and 2.0
Project Manager, 2000–2003
Metabolic Pathway MAPP Archive for *Saccharomyces cerevisiae*, 2005; for *E. coli* K12, 2008
Availability: http://www.GenMAPP.org, https://github.com/GenMAPPCS/genmapp

PRESENTATIONS

Invited Talks

BioQUEST Summer Workshop 2018, Wicked Problems: Investigating Real World Problems in the Biology Classroom
Harvey Mudd College, Claremont, California, June 2018 (with Carrie Diaz Eaton)
An Invitation to Modeling: Exploring the process of science through the process of modeling

Computational and Quantitative Biosciences Seminar
University of California, Los Angeles, March 2018
Dynamical Systems Modeling and Visualization of Gene Regulatory Networks: What Can We Learn from Networks on the "Medium" Scale?

BioQUEST / HHMI / CaseNet Summer Workshop 2017, Making Meaning Through Modeling: Problem Solving in Biology
Michigan State University, East Lansing, Michigan, July 2017, (with Carrie Diaz Eaton, M. Drew LaMar, and Glenn Ledder)
An Invitation to Modeling: Exploring the process of science through the process of modeling

Breaking the Boundaries in STEM Education Research Conference
Loyola Marymount University, Los Angeles, California, April 2017
A Framework for Models and Modeling to Unify Mathematicians and Biologists and Improve Student Learning

National Center for Ecological Analysis and Synthesis
Santa Barbara, California, March 2017
GRNmap and GRNsight: Open Source Software for Dynamical Systems Modeling and Visualization of Medium-Scale Gene Regulatory Networks

BioQUEST / HHMI / CaseNet Summer Workshop 2015, Count the Ways: Engaging Students in Quantitative Biology Applications
Harvey Mudd College, Claremont, California, June 2015
Open Science, Open Data, Open Source Projects for Undergraduate Research Experiences

SCELC (Statewide California Electronic Library Consortium) Colloquium
Loyola Marymount University, February 2015
Panelist: *In the Open: the Future of Open Access Publishing and Libraries*
Talk: *Open Access Publishing: A PUI Faculty Perspective*

Chapman University
Orange, California, May 2012
Brrrr--How Do Yeast Cope When It's Cold Outside? Using DNA Microarrays and Mathematical Modeling to Understand Gene Regulatory Networks in Saccharomyces cerevisiae

Harvey Mudd College
Claremont, California, April 2012
Brrrr--How Do Yeast Cope When It's Cold Outside? Using DNA Microarrays and Mathematical Modeling to Understand Gene Regulatory Networks in Saccharomyces cerevisiae

Mount Saint Mary's College
Los Angeles, California, March 2012
Teaching and Learning Bioinformatics

Career Day in Fields of Science, Institute for Integrative Genome Biology, University of California, Riverside
Riverside, California, May 2011
Career Envy: The Road to a Successful PUI Position

Graduate Student Career Workshop, University of California, Los Angeles
Los Angeles, California, February 2011
Career Envy: The Road to a Successful PUI Position

Postdoctoral Scholars Association Career Workshop, University of California, Irvine
Irvine, California, November 2010
Career Envy: The Road to a Successful PUI Position

Beyond Bio2010 Symposium: Celebration and Opportunities, National Academy of Sciences
Washington, D.C., May 2010 (with John David N. Dionisio)
An Open Source, Open Science Pedagogy for Computational Biology

Young Women in Computing and CREST, New Mexico State University
Las Cruces, New Mexico, February 2010
It's a Good Time to Be a Computational Biologist!
Bioinformatics Workshop

Pepperdine University
Malibu, California, February 2008
Guest lecture in Molecular Biology course: *MAPPFinder Analysis of Prostate Cancer Microarray Data*

MCD Biology Department, University of California, Los Angeles
Los Angeles, California, May 2007
Mapping the Gene Regulatory Networks in Yeast that Control the Environmental Stress Response to Cold Temperatures

Gladstone Institute of Cardiovascular Disease
San Francisco, California, October 2006, joint seminar with John David N. Dionisio
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources

Bioinformatics Special Interest Group, California Institute of Technology
Pasadena, California, July 2006
Mapping Gene Regulatory Networks in Yeast using DNA Microarrays, Proteomics, and GenMAPP

Careers in Science Panel Discussion and Dinner, Claremont Colleges
Claremont, California, July 2006
Panelist

Natural Science Division, Pepperdine University
Malibu, California, October 2005
Mapping Gene Regulatory Networks in Yeast using DNA Microarrays, Proteomics, and GenMAPP

Department of Biological Sciences, Central Connecticut State University
New Britain, Connecticut, November 2004
Mapping Gene Regulatory Networks in Yeast using DNA Microarrays, Proteomics, and GenMAPP

BioQUEST Curriculum Consortium Summer Workshop 2004: Systems Biology Education
Beloit College, Beloit, Wisconsin, June 2004
GenMAPP and MAPPFinder for Systems Biology Education

Association for Laboratory Automation, smallTalk2003
San Jose, California, July 2003
GenMAPP and MAPPFinder: Tools for Viewing and Analyzing Microarray Data on Biological Pathways

W. Henry Feinstone Symposium, University of Memphis
Memphis, Tennessee, June 2003
Tutorial: GenMAPP and MAPPFinder, Tools for Viewing and Analyzing Microarray Data on using Biological Pathways and Gene Ontology
Seminar: Analysis of Microarray Data from a Mouse Model of Dilated Cardiomyopathy, New Insights from GenMAPP

Department of Plant Biology, The Carnegie Institution of Washington
Stanford, California, May 2003
GenMAPP and MAPPFinder: Tools for Viewing and Analyzing Microarray Data using Biological Pathways and Gene Ontology

Possibilities and Pitfalls of Mining DNA Microarray Data: from Mice to Men, University of Wyoming
Laramie, Wyoming, February 2003
Tutorial: GenMAPP and MAPPFinder, Tools for Viewing and Analyzing Microarray Data on Biological Pathways
Seminar: Analysis of Microarray Data from a Mouse Model of Dilated Cardiomyopathy, New Insights from GenMAPP

Advanced Topics in Microarray Analysis, National Institutes of Health
Bethesda, Maryland, January 2003
GenMAPP and MAPPFinder, Tools for Viewing and Analyzing Microarray Data on Biological Pathways

Lillehei Heart Institute, University of Minnesota
Minneapolis, Minnesota, October 2002
Tutorial: GenMAPP and MAPPFinder, Tools for Viewing and Analyzing Microarray Data on Biological Pathways
Seminar: Analysis of Microarray Data from a Mouse Model of Dilated Cardiomyopathy, New Insights from GenMAPP

NIH-NHLBI Programs for Genomic Applications, External Scientific Panel Review
Bethesda, Maryland, June 2001
GenMAPP Enriches the BayGenomics Gene Trap Resource

Iconix Pharmaceuticals
Mountain View, California, June 2001
GenMAPP: A New Tool for the Functional Mapping of Microarray Data

Department of Neurosciences, University of New Mexico Health Sciences Center
Albuquerque, New Mexico, October 2000
Defining the Genomic Responses to G Protein Signals by Engineering Receptors and G Proteins in Transgenic Mice

National Center for Genome Resources
Santa Fe, New Mexico, October 2000
Defining the Genomic Responses to G Protein Signals by Engineering Receptors and G Proteins in Transgenic Mice

University of California, Berkeley, History of Science Graduate Student Workshop
Berkeley, California, January 1997
Panelist: The Relevance of History of Science to Practicing Scientists

Contributed Talks

Bioinformatics Open Source Conference (BOSC)
Orlando, Florida, July 2016; Slides in *F1000 Research* DOI: 10.7490/f1000research.1112534.1
GRNmap and GRNsight: open source software for dynamical systems modeling and visualization of medium-scale gene regulatory networks

American Society for Biochemistry and Molecular Biology Annual Meeting
San Diego, California, April 2016; published abstract in *The Faseb Journal* 30(1) Supplement
GRNmap and GRNsight: open source software for dynamical systems modeling and visualization of medium-scale gene regulatory networks

Fifth Annual Southern California Systems Biology Conference
University of California, Irvine, January 2015
GRNmap and GRNsight: Open Source Software for Dynamical Systems Modeling and Visualization of Medium-Scale Gene Regulatory Networks

American Society for Biochemistry and Molecular Biology Annual Meeting
San Diego, California, April 2012; published abstract in *The Faseb Journal* 26(1) Supplement
Regulatory Dynamics of the Transcriptional Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

Bioinformatics Open Source Conference (BOSC)
Stockholm, Sweden, June 2009
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources

Yeast Genetics and Molecular Biology Meeting
Toronto, Ontario, Canada, July 2008
Mathematical Modeling of the Transcriptional Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

8th BioPathways Meeting
Vienna, Austria, July 2007
Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in Saccharomyces cerevisiae

Bioinformatics Open Source Conference (BOSC)
Vienna, Austria, July 2007 (two talks)
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources; An Open Source Framework for Teaching Bioinformatics

ELSI Reunion and Conference, Dartmouth University
Hanover, New Hampshire, August 2006
Discussion of Ethical, Legal, and Social Implications of Biological Research Incorporated into Courses in Genetics, Molecular Biology Applications, and a Seminar on Issues in Biotechnology

Bioinformatics Open Source Conference (BOSC)
Fortaleza, Brazil, August 2006
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources

The Fifth BioPathways Consortium Meeting, Intelligent Systems for Molecular Biology
Brisbane, Queensland, Australia, June 2003
GenMAPP and MAPPFinder 2.0: Tools for the Organization, Display, and Exchange of Pathway Information

The Fourth BioPathways Consortium Meeting, Intelligent Systems for Molecular Biology
Edmonton, Alberta, Canada, August 2002
GenMAPP and Gene Ontology: Tools for the Organization, Display and Exchange of Pathway Information

Physiological Genomics of Cardiovascular Disease: from Technology to Physiology
San Francisco, California, February 2002
GenMAPP: A New Tool for Viewing and Analyzing Microarray Data on Biological Pathways

Bay Area Bioinformatics Discussion Group
Stanford, California, January 2002
GenMAPP: A New Tool for Viewing and Analyzing Microarray Data on Biological Pathways

Bay Area RNA Club
San Francisco, California, June 1996
Rites of Initiation: Decoding the role of IF1

Internal Talks

Frank R. Seaver College Professorial Lecture, Loyola Marymount University
Los Angeles, California, February 2018
The Process is the Product: Systems Biology within an Open Science Ecosystem

Department of Biology Seminar, Loyola Marymount University
Los Angeles, California, September 2016
GRNmap and GRNsight: Using the power of genomics, mathematics, and open source visualization software to understand gene regulatory networks in yeast

Department of Biology Seminar, Loyola Marymount University
Los Angeles, California, March 2013, with Dr. John David N. Dionisio
XMLPipeDB: Teaming up to Analyze Data from Pathogenic Microorganisms

Department of Biology Seminar, Loyola Marymount University
Los Angeles, California, October 2012
Brrrr--How Do Yeast Cope When It's Cold Outside? Using DNA Microarrays and Mathematical Modeling to Understand Gene Regulatory Networks in Saccharomyces cerevisiae

Friday Faculty Colloquium Series, Loyola Marymount University
Los Angeles, California, February 2010
The Genome is the New Soul

Biology/Bioethics Movie Night, Loyola Marymount University
Los Angeles, California, October 2009
The Biology of Cancer, followed by a screening of the film *Wit*

Junior Faculty Seminar, Loyola Marymount University
Los Angeles, California, February 2009
The Genome is the New Soul

Center for Teaching Excellence, Loyola Marymount University
Los Angeles, California, October 2008 (with John David N. Dionisio)
Create. Share. Learn. Using Google Sites and MediaWiki

President's Day Forum, Loyola Marymount University
Los Angeles, California, March 2008
The $1000 Genome

Department of Biology, Loyola Marymount University, Kadner-Pitts Research Grant Talk
Los Angeles, California, March 2008
Brrrr—How Do Yeast Cope When It's Cold Outside? Using DNA Microarrays and Mathematical Modeling to Understand Gene Regulatory Networks in Yeast

Center for Teaching Excellence, Loyola Marymount University
Los Angeles, California, March 2008
How Do You Teach "Research"? Incorporating DNA Microarray Technology into an Upper-division Biology Laboratory Course

Parent's Weekend, Loyola Marymount University
Los Angeles, California, February 2008
How Close are We to GATTACA?

Center for Teaching Excellence, Loyola Marymount University
Los Angeles, California, November 2007
Panelist, Explorations of Faith and the Intellectual Life

President's Day Forum, Loyola Marymount University
Los Angeles, California, March 2007
How Close are We to GATTACA?

Science Seminar and Film Series, Loyola Marymount University
Los Angeles, California, organized by LMU undergraduate Morgan Henry '07, November 2006
Our Post-genomic Future, accompanied by screening of *GATTACA*

Junior Faculty Seminar Series, Loyola Marymount University
Los Angeles, California, joint seminar with John David N. Dionisio, November 2006,
Collaborating Early and Often: Bringing Biology and Computer Science Together Through an Open Source Culture

President's Day Forum, Loyola Marymount University
Los Angeles, California, March 2006
The Human Genome and Beyond

Women's Studies Brown Bag Lunch, Loyola Marymount University
Los Angeles, California, November 2006
Jesuit and Feminist Education: Transformative Discourses for Teaching & Learning Conference Report

Department of Mathematics, Loyola Marymount University
Los Angeles, California, October 2005
What is Bioinformatics?

Women's Studies Program First Friday, Vassar College
Poughkeepsie, New York, October 2004
The Ethical, Legal, and Social Implications of the Human Genome Project: Feminist Reflections (with Mary Shanley, Department of Political Science, Vassar College)

Vassar College Orientation Week Faculty Research Talks
Poughkeepsie, New York, September 2004
Matthew Vassar Enters the Genomics Era: DNA Microarrays, Proteomics, and Bioinformatics in Yeast

Gladstone Institute of Cardiovascular Disease Scientists Meeting
San Francisco, California, May 2003
GenMAPP 2.0 and Beyond…Connecting Scientists and Science Education in the Genomics Era

Gladstone Institute of Cardiovascular Disease Scientists Meeting
San Francisco, California, May 2002
Analysis of Microarray Data from a Mouse Model of Dilated Cardiomyopathy: New Insights from GenMAPP

U.C. San Francisco, Pharmaceutical Sciences and Pharmacogenomics Program Retreat
Marshall, California, November 2001
GenMAPP: A New Tool for Viewing and Analyzing Microarray Data on Biological Pathways

The J. David Gladstone Institutes Joint Scientific Retreat
Pacific Grove, California, May 2001
GenMAPP: A New Tool for the Functional Mapping of Microarray Data

Gladstone Institute of Neurological Disease Weekly Seminar
San Francisco, California, November 2000
GenMAPP: A New Tool for the Functional Mapping of Microarray Data

Stanford University, Structural Biology Department Retreat
Pacific Grove, California, November 1998
Interactions between Initiation Factor 1 and the E. coli ribosome

Stanford University, Molecular Biophysics Club
Stanford, California, February 1998
Interactions of Translation Initiation Factor 1 with the Ribosomal A site

U.C. Santa Cruz, MCD Biology Seminar
Santa Cruz, California, May 1996
Investigating the Structure and Function of Translation Initiation Factor 1 in E. coli

U.C. Santa Cruz, RNA Club
Santa Cruz, California, December 1994
Investigating the Structure and Function of Translation Initiation Factor 1 in E. coli

External Posters (*indicates undergraduate co-author, **indicates Master's student co-author)

Yeast Genetics Meeting
Stanford Unversity, Stanford, California, August 22-26, 2018 (with Ben G. Fitzpatrick, Brandon J. Klein*, Margaret J. O'Neil*, Lauren M. Kelly*)
Mathematical modeling of small gene regulatory networks reveals key regulators and network properties important for controlling the early response to cold shock in Saccharomyces cerevisiae

Bioinformatics Open Source Conference (BOSC) and Intelligent Systems for Molecular Biology (ISMB), poster in *F1000 Research* DOI: 10.7490/f1000research.1112518.1
Orlando, Florida, July 8-12, 2016 (with (with Ben G. Fitzpatrick, John David N. Dionisio, Nicole A. Anguiano*, Juan S. Carrillo*, Tessa A. Morris*, Anindita Varshneya*, Natalie E. Williams*, K. Grace Johnson*, Trixie Anne M. Roque*, Kristen M. Horstmann*, Mihir Samdarshi*, Chukwuemeka E. Azinge*, Brandon J. Klein*, Margaret J. O'Neil*)
GRNmap and GRNsight: open source software for dynamical systems modeling and visualization of medium-scale gene regulatory networks

American Society for Biochemistry and Molecular Biology Annual Meeting
San Diego, California, April 2-5, 2016 (with Ben G. Fitzpatrick, John David N. Dionisio, Nicole A. Anguiano*, Juan S. Carrillo*, Kristen M. Horstmann*, Kayla C. Jackson*, K. Grace Johnson*, Tessa A. Morris*, Trixie Anne M. Roque*, Mihir Samdarshi*, and Anindita Varshneya*, Natalie E. Williams*), published abstract in *The Faseb Journal* 30(1) Supplement
GRNmap and GRNsight: open source software for dynamical systems modeling and visualization of medium-scale gene regulatory networks

Yeast Genetics and Molecular Biology Meeting
University of Washington, Seattle, Washington, July 29-August 3, 2014 (with Ben G. Fitzpatrick, Cybele Arsan*, Wesley T. Citti*, Kevin C. Entzminger*, Andrew F. Herman*, Lauren N. Kubeck*, Stephanie D. Kuelbs*, Heather King*, Elizabeth M. Liu*, Matthew Mejia*, Kenny R. Rodriguez*, Nicholas A. Rohacz*, Olivia S. Sakhon*, Katrina Sherbina*, Alondra J. Vega*)
Cin5, Gln3, Hmo1, and Zap1 Contribute to the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

American Society for Biochemistry and Molecular Biology Annual Meeting
San Diego, California, April 26-30, 2014 (with Nicolette Harmon*, Chidinma Amakiri*, Katrina Sherbina*, Nicholas A. Rohacz*, and Ben G. Fitzpatrick), published abstract in *The Faseb Journal* 28(1) Supplement
Comparative genomics of the response to cold shock in Saccharomyces paradoxus and Saccharomyces cerevisiae

American Society for Biochemistry and Molecular Biology Annual Meeting
San Diego, California, April 20-24, 2012 (with Ben G. Fitzpatrick, Nicholas A. Rohacz*, Katrina Sherbina*), published abstract in *The Faseb Journal* 26(1) Supplement
Regulatory Dynamics of the Transcriptional Network Controlling the Cold Shock Response in Saccharomyces cerevisiae
I received the ASBMB Thematic Best Poster Award in Systems Biology for this poster.

Systems Biology: Global Regulation of Gene Expression
Cold Spring Harbor Laboratory, Cold Spring Harbor, New York, March 20-24, 2012 (with Ben G. Fitzpatrick, Nicholas A. Rohacz*, Katrina Sherbina*)
Regulatory Dynamics of the Transcriptional Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

Southern California Systems Biology Conference
University of California, Irvine, January 29-30, 2011 (with Alondra J. Vega*, Ben G. Fitzpatrick)
Mathematical Modeling of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

Yeast Genetics and Molecular Biology Meeting
Vancouver, British Columbia, Canada, July-August 2010 (with Alondra J. Vega*, Ben G. Fitzpatrick)
Mathematical Modeling of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

Intelligent Systems for Molecular Biology
Boston, Massachusetts, July 2010 (with, Alondra J. Vega*, Stephanie D. Kuelbs, Ben G. Fitzpatrick)
Mathematical Modeling of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

American Society for Cell Biology Annual Meeting
San Diego, California, December 2009 (with John David N. Dionisio)
Fostering Interdisciplinary Teamwork in an Undergraduate Biological Databases Course

Intelligent Systems for Molecular Biology
Stockholm, Sweden, June 2009 (with, Alexandrea Alphonso*, Derek Smith*, Chad Villaflores*, John David N. Dionisio)
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources

First RECOMB Satellite Conference on Bioinformatics Education
San Diego, California, March 2009 (with John David N. Dionisio)
Fostering Interdisciplinary Teamwork in an Undergraduate Biological Databases Course

Yeast Genetics and Molecular Biology Meeting
Toronto, Ontario, Canada, July 2008 (with Stephanie D. Kuelbs*, Kevin C. Entzminger*, Kenny R. Rodriguez*, Ben G. Fitzpatrick)
Mathematical Modeling of the Transcriptional Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

Intelligent Systems for Molecular Biology
Toronto, Ontario, Canada, July 2008 (with Stephanie D. Kuelbs*, Kevin C. Entzminger*, Kenny R. Rodriguez*, Ben G. Fitzpatrick)
Mathematical Modeling of the Transcriptional Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae

International Conference on Systems Biology
Long Beach, California, October 2007 (with Stephanie Kuelbs*, Nathan C. Wanner*, Ben G. Fitzpatrick, and Erika Camacho)
Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in Saccharomyces cerevisiae

Intelligent Systems for Molecular Biology
Vienna, Austria, July 2007 (with Nathan C. Wanner* and Erika Camacho)
Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in Saccharomyces cerevisiae

San Diego Systems Biology Symposium: Systems to Synthesis
Salk Institute, La Jolla, California, January 2007 (with Jeffrey Nicholas** and John David N. Dionisio)
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources

American Society for Cell Biology Annual Meeting
San Diego, California, December 2006 (with Wesley T. Citti*, Matthew Mejia*, Eric S. Eberhardt)
The Transcriptional and Proteomic Response to Cold Shock and Recovery in Saccharomyces cerevisiae

Intelligent Systems for Molecular Biology
Fortaleza, Brazil, August 2006 (with, Joey Barrett**, Joe Boyle**, Adam Carasso**, David Hoffman**, Babak Naffas**, Jeffrey Nicholas**, Roberto Ruiz**, Scott Spicer**, John David N. Dionisio)
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources

Intelligent Systems for Molecular Biology
Glasgow, Scotland, United Kingdom, August 2004
GenMAPP and MAPPFinder 2.0: Tools for Viewing and Analyzing Genomic Data Using Gene Ontology and Biological Pathways

Intelligent Systems for Molecular Biology
Brisbane, Queensland, Australia, June 2003
GenMAPP and MAPPFinder 2.0: Tools for Viewing and Analyzing Genomic and Proteomic Data Using Gene Ontology and Biological Pathways

Intelligent Systems for Molecular Biology
Edmonton, Alberta, Canada, August 2002
GenMAPP: A Tool for Viewing and Analyzing Microarray Data on Biological Pathways

Physiological Genomics of Cardiovascular Disease: from Technology to Physiology
San Francisco, California, February 2002
GenMAPP: A New Tool for Viewing and Analyzing Microarray Data on Biological Pathways

The Third International Meeting on Microarray Data Standards, Annotations, Ontologies and Databases
Stanford, California, March 2001
GenMAPP: A New Approach for the Functional Mapping of Microarray Data

The Ribosome: Structure, Function, Antibiotics, and Cellular Interactions
Helsingør, Denmark, June 1999
Interactions of Translation Initiation Factor 1 with the Ribosomal A site

RNA Society Meeting
Madison, Wisconsin, May 1998
Interactions of Translation Initiation Factor 1 with the Ribosomal A site

RNA Structure Meeting
Santa Cruz, California, June 1997
Interactions of Translation Initiation Factor 1 (IF1) with the Ribosomal A site

RNA Society Meeting
Banff, Alberta, Canada, May 1997
Interactions of Translation Initiation Factor 1 with the Ribosomal A site

Keystone Symposium: RNA-Protein Interactions
Taos, New Mexico, February 1997
Interactions of Translation Initiation Factor 1 (IF1) with the Ribosomal A site

RNA Society Meeting
Madison, Wisconsin, May 1996
Translation Initiation Factor 1 (IF1) is an A-site Ribosomal RNA Binding Protein

Symposium on RNA Biology I: RNA-Protein Interactions
Research Triangle Park, North Carolina, October 1995
Investigating the Structure and Function of Translation Initiation Factor 1 in Escherichia coli

Frontiers in Translation
Victoria, British Columbia, Canada, May 1995
Investigating the Structure and Function of Translation Initiation Factor 1 in E. coli

Sigma Xi Forum: Scientists, Educators, and National Standards: Action at the Local Level
Atlanta, Georgia, April 1994
Science Mentor Program at Mission Hill Junior High School

Internal Posters

Center for Teaching Excellence Scholarship of Teaching and Learning Showcase Week
Loyola Marymount University, Los Angeles, California, September 2009
Fostering Interdisciplinary Teamwork in an Undergraduate Biological Databases Course

Center for Teaching Excellence Scholarship of Teaching and Learning Showcase Week
Loyola Marymount University, Los Angeles, California, September 2008
How Do You Teach "Research"? Incorporating DNA Microarray Technology into an Upper-division Biology Laboratory Course

Teaching with Technology Forum
Vassar College, Poughkeepsie, New York, April 2004
GenMAPP: Connecting Students to Cutting-edge Genomics and Bioinformatics Research

The J. David Gladstone Institutes Joint Scientific Retreat
Pacific Grove, California, May 2003
GenMAPP and MAPPFinder 2.0

U.C. San Francisco, Pharmaceutical Sciences and Pharmacogenomics Program Retreat
Marshall, California, November 2002
GenMAPP: A Tool for Viewing and Analyzing Microarray Data on Biological Pathways

The J. David Gladstone Institutes Joint Scientific Retreat
Pacific Grove, California, May 2002
Analysis of Microarray Data from Mouse Models of Dilated and Hypertrophic Cardiomyopathy: New Insights from GenMAPP

U.C. San Francisco, Cardiovascular Research Institute Retreat
Tahoe City, California, November 2001
GenMAPP: A New Tool for Viewing and Analyzing Microarray Data on Biological Pathways

U.C. San Francisco, Biomedical Sciences Program Retreat
Tahoe City, California, November 2000
GenMAPP: A New Approach for the Functional Mapping of Microarray Data

U.C. San Francisco, Tetrad Retreat
Tahoe City, California, September 2000
GenMAPP: A New Approach for the Functional Mapping of Microarray Data

Student Presentations and Posters (*indicates undergraduate student, **bold** indicates presenting author)

2018 Beta Beta Beta Biological Honor Society's Pacific District Convention
Concordia University, Irvine, California, March 2017
Lauren M. Kelly*, Margaret J. O'Neil, Ben G. Fitzpatrick, Kam D. Dahlquist, *Modeling of Gene Regulatory Network Dynamics Predicts which Regulatory Relationships are Important for Controlling the Cold Shock Response in Saccharomyces cerevisiae* (poster)
Brandon J. Klein*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Mathematical Modeling of Six Database-Derived Gene Regulatory Networks Identifies Key Regulators and Network Properties Controlling the Early Response to Cold Shock in Saccharomyces cerevisiae* (talk)
Brandon was awarded second place for the Frank G. Brooks Award for Excellence in Student Research for this talk.
Margaret J. O'Neil*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Using Graph Statistics to Investigate the Properties of a Gene Regulatory Network that May Control the Cold Shock Response in Saccharomyces cerevisiae* (talk)
Mihir Samdarshi*, John David N. Dionisio, Kam D. Dahlquist, *Data Comparison Features and Development Tool Improvements for GRNsight: a Web App for Visualizing Gene Regulatory Networks* (poster)
Mihir was awarded Honorable Mention for the John C. Johnson Award for Excellence in Student Research for a posters presentation.
Nika Vafadari*, Katherine D. Scheker*, Kam D. Dahlquist, *Identifying Regulatory Transcription Factors that Control Gene Expression Changes Due to Cold Shock in Saccharomyces cerevisiae* (talk)

Tenth Annual Undergraduate Research Conference
Loyola Marymount University, March 2017
Eileen J. Choe*, John David N. Dionisio, Kam D. Dahlquist, *Extending the Visualization Capabilities of GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (talk)
Lauren M. Kelly*, Margaret J. O'Neil, Ben G. Fitzpatrick, Kam D. Dahlquist, *Modeling of Gene Regulatory Network Dynamics Predicts which Regulatory Relationships are Important for Controlling the Cold Shock Response in Saccharomyces cerevisiae* (poster)
Brandon J. Klein*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Mathematical Modeling of Six Database-Derived Gene Regulatory Networks Identifies Key Regulators and Network Properties Controlling the Early Response to Cold Shock in Saccharomyces cerevisiae* (talk)
Margaret J. O'Neil*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Using Graph Statistics to Investigate the Properties of a Gene Regulatory Network that May Control the Cold Shock Response in Saccharomyces cerevisiae* (talk)
Mihir Samdarshi*, John David N. Dionisio, Kam D. Dahlquist, *Data Comparison Features and Development Tool Improvements for GRNsight: a Web App for Visualizing Gene Regulatory Networks* (poster)
Yeon-Soo Shin*, John David N. Dionisio, Kam D. Dahlquist, *New Graph Layouts for GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (talk)
Justin Kyle T. Torres*, John L. Lopez*, Ben G. Fitzpatrick, John David N. Dionisio, Kam D. Dahlquist, Paying Off Our Technical Debt for GRNmap, a Gene Regulatory Network Modeling Application (poster)

Nika Vafadari*, Katherine D. Scheker*, Kam D. Dahlquist, *Identifying Regulatory Transcription Factors that Control Gene Expression Changes Due to Cold Shock in Saccharomyces cerevisiae* (talk)

Southern California Conference for Undergraduate Research

California State Polytechnic University, Pomona, November 2017

Chukwuemeka E Azinge*, **Justin Kyle T. Torres***, John David N. Dionisio, Ben G. Fitzpatrick, Kam D Dahlquist, *Restructuring the Data Architecture of GRNmap, a Gene Regulatory Network Modeling Application* (poster)

Eileen J. Choe*, Yeon-Soo Shin*, Edward B. Bachoura*, John David N. Dionisio, Kam D Dahlquist, *GRNsight v2: a Web Application for Visualizing Models of Gene Regulatory Networks*, (talk)

Yeon-Soo Shin*, Eileen J. Choe*, Edward B. Bachoura*, Ben G. Fitzpatrick, John David N. Dionisio, Kam D Dahlquist, *Improved Visual Performance and Enhanced Test Files for Different File Formats for GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks*, (poster)

WE17: Society for Women Engineers (SWE) Collegiate Competition

Austin, Texas, October 2017

Eileen J. Choe*, Nicole A. Anguiano*, Anindita Varshneya*, Mihir Samdarshi*, Yeon-Soo Shin*, Edward B. Bachoura*, John David N. Dionisio, and Kam D. Dahlquist, *GRNsight v2: a web application for visualizing models of small gene regulatory networks* (talk)

Ninth Annual Undergraduate Research Symposium

Loyola Marymount University, March 2017

Nicole A. Anguiano*, **Anindita Varshneya***, John David N. Dionisio, Kam D. Dahlquist, *Design and Layout Improvement to GRNsight v2.0: a Web Application and Service for Visualizing Small- to Medium-Scale Gene Regulatory Networks* (talk)

Monica V. Hong*, Kam D. Dahlquist, *The transcription factors Hap4 and Swi4 contribute to the regulation of the transcriptional response to cold shock in Saccharomyces cerevisiae* (talk)

Kristen M. Horstmann*, Ben G. Fitzpatrick, and Kam D. Dahlquist, *Systems modeling and statistical analysis allows comparison in the response to cold shock* (talk)
in Saccharomyces cerevisiae between Hap4 and randomly generated networks

Brandon J. Klein*, Natalie E. Williams*, Ben G. Fitzpatrick, and Kam D. Dahlquist, *Dynamical systems modeling of six related small gene regulatory networks suggest that the transcription factors Cin5, Gln3, Hmo1, and Yhp1 play a role in controlling the cold shock response in Saccharomyces cerevisiae* (poster)

Margaret J. O'Neil*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Using Graph Statistics to Investigate the Properties of Six Candidate Gene Regulatory Networks for Controlling the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Trixie Anne M. Roque*, **Chukwuemeka E. Azinge***, **Justin Kyle T. Torres***, John David N. Dionisio, Ben G. Fitzpatrick, Kam D. Dahlquist, *Restructuring the Data Architecture of GRNmap, a Gene Regulatory Network Modeling Application* (poster)

Mihir Samdarshi*, Yeon-Soo Shin*, Edward B. Bachoura*, Eileen J. Choe*, Nicole A. Anguiano*, Anindita Varshneya*, John David N. Dionisio, Kam D. Dahlquist, *Improved data interoperability for GRNsight: a web application for visualizing models of gene regulatory networks* (poster)

Nika Vafadari*, Katherine D. Scheker*, Kam D. Dahlquist, *Targeted reverse genetic screen in Saccharomyces cerevisiae identifies transcription factor deletion strains that are impaired for growth at cold temperatures* (poster)

Natalie E. Williams*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Comparison of the regulatory dynamics of related small gene regulatory networks that control the cold shock response in Saccharomyces cerevisiae* (talk)

7th Annual Southern California Systems Biology Conference

University of California, Irvine, January 2017

Monica V. Hong*, Kevin W. Wyllie*, Kevin P. McGee*, Kam D. Dahlquist, *The transcription factors Hap4 and Swi4 contribute to the regulation of the transcriptional response to cold shock in Saccharomyces cerevisiae* (poster)

Kristen M. Horstmann*, **Margaret J. O'Neil***, Ben G. Fitzpatrick, Kam D. Dahlquist, *Dynamical systems modeling and gene regulatory network structure analysis reveals Hap4's role in regulating the response to cold shock in Saccharomyces cerevisiae* (poster)

Anindita Varshneya*, Mihir Samdarshi*, Nicole A. Anguiano*, Yeon-Soo Shin*, John David N. Dionisio, and Kam D. Dahlquist, *New features improve GRNsight: a web application and service for visualizing models of small- to medium-scale gene regulatory networks* (poster)

Natalie E. Williams*, **Brandon J. Klein***, Ben G. Fitzpatrick, and Kam D. Dahlquist, *Dynamical systems modeling of six related small gene regulatory networks suggest that the transcription factors Cin5, Hmo1, Msn2, and Yhp1 play a role in controlling the cold shock response in Saccharomyces cerevisiae*, (poster)

American Society for Biochemistry and Molecular Biology Annual Meeting

San Diego, California, April 2016; published abstracts in *The Faseb Journal* 30(1) Supplement

K. Grace Johnson*, Natalie E. Williams*, Ben G. Fitzpatrick, and Kam D. Dahlquist, *Modeling the Dynamics of a 21-gene, 50-edge Gene Regulatory Network Controlling the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae using GRNmap* (poster)

Tessa A. Morris*, **Kristen M. Horstmann***, **Kayla C. Jackson***, Ben G. Fitzpatrick, and Kam D. Dahlquist, *Mathematical Modeling Shows that Gln3 and Zap1 Affects the Dynamics of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Anindita Varshneya*, **Mihir Samdarshi***, Kam D. Dahlquist, John David N. Dionisio, and Ben G. Fitzpatrick, *Test-driven development improves GRNsight: a web application for visualizing models of gene regulatory networks* (poster)

Kevin W. Wyllie*, **Kevin P. McGee***, **Monica V. Hong***, Kam D. Dahlquist, *The Transcription Factors Swi4 and Hap4 Contribute to the Regulation of the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae* (poster)

Eighth Annual Undergraduate Research Symposium

Loyola Marymount University, March 2016

Juan S. Carrillo Quinche*, **Trixie Anne M. Roque***, Kam D. Dahlquist, and John David N. Dionisio, *Usability Improvements to GRNmap: Software for Gene Regulatory Network Modeling and Parameter Estimation* (talk)

Kristen M. Horstmann*, Tessa A Morris*, Brandon J. Klein*, Kam D. Dahlquist, and Ben G. Fitzpatrick, *Mathematical Modeling Reveals Zap1's Role in the Gene Regulatory Network that Controls the Response to Cold Shock in Saccharomyces cerevisiae* (poster)

K. Grace Johnson*, **Margaret J. O'Neil***, Kam D. Dahlquist, and Ben G. Fitzpatrick, *Evaluating Hap4's Role in the Gene Regulatory Network that Controls the Response to Cold Shock in Saccharomyces cerevisiae using GRNmap* (poster)

Tessa A. Morris*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Mathematical Modeling Shows that Gln3 Affects the Dynamics of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (talk)

Anindita Varshneya*, **Mihir Samdarshi***, Kam D. Dahlquist, John David N. Dionisio, and Ben G. Fitzpatrick, *Test-driven development improves GRNsight: a web application for visualizing models of gene regulatory networks* (poster)

Kevin W. Wyllie*, **Monica V. Hong***, Kam D. Dahlquist, *The Transcription Factors Swi4 and Hap4 Contribute to the Regulation of the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae* (poster)

Society for the Advancement of Chicanos and Native Americans in Science National Conference

Washington, D.C., October 2015

Trixie Anne M. Roque*, Tessa A. Morris*, Kam D. Dahlquist, John David N. Dionisio, and Ben G. Fitzpatrick, *Test-Driven Development and Functionality Improvements to GRNmap, a Gene Regulatory Network Modeling Application* (poster)

West Coast Biological Sciences Undergraduate Research Conference

Point Loma Nazarene University, San Diego, California, April 2015

Nicole Anguiano*, **Anindita Varshneya***, Kam D. Dahlquist, John David N. Dionisio, Ben G. Fitzpatrick, *Improvements to GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (poster)

Monica Hong*, **Kevin Wyllie***, Kam D. Dahlquist, *The Transcription Factor Swi4 Contributes to the Regulation of the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae* (poster)

Natalie Williams*, **K. Grace Johnson***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Comparing the Dynamics of the Cold Shock Gene Regulatory Network in Yeast with a Random Network* (poster)

Seventh Annual Undergraduate Research Symposium

Loyola Marymount University, March 2015

Nicole Anguiano*, **Anindita Varshneya***, Kam D. Dahlquist, John David N. Dionisio, Ben G. Fitzpatrick, *Improvements to GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (poster)

Juan Carrillo*, **Trixie Anne Roque***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Software refactoring and Usability Enhancement for GRNmap, a Gene Regulatory Network Modeling Application* (poster)

Monica Hong*, **Kevin Wyllie***, Kam D. Dahlquist, *The Transcription Factor Swi4 Contributes to the Regulation of the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae* (poster)

Natalie Williams*, **K. Grace Johnson***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Comparing the Dynamics of the Cold Shock Gene Regulatory Network in Yeast with a Random Network* (poster)

Fifth Annual Southern California Systems Biology Conference

University of California, Irvine, January 2015

Nicole Anguiano*, Anindita Varshneya*, Kam D. Dahlquist, John David N. Dionisio, Ben G. Fitzpatrick, *Improvements to GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (poster)

Southern California Conference for Undergraduate Research

California State University, Fullerton, November 2014

Nicole Anguiano*, Anindita Varshneya*, Kam D. Dahlquist, John David N. Dionisio, Ben G. Fitzpatrick, *Improvements to GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (poster)

Sarah Patno*, Kam D. Dahlquist, John David N. Dionisio, *Constructing a Combined Gene Database for Staphylococcus aureus strains MRSA252 and COL for the Analysis of Microarray Data* (poster)

Mitchell Petredis*, Kam D. Dahlquist, John David N. Dionisio, *Gene Database Construction and GenMAPP Analysis of Sinorhizobium meliloti Microarray Data Comparing Salt and Sucrose Stress* (talk)

Society for the Advancement of Chicanos and Native Americans in Science National Conference

Los Angeles, California, October 2014

Juan S. Carrillo*, Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Software Refactoring and Usability Enhancement for GRNmap, a Gene Regulatory Network Modeling Application* (poster)

Beta Beta Beta Pacific District Convention

Chapman University, Orange, California, April 2014

Kevin McGee*, Kam D. Dahlquist, John David N. Dionisio, *Generating a New Gene Database for Leishmania major and Leishmania infantum for Analyzing Microarray Data* (poster)

Mitchell Petredis*, Kam D. Dahlquist, John David N. Dionisio, *Gene Database Construction and GenMAPP Analysis of Sinorhizobium meliloti Microarray Data Comparing Salt and Sucrose Stress* (poster)

Andrew Pita*, Kam D. Dahlquist, John David N. Dionisio, *Constructing a GenMAPP-compatible Gene Database for Streptococcus pneumoniae to perform pathway analysis on microarray data comparing biofilm versus planktonic forms* (talk)

Sixth Annual Undergraduate Research Symposium

Loyola Marymount University, March 2014

Kevin McGee*, Kam D. Dahlquist, John David N. Dionisio, *Pathway Analysis of Leishmania major Promastigote and Amastigote Stages with GenMAPP and MAPPFinder* (poster)

Mitchell Petredis*, Kam D. Dahlquist, John David N. Dionisio, *Gene Database Construction and GenMAPP Analysis of Sinorhizobium meliloti Microarray Data Comparing Salt and Sucrose Stress* (poster)

Andrew Pita*, Kam D. Dahlquist, John David N. Dionisio, *Constructing a GenMAPP-compatible Gene Database for Streptococcus pneumoniae to perform pathway analysis on microarray data comparing biofilm versus planktonic forms* (talk)

Britain Southwick*, Nicole Anguiano*, Kam D. Dahlquist, John David N. Dionisio, Ben G. Fitzpatrick, *GRNsight: a Web Application for Visualizing Models of Gene Regulatory Networks* (talk)

Joint Mathematics Meetings

Baltimore, Maryland, January 2014

Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Dynamical Systems Modeling of the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Katrina was given an "Outstanding Presentation" Award by the Mathematical Association of America for this poster.

Beta Beta Beta Pacific District Convention

Azusa Pacific University, Azusa, California, April 2013

Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Dynamical Systems Modeling of the Cold Shock Response in Saccharomyces cerevisiae* (talk).

Katrina was awarded first place for the Frank G. Brooks Award for Excellence in Student Research for this talk.

Nicholas A. Rohacz*, Kam D. Dahlquist, Ben G. Fitzpatrick. *Continuous Time Markov Chain Models of Gene Regulation Regulatory Networks under the Environmental Stress of Cold Shock in Saccharomyces cerevisiae* (talk).

Nicholas was awarded second place for the Frank G. Brooks Award for Excellence in Student Research for this talk.

Fifth Annual Undergraduate Research Symposium

Loyola Marymount University, March 2013

Nicolette Harmon*, Chidinma Amakiri*, Nicholas A. Rohacz*, Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *A wild species of budding yeast, Saccharomyces paradoxus, is more resistant to cold temperature stress than the domesticated species, Saccharomyces cerevisiae* (talk)

Nicholas A. Rohacz*, Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Continuous Time Markov Chain Models of Gene Regulation Regulatory Networks under the Environmental Stress of Cold Shock in Saccharomyces cerevisiae* (talk)

Katrina Sherbina*, Nicholas A. Rohacz*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Dynamical Systems Modeling of the Cold Shock Response in Saccharomyces cerevisiae* (talk)

Southern California Conference for Undergraduate Research

California State University, Channel Islands, Camarillo, California, November 2012

Nicolette Harmon*, Chidinma Amakiri*, Nicholas A. Rohacz*, Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *A wild species of budding yeast, Saccharomyces paradoxus, is*

more resistant to cold temperature stress than the domesticated species, Saccharomyces cerevisiae (poster)

Katrina Sherbina*, Nicholas A. Rohacz*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Dynamical Systems Modeling of the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Society for Mathematical Biology Annual Meeting

Knoxville, Tennessee, July 2012

Katrina Sherbina*, Nicholas A. Rohacz*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Dynamical Systems Modeling of the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Nicholas A. Rohacz*, Katrina Sherbina*, Kam D. Dahlquist, Ben G. Fitzpatrick, *Continuous Time Markov Chain Models of Gene Regulation Regulatory Networks under the Environmental Stress of Cold Shock in Saccharomyces cerevisiae* (poster)

West Coast Biological Sciences Undergraduate Research Conference

Loyola Marymount University, April 2012

Nicholas Rohacz*, **Katrina Sherbina***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Mathematical Analysis of Gene Regulation in Saccharomyces cerevisiae in Response to Cold Shock* (poster)

Andrew Herman*, Kam D. Dahlquist

Saccharomyces cerevisiae Responds to Cold Shock by Changing the Expression of Genes Involved in Nitrogen Metabolism (poster)

Fourth Annual Undergraduate Research Symposium

Loyola Marymount University, March 2012

Nicholas Rohacz*, **Katrina Sherbina***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Mathematical Analysis of Gene Regulation in Saccharomyces cerevisiae in Response to Cold Shock* (poster)

Andrew Herman*, Kam D. Dahlquist

Saccharomyces cerevisiae Responds to Cold Shock by Changing the Expression of Genes Involved in Nitrogen Metabolism (poster)

Second Annual Southern California Systems Biology Conference

University of California, Irvine, January 2012

Nicholas Rohacz*, **Katrina Sherbina***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Mathematical Analysis of Gene Regulation in Saccharomyces cerevisiae in Response to Cold Shock* (poster)

Southern California Conference for Undergraduate Research

Mt. San Antonio College, Walnut, California, November 2011

Cybele Arsan*, Kam D. Dahlquist, *The Hmo1 Transcription Factor Regulates the Expression of Ribosome Biogenesis Genes during Cold Shock and Recovery in Saccharomyces cerevisiae* (talk)

Richard Brous*, Kam D. Dahlquist, John David N. Dionisio

Implementing Multiple Species Export in XMLPipeDB's GenMAPP Builder (talk)

Andrew Herman*, Kam D. Dahlquist, *Saccharomyces cerevisiae Responds to Cold Shock by Changing the Expression of Genes Involved in Nitrogen Metabolism* (poster)

Nicholas Rohacz*, **Katrina Sherbina***, Kam D. Dahlquist, Ben G. Fitzpatrick, *Mathematical Analysis of Gene Regulation in Saccharomyces cerevisiae in Response to Cold Shock* (poster)

Beta Beta Beta Pacific District Convention

Azusa Pacific University, Azusa Pacific, California, April 2011

Cybele Arsan*, Andrew F. Herman*, Alondra J. Vega*, Lauren N. Kubeck*, Kam D. Dahlquist. *The Hmo1 transcription factor regulates the expression of ribosome biogenesis genes during cold shock and recovery in Saccharomyces cerevisiae.* (poster). ***Cybele was given the second place John C. Johnson Award for Excellence in Student Research for posters in Microbiology.***

Andrew F. Herman*, Alondra J. Vega*, Lauren N. Kubeck*, Kenny R. Rodriguez*, Kam D. Dahlquist, *Saccharomyces cerevisiae Responds to Cold Shock by Changing the Expression of Genes Involved in Nitrogen Metabolism* (poster).

Andrew was given the second place John C. Johnson Award for Excellence in Student Research for posters in Physiology or Molecular Biology.

Kelly C. Parks*, Kam D. Dahlquist, John David N. Dionisio.

Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for Staphylococcus aureus MRSA252 (talk)

The Third Annual Undergraduate Research Symposium

Loyola Marymount University, March 2011

Cybele Arsan*, Andrew F. Herman*, Alondra J. Vega*, Lauren N. Kubeck*, Kam D. Dahlquist, *The Hmo1 transcription factor regulates the expression of ribosome biogenesis genes during cold shock and recovery in Saccharomyces cerevisiae.* (poster).

Andrew F. Herman*, Alondra J. Vega*, Lauren N. Kubeck*, Kenny R. Rodriguez*, Kam D. Dahlquist, *Saccharomyces cerevisiae Responds to Cold Shock by Changing the Expression of Genes Involved in Nitrogen Metabolism* (poster).

Kelly C. Parks*, Kam D. Dahlquist, John David N. Dionisio, *Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for Staphylococcus aureus MRSA252* (talk)

Don B. Murphy*, Kam D. Dahlquist, John David N. Dionisio, *Implementing Support for Multiple Species in XMLPipeDB's GenMAPP Builder* (poster)

Southern California Conference for Undergraduate Research

Pepperdine University, Malibu, California, November 2010

Andrew Herman*, Alondra J. Vega*, Lauren N. Kubeck*, Kenny R. Rodriguez*, Kam D. Dahlquist, *Saccharomyces cerevisiae Responds to Cold Shock by Changing the Expression of Genes Involved in Nitrogen Metabolism* (talk)

Kelly C. Parks*, Kam D. Dahlquist, John David N. Dionisio, *Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for Staphylococcus aureus MRSA252* (talk)

Don B. Murphy*, Kam D. Dahlquist, John David N. Dionisio, *Implementing Support for Multiple Species in XMLPipeDB's GenMAPP Builder* (poster)

Society for the Advancement of Chicanos and Native Americans in Science National Conference

Anaheim, California, October 2010

Alondra J. Vega*, Andrew F. Herman*, Lauren N. Kubeck*, Kam D. Dahlquist, and Ben G. Fitzpatrick, *Mathematical Modeling of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Kevin Paiz-Ramirez*, Kam D. Dahlquist, John David N. Dionisio, *Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for Mycobacterium tuberculosis* (poster)

Experimental Biology 2010

Anaheim, California, April 2010, published abstracts in *The Faseb Journal* 24(1) Supplement

Kristen Buckmelter*, Bianca Infanzon*, Elizabeth M. Liu*, Olivia S. Sakhon*, Kenny R. Rodriguez*, Wesley T. Citti*, *Saccharomyces cerevisiae responds to cold shock by inducing the transcription of genes required for zinc ion homeostasis* (poster)

Bianca Infanzon*, Kristen Buckmelter*, Elizabeth M. Liu*, Olivia S. Sakhon*, Kenny R. Rodriguez*, Wesley T. Citti*, Kam D. Dahlquist, *Saccharomyces cerevisiae responds to cold shock by inducing the transcription of ribosome biogenesis genes* (poster)

Lauren N. Kubeck*, **Andrew F. Herman***, Kenny R. Rodriguez*, Kevin C. Entzminger*, Stephanie D. Kuelbs*, Kristine B. Hubbard*, Kam D. Dahlquist, *Phenotypic and Functional Genomic Analysis of Heat and Cold Stress in Transcription Factor Deletion Strains of Saccharomyces cerevisiae* (poster)

Bernadette Pak*, Don Murphy*, Kam D. Dahlquist, John David N. Dionisio, *Extending XMLPipeDB with GO Slim to Update the GenMAPP-compatible Gene Database for Budding Yeast, Saccharomyces cerevisiae, for the Analysis of DNA Microarray Data* (poster)

Kelly C. Parks*, Andrew J. Hirning*, **Kelia McDonald***, John David N. Dionisio, Kam D. Dahlquist, *Extending XMLPipeDB to Create a GenMAPP-compatible Gene Databases for the Analysis of DNA Microarray Data from human pathogens* (poster)

Stephen Speicher*, Kam D. Dahlquist, *Gene Ontology Term Enrichment Analysis of Gene*

Expression Changes Observed in the TRAMP Mouse Model of Prostate Cancer upon Treatment with Green Tea Catechins (poster)

Alondra J. Vega*, Stephanie D. Kuelbs*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Mathematical Modeling of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (talk)

Alondra J. Vega was awarded an NSF/ASBMB Travel Fellowship so that she could make this platform presentation

The Second Annual Undergraduate Research Symposium

Loyola Marymount University, March 2010

Kristen Buckmelter*, **Bianca Infanzon***, *Saccharomyces cerevisiae responds to cold shock by inducing the transcription of genes required for ribosome biogenesis and zinc ion homeostasis* (talk)

Lauren N. Kubeck*, **Andrew F. Herman***, Kam D. Dahlquist, *Phenotypic and Functional Genomic Analysis of Heat and Cold Stresses in Transcription Factor Deletion Strains of Saccharomyces cerevisiae"* (poster)

Kelia McDonald*, Kam D. Dahlquist, John David N. Dionisio, *Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for Pseudomonas aeruginosa for the Analysis of DNA Microarray Data* (poster)

Bernadette Pak*, **Don Murphy***, Kam D. Dahlquist, John David N. Dionisio, *Extending XMLPipeDB with GO Slim to Update the GenMAPP-compatible Gene Database for Budding Yeast, Saccharomyces cerevisiae, for the Analysis of DNA Microarray Data (poster)*

Kelly Parks*, Kam D. Dahlquist, John David N. Dionisio, *Using XMLPipeDB to Create a GenMAPP-compatible Gene Database for the Analysis of DNA Microarray Data for Staphylococcus aureus MRSA252* (poster)

Alondra J. Vega*, *Mathematical Modeling of the Gene Regulatory Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (talk)

Stephen Speicher*, *Gene Ontology Term Enrichment Analysis of Gene Expression Changes Observed in the TRAMP Mouse Model of Prostate Cancer upon Treatment with Green Tea Catechins* (talk)

Stephen Speicher won a Sigma Xi award for this presentation

Society for the Advancement of Chicanos and Native Americans in Science National Conference

Dallas, TX, October 2009

Kenny R. Rodriguez*, Kevin C. Entzminger*, Stephanie D. Kuelbs*, Kam D. Dahlquist, *Does Cin5p Regulate the Early Transcriptional Response to Cold Shock in Saccharomyces cerevisiae?* (poster)

Society for Mathematical Biology Annual Meeting

Vancouver, British Columbia, Canada, July 2009

Kenny R. Rodriguez*, Kevin C. Entzminger*, Stephanie D. Kuelbs*, Kam D. Dahlquist, *Does Cin5p Regulate the Early Transcriptional Response to Cold Shock in Saccharomyces cerevisiae?* (poster)

West Coast Biological Sciences Undergraduate Research Conference

Point Loma Nazarene University, San Diego, California, April 2009

Kara Taylor*, Wesley T. Citti*, Jeffrey D. McGowan*, Kam D. Dahlquist, Carl R. Urbinati, *Characterizing Soil Microbial Diversity in the Ballona Wetlands* (talk)

Kevin C. Entzminger*, **Kenny R. Rodriguez***, Stephanie D. Kuelbs*, Kam D. Dahlquist, *Does Cin5p Regulate the Early Transcriptional Response to Cold Shock in Saccharomyces cerevisiae?* (talk)

Alexandrea Alphonso*, **Chad Villaflores***, Derek Smith*, Kam D. Dahlquist, John David N. Dionisio, *Extending XMLPipeDB to Create GenMAPP-compatible Gene Databases for Plants and Microorganisms for the Analysis of DNA Microarray Data* (talk)

Kristine B. Hubbard*, Kenny R. Rodriguez, Stephanie D. Kuelbs, Kam D. Dahlquist, *Phenotypic and Functional Genomic Analysis of Heat and Cold Stresses in Transcription Factor Deletion Strains of Saccharomyces cerevisiae* (poster)

The First Annual Undergraduate Research Symposium: Foundations for the Future

Loyola Marymount University, March 2009

Kara Taylor*, Wesley T. Citti*, Jeffrey D. McGowan*, Kam D. Dahlquist, Carl R. Urbinati, *Characterizing Soil Microbial Diversity in the Ballona Wetlands* (talk)

Kevin C. Entzminger*, *Does Cin5p Regulate the Early Transcriptional Response to Cold Shock in Saccharomyces cerevisiae?* (talk)

Kevin C. Entzminger won a Sigma Xi award for this presentation

Alexandrea Alphonso*, **Chad Villaflores***, Derek Smith*, Kam D. Dahlquist, John David N. Dionisio, *Extending XMLPipeDB to Create GenMAPP-compatible Gene Databases for Plants and Microorganisms for the Analysis of DNA Microarray Data* (poster)

Kenny R. Rodriguez*, Stephanie D. Kuelbs*, Kam D. Dahlquist, *Phenotypic and Functional Genomic Analysis of Heat and Cold Stresses in Transcription Factor Deletion Strains of Saccharomyces cerevisiae"* (poster)

Stephanie D. Kuelbs*, *Mathematical Modeling of the Transcriptional Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (talk)

First RECOMB Satellite Conference on Bioinformatics Education

San Diego, California, March 2009

Alexandrea Alphonso*, **Chad Villaflores***, Derek Smith*, Kam D. Dahlquist, John David N. Dionisio, *Extending XMLPipeDB to Create GenMAPP-compatible Gene Databases for Plants and Microorganisms for the Analysis of DNA Microarray Data* (poster)

Sigma Xi Annual Meeting

Washington, D.C., November 2008

Kara Taylor*, Wesley T. Citti*, Jeffrey D. McGowan*, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Soil Bacterial and Biochemical Pathways in the Ballona Wetlands* (poster)

Society for the Advancement of Chicanos and Native Americans in Science National Conference

Salt Lake City, Utah, October 2008

Kenny R. Rodriguez*, Kevin C. Entzminger*, Stephanie D. Kuelbs*, Kam D. Dahlquist, *Phenotypic and Functional Genomic Analysis of Heat and Cold Stress in Transcription Factor Deletion Strains of Saccharomyces cerevisiae* (poster)

Society for Mathematical Biology Annual Meeting

Toronto, Ontario, Canada, August 2008

Stephanie D. Kuelbs*, Kevin C. Entzminger*, Kenny R. Rodriguez*, Ben G. Fitzpatrick, Kam D. Dahlquist, *Mathematical Modeling of the Transcriptional Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (poster)

Yeast Genetics and Molecular Biology

Toronto, Ontario, Canada, July 2008

Kevin C. Entzminger*, Kenny R. Rodriguez*, Stephanie D. Kuelbs*, Kam D. Dahlquist, *Does Cin5p Regulate the Early Transcriptional Response to Cold Shock in Saccharomyces cerevisiae?* (poster)

West Coast Biological Sciences Undergraduate Research Conference

Point Loma Nazarene University, San Diego, California, April 2008

Wesley T. Citti*, **Jeffrey D. McGowan***, Kam D. Dahlquist, Carl R. Urbinati, *Identification and Diversity Analysis of Soil Bacteria in the Ballona Wetlands* (talk)

Elizabeth M. Liu*, **Olivia S. Sakhon***, **Robert Hybki***, Kam D. Dahlquist, *The Global Transcriptional Response of Saccharomyces cerevisiae to Cold Shock and Recovery* (talk)

Kenny R. Rodriguez*, **Kevin C. Entzminger***, **Stephanie D. Kuelbs***, Kam D. Dahlquist, *Does the Transcription Factor CIN5 Regulate the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae?* (poster)

Pacific Coast Undergraduate Math Conference
Loyola Marymount University, Los Angeles, California, April 2008
Stephanie D. Kuelbs*, *Mathematical Modeling of the Transcriptional Network Controlling the Cold Shock Response in Saccharomyces cerevisiae* (talk)

Southern California Conference for Undergraduate Research
California State University, Los Angeles, November 2007
Wesley T. Citti*, **Jeffrey D. McGowan***, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Soil Bacteria and Biochemical Pathways for Bioremediation in Ballona Wetlands* (poster)
Elizabeth M. Liu*, **Olivia S. Sakhon***, **Robert Hybki***, Kam D. Dahlquist, *The Global Transcriptional Response of Saccharomyces cerevisiae to Cold Shock and Recovery* (poster)
Kevin C. Entzminger*, **Stephanie D. Kuelbs***, **Kenny R. Rodriguez***, Kam D. Dahlquist, *Mathematical Modeling and Biological Analysis of the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae* (poster)

Interdisciplinary Student Research Symposium
Loyola Marymount University, Los Angeles, California, October 2007
Wesley T. Citti*, **Jeffrey D. McGowan***, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Soil Bacteria and Biochemical Pathways for Bioremediation in Ballona Wetlands* (poster)
Kevin C. Entzminger*, **Stephanie D. Kuelbs***, **Kenny R. Rodriguez***, Kam D. Dahlquist, *Mathematical Modeling and Biological Analysis of the Transcriptional Response to Cold Shock in Saccharomyces cerevisiae* (poster)

Annual Meeting of the Society for Mathematical Biology
San Jose, California, August 2007
Nathan C. Wanner*, Erika Camacho, Kam D. Dahlquist, *Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in Saccharomyces cerevisiae* (poster)

West Coast Biological Sciences Undergraduate Research Conference
Loyola Marymount University, Los Angeles, California, April 2007
Wesley T. Citti*, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Bacteria and Biochemical Pathways for Bioremediation in Ballona Wetlands* (poster)
Elizabeth M. Liu*, **Olivia S. Sakhon***, Kam D. Dahlquist, *The Global Transcriptional Response of Saccharomyces cerevisiae to Cold Shock and Recovery* (poster)

Sigma Xi Induction Ceremony and Poster Session
Loyola Marymount University, Los Angeles, California, April 2007
Wesley T. Citti*, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Bacteria and Biochemical Pathways for Bioremediation in Ballona Wetlands* (poster)
Elizabeth M. Liu*, **Olivia S. Sakhon***, Kam D. Dahlquist, *The Global Transcriptional Response of Saccharomyces cerevisiae to Cold Shock and Recovery* (poster)

San Diego Systems Biology Symposium: Systems to Synthesis
Salk Institute, La Jolla, California, January 2007
Nathan C. Wanner*, Erika Camacho, Kam D. Dahlquist, *Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in Saccharomyces cerevisiae* (poster)
Nathan C. Wanner won the third place poster prize at this symposium.

Southern California Conference for Undergraduate Research
Occidental College, Los Angeles, California, November 2006
Wesley T. Citti*, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Bacteria and Biochemical Pathways for Bioremediation in Ballona Wetlands* (poster)

Bellarmine Forum on Environmental Responsibility
Loyola Marymount University, Los Angeles, California, November 2006
Wesley T. Citti*, Kam D. Dahlquist, Carl R. Urbinati, *Identifying Bacteria and Biochemical Pathways for Bioremediation in Ballona Wetlands* (poster)

West Coast Biological Sciences Undergraduate Research Conference
Point Loma Nazarene University, San Diego, California, April 2006
Wesley T. Citti*, Heather King*, and Kam D. Dahlquist, *The Transcriptional Response of Saccharomyces cerevisiae to Cold Shock and Recovery* (poster)
Wesley T. Citti won a poster award at this conference.

2004 Undergraduate Research Summer Institute Symposium
Vassar College, Poughkeepsie, New York, September 2004
Meredith Braymer*, Eric S. Eberhardt, Kam D. Dahlquist, *Global Changes in Gene Expression during Cold Shock and Recovery in Saccharomyces cerevisiae* (poster)
Jessica Heckman* and Kam D. Dahlquist, *New Resources for GenMAPP 2.0: A New Gene Database and Pathway MAPPs for the Comparison of Changes in Gene Expression due to Environmental Stresses in Saccharomyces cerevisiae and Escherichia coli* (poster)
Nikoleta Tsvetanova*, Meredith Braymer*, Eric S. Eberhardt, *Cold-Shock Response in Saccharomyces cerevisiae* (poster)

SERVICE & PROFESSIONAL INVOLVEMENT

Internal

Loyola Marymount University

University-wide

Honors Program Faculty Fellow	2014–present
Mission Day Planning Committee	2015–2016
Search Committee for Dean of the Seaver College of Science and Engineering	2014–2015
Library Committee	2013–2015
LMU Undergraduate Research Symposium Session Chair	2013, 2014
Performed Assessment of LMU's Oral Communication Learning Outcome	2013
Advisory Committee on Undergraduate Research	2013
Digital Scholarship Repository Project Team	2010–2011
High Performance Computing Task Force	2010–2011
Research Council	2009–2015
Valedictorian Committee	2009, 2011
Scholarship of Teaching and Learning Brown Bag Group	2005–2011
Interviewer of candidates for Director of Sponsored Projects Office	Summer 2008

Frank R. Seaver College of Science and Engineering

College Curriculum Committee	2017–present
Breaking the Boundaries in STEM Education Research Conference Computational Thinking Thread Co-Chair	April 2017
4-Unit Task Force	2015–2016
Prioritization Committee	2013–2014
Pre-tenure Faculty Guidance Committee	2010–2011
Information Technology Committee	2005, 2009–2010
Search Committee for Presidential Professorship in Computational Biology	2008–2010
Search Committee for Presidential Professorship in Mathematical Biology	2006–2008

Department of Biology

Curriculum Committee, Chair	2017–present
Search Committee for Animal Physiologist, Chair	2017–2018
TriBeta Biology Honor Society Advisor	2016–present
Laboratory Safety Committee, Chair	2010, 2016–present
Reviewer, Kadner-Pitts Research Grants	2013, 2016, 2018
4-unit Curriculum Model Task Force	2014–2015

Search Committee for Biochemist/Cell Physiologist 2010–2011
Faculty mentor 2009–present
Search Committee for Vertebrate Physiologist 2009–2010
APRC Review Committee 2006–2011
Chair 2011
Webmaster for Department web site 2006–2012
Review of Faculty Research Funds subcommittee 2006–2008
Sensitive Equipment subcommittee Spring 2006

Vassar College
Women in Science and Mathematics Faculty Adviser 2003–2005
Career Development Office Advisory Committee 2003–2005
Carolyn Grant Endowment Committee for Embodied Learning 2004–2005
Biology Department Curriculum Committee 2004–2005
Biology Department Community Committee 2004–2005
Women's Studies Steering Committee 2004–2005

External

Southern California Conference for Undergraduate Research
Abstract Reviewer and Session Chair 2014

Intel International Science and Engineering Fair
Sigma Xi Special Awards Judge, Los Angeles, California 2011

West Coast Biological Sciences Undergraduate Research Conference
Presentation or Poster Judge 2006, 2008, 2015
Member, Organizing Committee 2007

Open Bioinformatics Foundation
Abstract Reviewer, Bioinformatics Open Source Conference (Boston) 2011–2014
Codefest Host, Loyola Marymount University 2012
At-large Member, Board of Directors 2008–2010
Chair, Bioinformatics Open Source Conference (Boston) July 9–10, 2010
Chair, Bioinformatics Open Source Conference (Stockholm) June 27–28, 2009
Chair, Bioinformatics Open Source Conference (Toronto) July 18–19, 2008

International Society for Computational Biology
Member, Education Committee 2006–2015

Genome Consortium for Active Teaching (GCAT)
Alternate scanning center for DNA microarrays 2010–2015

Grants and Publishing

Review Panel, National Science Foundation June 2009, December 2011, September 2014, December 2015

Peer-reviewer
GigaScience 2018
Journal of Research in STEM Education 2018
PLoS ONE 2009, 2017
PLoS Computational Biology 2016
Reinvention: an International Journal of Undergraduate Research 2015–2016
Nucleic Acids Research 2015
Journal of Computational Science Education 2011
CBE – Life Sciences Education 2003, 2006, 2008, 2009
Bioinformatics 2003, 2009
EURASIP Journal on Advances in Signal Processing 2009
Briefings in Functional Genomics and Proteomics 2008
Molecular and Cellular Proteomics 2004

Chapter Reviewer, Watson et al., *Recombinant DNA*, 3rd edition 2006

Association for Women in Science (AWIS)
Chair, Programs Committee, Palo Alto Chapter 2001–2003
- Organized and led monthly chapter meetings attended by 50-75 people
- Invited speakers (women scientists, career development)

Postdoctoral Women Peer-mentoring Group, U.C. San Francisco 2001–2003
Alumni Volunteer Admissions Interviewer, Pomona College 1995–1998, 2001
Phoenix II Seminars, San Jose, California
Graduate, Leadership Program 1994
Staff volunteer for courses and exit interviews 1994–1995

Memberships

American Society for Biochemistry and Molecular Biology 2009–present
Open Bioinformatics Foundation 2006–present
American Society for Cell Biology 2003–2015
International Society for Computational Biology 2002–2016
Association for Women in Science (AWIS) 1998–2015
American Association for the Advancement of Science 1995–2017

PROFESSIONAL DEVELOPMENT WORKSHOPS ATTENDED

BioQUEST Summer Workshop 2018 June 2018
Wicked Problems: Investigating Real World Problems in the Biology Classroom
Harvey Mudd College, Claremont, California, June 2018 (with Carrie Diaz Eaton)

BioQUEST / HHMI / CaseNet Summer Workshop 2017 July 2017
Making Meaning Through Modeling: Problem Solving in Biology
Michigan State University, East Lansing, Michigan

Breaking the Boundaries in STEM Education Research Conference April 2017
Loyola Marymount University, Los Angeles, California

GCAT-SEEK Workshop June-July 2016
California State University at Los Angeles, Los Angeles, California

BioQUEST / HHMI / CaseNet Summer Workshop 2015 June 2015
Count the Ways: Engaging Students in Quantitative Biology Applications
Harvey Mudd College, Claremont, California,

Loyola Marymount University President's Institute May 2009, May 2013

BioQUEST Curriculum Consortium Summer Workshop 2011 June 2011
Undergraduate Biology in the 21st Century, Beloit College, Beloit, Wisconsin

Peer Evaluation of Teaching Workshop May 2011
Center for Teaching Excellence, Loyola Marymount University, Los Angeles, California

BioQUEST Curriculum Consortium Summer Workshop 2009 June 2009
Green Architecture – Green Curriculum, Beloit College, Beloit, Wisconsin

BioQUEST Curriculum Consortium Summer Workshop 2007: June 2007
Exploratory Evolution Education, Beloit College, Beloit, Wisconsin

Women in bioScience Conference May 2007
Association for Women in Science, San Diego, California

Pedagogy Workshop for Second-year Faculty 2006–2007
Loyola Marymount University, Los Angeles, California

Jesuit and Feminist Education: October 2006
Transformative Discourses for Teaching & Learning Conference
Fairfield University, Fairfield, Connecticut

Collegium: A Colloquy on Faith and Intellectual Life June 2006
St. John's University, Collegeville, Minnesota

BioQUEST Curriculum Consortium Summer Workshop 2005: June 2005
Investigating Interdisciplinary Interactions, Beloit College, Beloit, Wisconsin
(attended with Erika Camacho who was then in the Department of Mathematics at LMU)
The Embodied Voice Faculty Workshop Spring 2005
Vassar College, Poughkeepsie, New York
Dartmouth Faculty Summer Institute July 2004
Ethical, Legal, and Social Implications of the Human Genome Project
Dartmouth University, Hanover, New Hampshire
BEDROCK Workshop–Bioinformatics in Biology Education: October 2003
Working with Sequence, Structure, and Function
Cornell Theory Center, Ithaca, New York
Analysis of Regulatory Sequences Controlling Expression of Biological Networks; June 2003
Extracting Biological Information from System-scale Protein Interactome Data
Intelligent Systems for Molecular Biology Tutorials, Brisbane, Queensland, Australia
Strategies in Gender Equitable Teaching 2001–2002
U.C. Berkeley Extension, Berkeley, California
Beginning Dreamweaver 4 April 2002
Ciber Training Center, San Francisco, California
Advanced Microsoft Access 97 August 2001
New Horizons Computer Learning Centers, Inc., San Francisco, California
Biostatistics 183: Introduction to Statistical Analysis Fall 2001
U.C. San Francisco, San Francisco, California
Art of Lecturing Summer 2001
Gladstone Institutes, San Francisco, California
Scientific Writing Spring 2001
Gladstone Institutes, San Francisco, California
Gladstone Genomics Core Microarray Academy Fall 2000