

Kam D. Dahlquist, Ph.D.
Professor of Biology
Loyola Marymount University

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Last modified: September 5, 2018

EDUCATION

Ph.D.	University of California, Santa Cruz Molecular, Cellular, and Developmental Biology Program <i>Advisor:</i> Joseph D. Puglisi, Ph.D. <i>Committee:</i> Harry F. Noller, Ph.D., Manuel Ares, Jr., Ph.D. <i>Thesis:</i> <i>Interaction of Translation Initiation Factor IF1</i> <i>with the E. coli Ribosomal A Site</i>	March 2000
B.A.	Pomona College, Claremont, California Biology, <i>cum laude</i>	May 1993
	University College, Oxford University, Oxford, England Study Abroad Program <i>Specialized tutorial in Philosophy of Science</i>	Fall 1991

POSITIONS HELD

Professor Department of Biology, Loyola Marymount University, Los Angeles, California	2017–present
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 Department of Biology, Vassar College, Poughkeepsie, New York	2003–2005
Postdoctoral Fellow Gladstone Institute of Cardiovascular Disease, University of California, San Francisco	2000–2003
Adjunct Lecturer Department of Biology, Santa Clara University, Santa Clara, California	Spring 2000
Visiting Researcher Department of Structural Biology, Stanford University, Stanford, California	1997–2000
Research Assistant Department of Biology, University of California, Santa Cruz, California	1994–1997

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) Working Group**, *Unpacking the Black Box: Teaching Quantitative Biology*, 2015–2017
 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, <i>Mapping Gene Regulatory Networks in Yeast using DNA Microarrays, Mathematical Modeling, and GenMAPP</i>	
Merck-AAAS Undergraduate Science Research Program	2006–2008
\$120,000 (\$60,000 plus \$60,000 matching funds from Loyola Marymount University)	
<i>Chemical and Biological Aspects of Pollution in the Ballona Wetlands</i>	
<i>Principal Investigator:</i> M. Catherine McElwain; <i>Director and Co-Principal Investigator:</i> Kam D. Dahlquist ; <i>Co-Principal Investigators:</i> 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, <i>Interdisciplinary Research Project</i> with David Moffet and Carl R. Urbinati entitled <i>Identifying Soil Bacteria and Biochemical Pathways in the Ballona Wetlands for the Bioremediation of Organic Pollutants</i>	
Academic Technology Grant , Loyola Marymount University	2007
\$4,000, <i>Introducing DNA Microarray Technology in the New Laboratory Course, Biology 478: Molecular Biology of the Genome</i>	
Dartmouth Faculty Summer Institute Travel Award and Stipend	August 2006
<i>ELSI Reunion and Conference</i> , Dartmouth University, Hanover, New Hampshire	
Summer Research Grant for New Faculty , Loyola Marymount University	2006
\$4,000, <i>The Transcriptional and Proteomic Response to Cold Shock and Recovery in Saccharomyces cerevisiae</i>	
Merck-AAAS Undergraduate Science Research Program	2005
<i>Principal Investigator:</i> Richard B. Hemmes, Department of Biology, Vassar College	
<i>Interdisciplinary Research Project</i> with Eric S. Eberhardt, Department of Chemistry, Vassar College entitled <i>Examining the Molecular Details of Oxidative Stress from the Genome to the Proteome</i>	
[I declined my share of the funding upon my move to Loyola Marymount University]	
Mellon Faculty Conversations Award , Vassar College	2004–2005
\$2,000, <i>Effective Grading: A Tool for Learning and Assessment</i>	
Dartmouth Faculty Summer Institute Travel Award and Stipend	July 2004
<i>Ethical, Legal, and Social Implications of the Human Genome Project</i>	
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 <i>Balanced Posture</i> for <i>Introduction to Biological Thought: The Human Genome</i> 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)

- Eaton, C.D., Callendar, H.L., **Dahlquist, K.D.**, LaMar, M.D., Ledder, G., Schugart, R.C. (2018) 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 arXiv preprint server at <https://arxiv.org/abs/1607.02165v2>.
- 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.
- 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., Letovsky, 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://xmllpipedb.cs.lmu.edu>,
<https://github.com/lmu-bioinformatics/xmllpipedb>

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/GenMAPP/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 University, 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, Alexandra 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)

Bellarmino 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	April 2017
Computational Thinking Thread Co-Chair	
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	
<i>GigaScience</i>	2018
<i>Journal of Research in STEM Education</i>	2018
<i>PLoS ONE</i>	2009, 2017
<i>PLoS Computational Biology</i>	2016
<i>Reinvention: an International Journal of Undergraduate Research</i>	2015–2016
<i>Nucleic Acids Research</i>	2015
<i>Journal of Computational Science Education</i>	2011
<i>CBE – Life Sciences Education</i>	2003, 2006, 2008, 2009
<i>Bioinformatics</i>	2003, 2009
<i>EURASIP Journal on Advances in Signal Processing</i>	2009
<i>Briefings in Functional Genomics and Proteomics</i>	2008
<i>Molecular and Cellular Proteomics</i>	2004
Chapter Reviewer , Watson et al., <i>Recombinant DNA</i> , 3 rd 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: Investigating Interdisciplinary Interactions , Beloit College, Beloit, Wisconsin (attended with Erika Camacho who was then in the Department of Mathematics at LMU)	June 2005
The Embodied Voice Faculty Workshop Vassar College, Poughkeepsie, New York	Spring 2005
Dartmouth Faculty Summer Institute Ethical, Legal, and Social Implications of the Human Genome Project Dartmouth University, Hanover, New Hampshire	July 2004
BEDROCK Workshop–Bioinformatics in Biology Education: Working with Sequence, Structure, and Function Cornell Theory Center, Ithaca, New York	October 2003
Analysis of Regulatory Sequences Controlling Expression of Biological Networks; Extracting Biological Information from System-scale Protein Interactome Data Intelligent Systems for Molecular Biology Tutorials, Brisbane, Queensland, Australia	June 2003
Strategies in Gender Equitable Teaching U.C. Berkeley Extension, Berkeley, California	2001–2002
Beginning Dreamweaver 4 Ciber Training Center, San Francisco, California	April 2002
Advanced Microsoft Access 97 New Horizons Computer Learning Centers, Inc., San Francisco, California	August 2001
Biostatistics 183: Introduction to Statistical Analysis U.C. San Francisco, San Francisco, California	Fall 2001
Art of Lecturing Gladstone Institutes, San Francisco, California	Summer 2001
Scientific Writing Gladstone Institutes, San Francisco, California	Spring 2001
Gladstone Genomics Core Microarray Academy	Fall 2000