Kam D. Dahlquist, Ph.D.

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Last modified: June 12, 2009

EDUCATION

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

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

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

POSITIONS HELD

Associate Professor 2009–present
Assistant Professor 2005–2009
Department of Biology, Loyola Marymount University, Los Angeles, California

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

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

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

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

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

GRANTS, FELLOWSHIPS, HONORS, AWARDS

NSF-CNS Computer and Network Systems submitted April 28, 2009, review pending
$296,617, *CPATH I: Ocelot: Open Courseware for the Effective Learning of Computational Thinking*
Principal Investigator: John David N. Dionisio; *Co-Principal Investigators*: Kam D. Dahlquist, Vandana Thadani

NSF-DMS Mathematical Biology, MCB Genes and Genome Systems 2009–2012
$252,123, *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

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*

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

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

W.M. Keck Foundation 2007
$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

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

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

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

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

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

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

Sigma Xi, Full Membership 2004
Associate Membership 1992

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

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

Phi Beta Kappa 1993

Vaile Prize in Biology, Pomona College 1993

Senior Service Award, Pomona College 1993

Eda May Haskell Library Prize, Pomona College 1993

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

RESEARCH EXPERIENCE

Associate Professor 2009–present
Assistant Professor 2005–2009

Department of Biology, Loyola Marymount University, Los Angeles, California

Current Research Projects:

- Creation of MAPPs and Gene Databases for GenMAPP software; XMLPipeDB: A Reusable Open Source Tool Chain for Building Relational Databases from XML Sources
- The Global Transcriptional Response of *Saccharomyces cerevisiae* to Cold Shock and Recovery
- Mathematical Modeling of the Transcriptional Network Controlling the Environmental Stress Response in *Saccharomyces cerevisiae*
- Identifying Soil Bacterial and Biochemical Pathways in the Ballona Wetlands for the Bioremediation of Organic Pollutants

Research advisor for a total of 16 undergraduates and 1 Master's level student

Assistant Professor 2003–2005

Department of Biology, Vassar College, Poughkeepsie, New York

Research Projects:

- Transcriptional and Proteomic Response of *Saccharomyces cerevisiae* to Cold Shock and Recovery
- Creation of MAPPs and Gene Databases for GenMAPP software

Research advisor for a total of 6 undergraduate students

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

Advisor: Joseph D. Puglisi, Ph.D.

Research Assistant 1994–1997

Department of Biology, University of California, Santa Cruz

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 the gymnosperm, *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

Associate Professor 2009–present

Assistant Professor 2005–2009

Department of Biology, Loyola Marymount University

Biology 201: Cell Function

- Sophomore-level course in four-semester lower division curriculum for biology majors

Biology 275: Human Genetics

- Fulfills University core requirement for non-science majors

Biology 439: Molecular Biology Applications

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

Biology 398/Computer Science 398/Honors 398-01: Biological Databases

- Cross-listed and team taught with John David N. Dionisio, Ph.D., Department of Electrical Engineering and Computer Science
- Interdisciplinary student teams created GenMAPP Gene Databases for *Plasmodium falciparum*, *Pseudomonas putida* KT2440, *Sinorhizobium meliloti*, and *Vibrio cholerae* using XMLPipeDB open source software
- Students maintained online laboratory notebooks using MediaWiki software

Biology 398-03: Bioinformatics Laboratory

- Project-based computer laboratory using GenMAPP, MAPPFinder, and other bioinformatics software
- Projects included sequence and structural analysis of the gp120 protein of HIV and analysis of DNA microarray experiments
- Students maintained online laboratory notebooks using Google Sites.

Biology 478: Molecular Biology of the Genome

- Subject of 2007 LMU Academic Technology Grant
- Intensive laboratory course in molecular biology
- Students perform a DNA microarray experiment
- DNA microarray data analyzed with GenMAPP, MAPPFinder, and other bioinformatics software

Biology 498/Computer Science 698: Special Studies in Bioinformatics

- 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 developed XMLPipeDB software and Gene Database for GenMAPP using open source tools and the development environment of SourceForge

Biology 585: Issues in Biotechnology

- Seminar and capstone experience for biology majors
- Read, present, and discuss articles from the primary literature
- Present and discuss the ethical, legal, and social implications of biotechnology research and scientific misconduct

Honors 240: On the Nature of Things

- University core requirement for students in the Honors Program
- An examination of the history, philosophy, and nature of scientific discovery, theory, and practice
- Focus on recent advances in biology, specifically biotechnology and genomics, epistemology, and genetic determinism
- Seminar-based discussion course with presentations and final projects relating to the students' major field of study

Delivered Guest Lecture in the following courses

- 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)
- MGMT 498: Technology Ventures (March 2006)
- CMSI 486: Introduction to Database Systems (October 2005)

Assistant Professor 2003–2005

Department of Biology, Vassar College

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
- Evaluated highly on organization and meeting course goals

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

Adjunct Lecturer Spring 2000

Department of Biology, Santa Clara University

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
- Evaluated highly by students for stimulating independent thinking and for demonstrating an interest in them

Course Assistant Winter 1998

Department of Biology, Stanford University

Cell Biology

- Led discussion of research articles

Teaching Assistant Fall 1994

Department of Biology, U.C. Santa Cruz

Concepts in Biology

- Lectured when professor was out of town

Teaching Assistant Summer 1994

Howard Hughes Summer Institute, U.C. Santa Cruz

Molecular and Cell Biology Laboratory

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

K-12

Scientist Volunteer 2001–2002

Herbert Hoover Middle School and U.C. San Francisco

Science and Health Education Partnership Triad Science Club

- Developed and led hands-on activities, including gel electrophoresis

Elective Teacher Fall 1994

Mission Hill Junior High School, U.C. Santa Cruz

Project SAME: Science and Math Equity

- Taught a girl-only elective class on building simple machines with the Lego-Logo system

SERVICE & PROFESSIONAL INVOLVEMENT

Internal

Loyola Marymount University

University-wide

Interviewer of candidates for Director of Sponsored Projects Office	Summer 2008
Scholarship of Teaching and Learning Working Group	2005–present

Frank R. Seaver College of Science and Engineering

Information Technology Committee	2005, 2009–present
Search Committee for Presidential Professorship in Computational Biology	2008–present
Search Committee for Presidential Professorship in Mathematical Biology	2006–2008

Department of Biology

APRC Review, Student-centered goals subcommittee	2006–present
Webmaster for Department web site	2006–present
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

West Coast Biological Sciences Undergraduate Research Conference

Presentation and Poster Judge	2008
Member, Organizing Committee	2007
Poster Judge	2006

Open Bioinformatics Foundation

At-large Member, Board of Directors	2008–present
Chair, Bioinformatics Open Source Conference (BOSC)	June 27–28, 2009
Chair, Bioinformatics Open Source Conference (BOSC)	July 18–19, 2008

International Society for Computational Biology

Member, Education Committee	2006–present

Scientific Publications

Associate Editor, *International Journal of Computational Bioscience* 2009–present

Peer-reviewer

Briefings in Functional Genomics and Proteomics	2008
CBE – Life Sciences Education	2003, 2006, 2008
Molecular and Cellular Proteomics	2004
Bioinformatics	2003

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

Association for Women in Science (AWIS)

Chair, Programs Committee, Palo Alto Chapter 2001–2003

- Organized and led monthly chapter meetings attended by 50-75 people
- Invited speakers (women scientists, career development)

Postdoctoral Women Peer-mentoring Group, U.C. San Francisco 2001–2003

Alumni Volunteer Admissions Interviewer, Pomona College 1995–1998, 2001

Phoenix II Seminars, San Jose, California

Graduate, Leadership Program	1994
Staff volunteer for courses and exit interviews	1994–1995

Memberships

Open Bioinformatics Foundation	2006–present
American Society for Cell Biology	2003–present
International Society for Computational Biology	2002–present
Association for Women in Science (AWIS)	1998–present
American Association for the Advancement of Science	1995–present

PUBLICATIONS

Peer-reviewed Research

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.

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.

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

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.

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.

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.

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.

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.

Reviews, Book Chapters, Conference Proceedings

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.

Software and Databases

XMLPipeDB (A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources)

Co-Principal Investigator with John David N. Dionisio, 2006–present
Availability: http://sourceforge.net/projects/xmlpipedb
Web site: http://xmlpipedb.cs.lmu.edu

GenMAPP (Gene Map Annotator and Pathway Profiler) 1.0 and 2.0

Project Manager, 2000–2003
Metabolic Pathway MAPP Archive for *Saccharomyces cerevisiae*, 2005
Gene Database for *Escherichia coli* K12, 2006, 2009
Metabolic Pathway MAPP Archive for *E. coli* K12, 2008
Gene Database for *Arabidopsis thaliana*, 2007, 2009
Gene Database for *Plasmodium falciparum*, 2009
Availability: http://www.GenMAPP.org

PRESENTATIONS

External Talks

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

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

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
XMLPipeDB: A Reusable, Open Source Tool Chain for Building Relational Databases from XML Sources
An Open Source Framework for Teaching Bioinformatics

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

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

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

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

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

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

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

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

Internal Talks

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)

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 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)

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
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?
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
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

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

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

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

Annual Meeting of the Society for Mathematical Biology
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

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?

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

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

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

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
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

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

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

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

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
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

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

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
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
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
Nikoleta Tsvetanova*, Meredith Braymer*, Eric S. Eberhardt
Cold-Shock Response in Saccharomyces cerevisiae

PROFESSIONAL DEVELOPMENT WORKSHOPS ATTENDED

President's Institute May 2009
Loyola Marymount University, Los Angeles, California

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

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

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

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

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

BioQUEST Curriculum Consortium Summer Workshop 2005: June 2005
Investigating Interdisciplinary Interactions
Beloit College, Beloit, Wisconsin
(attended with Erika Camacho who was then in the Department of Mathematics at LMU)

The Embodied Voice Faculty Workshop Spring 2005
Vassar College, Poughkeepsie, New York

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

BEDROCK Workshop–Bioinformatics in Biology Education: October 2003
Working with Sequence, Structure, and Function
Cornell Theory Center, Ithaca, New York

Analysis of Regulatory Sequences Controlling Expression June 2003
of Biological Networks; Extracting Biological Information
from System-scale Protein Interactome Data
Intelligent Systems for Molecular Biology Tutorials, Brisbane, Queensland, Australia

Strategies in Gender Equitable Teaching 2001–2002
U.C. Berkeley Extension, Berkeley, California

Beginning Dreamweaver 4 April 2002
Ciber Training Center, San Francisco, California

Advanced Microsoft Access 97 August 2001
New Horizons Computer Learning Centers, Inc., San Francisco, California

Biostatistics 183: Introduction to Statistical Analysis Fall 2001
U.C. San Francisco, San Francisco, California

Art of Lecturing Summer 2001
Gladstone Institutes, San Francisco, California

Scientific Writing Spring 2001
Gladstone Institutes, San Francisco, California

Microarray Academy Fall 2000
Genomics Core, Gladstone Institutes, San Francisco, California