

Curriculum vitae

Carol J. Bult

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The primary theme of my research program is "Bridging the Digital Biology Divide," reflecting the critical role that informatics and computational biology play in advancing biomedical research. Highlights of my research to date include the early use of high-throughput DNA sequencing for the discovery of novel human genes (*Nature* 377:3-174, 1995), sequencing and annotating the first three complete genomes of cellular organisms (*Science* 269:496-512, 1995; *Science* 270:397-403, 1995; *Science* 273:1058-1073, 1996), sequencing and annotation of the mouse genome (*Nature* 420:520-562, 2002; PLoS Biology 7(5), 2009), and genome-scale assessment of transcriptional diversity and dynamics in the mouse genome (*Nature* 409:685-690, 2001; *Nature* 420: 563-573, 2002; *Science* 309:1559-1563, 2005). Recent research initiatives in my research group include computational prediction of gene function in the mouse (*PLOS Computational Biology*, 4(9):e1000165, 2008) and the use of the mouse to understand genetic pathways in normal lung development and disease (*Genome Biology*, 9:R108, 2008).

Education

- 1989 Ph.D., Genetics
University of New Hampshire, Durham, NH
Dissertation title: "Isozyme and quantitative trait variation within and among local natural populations of the wild soybean, *Glycine soja* (Sieb. & Zucc.)."
- 1984 B.S. with Distinction and with Recognition of a Distinguished Senior Project, Biology
George Mason University, Fairfax, VA
Thesis title: "Allozyme variation at five loci in low salinity populations of the hard-shell clam, *Mercenaria mercenaria*."

Professional Experience

- 1997 - present **The Jackson Laboratory**, Bar Harbor, ME
- Deputy Directory, The Jackson Laboratory Cancer Center (2014 – present)
 - Scientific Director, Patient Derived Xenograft and Cancer Avatar Program (2012 – present)
 - Professor (2009- present)
 - Senior Advisor for Research IT (2011 –2014)
 - Jackson Laboratory Cancer Center Interim Deputy Director for Planning and Evaluation (interim) (2010 – 2011)
 - Associate Professor (2003-2009)
 - Assistant Professor (2000-2003)
 - Research Scientist (1999-2000)
 - Visiting Investigator (1997-1999)
- 1996 - present **University of Maine**, Orono, ME
- Graduate Faculty (1999 – present)
 - Research Faculty/Program Manager (1997-1999)
 - Visiting Scholar, Department of Spatial Information and Engineering (1996)
- 1993 -1996 **The Institute for Genomic Research** (TIGR), Rockville, MD
- Research Faculty, Department of Gene Discovery and Comparative Genomics
 - Director, Molecular Systematics Laboratory
- 1991 - 1996 **Smithsonian Institution**, Laboratory of Molecular Systematics, Washington, D.C.
- Research Associate (1993-1996)
 - Postdoctoral Fellow (1991 -1993)
- 1990 - 1991 **Louisiana State University**, Baton Rouge, LA
- Postdoctoral Fellow, Department of Biochemistry
- 1984 - 1989 **University of New Hampshire**, Durham, NH
- Graduate Research Associate, Genetics Program

Publications

- Pan CX et al., Development and characterization of bladder cancer patient-derived xenografts for precision medicine in bladder cancer. *Submitted*.
- Ananda G, et al. Development and validation of the JAX Cancer Therapy Profile for detection of clinically actionable mutations in solid tumors. *Submitted*.
- Bult CJ**, Krupk DM, Begley DA, Richardson JE, Neuhauser SB, Sundberg, JP, Eppig JT. 2014. Mouse Tumor Biology (MTB): a database of mouse models for human cancer. *Nucleic Acids Res* doi: 10.1093/nar/gku987
- Eppig, JT, Blake JA, **Bult CJ**, Kadin JA, Richardson JE. 2014. The Mouse Genome Database (MGD): facilitating mouse as a model for human biology and disease. *Nucleic Acids Res*. Doi: 10.1093/nar/gku967
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- Recla J, Robledo RF, Gatt DM, **Bult CJ**, Churchill GA, Chesler EJ. Precise genetic mapping and integrative bioinformatics in Diversity Outbred mice reveals *Hydin* as a novel pain gene. 2014. *Mammalian Genome* 25:211-22.
- Natale DA, Arighi CN, Blake JA, **Bult CJ**, Christie KR, Cowart J, D'Eustachio P, Diehl AD, Drabkin HJ, Helfer O, Huang H, Masci AM, Ren J, Roberts NV, Ross K, Ruttenberg A, Shamovsky V, Smith B, Yerramalla MS, Zhang J, Aljanahi A, Celen I, Gan C, Lv M, Schuster-Lezell E, Wu CH. 2014. Protein Ontology: a controlled structured network of protein entities. *Nucleic Acids Res* 42:D415-21.
- Grubb SC, **Bult CJ**, Bogue MA. 2014. Mouse phenome database. *Nucleic Acids Res*. 42:D825-34.
- Blake JA, **Bult CJ**, Eppig JT, Kadin JA, Richardson JE, Mouse Genome Database Group. 2014. The Mouse Genome Database: integration of and access to knowledge about the laboratory mouse. *Nucleic Acids Res* 42:D810-17.
- Logan RW, Robledo RF, Recla JM, Philip VM, Bubier JA, Jay JJ, Harwood C, Wilcox T, Gatti DM, **Bult CJ**, Churchill GA, Chesler EJ. 2013. High-precision genetic mapping of behavioral traits in the diversity outbred mouse population. *Genes Brain Behav*. doi: 10.1111/gbb.12029.
- Bult CJ**, Eppig JT, Blake JA, Kadin JA, Richardson JE, Mouse Genome Database Group. 2013. The mouse genome database: genotypes, phenotypes, and models of human disease. *Nucleic Acids Res*. 41:D885-91.
- Bult CJ**. 2012. Bioinformatics resources for behavior studies in the laboratory mouse. *Int. Rev Neurobiol*. 104:71-90.
- Russell MK, Longoni M, Wells J, Maalouf FI, Tracy AA, Loscertales m, Ackerman KG, Pober BR, Lage K, **Bult CJ**, Donahoe PK. 2012. Congenital diaphragmatic hernia candidate genes derived from embryonic transcriptomes. *Proc Natl Acad Sci USA* 109:2978-83. (Bult and Donahoe are co-senior authors)
- Guan Y, Gorenshiteyn D, Burmeister M, Wong AK, Schimenti JC, Handel MA, **Bult CJ**, Hibbs MA, Troyanskaya OG. 2012. Tissue-specific functional networks for prioritizing phenotype and disease genes. *PLoS Comput Biol* 8:e1002694.

Bradley A, Anastassiadis K, Ayadi A, Battey JF, Bell C, Birling MC, Bottomley J, Brown SD, Bürger A, **Bult CJ**, Bushell W, Collins FS, Desaintes C, Doe B, Economides A, Eppig JT, Finnell RH, Fletcher C, Fray M, Friendewey D, Friedel RH, Grosveld FG, Hansen J, Héroult Y, Hicks G, Hörlein A, Houghton R, Hrabé de Angelis M, Huylebroeck D, Iyer V, de Jong PJ, Kadin JA, Kaloff C, Kennedy K, Koutsourakis M, Lloyd KC, Marschall S, Mason J, McKerlie C, McLeod MP, von Melchner H, Moore M, Mujica AO, Nagy A, Nefedov M, Nutter LM, Pavlovic G, Peterson JL, Pollock J, Ramirez-Solis R, Rancourt DE, Raspa M, Remacle JE, Ringwald M, Rosen B, Rosenthal N, Rossant J, Ruiz Noppinger P, Ryder E, Schick JZ, Schnütgen F, Schofield P, Seisenberger C, Selloum M, Simpson EM, Skarnes WC, Smedley D, Stanford WL, Stewart AF, Stone K, Swan K, Tadepally H, Teboul L, Tocchini-Valentini GP, Valenzuela D, West AP, Yamamura K, Yoshinaga Y, Wurst W. 2012. The mammalian gene function resource: the International Knockout Mouse Consortium. *Mamm Genome* 23(9-10):580-6.

Maddatu TP, Grubb SC, **Bult CJ**, Bogue MA. 2012. Mouse Phenome Database. *Nucleic Acids Res.* 40:D887-94.

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- Guan Y, Myers CL, **Bult CJ**, Troyanskaya O. 2008. A genome-wide functional network for the laboratory mouse. *PLOS Computational Biology*, 4(9):e1000165.
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Richardson JE, Kadin JA, Blake JA, **Bult CJ**, Eppig JT, Ringwald M and the Mouse Genome Informatics Group. 2004. From sipping on a straw to drinking from a fire hose; data integration in a public genome database. Proceedings of the 20th *IEEE International Conference on Data Engineering*. March 04:795-798.

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Gene Ontology Consortium. 2004. The Gene Ontology (GO) database and informatics resource. *Nucleic Acids Res.* Jan 1:32.

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- Farris JS, M Kallersjo, AG Kluge, and **CJ Bult**. 1994. Testing significance of incongruence. *Cladistics* 10:315-320.
- Farris JS, M Kallersjo, A Kluge, and **CJ Bult**. 1994. Permutations. *Cladistics* 10:65-76.
- Kallersjo M, JS Farris, A Kluge and **CJ Bult**. 1993. Skewness and permutation. *Cladistics* 8:275-287.
- Bult CJ** and EA Zimmer. 1993. Nuclear ribosomal gene sequences for inferring tribal relationships within Onagraceae. *Systematic Botany* 18:48-64.
- Bult CJ**, M Kallersjo, and Y Suh. 1992. Amplification and sequencing of 16/18S rDNA from total plant DNA. *Plant Molecular Biology Reporter* 10:273-284.
- Bult CJ** and YT Kiang. 1992. Electrophoretic and morphological variation within and among natural populations of the wild soybean, *Glycine soja* (Sieb. & Zucc.) *Botanical Bulletin of Academia Sinica* 33:111-122.
- Devine TE, JJ O'Neill, YT Kiang and **CJ Bult**. 1991. Genetic linkage of the *rj2* gene in soybean. *Crop Science* 31:665-668.
- Kiang YT and **CJ Bult**. 1991. Genetic and linkage analysis of aconitate hydratase variants in soybean. *Crop Science* 31:322-325.
- Bult CJ**, YT Kiang, TE Devine and JJ O'Neill. 1989. Testing for genetic linkage of morphological and electrophoretic loci in the cultivated soybean. *Soybean Genetics Newsletter* 16:168-174.
- Bult CJ**, YT Kiang, YC Chiang, HJY. Doong and MB Gorman. 1989. Electrophoretic methods for soybean genetics studies. *Soybean Genetics Newsletter* 16:175-187.
- Bult CJ**, KE Rasmussen and YT Kiang. 1989. A compilation of genetic linkage groups in the cultivated soybean, *Glycine max*. *Isozyme Bulletin* 22:24-32.
- Bult CJ** and YT Kiang. 1989. Inheritance and linkage analysis of an esterase locus in the cultivated soybean, *Glycine max*. *J. Heredity* 80:82-85.
- Kiang YT, YC Chiang and **CJ Bult**. 1987. Genetic study of glutamate oxaloacetic transaminase in soybean. *Genome* 29:370-373.
- Bult CJ** and AN Murphy. 1984. Allozyme variation in low versus high salinity populations of the hard-shell clam, *Mercenaria mercenaria*. *Virginia Journal of Science* 35(20):78. (abstract)

Book Chapters

Bult CJ, Krupke DM, Vincent MJ, Allio T, Sundberg JP, Mikaelian I, and Eppig JT. 2006. The Mouse Tumor Biology Database: An online resource for mouse models of human cancer. In: Cancer Bioinformatics: From Therapy Design to Treatment (S. Nagl, ed.). John Wiley and Sons. pp. 143-153.

Goldsmith CW, Ringwald M, Sundberg JP, **Bult CJ**, and Eppig JT. 2006. Mouse genome informatics: database access to integrated phenotype data for mutant and genetically engineered mice. In: Handbook on Genetically Engineered Mice. J.P. Sundberg and T. Ichiki (eds). CRC Press Taylor and Francis Group, pp. 39-55.

Sundberg JP and **Bult CJ**. 2006. Professional use of mutant laboratory mice in research. In: Handbook on Genetically Engineered Mice. J.P. Sundberg and T. Ichiki (eds). CRC Press Taylor and Francis Group, pp. 185-209.

Woychik, R and **Bult CJ**. Functional analysis of genes. In: Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics. L.B. Jorde, P.F. R. Little, M. J. Dunn and S. Subramaniam (eds.). John Wiley and Sons. *In press*.

Blake J, Eppig JT, and **Bult CJ**. 2003. Mouse and Rat Genome Informatics. In: Bioinformatics for Geneticists. M.R. Barnes and I.C. Gray (ed.). Wiley Press, London..

Bult CJ. 1998. Archaea. In: McGraw Hill Yearbook of Science and Technology 1999. McGraw Hill Publisher (New York) pp. 29-31.

Bult CJ. 1998. Current issues in molecular systematics. In: Monographs in Systematic Biology from the Missouri Botanical Garden. N. Bacigalupo and R. Fortunato (eds.) 68:445-459.

Bult CJ, J. Blake, M. Adams, O. White, G. Sutton, R. Clayton, A. Kerlavage, C. Fields, and J.C. Venter. 1997. The impact of rapid gene discovery technology on studies of evolution and biodiversity. In: Biodiversity II: Understanding and protecting our natural resources, (E.O. Wilson, D. Wilson, and M. Reaka-Kudla, eds). Joseph Henry Press (Washington, D.C.) pp. 289-299.

Blake JA and **CJ Bult**. 1996. Biological databases in an electronic age: Access to and use of biological databases. In: Molecular zoology: Advances, strategies, protocols, (J.D. Ferraris and S.R. Palumbi, eds.), John Wiley & Sons, Inc. (New York) pp. 3-18.

Bult CJ and C. Fields. 1996. Informatics and Genomic Research. In: The Impact of Plant Molecular Genetics, (B.W. Sobral, ed.), Birkhauser Publishers (Boston) pp. 221-238.

Bult CJ and Y.T. Kiang. 1993. One dimensional electrophoretic comparisons of plant proteins. In: Methods in Enzymology vol. 224, (E. Zimmer, T. White, R. Cann and A. Wilson, eds.). Academic Press pp:81-97.

Advisory/Editorial Boards

- Advisory Board Member, On Line Mendelian Inheritance in Man (OMIM) (2013 – present)
- Advisory Board Member, Genome Space (2013 – present)
- Advisory Board Member, Free ME from Lung Cancer (2013- present)
- Advisory Board Member, Galaxy Bioinformatics Platform (2012 – present)
- Advisory Board Member, The Reference Genome Consortium (2010 - present)
- Advisory Board Member, The BioCyc Database Project (2010 - 2013)
- Advisory Board Member, Protein Structural Genomics Knowledgebase (2008 -2013)
- Associate Editor, Database: The Journal of Biological Databases and Curation (2008 - 2014)
- Associate Editor, Genomics (2007 – 2012)
- Advisory Board Member, PathoSystems Resource Integration Center (PATRIC), Virginia Biotechnology Institute (2005 - 2012)
- Advisory Board Member, Genome Biology (2005 - 2011)
- NSF Plant Genome Advisory Panel (2005)
- Advisor, “NSF Workshop on Phylogenetic Informatics.” University of California, Davis (2000)
- Advisory Board Member, Bigelow Laboratory for Ocean Sciences, Provasoli-Guillard Center for the Culture of Marine Phytoplankton, Boothbay Harbor, Maine (2000)
- Biomedical Engineering Advisory Group, University of Maine (1999 - 2001)

Grant Review Panels/Study Sections

- National Institutes of Health: Genome Research Review Committee (2010-2014; Chair 2013-2014)
- National Institutes of Health: Centers of Cancer Nanotechnology Excellence Study Section (2010)
- National Science Foundation: Plant Genomics Program Study Section (2009)
- Wellcome Trust Sanger Institute Mouse Informatics Review (2008)
- National Institutes of Health: BioData and Management Study Section (2004 - 2008)
- Chair, National Institutes of Health Special Bioinformatics Study Section (SBIR and BISTI) (2003)
- Department of Energy: Genomes To Life Program
- National Science Foundation: Biological Databases and Informatics (1999 - 2002)
- Department of Energy: Chemical and Biological Nonproliferation Program
- National Institutes of Health: SBIR Study Section (Genetics/Bioinformatics; 1998- 2004)
- National Science Foundation: Science and Technology Center Program Site Visit Team (1999)
- Department of Energy: Ethical, Legal, and Social Implications (ELSI) of the Human Genome Project Program
- Department of Energy: Microbial Genome Program
- Department of Energy: Genome Database (GDB) site visit team (1997)
- Department of Energy: Alexander Hollaender Postdoctoral Fellowship
- National Science Foundation: Advanced Technology Education Program
- National Science Foundation: Research Collections in Systematics and Ecology (1993 - 1996)
- United States Department of Agriculture: Plant Genome Program

Honors and Awards

- Jackson Laboratory National Council Award for Scientific Achievement, August 2013
- Jackson Laboratory Community Award, May 2013
- Roy H. Behnke Distinguished Lecturer, University of South Florida. March 2011.
- Bult et al., 1996. Science 273:1058 cited as a "Hot Paper in Genetics" by The Scientist, June 8, 1998.
- "Hottest Research of 1996" (based on numbers of literature citations), The Institute for Scientific Information (ISI) (1997)
- Carl Von Linneaus Lecturer, Uppsala University, Uppsala, Sweden (1997)
- Discover magazine top 100 science stories for 1996
- National Science Foundation Travel Grant recipient to attend the 6th Congreso Latino Americano de Botanica, Mar del Plata, Argentina (1994)
- Appointed an honorary Research Associate at the Smithsonian Institution, Laboratory of Molecular Systematics, Washington, D.C. (1993-1996)
- Elected full member of the Sigma Xi Research Honor Society. (1989)
- Awarded full tuition to attend the Sloan Foundation sponsored "Workshop on Molecular Evolution." (1989)
- UNH Women's Commission Award for "significant contributions to the advancement of women in the sciences at UNH" (1989)
- UNH Dissertation Fellowship Award (1988)
- Faculty Award for "Outstanding Senior in Biology," GMU (1984)
- Elected to the Beta Beta Beta Biological Honor Society (1984)

Committee Service

- eLIMS Steering Committee (2012 – present)
- The Jackson Laboratory High Throughput Sequencing Advisory Board (2010 -)
- Graduate School of Biomedical Sciences (GSBS) Admissions Committee (2007 - 2013)
- The Jackson Laboratory Faculty Recruiting Committee (2006 - 2012)
- The Jackson Laboratory Internal Cancer Center Advisory Committee (2006 -)
- The Jackson Laboratory Information Technology Advisory Committee (2004 - 2014)
- The Jackson Laboratory Scientific Advisory Committee (SAC) (2001-2006; 2008-2013)
- The Jackson Laboratory Training and Education Committee (2000 - 2013)
- The Jackson Laboratory Cancer Center Deputy Director Recruiting Committee (2008 - 2009)
- The Jackson Laboratory Bioinformatics Recruiting Committee (2004 - 2006)
- The Jackson Laboratory Aging Center Internal Advisory Committee (2007 - 2010)
- International Mouse Genome Society Nominations Committee (2007- 2009)
- The Jackson Laboratory Graduate Student Advisory Committee (Chair, 2008)

- The Jackson Laboratory BioData Coordination Committee (2001)
- The Jackson Laboratory Research Grants Council (2001)
- The Jackson Laboratory Compensation and Benefits Program Review/ Science Advisory Committee (2000 – 2002)
- Bioinformatics Subcommittee Chair, Programs in Genomic Applications, National Heart, Lung, and Blood Institute (2000 - 2002)
- The Jackson Laboratory Staff Computing Committee (1999 - 2000)
- Board of Technical Advisors, Visual Genomics, Inc. (1999-2000)
- Statewide Cooperative Ph.D. Program Planning Committee, University of Maine (1998 - 1999)
- Society of Systematic Biologists ,WWW Home Page Design and Use committee (1995-1996)

Other Activities

- Organizing Committee, Maine Biomedical and Biological Sciences Symposium (2006 - present)
- Faculty Supervisor, Jackson Laboratory Computational Sciences Service (2005 - present)
- Organizer, JAX-MDIBL Joint Scientific Symposium (2010, 2011)
- Organizer, Mouse Genome Annotation Summit Meeting (2008, 2010)
- Organizer, Bioinformatics Workshops for the International Mammalian Genome Conference (2004 - 2012)
- Coordinator, Jackson Laboratory Bioinformatics Interest Group (2003 -2007)
- Organizer, Short Course on Genome Sequence Analysis (2002 - 2006)
- Organizer, Annual Conference on Computational Genomics (2002-2006)
- Member of the Mouse Genome Sequencing Consortium's Mouse Genome Analysis Group (2002)
- Member of the RIKEN Functional Annotation of the Mouse (FANTOM) Consortium (2001 - 2006)
- Participant in the RIKEN Genome Network Project Consortium (2006-2009)
- Member of the Mouse Genome Informatics Database Consortium (with JT Eppig, M Ringwald, J Blake, J Richardson, and J Kadin) (1999 - present)
- Participant, Biomedical Research Infrastructure Network of Maine (BRIN; <http://www.brinme.net/>)
- Curriculum development, Interdisciplinary Graduate Program in Functional Genomics
- Symposium organizer, "Genomics and Genome Informatics." University of Maine Annual EPSCOR conference on Molecular Biology in Maine (1999)
- Comparative Genomics Section Leader, NIH-DOE Human Genome Program Informatics Workshop (1998)
- Research Community Panel, Next Generation Internet Conference, University of Maine (1998)
- Organizer, Workshop on Spatial Genomics, University of Maine (1998)
- Organizer, Workshop on Database Interoperability, The Institute for Genomic Research (1994)
- Editorial Board, Systematic Biology (1992-1995)
- Co-founder and Executive Board Member, UNH Chapter of the Association for Women in Science (AWIS) (1988-1989)
- Reviewer: Journal of Heredity, Cladistics, Molecular Biology and Evolution, Systematic Biology, Science, Journal of Molecular Evolution, Genomics, Genome Research, Genome Biology, Nucleic Acids Research, Nature, Science, IEEE, BMC Bioinformatics

Educational Outreach

- Faculty member, Tufts University Sackler School of Graduate Biomedical Sciences program in Mammalian Genetics
- Faculty member, Graduate School of Biomedical Sciences (GSBS), University of Maine
- Mentor, Jackson Laboratory High School Intern Program
- Mentor, Jackson Laboratory Summer Student Program
- Organizer, Bioinformatics Workshops at the Annual International Mammalian Genome Conference (2003 -2012)
- Organizer, Annual Genome Sequence Analysis Short Course (2002 - 2006)
- Faculty member, Jackson Laboratory Annual Short Course in Experimental Mammalian Genetics
- Faculty member, Jackson Laboratory Experimental Genetics of the Laboratory Mouse in Cancer Research
- Faculty member, Jackson Laboratory Mathematics Approaches to Complex Traits
- Faculty member, Jackson Laboratory Genomic and Proteomic Approaches to Complex Heart, Lung, and Sleep Disorders
- Lecturer/Coordinator, graduate course in Functional Genomics (University of Maine)
- Lecturer, graduate course in Computational Methods in Genomics (University of Maine)
- Lecturer, Jackson Laboratory Phenotyping Workshop
- Lecturer, Jackson Laboratory Workshop on the Pathology of Mouse Models for Human Disease
- Lecturer, Jackson Laboratory Modeling Human Mammary Cancer in Mice

- "What the genome means," Jackson Laboratory Summer Visitor Program lecture
- "The Wonderful World of Cells and DNA", Mount Desert Island Elementary School (1998)
- Instructor, "Keys to Science" summer enrichment program for high school science teachers, Keystone, Colorado. (1994 - 1995)
- Developed "Understanding Genome Science" tutorial for student and general public tours of The Institute for Genomic Research. (1994)
- Preparator for Smithsonian Young Resident Associates "Museums and Molecules" educational program. (1992)
- Participant in science careers mentoring program for students at Thomas Jefferson High School, Fairfax, Virginia. (1991-1992)
- Science Fair Judge, State Science Fair, Baton Rouge, Louisiana. (1990 - 1991)
- Participant, University of New Hampshire Department of Plant Science annual "Greenhouse Open House" public outreach program. (1984 - 1989)

Advisees/Interns

Teacher Interns

- Ms. Margaret Southworth, Maine Science Teacher Intern (2006)
- Mr. Adam Zukowski, Maine Science Teacher Intern (2005)
- Ms. Savannah Lodge-Scharff, Maine Science Teacher Intern (2012)
- Ms. Sarah Dunbar, Maine Science Teacher Intern (2014)

Postdoctoral Fellows

- Dr. Masaaki Furuno, Jackson Laboratory Postdoctoral Fellow (2003- 2005)
- Dr. Lixin Zhou, TIGR Postdoctoral Fellow (1995 - 1996)

Graduate Students

- Mr. Kyle Beauchemin, Graduate School of Biomedical Sciences, University of Maine (2010 -)
- Ms. Jill Recla, Graduate School of Biomedical Sciences, University of Maine (2008 - 2012)
- Ms. Karen Dowell, Graduate School of Biomedical Sciences, University of Maine (2009- 2012)
- Ms. Stacy Doore, Department of Spatial Information and Engineering, University of Maine (2009 -2010)
- Mr. Jim Harriman, Cornell University Plant Genomics Program (2008 - 2009)
- Mr. Kevin Peterson, Interdisciplinary Graduate Program in Functional Genomics(2002-2005)
- Ms. Penny Russell, Interdisciplinary Graduate Program in Functional Genomics(2003-2004)
- Ms. Weihong Qi, Dept. of Computer Science, University of Maine(2002-2003)
- Ms. Sarah Matthews, DOE Predoctoral Intern (1993)

Undergraduate and High School Students

- Ms. Vania Lopez, Jackson Laboratory Summer Student Program (2014)
- Ms. Janaya Shelly, Jackson Laboratory Summer Student Program (2013)
- Ms. Megan Taylor, Jackson Laboratory Summer Student Program (2012)
- Ms. Elizabeth Adesanya, Jackson Laboratory Summer Student Program (2012)
- Ms. Emma Albee, University of New England (2010-2011)
- Ms. Tess Lameyer, George Stevens Academy (2011)
- Ms. Haley Maiden, George Stevens Academy (2011)
- Ms. Jennifer Rodriguez, Jackson Laboratory Summer Student Program (2010)
- Mr. Isaac St. John, Jackson Laboratory Summer Student Program (2009)
- Mr. Kevin Hawkins, Jackson Laboratory Summer Student Program (2008)
- Mr. Patrick Breen, Mount Desert Island High School Intern (2007-2008)
- Ms. Cecily Swinburne, Jackson Laboratory Summer Student Program and College of the Atlantic Senior Project (2007-2008)
- Mr. Dorian Britt, Jackson Laboratory Summer Student Program (2006)
- Mr. Brad Witham, Mount Desert Island High School Intern (2006)
- Mr. Troy Shapiro, Jackson Laboratory Summer Student Program (2005)
- Mr. Curtis Thorman, Mount Desert Island High School Intern (2005)
- Ms. Rebecca Barter, Jackson Laboratory Summer Student Program (2004)
- Mr. Ayodele Adesanya, Jackson Laboratory Summer Student Program (2004)
- Mr. Brad Witham, Mount Desert Island High School Intern and Jackson Laboratory Summer Student Program (2002-2004)
- Mr. Ben Hewlett, Mount Desert Island High School Intern (2000-2002)
- Mr. Pierre Vanden Borre, Jackson Laboratory Summer Student Program (2000)

Mr. Robin Fernald, Mount Desert Island High School Intern (1999 - 2000)
Ms. Amber Bethell, NCGIA (University of Maine) Undergraduate Assistant (1999)
Mr. Robert "Beto" Peliks, Jackson Laboratory Summer Student Program (1999)
Ms. Winnie Liang, Jackson Laboratory Summer Student Program (1999)
Ms. Tracy Spriggs, TIGR Special Projects Intern (1995 - 1996)
Mr. Bryan Fitzpatrick, TIGR Summer High School Intern (1995)
Ms. Debbie Saudek, TIGR special projects intern (1993 - 1995)
Mr. Tae Hoon Kim, Smithsonian Summer Intern (1992)

Invited Presentations

- "Cancer Avatars and Individualized Cancer Therapy," RNA Matters Lecture Series, Thomas Jefferson University, November, 2014
- "Biomarker Basics," The Jeri and Noboru Oishi Symposium, Southwest Oncology Group (SWOG), October 2014
- "The Maine Triple Negative Breast Cancer Study: An Update," Partridge Foundation 5th Annual Breast Cancer Symposium, October 2014.
- "Cancer Avatars and Individualized Cancer Therapy," Annual Maine Biological and Biomedical Sciences Symposium keynote, April 2014
- "Cancer Avatars and Individualized Cancer Therapy," University of Maine at Presque Isle Distinguished Lecturer, February 2014
- "A unified gene catalog for the reference mouse genome," Genome Informatics, Cold Spring Harbor, NY. (October 2013)
- "Cancer Avatars," Partridge Foundation Fourth Annual Breast Cancer Symposium, Bangor, Maine (October 2013)
- "Computational prediction of knockout phenotypes and gene function," International Mammalian Genome Conference, Salamanca, Spain (September 2013)
- "Cancer Avatars and Genome Guided Cancer Therapy," Maine Chapter of the College of Surgeons, Bar Harbor, Maine (May 2013)
- "Normal development as a framework for understanding disease processes," Maine-Dartmouth Family Medicine Distinguished Lecturer in Medicine Series (May 2012)
- "Data integration strategies for the Mouse Genome Informatics Database," Functional Genomics Data Society, Boston, MA (February 2012)
- "Good Genes Gone Bad: what our genome is telling us about cancer," Little Forum, Bronxville, NY (October 2011)
- "Genomics of lung development and cancer," Maine Medical Center, Portland, Maine (May 2011)
- "Mouse models of human disease: Where we are and where we are going," Roy H. Behnke Distinguished Lecture, University of South Florida (February 2011)
- "What normal development can tell us about cancer," The Jackson Laboratory-Dartmouth Regional Symposium for Cancer Biology, The Jackson Laboratory, Bar Harbor, ME (September 2010)
- "Development and Cancer," Eastern Maine Medical Center, Brewer, ME (August 2010)
- "MouseNET: predicting gene function in the laboratory mouse," Massachusetts General Hospital, Center for Human Genetic Research, Boston, MA (April 2010)
- "Lung development and disease," Boston University Genome Sciences Institute, Boston, MA (April 2010)
- "Genes, Cancer, and the Future of Personalized Medicine," Annual Women's Health Luncheon, Portland, Maine (February 2010)
- "Can Your DNA Help Doctors Choose Your Prescription?," Bank of New York Mellon (September 2009)
- "Integrating MouseCyc with the Protein Ontology Resource project," 2nd Annual Protein Ontology Meeting, Georgetown University, Washington, D.C. (2008)
- "Virchow revisited: Can understanding normal development of the mouse lung provide insights into the genetics of human lung cancer?," Medical College of South Carolina, Charleston, South Carolina (February 2008)
- "MouseCyc: a curated database of biochemical pathways database for the laboratory mouse," Cambridge HealthTech Tri-Medicine Conference, San Francisco, California (February 2008)
- "Good genes gone bad: Understanding the genetic basis of lung cancer," 2nd Annual Women's Health Luncheon, Portland, Maine (November 2007)
- "Accelerating the functional characterization of the mouse genome," 21st Annual International Mouse Genome Conference, Kyoto, Japan (November 2007)
- "Towards a unified gene catalog for the mouse," 20th Annual International Mouse Genome Conference Charleston, South Carolina (November 2006)
- "Bio-ontologies for neuroscience," 45th Annual Meeting of the American College of Neuropsychopharmacology, Hollywood, Florida (December 2006)

- International Gene Trap Consortium Meeting: Mouse Genome Informatics, San Francisco, California, April (2005)
- "From Information to Understanding: Data integration for functional and comparative genomics," Integration of Structural and Functional Genomics Symposium, Iowa State University (2005)
- "Science In Silico," BioQuest Curriculum Consortium (2004)
- "The mouse genome sequence as a framework for complex trait analysis," 3rd Annual Complex Trait Analysis Conference, The Jackson Laboratory, Bar Harbor, Maine, (July 2004).
- "Connecting sequences and biology in the laboratory mouse," Mount Desert Island Biological Laboratory Symposium (2004)
- "Mouse Genome Informatics and Gene Ontology: Progress and Promises", 27th Annual Scientific Meeting of the Research Society on Alcoholism (2004)
- "Beyond Sequence Comparison: Why Data Integration is Important for Comparative Genomics," Novartis Workshop on Comparative Genomics (2003)
- "Beyond the genome", University of Iowa Center for Bioinformatics Lecturer Series (2003)
- "Bridging the Digital Biology Divide", Maine Medical Center Research Institute (2003)
- "Mapping biology to the mouse genome," 15th International Mouse Genome Conference (2002)
- "After the genome: Back to biology," University of New Hampshire Genetics Program (2002)
- "Genome sequence analysis," Advances in Nanostructural Genomics II (2002)
- "Mapping biology to the mouse genome," Genome Informatics (2002)
- "Bioinformatics resources for mouse models of cancer," National Cancer Institute retreat (2002)
- "Informatics infrastructure for the mouse: the view from JAX", Samuel Lunenfeld Research Institute, Toronto, Canada (2002)
- "Making sense of sequence: The need for integrating computational and human-curated genome annotation processes," Advances in Genome Biology and Technology, Marco Island, FL (2002).
- "Integrating computational and human-curated annotations for the mouse genome," International Mouse Genome Conference, Edinburgh, Scotland (2001).
- "Connecting sequence and biology: From catalog to context," Genomics Meets Nanoscience Conference, The Jackson Laboratory, Bar Harbor, ME (2001)
- "Developing a genome spatial information system," Applications of GIS to Bioinformatics Symposium, Virginia Tech University, Blacksburg, VA (2001).
- "Closing the phenotype gap: large-scale mutagenesis at The Jackson Laboratory, Celltech, Seattle, WA (2001).
- "Why the mouse genome?," National Association of Science Writers, UC Berkeley, Berkeley, CA (2001).
- "Mouse Genome Informatics (MGI): The power of an integrated view of mouse biology," UPenn Bioinformatics Forum, (2001).
- "The power of an integrated view of the mouse genome," Proteome, Inc., Beverly, MA(2000).
- "Mouse genome informatics in a new age of biological inquiry," IEEE International Symposium on Bio-Informatics and Biomedical Engineering, Washington, D.C. (2000).
- "Bioinformatics: Critical tools for mouse and human genetic research," Third Animal Models as Biomedical Tools: Skin and Hair Mutations Workshop, The Jackson Laboratory, Bar Harbor, ME (2000).
- "Mouse Genome Informatics (MGI): An integrated view of mouse biology." 12th Annual International Genome Sequencing and Analysis Conference, Miami, FL (2000).
- "Connecting sequence and biology: Informatics resources for mouse genomics," UC Davis/The Jackson Laboratory Symposium on Advances in Biomedical Research through Mouse Biology, UC Davis, Davis, CA (2000).
- "Connecting sequence and biology: Informatics resources for mouse genomics," Meet your New Neighbor: The Jackson Laboratory, Roche Biosciences, Palo Alto, CA (2000).
- "Integrating sequence and biology: The Mouse Genome Sequence database project," 8th Annual DOE Contractors Meeting, Santa Fe, N.M. (2000).
- "To the genome and beyond: Bioinformatics in a new age of biological inquiry", University of Buffalo, Buffalo, NY (2000)
- "The Mouse Tumor Biology Database (MTB) Project," Mouse Molecular Genetics Conference, Heidelberg, Germany (1999)
- "Bioinformatics in a new age of biological inquiry," University of Maine Annual EPSCOR Conference on Molecular Biology in Maine, Orono, ME (October 1999)
- "Genome Informatics: A Status Report," IDEXX Laboratories, Inc. Westbrook, ME (1999)
- "Developing a Genome Spatial Information System," Maine GIS Users Group Annual Meeting, Bangor, ME (1999)
- "Genome Informatics: Where we've been, Where we're going," BioEngineering Resource Group, University of Maine, Orono, ME (1999)

- "Genomes as Geographic Landscapes," Dept. of Biochemistry, Microbiology and Molecular Biology, University of Maine, Orono, ME (1999)
- "Whole Genome Sequencing of Microbes and Plants: Status and Implications," Centro Internacional de Agricultura Tropical (CIAT), Cali, Colombia (1997).
- "From Information to Understanding: The Present and Future of Comparative Genomics" Carl Von Linneaus Lecture, Uppsala University, Uppsala, Sweden (1997).
- "From Sequence to Biology: Data mining and complete genomes. Frontiers in Genetic Research, University of Connecticut, Storrs, CT. (1997)
- "The complete genome of *Methanococcus jannaschii*," New England Molecular Evolutionary Biologists annual meeting, Durham, N.H. (1996)
- "The genome of *Methanococcus jannaschii* and the origins of life," University of New Hampshire, Durham, N.H. (1996)
- "Complete genome sequencing and characterization of the thermophilic methanogen, *Methanococcus jannaschii*," DOE Annual Contractor-Grantee Workshop, Santa Fe, NM. (1996)
- "Fire-breathing dragons, archaeobacteria and the future of genomic medicine," Conference on Genomic Medicine, Rockville, MD. (1995)
- "The genomes of *Haemophilus influenzae* Rd and *Mycoplasma genitalium*," European Molecular Biology Organization (EMBO) Workshop on Microbial Genome Evolution, Balsta, Sweden (1995).
- "Rapid gene discovery and the human genome project," Maine Medical Center, Portland, ME (1995).
- "From information to understanding: The role of informatics in genome biology," Bates College, Lewiston, ME (1995).
- "The development and implementation of the Sequences, Sources, Taxa (SST) database," Society for the Study of Evolution, McGill University, Montreal, Canada (1995).
- Round table discussion on careers in science, Women's Center, California Institute of Technology, Pasadena, CA (1995).
- "Human gene discovery and comparative genomics," California Institute of Technology, Pasadena, CA. (1995)
- "The Expressed Gene Anatomy and Sequences, Sources, Taxa Databases: models for interoperability among biological databases," Plant Genome III, San Diego, CA (1995).
- "Metodos modernos de reconstruccion filogenetica utilizando datos moleculares," Centro de Investigacion y Desarrollo en Criotecnologia de Alimentos, La Plata, Argentina (1994).
- "La filogenia y los caracteres moleculares," VI Congreso Latinoamericano de Botanica, Mar del Plata, Argentina. (1994)
- "Genomics, systematics, and the metazoa," 6th Annual Genome Sequencing and Analysis Conference, Hilton Head, SC (1994).
- "Integrated biological databases to support research in gene discovery, expression, and evolution," International Society of Plant Molecular Biologists, Amsterdam, The Netherlands. (1994)
- "Sequences, Sources, Taxa: Linking diverse database resources on the Internet for research in biodiversity and evolution," Smithsonian Institution Biodiversity Seminar Series, Washington, D.C. (1994)
- "Cladistic analysis of protein evolution," Willi Hennig Society, Fullerton, CA. (1993)
- "The impact of rapid gene discovery technology on studies of biodiversity and evolution," Inaugural Symposium of the Biodiversity Consortium. Washington, D.C. (Plenary speaker, 1993)
- "The utility of the large subunit (LSU, 28S) of rDNA for phylogenetic reconstruction in plants," American Institute for Biological Sciences, Ames, Iowa. (1993)
- "Tribal relationships within Onagraceae: morphological and molecular data," Society for the Study of Evolution Annual Meeting, Berkeley, CA. (1992)
- "Differential amplification of nuclear and organellar rDNA from total plant DNA," International Society of Plant Molecular Biologists, Tucson, AZ. (1991)
- "Using organellar and nuclear ribosomal gene sequences in studies of plant evolution," George Mason University, VA (1991).
- "Integrating molecular and non-molecular data in systematic analyses," Willi Hennig Society, Royal Ontario Museum, Toronto, Canada (1991).
- "Tribal relationships within Onagraceae: Insights from nuclear ribosomal RNA sequences," George Washington University, Washington, D.C. (1990).
- "Genetic structure within and among natural populations of the wild soybean," Louisiana State University, LA (1990).
- "Is there life after graduate school? Job hunting skills for new graduates and postdocs," Panel member. American Association for the Advancement of Science Annual Meeting, New Orleans, LA (1990).
- "Women's voices in science," New Hampshire Women in Higher Education Association, Dartmouth College, N.H. (1988).

- "Genetic differentiation among seven natural populations of wild soybean: Implications for germplasm conservation," University of New Hampshire, N.H. (1988).
- "Where have all the flowers gone?: Reproductive efficiency in the wild soybean, *Glycine soja*," Society for the Study of Evolution, Montana State University, Bozeman, MT (1987).
- "Isozyme variation in low versus high salinity populations of hard-shell clams, *Mercenaria mercenaria*," Annual meeting of the Virginia Academy of Sciences, George Mason University, Fairfax, VA (1984).