Curriculum vitae

Carol J. Bult, Ph.D.
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The Jackson Laboratory
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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 program 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; PeerJ, 4:e2318, 2016).

Education
1989   Ph.D., Genetics
University of New Hampshire, Durham, N.H.
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
- Knowlton Family Chair (2015 – present)
- Deputy Directory, The Jackson Laboratory Cancer Center (2014 – 2019)
- Scientific Director, Patient Derived Xenograft and Cancer Avatar Program (2012 – 2019)
- Senior Advisor for Research IT (2011 –2014)
- Jackson Laboratory Cancer Center Deputy Director for Planning and Evaluation (interim) (2010 – 2011)
- Professor (2009- present)
- Associate Professor (2003-2009)
- Assistant Professor (2000-2003)
- Research Scientist (1999-2000)
- Visiting Investigator (1997-1999)

2014-present **Tufts University**, Boston, MA
- Professor of Medicine, School of Graduate Biomedical Sciences

1996 - present **University of Maine**, Orono, ME
- Graduate Faculty, Graduate School of Biomedical Sciences and Engineering (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, Louisiana
- Postdoctoral Fellow, Department of Biochemistry

1984 - 1989 **University of New Hampshire**, Durham, N.H.
- Graduate Research Associate, Genetics Program

Publications

Neuhauser S, Begley D, Krupke D, **Bult CJ**. PDX Like Me: A query language for identifying PDX models that match complex genomic profiles. *J Clinical Oncology*, submitted.

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Ravanmehr V, Blau H, Cappelletti L, Fontana T, Carmody L……Bult C, Rueter J, Casiraghi E, Valentini G, Mungall C, Oprea T, Robinson PN**.** 2021. Supervised learning with word embeddings derived from PubMed captures latent knowledge about protein kinases and cancer. *bioRxiv* doi: https://doi.org/10.1101/2021.06.11.447943

Richardson JE, Baldarelli RM, **Bult CJ.** 2021**.** Multiple genome viewer (MGV): a new tool for visualization and comparison of multiple annotated genomes. *Mamm Genome* doi: 10.1007/s00335-021-09904-1

Ringwald M, Richardson JE, Baldarelli RM, Blake JA, Kadin JA, Smith C, **Bult CJ.** 2021. Mouse Genome Informatics (MGI): latest news from MGD and GXD. *Mamm Genome* doi: 10.1007/s00335-021-09921-0

Hamosh A, Amberger JS, Bocchini CA, Bodurtha J, **Bult CJ**, Chute CG, Cutting GR, Dietz HC, Firth HV, Gibbs RA, Grody WW, Haendel MA, Lupski JR, Posey JE, Robinson PN, Schriml LM, Scott AF, Sobreira NL, Valle D, Wu N, Rasmussen SA. 2021. Am J Hum Genet 108(9):1807-1808.

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Eppig JT, Smith CL, Blake JA, Ringwald M, Kadin JA, Richardson JE, **Bult CJ**. 2017. Mouse Genome Informatics (MGI): Resources for mining mouse genetic, genomic and biological data in support of primary and translational research. Methods Mol Biol. 1488:47-73.

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Funded Research

5 R25 HG007053-08   Role: Principal Investigator/Program Director   4/26/2016 - 3/31/2021
Diversity Action Plan for Mouse Genome Database
Extended one year due to pandemic

5 R01 CA089713-18   Role: Principal Investigator/Program Director   5/1/2016 - 4/30/2021
Electronic Access to Mouse Tumor Data
Will be renewed

5 U41 HG000330-32   Role: Principal Investigator/Program Director   4/19/2016 - 3/31/2021
Mouse Genome Database
Will be renewed

5 P01 HD068250-09   Role: Principal Investigator   8/29/2017 - 4/30/2022
Gene Mutation and Rescue in Human Diaphragmatic Hernia

5 U24 HG010859-02   Role: Principal Investigator   9/1/2019 - 8/31/2024
Alliance Central: A Platform for Sustainable Development of Next Generation Genome Knowledgebases

5 U24 CA220341-03   Role: Consortium PI   5/1/2018 - 4/30/2023
Supporting and Evolving Gene Set Enrichment Analysis and the Molecular Signatures Database for Cancer Research

5 U24 CA224067-03   Role: Co-Investigator (with Jeff Chuang)   9/25/2017 - 8/31/2022
Data Coordination Center for PDX Net

Cancer Center Pilot   Role: co-PI (with Gary Ren, Mingyang Lu)   6/01/19 -3/31/21
Dynamics of the immune microenvironment during lung tumorigenesis

Directors Innovation Fund   Role: PI   6/01/18- 3/31/21
Mouse Genome Variation Registry

Advisory/Editorial Boards

- Steering Committee Member, NIH Common Fund Stimulating Peripheral Activity to Relieve Conditions (SPARC) Data Resource Center (2019 - present)
- External Consultant Committee (ECC) member, NHGRI Genomic Data Science Analysis, Visualization, Informatics, Lab-space (AnVIL) Program (2019 - present)
- Scientific Advisory Board, GenCode (2017- present)
- Scientific Advisory Board, Baylor PDX Program (2017- present)
- Scientific Advisory Board, ZFIN (Zebrafish Model Organism Database) (2016 – present)
- Member, NHGRI Genomic Medicine Working Group (2015 - present)
- Scientific Advisory Board, On Line Mendelian Inheritance in Man (OMIM) (2013 – present)
- Scientific Advisory Board, UniProt (2016 – 2020)
- NHGRI 2020 Strategic Planning Education and Training Task Force (2019)
- Member, NHGRI Research Training Advisory Committee (2015 – 2020)
- Scientific Advisory Board, Genome Space (2013 – 2018)
- Scientific Advisory Board, Galaxy Bioinformatics Platform (2012 – 2019)
- Member, National Human Genome Research Institute (NHGRI) Advisory Council (2014 – 2018)
- Scientific Advisory Board, Joint Genome Institute (2016 – 2018)
- Advisory Board Member, Free ME from Lung Cancer (2013- 2014)
- Member, NIH Multi Council Working Group on Big Data To Knowledge (BD2K) (2014 – 2017)
- Scientific Advisory Board, The Genome Reference Consortium (2010 - 2016)
- Scientific Advisory Board, The BioCyc Database Project (2010 - 2013)
- Scientific Advisory Board, 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
- Thomson Reuters/Clarvariate Highly Cited Researcher (2015, 2016)
- Knowlton Family Chair (December 2015)
- 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 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)

Institutional Committee Service
- The Jackson Laboratory Scientific Advisory Committee (SAC) (2001-2006; 2008-2013; 2016-2017; 2021-2022)
- JAX Emergency Response Committee (2020 -)
- JAX Type 2 Diabetes CUBE initiative Data Standards Working Group Leader (2018 -)
- Genetic Diversity Initiative (GDI) Steering Committee (2018 -)
- JAX Laboratory Informatics Domain Portfolio Group (2016 -)

- JAX Patient Derived Xenograft Governance Committee (2016 -)
- JAX Chief Information Officer Search Committee (2019)
- JAX Diversity and Inclusion Director Search Committee (2018)
- The Jackson Laboratory Cancer Center Scientific Executive Committee (2014 - 2019)
- The Jackson Laboratory Cancer Center Operations Group (chair; 2012 - 2019)
- The Jackson Laboratory Internal Cancer Center Advisory Committee (2006 - 2016)
- eLIMS Steering Committee (2012 – 2015)
- The Jackson Laboratory High Throughput Sequencing Advisory Board (2010 - 2014)
- Graduate School of Biomedical Sciences (GSBS) Admissions Committee (2007 - 2013)
- The Jackson Laboratory Faculty Recruiting Committee (2006 - 2012)
- The Jackson Laboratory Information Technology Advisory Committee (2004 - 2014)
- 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)

Other Activities
- Reviewer, EuroPDX Research Infrastructure Trans-national Access Programme (2019,2020)
- Reviewer, ELIXIR Core Data Resources (2018, 2020)
- Lecturer, Advances in Patient Derived Xenograft Modeling in Cancer Workshop, AACR (April 2018)
- Lecturer, Patient Derived Xenografts (PDXs): A Platform for Precision Oncology, HUGO Workshop series (Taiwan and Japan) (March 2017)
- Organizer, Genomic Medicine IX "Bedside to Bench – Mind the Gaps" (April 2016)
- Organizer, NHGRI Computational Genomics and Data Science Workshop (Sept 2016)
- Organizer, NHGRI Large Genome Resource Meeting (May 2016)
- Guest editor, Special issue of Cancer Genetics on Cancer Genomics
- Organizing Committee, Maine Biomedical and Biological Sciences Symposium (2006 - 2016)
- Faculty Supervisor, Jackson Laboratory Computational Sciences Service (2005 - 2015)
- Organizer, JAX-MDIBL Joint Scientific Symposium (2010, 2011)
- Organizer, Mouse Genome International 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)
- 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)
- 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 /Instructor, Humanized Mice in Biomedicine, Challenges and Innovations Course, EMBO/EMBL (2019)
- Faculty, Tufts University School of Graduate Biomedical Sciences program in Mammalian Genetics
- Faculty, Graduate School of Biomedical Sciences and Engineering (GSBSE), University of Maine
- Mentor, Jackson Laboratory High School Intern Program
- Mentor, Jackson Laboratory Summer Student Program
- Mentor, Olympia Snowe Women's Leadership Institute (2017-2020)
- Organizer and Instructor, Bioinformatics Workshops at the Annual International Mammalian Genome Conference (2003 -2012)
- Organizer and Faculty member, 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

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

Graduate Students
Dr. Joan Malcolm, Graduate School of Biomedical Sciences and Engineering, University Maine (2015 - 2018)
Dr. Kyle Beauchemin, Graduate School of Biomedical Sciences and Engineering, University of Maine (2010 - 2016)
Dr. Jill Recla, Graduate School of Biomedical Sciences and Engineering, University of Maine (2008 - 2012)
Ms. Stacy Doore, Department of Spatial Information and Engineering, University of Maine (2009 -2010)
Dr. Kevin Peterson, Interdisciplinary Graduate Program in Functional Genomics (2002-2005)
Ms. Penny Russell, Interdisciplinary Graduate Program in Functional Genomics (2003-2004)
Ms. Sarah Matthews, DOE Predoctoral Intern (1993)

Post-Baccalaureate
Ms. Teresa McGee, Gail Gutradt Cancer Research Fellow (2019-2021)
Ms. Wendy Memishian, Gail Gutradt Cancer Research Fellow (2019-2021)
Ms. Ashley Tucker, The Jackson Laboratory Post-Baccalaureate Fellow (2021-)

Undergraduate and High School Students
Ms. Sirohi Kumar, Mount Desert Island High School Academic Year Intern (2020)
Mr. Joshua Quigley, College of the Atlantic Academic Year Intern (2019-)
Ms. Angelina Guerra, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2019)
Mr. Antonio Mendoza, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2018)
Ms. Taylar Mouton, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2017)
Ms. Bailey West, Searsport High School (2017)
Mr. Raphael Espinoza, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2016)
Mr. Jacob Luber, Jackson Laboratory Summer Student Program (2015)
Mr. Adam Lavertu, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2015)
Ms. Vania Lopez, Colby College Summer Coop Program (2015)
Ms. Vania Lopez, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2014)
Ms. Janaya Shelly, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2013)
Ms. Megan Taylor, Jackson Laboratory Summer Student Program (2012)
Ms. Elizabeth Adesanya, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (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; MGD Diversity Action Plan (2010)
Mr. Isaac St. John, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (2009)
Mr. Kevin Hawkins, Jackson Laboratory Summer Student Program; MGD Diversity Action Plan (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; MGD Diversity Action Plan (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; MGD Diversity Action Plan (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)

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

Invited Presentations
- "The changing landscape of human disease gene discovery using the laboratory mouse", Massachusetts General Hospital Seminar Program (April 2021)
- "PDXs as preclinical cancer models: 2 case studies", Humanized mice in Biomedicine, European Molecular Biology Organization (EMBO), Heidelberg, Germany (November 2019)

- "Alliance of Genome Resources and MGI", Sustainability of Mouse Informatics Resources, Infrafrontier Workshop, Strasbourg, France (September 2019)
- "The Alliance of Genome Resources: Transforming comparative genomics for human and model organisms", 33 Annual International Mammalian Genome Conference, Strasbourg, France (September 2019)
- "Comparative genetics and genomics of mouse strains at MGI", 32nd Annual International Mammalian Genome Conference, Puerto Rico (November 2018)
- "Maine Cancer Genomics Initiative", Primary Source Speaker Series, Jesup Library, Bar Harbor, Maine (July 2018)
- "New Therapies for Triple Negative Breast Cancer (TNBC)", Maine Breast and Cervical Health Mammography Conference, Augusta, Maine (May 2018)
- "Alliance of Genome Resources (AGR): An experiment in community genome resource sustainability", Mammalian Genetics and Genomics: From Molecular Mechanisms to Translational Applications, EMBL Heidelberg, Germany (October 2017)
- "Functional and Phenotype Data from Model Organisms as Evidence for Disease Relevance of Human Genes and Variants", Curating the Clinical Genome, Washington, DC (June 2017)
- "Precision Oncology", Downeast Colloquy, Blue Hill, Maine (May 2017)
- "From Data to Knowledge: Why it Matters to be FAIR", NHGRI Trainees Meeting, St. Louis, MO (April 2017)
- "Patient Derived Xenografts (PDX): A Platform for Precision Oncology", Human Genome Organization workshop on Patient Derived Xenografts, Taipei, Taiwan and Yokohama, Japan (March 2017)
- "Patient Derived Xenografts (PDX) for Precision Oncology", University of Connecticut Grand Rounds, Farmington, CT May 2016)
- "Hyperbole and hope in cancer research", Acadia Senior College, Bar Harbor, Maine (2015)
- "Patient Derived Xenografts (PDX): A Platform for Precision Oncology," 29th Annual International Mouse Genome Conference, Yokohama, Japan (November 2015)
- "The Maine Triple Negative Breast Cancer Study: An Update," Partridge Foundation 6th Annual Breast Cancer Symposium (October 2015)
- "The Tunable Mouse", Maine Science Festival, Bangor, Maine (May 2015)
- "Patient Derived Xenografts (PDX): A Platform for *in vivo* Modeling for Precision Oncology", Symposium on Optimizing Cooperative Group Specimen-based Sarcoma Biology Investigation for Future Discovery, Philadelphia, PA (April 2015)
- "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, archaebacteria and the future of genomic medicine," Conference on Genomic Medicine, Rockville, MD. (1995)
- "The genomes of *Haemophilus influenzae* Rd and *Mycoplasm 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).