CURRICULUM VITAE

Name **David James Matthes**
Professor (Teaching)

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Education

PhD, UC Berkeley (molecular and cell biology) 1989-1995
Advisor: Corey S. Goodman (genetics & neurobiology)
Thesis title: The semaphorin gene family and axon pathfinding
MS, Stanford University (biology) 1988
BA, Stanford University (human biology - with distinction) 1983-1987
Advisor: Marion E. Smith (neurochemistry)

Professional Experience

Professor (Teaching), Dept. of Biology Teaching and Learning *and* Dept. of Genetics, Cell Biology and Development, U of Minnesota 2015-present
Associate Professor (Teaching) Biology Program *and* Dept. of Genetics, Cell Biology and Development, University of Minnesota 2008-2015
Visiting Assoc. Professor, Biology, Macalester College 2007-2008
Associate Professor, Biological Sciences (genetics), San Jose State Univ. 2002-2007
Assistant Professor, Biological Sciences (genetics), San Jose State Univ. 1995-2002

Teaching Awards

* Received the Horace T. Morse-University of Minnesota Alumni Association Award for Outstanding Contributions to Undergraduate Education (2018)
* Received the CBS Student Board's Golden Pipette Award for Best Life Advice Given in 2017-28 (Feb. 4, 2018)
* Received the CBS Student Board's Golden Pipette Award for Most Passionate Professor in 2016-17 (Feb. 19, 2017)
* Received the Dagley-Kirkwood Undergraduate Education Award for 2014-15.
* Received the CBS Student Board's Golden Pipette Award for Most Approachable Professor in 2014-15 (Feb. 19, 2015)
* Received the CBS Student Board's Golden Pipette Award for Most Engaging Professor in 2013-14 (Feb. 6, 2014)
* Received Science magazine's *Inquiry-based Instruction Award* (Sept. 2013) for work done for this course in collaboration with Susan Wick, Mark Decker and Robin Wright.

Curricular Innovations

• Scaled up course in personal genomic analysis for 36 students and pushing the analysis to a deeper level suitable for CBS seniors; now a University-approved course: GCD 3486
• Organize, convene and facilitate a weekly BTL-hosted journal club focused on the scholarship of teaching and learning. (Nov 2015 to present).
• Designed an active-learning format genome analysis course for UMN genetic counseling students and other graduate students with three UMN genetic counselors (BL, HZ & MB)

- Introduced the first course at the U of M where students have their genome sequenced (though 23andMe) and then learn about the human genome by exploring their own.
- Scaled up course in bioinformatic analysis to allow offering as a higher-enrollment (50 student) authentic research lab course.
- Contribute perspective of a broad teaching experience and expertise to graduate students in Preparing Future Faculty hoping to prepare themselves for the teaching most will do in their future academic careers.
- Converted a senior-level cell biology course to a team-based, active learning format course with significant improvement in learning gain based on pre-test, post-test comparisons.
- Developed activities focused on biomolecules, genetic information flow and molecular phylogenetics for an introductory biology course for majors.
- Introduced a popular project-based course in bioinformatics for undergraduates in the College of Biology at the University of Minnesota.
- Led an informal journal club each semester to introduce interested students to close reading of scientific literature, most recently on stem cell research.
- Revitalized and modernized an undergraduate genetics laboratory course by making it student project-oriented incorporating molecular and genetics techniques, and addressing issues of experimental design and professional ethics in science.
- Developed a bioinformatics curriculum at San Jose State University that has involved obtaining external funding for a new computer lab, software, and curriculum development, developing and teaching five new courses (two as interdisciplinary team-taught courses), and helping establish a bioinformatics track for computer science majors.

Courses Taught (1995-2015)

Undergraduate courses

Personal genome analysis (Biol 4950 [UMN: Spring ’16, Fall ‘16) [one of the first of its kind in the world – using the students’ own genome data to carry out authentic investigations] Recently approved to be a permanent course (GCD 3486W) beginning Fall 2019
Freshman seminar: Genome (Biol 1905 [UMN: Fall ’13, Fall ‘14)
Foundations in biology (Biol 2002 [UMN])
Cell biology (GCD 4004 [UMN])
Bioinformatic analysis (GCD 3485, formerly Biol 4950 [UMN])
Directed reading: Effectiveness of active learning strategies [UMN: Spring ‘13]
Directed reading: Microarray analysis [UMN: Spring ‘12]
Cell biology and genetics II laboratory (Biol 205 [Macalester])
Seminar in stem cell biology (Biol 394 [Macalester])
Cellular and molecular neuroscience (Biol 356 [Macalester])
Bioinformatics (Biol 394 [Macalester])
Molecular biology for computer scientists (Biol 96C)
Scientific writing (Biol 100W)
General genetics with seminar (Biol 115)
Genetics laboratory (Biol 116L, formerly Biol 115L)
Introduction to bioinformatics (Biol 121)
Bioinformatics I (Biol 123A crosslisted as CS 123A)
Bioinformatics II (Biol 123B crosslisted as CS 123B)
Molecular cell biology laboratory (Biol 135L)

Graduate courses

Advanced human genetics and genomics (GCD 8205 [UMN])
Preparing future faculty I (Grad 8101 [UMN])
Seminar in advanced genetics: bioinformatics (Biol 215)
Seminar in advanced genetics: gene therapy (Biol 215)
Bioinformatics (Biol 221 and Biol 221T)

Advanced seminar in biology: evolution (Biol 255M)
Advanced seminar in biology: cell motility and targeting (Biol 255M)

Education-Related Publications (books, book-chapters, articles)

Funk, H., LeRoy, B., Matthes, D., Gorman, K. and Zierhut, H. (2015) An exploration of personal genomics integration into a graduate level human genetics case-based course. **CBE-Life Sciences**, under review.

Wick, S., Decker, M., Matthes, D., and Wright, R. (2013). Students propose genetic solutions to societal problems. **Science** 341: 1467-1468.

Brooker, R., Couch, B., Matthes, D., Wassenberg, D., Wick, S., and Wright, R. (2013). SCALE-UP in an Introductory Biology Course. Chapter in **Connected Science: Strategies for Integrative Learning in College**, ed. Ferrett, T.A., Geelan, D. Schlegal, W.M. and Steward, J.L. Indiana University Press.

Matthes, D.J. (2000). **Problems and Solutions for Strachan and Read's Human Molecular Genetics**. Bios Scientific Publishers (Oxford, UK)

Matthes, D., French, A., Wu. M, and Ruiz, A (1999). Modulation of leukocyte migration by human and viral semaphorins. **The FASEB Journal** 13, A1134. Presented at FASEB 99, Washington, D.C. (April 17-21, 1999)

Chinnici, J. and Matthes, D. (1998). **Genetics: Practice Problems and Solutions**. Addison Wesley Longman (Menlo Park, CA).

Education-Related Presentations at Professional Meetings

Matthes, D.J. (2017) Exploring SNPs and Your Personal Ancestry. Educators Summit, 23andMe, Mountain View, CA. June 8, 2017.

Matthes, D.J. (2016) Biology education research 2.0 faculty journal club. Society for the Advancement of Biology Education Reserch (SABER; July 14, 2016, Minneapolis, MN)

Matthes, D.J. (2016) A large, genome-enabled, project-based undergraduate course in personal genome analysis. Annual meeting of the American Human Genetics Society (ASHG; Oct 18-22, 2016, Vancouver Canada)

Matthes, D.J. (2015) Activities for a Personal Genomics Course. American Society for Cell Biology annual meeting, San Diego, CA. Dec. 12-15, 2015.

Auxier, K., Cotner, S, and Matthes, D. (2015) STEM initiatives at the University of Minnesota, Twin Cities. Association of American Universities STEM Education Network Conference. St. Louis, MO. Oct. 13-14, 2015.

Matthes, D.J. (2015) Assignments that maximize the value of round tables and white boards. 3rd National Forum on Active Learning Classrooms, Minneapolis, MN. Aug. 5-6, 2015.

Matthes, D.J. (2015) Students use their own genome as text for an undergraduate biology course. 5th annual national meeting of the Society for the Advancement of Biology Education Research. Minneapolis, MN. July 17-20, 2015.

Matthes, D.J. (2014) Beginning activities for the exploration of your genome. *Illumina*'s 8th Understand Your Genome meeting. Minneapolis, MN. May 19-20.

Matthes, D.J. (2013) Students use their own genome as text for an undergraduate biology seminar. American Society for Cell Biology. New Orleans, LA. Dec 14-18, 2013.

Matthes, D.J. (2012). Nanoparticle-based cell-targeting therapeutic systems: a golden opportunity for innovation in cell biology. The American Society for Cell Biology (ASCB) Annual Meeting. San Francisco, CA. December 15-18, 2012.

Wick, S.M., Wright, R., Matthes, D.J. (2012). Rising to the Challenge of "Vision and Change in Undergraduate Biology Education". The American Society for Cell Biology (ASCB) Annual Meeting. San Francisco, CA. December 15-18, 2012.

Matthes, D.J., Wick, S.M. and Chatterjea, D. (2012). Scaffolded research proposal projects bring intro biology students into the community of science. American Association of Colleges and Universities STEM education meeting, St. Louis, Missouri. November 10, 2012. [Platform presentation]

Matthes, D.J. (2011). Converting a senior-level cell biology course to a fully active learning format. The American Society for Cell Biology (ASCB) Annual Meeting. Denver, CO. December 3-7, 2011.

Wick, S. and Matthes, D.J. (2011). Achieving true teamwork in student course teams. The American Society for Cell Biology (ASCB) Annual Meeting. Denver, CO. December 3-7, 2011.

Matthes, D.J. and Wick, S. (2011). The importance of moving around: Bringing the collaborative create-apply-evaluate process to the whiteboard. The National Forum on Improving Education in Active Learning Classroom Spaces. Minneapolis, MN. August 4-6, 2011.

Matthes, D.J. (2010). A concept inventory suitable for use in upper division cell biology. The American Society for Cell Biology (ASCB) Annual Meeting. Philadelphia, PA. December 11-15, 2010.

Wick, S. and Matthes, D.J. (2010). Beyond content: achieving student learning outcomes and developmental outcomes in a foundations of biology course for majors. The American Society for Cell Biology (ASCB) Annual Meeting. Philadelphia, PA. December 11-15, 2010.

Matthes, D.J. and Wick, S. (2010). Incorporating student learning and developmental outcomes into foundation undergraduate courses: collaboration and peer review. The Lilly Conference on College and University Teaching. Traverse City, MI. September 23-26, 2010.

Wick, S. and Matthes, D.J. (2010). Incorporating student learning and developmental outcomes into foundation undergraduate courses: written, visual and oral communication within the discipline. The Lilly Conference on College and University Teaching. Traverse City, MI. September 23-26, 2010.

Matthes, D.J. and Chatterjea, D. (2009). Not just in time: Using a preparation / participation scaffold to transform student seminars. American Society for Cell Biology (ASCB), San Diego, CA. December 5-9, 2009.

Matthes, D.J., Brooker, R., Couch, B., Decker, M.D., Wassenberg, D., Wick, S. and Wright, R. (2009). Transforming a foundations course in biology by engaging students as colleagues. Association of College and University Biology Educators (ACUBE), Saint Louis, MO. October 8-10, 2009.

Matthes, D.J. (2008). Integration of bioinformatics experience into a capstone cell biology course. American Society for Cell Biology Annual Meeting, San Francisco, CA. December 12-16, 2008.

Matthes, D.J. and Chatterjea, D. (2008). Addressing the problem of the underprepared student in literature-based seminars. Association of College and University Biology Educators (ACUBE), Hopkinsville, KY. October 16-18, 2008.

Matthes, D.J. (2008). The four-hour introduction to bioinformatics. Association of College and University Biology Educators (ACUBE), Hopkinsville, KY. October 16-18, 2008.

Matthes, D.J. and Khuri, S. (2004). Development of an interdisciplinary (biology / computer science) undergraduate bioinformatics curriculum. California State University Program for Education and Research in Biotechnology (CSUPERB). Pomona, CA. January 16-18, 2004.

Education-Related Invited Presentations

Matthes, D.J. (2018) Culture change and making the best active learning classroom environments. Conference on Active Learning Classrooms (organized by Tengel Aas Sandtrø), Oslo Metropolitan University, Norway. Nov. 29, 2018

Matthes, D.J. (2018) Genomes: Understanding your body's ancestry. University of Minnesota LearningLife course. St. Paul, MN. April 9, July 16 & 30, Nov 26, 2018.

Matthes, D.J. (2017 Team-based learning: A transformative strategy for your courses. Northern Illinois University, DeKalb, IL. Aug. 10, 2017
Matthes, D.J. (2017) Teaching in an active learning classroom. Hamline University, BioTIC institute for secondary school teachers. July 22, 2017.
Matthes, D.J. (2017) Exploring SNPs and Your Personal Ancestry, 23andMe Educators Summit, Mountain View, CA. May 31, 2017
Matthes, D.J. (2017) Now is the time to teach personal genome analysis. Webinar. 23andMe, Mountain View, CA. April 12, 2017
Matthes, D.J. (2017) Genomes: Understanding your body's ancestry. University of Minnesota LearningLife course. St. Paul, MN. March 29, June 5 & June 12, 2017.
Matthes, D.J. (2016) Team-based learning: A transformative strategy for your courses. University of St Thomas. Oct. 27, 2016
Matthes, D.J. (2017) Genomes: Understanding your body's ancestry. University of Minnesota LearningLife course. St. Paul, MN. Dec 7, 2015, Feb 22 & Feb 29, 2016.
Matthes, D.J. (2016) The importance of space and place for learning (January, 29, 2016; University of Minnesota, Twin Cities) [This was followed up with a Blog post on the same topic]
Matthes, D.J. (2015) Genomes: Understanding your body's ancestry. University of Minnesota LearningLife Sampler. St. Paul, MN. Sept. 14, 2015
Matthes, D.J. (2015) From good to great: The transformative effects of team-based learning [lecture] and Active and team-based learning strategies for your classroom [two half-day workshops]. College of Pharmacy, University of Minnesota, Minneapolis, MN. Aug. 12-14, 2015.
Matthes, D.J. (2015) Effective strategies for active learning courses. Biotechnology and pedagogy workshop for secondary school teachers. Hamline University, St. Paul, MN. July 29, 2015.
Matthes, D.J. (2015) Getting beyond pedagogical fads and ineffectual gimmicks: What makes an effective dose of active learning? Northwestern Health Sciences University, Bloomington, MN. May 4, 2015
Matthes, D.J. (2015) Five specific changes you can make to your courses that can double your students' learning gain and raise their grades in subsequent courses. Northwestern Health Sciences University, Bloomington, MN. May 4, 2015
Matthes, D.J. (2015) How to measure learning outcomes that matter. University of St. Thomas, St. Paul, MN. March 5, 2015.
Matthes, D.J. (2014) Genome: Understanding the Body's Ancestry. LifeLearning event, University of Minnesota, Dec. 6, 2014.
Matthes, D.J. (2014) Active learning courses as high impact practice. California State University, Dominguez Hills, California. Oct. 24, 2014.
Matthes, D.J. (2014) The transformation of teaching and learning in ALCs: Active learning strategies. California State University, Dominguez Hills. Oct. 24, 2014.
Matthes, D.J. (2014) Two-day active learning workshop. University of St. Thomas, Minneapolis, MN. Aug. 25-26, 2014.
Matthes, D.J. (2014) Foundations style. Workshop on active learning strategies for secondary schoool teachers. University of Minnesota, MN. July 31, 2014.
Matthes, D.J. (2014) Genome: a course where students explore variants in their own genome sequence. University of Minnesota, Minneapolis, MN. Feb. 26, 2014.
Matthes, D.J. (2014) Applying active learning strategies to biology courses in a flipped classroom environment. University of Wisconsin, Stout, Menemonie, WI. Feb. 5, 2014.
Matthes, D.J. (2014) Teaching in UMN ALC spaces. University of St. Thomas, St. Paul, MN. Jan. 23, 2014.
Matthes, D.J. and Wick, S. (2013) The transformation of teaching and learning in active learning classrooms. Macalester College, St Paul, MN. Oct. 2, 2013.

Matthes, D.J. (2012) The transformation of teaching and learning in active learning classrooms. Central Michigan State University, Mount Pleasant, Michigan, March 22, 2013.

Matthes, D.J., Brooker, R., Couch, B., Decker, M.D., Wassenberg, D., Wick, S. and Wright, R. (2009). Stepping away from the podium: transforming biology majors' introduction to the foundations of biology by engaging them as colleagues. American Society for Cell Biology (ASCB), San Diego, CA. December 5-9, 2009.

Matthes, D.J. (2008). Research-based bioinformatics curriculum. Mellon 23 Collaborative Workshop on Student/Faculty Research Models in Computational Biology, Reed College, Portland, Oregon, June 18-20, 2008.

Cell Biology-Related Research Accomplishments

- Co-discovered and named the semaphorin gene family of axon guidance molecules
- Conducted a genetic analysis *Drosophila* semaphorin 2a function by generating and characterizing loss-of-function and gain-of-function phenotypes
- Began functional dissection of the semaphorin domain using P-element mediated germline transformation
- Provided support for the labeled pathways hypothesis of axon guidance and the foundation for future work on inhibitory molecules in neural development.
- Identified first viral semaphorins in vaccinia and variola viruses
- Provided the first demonstration that viral semaphorins are capable of modulating the migration of human leukocytes
- Provided the first evidence that a human semaphorin is capable of acting as a strong chemoattractant for T cells
- Demonstrated that semaphorins are regionally expressed within the mouse thymus and are positioned to serve as guidance molecules during thymic development.

Cell Biology-Related Publications (books, articles, patent)

Jay, K., Mitra, A., Harding, T., Matthes, D.J., and Van Ness, B. (2019) Identification of a *de novo* FOXP1 mutation and incidental discovery of inherited genetic variants contributing to a case of ASD and epilepsy. Submitted to **Molecular Genetics and Genomic Medicine**.

Linder, G.E., Chuntova, P.D., McLelland, B.T., Ano L., Obodo, U.C, Crider, N.J., Matthes, D.J., Garcia-Ojeda, M., Manilay, J.O., and Chatterjea, D. (2013). Semaphorins 4A is dynamically regulated during thymocyte development in mice. **Cellular Immunology** 281(2): 150-158.

Matthes, D.J. Beheshti, S., Chalasani, S. Mayoral, S. (2001) *In situ* analysis of the expression of murine semaphorins 3B and 4A, and plexin-family semaphorin receptors in lymphoid tissues. **The FASEB Journal** 15 (4), A329.

Matthes, D., French, A., Wu. M, and Ruiz, A (1999). Modulation of leukocyte migration by human and viral semaphorins. **The FASEB Journal** 13, A1134. Presented at FASEB 99, Washington, D.C. (April 17-21, 1999)

Goodman, C.S., Kolodkin, A.L., Matthes, D.J., Bentley, D.R., O'Conner, T.O. (Sept 15, 1998). Semaphorin Gene Family. **U.S. Patent** #5,807,826.

Matthes, D.J., Sink, H., Kolodkin, A.L., and Goodman, C.S. (1995). Semaphorin II can function as a selective inhibitor of synaptic arborizations. **Cell** 81 (4), 631-639.

Kolodkin, A.L, Matthes, D.J., and Goodman, C.S. (1993). The semaphorin genes encode a family of transmembrane and secreted growth cone guidance molecules. **Cell** 75 (7), 1389-1399.

Kolodkin, A.L, Matthes, D.J., O'Conner, T., Patel, N.H., Admon, A., Bentley, D., and Goodman, C.S. (1992). Fasciclin IV: sequence, expression, and function in the grasshopper embryo. **Neuron** 9 (5), 831-845.

Cell Biology-Related Presentations at Professional Meetings

Amiri, M. and Matthes D.J. (2002). Human semaphorin 7A is a chemoattractant for T cells migrating in vitro. American Society for Cell Biology. San Francisco, CA. December 14-18, 2002.

Goonewardena, H. and Matthes, D.J. (2002). Human semaphorins 3B and 3F, lost in most small cell lung cancer lines, synergistically induce apoptosis in mouse fibrosarcoma cell line A9. American Society for Cell Biology. San Francisco, CA. Dec. 14-18, 2002.

Amiri, M. and Matthes, D.J. (2002). Human semaphorin SEMA7A is a chemoattractant for migrating T cells in vitro. Western Conference in Immunology. Stanford, CA. July, 2002.

Kandachar, V. and Matthes, D.J. (2002). Flow cytometry using fluorescent *in situ* hybridization signals. Western Conference in Immunology. Stanford, CA. July, 2002.

Chalasani, S., Kandachar, V. and Matthes, D.J. (2001). *In sit*u analysis of expression of murine semaphorins in lymphoid tissues. Microscopy and Microanalysis Meeting. Long Beach, CA. August, 2001.

Matthes, D.J., Beheshti, S., and Chalasani, S. (2001). *In situ* analysis of the expression of murine semaphorins in lymphoid tissues. Federation of American Societies of Experimental Biology 2001. Orlando, FL. March 31-April 4, 2001.

Mayoral, S. and Matthes, D. (2000). Isolation of Drosophila semaphorin 1b. The 2000 National Minority Research Symposium. November 8-11, 2000.

Matthes, D., French, A., Wu, M, and Ruiz, A. (1999). Modulation of leukocyte migration by human and viral semaphorins. Federation of American Societies of Experimental Biology 1999. Washington, D.C. April 17-21, 1999.

Research Funding

NIH-MBRS Sept 1, 1998 - Aug 30, 2005. Federal funding to support the investigation semaphorins as immunomodulatory molecules. (~$100,000/yr)

Exelixis Pharmaceuticals, Inc. July 1, 1996 – June 30, 1998. Private funding to support the investigation of viral semaphorins as immunomodulatory molecules. ($50,000/yr)

Mentoring

- Presented to the Biology Colloquium, Oct 1, 2018
- Presented to the Pre-Genetic Counseling Club, April 16, 2018
- Gave presentations on genetics at U of M and as a career to prospective students from under-represented (in academics) groups at Experience Minnesota, Oct 7, 2017
- Presented to the Pre-Genetic Counseling Club, December 7, 2016
- Presented to Health and Biology Research News student club: “Discovery of Semaphorins”, April 8, 2016
- Worked with a student (MC) for two semesters in a directed reading arrangement guiding him through his bioinformatic analysis of DNA-binding protein PRDM9
- Presented at BioDays event: “Personal Genome Analysis”, April 19, 2016
- Mentor a team of Mayo IMPACT scholars as they carry out research to come up with a hypothesis on a non-genetic cause of bipolar disorder and propose experiments using regenerative medicine-based tools and techniques to test that hypothesis.

* Nominated by the College of Biological Sciences for the John Tate Award for Excellence in Undergraduate Advising, 2013-14.

- Pre-tenure teaching mentor for a new faculty member in bioinformatics (RB) 2014-present
- Consult with U of M faculty on effective integration of active learning strategies into their courses.

- Served as first faculty leader for a 60-student guild to promote community in CBS (2012-2015); cultivate their engagement, sense of belonging, communication skills, awareness of diversity and academic success; hold special office hours every semester on topics of interest to undergraduates in CBS.
- Supervise/mentor undergraduate and graduate teaching associates (5 in AY16/17)
- Supervise/mentor two undergraduates helping with my personal genome analysis seminar and workshop (2013-2016)
- Nature of life faculty (2008-2013; 2018)
- Serve as faculty advisor/co-sponsor to the GCD club (2009-present); lead the GCD undergraduate journal club.
- Presented seminars on "connective research" to GCD club (2011), freshman research (2012), the importance of bioinformatics (2013), path to success in UG research (2015).
- Served as mentor and third reader to 18 undergraduates writing honor theses (2009-15)
- Written letters of recommendation for over 560+ students (1995-2017); 58 in 2018.
- Regularly advise students on writing of personal statements, strategies for finding research positions, thinking through career choices, and finding success more generally
- Served as external advisor for Anthropology doctoral student Andrea Alveshere (2012)
- Served as the mentor for UMN post-doctoral fellow (Ranjana Mitra) seeking academic position (2008)
- Advised ~40 graduate students in the PFF program (2011-12)
- Served as primary advisor to 40 masters level students between 1995 and 2006
- Mentored approximately three M.S. students per year in my laboratory
- Served as primary committee member on ten M.S. thesis committees
- Mentored 12 undergraduates in my laboratory between 1995 and 2006, several for more than one year

Committee Service

BTL Grievance Committee (2018 to present)
BTL Head Search Committee (2017-2018)
CBS Dean's Faculty Consultative Committee (2016-2018)
Executive council, Dept of Biology Teaching and Learning (2016-2018)
Seminar Committee, Dept of Biology Teaching and Learning (2015-2018)
Organizing Committee (name, mission statement, expanded department description, 7.12 document (for tenure, promotion and post-tenure review), Department of Biology Teaching and Learning (2014)
Planning Committee for the 1st Understanding Your Genome symposium at UMN (2013-14)
Biology Program Professional Development Funds Committee (2013)
Biology Program Physiologist Recruitment Committee (2013)
Biology Teaching Professor committee to design promotion document for Program teaching professors (2012-13)
Committee to Strengthen the CBS Core Curriculum (co-wrote report on cell biology courses; 2011-12)
Teaching and Curriculum Committee, Genetics, Cell Biology and Development (2009-13)
Biology Program Steering Committee (2009-14)
Search Committee for Director of Masters of Biotechnology Program (2005-6)
Advisory Board of the Masters of Biotechnology Program (2005-7)
Vice Chair of Biological Sciences, Program Planning Coordinator (2005)
Academic Senate of San Jose State University (2000-2004)
Curriculum and Research Policy Committee of the Academic Senate (2001-2004)
Instruction and Student Affairs Committee of the Academic Senate (2001)
Campus Planning Board (2002)

University Graduate Studies and Research Committee (2001-2002)
College Research Committee, Chair (1996-2000)
Biotechnology and Research Institute (1995-2007)
Biotechnology Initiatives Planning Group (2002)
Biotechnology Enhancement Committee (1998)
Chairperson Review Committee, Biological Sciences (2001-2002)
Graduate and Research Committee, Biological Sciences (1996-2006)
Molecular and Microbiology Area Committee (1995-2007)

Professional Service

Participated in American Association of Colleges and Universities (AAC&U) annual STEM meeting, Atlanta, GA (Nov. 8-10, 2018)
Reviewed STEM curricular proposals for the National Science Foundation (2014)
Editorial Board, Bioscene (Journal of the Association of College and University Educators) (2008-present)
Reviewed grant proposals in genetics, cell biology, biochemistry, and bioinformatics for National Institutes of Health, Minority Biomedical Research Support program (2000-2006)
Reviewed Curricular and Laboratory Infrastructure grant proposals for the National Science Foundation (2002)
Reviewed genetics and bioinformatics book proposals for the MIT Press, Benjamin-Cummings, and WH Freeman.

Community Service

Participated in Academy of Distinguished Teachers (ADT) outreach event: College Readiness Needs, UMN Minneapolis, MN (Nov. 1, 2018)
Judged Clinical and Translational Science Institute (CTSI) poster session, UMN, St Paul MN (Sept. 12, 2018)
Invited guest on the Angela Davis show, Minnesota Public Radio (Dec 18, 2018)
Presented lecture on personal genomics to American Association of University Women (AAUW) (Nov 19, 2018)
Invited guest on the Marianne Combs show, Minnesota Public Radio (Jan 30, 2018)
Presented lecture on personal genomics to American Association of University Women (AAUW) (June 14, 2016)
Organized a DNA Day personal genome analysis symposium at UMN (April 25, 2016)
Member of the Choir Support Committee for the MN Boychoir (2016-present)
Subject of blog post on the use 23andMe data in undergraduate courses (Dec 7, 2015) http://blog.23andme.com/education/preparing-students-for-the-genetics-frontier/
Volunteer to talk with job candidates and visitors to the U of M about teaching in ALCs (2010-present)
Board of Trustees, Sunny Hollow Montessori School (2008-2011)