

David S. Fay
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EDUCATION

1995 Ph.D., Yale University, Molecular Biophysics and Biochemistry
1988 B.S., Tufts University, Chemistry

ACADEMIC POSITIONS

2001–Present Assistant, Associate, Full Professor, Molecular Biology, U. of Wyoming
1997–2001 Postdoctoral Fellow, University of Colorado, Boulder & HHMI
1996–1997 Postdoctoral Fellow, Johns Hopkins University

EXTRAMURAL SUPPORT (2001–present: Total funds as named PI >\$19M)

Pending

2026–2030 **National Institutes of Health (P20 GM103432) (Fay PD/PI)**

- Wyoming IDEA Networks for Biomedical Research Excellence (INBRE-5)
- Total costs: 18,892,420/5 years

Current

2025–2030 **National Institutes of Health (R35 GM136236) (Fay, PI)**

- In vivo regulation of cell trafficking and the extracellular matrix
- Total costs: \$2,853,875/5 years

2020–2026 **National Institutes of Health (P20 GM103432) (Fay PD/PI, 2025–2026; Fay Associate Director, 2020–2024)**

- Wyoming IDEA Networks for Biomedical Research Excellence (INBRE-4)
- Total costs: \$22,979,043/5 years

Previous

2020–2025 **National Institutes of Health (R35 GM136236) (Fay, PI)**

- In vivo regulation of the extracellular matrix
- Total costs: ~\$2,680,870/5 years

2016–2020 **National Institutes of Health (NIH) (GM066868) (Fay, PI)**

- “Characterizing Novel Functions of Conserved NIMA Family Kinases”
- Total costs: \$1,697,343

2017–2020 **National Institutes of Health (NIH) (GM125091) (Fay, PI)**

- “Mechanisms controlling tissue morphogenesis, architecture, and the response to mechanical forces in *C. elegans*”
- Total costs: \$1,363,000

- 2015–2020 National Institutes of Health DRPP (P20 GM103432) (Fay DRPP Director)**
- Wyoming IDEA Networks for Biomedical Research Excellence (INBRE)
 - Director of the Developmental Research Project Program (DRPP)
 - Total costs: ~\$4,817,220/5 years
- 2013–2014 National Institutes of Health/INBRE (P20 GM103432)**
- Total costs: \$29,000
- 2012–2013 National Institutes of Health/INBRE (P20 GM103432)**
- Total costs: \$29,000
- 2011–2011 National Institutes of Health/INBRE (P20 RR016474)**
- Total costs: \$27,000
- 2010–2011 National Institutes of Health (NIH) R01 GM066868-05S2 (Fay, PI)**
- “Developmental Functions of Rb Family Proteins”
 - Total costs: \$72,000
- 2009–2010 National Institutes of Health (NIH) R01 GM066868-05S1 (Fay, PI)**
- “Developmental Functions of Rb Family Proteins”
 - Total costs: \$131,084
- 2004–2010 National Institutes of Health (NIH) R01 GM066868-05 (Fay, PI)**
- “Developmental Functions of Rb Family Proteins”
 - Total costs: \$1,194,000
- 2009–2010 National Institutes of Health/INBRE (P20RR016474)**
- Total costs: \$20,000
- 2005–2008 National Institutes of Health/INBRE (RR016474)**
- “A novel genetic approach for elucidating glycopeptide hormone functions and effectors”
 - Total costs: \$120,000
- 2003–2007 American Cancer Society (ACS) RSG-03-035-01-DDC (Fay, PI)**
- “The Retinoblastoma Protein in *C. elegans*”
 - Total costs: \$799,000

PEER REVIEWED PUBLICATIONS (63 total; 49 senior corresponding author*)

MyNCBI: <https://www.ncbi.nlm.nih.gov/myncbi/david.fay.1/bibliography/public/>

Google: https://scholar.google.com/citations?hl=en&user=hrL1q1oAAAAJ&view_op=list_works&sortby=pubdate

PRIMARY RESEARCH ARTICLES (46 total; 33 senior corresponding author*)

Gabrielle R. Reimann, Philip T. Edeen, Sylvia Conquest, Barth D. Grant, **David S. Fay*** (2026). PIKI-1, a class II phosphatidylinositol 3-kinase, functions in endocytic trafficking. *PLoS Genet.* doi: 10.1371/journal.pgen.1011740. PMID: 41686813

- David S. Fay***, Boopathi Balasubramaniam, Sean M. Harrington, Philip T. Edeen (2026). Integrating endogenous TurboID and data-independent acquisition mass spectrometry for in vivo proximity labeling. *EMBO Journal* 45(2). doi: 10.1038/s44318-025-00660-5. PMID: 41381733
- Owen Funk, Daniel L. Levy*, **David S. Fay*** (2025). Epidermal cell fusion promotes the transition from an embryonic to a larval transcriptome in *C. elegans*. *Development* 152(24). doi: 10.1242/dev.205089. PMID: 41243651
- Shae M. Milne, Philip T. Edeen, **David S. Fay*** (2025). TAT-1, a phosphatidylserine flippase, affects molting and regulates membrane trafficking in the epidermis of *C. elegans*. *Genetics* 229(3). doi: 10.1093/genetics/iyae216. PMID: 39722491
- Shaonil Binti, Philip T. Edeen, and **David S. Fay*** (2024). Loss of the Na⁺/K⁺ cation pump CATP-1 suppresses *nekl*-associated molting defects. *G3* (Bethesda). 2024 Oct 21:jkae244. doi: 10.1093/g3journal/jkae244. PMID: 39428996
- Shaonil Binti, Adison G. Linder, Phillip T. Edeen, and **David S. Fay*** (2024). A conserved protein tyrosine phosphatase, PTPN-22, functions in diverse developmental processes in *C. elegans*. *PLoS Gene.t20.8*. doi: 10.1371/journal.pgen.1011219. 2024 Aug. PMID: 39173071
- Boopathi Balasubramaniam, Irini Topalido, Melissa Kelley, Sarina B. Meadows, Owen Funk, Michael Ailion, and **David S. Fay*** (2023). Effectors of anterior morphogenesis in *C. elegans* embryos. *Biology Open*. Jun 22:bio.059982. doi: 10.1242/bio.059982. PMID: 37163004
- Braveen B. Joseph, Naava Naslavsky, Shaonil Binti, Sylvia Conquest, Lexi Robison, Ge Bai, Rafael O. Homer, Barth D. Grant, Steve Caplan and **David S. Fay*** (2023). Conserved NIMA kinases regulate multiple steps of endocytic trafficking. *PLoS Genet*. doi: 10.1371/journal.pgen.1010741. 2023 April. PMID: 37099601
- Braveen B. Joseph, Philip T. Edeen, Sarina Meadows, Shaonil Binti and **David S. Fay*** (2022). An unexpected role for the conserved ADAM family metalloprotease ADM-2 in *Caenorhabditis elegans* molting. *PLoS Genet*. 18(5):e1010249. doi: 10.1371/journal.pgen.1010249. 2022 May. PMID: 35639786
- Shaonil Binti, Rosa Melinda, Phil Edeen, Sam D. Miller, Braveen B. Joseph, and **David S. Fay*** (2022). A life cycle alteration can correct defects in molting. *Dev. Biol*. 481:143-156. PMID: 35038442
- Stephanie Grimbert, Karina Mastronardi, Ryan Christensen, Christopher Law, K. Zardoui, **David S. Fay***, and Alisa Piekny (2021). Multi-tissue patterning drives anterior morphogenesis of the *C. elegans* embryo. *Dev. Biol*. 471:49-64. PMID: 33309948
- Braveen B. Joseph, Yu Wang, Phil Edeen, Vladimir Lažetić, Barth D. Grant and **David S. Fay*** (2020). Control of clathrin-mediated endocytosis by NIMA family kinases. *PLoS Genetics*. 2020 Feb 18;16(2):e1008633. doi: 10.1371/journal.pgen.1008633. PMID:32069276

Julian Poush, Nicolas A. Blouin, Kristin R. Di Bona, Vladimir Lažetić, and **David S. Fay*** (2018). Regulation of germ cell development by ARI/HHARI family ubiquitin ligases. *Scientific Reports* 2018 Dec 10;8(1):17737. doi: 10.1038/s41598-018-35691-y. PMID: 30531803

Vladimir Lažetić, Braveen B. Joseph, Sarina M. Bernazzani, and **David S. Fay*** (2018). Actin organization and endocytic trafficking are controlled by a network linking NIMA-related kinases to the CDC-42–SID-3/ACK1 pathway *PLoS Genet.* 14(4):e1007313. doi: 10.1371/journal.pgen.1007313. PMID: 29608564.

Braveen B. Joseph, Nicolas A. Blouin, and **David S. Fay*** (2018). Use of a Sibling Subtraction Method (SSM) for Identifying Causal Mutations in *C. elegans* by Whole-Genome Sequencing. *G3: Genes, Genomes, Genetics*, 6, 669–678. PMID: 29237702. Article chosen as issue highlight 2018 and for Spotlight publication for 2019.

Katja K. Dove, Hilary A. Kemp, Kristin Di Bona, Luke J. Milburn, David Camacho, **David S. Fay**, Dana L. Miller, Rachel E Klevit (2017). Two functionally distinct E2/E3 pairs coordinate sequential ubiquitination of a common substrate in *C. elegans* development. *PNAS*, 114, E6576–E6584. PMID: 28739890.

Vladimir Lazetic and **David S. Fay*** (2017). Conserved ankyrin repeat proteins and their NIMA kinase partners regulate extracellular matrix remodeling and intracellular trafficking in *Caenorhabditis elegans*. *Genetics*, 205, 273–293. PMID: 27799278

Melissa Kelley, John Yochem, Michael Krieg, Andrea Calixto, Maxwell G. Heiman, Aleksandra Kuzmanov, Vijaykumar Meli, Martin Chalfie, Miriam B. Goodman, Shai Shaham, Alison Frand, and **David S. Fay*** (2015). FBN-1, a fibrillin-related protein, is required for resistance of the epidermis to mechanical deformation during *C. elegans* embryogenesis. *eLife*, Mar 12;4. <http://elifesciences.org/content/4/e0656>. PMID: 25798732. *F1000 recommended*.

John Yochem, Vladimir Lazetic, Leslie R. Bell, Lihsia Chen, and **David S. Fay*** (2015). *C. elegans* NIMA-related kinases NEKL-2 and NEKL-3 are required for the completion of molting. *Dev. Biol.* 398, 255-266. PMID: 25523392

Aleksandra Kuzmanov, John Yochem and **David S. Fay*** (2014). Analysis of PHA-1 reveals a limited role in pharyngeal development and novel functions in other tissues. *Genetics*, 198, 259–268. PMID: 25009149

Aleksandra Kuzmanov, Evguenia I. Karina, Natalia V. Kirienko, and **David S. Fay*** (2014) The conserved PBAF nucleosome remodeling complex mediates the response to stress in *C. elegans*. *Mol Cell. Biol.* 34, 1121–1135. PMID: 24421384

Stanley R.G. Polley, Aleksandra Kuzmanov, Jujaio Kuang, Jonathan Karpel, Vladimir Lazetic, Evguenia I. Karina, Bethany L. Veo, Aleksandra Kuzmanov, **David S. Fay*** (2014). Implicating SCF complexes in organogenesis in *C. elegans*, *Genetics* 196, 211–223. PMID: 24214340

Stanley R. G. Polley and **David S. Fay*** (2012). A network of genes antagonistic to the LIN-35 retinoblastoma protein of *C. elegans*. *Genetics* 191, 827–843. PMID: 22542970 *F1000 recommended*.

David S. Fay*, Stanley R.G. Polley, Jujaio Kuang, Aleksandra Kuzmanov, James W. Hazel, Kumaran Mani, Bethany L. Veo, and John Yochem (2012). A regulatory module controlling pharyngeal development and function in *C. elegans*. *Genetics* 191, 1367–1380. PMID: 22542967

Michelle Sait, Olga Kamneva, **David S. Fay**, Natalia V. Kirienko, James Polek, Mimi M. Shirasu-Hiza, Naomi L. Ward* (2011). Genomic and Experimental Evidence Suggests that *Verrucomicrobium spinosum* Interacts with Eukaryotes. *Frontiers in Microbiology*, 2, 211. PMID: 22022322

Natalia V. Kirienko and **David S. Fay*** (2010). SLR-2 and JMJC-1 regulate an evolutionarily-conserved stress-response network. *EMBO. J.* 29, 727–739. PMID: 20057358 *F1000 recommended*.

Kumaran Mani and **David S. Fay*** (2009). A Mechanistic Basis for the Coordinated Regulation of Pharyngeal Morphogenesis in *C. elegans* by LIN-35/Rb and UBC-18-ARI-1. *PLoS Genetics*. Vol 5 issue 6, e1000510. PMID: 19521497

Natalia V. Kirienko, John David McEnerney, and **David S. Fay*** (2008). Coordinated regulation of intestinal functions in *C. elegans* by LIN-35/Rb and SLR-2. *PLoS Genetics*. Vol. 4 issue 4, e1000059. PMID: 18437219

Natalia V. Kirienko and **David S. Fay*** (2007). Transcriptome profiling of the *C. elegans* Rb ortholog reveals diverse developmental roles. *Dev. Biol.* 305, 674–684. PMID: 17368442

Saeyoull Cho, Katherine W. Rogers, and **David S. Fay*** (2007). The *C. elegans* glycopeptide hormone receptor ortholog, FSHR-1, regulates germline differentiation and survival. *Curr. Biol.* 17, 203–212. PMID: 1726913 *F1000 recommended*.

Aaron M. Bender, Natalia V. Kirienko, Sara K. Olson, B.S. Jeffery D. Esko, and **David S. Fay*** (2007). *lin-35/Rb* and the CoREST ortholog *spr-1* coordinately regulate vulval morphogenesis and gonad development in *C. elegans*. *Dev. Biol.* 302, 448–462. PMID: 17070797

Xiaohui Qiu and **David S. Fay*** (2006). ARI-1, an RBR family ubiquitin ligase, functions with UBC-18 to regulate pharyngeal development in *C. elegans*. *Dev. Biol.* 291, 239–349. PMID: 16457801

Aaron M. Bender, Orion Wells and **David S. Fay*** (2004). *lin-35/Rb* and *xnp-1/ATR-X* function redundantly to somatic gonad development in *C. elegans*. *Dev. Biol.* 273, 335–349. PMID: 15280233

Mingxue Cui, **David S. Fay** and Min Han* (2004). *lin-35/Rb* cooperates with the SWI/SNF complex to control *Caenorhabditis elegans* larval development. *Genetics* 167, 1177–1185. PMID: 15280233

David S. Fay*, Xiaohui Qiu, Edward Large, Christopher P. Smith, Susan Mango and Bethany L. Johanson (2004). The coordinate regulation of pharyngeal development in *C. elegans* by *lin-35/Rb*, *pha-1*, and *ubc-18*. *Dev. Biol.* 271, 11–25. PMID: 15196946

David S. Fay*, Edward Large, Min Han, and Monica Darland (2003). *lin-35/Rb* and *ubc-18*, an E2 ubiquitin-conjugating enzyme, function redundantly to control pharyngeal morphogenesis in *C. elegans*. *Development* 130, 3319–3330. PMID: 12783801

David S. Fay*, Sean Keenan, and Min Han* (2002). *fzr-1* and *lin-35/Rb* function redundantly to control cell proliferation in *C. elegans* as revealed by a nonbiased synthetic screen. *Genes Dev.* 16, 503–517. PMID: 11850412 *F1000 recommended*.

David S. Fay and Min Han (2000). Mutations in *cye-1*, a *Caenorhabditis elegans* cyclin E homolog, reveal coordination between cell-cycle control and vulval development. *Development* 127, 4049–4059. PMID: 10952902

David S. Fay, Heather M. Stanelly, Min Han and William B. Wood (1999). A *C. elegans* homologue of *hunchback* is required for late stages of development but not early embryonic patterning. *Dev. Biol.* 205, 240–253. PMID: 10748467

David S. Fay, Amy Fluet, Carolyn J. Johnson and Christopher D. Link (1998). *In vivo* aggregation studies of β -amyloid peptide variants. *J. Neurochem.* 71, 1616–1625. PMID: 9751195

Zhaoxia Sun, James Hsiao, **David S. Fay** and David F. Stern (1998). Rad53 FHA domain associated with phosphorylated Rad9 in the DNA damage checkpoint. *Science* 281, 272–274. PMID: 9657725

David S. Fay, Zhaoxia Sun and David Stern (1997). Mutations in *SPK1/RAD53* that specifically abolish checkpoint but not growth-related functions. *Curr. Gen.* 31, 97–105. PMID: 9021124

Zhaoxia Sun, **David S. Fay**, Federica Mariani, Marco Foiani and David F. Stern (1996). Spk1p is regulated by *MEC1*-dependent protein phosphorylation in DNA replication and damage checkpoint pathways. *Genes Dev.* 10, 395–406. PMID: 8600024

Pan Zheng, **David S. Fay**, Janet Burton, Hong Xiao, Jennifer L. Pinkham and David F. Stern. (1993). *SPK1* is an essential S-phase-specific gene of *Saccharomyces cerevisiae* that encodes a nuclear serine/threonine/tyrosine kinase. *Mol. Cell. Biol.* 13, 5829–5842. PMID: 8355715

Vassiliki Karantza, Anjili Maroo, **David Fay** and John Sedivy (1993). Overproduction of Rb protein after the G1/S boundary causes G2 arrest. *Mol. Cell. Biol.* 13, 6640–6652. PMID: 8413260

Ahmad B. Fawzi, **David S. Fay**, Elizabeth A. Murphy, Haya Tamir, Joseph J. Erdos, and John K. Northup (1991). Rhodopsin and the retinal G-protein distinguish among G-protein $\beta\gamma$ subunit forms. *J. Biol. Chem.* 19, 12194–12200. PMID: 1905716

METHODS, TOOLS, REVIEWS, BOOK CHAPTERS (20 total; 19 senior corresponding author*)

Samuel F. Fay, **David S. Fay***, and Vikram E. Chhatre (2021). CRISPRcruncher: A tool for engineering restriction sites into coding regions. *MicroPubl Biol.* 2021 Jan 18;2021. doi: 10.17912/micropub.biology.000343. PMID: 33490886

Vladimir Lažetić and **David S. Fay*** (2017). Molting in *C. elegans*. *Worm*, 6(1):e1330246 PMID:28702275

David S. Fay* (2013). WormBook Methods: Classical Genetic Methods. The *C. elegans* Research Community, WormBook, doi/10.1895/wormbook.1.165.1, <http://www.wormbook.org>. PMID: 24395816

David S. Fay* and Ken Gerow (2013). WormBook Methods: A biologist's guide to statistical thinking and analysis. The *C. elegans* Research Community, WormBook, doi/10.1895/wormbook.1.159.1, <http://www.wormbook.org>. PMID: 23908055 *F1000 recommended*.

David S. Fay* (2013). Cancer Metabolism: Feeding a worm to starve a tumor. *Curr. Biol.* 23, R557–559. PMID: 23845240

Natalia V. Kirienko, Kumaran Mani, and **David S. Fay*** (2010). Cancer Models in *C. elegans*. *Dev. Dyn.* 239, 1413–1448. PMID: 20175192

David S. Fay* (2008). Classic genetics goes high tech. *Nat. Methods.* 5, 863–864. PMID: 18825128

David S. Fay* and John Yochem (2007). The SynMuv genes of *Caenorhabditis elegans* in vulval development and beyond. *Dev. Biol.* 306, 1–9. PMID: 17434473

David S. Fay* (2006). WormBook Methods: Genetic Mapping and Manipulation: **Chapters 1–10**. ed. The *C. elegans* Research Community, WormBook, doi/10.1895/wormbook.1.90.1, <http://www.wormbook.org>. (PubMed lists 10 separate headings, one for each chapter). PMIDs: 18050454–18050463, 18819170.

David S. Fay* (2005). The cell cycle and development: Lessons from *C. elegans*. *Sem. Cell Dev. Biol.* 16, 297–406. PMID: 15840448

David S. Fay and Min Han (2000). The synthetic multivulval genes of *C. elegans*: functional redundancy, Ras-antagonism, and cell fate determination. *Genesis* 26, 279–284. PMID: 10748467

* Corresponding author(s) (2002–present)

RECENT HONORS/AWARDS

- 2026 *Outstanding Research Award* (UW Research office annual award)
- 2025 *Outstanding Research Award* (UW Research office annual award)
- 2025 Nominated for election to Genetics Society of America Board of Directors
- 2023 *Fay-Stark Initiative* (Stark-family donation based lectureship)
- 2021 *Andrew Vanvig Distinguished Faculty Lifetime Achievement Award*
- 2019–2023 National Institutes of Health Dev1 standing member
- 2018 Nominated for election to Genetics Society of America Board of Directors
- 2016 *Agriculture Extension Station Outstanding Senior Researcher Award*
- 2015 *Albany County School District Outstanding Wisdom and Leadership Award*
- 2012 *University of Wyoming Distinguished Graduate Faculty Mentor Award*
- 2006–2008 *National American Cancer Society Ambassador* (Wyoming Representative)

PROFESSIONAL ACTIVITIES AND SERVICE

Highlights and Broader Impacts

- **2025–present** External Advisory Board for NIH T32 Grant UNMC.

- Oversight board for PhD training program at Nebraska Medical Center.
- **2025–present** Chair, External Advisory Committee for Hawaii INBRE.
Oversight committee for P20–NIH INBRE of Hawaii.
 - **2025–present** Director and PI of the Wyoming NIH INBRE grant
Funds from this NIH program project grant promote biomedical research, student training, and infrastructure development throughout the state of Wyoming including the University of Wyoming and Wyoming’s seven community colleges. The Wyoming INBRE also participates in joint programs spanning the western region INBRE states.
 - **2015–2025** Associate Director and Developmental Projects PI, Wyoming NIH INBRE
I oversaw the allocation of INBRE resources to support dozens of faculty research projects, scores of graduate and undergraduate trainees, community college investments, and millions of dollars in research infrastructure at UW. I also took a direct role in mentoring students and junior faculty through a range of programs.
 - **2022–present** Co-founder: <https://helpimascientist.com>
“A resource by scientists who've been in your shoes”. Co-founded with a former undergraduate from my lab (Dr. Katherine Rogers – now a PI at NIH), this website seeks to provide practical advice, insights, ideas, and viewpoints for trainees and scientists at all career stages and from diverse backgrounds.
 - **2006–2015** Director: Molecular and Cellular Life Sciences PhD Program
I organized and established this biomedical-research graduate umbrella program as an Assistant Professor (2002–2006) and served as its director for 10 years, overseeing ~50 faculty participants and ~100 PhD students.
 - **2011–2022** Associate and Senior Editor: Genes, Genomes, Genetics (GSA Journal)
I was a founding Associate Editor for G3 in 2011 and appointed as a Senior Editor in 2018. I stepped down in 2022 due to other time commitments but remain on several Genetics Society of America publication and organizational committees.

External Grant Review Panels

- 2025 NIH F32 Fellowship Review Panel: Cell / Dev. / Bioeng.
- 2024 NIH Director’s New Innovator Award Program (DP2)
- 2024 NIH/CSR Blue Ribbon Advisory Panel (Enquire–Cluster 8): Chair
- 2019–2023 Standing member of NIH Dev1 study section (completed service 6/2023)
- 2018 NIH review panel – NIGMS MIRA grants: Adhoc reviewer
- 2018 Human Frontier Science Program: Adhoc reviewer
- 2018 NIH review panel – The Role of Anonymization: Adhoc reviewer
- 2018 NIH review panel – Dev1 study section: Adhoc reviewer
- 2018 NIH review panel – Developmental Biology AREA grants: Adhoc reviewer
- 2018 NIH review panel – Special Emphasis Panel: Adhoc reviewer
- 2016 Biotechnology and Biological Sciences Research Council – GB: Adhoc reviewer
- 2016 NIH review panel – Special Emphasis Panel: Adhoc reviewer
- 2016 NIH review panel – Dev1 study section: Adhoc reviewer
- 2015 Swiss National Science Foundation: Adhoc reviewer
- 2015 NIH review panel – Cell and Developmental Biology AREA grants: Co-Chair
- 2014 NIH review panel – Cell and Developmental Biology AREA grants: Chair

- 2013 NIH review panel – Dev1 study section: Adhoc reviewer
- 2011 NIH review panel – Developmental Biology AREA grants: Adhoc reviewer
- 2010 NIH review panel – Developmental Biology AREA grants: Adhoc reviewer
- 2007 NIH review panel – Dev1 study section: Adhoc reviewer
- 2006–2011 American Cancer Society – Cell/Development Section: Adhoc reviewer
- 2005 USDA review panel: Adhoc reviewer
- 2005 Research Council of Canada: Adhoc reviewer
- 2004 National Science Foundation: Adhoc reviewer
- 2004 Research Council UK: Adhoc reviewer

Editorial Work

- 2018–2022 Senior Editor: G3: Genes/Genomes/Genetics (Oxford University Press)
- 2011–2018 Associate Editor: G3: Genes/Genomes/Genetics
- 2011–2017 Editorial Board: Worm (Landes Biosciences)
- 2005–2011 Editor: WormBook–Genetics Methods (Genetics Society of America)

Manuscript Reviews

- 2001–present Ad hoc reviewer for Nature Genetics, Nature Reviews, Nature Methods, PNAS, eLife, PLoS Biology, EMBO, Current Biology, Development, Developmental Biology, Genetics, PLoS Genetics, Journal of Cell Science, Genome Biology, Genome Research, BMC Development, BMC Bioinformatics, PLoS One, Cell Cycle, FEBS Letters, etc.

National Scientific Editorial and Oversight Boards

- 2023 Genetic Society of America (GSA) Genetics Editor in Chief, Review Committee
- 2022 Genetic Society of America (GSA) G3 Editor-in-Chief Search Committee
- 2021 Genetic Society of America (GSA) Reviewer Trainee Committee
- 2015 Graduate Program in Biochemistry, Molecular, Cellular and Developmental Biology, U.C. California, Davis, External Reviewer
- 2013–2017 Center of Biomedical Research Excellence (COBRE), Mount Desert Island Biological Laboratory, External Advisor
- 2013–2014 *Problems in Genetics* (Wiley Blackwell), Content consultant
- 2011–present *BiomEditor*, Scientific Advisory Board Member

Overview of Administration and Service at the University of Wyoming

- 2024–present Member of Molecular Biology Standards Committee
- 2023–2024 Chair of the Molecular Biology Faculty-Search Committee
- 2022–2023 Co-Chair of the Molecular Biology Faculty-Search Committee
- 2021 University of Wyoming Life Sciences Restructuring Committee
- 2020 University of Wyoming COVID Research Working Group
- 2020 University of Wyoming /ANR College COVID Laboratory Safety and Policy Board
- 2020 University of Wyoming COVID Government Relations Working Group
- 2019–2021 University of Wyoming Grand Challenges Committee
- 2019–present NIH Wyoming INBRE Associate Director
- 2015–present NIH Wyoming INBRE Director of the Developmental Research Project Program (DRPP) Core
- 2015–2016 Chair of the Molecular Biology Faculty-Search Committee

- 2007–2015 University of Wyoming Graduate School Executive Committee
- 2006–2014 Director of the Molecular and Cellular Life Sciences PhD program
- 2003–2006 Director of the Molecular and Cellular Life Sciences Steering Committee
- 2001–present Dozens of departmental/college/UW-level committees including faculty search, curriculum, graduate education, tenure and promotion, Science Initiative, and PhD student committees etc.

INVITED ORAL PRESENTATIONS

- Columbia University (4/26)
- University of Colorado School of Medicine (12/25)
- Mount Desert Island Biological Laboratory (10/25)
- University of Colorado School of Medicine – Keynote Speaker at Retreat (10/25)
- Cornell University (8/25)
- WYCO Annual *C. elegans* Meeting (6/25)
- University of Arkansas for Biomedical Sciences Medical (3/25)
- University of Nebraska Medical Center (4/24)
- Genetics Society of America – KeynoteTalk (TAGC2024) (3/24)
- University of Hawaii (4/23)
- University of Toronto (2/23)
- NYU School of Medicine (5/22)
- University of Michigan (5/22)
- Rice University (4/22)
- California State University East Bay (4/22)
- University of Minnesota (3/22)
- Front Range Cytoskeletal Meeting (8/21)
- University of Nebraska Medical Center (6/21, 11/22)
- *C. elegans* International Meeting (6/21)
- Rutgers University (11/19)
- University of Colorado Health Sciences (9/19)
- Cornell University (10/18)
- *C. elegans* International Meeting (6/17)
- Genetics Society of America Conference (7/16)
- National Institutes of Health (6/16)
- Colorado State University (12/15)
- University of California, Davis (11/15)
- University of Minnesota (10/15)
- *C. elegans* International Meeting (6/15)
- University of Pennsylvania (9/14)
- University of Maine: Mount Desert Island Biological Laboratory (8/14)
- Society for Developmental Biology International Meeting (6/14)
- University of Washington, Seattle (5/14)
- Society for Developmental Biology Southwest Meeting (3/14)
- *C. elegans* International Meeting (6/13)
- Duke University (1/12)

- *C. elegans* International Meeting (6/11)
- *C. elegans* International Meeting (6/09)
- Dartmouth College (11/08)
- University of Calgary (10/08)
- University of Minnesota (9/08)
- Simon Fraser University (8/08)
- Society for Developmental Biology International Meeting (7/08)
- *C. elegans* International Meeting (6/07)
- National Institutes of Health (12/07)
- University of Maryland, College Park (12/07)
- Canadian Institute for Advanced Research (CIAR), Princeton (8/06)
- University of Illinois, Chicago (4/06)
- University of Wyoming, Dept. of Animal Sciences (11/05)
- Society for Developmental Biology Southwest Meeting (10/05)
- University of California, Davis (9/05)
- University of Colorado Health Sciences (4/05)
- University of Illinois, Urbana (11/04)
- *C. elegans* West Coast Meeting (7/04)
- University of Wyoming, Dept. of Zoo/Phys (12/03)
- ACS National Meeting (11/03)
- University of Colorado Health Sciences (10/02)
- Regional (WY/CO) presentations on behalf of the ACS ~20 (2003–2008)

NATIONAL/INTERNATIONAL MEETING PRESENTATIONS

- WYCO Annual *C. elegans* meeting (6/25)
- Genetics Society of America – Keynote Talk (TAGC2024) (3/24)
- *C. elegans* Development and Cell Biology Meeting (8/22)
- Society for Developmental Biology International Meeting (7/22)
- INBRE Western Conference (6/22)
- *C. elegans* International Meeting (6/21)
- *C. elegans* Skin Biology Topic Meeting (2/21)
- Allied Genetics Conference (4/20)
- *C. elegans* International Meeting (6/19)
- INBRE Western Regional Conference (10/19)
- INBRE Western Regional Conference (10/17)
- *C. elegans* International Meeting (6/17)
- Allied Genetics Conference (7/16)
- INBRE National Conference (6/16)
- *C. elegans* International Meeting (6/15)
- Society for Developmental Biology International Meeting (6/14)
- Society for Developmental Biology Southwest Meeting (3/14)
- *C. elegans* International Meeting (6/13)
- Society for Cell Biology International Meeting (12/11)
- *C. elegans* International Meeting (6/11)

- Society for Developmental Biology International Meeting (8/10)
- *C. elegans* International Meeting (6/09)
- Society for Developmental Biology International Meeting (7/08)
- *C. elegans* International Meeting (6/07)
- CIAR Genetic Networks (8/06)
- *C. elegans* Development Meeting (6/06)
- Society for Developmental Biology Southwest Meeting (10/05)
- *C. elegans* International Meeting (8/05)
- West Coast *C. elegans* Meeting (8/04)
- Society for Developmental Biology International Meeting (7/04)
- The Cell Cycle and Development – Keystone meeting (1/04)
- ACS National Meeting (11/03)
- *C. elegans* International Meeting (6/03)
- West Coast *C. elegans* Meeting (8/02)

COURSES TAUGHT

Classroom

- 2021–present** • Beyond the Bench: Fundamental Skill Sets for Biomedical Researchers
(MOLB 5700)
- 2020** • Special Topics in Molecular Biology (MOLB 4900 Session I)
- 2020** • Special Topics in Molecular Biology (MOLB 4900 Session II)
- 2004–2020** • Cell and Developmental Genetics (MOLB 4450/5450)
- 2005–2020** • MCLS Cornerstone Course (MOLB 5630-02)
- 2005** • Undergraduate Student Seminar (MOLB 4050)
- 2004** • Graduate Student Seminar (MOLB 5050)
- 2003** • Molecular Genetics (MOLB 4440/5440)
- 2002** • Departmental Seminar (MOLB 4051/5051)
- 2002** • Developmental and Molecular Cell Biology (MOLB 5670)
- 2002** • Graduate Student Seminar (MOLB 5050)

Research Based

- Problems in Molecular Biology (MOLB 5010)
- Advanced Problems in Molecular Biology (MOLB 5520)
- Dissertation Research (MOLB 5980)