

Curriculum Vitae

Linda Gay Wordeman

Professor of Physiology & Biophysics
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Education

1987 University of California, Berkeley, Ph.D. Zoology
1982 University of California, Berkeley, B.A.+Honors in Molecular Biology

Professional Experience

2015-present University of Washington, Department of Biology, Seattle, WA Adjunct Professor.
2006-present University of Washington School of Medicine, Department of Physiology and Biophysics, Seattle, WA, Professor.
2000-2006 University of Washington School of Medicine, Department of Physiology and Biophysics. Seattle, WA. Associate Professor.
1994-1999 University of Washington School of Medicine, Department of Physiology and Biophysics. Seattle, WA. Assistant Professor.
1988-1993 University of California, San Francisco Dept. Pharmacology Supervisor: Dr. Tim Mitchison. Identification, biochemical and functional characterization of kinetochore-associated proteins. Postdoctoral Fellow.

Honors and Awards

- Motors in Quarantine "Meet Your Heroes" invited talk 2020
- University of Washington Science in Medicine Lecturer 2018
- Guggenheim Fellow 2009
- University of Washington Science in Medicine Lecturer 2003
- Bank of America - Giannini Postdoctoral Fellowship, 6/91-5/92.
- Helen Hay Whitney Postdoctoral Fellowship, 6/88-5/91.
- National Science Foundation Predoctoral Fellowship, 6/82-5/85.
- Phi Beta Kappa-Alpha Chapter, 1982.
- Departmental Citation in Molecular Biology, UC Berkeley, 6/82.

Teaching Experience

- NeuBeh 501 Molecular and Cellular Neurobiology: Fall 1996 (CONJ 519), 1997, 1998, 1999, 2000, 2001- 2013, 2016.
- PBIO 510 Physiology Seminar (Course Coordinator): Fall 1997, 1998, 1999, 2000.
- PBIO 547 Readings in Cell Physiology: Winter, 1995, 1996, 1997, 1998, 1999.
- CONJ 503 Cellular and Molecular Biology: Spring 1994 (UCONJ 506), 1995, 1996, 1997, 1998, 1999 (CONJ 541), 2000, 2001, 2002, 2003, 2004.
- PBIO 510 Classic Papers in Motility (w/Jo Howard). Spring 2000.
- PBIO 405 (now 505) Human Physiology (Course Coordinator) Fall 2000- Fall 2012.
- PBIO 511 Physiology Seminar Winter 2002.
- H A&S 221 Science for Honors Students II Winter 2002.
- OB 575 Current Concepts in Oral Biology Spring 2002.
- HuBio 565 – Human Reproduction, 2004, 2005, 2006, 2007, 2008.
- Cell Biology 210 – American University of the Caribbean, Sint Maarten, June-July 2006.

- P BIO 558 – Concepts and Mechanisms in Mitosis, Spring 2007.
- MCB 511 – Cell Cycle Control, Spring 2005, 2007.
- BIOL 401 – Advanced Cell Biology, Winter 2008.
- P BIO 506 Human Physiology (Course Coordinator) Winter 2013-2015.
- Lifecycles – UW SOM Reproduction 2016, 2017, 2018, 2019.
- P BIO 376 – Human Physiology in Health and Disease. Winter 2020-present.

Professional Service

University of Washington

- MCB Recruitment Committee, 1996-97
- MCB Training Grant Committee, 1996-1998
- MCB Recruitment and Advising Committee (Chair), 2000-03
- Center for Cell Dynamics Member 2007 – 2016
- MCB Admissions Committee, 2008
- MCB Training Grant Committee, 2001-present
- Scientific Advisory Committee, OSI, 2002-2010
- Biology Dept. Faculty Search, 2014-2015

Departmental

- Departmental Faculty Search, 1996, 200-2001, 2002
- Qualifying Exam Committee (Chair) 1996-1997
- Graduate Student Curriculum Requirements 1998
- Graduate Student Academic Advising 2000
- Crill Award Committee, 2004
- Faculty Senator, 2003-2005
- Lamport Lecture Committee, 2005, 2006, 2015, 2017
- Graduate Program Co-director (w/Fred Rieke), 2005
- Graduate Program Director, 2006-2010
- Departmental Faculty Search (Chair), 2016-2017

Professional

- American Society for Cell Biology
- Society of General Physiologists
- Microscope Society of America
- Biophysical Society
- Faculty of 1000 (Evaluator)
- CDF-2 NIH Study Section Ad hoc member – 2004
- NDT NIH Study Section Regular member – 2005 – present
- NIH MIRA Study Section - 2018
- ASCB Special Interest Subgroup: “Structural Insights into Kinesin Function” Dec. 4, 2004. (Co-Organizer)
- International workshop on Chromosome Segregation and Aneuploidy (Organizing Committee 2007-present)
- ASCB Minisymposium: “Molecular Motors” Dec. 5, 2009. (Co-chair)
- ASCB Governance Committee – 2018 – 2019
- National Institute of Biomedical Imaging and Bioengineering Board of Scientific Counselors - April 2019 – present
- Editorial Board Current Biology 2019-present
- Consultant, Volastra Therapeutics 2019-present

Student Mentoring and Education

• Paula Bucko (w/John Scott)	Pharm. PhD 6/20	
• Wren Wagenbach	2018 (summer) 2020 (summer)	Ingraham High School Intern McGill Undergraduate Research
• James Bishop	2016-2017	UW Undergraduate Research
• Kayla Butler	2015 (summer)	Garfield High School Intern
• Juan-Jesus Vicente	Postdoc.Fellow	UW Physiology & Biophysics
•	Res. Asst. Prof.	UW Physiology & Biophysics
• Allison Cherry (w/Nephi Stella)	Pharm. PhD 6/19	
• Justin Decarreau	Postdoc. Fellow	Now: Imaging Specialist MOES Univ. Washington
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• Sarah Domnitz	PBIO PhD 6/11	
• Michael Zhang (w/Akiko Shimamura)	MCB Ph.D 6/15	
• Dave Williams (w/T. Daniels and M. Regnier)	PBIO PHD 6/12	
• Jason Stumpff	Postdoc. Fellow	Now: Assoc. Professor, Univ. of Vermont, Physiology & Biophysics Dept.
• Jeremy Cooper	PBIO PhD 9/09	
• Kathleen Rankin	PBIO PhD 8/08	

• Ayana Moore	PBIO PhD 5/05
• Marla Feinstein	PBIO MS 5/05
• Yulia Ovechkina	PBIO PhD 8/04
• Ravi Sawhney (w/Jonathan Howard)	MCB PhD 12/01
• Andrew Hunter (w/Jonathan Howard)	PBIO PhD 8/02
• Todd Maney	PBIO PhD 3/01
• Laura Ginkel	PBIO PhD 7/00

Peer-reviewed Publications - most recent 25 of 70

- Horne, EA, Diaz, P, Cimino, PJ, Jung, E, Xu, C, Hamel, E, Wagenbach, M, Kumasaka, D, Wageling, NB, Azorín, DD, Winkler, F, Wordeman, LG, Holland, EC and Stella, N. 2020. A brain-penetrant microtubule-targeting agent that disrupts hallmarks of glioma tumorigenesis. *Neurooncol Adv.* 3:165.
- Rosendo-Pineda MJ, Vicente JJ, Vivas O, Pacheco J, Loza-Huerta A, Sampieri A, Wordeman L, Moreno C, Vaca L. 2020 Phosphorylation of NMDA receptors by cyclin B/CDK1 modulates calcium dynamics and mitosis. *Commun. Biol.* 3 665.
- Bucko, PJ, Garcia, I, Manocha, R, Bhat, A, Wordeman, L and Scott, JD. 2020 Gravin-associated kinase signaling networks coordinate γ -tubulin organization at mitotic spindle poles. *Journal of Biological Chemistry* 295:13784-13797.
- Coombes CE, Saunders HAJ, Mannava AG, Johnson-Schlitz DM, Reid TA, Parmar S, McClellan M, Yan C, Rogers SL, Parrish JZ, Wagenbach M, Wordeman L, Wildonger J, Gardner MK. 2020. Non-enzymatic Activity of the α -Tubulin Acetyltransferase α TAT Limits Synaptic Bouton Growth in Neurons. *Curr. Biol.* 30:610-623.
- Bucko PJ, Lombard CK, Rathbun L, Garcia I, Bhat A, Wordeman L, Smith FD, Maly DJ, Hehnlly H, Scott JD. 2019 Subcellular drug targeting illuminates local kinase action. *Elife.* 8:e52220.
- Wagenbach M, Vicente JJ, Ovechkina Y, Domnitz S, Wordeman L. 2019. Functional characterization of MCAK/Kif2C cancer mutations using high-throughput microscopic analysis. *Mol Biol Cell. Special Issue on Quantitative Cell Biology.* 31:580-588.
- Cherry AE, Vicente JJ, Xu C, Morrison RS, Ong SE, Wordeman L, Stella N. 2019. GPR124 regulates microtubule assembly, mitotic progression, and glioblastoma cell proliferation. *Glia* 67:1558-1570.
- Shen H, Fallas JA, Lynch E, Sheffler W, Parry B, Jannetty N, Decarreau J, Wagenbach M, Vicente JJ, Chen J, Wang L, Dowling Q, Oberdorfer G, Stewart L, Wordeman L, De Yoreo J, Jacobs-Wagner C, Kollman J, Baker D. 2018. De novo design of self-assembling helical protein filaments. *Science* 362:705-709.
- Diaz P, Horne E, Cong X, Hamel E, Wagenbach M, Petrov R, Uhlenbruck B, Haas B, Hothi P, Wordeman L, Gussio R, Stella N. 2018 Modified carbazoles destabilize microtubules and kill glioblastoma multiform cells. *Eur. J. Med. Chem.* 159:74-89.
- Parker AL, Teo WS, Pandzic E, Vicente JJ, McCarroll JA, Wordeman L, Kavallaris M. 2018 β -tubulin carboxy-terminal tails exhibit isotype-specific effects on microtubule dynamics in human gene-edited cells. *Life Sci Alliance.* 1(2):1-16.
- Decarreau J, Wagenbach M, Lynch E, Halpern AR, Vaughan JC, Kollman J, Wordeman L. 2017. The tetrameric kinesin Kif25 suppresses pre-mitotic centrosome separation to establish proper spindle orientation. *Nat Cell Biol.* 19(4):384-390. TOC Cover, CB Dispatch
- Luo R, Chen PW, Wagenbach M, Jian X, Jenkins L, Wordeman L, Randazzo PA. 2016. Direct Functional Interaction of the Kinesin-13 family membrane Kinesin Like Protein 2A (Kif2A) and Arf GAP with GTP-Binding Protein-Like, Ankyrin Repeats and PH domains1 (AGAP1). *J Biol Chem.* 291(49):25761.
- Cherry AE, Haas BR, Naydenov AV, Fung S, Xu C, Swinney K, Wagenbach M, Freeling J, Canton DA, Coy J, Horne EA, Rickman B, Vicente JJ, Scott JD, Ho RJ, Liggitt D, Wordeman L, Stella N. ST-11: A New Brain-Penetrant Microtubule-Destabilizing Agent with Therapeutic Potential for Glioblastoma Multiforme. *Mol Cancer Ther.* 2016 Sep;15(9):2018-29.
- Wordeman L, Decarreau J, Vicente JJ, Wagenbach M. 2016. Divergent microtubule assembly rates after short- versus long-term loss of end-modulating kinesins. *Mol Biol Cell.* 27(8):1300-9. F1000
- Drum BM, Yuan C, Li L, Liu Q, Wordeman L, Santana LF. 2016. Oxidative stress decreases microtubule growth and stability in ventricular myocytes. *J Mol Cell Cardiol.* 93:32-43.

16. Hehnly H, Canton D, Bucko P, Langeberg LK, Ogier L, Gelman I, Santana LF, Wordeman L, Scott JD. 2015. A mitotic kinase scaffold depleted in testicular seminomas impacts spindle orientation in germline stem cells. *ELife* 4:e09384. F1000
17. Burns, KM, V. Sarpe, M. Wagenbach, L. Wordeman and D.C. Schriemer. 2015. HX-MS2 for high performance conformational analysis of complex protein states. *Protein Sci.* 24(8):1313-24.
18. Rey M, Sarpe V, Burns KM, Buse J, Baker CA, van Dijk M, Wordeman L, Bonvin AM, Schriemer DC. 2014. Mass spec studio for integrative structural biology. *Structure.* 2014 Oct 7;22(10):1538-48.
19. Burns KM, Wagenbach M, Wordeman L, Schriemer DC. 2014. Nucleotide exchange in dimeric MCAK induces longitudinal and lateral stress at microtubule ends to support depolymerization. *Structure.* 2014 Aug 5;22(8):1173-83.
20. Ertych N, Stolz A, Stenzinger A, Weichert W, Kaulfuß S, Burfeind P, Aigner A, Wordeman L, Bastians H. 2014. Increased microtubule assembly rates influence chromosomal instability in colorectal cancer cells. *Nat. Cell Biol.* 16(8):779-91.
21. Schumpert B, García MG, Wessel GM, Wordeman L, Hille MB. 2013 Roles for focal adhesion kinase (FAK) in blastomere abscission and vesicle trafficking during cleavage in the sea urchin embryo. *Dev. Dyn.* 130:290-303.
22. Canton, D.A., Keene, C.D., Swinney, K., Langeberg, L.K., Taylor, L., Pelletier, L., Pawson, T., Wordeman, L., Stella, N., and Scott, J.D. 2012 Gravin is a transitory effector of the polo-like kinase 1 during cell division. *Molecular Cell* 48:547-59.
23. Domnitz SB, Wagenbach M, Decarreau J, Wordeman L. 2012 MCAK activity at microtubule tips regulates spindle microtubule length to promote robust kinetochore attachment. *J Cell Biol.* 197:231-7.
24. Siesser PF, Motolese M, Walker MP, Goldfarb D, Gewain K, Yan F, Kulikauskas RM, Chien AJ, Wordeman L, Major MB. 2012. FAM123A Binds to Microtubules and Inhibits the Guanine Nucleotide Exchange Factor ARHGEF2 to Decrease Actomyosin Contractility. *Sci. Signaling* 5:ra64.
25. Stumpff J, Wagenbach M, Franck, A Asbury CL, Wordeman L. 2012 Kif18A and chromokinesins confine centromere movements via microtubule growth suppression and spatial control of kinetochore tension. *Dev. Cell* 22:1017-29. Cover, F1000

Reviews and Book Chapters: Most Recent 10 of over 30

1. Gopalan, J, L Wordeman, JD Scott. 2021. Kinase-anchoring proteins in ciliary signal transduction. *Biochem. J.* In press.
2. Wordeman, L. 2020. Social distancing of microtubule ends increases their assembly rates. *Current Biology.* *Curr. Biol.* 30:R888-R890.
3. Wordeman, L. 2019. GTP-tubulin loves microtubule plus-ends but marries the minus-end. *J. Cell Biol.* 218:2822-2823.
4. Vicente, J.J. and L. Wordeman. 2019. The quantification and regulation of microtubule dynamics in the mitotic spindle. *Curr. Opin. Cell Biol.* 60:36-43.
5. Luo R, Reed CE, Sload JA, Wordeman L, Randazzo PA, Chen PW. 2017. Arf GAPs and molecular motors. *Small GTPases.* 21:1-14.
6. Wordeman L, Decarreau J. 2016. Revisiting Actin's role in early centrosome separation. *Cell Cycle.* 15(2):162-3.
7. Ritter A, Kreis NN, Louwen F, Wordeman L, Yuan J. 2015. Molecular insight into the regulation and function of MCAK. *Crit Rev Biochem Mol Biol.* 51(4):228-45.
8. Vicente JJ and Wordeman L. 2015. Mitosis, Microtubule Dynamics and the Evolution of Kinesins. *Exp. Cell Res. Ed. N. Hirokawa.* 334(1):61-9.
9. Decarreau J, Driver J, Asbury C and Wordeman L. 2014. Rapid measurement of mitotic spindle orientation in cultured Mammalian cells. *Meth. Mol. Biol.* 1136:31-40.
10. Sanhaji M, Friel CT, Wordeman L, Louwen F, Yuan J. 2011. Mitotic centromere-associated kinesin (MCAK): a potential cancer drug target. *Oncotarget.*2(12):935-47.

Invited Oral Presentations - Most recent 24 of 60

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1. Motile and Contractile Systems Gordon Research Conference, July 2021. Greasing the wheels of Congression. Invited speaker. (Bruce Goode, Chair; Trina Schroer, Vice Chair). - Postponed to 2023

2. Motors in Quarantine, January 20, 2021. Invited "Meet your Heroes" talk. (Hosts Anne Straube and Darius Köster).
3. Institut de la Génétique et de la Biologie Moléculaire et Cellulaire Symposium, April 26, 2021. Functional analysis of MCAK/Kif2C cancer mutations and chromosome instability. Integrated Structural Biology Department, IGBMC, Strasbourg, France – Invited Keynote Speaker. (Student Host Robert Fagiewicz).
4. 13th Annual Cell & Developmental Biology Symposium, March 28, 2019 Microtubule dynamics and Chromosome Segregation. Dept. of Molecular & Cell Biology, UC Berkeley – Invited Speaker (Co-Hosts Rebecca Heald, Mathew Welch).
5. EMBO | EMBL Symposium: Microtubules: From Atoms to Complex Systems May 27- 30 2018, "Kinesins at the Crossroads of Microtubule Organization and Assembly" EMBL Heidelberg, Germany – Invited Landmark Lecture.
6. EMBO Workshop: Chromosome Segregation and Aneuploidy "Centrosome separation and the geometry of cell division" June 2016, Galway, Ireland – Invited Speaker.
7. UW-Kobe University Symposium on Cell Signaling, "A Global View of Microtubule Assembly Rates" Sept. 10, 2015 (Co-Host Sandra Bajjalieh, Takashi Matozaki)
8. University of Washington, "Order from chaos: Kinesin motors restrain dynamic microtubules to increase the fidelity of chromosome segregation." April 20, 2015 Biology Dept. (Host Alex Paredez)
9. Children's Cancer Research Institute, "A Link between Tumor Suppressors, Microtubule Dynamics, and Chromosome Instability" Dec. 2, 2015 Sydney, Australia (Host Maria Kavallaris)
10. Vanderbilt University Medical Center, "A Link between Tumor Suppressors, Microtubule Dynamics, and Chromosome Instability" Sept. 30, 2013 Nashville, TN (Host Ryoma Ohi)
11. University of North Carolina, "A Link between Tumor Suppressors, Microtubule Dynamics, and Chromosome Instability" Sept. 24 2013 Chapel Hill, NC (Host Michael Caplow)
12. Institute for Research in Biomedicine Conference: The microtubule cytoskeleton in development and disease, "Microtubule assembly and chromosome instability" March 18-20, 2013, Barcelona, Spain - Invited Speaker
13. Virginia Polytechnic Institute and State University, Feb. 1, 2013. "Finding the Middle Ground: Microtubule length regulation in mitotic spindles" Blacksburg, VA (Host: Daniela Cimini)
14. American Society for Cell Biology Meeting, Special Interest Subgroup "Modulation of microtubule end dynamics by kinesins" Denver, CO 2011 – Invited Speaker
15. Deutsche Gesellschaft Fur Zellbiologie, "Finding the Middle Ground: Control of Chromosome Segregation by Motor Proteins." Potsdam, Germany June 29, 2011 – July 1, 2011 – Invited Speaker.
16. London Research Institute, June 23, 2011 "Finding the Middle Ground: Control of Chromosome Segregation by Motor Proteins." London, UK. (Host Thomas Surrey)
17. Max Planck Institute of Molecular Cell Biology and Genetics, June 20, 2011 "Finding the Middle Ground: Control of Chromosome Segregation by Motor Proteins." Dresden, Germany, (Host Iva Tolic-Norrelykke)
18. University of Washington, Department of Pharmacology, May 10, 2011. "Finding the Middle Ground: Control of Chromosome Segregation by Motor Proteins (Host Sandra Bajjalieh)
19. Oklahoma Medical Research Foundation, Feb. 17, 2011. "Finding the Middle Ground: Control of Chromosome Segregation by Motor Proteins." Oklahoma City, OK, (Host: Dr. Gary Gorbisky).
20. Columbia University, Feb. 7, 2011 "Finding the Middle Ground: Control of Chromosome Segregation by Motor Proteins." New York, NY (Host: Dr. Yinghui Mao).
21. EMBO Workshop: Chromosome Segregation and Aneuploidy, "Kinesin-mediated control of mitotic chromosome congression" June 2010, Edinburgh, Scotland – Invited Speaker
22. EMBO Conference Series: Microtubules: Structure, Regulation and Function. "Catalysis of the microtubule on-rate is the major parameter regulating the depolymerase activity of MCAK" June 2010, Heidelberg, Germany – Invited Speaker
23. American Society for Cell Biology, 2009 Molecular Motors, "Catalysis of the microtubule on-rate is the major parameter regulating the depolymerase activity of MCAK" San Diego, CA – Invited Speaker and Minisymposium co-chair.
24. FASEB Meeting on Spindle Assembly and Function, "The influence of microtubule depolymerizing kinesins on mitotic spindle mechanics" August, 2009, Il Ciocco, Italy – Invited Speaker