

Curriculum Vitae—Jeff Hardin

Date of birth: October 2, 1959 Birthplace: Milwaukee, Wisconsin Citizenship: U.S.

Education and Professional Experience

Undergraduate

1981—B.A. in German; B.S. in Zoology, Michigan State University (Phi Beta Kappa, magna cum laude)

Doctoral

1987 - Ph.D. in Biophysics, University of California-Berkeley

Ph.D. under Drs. Ray Keller and Fred Wilt; project involved analysis of morphogenetic movements during gastrulation in amphibian and echinoderm embryos, using time-lapse Nomarski microscopy, scanning electron microscopy, immunostaining, and mechanical modeling

Postdoctoral

1987-1991: Postdoctoral fellow, Department of Zoology, Duke University

Postdoctoral fellow under Dr. David McClay; project involved the cellular and molecular basis of pattern formation by mesenchymal cells in the sea urchin gastrula, using microsurgery, micromanipulation, cell transplantation, time-lapse Nomarski microscopy, scanning electron microscopy, antibody production, in situ hybridization, standard molecular biology.

Faculty

1991-1997: Assistant Professor of Zoology, University of Wisconsin-Madison

1997-2002: Associate Professor of Zoology, University of Wisconsin-Madison

2003-present: Professor of Zoology, University of Wisconsin-Madison

2008-present: Chair, Department of Zoology, University of Wisconsin-Madison

Principal Investigator of laboratory studying cellular and molecular mechanisms of morphogenesis. Techniques used by the laboratory include four dimensional Nomarski microscopy, laser ablation, low-intensity fluorescence imaging, two-photon excitation and laser scanning confocal microscopy, digital image analysis, micromanipulation, ultrastructural analysis using low-voltage scanning and transmission electron microscopy, production and use of mono- and polyclonal antibodies, standard molecular biology, in situ hybridization, microinjection, anti-sense RNA injections, DNA construct injections, and developmental genetics. We study the molecular mechanisms of morphogenesis, predominantly using the embryonic hypodermis of *C. elegans* as a model system.

2002–present — Faculty Director, Biology Core Curriculum (Biocore)

Biocore was founded in 1967. It is a four-semester undergraduate honors sequence in intermediate/advanced biology, featuring intensive investigation-based laboratory experiences, active learning in lecture courses, and extensive team-based interactions among instructional faculty. Faculty are encouraged to pilot and publish original research on teaching and learning, and students regularly engage in outside service through Biocore Outreach Ambassadors, the Biocore Prairie, and through innovative peer mentoring groups.

Honors

Undergraduate

Phi Beta Kappa, National Merit Scholar, Alumni Distinguished Scholar, Ryder Scholar

Predoctoral

National Science Foundation Fellow, Regents Fellow, Dean's Training Fund awards, 1985-1987

Postdoctoral

Lucille P. Markey Scholar in the Biomedical Sciences, National Institutes of Health Postdoctoral Fellow, Duke University Hargitt Fellow

Awards

1986— Young Investigator Award, First Place, Society for Developmental Biology

1987— Western Regional Meeting of Electron Microscopists and Microbeam Analysts, First Place Award, Biological Sciences

Presidential Student Award, Electron Microscopy Society of America

1991— University of Wisconsin/American Cancer Society research award

1992-99 — NSF Young Investigator Award

1999-2001 --- University of Wisconsin Vilas Associate Award

2009 – University of Wisconsin Kellett Mid-Career Award

2011 — Chancellor's Distinguished Teaching Award

Graduate Training Programs

Cellular and Molecular Biology, Medical Scientist Training Program (M.D./Ph.D. program), Genetics, Cellular and Molecular Pathology, Molecular and Cellular Pharmacology, Biophysics

Professional Societies

American Society for Cell Biology, Society for Developmental Biology, American Association for the Advancement of Science, Genetics Society of America

Symposia/Invited Lectures (recent)

1996 — Invited Speaker, 1st South African International Symposium on Cell & Developmental Biology; Invited speaker, Developmental Biology of the Sea Urchin, Woods Hole; Invited speaker, 2nd Symposium on Integrated Microscopy, Madison, WI

1997 - Invited speaker, Department of Biology, University of California, Santa Cruz

Invited speaker, Department of Genetics, University of Wisconsin-Madison

Invited speaker, Developmental Biology of the Sea Urchin, Woods Hole

1998 - Invited speaker, Hörstadius Symposium, Stockholm

Invited speaker, Sunflower Developmental Genetics Symposium, Overland Park, KS

Invited speaker, Department of Cell Biology, University of Basel, Switzerland

Invited speaker. Fribourg, Switzerland

1999 - Invited speaker, University of Pennsylvania, Philadelphia

Invited speaker, British Society for Developmental Biology, Manchester, England

Invited speaker, University of Wisconsin, Developmental Toxicology

Invited speaker, Duke University, Durham, NC

Invited speaker, International *C.elegans* Meeting, Madison, WI

2000 -Invited speaker, Northwestern University, IL

Invited speaker, American Society for Cell Biology Annual Meeting, San Francisco, CA

Invited speaker, University of Virginia, Charlottesville, VA
Invited Speaker, Anatomy Dept., UW-Madison

2001- Invited speaker, Society for Developmental Biology Annual Meeting, University of Washington, Seattle, WA; Invited speaker, British Society for Cell/Developmental Biology Annual Meeting, Sussex University, UK; Invited speaker, Cell contact and adhesion Gordon Conference; Invited speaker, University of Minnesota, Dept. of Cell, Molecular, and Development Biology; Invited speaker, University of North Carolina, Dept. of Biology; Invited speaker, MAGUK special interest subgroup meeting, Amer. Soc. Cell Biology Annual Meeting, Washington, DC

2002 – Invited speaker, Department of Biology, University of Toronto; Invited speaker, Symposium on "Epithelia in Development and Disease" (University of Duesseldorf)

2003 - Invited Speaker, Developmental Biology Symposium, UCSF; Cell Contact and Cell Adhesion Gordon Conference; Department of Biology, Northwestern University, p120 Special Interest Subgroup meeting, Amer. Soc. Cell Biology, San Francisco

2004 - Invited speaker, Molecular and Cellular Pharmacology Program, UW-Madison; Biological Imaging Symposium, UW-Madison

2005 - Invited speaker, Department of Anatomy and Cell Biology, Univ. of Kansas Medical School
Invited speaker, Department of Biology, Kansas State Univ; Invited Speaker, Cell Contact & Adhesion Gordon Conference

2006 - Plenary speaker, Northwest Regional Developmental Biology Meetings, Friday Harbor, WA; Plenary speaker, 2006 *C. elegans* Topics Meeting, Madison, WI

2007 – Plenary Speaker, International Wound Healing Symposium, Madrid Spain;
Invited speaker, minisymposium on cell motility, American Society for Cell Biology, Washington, DC

2008 –Invited speaker, Department of Molecular Genetics, University of Toronto

2009 – Invited speaker, Department of Biology, Simon Fraser Univ.; invited speaker, Department of Biology, Trinity Western University; invited speaker, Education session speaker, Midwest Regional Developmental Biology Meetings, Iowa City, IA; invited speaker, Cell Contact and Cell Adhesion Gordon Conference; invited speaker, Department of Molecular Genetics and Cell Biology, University of Chicago

2010 –Invited speaker, Department of Anatomy and Cell Biology, Medical College of Wisconsin; Invited speaker, Education session speaker, Northwest Regional Developmental Biology Meetings, Friday Harbor, WA; Invited Speaker, Brisbane Cell and Developmental Biology day, Brisbane, Australia

2011 – Invited speaker, Cell Contact and Cell Adhesion Gordon Conference; invited speaker, Annual Developmental Biology Symposium, University of Minnesota; invited speaker (Pew Scholar), Union University, Jackson, TN

2012 – Invited speaker, Developmental and Stem Cell Biology program, Duke University; invited speaker, Skirball Institute, NYU Medical School; invited speaker, Cell and Developmental Biology program, Vanderbilt Univ.

2013 - Invited speaker, Genetics Department, UW-Madison; Cell and Regenerative Biology department, UW-Madison

2014 – Invited speaker, Department of Pathology and Cell Biology, Emory University

2015 - Invited speaker, Cell Contact and Cell Adhesion Gordon Conference

Publications

Peer-reviewed publications

1. Hardin, J.D. and Cheng, L.Y. (1986). The mechanisms and mechanics of archenteron elongation during sea urchin gastrulation. *Dev. Biol.* **115**, 490-501.
2. Stephens, L., Hardin, J., Keller, R., and Wilt, F. (1986). The effects of aphidicolin on differentiation and morphogenesis in the sea urchin embryo. *Dev. Biol.* **118**, 64-69.
3. Hardin, J.D. (1987). Archenteron elongation in the sea urchin embryo is a microtubule-independent process. *Dev. Biol.* **121**, 253-262.
4. Hardin, J.D. (1987). Disruption of collagen crosslinking during sea urchin morphogenesis. In *Proc. 45th Ann. Meet. Electr. Microsc. Soc. Amer.* (G.W. Bailey, ed.), pp. 786-787. San Francisco, San Francisco Press, Inc.
5. Butler, E., Hardin, J., and Benson, S. (1987). The role of lysyl oxidase and collagen crosslinking during sea urchin development. *Exp. Cell Res.* **173**, 174-182.
6. Hardin, J. and Keller, R. (1988). The behavior and function of bottle cells in gastrulation of *Xenopus laevis*. *Development* **103**, 211-230.
7. Hardin, J. (1988). The role of secondary mesenchyme cells during sea urchin gastrulation studied by laser ablation. *Development* **103**, 317-324.
8. Hardin, J. (1989). Local changes in position and polarized protrusive activity drive cell rearrangement during sea urchin gastrulation. *Dev. Biol.* **136**, 430-445.
9. Hardin, J., and McClay, D. (1990). Target recognition by the archenteron during sea urchin gastrulation. *Dev. Biol.* **142**, 86-102.
10. Hardin, J., Black, S., Coffman, J., and McClay, D. (1992). Commitment along the dorsoventral axis of the sea urchin embryo is altered in response to NiCl₂. *Development*. **116**, 671-685.
11. Armstrong, N., Hardin, J., and McClay, D. (1993). Cell-cell interactions regulate skeleton formation in the sea urchin embryo. *Development* **119**, 833-840.
12. Draper, B.W., Mello, C.C., Bowerman, B., Hardin, J., and Priess, J. (1996). MEX-3 is a KH domain protein that regulates blastomere identity in early *C. elegans* embryos. *Cell* **87**, 205-216.
13. Hardin, J. and Armstrong, N. (1997). Short range cell-cell signals control ectodermal patterning in the oral region of the sea urchin embryo. *Dev. Biol.* **182**, 132-149.
14. Williams-Masson, E., Malik, A., and Hardin, J. (1997). An actin-mediated, two-step mechanism is required for ventral enclosure of the *C. elegans* hypodermis. *Development* **124**, 2889-2901.
15. Benink, H., Wray, G., and Hardin, J. (1997). Archenteron precursors can organize secondary axial structures in the sea urchin embryo. *Development*. **124**, 3461-3470.
16. George, S.E., Simokat, K., Hardin, J., and Chisholm, A.D. (1998) The VAB-1 Eph Receptor Protein Tyrosine Kinase Functions in Epithelial Morphogenesis in *C.elegans*. *Cell* **92**, 633-643.
17. Costa, M., Raich, W., Agbunag, C., Hardin, J. and Priess, J. (1998). A putative catenin-cadherin system mediates morphogenesis of the *C. elegans* embryo. *J. Cell Biol.* **141**, 297-308.

18. Raich, W.B., Moran, A.N., Rothman, J.H., Hardin, J. (1998) Cytokinesis and midzone microtubule organization in *Caenorhabditis elegans* require the kinesin-like protein ZEN-4. *Molec.Biol.Cell* **9**, 2037-2049.
19. Mohler, W.A., Simske, J.S., Williams-Masson, E.M., Hardin, J.D. and White, J.G. (1998). Dynamic and ultrastructure of developmental cell fusion in the *Caenorhabditis elegans* hypodermis. *Curr. Biol.* **8**, 1087-1090.
20. Williams-Masson, E., Heid, P., Lavin, C.A. and Hardin, J. (1998). The cellular mechanism of epithelial rearrangement during morphogenesis of the *C. elegans* dorsal hypodermis. *Dev. Biol.* **204**, 263-276.
21. Kimberly, E.L. and Hardin, J. (1998) Bottle cells are required for the initiation of primary invagination in the sea urchin embryo. *Dev. Biol.* **204**, 235-250.
22. Raich, W.B., Agbunag, C. and Hardin, J.D. (1999) Rapid epithelial-sheet sealing in the *Caenorhabditis elegans* embryo requires cadherin-dependent filopodial priming. *Current Biol.* **9**, 1139-1146.
23. Heid, P.J. and Hardin, J. (1999) Cell Line Analysis: Videomicroscopy Techniques. In: *Methods in Molecular Biology*, Vol 135. pp.323-330. Totowa, NJ, Humana Press, Inc.
24. Heid, P.J., Raich, W.B., Smith, R., Mohler, W.A., Gendreau, S.B., Rothman, J.H., and Hardin, J. (2001). The zinc finger protein DIE-1 is required for late events during epithelial cell rearrangement in *C. elegans*. *Dev. Biol.* **236**, 165-180
25. Koeppen, M., Simske, J.S., Sims, P.A., Firestein, B.L., Hall, D.H., Radice, A.D., Rongo, C. and Hardin, J.D. (2001) AJM-1 is required for the integrity of *C. elegans* adherens junctions and is cooperatively regulated by LET-413 and DLG-1. *Nature Cell Biol.* **3**:983-991.
26. Simske, J.S., Köppen, M., Sims, P.A., Hodgkin, J., and Hardin, J.D. (2003). The cell junction protein VAB-9 regulates adhesion and epidermal morphology in *C. elegans*. *Nature Cell Biol.* **5**:619-625.
27. Pettitt, J., Cox, E.A., Broadbent, I.D., Fleet, A. and Hardin, J. (2003) The *C. elegans* p120 catenin homologue, JAC-1, modulates cadherin-catenin function during epidermal morphogenesis. *J. Cell Biol.* **162**, 15-22.
28. Walston, T., Tuskey, C., Edgar, L., Hawkins, N., Ellis, G., Bowerman, B., Wood, W., and Hardin, J. (2004). Multiple Wnt signaling pathways converge to orient the mitotic spindle in early *C. elegans* embryos. *Dev Cell* **7**, 831-841.
29. Thomas-Virnig, C.L., Sims, P.A., Simske, J.S., and Hardin, J. (2004). The inositol 1,4,5-trisphosphate receptor regulates epidermal cell migration in *Caenorhabditis elegans*. *Curr Biol.* **14**, 1882-7.
30. Sims, P.A., Lockwood, C.A., and Hardin, J. (2005). Integrating light and TEM information with F-TEM images. *Micr. Today* **13**, 16-18.
31. Walston, T., Guo, C., Proenca, R., Wu, M., Herman, M., Hardin, J., and Hedgecock, E. (2006). mig-5/Dsh controls cell fate determination and cell migration in *C. elegans*. *Dev Biol* **298**, 485-97.
32. Lee, J. Y., Marston, D. J., Walston, T., Hardin, J., Halberstadt, A., and Goldstein, B. (2006). Wnt/Frizzled signaling controls *C. elegans* gastrulation by activating actomyosin contractility. *Curr Biol* **16**, 1986-97.
33. Hardin, J., and Illingworth, C. A. (2006). A homologue of *snail* is expressed transiently in subsets of mesenchyme cells in the sea urchin embryo and is down-regulated in axis-deficient embryos. *Dev Dyn* **235**, 3121-31.

34. Phillips, B. T., Kidd, A. R., 3rd, King, R., Hardin, J. and Kimble, J. (2007). Reciprocal asymmetry of SYS-1/b-catenin and POP-1/TCF controls asymmetric divisions in *Caenorhabditis elegans*. *Proc Natl Acad Sci U S A.* **104**, 3231-3236.
35. Sims, P. A., and Hardin, J. D. (2007). Fluorescence-integrated transmission electron microscopy images: integrating fluorescence microscopy with transmission electron microscopy. *Methods Mol Biol* **369**, 291-308.
36. Batchelder EL, Thomas-Virnig CL, Hardin JD, White JG. (2007). Cytokinesis is not controlled by calmodulin or myosin light chain kinase in the *Caenorhabditis elegans* early embryo. *FEBS Letters* **581**, 4337-41.
37. Qadota H, Inoue M, Hikita T, Köppen M, Hardin JD, Amano M, Moerman DG, Kaibuchi K. (2007). Establishment of a tissue-specific RNAi system in *C. elegans*. *Gene* **400**,166-73.
38. Sheffield, M., Loveless, T., Hardin, J., and Pettitt, J. (2007). *C. elegans* Enabled exhibits novel interactions with N-WASP, Abl, and cell-cell junctions during morphogenesis. *Curr. Biol.* **17**, 1791–1796.
39. Stevenson, T.O., Mercer, K., Cox, E.A., Szewczyk, N.J., Conley, C.A., Hardin, J.D., and Benian, G.M. (2007). *unc-94* encodes a tropomodulin in *C. elegans*. *J. Mol. Biol.* **374**, 936-50.
40. Hardin, J., King, R., Thomas-Virnig, C., and Raich, W.B. (2008). Zygotic loss of ZEN-4/MKLP1 results in disruption of epidermal morphogenesis in the *C. elegans* embryo. *Dev. Dyn.* **237**, 830-6.
41. Lockwood, C., Lynch, A., and Hardin, J. (2008). Dynamic analysis identifies novel roles for DLG-1 subdomains in AJM-1 recruitment and LET-413 dependent apical focusing. *J. Cell Sci.* **121**,1477-1487.
42. Ding, M., King, R.S., Berry, E.C., Wang, Y., Hardin, J., and Chisholm, A.D. (2008). The cell signaling adaptor protein EPS-8 is essential for *C. elegans* epidermal elongation and interacts with the ankyrin repeat protein VAB-19. *PLoS ONE* **3**:e3346.
43. Lockwood, C., Zaidel-Bar, R., and Hardin, J. (2008). The *C. elegans* Zonula Occludens ortholog ZOO-1 cooperates with the cadherin-catenin complex to recruit actin during epidermal morphogenesis. *Curr. Biol.* **18**:1333-7.
44. Yamashiro, S., Cox, E.A., Ballie, D.L., Hardin, J. and Ono, S. (2008). Sarcomeric actin organization is synergistically promoted by tropomodulin, ADF/cofilin, AIP1, and profilin in *C. elegans* body wall muscle. *J. Cell Sci* **121**:3867-77
45. King, R.S., Maiden, S.L., Hawkins, N.C., Kidd, A.R., Kimble, J., Hardin, J., and Walston, T.D. (2009). POP-1 asymmetry and morphogenesis defects in *dsh-2* mutant embryos can be rescued by either the DIX or DEP domain of DSH-2. *Dev. Biol.* **328**, 234-44.
46. Hingwing, K., Lee, S., Nykilchuk, L., Walston, T., Hardin, J., and Hawkins, N. (2009). CWN-1 functions with DSH-2 to regulate *C. elegans* asymmetric neuroblast division in a b-catenin independent Wnt pathway. *Dev. Biol.* **328**, 245–25.
47. Giuliani, C., Troglio, F., T., Zucconi, A., Bai, Z., Patel, F.B., Zucconi, A., Malabarba, M.G., Disanza, A., Stradal, T., Cassata, G., Confalonieri, S., Hardin, J., Soto, M., Grant, B., and Scita, G. (2009). Requirements for F-BAR proteins TOCA-1 and TOCA-2 in actin dynamics and membrane trafficking during *C. elegans* oocyte growth and embryonic epidermal morphogenesis. *PLoS Genetics*, **5(10)**: e1000675.

48. Grana, T.M., Cox, E.A., Lynch, A.M., and Hardin, J. (2010). SAX-7/L1CAM and HMR-1/cadherin function redundantly in blastomere compaction and non-muscle myosin accumulation. *Dev. Biol.* **344**:731–744.
49. Kwiatkowski, A.V., Maiden, S.L., Pokutta, S., Choi, H.-J., Benjamin, J.M., Lynch, A.M., Nelson, W.J., Weis, W.I., and Hardin, J. (2010). In vitro and in vivo reconstitution of the cadherin-catenin-actin complex from *Caenorhabditis elegans*. *PNAS* **107**:14591-14596.
50. Zaidel-Bar, R., Joyce, M.J., Lynch, A.M., Witte, K., Audhya, A., and Hardin, J. (2010). The F-BAR domain of SRGP-1 facilitates cell-cell adhesion during *C. elegans* morphogenesis. *J. Cell Biol.* **191**, 761-9.
51. Neukomm, L.J., Frei, A.P., Cabello, J., Kinchen, J.M., Zaidel-Bar, R., Ma, Z., Haney, L.B., Hardin, J., Ravichandran, K.S., Moreno, S., and Hengartner, M.O. (2011). Loss of the RhoGAP SRGP1 promotes the clearance of dead and injured cells in *Caenorhabditis elegans*. *Nature Cell Biol.* **13**,79-86.
52. Ikegami, R., Simokat, K., Zheng, H., Dixon, L., Garriga, G., Hardin, J. and Culotti, J. (2012). Semaphorin and Eph receptor signaling guide a series of cell movements for ventral enclosure in *C. elegans*. *Curr. Biol.* **22**:1–11.
53. Cox-Paulson, E., Walck-Shannon, E., Lynch, A., Yamashiro, S., Zaidel-Bar, R., Celeste C. Eno, C., Ono, S., and Hardin, J. (2012). Tropomodulin protects α -catenin-dependent junctional actin networks under stress during epithelial morphogenesis. *Curr. Biol* **22**:1500-1505.
54. Lynch, A.M., Grana, T., Cox-Paulson, E., Annabelle Couthier, A., Cameron, M., Chin-Sang, I., Pettitt, J., and Hardin, J. (2012). A genome-wide functional screen identifies MAGI-1 as an L1CAM-dependent stabilizer of apical junctions in *C. elegans*. *Curr. Biol.* **22**, 1891–1899
55. Maiden, S.L., Harrison, N., Keegan, J., Cain, B., Lynch, A.M., Pettitt, J., and Hardin, J. (2013). Specific conserved C-terminal amino acids of *Caenorhabditis elegans* HMP-1/ α -catenin modulate F-actin binding independently of vinculin. *J. Biol. Chem.* **288**:5694-706.

Reviews

1. Keller, R. and Hardin, J. (1987). Cell behaviour during active cell rearrangement: evidence and speculations. In *J. Cell Sci. Suppl. 8, Cell Behaviour: Shape, Adhesion, and Motility* (J. Heaysman, A. Middleton, and F. Watt, eds.), pp. 369-393. London, Company of Biologists Limited.
2. Hardin, J. (1990). Context-sensitive cell behaviors during gastrulation. *Sem. Dev. Biol.* **1**, 335-345.
3. McClay, D.R., Armstrong, N.A., and Hardin, J. (1992). Cell interactions regulating pattern formation in the sea urchin embryo. *Development* **1992 Suppl.**, 33-41.
4. Hardin, J. (1994). Local cell-cell interactions and the regulation of gastrulation. *Sem. Dev. Biol.* **5**, 77-84.
5. Hardin, J. (1995). Target recognition by mesenchyme cells in the sea urchin embryo. *Amer. Zool.* **35**, 358-371.
6. Hardin, J. (1996). The cellular basis of sea urchin gastrulation. *Curr. Top. Dev. Biol.* **33**, 159-262.
7. Thomas, C., DeVries, P., Hardin, J., and White, J. (1996). Four-dimensional

- imaging: computer visualization of 3D movements in living specimens. *Science* **273**, 603-607.
8. Hardin, J. (2000) A degrading way to make an organ. *Science* **288**, 2142-2143.
 9. Simske, J.S., and Hardin, J. (2001). Getting into shape: epidermal morphogenesis in *Caenorhabditis elegans* embryos. *Bioessays*, **23**: 12-23.
 10. Cox, E.A. and Hardin, J. (2004) Sticky worms: adhesion complexes in *C. elegans*. *J. Cell Sci.* **117**,1885-97.
 11. Cox, E.A., Tuskey, C. and Hardin, J. (2004) Cell adhesion receptors in *C. elegans*. *J. Cell Sci.* **117**,1867-70.
 12. Hardin, J. and Walston, T. (2004). Models of morphogenesis: the mechanisms and mechanics of cell rearrangement. *Curr. Opin. Genetics & Dev.* **14**, 399-406.
 13. Hardin, J. and Lockwood, C. (2004) Skin tight: cell adhesion in the epidermis of *Caenorhabditis elegans*. *Curr. Opin. Cell Biol.* **16**, 486-492.
 14. Chisholm, A. and Hardin, J. (2005). Epidermal morphogenesis. In *WormBook*, ed. The *C. elegans* Research Community, <http://www.wormbook.org>
 15. Walston, T. D., and Hardin, J. (2006). Wnt-dependent spindle polarization in the early *C. elegans* embryo. *Semin Cell Dev Biol* **17**, 204-13.
 16. Yap, A., Crampton, M.S., and Hardin, J. (2007). Making and breaking contacts: the cellular biology of cadherin regulation. *Curr. Opin. Cell Biol.* **19**,1-7.
 17. Hardin, J. (2008). To thine own self be true: self-fusion in single-celled tubes. *Dev Cell.* **14**, 465-6.
 18. Hardin J, King RS. (2008). The long and the short of Wnt signaling in *C. elegans*. *Curr Opin Genet Dev.* **18**:362-7.
 19. Lynch, A. and Hardin, J. (2009). The assembly of epithelial junctions in *C. elegans*. *Frontiers Biosci.* **14**, 1414-1432.
 20. Hardin, J. (2011). Mechanotransduction: Getting morphogenesis down Pat. *Curr. Biol.* **21**:R309-11.
 21. Schramp, M. and Hardin, J (2011). Basement remodeling: making way for cellular invaders. *Curr. Biol.* **21**:R585-587..
 22. Maiden, S.L. and Hardin, J. (2011). The secret life of α -catenin: moonlighting in morphogenesis. *J. Cell Biol.* **195**:543-552.
 23. Loveless, T. and Hardin, J. (2012). Dynamic regulation of the cadherin-catenin complex in *C. elegans*. *Curr Opinion Cell Biol.* **24**:695-701.
 24. Hardin, J. (2012). An MBoC Favorite: "Cytokinesis and midzone microtubule organization in *Caenorhabditis elegans* require the kinesin-like protein ZEN-4". *Mol. Biol. Cell* **23**:3025.
 25. Walck-Shannon, E. and Hardin, J. (2014). Cell intercalation from top to bottom. *Nature Rev. Mol. Cell. Bio* **15**:34-48.

Book chapters

1. McClay, D.R., Alliegro, M.C., and Hardin, J.D. (1989). Cell interactions as epigenetic signals in morphogenesis of the sea urchin embryo. In "The Cellular and Molecular Biology of Pattern Formation" (ed. D. Stocum). Oxford, Oxford University Press, pp70-87.
2. McClay, D.R., Coffman, J.C., and Hardin, J.D. (1989). Epigenetic signals at gastrulation in the sea urchin. *U.C.L.A. Symp. Mol. Cell. Biol*, **New Series, Vol. 25** (eds. E. Davidson, J. Ruderman, and J. Posakony). New York, Alan R. Liss, pp. 251-255.

3. McClay, D.R., Morrill, J., and Hardin, J. (1991). Archenteron morphogenesis in the sea urchin. In "Cell-Cell Interactions in Early Development" (J. Gerhart, ed.), New York, Alan R. Liss, pp. 15-29.
4. Hardin, J. (1994). The sea urchin embryo. In "Embryos: Color Atlas of Development" (J. Bard, ed.), pp. 37-53. London, Wolfe Publishing.
5. Weng, W., Cheetham, J., Hardin, J., and Venuti, J.M. (2000) *A twist* in sea urchin gastrulation and mesoderm specification. In: "Regulatory Processes in Development" (C.-O. Jacobson, L. Olson, eds) Wenner-Gren International Series, Vol. 76, pp. 153-158. Portland Press, London.
6. Hardin, J., Raich, W.B. and Simske, J.S. (2000) Morphogenesis at single-cell resolution: studying changes in the shape of the embryo in the tradition of Hörstadius. In: "Regulatory Processes in Development" (C.-O. Jacobson, L. Olson, eds) Wenner-Gren International Series, Vol. 76. Portland Press, London.
7. Hardin, J. (2006). Confocal and Multi-Photon Imaging of Living Embryos. In *Handbook of Biological Confocal Microscopy*, 3e (J. Pawley, ed.). New York: Plenum, pp. 746-768.
8. Sims, P., Albrecht, R., Pawley, J.B., Centonze, V., Deerink, T., and Hardin, J. (2006). When Light Microscope Resolution Is Not Enough: Correlational Light Microscope and Electron Microscope. In *Handbook of Biological Confocal Microscopy*, pp. 846-860.
9. Walston, T., and Hardin, J. (2011). Visualizing cell contacts and cell polarity in *Caenorhabditis elegans* embryos. In *Imaging in Developmental Biology: A Laboratory Manual* (J. Sharpe and R.O. Wong, eds). Cold Spring Harbor, NY: Cold Spring Harbor Press, pp. 229-244.
10. Simske, J.S. and Hardin, J. (2011). Claudins in *C. elegans*. *Methods Mol. Biol.* **762**:147-69.
11. Hardin, J. (2011). Imaging embryonic morphogenesis in *C. elegans*. In: Joel H. Rothman and Andrew Singson, editors: *Methods In Cell Biology*, Vol 106, Oxford: Academic Press; 2011, p. 377-412.
12. Hardin, J., Lynch, A., Loveless, T., and Pettitt, J. (2013). Cadherins and their partners in the nematode worm *Caenorhabditis elegans*. In "The Molecular Biology of Cadherins" (ed. F. van Roy). *Prog Mol Biol Transl Sci.* **116**:239-62.

Protocols

1. Walston, T., Hardin, J., 2010. Laser killing of blastomeres in *Caenorhabditis elegans*. *Cold Spring Harb Protoc* 2010, pdb prot5543.
2. Walston, T., Hardin, J., 2010. Analysis of 4D DIC microscopic data to determine cell contacts in *Caenorhabditis elegans* embryos. *Cold Spring Harb Protoc* 2010, pdb prot5542.
3. Walston, T., Hardin, J., 2010. Acquisition of 4D DIC microscopic data to determine cell contacts in *Caenorhabditis elegans* embryos. *Cold Spring Harb Protoc* 2010, pdb prot5541.
4. Walston, T., Hardin, J., 2010. An agar mount for observation of *Caenorhabditis elegans* embryos. *Cold Spring Harb Protoc* 2010, pdb prot5540.

Funding History

Current Support

NIH

R01 GM58038

Project Title: srGAP and the cadherin complex during morphogenesis in *C. elegans*

Dates: 3/1/13-2/28/17

Total costs: \$1,456,500

NIH

#R21 HD072769

Project Title: Structure and regulation of beta-catenin during cell-cell adhesion

Dates: 4/01/12-3/31/14

Total costs: \$405,795

NSF

#IOB 0518081

Project Title: Role of Tropomodulin during Epithelial Morphogenesis in *C. elegans*

Dates: 9/1/09-8/31/13

Total costs: \$350,000

Previous Support

NIH

#R01 GM58038

Project Title: Mechanisms of Junctional Actin Recruitment in *C. elegans*.

Dates: 4/01/08-3/31/13

Total costs: \$1,438,440

NIH

ARRA supplement to #R01 GM58038

Project Title: Mechanisms of Junctional Actin Recruitment in *C. elegans*.

Dates: 9/30/09-8/31/10

Total costs: \$50,240.00

NSF

Project Title: Wnt-dependent Polarization during Cell Rearrangement in the *C. elegans* Embryo

Assignment number: #IOB 0518081

Dates: 9/1/04-8/31/09

Total costs: \$ 390,000

NIH

Supplement to NIH grant #GM58038

Project Title: Development of 4D Imaging Software for Developmental Biologists

Dates: 4/1/05-3/31/07

Total direct costs: \$100,000

NIH

#GM58038

Project Title: Regulation of Epithelial Junctions in *C. elegans*

Dates: 4/1/04-3/31/08

Total costs: \$1,143,153

NSF

Project Title: Maternal Control of Epithelial Motility in the *C. elegans* Embryo

Assignment number: #IBN 0112803

Dates: 9/1/01-8/31/05

Total costs: \$ 390,000

NIH

Assignment number: R01 GM58038

Dates: 8/1/98-7/31/03

Total costs: \$560,000

NIH

Project Title: The Control of Epithelial Sheet Movement in *C. elegans*

Assignment number: R01 GM58038

Dates: 8/1/98-7/31/02

Total costs: \$560,000

NSF

Project Title: Genetic Convergent Extensions in *C. elegans*

Assignment number: #IBN 98-08475

Dates: 7/1/98-6/30/01

Total costs: \$ 360,000

NIH

Project Title: Mechanisms of Epithelial Cell Rearrangement

Assignment number: R01GM53739

Dates: 5/1/96-4/30/00

Total costs: \$269,999

NSF

Project Title: High Quantum Efficiency Confocal Microscope Detector for Reviewing Living Cells
(J. Pawley, PI)

Assignment number: #DBI 97-24515

Dates: 12/1/97-11/30/00

Total costs: \$ 23,496

NSF

Project Title: Molecular Events During Target Recognition

Assignment number: #IBN 95-07151

Dates: 9/1/95-8/31/99

Total costs: \$ 270,000

NSF

Young Investigator Award

Project Title: Cell Rearrangement during Gastrulation

Assignment Number: IBN-9357246

Dates: 9/1/93-8/31/99

Total costs: \$250,000

NSF

Project Title: Target Recognition during Gastrulation

Assignment number: #DCB 92-06872

Dates: 8/1/92-7/31/96

Total costs: \$270,000

Lucille P. Markey Scholar Award in the Biomedical Sciences

Project title: Molecular mechanisms of epithelial morphogenesis in *C. elegans*

Dates: 7/1/90-6/30/97

Total direct costs (FY 1996-97) \$75500

American Cancer Society Institutional Award, 1992

Training

Previous Pre and Postdoctoral Trainees

Tranees	Dates	Previous position/degree	Position/ Degree obtained	Title of project	Subsequent position(s)
Cheetham, Jan	1992-1994	Ph.D., UW-Madison	postdoc	Molecular mechanisms of mesenchyme specification in the sea urchin embryo	Information Consultant Center for Biology Education UW-Madison
Malik, Amy	1994-1995	B.S., Univ. of Michigan	MS (Zoology)	Cellular mechanisms of ventral enclosure in <i>C. elegans</i>	Pulmonologist, New York, NY
Williams-Masson, Ellen	1992-1996	B.S., North Carolina State Univ.	PhD (CMB)	Cellular mechanisms of dorsal intercalation and ventral enclosure in <i>C. elegans</i>	
Raich, Bill	1993-1999	B.S., Swarthmore College	Ph.D. (CMB)	Molecular mechanisms of ventral enclosure in <i>C. elegans</i>	XXXXXX.
Heid, Paul	1996-1999	B.S. Univ. of Iowa	PhD (Biochemistry)	Role of the transcription factor, DIE-1, in dorsal intercalation in the <i>C. elegans</i>	D. Pharm., Univ. of Iowa

				embryo	
Hirsch, Rebecca	1998-1999	PhD, UW-Madison	postdoc	Role of twist in sea urchin development	
Kimberly, Elizabeth	1992-1999	B.S., Williams College	Ph.D. (CMB)	Mechanisms of archenteron morphogenesis in the sea urchin embryo	
Köppen, Matthias	1996-2001	B.S. (equivalent), Univ. of Bonn	Ph.D. (CMB)	Molecular investigation of the DLG-1/AJM-1 complex in the <i>C. elegans</i> embryo	Boehringer Ingelheim, Ulm, Germany
Lindblom, Tim	2000-2001		postdoc	Role of APR-1/APC in the <i>C. elegans</i> embryo	Associate Professor Lyon College
Simske, Jeff	1996-2001	PhD, Stanford Univ.	postdoc	Molecular mechanisms of VAB-9 function in the <i>C. elegans</i> embryo	Assistant Professor Ramelkamp Center, Case Western U.
Thomas, Christina (Virnig)	1999-2003	B.S., North Carolina State Univ.	Ph.D. (Biomolecular Chem)	Role of the IP3 receptor, ITR-1, during morphogenesis in <i>C. elegans</i>	Postdoctoral Fellow Path & Lab Medicine UW - Madison
Simokat, Kristin	1997-2005	B.S., Wesleyan Univ.	PhD (CMB)	Cellular mechanisms underlying neuroblast organization in the <i>C. elegans</i> embryo	Lecturer, Univ. of Idaho
Cox-Paulson, Elizabeth	2001-2006	PhD, Univ. of Illinois	postdoc	Using genomics to screen for interactions with the cadherin complex in <i>C. elegans</i>	Assistant Professor, SUNY Geneseo
Walson, Tim	2001-2006	M.S., Univ. of Wisconsin-Lacrosse	PhD (Genetics)	The role of Dishevelleds during morphogenesis in <i>C. elegans</i>	Associate Professor, Truman State Univ.
Sheffield, Mark	1999-2007	B.S., Kansas State Univ.	PhD (Genetics)	The role of unc-34/Ena during morphogenesis in <i>C. elegans</i>	Scientist Covance, Inc.

Tuskey (Lockwood), Tina	2002-2007	B.S., Univ. of North Carolina	PhD (CMB)	The role of ZOO-1/ZO-1 during morphogenesis in <i>C. elegans</i>	Assistant Professor, Clinical Chemistry, Washington Univ.
Lockwood, Chris	2001-2007	B.S., Western Washington Univ.	PhD (Genetics)	Molecular analysis of DLG-1 function in the <i>C. elegans</i> embryo	Postdoctoral fellow, Biology, Washington Univ.
Grana, Theresa	2004-2008	PhD, Univ. of North Carolina	postdoc	The role of AFD-1/AF-6 in the <i>C. elegans</i> embryo	Assistant Professor, Mary Washington Univ.
King, Ryan	2003-2008	B.S., UW-Madison	PhD (CMB)	The cellular and molecular mechanisms of pattern formation in the epidermis of <i>C. elegans</i>	Postdoc, Univ. of Illinois
Ronen Zaidel-Bar	2006-2010	PhD, Weizmann Institute NIH fellowship	postdoc	Role of srGAP during morphogenesis in <i>C. elegans</i>	Assistant Professor, National University of Singapore
Erica Hall	Dec. 2008-2010	B.S., Univ. of Georgia	M.S. (Biophysics)	Structural evolution of β -catenins in <i>C. elegans</i>	
Allison Lynch	2005-2012	B.S., Univ. of Pittsburgh	PhD (Genetics)	The role of MAGI-1 in cadherin-based adhesion in <i>C. elegans</i>	Assistant Scientist, Univ. of Wisconsin
Maiden, Stephanie	2005-2012	B.S., Univ. Of Missouri-Rolla	PhD (Mol. Cell. Pharm)	Structure-function analysis of a-catenin in the <i>C. elegans</i> embryo	Postdoc, Barry Gumbiner lab, Univ. of Virginia
Mark Schramp	2011-2012	PhD, Univ. of California-Berkeley	postdoc	The role of Tes in vulval morphogenesis	Assistant Professor, Benedictine College, Atchison, KS

Current pre- and postdoctoral trainees

Trainees	Training Period	Previous position/degree	Position/Degree sought	Title of project	Support
Loveless, Tim	2006-present	B.S., Univ. of Montana	PhD (CMB)	Role of FRK-1/Frk in the <i>C. elegans</i> embryo	Previous: Molecular Biosciences Training Grant; current: PI's funding

Elise Walck-Shannon	2010-Present	Truman State University	PhD (Genetics)	Mechanisms of epidermal cell rearrangement in the <i>C. elegans</i> embryo	PI's funding
Bethany Lucas	2010-present	B.S., Univ. of Kansas	Ph.D. (Genetics)	srGAP and epithelial morphogenesis	PI's funding
Shao, Xianqiang	2011-present	M.S., Shanghai Institute for Biological Sciences	Ph.D. (Genetics)	Molecular mechanisms of α -catenin function	PI's funding
Mary Lopez	2012-2014	B.S., Univ. of Hawaii	Ph.D. (Cellular and Molecular Pathology)	Role of p120ctn in morphogenesis	Advanced Opportunities Fellowship
Blake Martin	2014-present	B.S., Univ. of Iowa	Ph.D. (Biophysics)	The role of FARL-11 during epithelial morphogenesis	PI's funding

Undergraduates supervised (last 5 years)

Trainees	Training Period	Title of project	Support
Austin Walsh	2013-2014	Role of subdomains of HMP-2 / β -catenin in morphogenesis	Independent study
Trevor Ho	2012-present	Spectrins and tropomodulin during morphogenesis	Independent study
Jack Keegan	2009-2011	Genetics interactions of the srgp-1/srGAP during <i>C. elegans</i> morphogenesis	Independent study
Brian Cain	2008-2010	Sequencing alleles of hmp-1/ α -catenin	PI's funding
Will Bothfeld	2008-2009	Role of Cdc42 in postembryonic morphogenesis in <i>C. elegans</i>	Hilldale award
Colin Kreple	2006-2008	Genetic enhancers of a weak α -catenin mutant	Honors College award

Teaching Experience and Awards

Courses taught

2013 — Zoology 400 — Issues in Science and Religion

2012 – Chemistry 872 – Biophysics seminar

1992-present — Instructor, Zoology 470, Introduction to Animal Development, Zoology Department, University of Wisconsin-Madison

2002-present — Instructor, Biocore 303, Biology Core Curriculum, University of Wisconsin-Madison

2001 — Instructor, Zoology 965, Seminar in Developmental Biology, University of Wisconsin

1993-2001 — Instructor, Biocore 333, Biology Core Curriculum, University of Wisconsin-Madison
1994 -1996 — Instructor, ILS 150, Ways of Knowing, University of Wisconsin-Madison
1993-1998 — Instructor, Zoology 650, Advanced Developmental Biology
1992-1993 — Co-instructor, Developmental Biology Laboratory, University of Wisconsin
1990—Teaching assistant, Embryology Course, Marine Biological Laboratory, Woods Hole
1983-1986—Teaching assistant in general biology, Biology Department, University of California, Berkeley
1985—Teaching assistant in general chemistry, Chemistry Department, University of California, Berkeley

Teaching Awards/Honors

2011 – Chancellor’s Distinguished Teaching Award, UW-Madison
2009 - University Housing Honored Instructor's Award
2007 – Favorite Instructor Award, UW-Madison Residence Halls
2006-present – DELTA program Teaching Fellows mentor (via Biocore)
2006 – Favorite Instructor Award, UW-Madison Panhellenic Council
1998 — Presenter, Project Kaleidoscope symposium, UW-System Biology team
1997-present — Co-chair, University of Wisconsin System Worldwide Web Biology Initiative (ZooWeb)
1995-1997 — Co-chair, Instructional Technology Task Force, Teaching Academy, University of Wisconsin
1994-1997 — Executive Committee, Teaching Academy, University of Wisconsin
1994 — Founding Fellow, Teaching Academy, University of Wisconsin
1994-present — Honors Fellow, College of Letters and Science, University of Wisconsin-Madison
1993-1994 - Division of Instructional Technology “Eagle”, Teaching Academy Fellow
1993—Lilly Teaching Fellow, University of Wisconsin; National Science Foundation Young Investigator
1992-99 — NSF Young Investigator Award

Teaching Service

2012-14 – Teaching Awards Selection Committee, UW-Madison
2008 – Guest editor, *CBE: Life Science Education*, special issue on developmental biology
2005-2008 - Chair, Institute for Cross-College Biology Education Steering Committee
2004-2005 – Provost’s Task Force on Cross-College Biology Education (Sussman Committee)
2002-present – Editorial Board, *CBE: Life Science Education*, 2002-present;
1999-2005 – Biology Major Steering Committee
1997-1999 — Steering Committee, Biology New Media Center
1997-1998 — Lilly Fellows selection committee
1995-1998 - University Instructional Technology Committee
1999-2000 - Biostar 4 (Cell, Developmental, Neurobiology Building) proposal committee

Teaching Outreach/Presentations

2010 –Invited speaker, Education session speaker, Northwest Regional Developmental Biology Meetings, Friday Harbor, WA; presentation on fluorescence microscopy in Physics 208 honors seminar

2009 – Interview on “Office Hours” (Big Ten Network television show), “Darwin at 200”; Invited speaker, Education session speaker, Midwest Regional Developmental Biology Meetings, Iowa City, IA

2008 – Presenter at "Evolution in the 21st Century" Symposium, Biopharmaceutical Technology Center, Promega Corp.

2007 – UW Center for Humanities panel discussion on Teaching and Evolution

2006 - Panelist, Darwin Day outreach, UW-Madison; UW-Isthmus Society event on Evolution, UW-Madison; Moderator, Isthmus Society event on stem cell research, UW-Madison

2005 – Workshop organizer, "Biology in the 21st Century", UW Teaching and Learning Symposium

Teaching Materials Produced and Distributed

1996 – present — Dynamics of Development web tutorials:

(http://worms.zoology.wisc.edu/embryo_main/embryology_main.html)

Version 2.0: (<http://worms.zoology.wisc.edu/dd2/>)

The Dynamics of Development materials have been used by educators around the world to teach fundamental dynamic concepts in developmental biology. The materials have been used in Eastern Europe, Southeast Asia, throughout North America and Western Europe.

2010 — Contributed figures to Scott Gilbert, *Developmental Biology, 9e* (Sinauer)

2007 — Contributed figures to Scott Gilbert, *Developmental Biology, 8e* (Sinauer)

2002 — Contributed figures to Fred Wilt, *Principles of Developmental Biology* (W.W. Norton & Company)

2002—Contributed movie to Alberts et al. *Essential Cell Biology Interactive*(Garland Publishing, forthcoming)

1999 — Contributed movie to Alberts et al. *Essential Cell Biology Interactive*(Garland Publishing)

2001 — Contributed figures to Klaus Kalthoff, *Analysis of Biological Development* (McGraw-Hill)

1997 — Contributed figures to Scott Gilbert, *Developmental Biology, 5e* (Sinauer)

1996 — Contributed figures to Klaus Kalthoff, *Analysis of Biological Development* (McGraw-Hill)

1995 — Contributed figures to Leland Johnson, *Patterns and Experiments in Developmental Biology, 2e* (Wm. C. Brown)

Teaching publications

Articles

Savage, M.P., Fallon, J.F., and Hardin, J. (2003). Gilbert’s seventh hits all the right notes: A synthesis for everyone. *Dev. Dyn.* 227, 615–616.

Savage, M.P., Fallon, J.F., and Hardin, J. (2003). Teaching the essential principles of development. *Bioessays* 25,301–302.

Hardin J. (2008). Focus: issues in developmental biology education. *CBE Life Sci Educ.* 7:1-2.

Hardin, J. (2008). The missing dimension in developmental biology education. *CBE Life Sci Educ.* 7:13-6.

Books

Hardin, J., Kleinsmith, L., and Bertoni, G. (2011). *Becker's World of the Cell*, 8th ed. San Francisco Benjamin-Cummings.

Becker, W., Kleinsmith, L., and Hardin, J (2009). *The World of the Cell*, 7th ed. San Francisco Benjamin-Cummings.

Becker, W., Kleinsmith, L., and Hardin, J (2006). *The World of the Cell*, 6th ed. San Francisco Benjamin-Cummings.

Becker, W., Kleinsmith, L., and Hardin, J (2003). *The World of the Cell*, 5th ed. San Francisco Benjamin-Cummings.

Teaching grants

2007 – Engage Podcast Award, UW-Madison Division of Information Technology

2005 – Engage Adaptation Award (online quiz development), UW-Madison Division of Information Technology

Training of scientist/educators

Trainees who are currently engaged in academic education

Tranees	Dates	Previous position/degree	Position/ Degree obtained	Current position
Cheetham, Jan	1992-1994	Ph.D., UW-Madison	postdoc	T4 program Division of Information Technology UW-Madison
Lindblom, Tim	2000-2001	Ph.D., Univ. of Georgia	postdoc	Associate Professor Lyon College
Simokat, Kristin	1997-2005	B.S., Wesleyan Univ.	PhD (CMB)	Lecturer, Univ. of Idaho
Cox, Elizabeth	2001-2006	PhD, Univ. of Illinois	postdoc	Assistant Professor, SUNY Geneseo
Walson, Tim	2001-2006	M.S., Univ. of Wisconsin-Lacrosse	PhD (Genetics)	Associate Professor, Truman State Univ.
Grana, Theresa	2004-2008	PhD, Univ. of North Carolina	postdoc	Assistant Professor, Mary Washington Univ.
Schrampp, Mark	2011-2012	Ph.D., Univ. of California-Berkeley	postdoc	Assistant Professor, Benedictine Univ., Atchison, KS

Service Activities (selected recent)Departmental service

2008-present – Department chair

1997 – present — Instructional Program Committee; Computer committee;

2001, 2005, 2007 — Associate Chair, Cell and Developmental Biology subgroup

Campus service

2014 – Search and screen committee, Chair of Genetics

2013 – Chair, Search and screen committee, Dean of Letters & Science, UW-Madison

2012-13 – Ad hoc task force on restructuring of the Biology Major

2012-13 – Teaching Awards Selection Committee, UW-Madison

1993-present - Academic advisor, Biology, Molecular Biology, and Zoology majors

2010 – Introductory Biology Memorandum of Understanding task force

2009 – External reviewer, Dept. of Communicative Disorders review

2008 – Phi Beta Kappa selection committee

2006-present – College of Letters & Science Facilities Planning Committee

2005-2008 - Chair, Institute for Cross-College Biology Education Steering Committee;

2001-2005 - University Academic Planning Committee

2005 - Genetics Graduate Program Admission Committee

2004-2005 – Provost's Task Force on Cross-College Biology Education

1999-2005 – Biology Major Steering Committee

1997-2002 — Organizer, joint *C. elegans* group meetings, University of Wisconsin-Madison

2001 – 2004 — Chair, Developmental Biology focus group, Cellular & Molecular Biology program

1999-2000 - Biostar 4 (Cell, Developmental, Neurobiology Building) proposal committee

1997-1999 — Steering Committee, Biology New Media Center

1997-1998 — Lilly Fellows selection committee

1995-1998 - University Instructional Technology Committee

National/International Service (recent)

Reviewer for *Cell*, *Nature*, *Nature Cell Biology*, *Science*, *PNAS*, *Developmental Cell*, *Development*, *Developmental Biology*, *Current Biology*, *Developmental Dynamics*, *Mechanisms of Development*, *Trends in Genetics*, *Trends in Cell Biology*, *Journal of Cell Science*, *PLoS Genetics*, *Nature Reviews Molecular & Cellular Biology*

2007 - Invited co-chair, Amer. Soc. for Cell Bio. National meetings, minisymposium on cell migration;

2006 - Review committee, postdoctoral awards, Amer. Soc. for Cell Biology; Co-organizer, *C. elegans* Development & Evolution Meetings

2002 — Consultant, State of Kansas COBRE proposal (NIH)

2002 — Local organizing committee, Society for Developmental Biology National Meeting, Madison, WI

Grant Review Panels

SEP, Developmental Biology R15 awards, NIH, Spring 2013;

SEP, Developmental Biology R15 awards, NIH, Fall 2011; CB-P (55) study section, NIH, 2011; ICI Study section, NIH, 2007-2010; DEV-2 Study section, NIH, 2004-5; MDCN1 Study Section, NIH, 2003-05; CDF-5 Study Section, NIH, 2000; Biocomplexity Panel, NSF, 2000; Animal Developmental Mechanisms Panel, NSF, 1995-98, 2005 (ad hoc 1992-present); HED-2 Study Section, NIH, 1998

Editorial Boards

Molecular Biology of the Cell, 2012-present; *Developmental Dynamics*, 2003-present;
CBE: Life Science Education, 2002-present; *Organogenesis*, 2004-present

Outreach

2009 – Interview on “Office Hours” (Big Ten Network television show), “Darwin at 200”

2008 – Presenter at "Evolution in the 21st Century" Symposium, Biopharmaceutical
Technology Center, Promega Corp.

2007 – UW Center for Humanities panel discussion on Teaching and Evolution

2006 - Panelist, Darwin Day outreach, UW-Madison; UW-Isthmus Society event on
Evolution, UW-Madison; Moderator, Isthmus Society event on stem cell research, UW-
Madison