

Jennifer R. Tenlen, Ph.D.

Assistant Professor of Biology

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EDUCATION

- 2000 - 2007 **Ph.D., Molecular and Cellular Biology Program, University of Washington and Fred Hutchinson Cancer Research Center**
Dissertation: "Linking PAR polarity proteins to cell fate regulation: analysis of MEX-5 localization in *Caenorhabditis elegans* embryos"
Supervisor: Dr. James R. Priess.
- 1997 - 1998 **Master in Teaching (Secondary Education), Seattle University**
Thesis: "Does the block schedule improve teachers' feelings of efficacy in the high school classroom?"
Supervisor: Dr. David Marshak.
- 1991 - 1995 **B. S. in Biology with Honors, University of Puget Sound**
cum laude
Thesis, with distinction: "A protocol for starch gel electrophoresis of proteins from the foxglove, *Digitalis purpurea*"
Supervisor: Dr. Elizabeth Kirkpatrick.

PROFESSIONAL APPOINTMENTS

- 2012 - present **Assistant Professor of Biology, Seattle Pacific University, Seattle, WA**
 - BIO 2101: General Biology I
 - BIO 2102: General Biology II
 - BIO 3320: Principles of Development
 - BIO 3325: Genetics
 - BIO 3899: Scientific Literature
 - BIO 4899: Natural Sciences Capstone
- 2010 **Visiting Instructor, Department of Biological Sciences, Fayetteville State University, Fayetteville, NC**
 - BIO 200: Cell Biology
 - BIO 430: Special Topics: Genetic Pathways
- 2007 - 2012 **Postdoctoral Research Fellow, Department of Biology, University of North Carolina-Chapel Hill, Chapel Hill, NC**
 - with Dr. Bob Goldstein

GRANTS

- 2015 - 2016 Principal Investigator, Faculty Research Grant, Seattle Pacific University. Are Blakely Island Deer Inbred? Assessing Genetic Diversity in an Isolated Population of Black-tailed Deer. \$3333.
- 2013 - 2016 Co-Principal Investigator, National Science Foundation TUES phase II. #7325436. Authentic discovery based research in college sciences curricula: Assessing the impacts on student and faculty. \$599,067 (direct plus indirect costs).
- 2008 - 2011 Seeding Postdoctoral Innovators in Research and Education (SPIRE) Postdoctoral Fellowship. University of North Carolina at Chapel Hill. National Institutes of Health grant K12GM000678.
- 2007 - 2008 Developmental Biology Postdoctoral Training Grant. University of North Carolina at Chapel Hill. National Institutes of Health grant T32HD046369-03.
- 2003 - 2006 Developmental Biology Predoctoral Training Grant. University of Washington. National Institutes of Health grant 5T32HDO7183

AWARDS

- 2015 Junior Faculty Servant Award, Seattle Pacific University
- 2011 Postdoctoral Scholar Award for Excellence in Service, University of North Carolina at Chapel Hill
- 2009 Postdoctoral Scholar Award for Excellence in Mentoring, University of North Carolina at Chapel Hill
- 2006 Best Student Oral Presentation, 2006 Northwest Developmental Biology Meeting, Friday Harbor, WA
- 1999 Immunex Crystal Apple Award for Outstanding Teachers
- 1995 - 1996 Rotary Foundation Ambassadorial Scholar to Australia

PUBLICATIONS***Peer-Reviewed Papers***

- Tenlen, J.R.**, McCaskill, S* and Goldstein, B. (2013). RNA interference can be used to disrupt gene function in tardigrades. *Development Genes Evolution* 223, 171-181. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3600081/>
- Tenlen, J.R.**, Molk, J.N., London, N.L., Page, B.D. and Priess, J.R. (2008). MEX-5 asymmetry in 1-cell *C. elegans* embryos requires PAR-4- and PAR-1-dependent phosphorylation. *Development* 135, 3665-3675. <http://dx.doi.org/10.1242/dev.027060>
- Rasmussen, J.P., English, K., **Tenlen, J.R.** and Priess, J.R. (2008). Notch signaling and morphogenesis of single-cell tubes in the *C. elegans* digestive tract. *Developmental Cell* 14, 559-569. <http://dx.doi.org/10.1016/j.devcel.2008.01.019>
- Le, T.N., Blomstedt, C.K., Kuang, J., **Tenlen, J.**, Gaff, D.F., Hamill, J.D. and Neale, A.D. (2007). Desiccation-intolerance specific gene expression in leaf tissue of the

* *Denotes undergraduate student researcher*

resurrection plant *Sporobolus stapfianus*. *Functional Plant Biology* 34, 589-600.
<http://dx.doi.org/10.1071/FP06231>

Page, B.D., Diede, S.J., **Tenlen, J.R.**, and Ferguson, E.L. (2007). EEL-1, a Hect E3 ubiquitin ligase, controls asymmetry and persistence of the SKN-1 transcription factor in the early *C. elegans* embryo. *Development* 134, 2303-2314.
<http://dev.biologists.org/content/134/12/2303.short>

Tenlen, J.R.[†], Schisa, J.A.[†], Diede, S.J. and Page, B.D. (2006). Reduced dosage of *pos-1* suppresses Mex mutants and reveals complex interactions among CCH zinc-finger proteins during *Caenorhabditis elegans* embryogenesis. *Genetics* 174, 1933-1945.
[†] These authors contributed equally to this work.
<http://dx.doi.org/10.1534/genetics.105.052621>

Park, F.D., **Tenlen, J.R.** and Priess, J.R. (2004). *C. elegans* MOM-5/Frizzled functions in MOM-2/Wnt-independent cell polarity and is localized asymmetrically prior to cell division. *Current Biology* 14, 2252-2258. <http://dx.doi.org/10.1016/j.cub.2004.12.019>

Invited review

Tenlen, J.R. (2011) "Water bears." *World Book Online InfoFinder*. World Book.

PRESENTATIONS

Tenlen, J., Boothby, T., Smith, F. and Goldstein, B. (August 2015). Techniques and Resources for the Molecular, Cell Biological and Genetic Analysis of Tardigrades. Poster presentation. Inaugural 2015 Meeting, Pan-American Society for Evolutionary Developmental Biology, Berkeley, CA.

Tenlen, J. and Murphy, K. (June 2015). Guiding Education through Novel Investigation (GENI): Facilitating authentic research in the teaching lab. Mini-workshop presentation. 37th Annual Association for Biology Laboratory Education Meeting, Boston, MA.

Ryan, D.Z.* and **Tenlen, J.** (May 2015). Functional analysis of a conserved germline gene in tardigrades. Poster presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Ouellette, Q.* and **Tenlen, J.** (May 2015). Identification of *mex-5* homologues in divergent nematodes. Poster presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Nielsen, P.* and **Tenlen, J.** (May 2015). Identifying Homologs of the Conserved Cell-Signaling Proteins Delta and Notch in Tardigrades. Poster presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Lord., C.* and **Tenlen, J.** (May 2015). Identifying a Homolog of the Conserved Germline Development Protein, GLD-1, in Tardigrades. Poster presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Burns, J.*, Griesbach, L.*, Eissmann, T.*, Heindel, M.*, **Tenlen, J.** and Wood, D. (May 2015).

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Uncovering Novel Genetic Pathways in *Caenorhabditis elegans*. Oral presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Tenlen, J. (May 2015). Evolution of of a developmental biologist. Invited lecture. Women in Science course, Seattle Pacific University, Seattle, WA.

Tenlen, J. (March 2015). Evolution of germline development: lessons from water bears. Keynote presentation. Washington Junior Science and Humanities Symposium, Seattle, WA.

Lord, C. *, Nielsen, P. *, and **Tenlen, J.** (November 2014). Identifying homologs of conserved germline development proteins in tardigrades. Poster presentation. Murdock Charitable Trust Undergraduate Research Conference, Vancouver, WA.

Tenlen, J.R., McFarland, B. and Wood, D. (October 2014). Guiding education using novel investigation in the teaching lab. Invited lecture. 2014 American Society for Microbiology Northwest Branch Meeting.

Tenlen, J.R., Chen, D., Heppert, J., Lumpe, A. and Wood, D. (July 2014). Developing a reverse genetic screen in *Caenorhabditis elegans* as a model for collaborative, authentic research in college science courses. Poster presentation. Society for Developmental Biology 73rd Annual Meeting, Seattle, WA.

Gephart, J.* and **Tenlen, J.** (May 2014). Discovering a Piwi-like gene in tardigrades. Poster presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Anderson, M. *, Hawkins, R. *, Kenyon, R. *, **Tenlen, J.** and Wood, D. (May 2014). Suspect genes involved in Wnt pathway signaling and intestinal cell fate in *C. elegans*. Oral presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Tenlen, J. (April 2014). Evolution of germline development: lessons from water bears. Invited lecture. Women in Science course, Seattle Pacific University, Seattle, WA.

Kurita, M. *, Valdovinos, D. *, **Tenlen, J.**, and Wood, D. (May 2013). Uncovering novel genetic pathways in the nematode *C. elegans*. Poster presentation. Erickson Undergraduate Research Conference, Seattle, WA.

Tenlen, J. (March 2013). Development of the tardigrade *Hypsibius dujardini* as a new model system for evo-devo studies. Oral presentation. 2013 Northwest Society for Developmental Biology Conference. Friday Harbor, WA.

Tenlen, J.R., Goldstein, B. (January 2012). Disrupting gene function in tardigrades by RNA interference. Poster presentation. 2012 Society for Integrative and Comparative Biology Annual Meeting, Charleston, SC.

Smith, F.W., **Tenlen, J.R.**, Goldstein, B., Jockusch, E.L. (January 2012). Development of *Hypsibius dujardini* (Tardigrada) lobopodal appendages and the origin of the arthropod appendage. Oral presentation. 2012 Society for Integrative and Comparative Biology Annual Meeting, Charleston, SC.

Tenlen, J. and Goldstein, B. (June 2011). Efficacy of RNA interference in the tardigrade *Hypsibius dujardini*. Poster presentation. 2011 National IRACDA Conference, Houston, TX.

McCaskill, S. *, **Tenlen, J.** and Goldstein, B. (November 2010). Using RNA interference to study development in the tardigrade, *Hypsibius dujardini*. Poster presentation. 10th Annual Biomedical Research Conference for Minority Students, Charlotte, NC, November 2010.

Tenlen, J. and Goldstein, B. (May 2010). Efficacy of RNA interference in the tardigrade *Hypsibius dujardini*. Poster presentation. Southeastern Regional Society for Developmental Biology Annual Meeting, Athens, GA.

Tenlen, J. and Goldstein, B. (July 2009). Conservation of Mago nashi function in the tardigrade *Hypsibius dujardini*. Poster presentation. Society for Developmental Biology 68th Annual Meeting, San Francisco, CA.

Tenlen, J.R. and Goldstein, B. (November 2008). Competition between cells to enter the germline?" Oral presentation. Developmental Biology Symposium, University of North Carolina at Chapel Hill, Chapel Hill, NC.

Tenlen, J.R. (March 2007). A place for everything and everything in its place: localization of the cell-fate regulator MEX-5 in nematode embryos. Invited lecture. Thompson Hall Science and Mathematics Seminar Series, University of Puget Sound, Tacoma, WA.

Tenlen, J.R. and Priess, J.R. (March 2006). *C. elegans* Ser/Thr kinases PAR-1 and PAR-4 have multiple roles in MEX-5 asymmetry." Oral presentation. 2006 Northwest Developmental Biology Meeting, Friday Harbor, WA.

Tenlen, J.R. and Priess, J. R. (September 2005). Linking PAR polarity proteins to cell fate determination: analysis of MEX-5 localization in *C. elegans* embryos. Poster presentation. 15th International Developmental Biology Society Congress, Sydney, Australia.

Tenlen, J., Munro, E., and Priess, J. (June 2005). A C-terminal Ser residue is necessary for MEX-5 localization in early *C. elegans* embryos. Poster presentation. 15th International *C. elegans* Meeting, UCLA, Los Angeles, CA.

Tenlen, J.R. (September 2000). Teaching Bioethics in the Science Classroom. Invited workshop presentation. Western Washington Catholic Educators Conference, Seattle, WA.

RELATED WORK EXPERIENCE

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| 2007 - 2012 | Academic Coach , NIH-funded Initiative for Maximizing Student Diversity training program, University of North Carolina at Chapel Hill, Chapel Hill, NC |
| 2002 - 2006 | Teaching assistant and Mentor , Science Education Partnership Program, Fred Hutchinson Cancer Research Center, Seattle, WA |
| 2002 | Teaching Assistant , Dept. of Biology, University of Washington, Seattle, WA |
| 1999 - 2000 | Biology teacher , John F. Kennedy High School, Burien, WA |
| 1998 - 1999 | Science teacher , Franklin High School, Seattle, WA |
| 1997 | Research Technician I , Molecular Cytogenetics, Fred Hutchinson Cancer Research Center |

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1996 **Postgraduate Honours Research**, Department of Genetics and Development, Monash University, Melbourne, Australia

SERVICE

2015 - present Reviewer, Genetics Society of America Peer-Reviewed Education Portal
April 2015 Panelist, Biological and Social Deconstructions of Race, Seattle Pacific University Biology Club
April 2015 Judge, Northwest Association for Biomedical Research Middle School Essay Contest
2014 - present Member, Seattle Pacific University Curriculum Committee
2014 Member, Seattle Pacific University Chaplain Search Committee
2014 Member, Seattle Pacific University Department of Biology Laboratory Coordinator Search Committee
2013 - present Member, Biotechnology Academy Steering Committee, Ballard High School
2013 - present Member, Seattle Pacific University Erickson Undergraduate Research Conference Committee
2012 - present *Ad hoc* grant proposal reviewer, National Science Foundation
2012 - present Manuscript reviewer: PLoS ONE
2008 - present Judge, American Society for Human Genetics DNA Day Essay Contest
2005 - present Member, Speakers' Bureau, Northwest Association for Biomedical Research

PROFESSIONAL ASSOCIATIONS

2014 - present Pan-American Society for Evolutionary Developmental Biology
2011 - present Society for Integrative and Comparative Biology
2005 - present Genetics Society of America
2005 - present Society for Developmental Biology