

Dr. Billie J. Swalla
Professor of Biology
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Current Research Interests

Molecular Analysis of Invertebrate Evolution and Development

Marine Invertebrate Genomics

Evolution of the Chordate Body Plan

Phylogeny of Hemichordates and Tunicates

Education and Employment

2009 - present Professor of Biology; Biology Department, University of Washington

2019 - 2020 Salish Sea Science Advisory Board

2013 - 2020 Scientific Advisory Board, SeaDoc Society, Orcas Island, WA

2012 - 2020 Scientific Advisory Board, Tetiaroa Society, Tetiaroa, Tahiti

2014 - 2019 Director; Friday Harbor Laboratories, University of Washington

2012 - 2014 Interim Director; Friday Harbor Laboratories, University of Washington

2001 - 2009 Associate Professor; Biology Department, University of Washington

2008 Visiting Scientist, California Institute of Technology, Pasadena, CA

2006 Visiting Scientist, Smithsonian Marine Station, Fort Pierce, FL

1999 - 2000 Assistant Professor; Zoology Department, University of Washington

Teaching Experience - Quarter Courses

Developmental Biology	BIOL 411	120 students
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Introductory Biology	BIOL 202 (with 3 hr labs)	185 students
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Evolution	BIOL 354	120 students
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Evolution and Development	BIOL 415	60 students
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Evolution and Development of the Metazoans at FHL	BIOL 533	12 students
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Comparative Invertebrate Embryology at FHL	BIOL 536	12 students
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1997 - 1999 Assistant Professor; Department of Biology, Pennsylvania State University

Teaching Experience - Semester Courses

Molecular and Cellular Biology (Honors Section)	30 students
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Developmental Genetics	20 students
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1994-1997 Assistant Professor; Biology Department, Vanderbilt University, Nashville, TN

Teaching Experience - Semester Courses

Biological Sciences 110B (with 3 hr labs)	300 students
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Developmental Biology	20-40 students
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1991-1994 Assistant Research Developmental Biologist

Bodega Marine Laboratory, University of California - Davis, Bodega Bay, CA.

1989-1992 NIH Post-Doctoral Fellow

1988-1989 AAUW Sarah Berliner Post-Doctoral Fellow; Lab of Dr. William R. Jeffery – Characterization of mRNAs and Proteins Localized in the Ascidian Egg Myoplasm.

Center for Developmental Biology, University of Texas - Austin, TX

1988 Ph.D. - Biology Department, University of Iowa, Iowa City, IA

Title: The Effect of Extracellular Matrix on Chick Wing Bud Mesenchyme Chondrogenesis *in vitro*. Laboratory of Dr. Michael Solursh.

1984-86 NIH Cellular and Molecular Biology Trainee, University of Iowa.

1983, 1985, 1987 Summer Embryology Course, Marine Biological Lab, Woods Hole, Ma.

1983 M.S. - Zoology Department, University of Iowa, Iowa City, IA

Title: Epithelial Enhancement of Connective Tissue Types in Explanted Somites.

1980 B.S. with honors in Zoology, Botany minor, University of Iowa, Iowa City, IA

Professional Leadership Positions

2014-20	SeaDoc Scientific Advisory Board
2019-20	Salish Sea Science Advisory Board
2015-20	Tetiaroa Scientific Advisory Board
2013-19	Dennis Willows Director's Endowed Professorship
2017-19	President of the Western Association of Marine Labs (WAML)
2017-19	President of the PanAm Society of EvoDevo Biology (PASEDB)
2016-19	Treasurer of the National Association of Marine Labs (NAML)
2015	UW College of the Environment Commitment to Diversity Award
2013-15	President of the Society for Integrative and Comparative Biology (SICB)
5-18-2012	Undergraduate Research Mentor Award; U of Washington
2002-14	Friday Harbor Laboratories Advisory Committee; U of Washington
2001-17	Member of the Kowalevsky Award Committee from St. Petersburg, Russia (International Award for Comparative Embryological Research)
2007-10	President of UW Local Chapter of Sigma Xi
2007-08	Chair, Molecular Evolution Gordon Research Conference
2005-07	Chair of the SICB Division of Evolutionary Developmental Biology
2003-06	Council Member for the Society for Systematic Biologists
2001-04	AAAS Officer, Chairman of the Electorate Nominating Committee for Section on Biological Sciences
1996-99	Program Officer, Division of Developmental and Cell Biology; Society for Integrative and Comparative Biology (SICB)
1994-97	President's Advisory Committee; (SICB)
1990-92	NIH Postdoctoral Fellow
1989-90	AAUW Sarah Berliner Postdoctoral Fellow
1984-86	NIH Cellular and Molecular Biology Trainee, University of Iowa

2012 – 2019 Director Friday Harbor Labs (FHL) - Innovations

1. “**Tide Bites**”, a monthly publication to communicate Marine Research to the San Juan Island community and general public is sent out once a month, posted on the FHL web page and sent to supporters and local newspapers.
<https://fhl.uw.edu/about/news-and-events/newsletters/>
2. I worked with the School of Oceanography and the School of Aquatic Fisheries Sciences to establish a new Marine Biology Major in the College of the Environment at UW.
3. We increased diversity in marine sciences through a unique FHL REU Program with funding from a Blinks endowment, NSF and BEACON.
4. FHL prefix established for all fall, spring and summer courses for the first time in 110 years! FHL is now in the UW catalogue of courses.
5. I coordinated with UW campus to buy an additional 5.6 acres adjoining Friday Harbor Laboratories near the entrance, creating a buffer against encroachment on the campus.
6. We worked with the FHL Advancement Board to establish priorities for the next 5-10 years for fundraising efforts and have raised \$10,000,000 in seven years.
7. Established two faculty fellowships to pay faculty from the UW campus to come to FHL and bring their research and teaching programs for three years.
8. Established an Endowed Professorship to hire a UW Biology faculty member to live and work at FHL through a generous endowment.
9. We brought FHL into compliance with Health and Safety standards and Chemical Safety with UW Environmental Health and Safety (EH&S).
10. I prepared a Fire Mitigation plan and secured \$80,000 from UW EH&S to do the work in Fall of 2014. Trees were trimmed and downed and brush removed to lessen the chance of a forest fire spreading on campus.
11. Improved community relationships by contacting the landowners surrounding FHL Reserves at False Bay and Argyle Creek on San Juan Island. I've met multiple times with overlapping groups to discuss good stewardship of the land and marine habitats.
12. Developed a seven year plan to bring FHL into compliance with the vehicles that we own with Fleet Services.

Research Grant Support

NSF #DBI-0939454	Funded 8-1-10 to 7-31-20	\$500,000 Total costs
Title: Science and Technology Center BEACON: Evolution in Action		
PI Dr. Eric Goodman, Michigan State University		
UW Royalty Research Fund	Funded 3-15-17 thru 3-14-19	\$39,890 Total costs
Ascidian Genomic Tools PI: Billie J. Swalla		
NSF #DBI-1418875	Funded 9-1-14 to 8-31-17	\$287,250 Total costs
Title: FSML: Instrumentation at UW Friday Harbor Laboratories for Studies of the Biological Impacts of Ocean Acidification and Ocean Change		
PI Dr. Ken Sebens Co-PIs Alex Gagnon, Daniel Grunbaum, Jan Newton, Billie Swalla		
NSF #DEB-0816892	Funded 9-1-08 to 8-31-12	\$190,833 Total costs
Title: Collaborative Proposal: Systematics and Evolution of the Hemichordata		
Co-PI Dr. Kenneth Halanych, Auburn University, \$189,684 Total costs		
UW Research Royalty Grant	Funded 2-1-07 to 1-31-08	\$31,000 Total costs
Title: Stem Cells and Germ Cells in Colonial Ascidians PI: Billie J. Swalla		
American Heart Association	Funded 7-1-06 to 6-30-08	\$48,000 Total costs
Title: Characterization of Stem Cells – AHA Predoctoral Fellowship to Brown		
Seaver Institute	Funded 1-1-02 to 12-31-04	\$225,000 Total costs
Title: The Role of the Immune System in Invertebrate Metamorphosis		
Australian Research Council	Funded 2002-2004	\$176,000 Total costs
Title: Understanding the molecular basis of marine invertebrate larval settlement and metamorphosis using complementary molecular, developmental, chemical and ecological approaches. Co-PIs: Deganan, B.M., Garson, M.J. Skilleter, G.A., Lavin, M.F., Swalla, B.J. and Leys, S.P.		
NSF #IBN-0096266	Funded 3-1-98 to 7-31-02	\$300,000 Total costs
Title: The Role of Maternal Factors in Ascidian Development and Evolution		
UW Research Royalty Grant	Funded 9-1-00 to 2-01-02	\$30,000 Total costs
Title: Pacific Northwest Ascidians		

Instrument Grant Support

M. J. Murdock Charitable Trust	Funded 8-21-03 to 8-20-05	\$499,500
Title: Biological Research Equipment Acquisition for a Comparative Genomics Center, Biology Department, UW		
NSF #DBI-9970256	Institutional Equipment Grant Award	\$193,095
(May 1999) for an Automatic Sequencer in the Biology Department at Penn State University with A. Clark, S. Schaeffer, and T. Whittam, Co-PIs		
NSF#DBI-9604814	NSF Institutional Equipment Grant Award	\$500,000
(March, 1996) for an Automatic Sequencer in the Biology Department at Vanderbilt University with C. DePamphilis, D. McCauley, N. Pellmyr, C. Johnson, Co-PIs		
Provost's Initiative on Technology (1995)		\$20,822
Integration of Computer and Videomicroscopy in Biology Courses with N. Pellmyr, G. Polis and D. Whitter		

Conference Grant Support

NSF #DEB-0742245	Funded 1-29-08 to 06-29-08	\$17,000 Total costs
Title: 2008 Molecular Evolution Gordon Research Conference		
NSF #IOS-9983454	Funded 12-23-99 to 12-22-00	\$17,610 Total costs

Title: CONFERENCE: Symposia in Evolutionary Developmental Biology, January 4-8, 2000, Atlanta, GA

Teaching in International Workshops

2015 - 2019 Marine Biology Training Course, Misaki Marine Biological Station, Japan
E.S. Morse U.S./Japan Scholar Exchange

2015 Comparative Embryology of Marine Invertebrates (CEMI) – CEBI MAR Marine Biological Station, University of São Paulo, São Sebastião, Brazil

2012 A Systems Biology Approach to Understanding Mechanisms of Organismal Evolution, Universidad de la Republica & Institut Pasteur de Montevideo, Uruguay

2011 PASI: Advanced Tunicate Biology: Integrating Modern and Traditional Techniques for the Study of Ascidians, Bocas Research Station, Bocas del Toro, Panama

2008 Frontiers in Developmental Biology: Concepts, Techniques and Model Organisms Latin American Society for Developmental Biology; Buenos Aires, Argentina

2003 Open Course in Molecular Biology – Marine Biological Station, Tohoku University, Asamushi, Aomori, Japan

2002 Workshop on Evolution and Development - Stazione Zoologica, Naples, Italy

2001 Workshop on Evolution and Development “Evolutionary Origins of the Chordate Body Plan”, Stazione Zoologica, Naples, Italy

2001 Workshop on Systematics - U.C. Davis, Bodega Marine Lab; Lab and Lecture; “Evolution and Development of the Chordates: Combining Molecular and Morphological Data” Bodega Bay, CA

2001 Workshop on Evolution and Development - University of Puerto Rico; “Molecular Phylogenies and Deuterostome Evolution” Puerto Rico, USA

2000 Workshop on Evolvability of Developmental Mechanisms - Friday Harbor Laboratories “Evolution of the Chordates”

Journals-Editorial Positions

Evolution, Associate Editor, 2007-2010, Blackwell Science, Inc

Evolution & Development, Editorial Board, 1999 - present, Blackwell Science, Inc

Integrative and Comparative Biology, Associate Editor 1999-2005, Wiley-Liss

Molecular Biology and Evolution, Associate Editor 2002-2010, Oxford University Press

Molecular and Developmental Evolution, Associate Editor 2000-2005, Wiley-Liss

Molecular and Developmental Evolution, Editorial Board 2005-2010, Wiley-Liss

Graduate Education

1999 - present **Biology/Zoology Graduate Program Member**

1999 – present **Molecular and Cellular Biology Graduate Program Member**

1999 - present **Developmental Biology Training Grant Member**

2000, 2003, 2004 Selection Committee to Award DB Training Grants to Students

2002-2003 Organized the Seattle Developmental Biology Fall Retreat

Postdoctoral Associates

2010-2012 Dr. Charlotte Konikoff - University of Washington
Evolution of Gene Networks underlying the Chordate Body Plan

2009-2010 Dr. Noa Shenkar - University of Washington
Israeli Taxonomy Initiative Postdoctoral Fellowship
Identification of Ascidians of the Pacific Northwest, Mediterranean and Red Sea

2004-2005 Dr. Tom Powers - University of Washington
Astrobiology Postdoctoral Fellow, collaborative with Dr. Peter Ward

2003-2004 Eric Edsinger-Gonzales - FHL; University of Washington
Seaver Foundation Postdoctoral Fellow

1998-2000 Dr. Dan Seufert - Penn State University
NSF/Sloan Foundation Molecular Evolution Postdoctoral Fellow
2002-present Columbus Children's Research Institute, Columbus, OH

1995-1996 Dr. Jay Raveill Vanderbilt University
1998-present Associate Professor at Central Missouri State University
<http://www.ucmo.edu/biology/facstaff/raveill.cfm>

Current Positions of Former Ph.D. Students

2017 Shawn Luttrell Ph.D. in Biology; University of Washington

“Hemichordate Development and Evolution”

2018-20 Postdoctoral Fellow at the Institute for Stem Cell Research Medicine, Seattle, WA

2013 Max Maliska Ph.D. in Biology; University of Washington

NIH Cellular and Molecular Biology Predoctoral Trainee

“Development and Speciation of Molgulid Ascidians”

2013-present Bioinformatics Software Test Engineer, Illumina, San Diego, CA

2008 Federico D. Brown Ph.D. in Zoology; University of Washington

Fulbright Scholar; American Heart Association Predoctoral Fellowship

“Developmental Change in Germline and Stem Cell Lineages in Ascidian Life History Evolution”

2012-20 Assistant Professor in Department of Zoology (IB) University of São Paulo, Brazil

2008 Amanda Rychel Ph.D. in Biology; University of Washington

NIH Developmental Biology Predoctoral Trainee

“Looking for the Deuterostome Ancestor: Hemichordate Phylogeny, Cartilage Development, and Regeneration”

2014 - 2020 Project Manager at Prometrika, LLC in Cambridge, MA.

<http://www.prometrika.com>

2002 Brad Davidson Ph.D. in Zoology; University of Washington

NIH Developmental Biology Predoctoral Trainee "A Morphological and Genetic Characterization of Metamorphosis in the Ascidian *Boltenia villosa*"

2012 – present Associate Professor at Swarthmore College, PA

<http://www.swarthmore.edu/academics/biology/faculty-and-staff/brad-davidson.xml>

1996-1997 Laura Corley Lavine, PhD Biology Student; Vanderbilt University

2001-present Associate Professor & Chair - Department of Entomology, Washington State Univ. <http://entomology.wsu.edu/directory/faculty/laura-corley-lavine/>

Current Positions of Former M.S. Students

1999 Jennifer Huber, M.S. in Biology; Penn State University

“The Evolution of Larval Morphology in Ascidians: A Phylogenetic Analysis of Speciation in the Molgulidae”

2000-present Senior Medical Writer at Exelixis Inc; South San Francisco, CA

1997 M. Rebecca Jones, M.S. in Biological Sciences; Vanderbilt University

“Sequence of Five Prospective Manx Alleles from the Ascidian *Molgula oculata*”

1997-present Middle School Science Teacher at Cason Lane Academy; Murfreesboro, TN

2007 Glen MacMaster Master's Science in Teaching Program at UW

2006 - present Science Teacher at Mills High School; Millbrae, CA

Undergraduate Mentoring

Mary Gates Undergraduate Research Fellows

2000-2001 Anton Jackson
2001-2002 Aliza-Gentili Lloyd
2001-2002 Kellen Nold
2002-2003 Shannon Smith – Won the Franco Award in 2002 - Best Undergraduate Research Paper in the Biological Sciences
2007 HeeSun Kim
2012 Nathan Churches

Howard Hughes Undergraduate Research Fellows

2001-2002 Shannon Smith – Franco Award for best Undergraduate Research paper
2002-2004 Brock Roberts
2003-2005 Helen Chea – UW Dean’s Office Undergraduate Research Award
2005-2006 HeeSun Kim
2009-2010 Shawn Luttrell
2009-2010 Alana Byrne

FHL Blinks/BEACON/REU – for Increasing Diversity in Marine Sciences

2001 Jamila Harris – 2006 Master of Science in Health Education from the University of Michigan at Flint; Ph.D. in 2008
2006 Anton Vagapov – deceased 2008
2010 Erica Flores – 2011 Graduate School at the University of Miami
2011 Kristin Andrykovich – Undergraduate, Carleton College
2011 Paul Hausch – Undergraduate, Ripon College
2012 Nathan Churches – PhD student at USC
2012 Ian Mahone – Undergraduate, Michigan State University
2012-13 Aaron Walker – Undergraduate, Michigan State University
2017 Samarra Scantlebury – Undergraduate, Cornell University
2018 Lauren Lubeck – Undergraduate, Brown University
2018 Beatrice Grauman-Boss, Undergraduate, Wellesley College

Current Positions of Swalla Undergraduate Researchers

2006 Yoko Nozawa (FHL 2005) Tetrad Graduate Program (Biochemistry and Molecular Biology, Cell Biology, Genetics and Developmental Biology) at UCSF
2006 Stephanie Suzuki (FHL 2005) UW Molecular and Cellular Biology Graduate Program
2008 Hee Sun Kim (2005-2006) Dental Student at Temple University
2008 Brock Roberts (2002-2004) Graduate Program in Molecular and Cellular Biology Department at the University of California at Berkeley.
2009 Ph.D. - Dr. Becky Howsmon (FHL 2001) Program in Infectious Disease and Immunity in the School of Public Health at U. of California at Berkeley
2011 M.D. – Dr. Lauren May (FHL 2005) Thomas Jefferson University Medical College, Philadelphia, PA
2011 M.D./Ph.D. - Dr. Helen Chea (2003-2005) Mount Sinai School of Medicine; NY, NY
2011 M.D. - Dr. Monique Mayo (FHL 2001) University of Washington Medical School
2011 Peter Conlin (FHL 2010) BEACON Biology Department, University of Washington
2012 Kellen Andrilena (2008-2010) Graduate Program in Molecular and Cellular Biology Department at Boston University
2012 Shawn Luttrell (FHL 2010) Graduate Student in Biology Department, Univ. of WA
2013 Rebecca Bruders (FHL 2012) Graduate Student in Biology Department, U. of Utah
2013 Nathan Churches (FHL 2012) Graduate Student in Biology Department; USC
2013 Zander Fodor (FHL 2012) Graduate Student in Biology Department, Univ. of WA 2013
Joshua Swore (FHL 2012) Graduate Student in Biology Department, Univ. of WA
2013 Ph.D. Tom White (FHL 2005) UW Molecular and Cellular Biology Graduate Program

Professional Societies

American Association for the Advancement of Science
Electorate Nominating Committee 2001-2004; Chairman of Committee in 2004

Society for Developmental Biology
Local Organizing Committee - Annual Meeting - Jun 15-18, 2001
Organizer Northwest Developmental Biology Conference Mar 18-20, 2004, 2017

Society for Integrative and Comparative Biology
President 2013-2015
President, Division of Evolutionary Developmental Biology 2006-2008
Program Officer, Division of Developmental and Cell Biology 1996-1999
President's Advisory Committee 1994-1998, 2016-present

Society for Molecular Biology and Evolution

Society for the Study of Evolution

Symposia and Meetings Organized

2012 Local Organizing Committee for National SACNAS Meetings in Seattle, WA
October 11-14, 2012

2012 Symposia organized - Symposium "Evo-Devo Rides the Genomic Express" SICB Annual Meetings, Charleston, S.C. Jan. 3-7, 2012
<http://www.sicb.org/meetings/2012/symposia/evodevo.php>

2008 Meeting Organizer – Molecular Evolution Gordon Conference – Ventura, CA
<http://www.grc.org/programs.aspx?year=2008&program=molecevo>

2006 Meeting Co-chair – Molecular Evolution Gordon Conference – Ventura, CA

2005 Meeting Co-organizer – International Tunicate Meetings – USCB Campus, Santa Barbara, CA

2004 Meeting Co-organizer – Comparative Developmental Biology: Insights into Embryos, Cells, and Evolution – Centennial Symposium at FHL

2004 Meeting Co-organizer - Northwest Regional Developmental Biol. Conference at FHL

2001 Local Organizing Committee - Society for Developmental Biology 60th Annual Meeting – University of Washington, Seattle, WA

2000 Symposium Co-organizer - Symposium "Hom/Hox Clusters and the Evolution of Morphology" and "Evolutionary Developmental Biology: Paradigms, Problems and Prospects"; Society of Integrative and Comparative Biology (SICB) Annual Meetings; Atlanta, GA [see Nature 403: 125 (2000); Science 287:570 (2000)]

1999 Meeting Co-organizer - American Genetics Association (AGA) Annual Meeting; Penn State University; State College, PA

1998 Symposium Co-organizer - Symposium "Development and Evolution"; Society for Developmental Biology Northeast Regional Conference; Woods Hole, MA

1997 Symposium Co-organizer - Symposium "Systematics and the Evolution of Developmental Patterns"; Society of Systematic Biology and Society for the Study of Evolution Annual Meetings - Boulder, CO.

1996 Local Organizing Committee - Society for Developmental Biology Annual Meeting Vanderbilt University; Nashville, TN

1994 Co-organizer; West Coast Regional Developmental Biology Conference; Soc. for Dev. Biol. Regional Meeting; Marconi Conference Center, Marshall, CA

1992 Symposium Organizer - ASZ Annual Meetings; Vancouver, B.C. Canada

Grant Reviews

Panels

American Cancer Society Institutional Research Grant Committee	2 years
American Heart Association Panel	3 years
National Institute of Child Human Health & Development	3 years
NSF/Sloan Foundation Molecular Evolution Postdoctoral Awards Panel	3 years
NSF Developmental Mechanisms Panel	3 years
NSF Population Biology Panel	1 year
NASA Evolutionary Biology Panel/NASA Astrobiology Panel	2 years

Ad hoc referee

National Institutes of Health
International Human Frontier Science Program
European Science Foundation
BBSRC (England)

National Science Foundation
NSERC (Canada)
Israel Science Foundation

University of Washington Administration/Service

2019-2020 Chair of the UW Biology Research Committee
2014-2019 Director, Friday Harbor Laboratories
2012-2014 Interim Director, Friday Harbor Laboratories
2013-2014 Marine Biology Minor Steering Committee
2012-2013 Acting Director, Friday Harbor Laboratories
2011-2012 Chair of the Biology Faculty Appointments Committee
2002-2012 FHL Advisory Board
2002-2012 Biology Comparative Genomics Center Executive Board
2009-2012 M.S. in Biology for Teachers Steering Committee
2007-2012 Embryonic Stem Cell Research Oversight Committee
2002-2012 Reviewed UW Royalty Research Fund Grants (8X)
2006-2010 A&S Curriculum, Practices, and Standards Committee
2004-2005 Faculty Senate and Senate Executive Committee Member
2002-2005 Chair of the Biology Seminar Committee
2004-2005 Participated in a Cross Departmental Cultural Change Program – funded by NSF ADVANCE Program for encouraging Women and Minorities in Science.
2005 Undergraduate Research Symposium Moderator; May 13, 2005
2003 Organized 5th Seattle Developmental Biology Fall Retreat; September 19, 2003
2003 Molecular and Cellular Biology Graduate Program Recruiting Committee Chair
2001-03 Molecular and Cellular Biology Graduate Program Recruiting Committee
2002-03 Chair of the Botany/ Biology/ Zoology Seminar Committee
2002 Organized 4th Seattle Developmental Biology Fall Retreat; September 20, 2002

Community Outreach and Mentoring in Seattle

2008-20 Member of UW SACNAS – For Advancing Hispanics/Chicanos and Native Americans in Science
5-6-11 National Lab Day sponsored by UW-HHMI - Two 30 min. sessions with a group of sixth graders from Sacajawea Elementary School in Seattle Public School District.
2010 Summer - Mentored Erica Flores (Hispanic) in the FHL REU-Blinks Program to increase underrepresented groups in science.
6-21-10 REU-Blinks Luncheon to meet with students and share my research and my personal history getting into marine research. Discussed “Do’s and Don’ts to get into UW graduate school.
7-29-10 REU-Blinks Resume Preparation – Students brought their resumes, exchanged them and discussed what to add and what not to add to them.
9-30 thru 10-3, 2010 Attended the National SACNAS Meetings in Anaheim, CA to recruit URM students for the Biology Department and NSF BEACON “Evolution in Action”.
10-14-10 Faculty Panel Member - Go-MAP Getting Connected Orientation – Answered questions from new students about UW and/or graduate school
10-2-10 – Biology Department Brown Bag Gave a 30 minute talk on my research career and then fielded questions for 30 minutes from undergraduate students.
7-18-07 Bioscience Experience – 2 hour lab experience for 6 minority undergraduates
2-1-07 “Biology Movie Night” – Showed “The Eyes of Nye” episode on Stem Cells and Cloning that was partly filmed in my laboratory. Answered questions from the audience for 45 minutes afterward. 100 students and alumni attended.
3-20-05 Appearance as expert on “The Eyes of Nye” Television Program on Cloning
5-7-05 FHL Open House Public Lecture; FHL, Friday Harbor, WA
9-13-04 Marine Science Potluck Dinner Talk; FHL, Friday Harbor, WA
11-5-03 Lectured to a Marine Sciences class at Nathan Hale High School in Seattle

7-2-03 Blinks Fellows Luncheon Lecture and Discussion at FHL; Friday Harbor, WA
 5-22-03 Science students visited my lab from Chief Stealth High School in South Seattle
 3-25-03 Career Shadowing by Christina Moore, 7th grade student at Chinook Middle School
 3-26-02 Participated in Redmond High Career Day – Gave a 50 minute presentation to 2 groups of 30 students
 11-18-00 Workshop for 80-100 Community College Science Instructors on "Recent Advances in Molecular Phylogeny and the Evolution of the Chordates."
 3-14-00 Career Panelist for "Expanding Your Horizons" - 6th, 7th and 8th grade girls explore Science and Engineering as a career option.
 3 Panels with 20-25 girls in each.
 10-24-98 Workshops for "Expanding Your Horizons" - 6th, 7th and 8th grade girls explore Science and Engineering as a career option.
 2 Workshops with 12-15 girls in each.
 11-25-97 Lectured to the sixth grade class (4 classes total) at Park Forest Junior High School, State College, PA on "Working as a Scientist on Ascidiarians: Developmental and Evolutionary Studies at Marine Labs around the World".

Off Campus Invited Lectures and Seminars - Last 5 years

Invited Talk: "Tailless Molgulid Ascidiarians Express Larval Pseudogenes" SICB Annual Meeting, Austin, Tx January 3-7, 2020
 Invited Lecture: "Evolution, Development and Regeneration in the Chordates" University of California at Davis, Davis, CA December 4-7, 2019
 Invited Lecture: "Evolution, Development and Regeneration in the Chordates" Sars International Centre for Marine Molecular Biology, University of Bergen, Norway September 4-8, 2019
 Symposium Lecture in FROM DEVELOPMENT TO GENOMICS "Tailless Molgulid Ascidiarians have a Notochord "Ball" that never converges or extends" 10th International Tunicate Meetings. Villefranche Sur Mer, France July 5-10, 2019
 Invited Talk: "Getting A Head with Hemichordate Larval Regeneration" SICB Annual Meeting, Tampa, FL January 3-7, 2019
 Invited Lecture: "Evolution, Development and Regeneration in the Chordates" Walla Walla University, Walla Walla, WA January 22, 2019
 Symposium Lecture "Mavericks: New models for chordate evolution and regeneration" 29th Cell and Developmental Biology meeting "Mavericks, New Models in Developmental Biology" RIKEN Center for Developmental Biology (CDB) in Kobe, Japan. October 19-20 2018
 Invited Lecture: "Chordate Evolution, Development and Regeneration" St. Jude's Children Research Hospital, Memphis, TN November 28, 2018
 Symposium Lecture: "Origin, Evolution and Development of the Chordates" College of Charleston Graduate Program in Marine Biology Colloquium Charleston, S.C. September 23, 2017
 Invited Lecture: "Origin, Evolution and Development of the Chordates" Randall Seminar Series – Women in Science at the University of Idaho September 12, 2017
 Symposium Lecture: Hong Kong University of Science and Technology "Origin, Evolution & Development of the Chordates" Hong Kong May 24, 2017
 Symposium Lecture: "Evolution, Development and Regeneration in Hemichordates", Developmental Biology of the Sea Urchin XXIV, Woods Hole, MA April 5-9, 2017
 Symposium Lecture: 22nd International Congress of Zoology and 87th meeting of the Zoological Society of Japan in Okinawa, Japan "Getting A Head with Hemichordates" <http://www.zoology.or.jp/2016-jointmeeting/> November 18, 2016
 Symposium Lecture: "Getting A Head with Hemichordate Regeneration" International Hemichordate Meetings, Hopkins Marine Station of Stanford University, Pacific Grove, CA December 9-11, 2016
 Symposium Lecture: VIII International Meeting of the Latin American Society for Developmental Biology, "Origin, Evolution & Development of the Chordates" Santos, Brazil October 19-23, 2015

Symposium Lecture: "Head Regeneration in a Stem Deuterostome", Developmental Biology of the Sea Urchin XXIII, Woods Hole, MA October 7-11, 2015

Invited Lecture: "Animal Ancestors: Passive Filter Feeders or Voracious Predators?" School of Biological Sciences Colloquium Distinguished Speaker, Washington State University, Pullman, WA September 14, 2015

Invited Lecture: "Marine Opportunities for Undergraduate Research: Is it possible to make a living studying tunicates, just because they are cool?", Chapman University, Orange, CA July 31, 2015

Symposium Lecture: Evolution of Cooperation Meetings, "Evolution of Coloniality in Marine Invertebrates" Washington University, St. Louis, MO May 21-25, 2015

Invited Lecture: "Marine Genomics and My life as a Female Scientist", Women in Science Course, School of Interdisciplinary Science, UW Tacoma, WA April 17, 2015

Donald P. Abbot Memorial Lecture "From Base Pairs to Body Plans: Evolution of the Chordates" Hopkins Marine Station of Stanford University, Pacific Grove, CA February 13, 2015

Book Reviews

Swalla, B.J. (1997) Putting a date on the first rate vertebrate. *Trends in Ecol. and Evol.* 2: 240-241.

Swalla, B.J. (2002) Making sense of changing animal embryos. *Science* 296: 2147 - 2148.

Obituaries

Stricker, S.A., Swalla B.J. (2013) Arthur Whiteley (1916-2013). *Mol Reprod Dev* 80(7)

On-line Resources

Shenkar, N., A. Gittenberger, G. Lambert, M. Rius, R. Moreira Da Rocha, B. J. Swalla (2010).

World Ascidiacea Database. Consulted on 2010-11-19. Available online

<http://www.marinespecies.org/ascidiacea>

Review Articles and Book Chapters

- 1) Jeffery, W.R. and **Swalla, B. J.** (1990a) Anural development in ascidians: Evolutionary modification and elimination of the tadpole larva. *Sem. Dev. Biol.* 1:253-261.
- 2) Jeffery, W.R. and **Swalla, B. J.** (1990b) The myoplasm of ascidian eggs: A localized cytoskeletal domain with multiple roles in embryonic development. *Sem. Cell Biol.* 1:373-381.
- 3) Jeffery, W.R. and **Swalla, B. J.** (1992) Evolution of alternate modes of development in ascidians. *Bioessays* 14:219-226.
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96) Makabe, K.W., Fodor, A.C.A., Hsu, J., Jeffery, W.R., Satoh N., **Swalla, B. J.** (2020) Cymric, a maternal and zygotic HTK-16-like SHARK-family tyrosine kinase gene, is disrupted in *M. occulta*, a tailless ascidian. *JEZ:MDE* (in revision)

97) Fodor, A.C.A., Maliska, M.E., Lowe, E., Pavangadkar, K., Weber, C., Serra, N., Brown, C.T. and **Swalla B.J.** Molgulid ascidians show a radical heterochronic shift in their metamorphic gene network. *Integrative Organismal Biology* (in preparation)

98) Lowe, E.K., **Swalla, B.J.** and Brown, C.T. Assembly on Cloud 9: Transcriptome assembly of closely related Ascidian species. *Genome Research* (in preparation)

Postdoctoral/Graduate Student Abstracts of Talks & Posters – Last 6 Years

- 1) Fodor A, Kohn A, Kocot K, Citarella M, Tassia M, McQuillen I, Moroz L, **Swalla B.J.** (2014) Determining the Presence of Mesoderm in the Ctenophore *P. bachei* through Gene Expression Analysis. Society for Developmental Biology 73rd Annual Meeting, University of Washington; July 17, 2014. (poster)
- 2) Luttrell S.M. and **Swalla B.J.** (2014). Morphological and genetic mechanisms of regeneration in the hemichordate, *Ptychodera flava*. Society for Developmental Biology 73rd Annual Meeting, University of Washington; July 17, 2014. (poster)
- 3) Swore J., Kohn A. Citarella M., Bobkova Y., Moroz L., **Swalla B.J.** (2014) Neural Signaling and Development of *Pleurobrachia bachei*. Society for Developmental Biology 73rd Annual Meeting, University of Washington; Seattle, WA (poster)
- 4) Fodor, A.C.A.; Maliska, M.; Lowe, E.; Pavangadkar, K.; Weber, C.; Serra, N.; Brown, C. T.; **Swalla, B. J.** (2015) Mighty Morphing Molgulids: Radical Heterochronic Shifts in Metamorphic Gene Networks of Molgulid Ascidians. SICB annual meeting, West Palm Beach, FL, January 3-7, 2015 (poster)
- 5) Swore J., Kohn, A., **Swalla, B.J.**, Moroz, L., (2015) Origins of Ionotropic Glutamate Receptors: insights from the basal metazoan *Pleurobrachia bachei*. Society of Integrative and Comparative Biology Annual Meetings, West Palm Beach, FL
- 6) Luttrell S.M. and **Swalla B.J.** (2015) Hemichordate Nervous System Evolution and Regeneration. Northwest Developmental Biology Conference, Friday Harbor Laboratories, University of Washington, March 19, 2015.
- 7) Luttrell S.M., Gotting K., Ross E., Alvarado A.S., **Swalla B.J.** (2016) Head Regeneration in a Stem Deuterostome. The Society for Integrative and Comparative Biology Conference; Portland, OR January 3-7, 2016.
- 8) Fodor, A.C.A.; Lowe, E.; Brown, C.T.; **Swalla, B.J.** (2017) Vasa Expression Shows Unusual variation in the Tailless Ascidian *Molgula occulta*. SICB annual meeting, New Orleans, LA, January 4-8, 2017
- 9) Fodor, A.C.A.; **Swalla B.J.** (2017) SHARK may cause tail loss in the Ascidian *Molgula occulta*, Northwest Society for Developmental Biology, Friday Harbor, WA, March 15-18, 2017 (poster)
- 10) Fodor A.C.A., **Swalla B.J.** (2017) A Tail of Two Ascidians: Searching for the mechanisms behind tail loss in Molgulid ascidians, Tunicate Taxonomy Course, Bocas Del Toro, Panama, June 2017
- 11) Fodor, A.C.A.; **Swalla B.J.** (2017) The SHARK gene *cymric* has become truncated in the ascidian *Molgula occulta*, BEACON annual congress, Lansing MI, August 2-4, 2017 (poster)
- 12) Fodor, A.C.A.; **Swalla B.J.** (2018) The SHARK gene *cymric* has become truncated in the ascidian *Molgula occulta*, SICB annual meeting, San Francisco, CA, January 3-7, 2018 (poster)
- 13) Fodor, A.C.A.; **Swalla B.J.** (2018) The SHARK gene *cymric* has become truncated in the ascidian *Molgula occulta*, Northwest Developmental Biology annual meeting, Friday Harbor, WA, March 14-17, 2018 (poster)
- 14) Lubeck, L.A., Grauman, B.G., Seitz, T. and **Swalla, B.J.** (2019) Clone Alone: Lithium Chloride Induced Cloning in *Dendraster excentricus*. SICB annual meeting, Tampa, FL, January 3-7, 2018 (talk)

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