

**Dr. Billie J. Swalla**  
**Professor Emerita of Biology**  
**Friday Harbor Laboratories**  
**University of Washington**  
**Friday Harbor, WA 98250**  
[bjswalla@uw.edu](mailto:bjswalla@uw.edu)

### **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**

2023 – present Professor Emerita of Biology; Biology Department, University of Washington  
2024 – 2026 Board of Directors, The Whale Museum, Friday Harbor, WA  
2019 - 2026 Salish Sea Science Advisory Board  
2013 - 2026 Scientific Advisory Board, SeaDoc Society, Orcas Island, WA  
2012 - 2026 Scientific Advisory Board, Tetiaroa Society, Tetiaroa, Tahiti  
2009 - 2023 Professor of Biology; Biology Department, University of Washington  
2019 – 2022 Biology Associate Chair for Research  
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**

Introductory Biology	BIOL 202 (with 3 hr labs)	185 students
Evolution	BIOL 354	120 students
Developmental Biology	BIOL 411	120 students
Evolution and Development	BIOL 415	60 students
Uncommon Leaders - Women and BIPOC in Science	BIOL 497A	20 students
Evolution and Development of the Metazoans at FHL	BIOL 533	12 students
Evolutionary Development of Marine Invertebrates @FHL	BIOL 536	15 students

1997 - 1999 Assistant Professor; Department of Biology, Pennsylvania State University

#### **Teaching Experience - Semester Courses**

Molecular and Cellular Biology (Honors Section)	30 students
Developmental Genetics	20 students

1994-1997 Assistant Professor; Biology Department, Vanderbilt University, Nashville, TN

Biological Sciences 110B (with 3 hr labs)	300 students
Developmental Biology	20-40 students

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**

2024 – 2026	Board of Directors, The Whale Museum, Friday Harbor, WA
2021-2025	Chair of the Diversity, Equity and Inclusion Committee National Association of Marine Labs (NAML)
2021-2025	Society for Developmental Biology Board of Directors, Northwest Representative
2014-2025	SeaDoc Scientific Advisory Board
2019-2025	Salish Sea Science Advisory Board
2015-2025	Tetiaroa Scientific Advisory Board
2001-2021	Member of the Kowalevsky Award Committee from St. Petersburg, Russia (International Award for Comparative Embryological Research)
2020-2021	Executive Committee of the National Association of Marine Labs (NAML)
2013-2019	Dennis Willows Director's Endowed Professorship
2017-2019	President of the Western Association of Marine Labs (WAML)
2017-2019	President of the PanAm Society of EvoDevo Biology (PASEDB)
2016-2019	Treasurer of the National Association of Marine Labs (NAML)
2015	UW College of the Environment Commitment to Diversity Award
2013-2015	President of the Society for Integrative and Comparative Biology (SICB)
5-18-2012	Undergraduate Research Mentor Award; U of Washington
2002-2014	Friday Harbor Laboratories Advisory Committee; U of Washington
2007-2010.1	President of UW Local Chapter of Sigma Xi
2007-2008	Chair, Molecular Evolution Gordon Research Conference
2005-2007	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)

### **2012 – 2019 Director Friday Harbor Labs (FHL) – Administrative 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.

### **Research Grant Support**

<b>NSF Submitted: 10-1-24</b>		<b>\$613,857 Total costs</b>
Title: Collaborative Research: EDGE CMT: Unraveling the loss of Molgula Tails PI Dr. Billie J. Swalla Co-PIs Dr. Alberto Stolfi, Georgia Tech; Dr. Anna Di Gregorio, NYU		
<b>NSF #21-501 FSML: Infrastructure Capacity for Biological Research</b>		<b>\$382,905</b>
Title: Genomics at the Shoreline      Funded 10-1-22 to 9-30-24		
<b>NSF #DBI-0939454</b>	Funded 8-1-10 to 7-31-20	<b>\$500,000 Total costs</b>
Title: Science and Technology Center BEACON: Evolution in Action PI Dr. Eric Goodman, Michigan State University		
<b>UW Royalty Research Fund</b>	Funded 3-15-17 thru 3-14-19	<b>\$39,890 Total costs</b>
Ascidian Genomic Tools      PI: Billie J. Swalla		
<b>NSF #DBI-1418875</b>	Funded 9-1-14 to 8-31-17	<b>\$287,250 Total costs</b>
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		
<b>NSF #DEB-0816892</b>	Funded 9-1-08 to 8-31-12	<b>\$190,833 Total costs</b>
Title: Collaborative Proposal: Systematics and Evolution of the Hemichordata Co-PI Dr. Kenneth Halanych, Auburn University,		
<b>UW Research Royalty Grant</b>	Funded 2-1-07 to 1-31-08	<b>\$31,000 Total costs</b>
Title: Stem Cells and Germ Cells in Colonial Ascidians      PI: Billie J. Swalla		
<b>American Heart Association</b>	Funded 7-1-06 to 6-30-08	<b>\$48,000 Total costs</b>
Title: Characterization of Stem Cells – AHA Predoctoral Fellowship to Brown		
<b>Seaver Institute</b>	Funded 1-1-02 to 12-31-04	<b>\$225,000 Total costs</b>
Title: The Role of the Immune System in Invertebrate Metamorphosis		
<b>Australian Research Council</b>	Funded 2002-2004	<b>\$176,000 Total costs</b>
Title: Understanding the molecular basis of marine invertebrate larval settlement and metamorphosis using complementary molecular, developmental, chemical and ecological approaches.      Co-PIs: Degnan, B.M., Garson, M.J. Skilleter, G.A., Lavin, M.F., Swalla, B.J. and Leys, S.P.		
<b>NSF #IBN-0096266</b>	Funded 3-1-98 to 7-31-02	<b>\$300,000 Total costs</b>
Title: The Role of Maternal Factors in Ascidian Development and Evolution		
<b>UW Research Royalty Grant</b>	Funded 9-1-00 to 2-01-02	<b>\$30,000 Total costs</b>
Title: Pacific Northwest Ascidians		

### **Instrument Grant Support**

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

### **Conference Grant Support**

<b>NSF #DEB-0742245</b>	Funded 1-29-08 to 06-29-08	<b>\$17,000</b>
Title: 2008 Molecular Evolution Gordon Research Conference		
<b>NSF #IOS-9983454</b>	Funded 12-23-99 to 12-22-00	<b>\$17,610</b>
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 Ascidiaceans, 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 **UW Biology/Zoology Graduate Program Member**
- 1999 - present **UW Molecular and Cellular Biology Graduate Program Member**
- 1999 - present **UW Neuroscience and Behavior Graduate Program Member**
- 1999 - 2014 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 Ascidiaceans 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**

**2019 Alexander Fodor Posthumous Ph.D. in Biology; University of Washington**  
“Genomic and Transcriptomic Analyses of Tailless Molgulids”

**2017 Shawn Luttrell Ph.D. in Biology; University of Washington**  
“Hemichordate Development and Evolution”

**2017-21 Postdoctoral Fellow at the Institute for Stem Cell Research Medicine, Seattle, WA**

**2021-present Product Manager, Cell & Tissue Models at Curi Bio**

**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”

**2012-24 Associate 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 - 2024 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**  
**2005 - present Science Teacher at Mills High School; Millbrae, CA**

**2023 Megan Powers – Invasive Tunicates in Puget Sound and the Salish Sea**

### **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
2006	HeeSun Kim
2012	Nathan Churches
2016	Marisa Yonemitsu

#### **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 Heath 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, Rippon 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 Andrienas (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  
SDB Board member - Northwest Representative  
Local Organizing Committee - Annual Meeting in Vancouver, CA - July 17-20, 2022  
Organizer Northwest Developmental Biology Conference Mar 18-20, 2004, 2017  
Local Organizing Committee - Annual Meeting - Jun 15-18, 2001

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**

2024 Symposia organized - Symposium "Chordate Origin, Evolution and Development"  
SICB Annual Meetings, Seattle, WA Jan. 2-6, 2024

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 "Hox/Hom 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
<u>Ad hoc referee</u>	
National Institutes of Health	National Science Foundation
International Human Frontier Science Program	NSERC (Canada)
European Science Foundation	Israel Science Foundation
BBSRC (England)	

### **University of Washington Administration/Service**

2021- present	Molecular and Cellular Biology Diversity, Equity and Inclusion Committee
2021-2024	Faculty mentor of UW SACNAS – For Advancing Hispanics/Chicanos and Native Americans in Science
2019-2022	Chair of the UW Biology Research Committee
2014-2019	Director, Friday Harbor Laboratories
2002-2019	Reviewed UW Royalty Research Fund Grants (10X)
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
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 5 <sup>th</sup> 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 4 <sup>th</sup> Seattle Developmental Biology Fall Retreat; September 20, 2002

### **Community Outreach and Mentoring in Seattle**

2008-23	Member of UW SACNAS – For Advancing Hispanics/Chicanos and Native Americans in Science
2000-23	Member of UW ADVANCE – For Women in Science at the University of Washington
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, 7<sup>th</sup> 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.

**Off Campus Invited Lectures and Seminars - Last 7 years**

- Symposium Lecture: um “Chordate Origin, Evolution and Development”  
SICB Annual Meetings, Seattle, WA Jan. 2-6, 2024
- Symposium Lecture: PanAm Society for Evolutionary Developmental Biology Service Award  
“Evolution, development, and regeneration of the chordates: A career devoted to  
EvoDevo” SDB/PASEDB Joint Meeting; Vancouver, B.C. July 17 – 21, 2022
- Symposium Lecture: #14 The EvoDevo of Tunicates - “The Tale of Degenerate Ascidian Tails”  
EuroEvoDevo '22; Naples, Italy May 31 – June 3, 2022
- Symposium Lecture: “The Tale of Degenerate Ascidian Tails”, Developmental Biology of Sea  
Urchins and other Invertebrates, MBL, Woods Hole, MA April 5-8, 2022
- Invited Lecture: “Tales of Ascidian Tails” Virginia Commonwealth University, Richmond, VA  
March 28, 2020
- Invited Lecture: “Evolution, Development and Regeneration in the Chordates” San Francisco  
State University, San Francisco, CA March 18, 2021
- Invited Lecture: “The Degenerate Tale of Ascidian Tails” Cal State University Monterey Bay -  
Natural Sciences Seminar March 15, 2021
- Symposium Lecture: “The Degenerate Tale of Ascidian Tails” in the SICB Virtual Annual Meeting  
January – February, 2021
- Invited Talk: “Tailless Molgulid Ascidians 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 Ascidians  
have a Notochord “Ball” that never converges or extends”  
10<sup>th</sup> 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.

- 4) **Swalla, B. J.** (1992) The role of maternal factors in ascidian larval muscle development. *Sem. Dev. Biol.* 3: 287-295.
- 5) **Swalla, B. J.** (1993) Mechanisms of gastrulation and tail formation in ascidians. *Microsc. Res. Tech.* 26: 274-284.
- 6) **Swalla, B. J.** (1996) Strategies for cloning developmental genes using closely related species. In "Molecular Zoology: Advances, Strategies and Protocols". Joan D. Ferraris and Stephen R. Palumbi, eds. Wiley-Liss, John Wiley & Sons, Inc. New York, NY. Chapter 10, pp. 197-208.
- 7) Jeffery, W.R. and **Swalla, B. J.** (1997) "Embryology of the Tunicates" In: Embryology: Constructing the Organism. S. F. Gilbert and A. M. Raunio ed. Sinauer Press, Sunderland, MA pp 331-364.
- 8) **Swalla, B. J.** (2001) "Phylogeny of the Urochordates: Implications for chordate evolution." In: Biology of Ascidians (Proceedings of the First International Symposium on the Biology of Ascidians) Hitoshi Sawada and Charles Lambert, ed. Springer Verlag, Tokyo pp 219-224.
- 9) **Swalla, B. J.** (2004) "Protochordate Gastrulation: Lancelets and Ascidians." In: Gastrulation; Claudio Stern, ed. Cold Spring Harbor Press. pp 139-149.
- 10) **Swalla, B. J.** (2004) "Procurement and Culture of Ascidian Embryos". In: Methods in Cell Biology: Experimental Analysis of the Development of Sea Urchins and Other Non-Vertebrate Deuterostomes." Chuck Etnenson, Gary Wessell and Greg Wray, eds. Elsevier Science/Academic Press (San Diego, Elsevier) pp 115-141.
- 11) Zeng, L. and **Swalla, B. J.** (2005) "Molecular phylogeny of the protochordates: Chordate evolution" Special Issue: "Protochordates" *Can. J. Zool.* 83: 24-33.
- 12) **Swalla, B. J.** (2006) Building divergent body plans with similar genetic pathways *Heredity* 97: 235-243.
- 13) **Swalla, B.J.** (2007) "New insights into vertebrate origins" In: Principles of Developmental Genetics, Sally Moody, ed. Elsevier Press (San Diego, Elsevier) pp. 114-128
- 14) Rychel, A.L. and **Swalla, B.J.** (2008) Stem cells and regeneration in hemichordates. In: Marine Stem Cells, Valeria Matranga and Baruch Rinkevich, ed. Springer Publishing. pp. 245-265.
- 15) Luttrell, S. and **Swalla, B.J.** (2014) "Genomic and evolutionary insights into chordate origins" In: Principles of Developmental Genetics, 2<sup>nd</sup> ed., Sally Moody, ed. Elsevier Press (San Diego, Elsevier) pp. 115-128.

### **Research Manuscripts**

- 1) **Swalla, B. J.**, Owens, E.M., Linsenmayer, T.F., and Solorsh, M. (1983) Two distinct classes of prechondrogenic cell types in the embryonic limb bud. *Develop. Biol.* 97: 59-69.
- 2) **Swalla, B. J.** and Solorsh, M. (1984) Epithelial enhancement of connective tissue differentiation in explanted somites. *J. Embryol. exp. Morph.* 79: 243-255.
- 3) **Swalla, B. J.**, and Solorsh, M. (1984) Inhibition of limb chondrogenesis by fibronectin. *Differentiation* 26: 42-48.
- 4) **Swalla, B. J.**, Moon, R.T. and Jeffery, W.R. (1985) Developmental significance of an mRNA-containing cytoskeletal domain in *Chaetopterus* eggs. *Develop. Biol.* 111: 434 -450.
- 5) **Swalla, B. J.**, and Solorsh, M. (1986) The independence of myogenesis and chondrogenesis in micromass cultures of chick wing buds. *Develop. Biol.* 116: 31-38.
- 6) Jeffery, W.R., Speksnijder, J.E., **Swalla, B. J.**, and Venuti, J.M. (1986) Mechanism of maternal mRNA localization in *Chaetopterus* eggs. Proc. Fourth Symp. Inv. Repro. Elsevier Science Press, Amsterdam. pp 229-240.
- 7) **Swalla, B. J.**, Upholt, W.B. and Solorsh, M. (1988) Analysis of type II collagen RNA in chick wing buds by in situ hybridization. *Develop. Biol.* 125: 51-58.
- 8) Jeffery, W.R., Beach, R.L., Harrington, F.E., **Swalla, B. J.**, and White, M.E. (1990) Patterns of gene expression during ascidian development. In: "Experimental Embryology of Aquatic Plants and Animals". H.-J. Marthy, ed. Plenum Press, New York. pp. 291- 314.
- 9) Jeffery, W.R., **Swalla, B. J.**, and Venuti, J.M. (1990) Mechanism of dorsoventral axis determination in the ascidian embryo. In: "Mechanism of Fertilization" NATO ASI series, Vol. H45, B. Dale, ed., Springer-Verlag, Berlin. pp 591-604.

- \*10) **Swalla, B. J.** and Jeffery, W.R. (1990) Interspecific hybridization between an anural and urodele ascidian: Differential expression of urodele features suggests multiple mechanisms control anural development. *Develop. Biol.* 142: 319-334.
- \*11) **Swalla, B. J.**, Badgett, M. R., and Jeffery, W. R. (1991) Identification of a cytoskeletal protein localized in the myoplasm of ascidian eggs: localization is modified during anural development. *Development* 111: 425-436.
- 12) Jeffery, W. R. and **Swalla, B. J.** (1991) An evolutionary change in the muscle lineage of an anural ascidian embryo is restored by interspecific hybridization with a urodele ascidian. *Develop. Biol.* 145: 328-337.
- 13) **Swalla, B. J.** and Jeffery, W. R. (1992) Vestigial brain melanocyte development during embryogenesis of a viviparous anural ascidian. *Dev. Growth and Differen.* 34:17-25.
- 14) Jeffery, W. R. and **Swalla, B. J.** (1992) Factors necessary for restoring an evolutionary change in an anural ascidian embryo. *Develop. Biol.* 153: 194-205.
- \*15) **Swalla, B. J.**, Makabe, K. W., Satoh N., Jeffery, W. R. (1993) Novel genes expressed differentially in ascidians with alternate modes of development. *Development* 119: 307-318.
- 16) Jeffery, W. R. and **Swalla, B. J.** (1993) An ankryin-like protein in ascidian eggs and its role in the evolution of direct development. *Zygote* 1: 197-208.
- 17) **Swalla, B. J.**, White, M. E., Zhou, J., and Jeffery, W. R. (1994) Heterochronic expression of an adult muscle actin gene during ascidian larval development. *Dev. Genetics* 15: 51-63.
- 18) Hadfield, K. A., Swalla B. J., and Jeffery, W. R. (1995) Multiple origins of an evolutionary change in ascidian development. *J. Mol. Evolution* 40: 413-427.
- 19) **Swalla, B. J.** and Jeffery, W. R. (1995) A maternal RNA localized in the yellow crescent is segregated to the larval muscle cells during ascidian development. *Develop. Biol.* 170: 353-364.
- 20) Ma, L., **Swalla, B. J.**, Zhou, J., Dobias, S. L., Bell, J. R., Chen, J. Maxson, R. and Jeffery, W.R. (1996) Expression of an Msx homeobox gene in ascidians: insights into the archetypal chordate expression pattern. *Developmental Dynamics* 205: 308-318.
- 21) Kuskabe, T., **Swalla, B. J.**, Satoh, N. and Jeffery, W. R. (1996) Mechanism of an evolutionary change in muscle cell differentiation in ascidians with different modes of development. *Develop. Biol.* 174: 379-392.
- 22) **Swalla, B. J.** and Jeffery, W. R. (1996) PCNA mRNA has a 3'UTR antisense to yellow crescent RNA and is localized in ascidian eggs and embryos. 178: 23-34.
- \*23) **Swalla, B. J.** and Jeffery, W. R. (1996) Requirement of the manx gene for expression of chordate features in a tailless ascidian larva. *Science* 274: 1205-1209.
- 24) **Swalla, B. J.** and Jeffery, W. R. (1996) Localization of ribosomal protein L5 mRNA in myoplasm during ascidian development. *Dev. Genetics* 19: 258-267.
- 25) Panganiban, G. , Irvine, S. M., Lowe, C., Roehl, H., Corley, L. S., Sherbon, B., Grenier, J., Fallon, J. F., Kimble, J., Walker, M., Wray, G., **Swalla, B. J.**, Martindale, M. Q., and Carroll, S. B. (1997) The origin and evolution of animal appendages. *Proc. Natl. Acad. Sci.* 94: 5162-5166
- 26) Martindale, M. Q. and **Swalla, B. J.** (1998) Introduction to the symposium: The evolution of development patterns and process. *Amer. Zool.* 38: 591-592.
- 27) Jeffery, W. R., Ewing, N., Machula, J., Olsen, C. L. and **Swalla, B. J.** (1998) Cytoskeletal actin genes function downstream of HNF-3 $\beta$  in ascidian notochord development. *Int. J.Dev. Biol.* 42: 1085-1092.
- \*28) **Swalla, B. J.**, Pederson, E. L., Just M. L. and Jeffery, W. R. (1999) A multigene locus containing the *manx* and *bobcat* genes is required for development of chordate features in the ascidian tadpole larva. *Development* 126:1643-1653.
- 29) Jeffery, W. R., **Swalla, B. J.** Ewing, N. and Kusakabe, T. (1999) Evolution of the ascidian anural larva: evidence from embryos and molecules. *Mol. Biol. and Evol.* 16: 646-654.
- 30) **Swalla, B. J.** and Collazo, A. (2000) Systematics and the evolution of developmental patterns. *Systematic Biology* 49: 1-2.
- 31) **Swalla, B. J.**, Cameron, C. B., Corley, L. S. and Garey, J. R. (2000) Urochordates are monophyletic within the deuterostomes. *Systematic Biology* 49: 122-134.

- \*32) Cameron, C. B., Garey, J. R. and **Swalla, B. J.** (2000) Evolution of the chordate body plan: New insights from phylogenetic analyses of deuterostome phyla. *Proc. Natl. Acad. Sci.* 97: 4469-4474.
- 33) Seufert, D. W., Kos, R., Erickson, C. A. and **Swalla, B. J.** (2000) p68, a DEAD-box RNA helicase, is expressed in chordate embryo neural and mesodermal tissues. *J. Exp. Zool. B Mol. Dev. Evol.* 288: 193-204.
- 34) Riemer, D., Wang, J., Zimek, A., **Swalla, B. J.** and Weber, K. (2000) Tunicates have unusual nuclear lamins with a large deletion in the carboxyterminal tail domain. *Gene* 255: 317-325.
- 35) Huber, J. L., Burke da Silva, K., Bates, W. R. and **Swalla, B. J.** (2000) The evolution of anural larvae in molgulid ascidians. *Sem. in Develop. Biol.* 11: 419-426.
- 36) Davidson, B. and **Swalla, B. J.** (2001) Isolation of genes involved in ascidian metamorphosis: Epidermal growth factor signaling and metamorphic competence. *Dev. Genes Evol.* 211: 190-194.
- 37) Winchell, C. J., Sullivan, J., Cameron, C. B., **Swalla, B. J.** and Mallatt, J. (2002) Evaluating hypotheses of deuterostome phylogeny and chordate evolution with new LSU and SSU ribosomal DNA data. *Mol. Biol. and Evol.* 19:762-776.
- 38) Takada, N., York, J., Davis, J. M., Schumpert, B., Yasuo, H., Satoh, N. and **Swalla, B. J.** (2002) *Brachyury* expression in tailless molgulid ascidian embryos. *Evolution and Development* 4:3, 205-211.
- 39) Takada, N., Satoh, N. and **Swalla, B. J.** (2002) Expression of *Tbx-6*, a muscle lineage T-box gene, in the tailless embryo of the ascidian *Molgula tectiformis*. *Dev. Genes Evol.* 212: 354-356.
- 40) Davidson, B. and **Swalla, B. J.** (2002) A molecular analysis of ascidian metamorphosis reveals elements of an innate immune response. *Development* 129: 4739-4751.
- 41) Jeffery, W.R., Ewing, N., Machula, J., Olsen, C.L. and **Swalla, B.J.** (2002) Cytoskeletal actin genes function downstream of HNF-3beta in ascidian notochord development. *International Journal of Developmental Biology* 42 (8): 1085-1092.
- 42) Smith, S. E., Douglas, R., Burke da Silva, K. and **Swalla B. J.** (2003) Morphological and molecular identification of enteropneust worms (Hemichordata: Harrimanidae) in the Pacific Northwest. *Can. J. Zool.* 81:133-141.
- 43) Davidson, B., Smith Wallace, S. E., Howsmon, R. A. and **Swalla, B. J.** (2003) A morphological and genetic characterization of metamorphosis in the ascidian *Boltenia villosa*. *Develop. Genes & Evol.* 213: 601-611.
- 44) Davidson, B., Jacobs, M. and **Swalla, B. J.** (2004) The individual as a module: Solitary to colonial transitions in metazoan evolution and development. In: *Modularity in Development and Evolution*. Gerhard Schlosser and Günter Wagner, eds. University of Chicago Press. pp 443-465.
- 45) Chea, H., Wright C. V. and **Swalla, B. J.** (2005) Nodal signaling and the evolution of deuterostome gastrulation. *Dev. Dynamics.* 234: 269-278.
- 46) Zeng, L. and **Swalla, B. J.** (2005) Molecular phylogeny of the protochordates: Chordate evolution. *Can. J. Zool.* 83: 24-33.
- 47) Rychel, A. L., Smith, S. E., Shimamoto, H. T. and **Swalla, B. J.** (2006) Evolution and development of the chordates: Collagen and pharyngeal cartilage. *Mol. Biol. Evol.* 23(2):1-9.
- 48) Zeng, L., Jacobs, M. and **Swalla, B.J.** (2006) Coloniality and sociality has evolved once in Stolidobranch ascidians. *Integrative Comparative Biology* 46(3): 255-268.
- 49) Brown, F. D. and **Swalla, B.J.** (2007) *Vasa* is expressed in germ cells and in cells circulating in the blood of a colonial ascidian, *Botrylloides violaceus*. *Evol. & Develop.* 9(2): 165-177.
- \*50) Rychel, A.L. and **Swalla, B. J.** (2007) Development and evolution of chordate cartilage. *J. Exp. Zool. B Mol. Dev. Evol.* 308B: 325-335.
- 51) Roberts, B., Davidson, B., MacMaster, G., Ma, E., Smith Wallace S., Lockhart, V. and **Swalla B.J.** (2007) A complement response may activate metamorphosis in the ascidian *Boltenia villosa*. *Dev. Genes & Evol.* 217(6):449-458
- 52) Gyoja, F., Satou, Y., Shin-i, T., Kohara, Y., **Swalla, B.J.**, Satoh, N. (2007) Analysis of large scale expression sequenced tags (ESTs) from the anural ascidian, *Molgula tectiformis*. *Develop. Biol.* 307(2): 460-482.

- 53) Rutherford, S. Hirate, Y. and **Swalla, B.J.** (2007) The Hsp90 capacitor, developmental remodeling and evolution. *Critical Reviews in Biochemistry and Mol. Biol.* 42: 1-18.
- \*54) **Swalla, B.J.** and Smith, A.B. (2008) Deciphering Deuterostome Phylogeny: Molecular, morphological and palaeontological perspectives. *Phil. Trans. R. Soc. B London* 363: 1557-1568.
- \*55) Rychel, A.L. and **Swalla, B.J.** (2008) Anterior regeneration in the hemichordate, *Ptychodera flava*. *Develop. Dyn.* 237 (11): 3222-3232.
- 56) **Swalla, B.J.** and Xavier-Neto, J. (2008) Chordate origins and evolution. *Genesis* 46: 575-579
- \*57) Brown, F.D., Prendergast, A. and **Swalla, B.J.** (2008) Man is but a worm: Chordate Origins. *Genesis* 46: 605-613.
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- 65) Lambert G., Shenkar, N. and **Swalla B.J.** (2010) First Pacific record of the north Atlantic ascidian *Molgula citrina*—bioinvasion or circumpolar distribution? *Aquatic Invasions* 5(4): 369-378.
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- A.G. Collins, T. Cribb, M. Curini-Galletti, F. Dahdouh-Guebas, P.J.F. Davie, M.N. Dawson, O. De Clerck, W. Decock, S. De Grave, N.J. de Voogd, D.P. Domning, C.C. Emig, C. Erséus, W. Eschmeyer, K. Fauchald, D.G. Fautin, S.W. Feist, C.H.J.M. Fransen, H. Furuya, O. Garcia-Alvarez, S. Gerken, D. Gibson, A. Gittenberger, S. Gofas, L. Gómez-Daglio, D.P. Gordon, M.D. Guiry, F. Hernandez, B.W. Hoeksema, R.R. Hopcroft, D. Jaume, P. Kirk, N. Koedam, S. Koenemann, J.B. Kolb, R.M. Kristensen, A. Kroh, G. Lambert, D.B. Lazarus, R. Lemaitre, M. Longshaw, J. Lowry, E. Macpherson, L.P. Madin, C. Mah, G. Mapstone, P.A. McLaughlin, J. Mees, K. Meland, C.G. Messing, C.E. Mills, T.N. Molodtsova, R. Mooi, B. Neuhaus, P.K.L. Ng, C. Nielsen, J. Norenburg, D.M. Opresko, M. Osawa, G. Paulay, W. Perrin, J.F. Pilger, G.C.B. Poore, P. Pugh, G.B. Read, J.D. Reimer, M. Rius, R.M. Rocha, J.I. Saiz-Salinas, V. Scarabino, B. Schierwater, A. Schmidt-Rhaesa, K.E. Schnabel, M. Schotte, P. Schuchert, E. Schwabe, H. Segers, C. Self-Sullivan, N. Shenkar, V. Siegel, W. Sterrer, S. Stöhr, **B.J. Swalla**, M.L. Tasker, E.V. Thuesen, T. Timm, M.A. Todaro, X. Turon, S. Tyler, P. Uetz, J. van der Land, B. Vanhoorne, L.P. van Ofwegen, R.W.M. van Soest, J. Vanaverbeke, G. Walker-Smith, T.C. Walter, A. Warren, G.C. Williams, S.P. Wilson, and M.J. Costello, 2012. The magnitude of global marine species diversity. *Current Biology*, 22: 1-14.
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- 75) Peterson, K. J., Su Yi-H., Arnone M. I., **Swalla B. J.**, and King B. (2013) microRNAs support the monophyly of enteropneust hemichordates. *J. Exp. Zool. B Mol. Dev. Evol.* 9999B: 1–7.
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#### **Postdoctoral/Graduate Student Abstracts of Talks & Posters – Last 8 Years**

- 1) 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.
- 2) 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
- 3) 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)
- 4) Fodor A.C.A., **Swalla B.J.** (2017) A Tail of Two Ascidiens: Searching for the mechanisms behind tail loss in Molgulid ascidians, Tunicate Taxonomy Course, Bocas Del Toro, Panama, June 2017
- 5) 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)
- 6) 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)
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- 8) Lubeck, L.A., Grauman, B.G., Seitz, T. and **Swalla, B.J.** (2019) Clone Alone: Lithium Chloride Induced Cloning in *Dendroaster excentricus*. SICB annual meeting, Tampa, FL, January 3-7, 2018 (talk)
- 9) Liu, J. and **Swalla, B.J.** (2021) Understanding the Evolutionary Gene Networks activated during *Ptychodera flava* regeneration. UW Undergraduate Research Symposium May 21, 2021
- 10) Le, Q.C.T., McCarthy, M.M. and **Swalla, B.J.** (2021) Phylogenetic relationships between *Molgula ficus*, *Molgula verrucifera*, *Molgula complanata* and other Molgulid ascidians. UW Undergraduate Research Symposium May 21, 2021
- 11) Powers, M.M., Stolfi, A., Di Gregorio, A., **Swalla, B.J.** (2022) Tail Loss in Molgulid Ascidiens: Investigating Key Notochord Genes. SICB annual meeting, Phoenix, AZ, January 3-7, 2022 (Poster)
- 12) Powers, M.M., and **Swalla, B.J.** (2023) Assessing Ascidian Invasion in the Salish Sea SICB annual meeting, Austin, TX, January 3-7, 2023 (Poster)

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