

Curriculum Vitae

Russell C. Wyeth

Department of Biology
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Education

Ph.D. Zoology

University of Washington, 2004

Advisor: Dr. A.O. Dennis Willows

Dissertation: Odors and water flow guide navigation in *Tritonia diomedea*.

B.Sc. Honours Biology

University of Victoria, 1996

Advisor: Dr. George O. Mackie

Thesis: Development and use of sandwich cultures for the study of feeding in the hexactinellid sponge *Rhabdocalyptus dawsoni* (Lambe, 1892).

Academic Positions

Associate Professor (tenured); St. Francis Xavier University, Dept. of Biology, 2013 – cont'

Assistant Professor; St. Francis Xavier University, Dept. of Biology, 2007 – 2013

Adjunct Professor; University of Prince Edward Island, Dept. of Biology, 2014-2017

Research Focus

Neuroethology, sensory neurophysiology, and behaviour of aquatic invertebrates.

Current Projects:

1. Neural control of navigation behaviour in gastropods
 - a. Chemosensory behaviours and neurophysiology in the nudibranch *Tritonia diomedea*.
 - b. Navigational strategies for animals searching for odour sources in variable flow.
 - c. Chemical ecology of *Flabellina*
 - d. Sensory systems in the marine slug *Aplysia californica* and pond snail, *Lymnaea stagnalis*.
 - e. Gravireception in the nudibranch *Hermisenda crassicornis*
2. Field testing of novel antifouling technologies.
3. Lobster trap bait optimization.

Teaching Focus

Animal Behaviour; Invertebrate Zoology; Diversity of Life; Neuroethology

Biographical Data

Citizenship: Canadian

Teaching

Teaching and Mentorship Experience

Instructor

Animal Behaviour. St Francis Xavier University, Fall Terms 2009-2013.

Introductory Biology – Diversity of Life. St. Francis Xavier U., Winter Terms 2008-2014.

Invertebrate Zoology. St Francis Xavier University, Fall Terms 2008-2012.

Marine Invertebrate Zoology. Bamfield Marine Sci.Centre, Summer 2006, 2007.

Natural History of Marine Invertebrates. U. of Washington, Summer 2001.

*all courses include instruction of both lecture and lab, with the exception of Introductory Biology, which includes lecture instruction and lab coordination

Research Apprenticeship Assistant

special 3 month research program for 6-10 senior undergraduates mentored by 2 faculty and 2 graduate students at Friday Harbor Laboratories (FHL)

Neurobiology and Behavior of Orientation and Navigation in Animals. FHL, 2002.

Implantable Electrodes and Computers in the Brain. FHL, 2001.

Teaching Assistant

Invertebrate Zoology (graduate-level course). FHL, 2000, 2004.

Introductory Biology Field Trips (non-majors). FHL, quarterly 2001 - 2004.

Teaching Awards

Distinguished Teaching Award. Association of Atlantic Universities, 2013

Outstanding Teaching Award. StFX, 2012.

Research

Past Research Experience

NSERC Post-doctoral Fellow, 2006-2007

Mentor: Dr. Roger P. Croll, Dalhousie University.

Primary Project: Chemosensory and mechanosensory pathways in the pond snail, *Lymnaea stagnalis*. Characterizing peripheral sensory cells in the tentacles and lips, and their connections to the CNS (in particular, the buccal motor program generator) with immunohistochemistry, neuronal tracing, and histochemical techniques.

Other Projects: Ctenophore neuromuscular control; molluscan anaesthesia; nudibranch navigational strategies.

Post-doctoral Researcher, 2005-2006

Mentor: Dr. Andrew S. French, Dalhousie University.

Project: Peripheral modulation of mechanosensory neurons by octopamine in the wandering spider *Cupiennius salei*; discontinuous single-electrode voltage and current clamp, frequency response analyses of stimulus encoding. Mechanosensory responses to naturalistic stimuli.

Ph.D. Dissertation, 1999 - 2004

Advisor: Dr. A.O. Dennis Willows, University of Washington

Project: Cataloguing the field behaviour of the nudibranch *Tritonia diomedea* using underwater timelapse video; documentation of chemosensory behaviours and the sensory neurophysiology underlying responses to odours; Techniques included video analysis of behavioural experiments, extracellular and intracellular neurophysiology, immunohistochemistry and other neuroanatomical techniques, and custom software development in Matlab.

Interdisciplinary Collaboration, 1999 - 2005

University of Washington. Dr. A.O. Dennis Willows: Biology; Dr. Karl F. Bohringer: Electrical Engineering; Dr. Chris Diorio: Computer Science.

Project: Developing silicon based electrodes and implantable computer devices with the goal of performing intracellular recordings from freely behaving animals; intracellular recordings and surgery in nudibranchs.

Rotation Projects, 1998 - 1999

University of Washington, lab rotations to learn new techniques:

Dr Scott Edwards. Molecular population biology of blackbirds.

Dr Kathy Graubard. Calcium imaging in the crab stomatogastric ganglion.

Dr. Chris Diorio. Analog silicon chip circuit design.

Research Assistant, 1998 - 1999

Supervisor: Dr. George O. Mackie, U. of Victoria and Friday Harbor Labs.

Project: Neuronal conduction pathways in tunicates; electrophysiological and histological characterization of an alternate conduction pathway (bypassing the brain) between the ascidian siphons; extracellular recording, neuroanatomy, and histochemistry.

Past Research Experience cont'

Research Diver, 1997

Supervisors: Dr. Amatzia Genin, Dr. Gitai Yahel, Dr. Ruthy Yahel. Inter University Institute, Eilat Israel.

Projects: Suspension feeder efficiency sampling and fish behaviour surveys. International oceanographic cruise, Gulf of Aqaba, Red Sea.

Microtechnique Technician, 1996 - 1998

Supervisor: Lesley Manning, Canadian Forest Service, Pacific Forestry Centre.

Project: Preparation and observation of botanical and zoological specimens for transmitted, epifluorescence, scanning and transmission electron microscopy.

Honours Thesis, 1994 - 1996

Advisor: Dr. George O. Mackie, University of Victoria

Project: Feeding in the hexactinellid sponge *Rhabdocalyptus dawsoni*, using specially developed cultures for video microscopy observation of live tissue, as well as transmission electron microscopy; further work at Bamfield Marine Sciences Centre, investigating feeding efficiencies.

Research Grants

Received – Major

1. Monitoring variability of environmental factors impacting tunicate infestation on coastal shellfish farms in Nova Scotia.
Department of Fisheries and Oceans, Aquaculture Collaborative Research and Development Program, 2013. \$162,559 [1 of 6 co-applicants]
2. Testing a novel hypothesis for how animals can use the Earth's magnetic field during short-term navigation behaviors.
National Geographic Society, Committee for Research and Exploration, 2013. \$20,000 [1 of 2 co-applicants]
3. Bait refinement and optimization for lobster fisheries.
Atlantic Lobster Sustainability Foundation, 2012. \$13,800 [1 of 2 co-applicants]
4. An innovative multi-disciplinary applied R&D approach for the control, reduction and elimination of biofouling of subsea optical and other submerged surfaces for the offshore oil & gas industry.
NSERC Collaborative Res. and Dev't Grant and Petroleum Research Atlantic Canada. 2011. \$300,000 [1 of 5 co-applicants].
5. Molluscan Neuroethology Laboratory.
Canadian Foundation for Innovation, Leaders Opportunity Fund. 2010. \$347,040 [includes matching funds]

Received – Minor

St. Francis Xavier University Council for Research. 2014. \$2,000

Bamfield Marine Sciences Centre Research Grant. 2011. \$5,000

St. Francis Xavier University Council for Research. 2011. \$3,000

Nova Scotia Health Research Foundation REDI Research Skills Award. 2011. \$1,989

St. Francis Xavier University Council for Research. 2010. \$3,000

Nova Scotia Health Research Foundation Research Skills Grant. 2008 \$1,998
St. Francis Xavier University Council for Research. 2008. \$3,000
Malacological Society of London Research Grant. 2007. \$2,100.
Nova Scotia Health Research Foundation Capacity Grant. 2006. \$1,989
Nova Scotia Health Research Foundation Capacity Grant. 2005. \$1,600
Conchologists of America Grants to Malacology. 2003. \$US1,000

Research Awards and Fellowships

Name	Value	Level	Type	Location*	Dates
Endeavour Research Fellowship	\$25,000	International	Research	USC	2015
University Research Award	\$2300/yr	Institutional	Research	StFX	2009-2014
NSERC Post-doctoral Fellowship	\$80000	National	Research	Dal	2006 - 2007
Best Student Presentation	-	International	Communication	SICB	2003
NSERC Post-Graduate Schol. B	\$38200	National	Research	UW	2000 - 2002
NSERC Post-Graduate Schol. A	\$33600	National	Research	UW	1998 - 2000
Recruitment Scholarship	\$32000	Institutional	Academic	UW	1998 - 1999
NSERC Undergrad Res. Awards	2x\$3600	National	Research	UVic	1994, 1995

* Abbreviations: StFX, St Francis Xavier University; Dal, Dalhousie University; UW, University of Washington; UVic, University of Victoria; SICB, Division of Neurobiology, Society for Integrative and Comparative Biology; USC, University of the Sunshine Coast, Australia.

Student & Postdoctoral Supervision Summary

Official supervision and co-supervision (totals, with # co-supervised in parentheses):

1. 1 postdoctoral fellow (co-supervised)
2. 3 MSc students
3. 5 Honours students (3 co-supervised)
4. 4 graduate-level directed studies and graduate-level courses
5. 5 undergraduate directed studies
6. 10 undergraduate/post-baccalaureate research assistants (3 co-supervised)

In addition, I have also:

1. Served on 8 honours student advisory committees. StFX, 2008-cont.
2. Served on 4 M.Sc. student advisory committees. StFX, 2008-cont.

Professional Affiliations

Canadian Society of Zoologists Society for Integrative and Comparative Biology
 International Society for Neuroethology

Certifications

SCUBA: Open Water, Advanced, Nitrox, Scientific Diver

Further selected examples of dive research experience:

Bamfield Marine Sciences Centre, 2006, 2007

Supervision of student project surveying dock faunal diversity; collections

Friday Harbor Laboratories, 1999 – 2004, 2008

Ph.D. research; Artificial reef surveys in local port with Dr. David Duggins.

Pearson College/University of Victoria with Dr. Gitai Yahel, 2004
Suspension feeder efficiency sampling.

First Aid: CPR, Emergency First Aid, Oxygen Administration

Publications

Peer-reviewed Articles

1. McCullagh, G.B., Bishop, C.D., and **Wyeth, R.C.** 2014. One rhinophore probably provides sufficient sensory input for odour-based navigation by the nudibranch mollusc, *Tritonia diomedea*. J Exp Biol. In Press.
2. Ryan, S., Livingstone, S., Barry, J., Williams, P.J., **Wyeth, R.C.** 2014. Laboratory comparison of American lobster, *Homarus americanus*, foraging responses to invasive green crab, *Carcinus maenas*, and two traditional finfish baits. Marine and Freshwater Behavior and Physiology.
3. Pustam, A., Smith, C., Deering, C., Grosicki, K.M., Leng, T.Y., Lin, S., Yang, J., Pink, D., Gill, T., Graham, L., Derksen, D., Bishop, C., DeMont, M.E., **Wyeth, R.C.**, and Smith-Palmer, T. 2014. Interactions of protamine with the marine bacterium, *Pseudoalteromonas* sp. NCIMB 2021. Lett Appl Microbiol 58: 225–230.
4. **Wyeth, R.C.** and Croll, R.P. 2011. Peripheral sensory cells in the cephalic sensory organs of *Lymnaea stagnalis*. J. Comp. Neurol. 519: 1894-1913.
5. **Wyeth, R.C.** 2010. Should animals navigating over short distances switch to a magnetic compass sense? Front. Behav. Neurosci. 4:42.
6. **Wyeth, R.C.**, Croll, R.P., Willows, A.O.D., and Spencer, A.N. 2009. 1-Phenoxy-2-propanol is a useful anaesthetic for gastropods used in neurophysiology. Journal of Neuroscience Methods. 176(2): 121-128.
7. **Wyeth, R.C.** and Willows, A.O.D. 2006. Field behavior of the nudibranch mollusc, *Tritonia diomedea*. Biological Bulletin. 210(2):81-96. [featured as the Editor's pick and provided the cover artwork for the journal issue]
8. **Wyeth, R.C.** and Willows, A.O.D. 2006. Odours detected by rhinophores mediate orientation to flow in the nudibranch mollusc, *Tritonia diomedea*. Journal of Experimental Biology. 209(8):1441-1453.
9. **Wyeth, R.C.**, Woodward, O.M., and Willows, A.O.D. 2006. Orientation and navigation relative to water flow, prey, conspecifics, and predators by the nudibranch mollusc, *Tritonia diomedea*. Biological Bulletin. 210(2):97-108.
10. **Wyeth, R.C.** and Willows, A.O.D. 2006. Adaptation of underwater video surveillance for near substratum current measurement. Biological Bulletin. 211(2):101-105.
11. Hanein, Y., Böhringer, K.F., **Wyeth, R.C.**, and Willows, A.O.D. 2002. Towards MEMS probes for intracellular recording. Sensors Update. 10(1.3):1-29. Invited article.
12. Mackie, G.O. and **Wyeth, R.C.** 2000. Conduction and coordination in deganglionated ascidians. Canadian Journal of Zoology. 78:1626-1639.
13. **Wyeth, R.C.** 1999. Video and electron microscopy of particle feeding in sandwich cultures of the hexactinellid sponge, *Rhabdocalyptus dawsoni*. Invertebrate Biology. 118(3):236-242.

14. **Wyeth, R.C.**, Leys, S.P., and Mackie, G.O. 1996. Use of sandwich cultures for the study of feeding in the hexactinellid sponge *Rhabdocalyptus dawsoni* (Lambe, 1892). *Acta Zoologica*. 77:227-232.

Book Chapters

1. Cummins, S.F., **Wyeth, R.C.** 2014. Olfaction in Gastropods. *In* Neuroecology and neuroethology in molluscs: the interface between behavior and environment, p45-72. Edited by: Winlow, B. and Di Cosmo, A. Nova Science Publishers Ltd, Hauppauge, New York, USA
2. Heyland, A., Croll, R., Goodall, S., Kranyak, S., **Wyeth, R.C.** 2014. *Trichoplax adherens*, an enigmatic basal metazoan with potential. *In* Methods in Molecular Biology: Developmental Biology of the Sea Urchin and other Marine Invertebrate Model Systems, p45-61. Stricker, S., Carroll, D., Eds. Humana Press, New York.
3. **Wyeth, R.C.**, Braubach, O.R., Fine, A., and Croll, R.P. 2011. Videograms: a method for repeatable unbiased quantitative behavioural analysis without scoring or tracking. *In* Zebrafish Neurobehavioral Protocols, Neuromethods 51: 15-33. Kalueff, A.V and Cachat, J.M. Eds. Humana Press, New York.
4. Braubach, O.R., **Wyeth, R.C.**, Murray, A., Fine, A., and Croll, R.P. 2011. A simple and effective method to condition olfactory behaviors in groups of zebrafish. *In* Zebrafish Neurobehavioral Protocols, Neuromethods 51: 85-97. Kalueff, A.V and Cachat, J.M. Eds. Humana Press, New York

Peer-reviewed posters and conference proceedings

1. Govindarajan, A., Chen, T., **Wyeth, R.C.**, Willows, A.O.D., Böhringer, K.F. 2004. Intracellular neuronal recording with flexible micro-machined probe implants. Solid State Sensor, Actuator, and Microsystems Workshop, Hilton Head, SC, USA.
2. Holman, G., Hanein, Y., **Wyeth, R.C.**, Willows, A.O.D., Denton, D.D., and Böhringer, K.F. 2002. Silicon micro-needles with flexible interconnections. 2nd International IEEE-EMBS Special Topic Conference on Microtechnologies in Medicine & Biology, Madison, WI, USA.
3. Hanein, Y., Lang, U., Theobald, J., **Wyeth, R.C.**, Daniel, T., Denton, D.D., Willows, A.O.D. and Böhringer, K.F. 2001. Intracellular recording with high aspect ratio MEMS neuronal probes. 11th International Conference on Solid-State Sensors and Actuators, Munich, Germany.

Public articles (non-refereed)

1. **Wyeth, R.C.** 2006. Nudibranch navigation: the natural history of *Tritonia diomedea*. *American Conchologist*. 34(4):8-11.

Presentations

Invited Presentations

1. **Wyeth, R.C.** 2013/11/8. Attraction and avoidance in the ocean: making a stink about hungry lobster, sprinting slugs, and meddlesome squirts. Biology Dept Seminar, University of Prince Edward Island, Charlottetown, PEI.
2. Carrigan, I. and **Wyeth, R.C.** 2013/10/20. The peripheral neuroanatomy of *Aplysia californica*. U4 League Undergraduate Research Showcase, Wolfville, NS.
3. **Wyeth, R.C.** and Williams, P.J. 2013/7/23. Green crab as lobster bait. Atlantic Lobster Sustainability Workshop, Moncton, NB.
4. **Wyeth, R.C.** 2012/6/20. Possible alternative strategies for nudibranchs navigating in variable flow. Combined American Malacological Society and Conchologists of America Annual Meeting, Philadelphia, PA, USA
5. McCullagh, G.B. and **Wyeth, R.C.** 2012/6/20. Odor-gated rheotaxis and sensory integration by the rhinophores during navigation in the nudibranch, *Tritonia diomedea*. Combined American Malacological Society and Conchologists of America Annual Meeting, Philadelphia, PA, USA
6. **Wyeth, R.C.** 2011/5/18. Neurotransmitters in nudibranch statocysts: balancing reductionism. A.N. Spencer Memorial Symposium, Canadian Society of Zoologists Annual Meeting, Ottawa, Canada.
7. **Wyeth, R.C.** 2011/2/10. Enhancing student engagement in large and small classes - What can Moodle do? Faculty Development Centre, St. Francis Xavier University
8. **Wyeth, R.C.** 2010/7/1. Nudibranch navigation behaviour and neurobiology: how slugs find their way. Bamfield Marine Sciences Centre Seminar, Bamfield BC
9. **Wyeth, R.C.** 2009/7/15. Upstream or downstream? The neuroethology of navigating nudibranchs. Bamfield Marine Sciences Centre Seminar, Bamfield BC
10. **Wyeth, R.C.** 2008/11/21. The neuroethology of nudibranch navigation: going against the flow. Biology Department Seminar, Acadia University, Wolfville, NS.
11. **Wyeth, R.C.** 2008/10/31. The neuroethology of nudibranch navigation: going against the flow. Biology Department Seminar, University of New Brunswick - Fredericton.

Prior to my arrival at StfX:

12. **Wyeth, R.C.** 2007. Sensory integration during navigation by the nudibranch *Tritonia diomedea*. Biology Department Seminar, St. Francis Xavier University, Antigonish, NS.
13. **Wyeth, R.C.** 2006. Sensory integration during navigation by the nudibranch *Tritonia diomedea*. Psychology Colloquium, Dalhousie University, Halifax, NS.
14. **Wyeth, R.C.** 2006. SOH seeks intimate encounter with SOH: Nudibranch navigation. Friday Informal Seminar Series, Dept. of Biology, Dalhousie University, Halifax, NS.
15. **Wyeth, R.C.** 2006. Slugs seeking slugs... navigation by the nudibranch *Tritonia diomedea*. Bamfield Marine Sciences Centre Seminar, Bamfield BC.

16. **Wyeth, R.C.** and Willows, A.O.D. 2005. Intracellular recordings with implantable silicon microelectrodes? Biological and Computational Perspectives on Intelligent Systems, Friday Harbor Laboratories, WA, USA.
17. **Wyeth, R.C.** and Willows, A.O.D. 2003. Chemosensory behaviours and neurophysiology of the sea slug, *Tritonia diomedea*. University of Victoria Neurobiology Seminar, Victoria, BC.

Presentations at International & National Meetings as Primary or Senior Author

1. Murphy, K., Sephton, D., Bishop, C.D., and **Wyeth, R.C.** 2014/10/24. Environmental and population monitoring to establish the relationship between environmental factors and *Ciona intestinalis* distribution. International Invasive Sea Squirt Conference V. Woods Hole, MA, USA.
2. Filip, N. and **Wyeth, R.C.** 2014/10/24. Silicone-based coatings decrease invasive tunicate fouling. International Invasive Sea Squirt Conference V. Woods Hole, MA, USA.
3. **Wyeth, R.C.**, and Murray, J.A. 2014/5/26. Orienteering slugs: a potential role for magnetoreception in primarily odour-based navigation by the nudibranch *Tritonia diomedea*. Canadian Society of Zoologists Annual Meeting, Montreal, QC, Canada
4. Filip, N. and **Wyeth, R.C.** 2014/05/29. Polyvinyl siloxane decreases invasive tunicate recruitment in the field. Canadian Society of Zoologists Annual Meeting, Montreal, QC, Canada
5. **Wyeth, R.C.**, Kehoe, E.F., and McCullagh, G.B. 2012. Odour-based navigation behaviour in *Tritonia*: sensory systems and strategies. International Congress of Neuroethology, College Park, USA. Poster. (attended by R. Wyeth only)
6. **Wyeth, R.C.** and Wonham, M. 2012/5/7. Questions, hypotheses and experimental design: helping students to test what they meant to test. Canadian Society of Zoologists Annual Meeting, Sackville, NB, Canada.
7. McCullagh, G.B. and **Wyeth, R.C.** 2012/5/8. The nudibranch *Tritonia diomedea* responds to odours trapped in the substrate boundary layer after removal of an odour plume.. Canadian Society of Zoologists Annual Meeting, Sackville, NB, Canada. (attended by R. Wyeth only)
8. Kehoe, E.F., Webber, M.P. and **Wyeth, R.C.** 2012/5/8. Catecholaminergic peripheral neuroanatomy in the nudibranch *Tritonia diomedea*. Canadian Society of Zoologists Annual Meeting, Sackville, NB, Canada. Poster.
9. McCullagh, G.B., Bishop, C.D., and **Wyeth, R.C.** 2012/1/6. Odor-gated rheotaxis and sensory integration by the rhinophores during navigation in the nudibranch, *Tritonia diomedea*. Society for Integrative and Comparative Biology Annual Meeting, Charleston, USA. (attended by G. McCullagh only)
10. Webber, M.P. and **Wyeth, R.C.** 2011/5/17 Neuroanatomy of the *Hermisenda* central nervous system: GABA, histamine, and FMRFamide immunoreactivity. Canadian Society of Zoologists Annual Meeting, Ottawa, Canada. Poster

11. **Wyeth, R.C.** and McCullagh, G.B. 2010/8/3. Sensory structure roles in odour-gated rheotaxis during navigation by the nudibranch mollusc *Tritonia diomedea*. International Congress of Neuroethology, Salamanca, Spain. Poster.
12. McCullagh, G.B., and **Wyeth, R.C.** 2010/5/17. Sensory structures and neural mechanisms underlying navigational behaviours in the nudibranch mollusc *Tritonia diomedea*. Canadian Society of Zoologists Annual Meeting, Vancouver, Canada. Poster.
13. **Wyeth, R.C.** and Croll, R.P. 2009/2/14. Peripheral sensory cells in the cephalic sensory organs of *Lymnaea stagnalis*. Molluscan Neuroscience Meeting, San Juan, Puerto Rico. Poster.
14. **Wyeth, R.C.** and Croll, R.P. 2009/1/5. Peripheral sensory cells in the cephalic sensory organs of the pond snail *Lymnaea stagnalis*. Society for Integrative and Comparative Biology Annual Meeting, Boston, MA, USA.
15. **Wyeth, R.C.** and Croll, R.P. 2008/5/20. Sensational snail neuroethology: neuroanatomy of the lips and tentacles of *Lymnaea stagnalis*. Canadian Society of Zoologists Annual Meeting, Halifax, NS, Canada.

Prior to my arrival at StfX:

16. **Wyeth, R.C.** 2007. Can odour-gated rheotaxis be improved for navigation in variable flow? 8th International Congress of Neuroethology, Vancouver, BC, Canada. Poster.
17. **Wyeth, R.C.** and Croll, R.P. 2007. Peripheral sensory pathways in the pond snail *Lymnaea stagnalis*. Society for Integrative and Comparative Biology Annual Meeting, Phoenix, AZ, USA.
18. **Wyeth, R.C.** 2006. Modeling navigation in the sea slug *Tritonia diomedea*: strategies for finding odor sources in variable flow. Society for Integrative and Comparative Biology Annual Meeting, Orlando, FL, USA.
19. **Wyeth, R.C.** and Willows, A.O.D. 2003. Behavioral and neurophysiological responses to chemosensory cues associated with prey, mates, and predators in the nudibranch mollusc, *Tritonia diomedea*. Society for Neuroscience, New Orleans, LA, USA. Poster.
20. **Wyeth, R.C.** and Willows, A.O.D. 2003. Integration of multiple sensory cues by the nudibranch mollusk, *Tritonia diomedea*, during navigation through its natural habitat. Society for Integrative and Comparative Biology, Toronto, ON.
21. **Wyeth, R.C.** and Willows, A.O.D. 2002. Field behavior of the nudibranch mollusc, *Tritonia diomedea*: a baseline for the neuroethology of orientation and navigation. Society for Integrative and Comparative Biology, Anaheim, CA, USA.
22. **Wyeth, R.C.**, Willows, A.O.D., Hanein, Y., Lang, U., and Böhringer, K.F. 2001. Towards field neurobiology: developing an autonomous implantable computer to record from the brain of *Tritonia diomedea*. 6th International Congress of Neuroethology, Bonn, Germany. Poster.
23. **Wyeth, R.C.** and Mackie, G.O. 2000. Conduction and coordination in deganglionated ascidians. Western Nerve Net, Boseman, MT, USA.
24. **Wyeth, R.C.** 1996. Feeding in the hexactinellid sponge, *Rhabdocalypus dawsoni*. Pacific Ecology Conference, Friday Harbor Laboratories, WA, USA.

Secondary Author at International & National Meetings

1. Pustam, A.N., Bishop, C.D., Brophy, S., DeMont, M.E., Derksen, D., Grosicki, K., Leng, T.Y., Pink, D., Smith-Palmer, T., and Wyeth, R.C. 2012. Whale Baleen Nanostructures as a possible Model for Antifouling Control. International Congress on Marine Corrosion and Fouling. Seattle, Washington. Poster
2. Murray, A., Braubach, O.R., **Wyeth, R.C.**, Fine, A., and Croll, R.P. 2011. Appetitive swimming behaviour and single-trial classical conditioning in larval zebrafish (*Danio rerio*). 2nd North Atlantic Zebrafish Research Symposium, Halifax, NS. Poster
3. Bock, N.L., **Wyeth, R.C.** and Cain, S.D. 2005. The temporal structure of multiple guidance cues during prey-finding behavior of the marine mollusc *Tritonia diomedea*. Soc. for Integrative and Comparative Biol. Ann. Meeting, San Diego, CA, USA. Poster
4. Jones, A.J., Murray, J.A., Cain, S.D., and **Wyeth, R.C.** 2009. The influence of odor cues, water flow, & magnetic fields on the orientation of the sea slug *Tritonia diomedea*. Soc. for Integrative and Comparative Biology Ann. Meeting, Boston, MA, USA. Poster

Academic Service

Committee Membership

Education Committee, Council Member, Canadian Society of Zoologists, 2013-cont'.
Science Atlantic/Atlantic Provinces Council on the Sciences, Biology Committee
StFX rep, 2008-2011; Vice-chair, 2012-2014.
Council Member, Canadian Society of Zoologists, 2012-cont'.
Outstanding Teaching Award Committee, St. Francis Xavier University, 2013-2014.
Graduate Studies Committee, St. Francis Xavier University, 2010-2013.
Academic Computing Committee, St. Francis Xavier University, 2008-2011.
Biology Dept. Sustainability Committee. St. Francis Xavier U., 2008-2010
Web Committee, International Society for Neuroethology, 2005-cont'
As Graduate Student:
Centennial Planning Committee. Friday Harbor Laboratories, 2002 - 2004.
Illg Distinguished Lecturer Committee. Friday Harbor Laboratories, 2002 - 2003.
Diving Control Board. University of Washington, 2001-2003.

Coordinator

Moodle (content management software) User Group. St. Francis Xavier U., 2010-2012
Biology Dept. Seminar Series. St. Francis Xavier University, 2008-cont'.
As Graduate Student:
Graduate Student Evolution Readings Seminars. U. of Washington, 1999, 2003.

Contributor

Moodle administrative and user support (informal): 2012 – cont'
First year Biology registration planning and co-ordination. StFX, 2012-cont'
Academic success sessions for 1st year students. StFX, 2011- cont'
Faculty of Science academic advising for first year students. 2008-cont'
Faculty Development Center Brown Bag Series. StFX, 2011, 2013
Faculty/Student Forum on Technologies in the Classroom. StFX, 2011.
Co-op program promotion. StFX, 2011 – cont'
Departmental review process, 2010-2013
Departmental website design, 2011-2012
Biology MSc program MPHEC application and graduate program revision, 2012-2013
Replacement project lead on Angela Beye's CFI grant. StFX, 2013-2014

User Support Requests

Letter in support of Friday Harbor Laboratories scientific impact (solicited by Dr. Ken Sebens, director of FHL). 2010
Presentation as major user in support of Bamfield Marine Sciences Centre's application for NSERC Major Resources Support Program (solicited by Dr. Rich Palmer, director of BMSC). 2008

Student Research Adjudicator

Canadian Society of Zoologists, Hoar Award, 2010
Atlantic Undergraduate Biology Conference, 2010-2013
St. Francis Xavier University Student Research Day, 2009 - 2013

Symposium Organizer

Symposium Title: Chemicals that Organize Ecology: Towards a Greater Integration of Chemoreception, Neuroscience, Organismal Biology, and Chemical Ecology. [co-organized with Dr. J. A. Murray] Conference: Society for Comparative Biology Annual Meeting, 2015/01/07

Editorial Activity

Associate Editor, Canadian Journal of Zoology, 2013 - 2016

Anonymous Reviews

Journals

<i>J. Exp. Biol.</i>	<i>Integr. Comp. Biol.</i>	<i>Comp. Biochem. Physiol.</i>
<i>Biol. Bull.</i>	<i>Frontiers Behav. Neurosci.</i>	<i>Aquatic Biol.</i>
<i>J. Photochem. Photobiol. B</i>	<i>Invert. Biol.</i>	<i>Brain Research Bulletin</i>
<i>International J. Zool.</i>	<i>J. Comp. Phys A</i>	<i>Aquaculture</i>

Grant Agencies

NSERC Discovery Grants Program

Outreach

Live animal display facilitation. NS Museum of Industry, 2014.

Web pages for students: how to get involved in research and how to get into grad school.

Informal high-school science curriculum contributions. StFX, 2011.

Guest discussion in BEd in-service teacher program. StFX, 2009, 2010.

High School Student Tour Coordination. StFX, 2009.

High School Student Job Shadowing. Dalhousie University, 2008.

Community Science Centre Association lecture. StFX, 2008.