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### **Current position**

Postdoctoral fellow. Steven J. Hallam Laboratory, Department of Microbiology and Immunology, University of British Columbia, Vancouver, B.C. Canada

### **Education**

**2002-2007** Ph.D. Department of Biochemistry and Molecular Biology, Dalhousie University, Halifax, N.S. Canada. Thesis title: "Molecular studies on the evolution and ecology of aerobic halophilic archaea."

**2004** Marine Biological Laboratory Course in Microbial Diversity, Woods Hole, MA. USA.

**2000-2002** B.Sc. with Distinction in Biochemistry and Microbiology, University of Victoria, Victoria, B.C. Canada.

**1998-2000** Diploma in Applied Chemistry and Biochemistry, Camosun College, Victoria, B.C. Canada.

### **Awards and scholarships**

**2007** Honorary Postdoctoral fellowship from the Centre for Microbial Diversity and Evolution, Tula Foundation.

**2007** Honorary Killam Trust Postdoctoral Fellowship.

**2007** National Science and Engineering Research Council of Canada Postdoctoral Fellowship.

**2005** Canadian Institutes of Health Research Canada Graduate Scholarship.

**2002** British Columbia Cancer Agency Studentship. Vancouver, B.C. Canada.

**2001** MDS-Metro Garth Walter Memorial Award. Camosun College, Victoria, B.C. Canada.

## **Peer reviewed contributions**

**Walsh D.A.**, Zaikova E., Howes C.L., Barry K., Tringe S. G., Tortell P.D., Hallam S.J. (2009) Metagenome of a versatile chemolithoautotroph from expanding oceanic dead zones. *Science*. 326: 578-82.

Zaikova E.,<sup>†</sup> **Walsh D.A.**<sup>†</sup>, Stilwell C., Mohn W.W., Tortell P.D., Hallam S.J. (2009) Microbial community dynamics in a seasonally anoxic fjord: Saanich Inlet, British Columbia. *Environ Microbiol.* (Published online 24 Sep). <sup>†</sup>These authors contributed equally to this work.

**Walsh D.A.** and Sharma A.K. (2009) Molecular phylogenetics: testing evolutionary hypotheses. *Methods Mol Biol.* **502**: 131-68.

**Walsh D.A.**, Boudreau M.E., Bapteste E., Doolittle W.F. (2007) The root of the tree: lateral gene transfer and the nature of the domains. In *Archaea: Evolution, Physiology, and Molecular Biology*, R.A. Garrett and H.-P. Klenk (Eds.), Blackwell Publishing.

Sharma A.K., **Walsh D.A.**, Bapteste E., Rodriguez-Valera F., Doolittle W.F., Papke R.T. (2007) Evolution of rhodopsin ion pumps in haloarchaea. *BMC Evol Biol.* **7**:79.

Guy C.P., Haldenby S., Brindley A., **Walsh D.A.**, Briggs G.S., Warren M.J., Allers T., Bolt E.L. (2006) Interactions of RadB, a DNA repair protein in archaea, with DNA and ATP. *J Mol Biol.* **358**: 46-56.

Mongodin E.F., Nelson K.E., Daugherty S., Deboy R.T., Wister J., Khouri H., Weidman J., **Walsh D.A.**, Papke R.T., Sanchez-Perez G., Sharma A.K., Nesbo C.L., MacLeod D., Bapteste E., Doolittle W.F., Charlebois R.L., Legault B., Rodriguez-Valera F. (2005) The genome of *Salinibacter ruber*: convergence and gene exchange among hyperhalophilic bacteria and archaea. *Proc Natl Acad Sci U S A.* **102**: 18147-52.

**Walsh D.A.**, Papke R.T., Doolittle W.F. (2005) Archaeal diversity along a soil salinity gradient prone to disturbance. *Environ Microbiol.* **7**: 1655-66.

Bapteste E. and **Walsh D.A.** (2005) Does the 'Ring of Life' ring true? *Trends Microbiol.* **13**: 256-61.

**Walsh D.A.** and Doolittle W.F. (2005) The 'real domains' of life. *Curr Biol.* **15**: R237-R240.

**Walsh D.A.**, Bapteste E., Kamekura M., Doolittle W.F. (2004) Evolution of the RNA polymerase B' subunit gene (*rpoB'*) in *Halobacteriales*: a complementary molecular marker to the SSU rRNA gene. *Mol Biol Evol.* **21**: 1-12.

Boucher Y., Douady C.J., Papke R.T., **Walsh D.A.**, Boudreau M.E.R., Nesbø C.L., Case R.J., Doolittle W.F. (2003) Lateral gene transfer and the origins of prokaryotic groups. *Annu Rev Genet.* **37**: 283-328.

### **Other contributions**

Zaikova E., Hawley A., **Walsh D.A.**, Hallam S.J. (2009) Seawater sampling and collection. *J Vis Exp.* **28**.

**Walsh D.A.**, Zaikova E., Hallam S.J. (2009) Large volume (20L+) filtration of coastal seawater samples. *J Vis Exp.* **28**.

**Walsh D.A.**, Zaikova E., Hallam S.J. (2009) Small volume (1-3L) filtration of coastal seawater samples. *J Vis Exp.* **28**.

Wright J.J., Lee S., Zaikova E., **Walsh D.A.**, Hallam S.J. (2009) DNA extraction from 0.22  $\mu\text{m}$  Sterivex filters and cesium chloride density gradient centrifugation. *J Vis Exp.* **31**.

### **Posters and presentations**

**Walsh D.A.**, Zaikova E., Howes C.L., Barry K., Tringe S.G., Tortell P.D., Hallam S.J. (2009) Microbial community genomics of an oceanic "dead zone." Gordon Research Conference on Applied and Environmental Microbiology. Mount Holyoke College, USA.

**Walsh D.A.**, Zaikova E., Howes C.L., Barry K., Tringe S.G., Tortell P.D., Hallam S.J. (2009) Ecological genomics of a marine oxygen minimum zone. Advancing the Science of Limnology and Oceanography Aquatic Sciences Meeting. Nice, France.

**Walsh D.A.**, Stilwell C.P., Yang J., Granger J., Tortell P.D., Mohn W.W., Hallam S.J. (2007) Environmental genomic analysis of a marine oxygen minimum zone: Saanich Inlet. 107<sup>th</sup> General Meeting of The American Society of Microbiology. Toronto, Canada.

**Walsh D.A.**, Vitale K., Doolittle W.F., Papke R.T. (2006) Ecology of a soil haloarchaeal community faced with seasonal perturbation. International Society of Microbial Ecology. Vienna, Austria.

**Walsh D.A.**, Papke R.T., Vitale K., Doolittle W.F. (2005) An evolutionary and ecological view of haloarchaeal diversity. Gordon Research Conference on Archaea: Ecology, Metabolism, and Molecular Biology. Oxford, England.

**Walsh D.A.**, Papke R.T., Doolittle W.F. (2005) Archaeal diversity along a soil salinity gradient prone to disturbance. TIGR International Conference on Microbial Genomes. Halifax, Canada.

**Walsh D.A.** and Doolittle W.F. (2003) Evidence for lateral gene transfer of a functional mismatch repair system between Bacteria and Archaea. Gordon Research Conference on Archaea: Ecology, Metabolism, and Molecular Biology. Andover, USA.

Ishkanian A.S., **Walsh D.A.**, Rosin M.P., Zhang L., Lam W.L. (2001) Chromosomal regions potentially involved in oral cancer progression. Annual Meeting of the International Association of Dental Research, Chicago, USA.

## **Teaching and other professional activities**

**2008** Course assistant for the Marine Biological Laboratory Course in Microbial Diversity, Woods Hole, USA.

**2006** Course assistant for the Marine Biological Laboratory Course in Microbial Diversity, Woods Hole, USA.

**2002-2005** Teacher Assistant for General Biochemistry and Nucleic Acids Laboratories, Dalhousie University, Canada.

**2001** Studentship Award Recipient, Dr. Wan Lam Laboratory, BC Cancer Research Centre, Vancouver, Canada.

**2000** Laboratory Assistant, Dr. Wan Lam Laboratory, BC Cancer Research Centre, Vancouver, Canada.