

## CURRICULUM VITAE

**Kyle A. Garver, Ph.D.**

### Education:

- 1994-2000 Ph.D. in Molecular Virology  
Purdue University, West Lafayette, IN
- 1989-1993 Bachelor of Science in Biology  
Penn State University, State College, PA

### Experience:

- 2007-Present Research Scientist  
Fisheries & Oceans Canada, Pacific Biological Station, Nanaimo, B.C., Canada
- 2005-2007 NSERC Visiting Fellow  
Pacific Biological Station, Nanaimo, B.C., Canada
- 2000-2005 Postdoctoral Fellow  
Western Fisheries Research Center, Seattle, WA

### Professional Societies:

- American Society for Virology, member since 1994  
American Fisheries Societies, Fish Health Section, member since 2000  
American Fisheries Societies, Fish Health Section, Nominating and Balloting committee 2005-2008

### Publications in Refereed Journals:

1. Thompson, T.M., Batts, W., Bowser, P., Faisal, M., Phillips, K., Garver, K.A., Winton, J., and Kurath, G. (2011) Emergence of viral hemorrhagic septicemia virus in the North American Great Lakes region is associated with low viral genetic diversity. *Diseases of Aquatic Organisms in press (accepted February 14, 2011)*.
2. Garver, K.A., Hawley, L.M., McClure, C.A., Schroeder, T., Aldous, S., Doig, F., Snow, M., Edes, S., Baynes, C., and Richard, J. (2011) Development and validation of a reverse transcription quantitative PCR (RT-qPCR) for universal detection of viral hemorrhagic septicemia virus. *Diseases of Aquatic Organisms in press (accepted January 18, 2011)*.
3. Hart, L.M., Traxler, G.S., Garver, K.A., Richard, J., Gregg, J.L., Grady, C.A., Kurath, G., Hershberger, P.K., (2011) Larval and juvenile Pacific herring *Clupea pallasii* are not susceptible to infectious hematopoietic necrosis under laboratory conditions. *Diseases of Aquatic Organisms*, 93: 105-110.
4. Garver, K.A., Hawley, L.M., Al-Hussinee, L., Edes, S., LePage, V., Contador, E., Lord, S., Stevenson, R.M.W., Souter, B., Schroeder, T., Wright, E., Lumsden, J.S. (2010) First identification of koi herpesvirus (KHV) in Canada affecting wild common carp. *Journal of Wildlife Diseases* Oct;46(4):1242-51.
5. Wargo, A.R., Garver, K.A., Kurath, G. (2010) Virulence correlates with fitness in vivo for two M group genotypes of infectious hematopoietic necrosis virus (IHNV). *Virology* Aug 15;404(1):51-8.
6. Kurath, G., Garver, K.A., LaPatra, S.E., Purcell, M.K. (2010) Resistance of and protective immunity in Redfish Lake sockeye salmon (*Oncorhynchus nerka*) exposed to M type *Infectious hematopoietic necrosis virus*. *Journal of Aquatic Animal Health* Jun;22(2):129-39.

7. VHSV Expert Panel (Garver, K.A. with 27 others) and Working Group. (2010) Viral hemorrhagic septicemia virus (VHSV IVb) risk factors and association measures derived by expert panel. *Preventive Veterinary Medicine* 94:128-39
8. Purcell, M. K., Garver, K. A., Conway, C., Elliott, D. G. and Kurath, G. (2009) Infectious hematopoietic necrosis virus genogroup-specific virulence mechanisms in sockeye salmon (*Oncorhynchus nerka*) from Redfish Lake, Idaho. *Journal of Fish Diseases* 32:619–631.
9. Hawley, L. and Garver, K. (2008). Stability of viral hemorrhagic septicemia virus (VHSV) in freshwater and seawater at various temperatures. *Dis Aquat Org*, 82:171-178.
10. Troyer, R.M., Garver, K.A., Ranson, J.C., Wargo, A. R., Kurath, G. (2008). In vivo virus growth competition assays demonstrate equal fitness of fish rhabdovirus strains that co-circulate in aquaculture. *Virus Res.* No. 137, 179-188.
11. Kurath, G., Purcell, M. K, and Garver, K. A. (2007) Fish Rhabdovirus models for understanding host response to DNA vaccines. *CAB Reviews: Perspectives in Agriculture, Veterinary Sciences, Nutrition and Natural Resources* 2, No. 48.
12. Garver, K.A., Dwilow A.G., Richard, J., Booth, T.F., Beniac, D.R., and Souter, B.W. (2007) First detection of spring viremia of carp virus (SVCV) in common carp, *Cyprinus carpio* (L.) from Hamilton Harbour in Lake Ontario, Canada. *Journal of Fish Disease*, 30, 665-671.
13. Garver, K, Batts, W.N., and Kurath,G (2006) Virulence comparisons of infectious hematopoietic necrosis virus (IHNV) U and M genogroups in sockeye salmon (*Oncorhynchus nerka*) and rainbow trout (*O. mykiss*). *Journal of Aquatic Animal Health* 18(4):232-243. American Fisheries Society: 2006 Best Paper Awards
14. Garver, K, Conway, C.M., and Kurath,G (2006) Introduction of translation stop codons into the viral glycoprotein gene in a fish DNA vaccine eliminates induction of protective immunity. *Marine Biotechnology* 8(4):351-6.
15. Kurath, G, Garver, K. A., Corbeil, S,Elliott, D. G., Anderson, E. D. LaPatra, S.E. (2005) Protective immunity and lack of histopathological damage two years after DNA vaccination against infectious hematopoietic necrosis virus in trout. *Vaccine* 24(3): 345-354.
16. Garver, K, Conway, C.M., Elliott, D.G., and Kurath,G (2005) Analysis of DNA vaccinated fish reveals viral antigen in muscle, kidney and thymus, and transient histopathological changes. *Marine Biotechnology* 7:1-15.
17. Garver, K., LaPatra, S.E., Kurath, G. (2004) Efficacy of an IHN virus DNA vaccine in chinook (*Oncorhynchus tshawytscha*) and sockeye (*Oncorhynchus nerka*) salmon. *Dis Aquat Org* 64:13-22.
18. Purcell, M., Kurath, G., Garver, K.A., Herwig, R., and Winton, J.R. (2004) Quantitative expression profiling of immune response genes in rainbow trout during IHNV infection or following vaccination. *Fish Shellfish Immunol* 17: 447-462.
19. Garver, K.A., Troyer, R. M., and Kurath, G. (2003) Two distinct phylogenetic clades of infectious hematopoietic necrosis virus overlap within the Columbia River basin. *Dis. Aquat. Org.* 55:175-185.
20. Kurath, G., Garver, K.A., Troyer, R.M., Emmenegger, E.J., Einer-Jensen, K., and Anderson, E.D. (2003) Phylogeography of infectious hematopoietic necrosis virus in North America. *J. Gen. Virol.* 84:803-814.

21. Mat-Arip, Y., Garver, K., Chen, C., Sheng, S., Shao, Z. and Guo, P. (2001) Three-dimensional interaction of phi29 pRNA Dimer probed by Chemical Modification interference, cryo-AFM, and cross-linking J. Biol. Chem., 276:32575-32584.
22. Garver, K., and Guo, P. (2000) Mapping the inter-RNA interaction of phi29 pRNA using site-specific photoaffinity crosslinking J. Biol. Chem. 275:2817-2824.
23. Guo, P., Zhang, C., Chen, C., Garver, K. and Trottier, M.. (1998) Inter-RNA Interaction of Phage ø29 pRNA to Form A Hexameric Complex for Viral DNA Transportation. Mol. Cell, 2:149-155.
24. Garver, K., and Guo, P. (1997) Minimum pRNA sequence requirement for specific portal protein binding and DNA packaging of bacteriophage ø29. RNA, 3:1068-1079.
25. Zhang, C., Garver, K. and Guo, P. (1995) Inhibition of phage ø29 assembly by antisense oligonucleotides targeting viral pRNA essential for DNA packaging. Virology 211:568-576.

### Other Publications

1. Lima, L., Garver, K., Traxler, G. (2007) Septicemai Hemorragica Viral (VHS) esta alarmando a America do Norte: Por que temos que estar em alerta no Brasil? *Panorama da AQUICULTURA* Vol. 17, No. 104.
2. Kurath, G., **Garver, K.A.**, Batts, W.N., and Emmenegger, E.J. (2004) Genetic typing of infectious hematopoietic necrosis virus. In: Ciprian, R.C., Shchelkunov, I.S., and Faisal, M. (editors). Health and Disease of Aquatic Organisms: Bilateral Perspectives. Proceedings of the Second Bilateral Congerence between Russia and the United States. 21-28 September 2003. Shepherdstown, West Virginia. Michigan State University, East Lansing, Michigan.
3. Kurath, G., **Garver, K.A.**, and Troyer, R.M. (2003) IHN virus traffic in the Columbia River basin. Chapter for proceedings of the American Fisheries Society symposium on propagated fish in resource management. Boise, ID, 6/18/03
4. Trottier, M., **Garver, K.**, Zhang, C., and Guo, P. (1997) DNA-packaging pRNA as target for complete inhibition of viral assembly in vitro and in vivo. *Symposium on RNA Biology*, North Carolina, Nucleic Acids Symposium Series No. 36:187-189.