

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-Hussiney, 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.