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**CURRICULUM VITAE  
STEVE WISEMAN**

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**SUMMARY OF SKILLS**

**Protein Related Skills**

- Isolation
- Purification
  - Affinity chromatography
  - Size exclusion chromatography
- Quantification
- Immunoblotting
- Polyacrylamide gel electrophoresis (native and denaturing)
- Enzyme kinetics

**Miscellaneous**

- Experience with cells in primary culture
- Dissection & cannulation of small Animals
- Binding assays
- Radioimmunoassays

**Nucleic Acid Related Skills**

- Genomic DNA isolation
- RNA isolation
- Gene isolation and cloning
- Northern blotting
- cDNA microarray
  - Construction
  - Hybridization
  - Analysis
- Primer design
- cDNA synthesis
- PCR techniques
  - Reverse transcription PCR
  - Real time PCR
  - Differential display PCR
  - Rapid amplification of cDNA ends (RACE)
  - Inverse PCR
  - siRNA

## EDUCATION

### **Doctorate of Philosophy in Biology**

University of Waterloo

Waterloo, ON, Canada

Date of Completion: August, 2007

Thesis: Characterization of AhR Signaling and the Impact of Polychlorinated Biphenyls on the Adaptive Responses to Stress in Fish.

### **Masters of Science in Biology**

University of Waterloo

Waterloo, ON, Canada

Date of Graduation: May 2001

Thesis: Cloning and Characterization of a Winter Rye class II Chitinase that is Induced by Abscissic Acid..

### **Bachelors of Science in Biology**

Mount Allison University

Sackville, NB, Canada

Date of Graduation: May 1998

Thesis: The Effect of Selected Metabolites on the Binding of Cis-Parinarate to Rat Liver Fatty Acid Binding Protein at 37°C and 5°C.

## ACADEMIC SCHOLARSHIPS AND AWARDS

<b>Award Received</b>	<b>Date / Term of Award</b>	<b>Monetary Value</b>
Ontario Graduate Scholarship (OGS)	September, 2004 - August, 2005	\$ 15,000.00 / Year
University of Waterloo Graduate Incentive Award	September, 2003 - August, 2004	\$ 5000.00 / Year
National Sciences and Engineering Research Council of Canada (NSERC)	September, 2002 – August, 2004	\$ 21,000.00 / Year
University of Waterloo Dean of Science Award for Outstanding MSc. Thesis	May, 2001	No Value
University of Waterloo Graduate Scholarship	Various Dates	\$ 1000.00 / Term
Royal Bank Academic All Canadian Athlete	May, 1997	No Value

## SCIENTIFIC CONTRIBUTIONS

### Articles Published in Referred Journals:

1. **Wiseman, S.** Oschaff, H. Bassett, E. Malhotra, J. Bruno, J. VanAggelen, G. Mommsen, T.P. and Vijayan, M.M. 2007. Gene expression patterns in the liver during recovery from an acute stressor in rainbow trout. Accepted for publication in *Comparative Biochemistry and Physiology - Part D: Genomics and Proteomics*.
2. **Wiseman, S.B.** and Vijayan, M.M. 2007. AhR signaling in Rainbow Trout hepatocytes: Role of hsp90 and the proteasome. Accepted for publication in *Comparative Biochemistry and Physiology*.
3. Griffith, M. Lumb, C. **Wiseman, S.B.** Wisniewski, M. Johnson, R.W. Marangoni, A.G. 2005. Antifreeze proteins modify the freezing process in planta. *Plant Physiology*. 138: 330-340.
4. Zamani, A. Sturrock, R. Ekramoddoullah, A.K.M. **Wiseman, S.B.** and Griffith, M. 2003. Endochitinase activity in the apoplastic fluid of *Phellinus weirii*-infected Douglas-fir and its association with over wintering and antifreeze activity. *Forest Pathology*. 33: 299-316.
5. Singer, T.D. Finstad, B. McCormick, S.D. **Wiseman, S.B.**, Schulte, P.M and McKinley, R.S. 2002. Interactive effects of cortisol treatment and ambient seawater challenge on gill Na<sup>+</sup>, K<sup>+</sup>-ATPase and CFTR expression in two strains of Atlantic salmon smolts. *Aquaculture*. 222: 15-28.
6. Yu, X.-M. Griffith, M. and **Wiseman, S.B.** 2001. Ethylene induces antifreeze activity in winter rye leaves. *Plant Physiology*. 126: 1232-1240.
7. Yeh S., Moffatt B.A., Griffith M., Xiong F., Yang D.S.C., **Wiseman S.B.**, Sarhan F., Danyluk J., Xue Y.Q., Hew C.L., Doherty-Kirby A. and Lajoie G. 2000. Chitinase genes responsive to cold encode antifreeze proteins in winter cereals. *Plant Physiology*. 124: 1251-1264.

### **Articles in Preparation**

1. **Wiseman, S.B.** and Vijayan, M.M. 2007. Aroclor 1254 affects liver metabolic adjustments associated with recovery from an acute stressor in rainbow trout. Article in preparation.
2. **Wiseman S.B.** Jorgensen E.H. and Vijayan M.M. 2007. Analysis of stress response markers in two populations of Artic Charr (*Salvelinus Alpinus*) in northern Norway. Article in preparation.
3. **Wiseman, S.B.** and Vijayan, M.M. 2007. Aryl hydrocarbon receptor signaling is involved in the heat shock proteins response in rainbow trout hepatocytes. Article in preparation.

### **Non-Refereed Publications and Conference Contributions:**

1. **Wiseman, S.B.** and Singer, T.D. 2003. Application of DNA and Protein Microarrays in Comparative Physiology. Invited review. *Biotechnol. Advances*. 20 (5-6): 379-389.
2. Vijayan, M.M\*, **Wiseman, S.** and Aluru, N. 2006. Molecular responses to stress in fish: the role of cortisol. *Oral Presentation*. Presented at: 7<sup>th</sup> International Congress on the Biology of Fish (St. John's, Newfoundland, July 2006).
3. **Wiseman, S\***. and Vijayan, M.M. 2006. Impact of Aroclor 1254 on the organismal and cellular stress response in rainbow trout (*Oncorhynchus mykiss*). *Oral Presentation*. Presented at: 7<sup>th</sup> International Congress on the Biology of Fish (St. John's, Newfoundland, July 2006).
4. Vijayan, M.\* McGuire, A. Bassett, E. Bassett, J. and **Wiseman, S.** Molecular Responses to Stress in Rainbow Trout and the Role of Cortisol: a Targeted Trout cDNA Microarray Approach. *Oral Presentation*. Presented at: 5th International Symposium on Fish Endocrinology. (Spain, Sept 2004).
5. Vijayan, M.\* McGuire, A. Bassett, E. Bassett, J. and **Wiseman, S.** Molecular Responses to Stress in Rainbow Fish. *Oral Presentation*. Presented at: 6th International Congress on the Biology of Fish. (Brazil, August 2004).
6. **Wiseman, S.B.\*** Sathiyaa, R. Maul, A. Jorgensen, E.H. and Vijayan, M.M. PCB impact on two wild populations of Artic Char (*Salvelinus Alpinus*) in northern Norway. *Oral Presentation*. Presented at the Canadian Society of Zoologists Conference. (Waterloo, Ontario, May 2003).
7. **Wiseman, S.B.\*** and Vijayan, M.M. Development of a Rainbow Trout cDNA microarray: Species specificity and applications in toxicogenomics. *Oral Presentation*. Presented at Fish Physiology Workshop. (Peterborough, Ontario. March 2003).

8. **Wiseman, S.B.\*** and Vijayan, M.M. Endocrine disruption in rainbow trout hepatocytes: A cDNA microarray study. *Oral Presentation*. Presented at the 5<sup>th</sup> International Congress on the Biology of Fish. (Vancouver, British Columbia. July 2002).

9. Vijayan, M.M. \*, **Wiseman, S.B.** Booth, H. Singer, T., Van Aggelen, G.A. and Mommsen, T.P. 2002. Rainbow trout cDNA microarray: a tool for assessing contaminants in the aquatic environment. *Oral Presentation*. Presented at the Canadian Society of Zoologists Conference. (Lethbridge, Alberta. May 2002).

10. **Wiseman, S.B.** and Vijayan, M.M\*. Molecular responses to nonylphenol exposure in trout hepatocytes: A cDNA microarray study. *Oral Presentation*. Presented at the 29<sup>th</sup> Annual Aquatic Toxicity Workshop. (Whistler, British Columbia. October 2002).

11. Singer, T.D.\* **Wiseman, S.B.** Schulte, P.M. Finstad, B. and McKinley, R.S. Regulation of CFTR in Atlantic salmon. *Poster Presentation*. Canadian Society of Zoologists Conference. (Sudbury, Ontario. May 2001).

12. Singer, T.D.\* Finstad, B. McCormick, S.D. **Wiseman, S.B.**, Schulte, P.M. and McKinley, R.S. Seawater tolerance of hatchery-reared farm and native strains of Atlantic salmon smolts following cortisol injection. *Oral Presentation*. Presented at the 6th International Workshop on Salmonid Smoltification. (Westport, Ireland. September 2001).

13. Griffith, M.\* Yu, X.-M. Tamminen, I. Pietiainen, M. Pihakaski-Maunsbach, K. Johnson, R.W. **Wiseman, S.B.** and Wisniewski, M. Antifreeze proteins modify the growth of ice in winter rye leaves. Presented at Plant Biology. (Providence, Rhode Island, July 2001).

14. Stewart, J.M.\* Blakely, J.A. **Wiseman, S.B.** and Woods, A.K. On the interactions of various fatty acid binding proteins with non-lipid metabolites. *Oral Presentation*. Presented at the 4<sup>th</sup> Annual Conference on Lipid Binding Proteins. (Maastrich, Netherlands, June 2001).

15. **Wiseman, S.B.\*** Understanding Antifreeze Proteins: Characterization of Winter Rye PR-Proteins with Emphasis on CHT-46. *Oral Presentation*. Presented at the Eastern Meeting of the Canadian Society of Plant Physiology. (Waterloo, Ontario, May 2000).