

CURRICULUM VITAE
JONATHAN MARK WRIGHT
February 12, 2009

EDUCATION

- 1978 B.Sc., Biology (Honours), Mount Allison University, Sackville, N.B., Canada. Thesis: Studies on the differential sensitivity of the peptidoglycan of *Caryophanon latum* to egg white lysozyme (Supervisor: W.C. Trentini).
- 1984 Ph.D., Molecular Biology, Faculty of Medicine, Memorial University of Newfoundland, St. John's, Newfoundland, Canada. Thesis: Negative transcriptional control of the ornithine decarboxylase gene (*speC*) by cyclic AMP in *Escherichia coli* (Supervisor: Stephen M. Boyle).
- 1984-1986 Alberta Heritage Foundation for Medical Research Postdoctoral Fellow, Department of Medical Biochemistry, Faculty of Medicine, University of Calgary, Calgary, Alberta, Canada. Research: The cloning and characterization of chromosomal protein genes from rainbow trout, their regulation and DNA-protein interactions (Supervisor: Gordon H. Dixon).

ACADEMIC AND RESEARCH APPOINTMENTS

- 1986-1991 Assistant Professor, Department of Biology, Dalhousie University. Halifax, N.S., Canada.
- 1991-1996 Associate Professor with tenure, Department of Biology, Dalhousie University.
- 1991-1999 Honourary Research Associate, Department of Plant Science, Nova Scotia Agricultural College, Truro, N.S., Canada.
- 1994-1996 Consultant to the Dept. of Pathologia, Faculdade de Medicina, UNESP, Botucatu, São Paulo, Brazil.
- 1996-2006 Honourary Research Associate, Centre for Wildlife and Conservation Biology, Acadia University.
- 1996- Professor, Department of Biology, Dalhousie University.
- 1998-2001 Director, Marine Gene Probe Laboratory, Dalhousie University.

MEMBERSHIP IN PROFESSIONAL ASSOCIATIONS

Genetics Society of Canada
Canadian Society for Biochemistry and Molecular and Cellular Biology
Nova Scotia Institute of Science
International Association for Genetics in Aquaculture

AWARDS

- 1978 Atlantic Universities Undergraduate Biology Conference. First Prize. Mount Allison University.
- 1979-1984 Faculty of Graduate Studies Scholarship, Memorial University of Newfoundland.

- 1981 Faculty of Medicine, Graduate Student Research Award, Memorial University of Newfoundland.
- 1984-1986 Alberta Heritage Foundation for Medical Research post-doctoral fellowship. Department of Medical Biochemistry, University of Calgary.
- 1987 NSERC International Scientific Exchange Award (with Dr. S. Boyle, USA).
- 1988 American Society for Biochemistry and Molecular Biology Travel Award.
- 1997 UNESCO Biotechnology fellowship (with R.M. Pimentel, Cuba).
- 1998 UNESCO Biotechnology fellowship (with F.P. Foresti, Brazil).
- 1999 UNESCO Biotechnology fellowship (with A. Wasko, Brazil).
- 2000 UNESCO Biotechnology fellowship (with L. Abel, Brazil).

TEACHING (Current Classes)*

- Biology 1010. Introductory lectures in genetics and molecular biology (7 lectures of 21 hours for 850 students); coordinator of course, 2007- present.
- Biology 2030X/Y. Genetics and molecular biology (26 lectures of 26 hours for 400 students and 18 hours of tutorial for 40+ students).
- Biology 4800X/Y. Special Topics (open tutorials for 1-2 undergraduate students).
- Biology 4900X/Y. Thesis and independent research (1-3 students).
- Biology 5705X/Y. Modules in Molecular Genetics (8 lectures for 4-8 graduate students).
- Biology 5825A. Special Topics in Molecular Biology (open tutorials for 2-3 graduate students).

Academic Advising 50 + hours/year.

* For further details, see *Teaching Dossier*.

ADMINISTRATIVE RESPONSIBILITIES

International

- 2003-Present Member, International Advisory Board for the journal, *Neotropical Ichthyology*.
- 1998-2001 Assessor of appointments to Associate Professor and Professor in the Faculty of Medical and Health Science, Universiti Putra Malaysia.

National

- 1999-2001 Member, Natural Sciences and Engineering Research Council (NSERC) of Canada, Genomics Projects Selection Panel.
- 1993-1996 Member, NSERC Strategic Grants, Food, Agriculture and Aquaculture Panel.

University

- 1986-1996 Member, Radiation Safety Committee.
- 1988-1992 Chair, Scientific Advisory Committee, Marine Gene Probe Laboratory.
- 1994-1995 Member, Search Committee for Dean, Faculty of Graduate Studies, Dalhousie University.

Faculty

- 1991-1994 Member and Chair (1993-1994), Faculty of Graduate Studies, NSERC Postgraduate Scholarship Committee.
- 1994 Representative for the Faculty of Graduate Studies on the Interim

- Review Committee of the Department of Biochemistry, Dalhousie University.
- 1997 Member, Unit Review Committee of the Department of Earth Sciences, Dalhousie University.
- 1998-1999 Member, Review Committee for proposed PhD. program in the Department of Pathology, Dalhousie University.
- 1998-1999 Member, Representative for the Faculty of Graduate Studies on Review Committee of the Department of Biochemistry, Dalhousie University.
- 2007 Member, Advisory Committee to the Dean of the Faculty of Science on the appointment of Chair, Department of Psychology.
- 2008 Member, Internal review committee for the establishment of the “MSc in Genetics Counselling Programme”, Faculty of Graduate Studies.

Departmental

- 1986-1992 Member, Graduate Admissions Committee.
- 1986 Member, Search Committee for faculty position in Molecular Biology.
- 1987-1992 Chair, Departmental Radioisotope Suite User Committee.
- 1988-present Member (and co-ordinator, 1989-1994), Biology Honours Committee.
- 1988-present Member (ex officio 1988-present, but voting 1991-1992), Undergraduate Curriculum Committee.
- 1991 Member, *ad hoc* Committee on the Biology Overhead Fund.
- 1996-1997; Graduate Stream Chair, Molecular/Cell Biology.
- 2001-present. Coordinator, Postdoctoral Awards Committee.
- 1996-1999 Coordinator, Postdoctoral Awards Committee.
- 1997-1998 Member, Search Committee for Faculty positions in Genetics and Developmental Biology.
- 1998-2000 Member, *Ad hoc* committee on future appointments and NSERC University Faculty Awards.
- 1998-1999 Chair, Search committee for STORA/NSERC Industrial Chair in Forest Genetics.
- 2001 Member, Search committee for Faculty position in Microbiology.
- 2004 Member, Search committee for Faculty position in Cell Biology.
- 2008 Member, Appointments and Awards Committee.

CONFERENCE ORGANIZATION

- 1980 Organizing committee for the “Ribosome Workshop”, St. John’s, Newfoundland, Canada. July.
- 1989-1990 Organizing committee for the Annual Meeting of the Canadian Federation of Biological Societies, Halifax, N.S. Canada. June.
- 1990 Session Chair, “Gene Structure and Expression”, Annual Meeting of the Canadian Federation of Biological Societies, Halifax, N.S. Canada. June.
- 1995 Session Chair, “Genetics and Breeding”, International Symposium on Molecular Biology in Fish, Fisheries and Aquaculture. Fisheries Society of the British Isles. Plymouth, UK. July 10-13.
- 1997 Session chair, “Genetic markers and their application”, VI International Symposium on Genetics in Aquaculture. University of Stirling, Scotland.

June 24-28.

RESEARCH INTERESTS

1. Gene and genome evolution. Genesis and fate of duplicated genes. Mechanisms and evolution of gene regulation in zebrafish; the multigene family of fatty acid- and retinoid-binding proteins.
2. Molecular dynamics of repetitive DNA's: SINEs, LINEs, telomeric, satellite, minisatellite and microsatellite sequences. Molecular cytogenetics of fishes.
3. Various aspects of molecular ecology.

RESEARCH SUPPORT

<u>Years of tenure</u>	<u>Title of proposal and funding source</u>	<u>Amount (Can\$)</u>
1986-1988	Dalhousie Development Fund to establish research laboratory.	21,900
1986-1987	Biology Department Overhead Fund to establish research laboratory.	10,380
1987-1990	Nuclear matrix of <i>Physarum polycephalum</i> . NSERC Operating Grant.	78,900
1987-1988	The nuclear lamina of <i>Physarum polycephalum</i> . The Banting Research Foundation.	7,442
1988	Dalhousie Development Fund to establish a DNA analysis workstand in the Dept. of Biology, Dalhousie University.	2,900
1989-1992	Marine Bioadhesives. NSERC Strategic Grant (PI: Wright, with Drs. Vining, Chapman & Jeff Wright).	197,100
1989-1992	Marine Gene Probe Laboratory. Infrastructure support from the Nova Scotia Ministry of Industry, Trade and Technology, Gov't of Nova Scotia. With Drs. Doyle, Zouros, Pohajdak and Lazier.	2.8 million
1990-1993	Molecular evolutionary genetics of tilapia. NSERC Operating Grant.	96,660
1990-1994	Ocean Production Enhancement Network, part of the National Centres of Excellence Program. Amount to Marine Gene Probe Laboratory (with Drs. Doyle, Pohajdak, Zouros and Lazier) was approx. \$800,000.	23 million
1991-1993	Species discrimination of redfishes using the polymerase chain reaction. Canadian Dept. of Fisheries and Oceans Subvention Grant. (PI: J. Wright, Co-applicant: P. Bentzen).	24,000

1991	Extraction, purification and initial sequence analysis of fish mitochondrial DNA. Canadian Departments of Supply and Services, and Fisheries and Oceans. Contract.	5,500
1992-1995	DNA fingerprinting technology for improvement and diversification of salmonid broodstock. NSERC Strategic Grant (co-applicants: Drs. Bentzen and Doyle).	335,091
1992	DNA fingerprinting of apples. Agriculture Canada Contract.	2,500
1992-1993	DNA fingerprinting of Maine populations of Atlantic salmon. University of Maine, subcontracted from U.S. Dept. of Interior, Fish and Wildlife Service. (PI: J. Wright, co-applicant: P. Bentzen).	32,000
1993-1996	Molecular evolutionary genetics of tilapia. NSERC Research Grant.	115,500
1994	Sex-specific markers in tilapia Dalhousie Research and Development Fund. (co-applicant: Dr. S. McConnell).	2,500
1994-1995	Cod genetics and physiology. Interim Funding for the Ocean Production Enhancement Network, Centres of Excellence, (PI: Dr. C. Taggart; co-applicants: Drs. Wright, Doyle, Zwanenburg et al.).	206,800
1994-1997	Improving reproductive performance of mink by controlling inbreeding using microsatellite DNA probes. NSERC Strategic Grant. (PI: J.M. Wright; co-applicant: Dr. H. Farid).	210,000
1994-1996	DNA markers for selection of cold tolerant alfalfa. Development program. Nova Scotia Dept. of Agriculture and Marketing. (PI: J. Nowak. Co-applicant: J.M. Wright).	14,000
1995	Detection of cold-induced alfalfa genes in red clover. Nova Scotia Department of Agriculture and Marketing. (PI: J. Nowak with J.M. Wright and S. Laberge).	4,000

1995	DNA marker(s) for cold hardiness in red clover. Nova Scotia Department of Agriculture and Marketing. (PI: J. Nowak. Co-applicant: J.M. Wright).	6,000
1995	DNA fingerprinting of alfalfa. Nova Scotia Department of Agriculture and Marketing. (PI: J. Nowak. Co-applicant: J.M. Wright).	5,000
1995-1996	Assessment of the genetic impact of stocking on Atlantic salmon populations in two Nova Scotian rivers using microsatellite markers. DFO/NSERC Subvention grant. (PI: J.M. Wright. Co-applicant: S. McConnell).	15,100
1995	DNA markers for the damselfly, <i>Calopteryx maculata</i> , Acadia University. Contract.	2,485
1995-1997	Molecular markers for Prince William Sound herring Alaska Dept. Fish and Game. Contract.	72,500
1996-2000	Molecular evolutionary genetics of tilapia NSERC Research Grant	100,000
1996	N.S. Dept. of Agriculture, Agri-Focus 2000. Homology determination between cold induced <i>Mscor A</i> and C alfalfa genes and the corresponding genes in red clover. (PI: J. Nowak; co-applicants: J.M. Wright, S. Laberge)	10,000
1996	N.S. Dept. of Agriculture, Agri-Focus 2000. Detection of cold-induced genes in red clover. (PI: J. Nowak; co-applicant: J.M. Wright)	5,000
1996	Population genetics of Norwegian wolverines using microsatellites. Norwegian Institute of Nature Research (Contract).	17,000
1996-1997	Development of microsatellite and mitochondrial DNA markers for Blanding's turtle (<i>Emydoidea blandingii</i> [Holbrook]): Applications to systematics, population differentiation, biodiversity and conservation. Parks Canada Contract (PI: J.M. Wright; co-applicants: Drs. M. Snyder and T. Herman).	38,300
1997	Assay of genetic variation at four microsatellite loci in Atlantic salmon. Landcatch, Inc., Scotland (contract).	16,445
1997	PCR machine. NSERC equipment grant.	7,200
1999	Canadian Foundation for Innovation, Transgenic Facility for Biomedical Research (PI: V. Lloyd; co-applicants: J. M. Wright and two others).	154,300
2000	Microgeographic genetic variation in Ipswich and mainland Savannah sparrow. Environment Canada. Strategic Technologies Application of Genomics in the Environment (Stage) Program. (PI: J.M. Wright; co-	17,170

	applicants: A. Horn and M. Leonard).	
2000	Temperature controlled microplate, UV/visible and fluorescence spectrophotometers. NSERC Equipment Grant (PI: T.H. MacRae; co-applicants: J.M. Wright and 5 others).	37,374
2000-2004	i. Fatty acid binding protein genes in zebrafish. ii. Molecular cytogenetics of zebrafish and tilapia. NSERC Research Grant - Individual.	127,200
2001	Spectrophotometer. NSERC equipment.	9,173
2001	Genetic differentiation of the Ipswich and Savannah sparrow. Canadian Wildlife Service. Contract	7,800
2004	Gradient thermal cycler. NSERC RTI.	13,015
2004	Autoclave. NSERC RTI. (PI: R.W.Lee + 10 coapplicants).	41,044
2004-2009	Comparative genomics and functional analysis of the promoters for the multigene family of intracellular lipid-binding proteins in zebrafish. NSERC Discovery Grant.	177,050
2005	Real-time PCR machine. NSERC RTI. (PI: T.H. MacRae with three co-applicants).	73,465
2006	Refrigerated microtome. NSERC RTI.	26,185
2006	High sensitivity chemiluminescence detection Documentation system. NSERC RTI. (PI: T.H. MacRae. Co-applicants: J.M. Wright and Mark Johnston).	43,422
2008	Microinjector and accessories. T.H. MacRae & J.M. Wright. NSERC RTI.	36,062

PUBLICATIONS

REFEREED JOURNALS:

1. Wright, J.M., and Boyle, S.M. 1982. Negative control of ornithine decarboxylase and arginine decarboxylase by cyclic adenosine-3',5'-monophosphate in *Escherichia coli*. *Molecular and General Genetics* 186:482-487.
2. Wright, J.M., Gulliver, W.P., Michalski, C.J., and Boyle, S.M. 1982. Ornithine decarboxylase activity and polyamine levels during zoospore germination and hormone-induced differentiation of *Achlya ambisexualis*. *J. General Microbiology* 128:1509-1515.
3. Wright, J.M., and Boyle, S.M. 1984. Intergeneric homology of the *speC* gene encoding biosynthetic ornithine decarboxylase in *Escherichia coli*. *J. Bacteriology* 159:1074-1076.
4. Boyle, S.M., Markham, D.G., Hafner, E.W. Wright, J.M., Tabor, H., and Tabor, C.W. 1984. Expression of the cloned genes encoding the putrescine biosynthetic enzymes (*speA*, *speB*, *speC*) and methionine adenosyltransferase (*metK*) of *Escherichia coli*. *Gene* 30:129-136.
5. Pentecost, B.T., Wright, J.M., and Dixon, G.H. 1985. Isolation and sequence of cDNA clones coding for a member of the family of high mobility group proteins (HMG-T) in trout and analysis of HMG-T-mRNA's in trout tissues. *Nucleic*

- Acids Research* 13:4871-4888.
6. Wright, J.M., Satishchandran, C., and Boyle, S.M. 1986. Transcription of the *speC* (ornithine decarboxylase) gene of *Escherichia coli* is repressed by cyclic AMP and its receptor protein. *Gene* 44:37-45.
 7. Voigt, M.N., Tek, T.M., Park, L.E., Wright, J.M., and Hall, D.E. 1987. Influence of avian aflatoxicosis on the synthesis of polyamines. *Poultry Science* 66:1217-1232.
 8. Wright, J.M., Wiersma, P.A., and Dixon, G.H. 1987. Use of protein blotting to study the DNA-binding properties of histones H1 and H1 variants. *European J. Biochemistry* 168:281-285.
 9. Wright, J.M., and Dixon, G.H. 1988. Induction by torsional stress of an altered DNA conformation 5' upstream of the gene for a high mobility group protein from trout and the specific binding to flanking sequences by the gene product, HMG-T. *Biochemistry* 27:576-587.
 10. Wright, J.M. 1989. Nucleotide sequence, genomic organization and evolution of a major repetitive DNA family in tilapia (*Oreochromis mossambicus/hornorum*). *Nucleic Acids Research* 17:5071-5079.
 11. Denovan, E.M., and Wright, J.M. 1990. A satellite DNA family from pollock (*Pollachius virens*). *Gene* 87:279-283.
 12. Harris, A.S., Beiger, S., Doyle, R.W., and Wright, J.M. 1991. DNA fingerprinting of tilapia, *Oreochromis niloticus*, and its application to aquaculture genetics. *Aquaculture*. 92:157-163.
 13. Denovan-Wright, E.M. and Wright, J.M. 1991. Immunologically-related nucleic acid-binding proteins associated with the nuclear matrix of *Physarum polycephalum*. *Biochimica et Biophysica Acta*. 1088:25-30.
 14. Harris, A.S., Young, J. and Wright, J.M. 1991. DNA fingerprinting of harbour seals (*Phoca vitulina concolor*): Male mating behaviour may not be a reliable indicator of reproductive success. *Canadian J. Zoology* 69:1862-1866.
 15. Edens Magor, K.A., and Wright, J.M. 1992. Chromosomal proteins of *Physarum polycephalum* with preferential affinity for the sequence, poly d(A-T). poly d(A-T). *Mol. Biol. Rep.* 16:105-115.
 16. Zwanenburg, K.C.T., Bentzen, P., and Wright, J.M. 1992. Mitochondrial DNA differentiation in western north Atlantic populations of haddock (*Melanogrammus aeglefinus*). *Canadian J. Fisheries and Aquatic Sciences*. 49:2527-2537.
 17. Franck, J.P.C., Wright, J.M., and McAndrew, B.J. 1992. Genetic variability in a family of satellite DNAs from tilapia (Pisces: Cichlidae). *Genome*. 35:719-725.
 18. Franck, J.P.C. and Wright, J.M. 1993. Conservation of a satellite DNA sequence (SATB) in the tilapiine and haplochromine genome (Pisces: Cichlidae). *Genome*. 36:187-194.
 19. Dillon, M.C., and Wright, J.M. 1993. Nucleotide sequence of the D-loop region of the sperm whale (*Physeter macrocephalus*) mitochondrial genome. *Molecular Biology and Evolution*. 10:296-305.
 20. Bentzen, P., Taylor, E.B. and Wright, J.M. 1993. A novel synthetic probe for DNA fingerprinting salmonid fishes. *J. Fish Biology*. 43:313-316.

21. Bentzen, P. and Wright, J.M. 1993. Nucleotide sequence and evolutionary conservation of a minisatellite VNTR cloned from Atlantic Salmon, *Salmo salar*. *Genome*. 36:271-277.
22. Nelke, M., Nowak, J., Wright, J.M., and McLean, N. 1993. DNA fingerprinting of red clover (*Trifolium pratense* L.) with Jeffreys' probes: detection of somaclonal variation and other applications. *Plant Cell Reports*. 13:72-78.
23. Franck, J.P.C., Kornfield, I., and Wright, J.M. 1994. The utility of SATA satellite DNA sequences for inferring phylogenetic relationships among the three major genera of tilapiine cichlid fishes. *Molecular Phylogenetics and Evolution*. 3:10-16.
24. Richard, K.R., McCarrey, S.W., and Wright, J.M. 1994. DNA sequence from the *SRY* gene of the sperm whale (*Physeter macrocephalus*) for use in molecular sexing. *Canadian J. Zoology*. 72:873-877.
25. Wright, J.M. 1994. Mutation at VNTRs: Are minisatellites the evolutionary progeny of microsatellites? *Genome*. 37: 345-347.
26. Brooker, A., Cook, D., Bentzen, P., Wright, J.M., and Doyle, R.W. 1994. The genomic organization of microsatellites differs between mammals and cold-water teleost fishes. *Canadian J. Fisheries and Aquatic Sciences*. 51:1959-1966.
27. Coltman, D.W., and Wright, J.M. 1994. *Can* SINEs: A family of tRNA-derived retroposons specific to the superfamily Canoidea. *Nucleic Acids Res*. 22: 2726-2730.
28. Boyle, S.M., Burroso, L., Moore, R.C., Wright, J.M., and Patel, T. 1994. Primary structure of the *speC* gene encoding biosynthetic ornithine decarboxylase in *Escherichia coli*. *Gene*. 151:157-160.
29. Nielsen, J.L., Gan, C.A., Wright, J.M., Morris, D.B., and Thomas, W.K. 1995. Biogeographic distributions of mitochondrial and nuclear markers for southern steelhead. *Molecular Marine Biology and Biotechnology*. 3:281-293.
30. Harris, A.S., and Wright, J.M. 1995. Nucleotide sequence and genomic organization of cichlid fish minisatellites. *Genome*. 38:177-184.
31. McConnell, S.K., O'Reilly, P., Hamilton, L., Wright, J.M. and Bentzen, P. 1995. Polymorphic microsatellite loci from Atlantic salmon (*Salmo salar*): genetic differentiation of North American and European populations. *Canadian J. Fisheries and Aquatic Sciences*. 52:1863-1872.
32. McConnell, S. K., Hamilton, L., Morris, D.B., Cook, D., Paquet, D., Bentzen, P. and Wright, J.M.. 1995. Isolation of microsatellite loci in Atlantic salmon and their application to the population genetics of Canadian East coast stocks. *Aquaculture*. 137:19-30.
33. Herbinger, C.M., Doyle, R.W., Pitmann, E.R., Paquet, D., Mesa, K.A., Morris, D.B., Wright, J.M. and Cook, D. 1995. DNA fingerprint based analysis of paternal and maternal effects on offspring growth and survival in communally reared rainbow trout. *Aquaculture*. 137:245-256.
34. Morris, D.B., Richard, K.R., and Wright, J.M. 1996. Polymorphic microsatellites from rainbow trout (*Oncorhynchus mykiss*) and their use for genetic study of salmonids. *Canadian J. Fisheries and Aquatic Sciences*. 53:120-126.

35. Denovan-Wright, E.M., Ramsey, N.B., McCormick, C.J., Lazier, C.B. and Wright, J.M. 1996. Nucleotide sequence of transferrin cDNAs and tissue-specific expression of the transferrin gene of Atlantic cod (*Gadus morhua*). *Comparative Biochemistry and Physiology*. 113:269-273.
36. Colbourne, J.K., Neff, B.D., Wright, J.M., and Gross, M.R. 1996. DNA fingerprinting of bluegill sunfish (*Lepomis macrochirus*) using (GT)_n microsatellites and its potential for assessment of the relative success of male reproductive strategies. *Canadian J. Fisheries and Aquatic Sciences*. 53:342-349.
37. Coltman, D.W., Bowen, W.D., and Wright, J.M. 1996. PCR primers for harbour seal (*Phoca vitulina concolour*) microsatellites amplify polymorphic loci in other pinniped species. *Molecular Ecology*. 5:161-163.
38. Lazier, C.B., Langley, S., Ramsey, N.B., and Wright, J.M. 1996. Androgen inhibition of vitellogenin gene expression in tilapia (*Oreochromis niloticus*). *General and Comparative Endocrinology*. 104:321-329.
39. Duffy, A.J., Coltman, D.W., and Wright, J.M. 1996. Microsatellites at a common site in the second ORF of L1 elements in mammalian genomes. *Mammalian Genome*. 7:386-387.
40. O'Connell, M., Wright, J.M., and Farid, A. 1996. Development of PCR primers for nine polymorphic American mink (*Mustela vison*) microsatellite loci. *Molecular Ecology*. 5:311-312.
41. Richard, K.R., Whitehead, H., and Wright, J.M. 1996. Polymorphic microsatellites from sperm whale and their use in genetic identification of individuals from naturally sloughed pieces of skin. *Molecular Ecology*. 5:313-315.
42. O'Reilly, P., Hamilton, L., McConnell, S.K., and Wright, J.M. 1996. Rapid detection of genetic variation in Atlantic salmon (*Salmo salar*) by PCR multiplexing of dinucleotide and tetranucleotide microsatellites. *Canadian J. Fisheries and Aquatic Sciences*. 53:2292-2298.
43. Richard, K.R., Dillon, M.C., Whitehead, H., and Wright, J.M. 1996. Patterns of kinship in groups of free-living sperm whales (*Physeter macrocephalus*) revealed by multiple molecular genetic analyses. *Proceedings of the National Academy of Sciences*. U.S.A. 93:8792-8795.
44. Herbinger, C.M., Doyle, R.W., Taggart, C.T., Lochmann, S., Wright, J.M., Brooker, A.L. and Cook, D. 1997. Family relationships and effective population size in a natural cohort of Atlantic cod (*Gadus morhua*) larvae. *Canadian Journal Fisheries and Aquatic Sciences*. 54:11-18.
45. McConnell, S.K.J., Ruzzante, D.E., O'Reilly, P.T., Hamilton, L. and Wright, J.M. 1997. Microsatellites loci reveal highly significant genetic differentiation between Atlantic salmon (*Salmo salar* L.) populations from the East Coast of Canada. *Molecular Ecology*. 6:1075-1089.
46. O'Connell, M., Danzmann, R.G., Cornuet, J-M., Wright, J.M., and Ferguson, M.M. 1997. Differentiation of rainbow trout populations in Lake Ontario and the evaluation of the stepwise and infinite allele models for microsatellite mutation. *Canadian J. Fisheries and Aquatic Sciences*. 54:1391-1399.
47. Tessier, N.T., Bernatchez, L.B., and Wright, J.M. 1997. Population structure and impact of a supportive breeding program inferred from mitochondrial and

- microsatellite DNA analyses in sympatric landlocked Atlantic salmon populations (*Salmo salar*, L.). *Molecular Ecology*. 6:750-753.
48. Bentzen, P., Wright, J.M., Bryden, L.T., Sargent, M., and Zwanenburg, K.C.T. 1998. Tandem repeat polymorphism and heteroplasmy in the mitochondrial control region of redfishes. (Sebastes: Scorpaenidae). *J. Heredity*. 89:1-7.
 49. Bryden, L.J., Denovan-Wright, E.M. and Wright, J.M. 1998. Ron-1 SINEs: A tRNA-derived, short interspersed repetitive DNA element from *Oreochromis niloticus* and its species-specific distribution in Old World cichlid fishes. *Molecular Marine Biology and Biotechnology*. 7:48-54.
 50. Whitehead, H., Dillon, M.C., Dufault, S., Weilgart, L. and Wright, J.M. 1998. Non-geographic based population structure of South Pacific sperm whales: dialects, fluke-markings and genetics. *J. Animal Ecology*. 57:253-262.
 51. O'Connell, M., Dillon, M.C., and Wright, J.M. 1998. Development of primers for polymorphic microsatellite loci in the Pacific herring (*Clupea harengus pallasii*). *Molecular Ecology*. 7:358-359.
 52. Duffy, A.J., Landa, A., O'Connell, M., Stratton, C., and Wright, J.M. 1998. Four polymorphic microsatellites in wolverine (*Gulo gulo*). *Animal Genetics*. 29:63.
 53. O'Connell, M., Dillon, M.C., Wright, J.M., Bentzen, P., Merkouris, S., and Seeb, J. 1998. Genetic structuring among Alaskan herring (*Clupea pallasii*) populations identified using microsatellite variability. *J. Fish Biology*. 53:150-163.
 54. Coltman, D.W., Bowen, W.D., and Wright, J.M. 1998. Male mating success in an aquatically mating pinniped, the harbour seal (*Phoca vitulina*), determined by microsatellite DNA markers. *Molecular Ecology*. 7:627-638.
 55. Coltman, D.W., Bowen, W.D., and Wright, J.M. 1998. Birth weight and neonatal survival of harbour seal pups are positively correlated with genetic variability measured by microsatellites. *Proceedings Royal Society London. B* 265:803-809.
 56. Oliveira, C., and Wright, J.M. 1998. Molecular cytogenetic analysis of heterochromatin in the chromosomes of tilapia, *Oreochromis niloticus* (Teleostei: Cichlidae). *Chromosome Research*. 6:205-211.
 57. O'Reilly, P.T., Herbinger, C., and Wright, J.M. 1998. An analysis of parentage determination in Atlantic salmon (*Salmo salar*) using microsatellites. *Animal Genetics*. 29:363-370.
 58. Herbinger, C.M., O'Reilly, P.T., Doyle, R.W., Wright, J.M., and O'Flynn. 1999. Early growth performance of Atlantic salmon full-sib families reared in single family tanks versus in mixed family tanks. *Aquaculture*. 173:105-116.
 59. Hamilton, L., and Wright, J.M. 1999. Cloning and nucleotide sequence of cDNA coding for a receptor for activated protein kinase C (RACK) from zebrafish (*Danio rerio*) and tilapia (*Oreochromis niloticus*): constitutive tissue and developmental expression. *Marine Biotechnology* 1:279-285.
 60. McLean, N.L., Nelke, M., Nowak, J., and Wright, J.M. 1999. Meiotic chromosome pairing, isozyme analysis and ferritin expression in a red clover mutant capable of somatic embryogenesis. *Annals of Botany*. 83:315-323.
 61. Mockford, S.W., Wright, J.M., Snyder, M., and Herman, T.B. 1999. A non-destructive source of DNA from hatchling fresh-water turtles for use in PCR

- based assays. *Herpetological Rev.* 30:148-149.
62. Belliveau, A., Farid, A. O'Connell, M., and Wright, J.M. 1999. Assessment of genetic variability in captive and wild American mink (*Mustela vison*) using microsatellites. *Canadian J. Animal Science.* 79:7-16.
 63. Coltman, D.W., Bowen, W.D., and Wright, J.M. 1999. A multivariate analysis of phenotype and paternity in male harbour seals, *Phoca vitulina*, at Sable Island, Nova Scotia. *Behavioural Ecology.* 10:169-177.
 64. Nelke, M., Nowak, J., Wright, J.M., McLean, N.L., Laberge, S., Castonguay, Y., and Vezina, L.-P. 1999. Enhanced expression of a cold-induced gene in regenerative somaclonal variants of red clover (*Trifolium pratense* L.). *Euphytica.* 105:211-217.
 65. Shaw, P.W., Turan, C., Wright, J.M., O'Connell, M., and Carvalho, G.R. 1999. Microsatellite DNA analysis of population structure in Atlantic herring (*Clupea harengus*) with direct comparison to allozyme and mtDNA data. *Heredity.* 83: 490-499.
 66. Oliveira, C., Chew, J.S.K., Foresti, F.P., Dobson, M., and Wright, J.M. 1999. A LINE-like repetitive element from the cichlid fish, *Oreochromis niloticus*: Sequence analysis and chromosomal distribution. *Chromosoma.* 108:457-468.
 67. Hamilton, L.C., MacPherson, G.R and Wright, J.M. 1999. Expressed sequence tags derived from brain tissue of the cichlid fish, *Oreochromis niloticus*. *J. Fish Biology.* 56:219-222.
 68. Kelly, C.D., Godin, J.J-G, and Wright, J.M. 1999. Geographic variation in multiple paternity within natural populations of the guppy (*Poecilia reticulata*). *Proceedings Royal Society London, B.* 266:1-6.
 69. Pierce, M., Wang, Y., Denovan-Wright, E.M. and Wright, J.M. 2000. Nucleotide sequence of a cDNA clone coding for an intestinal-type fatty acid binding protein and its expression in zebrafish (*Danio rerio*). *Biochimica et Biophysica Acta* 1490:175-183.
 70. Denovan-Wright, E.M., Pierce, M., and Wright, J.M. 2000. Nucleotide sequence of cDNA clones coding for a brain-type fatty acid binding protein and its tissue-specific expression in adult zebrafish (*Danio rerio*). *Biochimica et Biophysica Acta* 1942:221-226.
 71. Denovan-Wright, E.M., Pierce, M., Sharma, M.K., and Wright, J.M. 2000. cDNA sequence and tissue-specific expression of a basic liver-type fatty acid binding protein in adult zebrafish (*Danio rerio*). *Biochimica et Biophysica Acta.* 1492: 227-232.
 72. Martins, C., Wasko, A.P., Oliveira, C., and Wright, J.M. 2000. Nucleotide sequence of 5S rDNA and localization of the ribosomal RNA genes to metaphase chromosomes of the tilapiine cichlid fish, *Oreochromis niloticus*. *Hereditas* 133: 39-46.
 73. Wasko, A.P., Martins, C., Wright, J.M., and Galetti Jr., P.M. 2001. Molecular organization of 5S rDNA in the genus *Brycon*. *Genome.* 44:893-902.
 74. Chew, J.S.K., Oliveira, C., Wright, J.M., and Dobson, M.J. 2002. Molecular and cytogenetic analysis of the telomeric (TTAGGG)_n repetitive sequences in the

- Nile tilapia, *Oreochromis niloticus* (Teleostei: Cichlidae). *Chromosoma* 111:45-52.
75. Osentoski, M.F., Mockford, S., Wright, J.M., Snyder, M., and Herman, T.B. 2002. Isolation and characterization of microsatellite loci from the Blanding's turtle, *Emydoidea blandingii*. *Molecular Ecology Notes* 2:147-149.
 76. Cameron, M.C., Denovan-Wright, E.M., Sharma, M.K., and Wright, J.M. 2002. Cellular retinol-binding protein type II (CRBP II) in adult zebrafish (*Danio rerio*): cDNA sequence, tissue-specific expression and gene linkage analysis. *European J. Biochemistry*. 269: 4685-4692.
 77. Martins, C., Wasko, A.P., Oliveira, C., Porto-Foressti, F. Parisi-Maltempi, P.P., Wright, J.M., and Foresti, F. 2002. Dynamics of the 5S rDNA in the tilapia (*Oreochromis niloticus*) genome: repeat units, inverted sequences, pseudogenes and chromosome loci. *Cytogenetics and Genome Research* 98:78-95.
 78. Liu, R.-Z., Denovan-Wright, E.M., and Wright, J.M. 2003. Structure, mRNA expression and linkage mapping of the brain-type fatty acid-binding protein gene (*fabp 7*) from zebrafish (*Danio rerio*). *European Journal of Biochemistry* 270:715-725.
 79. Olivera, C., Wang, Y., Bryden, L.J., and Wright, J.M. 2003. Short interspersed repetitive elements (SINEs) from the cichlid fish, *Oreochromis niloticus*, and their chromosomal localization by fluorescent *in situ* hybridization. *Caryologia*. 56 (2):177-185.
 80. Sharma, M.K., Denovan-Wright, E.M., Boudreau, M.E.R., and Wright, J.M. 2003. Cellular retinoic acid-binding protein type II from zebrafish (*Danio rerio*): cDNA sequence, phylogenetic analysis, mRNA expression and gene linkage mapping. *Gene*. 311:119-126.
 81. Liu, R.-Z., Denovan-Wright, E.M., and Wright, J.M. 2003. Structure, linkage mapping and expression of the heart-type fatty acid-binding protein gene (*fabp3*) from zebrafish (*Danio rerio*). *European Journal of Biochemistry*. 270: 3223-3234.
 82. Liu, R.-Z., Denovan-Wright, E.M., Degrave, A., Thisse, C., Thisse, B., and Wright, J.M. 2004. Spatio-temporal distribution of cellular retinol-binding protein (CRBPI and CRBP II) gene transcripts in the developing and adult zebrafish (*Danio rerio*). *European Journal of Biochemistry*. 271:339-348.
 83. Liu, R.-Z., Denovan-Wright, E. M., Degrave, A., Thisse, C., Thisse, B., and Wright, J. M. 2004. Differential expression of duplicated genes for brain-type fatty acid-binding protein (*fabp7a* and *fabp7b*) during early development of the CNS in zebrafish (*Danio rerio*). *Gene Expression Patterns (Mechanisms of Development)*. 4:379-387.
 84. Sharma, M.K., Denovan-Wright, E.M., Degrave, A., Thisse, C., Thisse, B., and Wright, J.M. 2004. Sequence, linkage mapping and early developmental expression of the intestinal-type fatty acid-binding protein gene (*fabp2*) from zebrafish (*Danio rerio*). *Comparative Biochemistry and Physiology, Part B*. 138:391-398.
 85. Moyses, C.B., Mockford, S., Almeida-Toledo, L.F., and Wright, J.M. 2005. Nine

- polymorphic microsatellites loci in the Neotropical electric eel *Eigenmannia* (Telesostei: Gymnotiformes). *Molecular Ecology Notes*. 5:7-9.
86. Mockford, S.W., McEachern, L., Herman, T.B., Snyder, M., and Wright, J.M. 2005. Population genetic structure of a disjunct population of Blanding's turtle (*Emydoidea blandingii*) in Nova Scotia, Canada. *Conservation Biology*. 123:373-380.
 87. Zink, R.M., Rising, J.D., Mockford, S., Horn, A.G, Wright, J.M., Leonard, M., and Westberg, M.C. 2005. Mitochondrial DNA variation, species limits, and rapid evolution of plumage coloration and size in the Savannah Sparrow. *Condor*. 107:21-28.
 88. Liu, R-Z., Sun, Q., Thisse, C., Thisse, B., Wright, J.M., and Denovan-Wright, E.M. 2005. The cellular retinol-binding protein genes are duplicated and differentially transcribed in the developing and adult zebrafish (*Danio rerio*). *Molecular Biology and Evolution*. 22:469-477.
 89. Sharma, M.K., Saxena, V., Liu, R-Z., Thisse, C., Thisse, B., Denovan-Wright, E.M., and Wright, J.M. 2005. Differential expression of the duplicated cellular retinoic acid-binding protein 2 genes (*crabp2a* and *crabp2b*) during zebrafish embryonic development. *Gene Expression Patterns (Mechanisms of Development)*. 5:371-379.
 90. Liu, R-Z., Sharma, M.K., Sun, Q., Thisse, C., Thisse, B., Denovan-Wright, E.M., and Wright, J.M. 2005. Retention of the duplicated cellular retinoic acid-binding proteins I genes (*crabp1a* and *crabp1b*) in the zebrafish genome by subfunctionalization of tissue-specific expression. *FEBS Journal*. 272:3561-3571.
 91. Mockford, S.W., Herman, T.B., Snyder, M., and Wright, J.M. 2006. Conservation genetics of Blanding's turtle and its application in the identification of evolutionarily significant units. *Conservation Genetics*. 8:209-219.
 92. Sharma, M.K., Liu, R-Z., Thisse, C., Thisse, B., Denovan-Wright, E.M., and Wright, J.M. 2006. Hierarchical subfunctionalization of *fabp1a*, *fabp1b* and *fabp10* tissue-specific expression may account for retention of these duplicated genes in the zebrafish (*Danio rerio*) genome. *FEBS Journal*. 273:3216-3229.
 93. Mayer, K.M., Ford, J., Macpherson, G.R., Padgett, D., Volkmann-Kohlmeyer, B., Kohlmeyer, J., Murphy, C. Douglas, S.E., Wright, J.M., and Wright, J.L.C. 2007. Exploring the diversity of marine-derived fungal polyketide synthases. *Canadian Journal of Microbiology*. 53:291-302.
 94. Liu, R-Z., Saxena, V., Sharma, M.K., Thisse, C., Thisse, B., Denovan-Wright, E.M., and Wright, J.M. 2007. The *fabp4* gene of zebrafish (*Danio rerio*): genomic homology with the mammalian *FABP4* and divergence from the zebrafish *fabp3* in developmental expression. *FEBS Journal*. 274:1621-1633 (with journal cover illustration).
 95. Karanth, S, Denovan-Wright, E.M., Thisse, C., Thisse, B., and Wright, J.M. 2008. The evolutionary relationship between the duplicated copies of the zebrafish *fabp11* genes and the tetrapod *FABP4*, *FABP5* *FABP8* and *FABP9* genes. *FEBS Journal*. 275:3031-3040.
 96. Alves-Costa, F.A., Denovan-Wright, E.M., Thisse, C., Thisse, B., and Wright J.M.

2008. Spatio-temporal distribution of fatty acid-binding protein 6 (*fabp6*) gene transcripts in the developing and adult zebrafish (*Danio rerio*). *FEBS Journal*. 275:3325-3334.

97. Karanth, S., Lall, S.P., Denovan-Wright, E.M., and Wright, J.M. 2008. Differential transcriptional modulation of duplicated fatty acid-binding protein genes by dietary fatty acids in zebrafish: evidence of subfunctionalization of duplicated genes. *Submitted*.

REFEREED CONFERENCE PROCEEDINGS, REVIEWS AND BOOK CHAPTERS:

1. Boyle, S.M., Wright, J.M., Satishchandran, C., and Buch, J. 1986. Expression of the putrescine biosynthetic genes (*speA*, *speB*, *speC*) in *Escherichia coli*. In: *The Physiology of Polyamines*. (U. Bachrach and Y.H. Heimer, Eds.). CRC Press, Inc., Boca Raton, Florida. pp. 3-11.
2. Boyle, S.M., Wright, J.M., and Satishchandran, C. 1985. Analysis *In vitro* and *In vivo* of the role of cyclic AMP on *speC* expression in *Escherichia coli*. (L. Selmici, M.E. Brosnan and N. Seiler, Eds.). pp. 3-8. Proceedings of the International Congress of Polyamines, Budapest.
3. Franck, J.P.C., Bentzen, P., Harris, A.S., Denovan-Wright, E.M. and Wright, J.M. 1991. Organisation and evolution of satellite, minisatellite and microsatellite DNAs in teleost fishes. In: *Oxford Surveys on Eukaryotic Genes*. (N. Maclean, Ed.) Oxford University Press. Invited Monograph. pp. 51-85.
4. Bentzen, P., Harris, A.S. and Wright, J.M. 1991. Cloning of hypervariable minisatellite and simple sequence microsatellite repeats for DNA fingerprinting of important aquacultural species of salmonids and tilapia. In: *DNA fingerprinting: Approaches and applications*. (T. Burke, A. Jeffreys, R. Wolf, and G. Dolf, Eds.). Birkhauser Verlag, Switzerland. Invited monograph. pp. 243-262.
5. Bentzen, P., Wright, J.M., Kornfield, I., and Roberts, F. 1992. Single-locus DNA fingerprinting of Atlantic Salmon from Maine and Newfoundland. Proceedings of the Northeast Atlantic Salmon Workshop. US Fish and Wildlife Service. pp. 31-40.
6. Wright, J.M. 1993. DNA fingerprinting of fishes. In: *The Biochemistry and Molecular Biology of fishes*. (T. Mommsen and P.W. Hochachka, eds.). Elsevier Press. Amsterdam. Invited chapter. pp. 57-91.
7. Nielsen, J.L., Gan, C., Wright, J.M., and Thomas, W.K. 1994. Phylogeographic patterns in California Steelhead using mitochondrial DNA and microsatellites. Proceedings of Calcofi conference, "Genetics of organisms of the California current" 35: 90-92.
8. Bentzen, P., Morris, D.B., and Wright, J.M. 1994. Development and use of variable number tandem repeat markers for population and aquacultural genetics of salmonids. National Oceanic and Atmospheric Administration Workshop, Proceedings. "Application of DNA technology to the management of Pacific salmon". Seattle. NOAA Tech. Memo. MFS-NWFSC-17. pp. 85-90.
9. Wright, J.M., and Bentzen, P. 1994. Microsatellites: genetic markers for the future. In: *Reviews in Fish Biology and Fisheries* (G.R. Carvalho and T.J. Pitcher, eds.)

- Chapman and Hall, London. Invited commentary. 4: 384-388.
10. O'Reilly, P., and Wright, J.M. 1995. The evolving technology of DNA fingerprinting and its application to fisheries and aquaculture. Proceedings of the International Symposium on *Molecular Biology in Fish, Fisheries and Aquaculture*. J. Fish Biology. 47 (Suppl. A) 29-55.
 11. Nielsen, J.L., Fountain, M.A., and Wright, J.M. 1996. Biogeographic analysis of Pacific trout (*Onchorhynchus mykiss*) in California and Mexico based on mtDNA and nuclear microsatellites. In *Molecular Systematics of Fishes* (eds, T. Kocher and C. Stepien) Academic Press. pp. 53-73.
 12. Belliveau, A.M., O'Connell, M., Wright, J.M., and Farid, A.H. 1996. Assessment of genetic variability and genetic distance between wild and ranched American mink using microsatellites. Proceedings of VI International Scientific Congress in Fur Animal Production. Warsaw, Poland. pp. 77-80.
 13. O'Connell, M., and Wright, J.M. 1997. Microsatellite DNA in Fishes. In: *Reviews in Fish Biology and Fisheries*. (G.R. Carvalho and T.J. Pitcher, eds.). Chapman and Hall, London. 7: 331-363.
 14. Dillon, M.C., Richard, K.R., Whitehead, H., and Wright, J.M. 2002. Social and population genetic structure of sperm whales assessed by molecular genetic analyses. In: *Molecular and Cell Biology of Marine Mammals*. (C.J. Pfeiffer, ed.). Krieger Publishing Co., Chapter 5, pp. 43-52.
 15. Coltman, D.W., Goodman, S.J., and Wright, J.M. 2002. Molecular ecology of Atlantic harbour seals (*Phoca vitulina*). In: *Molecular and Cell Biology of Marine Mammals*. (C.J. Pfeiffer, ed). Krieger Publishing Co., Chapter 13, pp.138-151.
 16. Oliveira, C., Wright, J.M., and Foresti, F. 2002. Chromosome structure in fishes. In: *Some Aspects of Chromosome Structure*. (R.C. Solti and G. Obe, eds.). Narosa Publishing House, New Delhi, India, pp. 103-108.
 17. Martins, C., Oliveira, C., Wasko, A.P., and Wright, J.M. 2004. Physical mapping of the Nile tilapia (*Oreochromis niloticus*) genome by fluorescent *in situ* hybridization of repetitive DNAs to metaphase chromosomes - A review. *Aquaculture*. 231:37-49.

REPORTS (NON-REFEREED):

1. Bentzen, P., Cook, D., Denti, D., Harris, A.S., Hofman, J. and Wright, J.M. 1990. One tube DNA extraction procedure for molecular fingerprinting. *Fingerprint News* 2(4): 17-21.
2. Mockford, S.W., and Wright, J.M. 1998. Molecular ecology of Blanding's turtle. Report to Parks Canada, Kejimikujik National Park.
3. Wright, J.M. 2004. Focus on Canadian Research. "The intracellular lipid-binding protein genes of zebrafish." *The Genetics Society of Canada Bulletin*. 35 (2):32-34.

INTERVIEWS:

1. Wright, J.M. 1990. "DNA fingerprinting: applications to aquaculture and fisheries". Canadian Broadcasting Corporation Mainstreet (Fredericton) news programme.

- December 17.
2. Wright, J.M. 1995. Sperm whales and DNA fingerprinting. Canadian Broadcasting Corporation. Morningside programme (national broadcast). January 16.
 3. Wright, J.M. 1995. The "Morin Case", forensics and DNA-typing. Canadian Broadcasting Corporation. "Information Morning" (Halifax, Maritime Provinces Regional Broadcast). January 24.
 4. Wright, J.M. 1995. "DNA fingerprinting". Halifax Cable 10 channel. "What's happening in Halifax" Program. February 6.
 5. Wright, J.M. 1995. DNA: the ultimate determinant of identity. Atlantic Television (ATV) Network Evening News (Halifax). February 6.
 6. Wright, J.M. 1996. "Flaky" Science finds secret of the whales. London Daily Telegraph. August 12.
 7. Wright, J.M. 1998. Ancient DNA. Atlantic Television (ATV) Network Evening News (Halifax). April 8.
 8. Wright, J.M. 1998. Using genes to find homeland: group hopes DNA will help to pinpoint African home. The Sunday Daily News (Halifax), May 25, 1998. The Globe & Mail, May 25, 1998 (Canadian Press).

ABSTRACTS AND PRESENTATIONS:

1. Trentini, W.C., Wright, J.M., and Elliot, D. 1978. Trichome ghosts of *Caryophanon latum*. Annual Meeting, American Society for Microbiology, Las Vegas.
2. Wright, J.M., and Trentini, W.C. 1978. Studies on the differential sensitivity of the peptidoglycan of *Caryophanon latum* to egg white lysozyme. Annual meeting, Canadian Society of Microbiologists, Montreal.
3. Wright, M.M., and Boyle, S.M. 1982. Negative control of ornithine decarboxylase and arginine decarboxylase by cyclic adenosine-3',5'-monophosphate in *Escherichia coli*. Annual Meeting, American Society for Microbiology, Dallas.
4. Wright, J.M., and Boyle, S.M. 1983. Intergeneric homology of the *speC* gene coding for ornithine decarboxylase of *Escherichia coli*. Annual Meeting Canadian Federation of Biological Societies, Ottawa.
5. Wright, J.M., and Boyle, S.M. 1983. Negative transcriptional control by cyclic AMP of the *speC* gene encoding ornithine decarboxylase in *Escherichia coli*. Queen's University Symposium on Gene Expression, Kingston.
6. Wright, J.M., and Barnsley, P. 1984. Examination of mycoplasma DNA for homology to various cloned *Escherichia coli* genes. Fifth International Congress of the International Organization of Mycoplasma, Jerusalem.
7. Wright, J.M., and Boyle, S.M. 1984. Intergeneric homology of *speC* among the Enterobacteriaceae. Annual Meeting Canadian Federation of Biological Societies. Invited paper for the Symposium on Gene Evolution, Saskatoon.
8. Satishchandran, C., Wright, J.M., and Boyle, S.M. 1984. Quick-blot analysis of prokaryotic messenger RNA. In: *DNA and RNA Probes: Strategies and applications*. Albany, New York.
9. Wright, J.M., and Boyle, S.M. 1984. Analysis *in vitro* of the effect of cAMP and CRP on *speC* (ornithine decarboxylase) expression in *Escherichia coli*. International Congress of Polyamines, Budapest.

10. Dixon, G.H., Pentecost, B.T., Lee, K.L.D., and Wright, J.M. 1985. High mobility group (HMG-) cDNA's and mRNA's. Camerino Chromatin Meeting, Camerino, Italy.
11. Pentecost, B.T., Wright, J.M., and Dixon, G.H. 1985. Isolation and sequence of cDNA clones coding for a member of high mobility group chromosomal proteins (HMG-T) in trout and analysis of HMG-T-mRNA's in trout tissue. Annual Meeting Canadian Federation of Biological Societies, Toronto.
12. Pentecost, B.T., Wright, J.M., and Dixon, G.H. 1985. cDNA and genomic clones coding for a high mobility group (HMG-T) protein in trout. Thirteenth International Congress of Biochemistry, Amsterdam.
13. Wright, J.M., Wiersma, P.A., and Dixon, G.H. 1986. DNA-binding properties of histone H1 and differentiation stage-specific H1 variants from trout, chicken and the annelid, *Platynereis durnerlii*. Canadian Biochemical Society Symposium, Banff.
14. Wright, J.M. and Dixon, G.H. 1986. A cruciform structure in the 5' flanking region of the gene for a high mobility group (HMG-T) protein from trout. Annual Meeting Canadian Federation of Biological Societies, Guelph.
15. Wright, J.M., Wiersma, P.A., and Dixon, G.H. 1986. Use of protein-blotting to study the DNA-binding properties of histones H1 and H5. Annual Meeting Canadian Federation of Biological Societies, Guelph.
16. Wright, J.M., and Dixon, G.H. 1986. Induction by torsional stress of a cruciform conformation 5' upstream of the gene for a high mobility group protein from trout and the specific binding to flanking sequences by the gene product, HMG-T. American Society for Cell Biology, Washington, D.C.
17. Wright, J.M., Barasso, L., and Boyle, S.M. 1988. Interaction of the cAMP receptor protein and RNA polymerase with the *speC* gene of *Escherichia coli*. Fourteenth International Congress of Biochemistry, Prague.
18. Denovan, E.M., Franck, J.P.C., and Wright, J.M. 1988. Antibodies to nuclear matrix proteins of *Physarum polycephalum*. Fourth International Congress of Cell Biology, Montreal.
19. Edens Magor, K., and Wright, J.M. 1988. Low mobility group (LMG) chromosomal proteins of *Physarum polycephalum*. Fourth International Congress of Cell Biology, Montreal.
20. Beiger, S., and Wright, J.M. 1989. DNA fingerprinting of fish and its application to aquaculture. Canadian Aquatic Biotechnology Network, Aquatech '89. Vancouver. (Invited paper)
21. Harris, A.S., Bentzen, P., and Wright, J.M. 1989. DNA fingerprinting and aquaculture genetics. Second DNA Fingerprinting Workshop. Nottingham, U.K.
22. Franck, J.P.C., McAndrew, B.J., and Wright, J.M. 1990. Evolution of a satellite DNA family in tilapia. Annual Meeting Canadian Federation of Biological Societies. Halifax.
23. Harris, A.S., Bentzen, P., and Wright, J.M. 1990. Cloning of hypervariable minisatellite loci from tilapia. Annual Meeting Canadian Federation of Biological Societies, Halifax.
24. Denovan, E.M., and Wright, J.M. 1990. A satellite DNA family from pollock

- (*Pollachius virens*). Annual Meeting Canadian Federation of Biological Societies, Halifax.
25. Lazier, C.B., McKay, M.E., Langely, S., and Wright, J.M. 1990. Studies on the sex hormone regulation of serum proteins in tilapia (*Oreochromis niloticus*). Annual Meeting Canadian Federation of Biological Societies, Halifax.
 26. Edens Magor, K.A., and Wright, J.M. 1990. Nuclear DNA-binding proteins of *Physarum polycephalum* which display preferential affinity for poly d(A-T). Annual Meeting Canadian Federation of Biological Societies, Halifax.
 27. Pohajdak, B., Wright, J.M., Zouros, E., Lazier, C.B., and Doyle, R.W. 1990. Opportunities in aquaculture for genetically-engineered products. Aquaculture and Veterinary Products Conference Proceedings, Stamford, CT.
 28. Wright, J.M. 1990. Genetic markers for population definition of marine species. (Invited paper). Shellfish life histories and shellfishery models. International Council for the Exploration of the Sea. Universite de Moncton.
 29. Zwanenburg, K.C.T., Bentzen, P., and Wright, J.M. 1990. Mitochondrial DNA variation in northwest Atlantic populations of haddock. NATO Advanced Studies Institute. Molecular techniques in taxonomy. University of East Anglia, Norwich, U.K.
 30. Wright, J.M., Bentzen, P., and Harris, A.S. 1990. Cloning of hypervariable minisatellite and simple sequence microsatellite repeats for DNA fingerprinting of important aquacultural species of salmonids and tilapia. First International Conference on DNA fingerprinting, Berne, Switzerland.
 31. Harris, A.S., Bentzen, P. and Wright, J.M. 1990. Cloning of hypervariable loci from fish DNA. DNA mini-symposium, Can. Soc. of Forensic Sci. Ottawa.
 32. Bentzen, P., Harris, A.S. and Wright, J.M. 1991. Hypervariable genetic markers cloned from the DNA of fishes. Can. Conf. Fisheries Research. Guelph, January.
 33. Mosher, R., Skeat, J., Wright, J.M., and Vining, L.C. 1991. Adhesive polymers from marine sources. American Chemical Society. Atlanta, GA.
 34. Wright, J.M., Franck, J.P.C., and Harris, A.S. 1991. Clustered and dispersed repetitive DNAs in the tilapiine (Cichlidae) genome. International Symposium on the Biochemical Genetics and Taxonomy of Fish. The Queen's University of Belfast, Belfast, N. Ireland.
 35. Bentzen, P. and Wright, J.M. 1991. Cloning and characterization of variable number of tandem repeat loci in salmonid fishes. International Symposium on the Biochemical Genetics and Taxonomy of Fish. The Queen's University of Belfast, Belfast, N. Ireland.
 36. Zwanenburg, K.C.T., Bentzen, P., and Wright, J.M. 1991. Biochemical systematics of redfishes (*Sebastes*). International Symposium on the Biochemical Genetics and Taxonomy of Fish. The Queen's University of Belfast, Belfast, N. Ireland.
 37. Langley, S., Ramsey, B.N., Lazier, C.B. and Wright, J.M. 1991. Androgen inhibition of vitellogenesis in tilapia (*Oreochromis niloticus*). Annual Meeting Can. Fed. Biol. Soc. Kingston, Ontario.
 38. Richard, K.R., Wright, J.M., and Whitehead, H. 1991. Application of microsatellite loci in genetic relatedness studies of sperm whales. Ninth Biennial Conference

- on the Biology of Marine Mammals. Chicago, USA. Dec. 5-9.
39. Wright, J.M., Bentzen, P., Kornfield, I., and Roberts, F. 1992. DNA fingerprinting of Atlantic salmon populations from Nova Scotia and Maine. Northeast Atlantic Salmon Workshop, US Fish and Wildlife Service, Rockland, ME.
 40. Morris, D.B., Richard, K.R., and Wright, J.M. 1992. The cloning and characterization of microsatellites from rainbow trout (*Onchorhynchus mykiss*). Int. Conference on the Genetics and Evolution of Aquatic Organisms. Bangor, Wales.
 41. Bentzen, P., Wright, J.M., Kornfield, I., and Roberts, F. 1992. A survey of variable number of tandem repeat loci in Atlantic Salmon in eastern North America. Int. Conference on the Genetics and Evolution of Aquatic Organisms. Bangor, Wales.
 42. Wright, J.M., and Harris, A.S. 1992. Towards digital DNA fingerprinting of tilapia for evolutionary and population studies. International Conference on the Genetics and Evolution of Aquatic Organisms. Bangor, Wales.
 43. Bentzen, P., Morris, D.B., and Wright, J.M. 1993. Development and use of variable number tandem repeat markers for population and aquacultural genetics of salmonids. National Oceanic and Atmospheric Administration Workshop, Proceedings. "Application of DNA technology to the management of Pacific salmon". Seattle.
 44. Nelke, M., Nowak, J., Wright, J.M., and McLean, N.L. 1993. DNA fingerprinting of red clover (*Trifolium pratense* L.) with Jeffreys' probes: detection of somaclonal variation and other applications. Atlantic Plant Tissue Culture Association, Fredericton, N.B.
 45. Dillon, M.C., and Wright, J.M. 1993. Population and phylogenetic studies of the sperm whale using mitochondrial D-loop sequences. Tenth biennial conference on the biology of marine mammals. Galveston, U.S.A. Nov. 11-15.
 46. Richard, K.R., Wright, J.M., and Whitehead, H. 1993. Genetic study of social organisation in sperm whales. Tenth biennial conference on the biology of marine mammals. Galveston, U.S.A. Nov. 11-15.
 47. Herbinger, C., Doyle, R.W., Pitman, E.R., Paquet, D., Morris, D.B., Cook, D., and Wright, J.M. 1994. Analysis of paternal and maternal effects on offspring growth performance in a rainbow trout farm using DNA fingerprints to infer parentage of communally reared offspring. 5th International Symposium on Genetics in Aquaculture. Halifax.
 48. Nelke, M., Wright, J.M., and Nowak, J. 1994. DNA changes in the red clover genome during regeneration in tissue culture. Atlantic Plant Tissue Culture Association, Kentville, N.S.
 49. McConnell, S., Bentzen, P., Morris, D., Cook, D., Hamilton, L., Paquet, D. and Wright J.M. 1994. Isolation of microsatellite loci in Atlantic salmon and their application to the aquaculture and population genetics of Canadian East Coast Stocks. 5th International Symposium on Genetics in Aquaculture. Halifax.
 50. Nielsen, J., Gan, C., Wright, J.M., and Thomas, W.K. (1994). Phylogeographic patterns in California Steelhead trout using mitochondrial DNA and Microsatellites. Calcofi Conference. Genetics of organisms of the California

- Current. Monterey, CA.
51. Bentzen, P., Taggart, C.T., McConnell, S. and Wright, J.M. 1994. Microsatellite markers and genetic differentiation in fishes: an early perspective. Meeting of Evolution and the Aquatic Ecosystem - Defining Unique Units in Conservation. Monterey, CA.
 52. Bentzen P., and Wright, J.M. 1994. Emerging technologies and the search for new markers. American Fisheries Society Ann. Meeting, Halifax.
 53. Coltman, D.W., and Wright, J.M. 1994. A family of short interspersed elements (SINEs) specific to the superfamily Canoidea provides a new source of genetic markers for pinniped studies. International Symposium on Marine Mammal Genetics. La Jolla, CA. Sept. 23-24.
 54. Wright, J.M. 1995. The "pro's and con's" of various DNA-based technologies for population definition of aquatic species. Annual Meeting, Society of Experimental Biology, St. Andrews, Scotland. Keynote Speaker, April 3-7.
 55. McConnell, S.K., Wright, J.M., Cook, D., Doyle, R.W., Bentzen, P., and Taggart, C. 1995. Use of polymorphic microsatellites for stock discrimination of Atlantic salmon and Atlantic Cod. Ann. Meeting, Society of Experimental Biology, St. Andrews, Scotland. April 3-7.
 56. Wright, J.M. 1995. The evolving technology of DNA fingerprinting. International Symposium on the Molecular Biology in Fish, Fisheries and Aquaculture, Fisheries Society of the British Isles, Plymouth, July 10-13. Keynote speaker.
 57. O'Connell, M., Danzmann, R.G., McConnell, S.K., Wright, J.M., and Ferguson, M.M. 1995. Isolation of microsatellite DNA from rainbow trout (*Oncorhynchus mykiss*) and its potential to fishery management. International Symposium on the Molecular Biology in Fish, Fisheries and Aquaculture, FSBI, Plymouth, July 10-13.
 58. McConnell, S.K., O'Reilly, P., Hamilton, L., Wright, J.M., and Bentzen, P. 1995. Microsatellite analysis of genetic variation in Atlantic salmon populations from Atlantic Canada. International Symposium on the Molecular Biology in Fish, Fisheries and Aquaculture, FSBI, Plymouth, July 10-13.
 59. Dillon, M.C., Whitehead, H., and Wright, J.M. 1995. Genetic variation of sperm whales in the South Pacific. 11th Biennial Conference on the Biology of Marine Mammals. Miami, FA.
 60. Wright, J.M., Nelke, M., McLean, N., Nowak, J., and Laberge, S. 1996. Cold-tolerant somoclonal variants of red clover (*Trifolium pratense* L.) with enhanced expression of a cold-induced gene for a glycine-rich protein. Workshop on Transgenic plants: Biology and applications. Tuskegee University, Alabama, April 20-22.
 61. Nowak, J., Nelke, M., Wright, J.M., McLean, N.C., Laberge, S., Vezina, L.-P., and Castonguay, Y. 1996. Differential expression of *Mscor A* gene in a cold hardened red clover genotype and its somaclonal variant. Canadian Society for Plant Molecular Biology. Laval, Que. June 9-12.
 62. Dillon, M.C., Whitehead, H., and Wright, J.M. 1996. Geographical population structure of female sperm whales assessed by mitochondrial DNA variation. European Cetacean Society. 10th Annual Conference, Lisboa, Portugal. March

- 11-13.
63. Nelke, M., Nowak, J., and Wright, J.M. 1997. Modulation of genomic repetitive DNA content in a regenerative genotype and somaclonal variants of red clover (*Trifolium pratense* L.) during tissue culture. Annual meeting, Atlantic Plant Tissue Culture Association. St. Mary's University, Halifax, N.S., Canada, June 2-3.
 64. Wright, J.M., Nelke, M., McLean, N., Nowak, J., and Laberge, S. 1997. Enhanced expression of a cold-induced gene in regenerative somaclonal variants of red clover (*Trifolium pratense* L.). Annual meeting, Atlantic Plant Tissue Culture Association. St. Mary's University, Halifax, N.S., Canada, June 2-3.
 65. Wright, J.M., Bryden, L., and Denovan-Wright, E.M. 1997. ROn-1 SINEs: A short interspersed repetitive element from the genome of *Oreochromis niloticus* and its species-specific distribution in cichlid fishes. VIth International Symposium on Genetics in Aquaculture. University of Stirling, Scotland, June 24-28.
 66. Herbinger, C.M., O'Reilly, P.T., Doyle, R.W., Wright, J.M., and O'Flynn, F. 1997. Early growth performance of Atlantic salmon full-sib families reared in a single family tank or in mixed family tanks. VIth International Symposium on Genetics in Aquaculture. University of Stirling, Scotland. June 24-28.
 67. McConnell, S.K., O'Reilly, P., Herbinger, C.M., Hamilton, L., Wright, J.M., and Amiro, P. 1997. Assessing the genetic impact of stocking using microsatellite genetic markers: Stocking of Atlantic salmon into the Grand River, Nova Scotia. VIth International Symposium on Genetics in Aquaculture. University of Stirling, Scotland. June 24-28.
 68. Mockford, S.W., Wright, J.M., Snyder, M., and Herman, T.B. 1998. A molecular approach to the study of Blanding's turtle in Nova Scotia. Blanding's turtle workshop. J.F. Bell Museum of Natural History, Minneapolis, Minnesota. May. 1998.
 69. Denovan-Wright, E.M., Oliveira, C., Wang, Y., Bryden, L.J., and Wright, J.M. 1998. SINEs from the cichlid fish, *Oreochromis niloticus*, and their clustered localization to metaphase chromosomes. 13th International Chromosome Conference, Ancona, Italy, Sept. 8-12.
 70. Wright, J.M., Oliveira, C., Chew, J., and Dobson, M. 1998. Centromeric and telomeric sequences in the cichlid fish, *Oreochromis niloticus*. 13th International Chromosome Conference, Ancona, Italy, Sept. 8-12.
 71. Oliveira, C., Labbé, J., and Wright, J.M. 1998. Localization of the 5S and 18S rRNA genes to metaphase chromosomes of the cichlid fish, *Oreochromis niloticus*. 13th International Chromosome Conference, Ancona, Italy, Sept. 8-12.
 72. Oliveira, C., Wang, Y., Chew, J., Labbé, J., Bryden, L.J., Dobson, M. and Wright, J.M. 1998. Molecular characterization and chromosome location of repetitive sequences in the tilapia genome, *Oreochromis niloticus*. 44° Congresso Nacional de Genetica. Anguas de Lindsia, São Paulo, Brazil, Sept. 9-12.
 73. Porto-Foresti, F., Oliveira, C., Chew, J., Dobson, M., and Wright, J.M. 1998. Distribution of a LINE-like element in the chromosomes of tilapia, *Oreochromis niloticus*. 44° Congresso Nacional de Genetica. Anguas de Lindsia, São Paulo, Brazil, Sept. 9-12.
 74. Wright, J.M. 1999. Physical mapping of the genome of *Oreochromis niloticus* by

- fluorescent *in situ* hybridization to metaphase chromosomes. Int. Plant and Animal Genome Conference VII, San Diego, CA. January 17-21. Invited speaker.
75. O'Reilly, P., McConnell, S., Wright, J.M., and Amiro, P. (1999) Long term genetic changes in stock populations of Atlantic salmon (*Salmo salar*). Coastwide Salmonid Genetics Meeting, University of Montana, June 3-4.
 76. Wasko, A.P., Martins, C., Wright, J.M., and Galetti, P.M. 1999. Chromosomal mapping and nucleotide sequence of 5S rDNA in species of the genus, *Brycon* (Pisces, Characidae). 45° Congresso Nacional de Genética, Gramado, RS, Brazil, October 3-7.
 77. Wright, J.M., Denovan-Wright, E.M., Pierce, M., Wang, Y., Sharma, M.K., Anopuechi, V. and Liu, R. 2000. Sequence of fatty acid binding proteins and their tissue-specific expression in adult zebrafish (*Danio rerio*). 18th International Congress of Biochemistry and Molecular Biology. Birmingham, UK., July 16-20.
 78. Wright, J.M. 2000. Sequence and tissue-specific expression of fatty acid binding proteins in zebrafish (*Danio rerio*). VIII Simpósio de Citogenética de Peixes. Manaus, Amazonas, Brasil. Oct. 22-25. Plenary lecture.
 79. Porto-Foresti, A.P., Wasko, A.P., Oliveira, Foresti, F., Wright, J.M. 2001. Organization of the 5S rRNA genes in the tilapia, *Oreochromis niloticus*: repeat units, chromosome loci and dynamics. 14th International Chromosome Conference, Wurzburg, Germany. Sept. 4-8. Chromosome Research 9 (suppl. 1).
 80. Wasko, A., Martins, C., Wright, J.M. and Galetti, Jr., P.M. 2001. Molecular organization of 5S rDNA in fishes of the genus, *Brycon*. 14th International Chromosome Conference, Wurzburg, Germany. Sept. 4-8. Chromosome Research 9 (suppl. 1).
 81. Liu, R.-Z., Denovan-Wright, E.M., and Wright, J.M. 2002. A novel member of the fatty acid binding protein multigene family: cDNA sequence, tissue-specific distribution and down-regulation of its mRNA during oogenesis in zebrafish (*Danio rerio*). 5th International Conference on Zebrafish Development and Genetics. University of Wisconsin-Madison, June 12-16.
 82. Sharma, M.K., Denovan-Wright, E.M., and Wright, J.M. 2002. Cellular retinoic acid-binding protein type II from zebrafish (*Danio rerio*): cDNA sequence, gene linkage, mapping, and temporal and tissue-specific expression. 5th International Conference on Zebrafish Development and Genetics. University of Wisconsin-Madison, June 12-16.
 83. Wright, J.M. 2003. Evolution of the gene regulation: the multigene family for fatty acid- and retinoid- binding proteins in zebrafish. Joint meeting of the Brazilian Societies of Ichthyologists and Herpetologists, Manaus, Brazil, June 26-July 1.
 83. Moysés, C. B., Mockford, S., Almedia-Toledo, L. F., and Wright, J. M. 2003. Isolation and characterization of five polymorphic microsatellite loci in Brazilian *Eigenmannia* (Pisces, Gymnotiformes). Joint meeting of the Brazilian Societies of Ichthyologists and Herpetologists, Manaus, Brazil, June 26-July 1.
 84. Mockford, S.W., Herman, T.B., Snyder, M., and Wright, J.M. 2005. Geographic distribution of genetic variation in Blanding's turtle. Second International

- Blanding's Turtle Conference. White Point, Nova Scotia, Canada. July 17-19.
85. Wright, J.M. 2006. Genesis and fate of duplicated genes in the zebrafish genome: the multigene family coding for intracellular lipid-binding protein genes. 1st International Congress of Fish Genetics; (Concurrent with the XIth Brazilian Symposium on Fish Cytogenetics and Genetics). São Carlos, SP, Brazil. October 10-13. Plenary lecture.
 86. Wright, J.M. 2007. The genesis and fate of duplicated lipid-binding protein genes in zebrafish. 6th International Conference on Lipid Binding Proteins. Vancouver, Canada. June 3-5. Invited speaker
 87. Wright, J.M. 2007. The evolution of the duplicated intracellular lipid-binding protein genes of zebrafish. The 53rd Brazilian Congress of Genetics. Aguas de Lindoia, SP, Brazil. Sept. 3-5. Invited speaker.
 88. Karanth, S., Denovan-Wright, E.M., Thisse, C., Thisse, B., and Wright, J.M. 2008. Duplicated copies of the zebrafish *fabp11* gene and the tetrapod *FABP4*, *FABP5*, *FABP8* and *FABP9* genes evolved from a common ancestral gene. Annual meeting of the Canadian Society of Zoologists. Halifax, NS, Canada. May 19-23.
 89. Karanth, S., Denovan-Wright, E.M., Lall, S.P., and Wright, J.M. 2008. Induction of steady-state levels of transcripts for duplicated *fabp* genes in zebrafish (*Danio rerio*) by dietary fatty acids. Annual meeting of the Canadian Society of Zoologists. Halifax, NS, Canada. May 19-23.
 90. Karanth, S., Denovan-Wright, E.M., Lall, S.P., and Wright, J.M. 2008. Differential induction of duplicated *fabp* genes in zebrafish (*Danio rerio*) by dietary fatty acids. 13th International Symposium on Fish Nutrition and Feeding. Florianopolis, Brazil. June 1-5.
 91. Karanth, S., Denovan-Wright, E.M., Thisse, C., Thisse, B., and Wright, J.M. 2008. The evolutionary relationship between the duplicated copies of the zebrafish *fabp11* gene and the tetrapod *FABP4*, *FABP5*, *FABP8* and *FABP9* genes. 8th International Meeting on Zebrafish Development and Genetics. University of Wisconsin, Madison, WI, USA. June 25-29.
 92. Karanth, S., Denovan-Wright, E.M., Lall, S.P., and Wright, J.M. 2008. Dietary fatty acids differentially induce the steady-state levels of transcripts for duplicated *fabp* genes in zebrafish (*Danio rerio*). 8th International Meeting on Zebrafish Development and Genetics. University of Wisconsin, Madison, WI, USA. June 25-29.

INVITED LECTURES (at Universities, Research Institutes and High School Teacher Training programmes).

1. Department of Biochemistry, Dalhousie University Halifax, N.S. Canada. November 1986. "Are the genes for the high mobility group (HMG) proteins autogenously regulated?"
2. Departments of Biochemistry and Pathobiology (Veterinary College), Virginia Tech., VA, U.S.A. May 1986. "Structure and expression of the gene for a high mobility group (HMG-T) protein from rainbow trout."
3. Department of Biology, Acadia University, Wolfville, N.S. Canada. March 1987. "Science fiction and the nuclear matrix of *Physarum polycephalum*."
4. APICS Conference, Mount St. Vincent University, Halifax, N.S. Canada. August

1989. "Genetic engineering - what next in the biological revolution?"
5. Department of Zoology, University of Maine, Orono, ME, U.S.A. December 1989. "Molecular approaches to aquaculture."
 6. Department of Biology, Mount Allison University, Sackville, N.B., Canada. December 1989. "Molecular approaches to aquaculture."
 7. Atlantic Regional Laboratory, National Research Council of Canada, Halifax, N.S., Canada. January 1990. "Fisheries genetics."
 8. Department of Pharmacology, Dalhousie University, Halifax, N.S. Canada. January, 1990. "Dalhousie's Marine Gene Probe Laboratory".
 9. Nova Scotia Agricultural College, Truro, N.S. Canada. May 1990. "Genetic engineering: Fish production in the Maritimes."
 10. Summer Science Institute, Department of Education, Government of Nova Scotia, Dalhousie University. July 1990 and July 1989. "A series of lectures on genetic engineering presented to high school science teachers."
 11. Institute of Aquaculture, University of Stirling, Stirling, Scotland. October 1990. "Application of DNA technology to fisheries and aquaculture."
 12. Department of Biology, Dalhousie University, Halifax, N.S. Canada. Nov. 1990. "Probe Technology."
 13. Department of Biochemistry, Dalhousie University, Halifax, N.S. Canada. Jan. 1991. "Fingerprinting and other uses for junk DNA."
 14. Nova Scotia Agricultural College, Truro, N.S., Canada. April 1992. "DNA fingerprinting."
 15. Faculty of Medicine, 25th Anniversary Alumni Symposium, Memorial University of Newfoundland, NFLD, Canada. 1993. "DNA fingerprinting: approaches and applications."
 16. Canadian Department of Fisheries and Oceans, St. John's, Newfoundland Canada. 1993. "DNA fingerprinting of Atlantic salmon: approaches and applications to fisheries and aquaculture."
 17. Department of Wildlife and Marine Resource, State of South Carolina, Charleston, South Carolina, U.S.A. April 1994. "DNA fingerprinting of fishes: applications to fisheries and aquaculture."
 18. Department of Biology, St. Mary's University, Halifax, N.S. Canada. Jan. 1994. "DNA fingerprinting: approaches and applications."
 19. Nova Scotia Association of Science Teachers, Annual Meeting. Halifax, N.S., Canada. Oct. 1994. "The Genetic Revolution".
 20. Nova Scotia Institute of Science, Halifax, N. S., Canada. Feb. 6, 1995. "DNA: the ultimate determinant of identity."
 21. Depto Pathologia, Faculdade de Medicina, UNESP, Campus de Botucatu, Botucatu, São Paulo, Brazil. Feb. 15, 1995. "Overview of DNA fingerprinting".
 22. Department of Pathology, Dalhousie University, Halifax, N.S., Canada. March 23, 1995. "The evolving technology of DNA fingerprinting".
 23. Department of Biology, Acadia University, Wolfville, N.S., Canada. Nov. 23, 1995. "DNA fingerprinting: Approaches and Applications".
 24. Nova Scotia Community College, Institute of Technology, N.S. Canada. Nov. 27, 1996. "Evolving technology of DNA fingerprinting."

25. Nova Scotia Institute of Science, Halifax, N.S., Canada. May 5, 1997. "Gene Cloning: Methods and Applications".
26. Nova Scotia Community College, Institute of Technology, N.S. Canada. Nov. 23, 1997. "DNA fingerprinting".
27. Connaught Student Biotechnology Exhibition, Discovery Centre, Halifax, N. S., Canada. May 5, 1998. "DNA: the ultimate determinant of identity".
28. Department of Biology, Dalhousie University, Halifax, NS, Canada. 2001. "Evolution of gene regulation: the multigene family for fatty acid and retinoid binding proteins in zebrafish". February 22.
29. Department of Biology, Dalhousie University. Halifax, NS, Canada. 2006. "The genesis and fate of duplicated genes: the multigene family coding for the intracellular lipid-binding proteins in zebrafish". October 5.
30. Department of Biology, Acadia University, Wolfville, NS, Canada. 2007. "The genesis and fate of the duplicated genes for intracellular lipid-binding proteins in zebrafish". February 13.
31. Dipartimento di Biologia, University of Milano, Milano, Italy, 2007. "Genesis and fate of the duplicated lipid-binding protein genes of zebrafish. April 2.
32. Dipartimento di Biologia Animale e dell'Uomo, Universita Degli Studi di Roma "La Sapienza", Rome, Italy. 2007. "The genesis and fate of duplicated genes in the zebrafish genome: the multigene family of intracellular lipid-binding protein genes". May 17.
33. Depto Pathologia, Faculdade de Medicina, UNESP, Campus de Botucatu, Botucatu, São Paulo, Brazil. 2007. "The genesis and fate of duplicated genes in the zebrafish genome: the multigene family of intracellular lipid-binding protein genes". August 31.
34. Department of Biology, Mount St. Vincent University, Halifax, NS, Canada. 2008. "Genesis and fate of duplicated genes". January 22.

GRADUATE STUDENT THESES SUPERVISED:

1. Edens Magor, K. 1989. Characterization of two nuclear DNA-binding proteins of *Physarum polycephalum*. M.Sc. thesis, Dalhousie University.
2. Franck, J.P.C. 1993. Organization and evolution of two satellite DNA families, SATA and SATB, from the Tilapiine and Haplochromine Genome (Pisces: Cichlidae). Ph.D. thesis, Dalhousie University.
3. Morris, D.B. 1993. The isolation and characterization of microsatellites from rainbow trout (*Onchorhynchus mykiss*). M.Sc. thesis, Dalhousie University.
4. Brooker, A.L. 1994. Polymorphic microsatellites: Tools for measuring genetic diversity in subpopulations of Atlantic cod (*Gadus morhua*). M.Sc. thesis, Dalhousie University.
5. Harris, A.S. 1995. Organization and evolution of minisatellite VNTR's in the tilapiine genome. Ph.D. thesis, Dalhousie University.
6. Richard, K. 1995. A molecular genetic analysis of kinship in free-living sperm whales. Ph.D. thesis, Dalhousie University.
7. Dillon, M.C. 1996. Genetic structure of sperm whale populations assessed by mitochondrial DNA sequence variation. Ph.D. thesis, Dalhousie University.

8. Coltman, D.W. 1997. Phenotype and mating success of male harbour seals, *Phoca vitulina* at Sable Island, Nova Scotia. Ph.D. thesis, Dalhousie University.
9. Bryden, L.J. 1997. ROn-1 SINEs: a short interspersed repetitive element from the genome of *Oreochromis niloticus* and its species distribution in cichlid fishes. M.Sc. thesis, Dalhousie University.
10. Nelke, M. 1997. *In vitro* selection and molecular characterization of red clover (*Trifolium pratense* L.) regenerative somaclonal variants. Ph.D. thesis, Dalhousie University.
11. O'Reilly, P. 1997. Development of molecular genetic markers in Atlantic salmon (*Salmo salar*) and an illustration of their potential application to fisheries and aquaculture. Ph.D. thesis. Dalhousie University.
12. Duffy, A.J. 1997. Genetic variability and population differentiation in Scandinavian wolverines. M.Sc. thesis, Dalhousie University.
13. Chew, J. 1997. Isolation and characterization of *Oreochromis niloticus* DNA yeast artificial chromosome clones. M.Sc. thesis. Dalhousie University.
14. Hamilton, L. 1997. Cloning and nucleotide sequence of cDNAs coding for a receptor for activated protein kinase C (RACK) from zebrafish (*Danio rerio*) and tilapia (*Oreochromis niloticus*): constitutive tissue and developmental expression. M.Sc. thesis. Dalhousie University.
15. Kelly, C.D. 1999. Effects of predation risk on the variance in male mating success in the Trinidadian guppy (*Poecilia reticulata*). M.Sc. thesis, Mount Allison University, Sackville, NB, Canada
16. Temple, M. 2000. Microsatellite analysis of extra-pair fertilization in the Ipswich sparrow (*Passerculus sandwichensis princeps*). M.Sc thesis, Dalhousie University.
17. Martins, C. 2000. Organization of 5S rDNA in fish genomes with focus in *Leporinus* [In Portuguese]. Ph.D. thesis, São Carlos Federal University, São Carlos, SP, Brazil.
18. Wasko, A.P. 2000. Molecular and chromosomal markers in the genus *Brycon* (Characidae): a contribution to the evolutionary biology and conservation of these fishes [In Portuguese]. Ph.D. theses, São Carlos, São Carlos, SP, Brazil.
19. Macpherson, G. R. 2001. Biosynthesis of polyketides produced by marine microbes. Ph.D. thesis. Dalhousie University.
20. Moyses, C.B. 2002. Population structure and phylogenetics of the Neotropical electric eel, *Eigenmannia* (Teleostei: Gymnotiformes). Ph.D. thesis, São Paulo, S.P., Brazil.
21. Liu, R.Z. 2004. Intracellular lipid-binding protein genes from zebrafish (*Danio rerio*): Differential expression and the fate of duplicated genes. Ph.D. thesis. Dalhousie University.
22. Sharma, M.K. 2004. Characterization and expression of intercellular lipid-binding protein genes in zebrafish (*Danio rerio*). Ph.D. thesis. Dalhousie University.
23. Sun, Q., 2005. Functional promoter analysis of three intracellular lipid-binding protein genes from zebrafish (*Danio rerio*). M.Sc. thesis, Dalhousie University.
24. Saxena, V. 2005. Expression and promoter analysis of four zebrafish (*Danio rerio*) intracellular lipid-binding protein (ILBP) genes in embryos and cell culture.

- M.Sc. thesis, Dalhousie University.
25. Alves-Costa, F.A. 2008. Isolation and characterization of DETs (Differentially Expressed Transcripts) in fish species: *Leporinus macrocephalus* (Characiformes) and *Danio rerio* (Cypriniformes). Ph.D. thesis. UNESP, Botucatu, São Paulo, Brazil.
 26. Santhosh Karanth (Ph.D.) In progress.
 27. Ananda Baskeran (Ph.D.) In progress.

UNDERGRADUATE STUDENT THESES SUPERVISED:

1. Denovan, E.M. 1989. Immunologically related single-stranded DNA binding proteins of the nuclear matrix of *Physarum polycephalum*. B.Sc. Honours thesis, Dalhousie University.
2. Bieger, S. 1989. DNA fingerprinting of fish: applications to aquaculture and fisheries. B.Sc. Honours thesis, Dalhousie University.
3. Forbes, D. 1993. Nucleotide sequence of two minisatellite VNTR's cloned from Atlantic salmon, *Salmo salar*. B.Sc. Honours thesis, Dalhousie University.
4. McCarry, S.W. 1993. Sex determination of sperm whale (*Physeter macrocephalus*) by the polymerase chain reaction. B.Sc. Honours thesis, Dalhousie University.
5. Labbé, J. 1998. The localization of 5S rRNA genes to metaphase chromosomes of *O. niloticus* by fluorescent *in situ* hybridization. B.Sc. Honours thesis, Dalhousie University.
6. Pierce, M. 1999. Tissue-specific expression of an intestinal-type fatty acid binding protein gene (I-FABP) in zebrafish (*Danio rerio*).
7. Anopuechi, V. 2001. Phylogenetic analysis and temporal expression during embryogenesis of the gene for cellular retinol binding protein II in zebrafish, *Danio rerio*.
8. Alban, K. 2001. Design of primers for amplification of mitochondrial control region DNA in Blanding's turtle (*Emydoidea blandingii*).
9. Cameron, M.C. 2001. Sequence and tissue-specific expression of the cellular retinol-binding protein type II (CRBP II) in adult zebrafish (*Danio rerio*).
10. Harris, A. 2002. Regulation of the cellular retinol-binding protein, type II (CRBP II) in zebrafish (*Danio rerio*).
11. Powell, S. 2003. Structure and expression of retinoid X receptor genes in zebrafish (*Danio rerio*).

TRAINING OF HIGHLY QUALIFIED PERSONNEL

Undergraduate & Honours Students

<u>Student</u>	<u>Year</u>	<u>Scholarship</u>
Eileen Denovan	1987-1989	NSERC (1988); Sarah Lawson (1987,1988)
Diane Srivastava	1988	NSERC
Sophie Bieger	1988-1989	NSERC
Brenda Briel	1988	NSERC (scholar from Concordia University)
Monique Brison	1989	NSERC (scholar from Mt. St. Vincent)

Christian Bachmann	1989	Univ.) NSERC
Colin Peircey	1990-1991	
Chris McCormick	1991	Exchange student, Univ. of Bath, UK.
Dawn Forbes	1992-1993	
Steven McCarry	1992-1993	NSERC
Kathy MacEachern	1994-1995	
Julie Labbé	1997-1998	
Marianne Pierce	1997-1999	Sarah Lawson (1997)
Marianne Cameron	1999-2001	NSERC
Vivian Anopuechi	1999-2001	
Kevin Alban	2000-2001	(scholar from St. Mary's Univ.)
Amy Harris	2001-2002	
Alene Toulaney	2001-2002	NSERC
Sherri Powell	2002-2003	
Mark Soric	2004-2007	
Kathryn Dunphy	2007-2008	
Daniel Sawler	2008	NSERC

Seven students entered Ph.D. programs (three with NSERC 1967 scholarships; two with NSERC postgraduate scholarships; two with NSERC/Killam Scholarships); one each entered programs in dentistry and veterinary medicine, two entered programs in education, and three in medicine.

<u>Graduate Students</u>	<u>Degree</u>	<u>Years</u>	<u>Scholarship</u>
Kathy Edens Magor ¹	M.Sc.	1986-1989*	
Jens Franck ²	Ph.D.	1987-1993*	
Andrew Harris ⁴	Ph.D.	1987-1995*	NSERC
Kenny Richard ¹⁰	Ph.D.	1988-1995*	NSERC/Killam, Co-supervised
Mary Dillion ⁵	Ph.D.	1990-1996*	NSERC/Killam, Co-supervised
Dianne Morris ⁶	M.Sc.	1990-1993*	
Marek Nelke ⁹	Ph.D.	1990-1997*	Co-supervised
Louis Bryden ⁸	M.Sc.	1991-1997*	
Amanda Brooker ³	M.Sc.	1991-1994*	
Patrick O'Reilly ¹¹	Ph.D.	1992-1997*	
David Coltman ⁷	Ph.D.	1992-1996*	NSERC, Co-supervised
Joyce Chew ¹²	M.Sc.	1994-1997*	NSERC, Co-supervised
Andrew Duffy	M.Sc.	1994-1997*	
Lorraine Hamilton ¹³	M.Sc.	1995-1997*	
Merilee Temple	M.Sc.	1995-2000*	Co-supervised
Charlotte Stratton	M.Sc.	1996-1998	NSERC
Steve Mockford	Ph.D.	1996-2005*	NSERC, Co-supervised
Clint Kelly	M.Sc.	1997-1999*	Co-supervised
Mukesh Sharma ¹⁴	Ph.D.	1999-2005*	Killam
Rongzong Liu ¹⁵	Ph.D.	1999-2005*	Killam

Adraine Wasko ¹⁶	Ph.D.	1999*	Federal University of Sao Carlos, SP, Brazil (visiting student). Co-supervised
Cesar Martins ¹⁷	Ph.D.	1999*	Federal University of Sao Carlos, SP, Brazil (visiting student). Co-supervised
Cinthia Moyses	Ph.D.	2000-2001*	University of São Paulo, Brazil (visiting student). Co-supervised
Vishal Saxena ¹⁸	M.Sc.	2002-2005*	
Qian Sun ¹⁹	M.Sc.	2002-2005*	
Santhosh Karanth	PhD	2005-2009	In progress.
Ananda B. Venkatachalam	PhD	2007-2011	In progress.
Fernanda Alves-Costa ²⁰	PhD	2007*	UNSEP, Botucatu, SP, Brazil (visiting student), FASEP scholarship. Co-supervised

Current or position subsequent to leaving my laboratory:

*Graduated

¹ Ph.D. graduate of Medical University of South Carolina.

² PDF at Chicago then Stanford University, CA.

³ Ph.D. candidate at Australian Institute of Marine Sciences, 1994.

⁴Medical Student, 1992.

⁵PDF in my lab. 1996-1997. (Sessional instructor at Mt. Allison University).

⁶Research technician in MGPL, 1993.

⁷PDF at the University of Edinburgh, 1997.

⁸Research technician in Dept. of Microbiology, Dalhousie Univ., 1996.

⁹PDF at N.S. Agricultural College.

¹⁰Paternity leave.

¹¹PDF at the Univ. Washington.

¹²Research technician, Dept. Biochem., Dalhousie Univ.

¹³Research technician, Dept. Pharmacology, Dalhousie Univ.

¹⁴Postdoctoral fellow, Washington University Missouri, USA. 2004

¹⁵Postdoctoral fellow, Cross Cancer Institute, University of Alberta, 2004

¹⁶University Professor, UNESP, SP, Brazil.

¹⁷University Professor, UNESP, SP, Brazil.

¹⁸Research technician, Dept. Biology, University of Ottawa, 2005.

¹⁹Research technician. Dept. Biochemistry, Dalhousie Univ., 2005.

²⁰Postdoctoral fellow, Dept. Pharmacology, Dalhousie Univ., 2008-2009.

UNESCO BIOTECHNOLOGY FELLOWS (4 students worked in my lab toward their thesis dissertations):

<u>Name</u>	<u>Year</u>	<u>Country</u>
R. Pimental	1997	Cuba
F. Foresti, Ph.D.	1998	Brazil
A. Wasko, Ph.D.	1999	Brazil

C. Martins, Ph.D.	1999	Brazil
L. Abel, M.Sc.	2000	Brazil

<u>Postdoctoral fellows</u>	<u>Years</u>	<u>Scholarship</u>
Dr. Paul Bentzen ¹	1989-1993	NSERC PDF + RA (MGPL)
Dr. Bruce Ramsey ²	1990-1992	
Dr. Stewart McConnell ³	1993-1995	
Dr. Michael O'Connell ⁴	1995-1997	
Dr. Mary Dillon ⁵	1996-1997	
Dr. Claudio Oliveira ⁶	1997-1998	
Dr. Yimin Wang ⁷	1997-1998	Killam PDF

Position subsequent to leaving my laboratory:

¹ Assistant Professor at Univ. of Washington as of 1993.

² Medical Student. 1992.

³ Research Assoc., Univ. of Leicester, 1995.

⁴ Medical Student, 1997.

⁵ Sessional instructor at Mt. Allison University.

⁶ Faculty position, UNESP-Botucatu, São Paulo, Brazil

⁷ Research Assoc., University of Toronto

Technicians

K. Prinoski	1989 - 1991
D. Denti	1989 - 1993
S. Wu	1990 - 1991
J. Skeat	1990 - 1992
B. Edgar	1991 - 1993
T. Lagace	1991 - 1992
D. Ellies	1991 - 1992
M. Sargent	1992 - 1993
L. Hamilton	1993 - 1995; 1997
S. Lang	1997
Y. Shi	1997
V. Kaliaperumal	2008

OTHER RESEARCH CONTRIBUTIONS:

Reviewer for (2003-2009): Canadian Natural Sciences and Research Council (NSERC) research grants; Canadian Institutes of Health Research (CIHR) grants; US Sea-Grants program (South Carolina, New Hampshire, Maine and Washington); US Saltonstall-Kennedy grants; Natural Environment Research Council of U.K.; US Dept. Agriculture and National Oceanic and Atmospheric Admin.; US National Marine Fisheries Service grants program; Israel Science Foundation grants; US Broad Foundation grants.

Reviewer for the journals (2003-2009): Gene; Genome; Biochemical Genetics; BioTechniques; Bio/Technology; J. Molecular Evolution; Can. J. Fisheries and Aquatic Sciences; J. Biological Chemistry; Biochemistry; Molecular Biology and Evolution; Molecular Ecology; J. Experimental Marine Biology and Ecology; J. Marine Science; Aquaculture; J. Fish Biology; Asian Marine Sciences; J. World Aquaculture Society; Comparative Biochemistry and Physiology; Marine Biotechnology; Marine Biology; Trans. American Fisheries Society. Journal of Experimental Zoology.

CURRENT COLLABORATIONS:

Denovan-Wright, E.M. Department of Pharmacology, Dalhousie University, Halifax, Nova Scotia, Canada. Expression of the multigene family coding for the fatty acid and retinoid binding proteins in adult zebrafish.

Thisse, C. & Thisse, B. Department of Cell Biology, University of Virginia Health Sciences Center, Charlottesville, VA, USA. Early developmental expression of the intracellular lipid-binding proteins of zebrafish.

Lall, S.P. Institute of Marine Biosciences, National Research Council of Canada, Halifax, Nova Scotia, Canada. Formulation of fish diets containing different fatty acids and clofibrate for induction of fatty acid-binding protein genes in zebrafish.