

CURRICULUM VITAE

Mrs Nellie Gagné



Date of birth :

Language : French, english

DEGREES AND SCOLARITY

1997- **Ph D. Molecular and cellular biology.** Laval University, Québec. Paused after 5 years.
1991-93 **M. Sc. Food Science.** McGill University, Montréal.
1989 **Certificate, education.** High school level. Université du Québec à Rimouski.
1984-87 **B. Sc. Biologie.** Université du Québec à Rimouski
1982-84 **D.E.C. Sciences pures.** CEGEP de Rimouski.

NOMINATIONS

2008/01-2010/12 Associate (adjunct) researcher, dept of chemistry and biochemistry, Moncton University.
2008/01-2010/12 Associate (adjunct) researcher, dept of biology, Moncton University

CO-SUPERVISION OF GRADUATE STUDENTS

2010- Mathieu Doucet, M.Sc. candidate, chemistry and biochemistry. Thesis “ Développement d’un modèle de vaccin à ADN contre le virus de l’anémie infectieuse du saumon (AIS)”. Co-director : Dr Gilles Robichaud.
2009- Kynan Philippe, M.Sc. candidate, chemistry and biochemistry. Thesis “ Développement d’un modèle de vaccin à ADN contre le virus de l’anémie infectieuse du saumon (AIS)”. Co-director : Dr Gilles Robichaud.- Did not finish.
2007-10 François Leblanc, M. Sc candidate, biologie. Thesis: “La réponse immunitaire du saumon Atlantique (*Salmo salar*) suite à une infection par le virus de l’anémie infectieuse du saumon ». Co-director : Dr Martin Filion.
2007-10 Mélanie Roy, M.Sc candidate, chemistry and biochemistry. Thesis: “Développement d’un modèle de vaccin innovateur, à base de protéines recombinantes, contre le virus de l’anémie infectieuse du saumon (AIS) ». Co-director : Dr Gilles Robichaud.

WORKING EXPERIENCES

EXPERIENCE IN RESEARCH

March 2001- **Molecular biology scientist, laboratory supervisor**
PCR detection of viruses and pathogens in fish and seafood. Bacterial Source Tracking by PCR. Assay design, validation. ISH test development, etc. ISO 17025 implementation. Research activities include development of novel vaccines, studies on responses of fish to pathogen at the genomic level using DNA microarrays, phylogenetic of viruses, etc.
Sup.: Anne Veniot, Fisheries and Oceans Canada, Environment and Aquaculture, Aquatic animal health section, Moncton.

Sept. 1994- aug. 1995	Research assistant, food science and technology Fatty acids analysis in butter oil, sn-2 position determination, cholesterol oxides determination in butter oil with GC-MS, etc.. Sup. : Dr J Arul and Dr A Boudreau, Laval University
Summer 1994	Research assistant, marine biology. Production of nets coated with chitin for scallop larvae collection, trials in the Bay of St-Andrews, N.-B. Sup. : Dr Edwin Bourget and Dr M Harvey, Laval University.
Sept. 1991- june 1993	Laboratory supervision, food science department, Dr BK Simpson Ordering, maintenance of equipment, setting up of a new lab, experience using different equipment (HPLC, GC, Kjeldahl, Soxhlet, ultracentrifuge, etc.) Sup. : Dr Benjamin K Simpson, McGill University
May 1991 to sept. 1991	Research assistant : Crab carotenoproteins and their use for rainbow trout flesh pigmentation. Extraction and preparation of carotenoproteins, dosage of pigments, care of aquariums and trouts, quantification of pigments in trouts flesh.
May 1990 to april 1991	Research assistant : Valorization of fish roe (eggs), herring, cod, trout, salmon and lumpfish. Project management, literature review, sampling, analysis in laboratory and statistics, technical report submitted to the « Ministère de l'agriculture, des pêches et de l'alimentation du Québec ». Sup. : Dr L Adambounou, UQAR.
Summer 1989	Research assistant, histology and larvae culture, <i>Placoepecten</i> sp. Sexual maturity staging, <i>in vitro</i> fertilization, etc. Sup. : Dr F Dubé, oceanography dept, UQAR.
Winter 1989- 90-91	Microbiology technician. Preparation, maintenance of cultures, etc. UQAR.
May 1988 to aug. 1988	Research assistant : biochemistry, cellular biology. Cytoskeleton protein purification from sea urchin, in fertilized eggs. Dosage, 2D gel-electrophoresis, western blot, etc. Sup. : Dr L Dufresne, oceanography dept., UQAR
July 1987 to aug. 1987	Biologist : vegetal ecology in stressed environments. Plant identification, dendrochronology, data collection. Mt St-Pierre, Gaspésie, Qc Sup. : Dr Bernard Hétu, geography dept., UQAR
May 1986 to june 1987	Research assistant : benthic ecology. Sampling in intertidal substrate and at sea, specimen identification, data collection and statistical analysis. Sup. : Dr G Desrosiers, oceanography dept., UQAR.

TEACHING EXPERIENCE

TERM CLASS

Fall 2006	Introduction to proteins BICH-3913 (Moncton University)
Win. 2000-01	Human physiology II Biol2233 (Moncton University)
Fall 2000, 2008	Human physiology I Biol2133 (Moncton University)
Win. 1999	Clinical biochemistry Bc-4523 (Moncton University)
Win. 1998-99-00	Intro. to biochemistry Bc-2023 (Moncton University)
Win. 1998	Immunology Bc-4913 (Moncton University)

Fall 1997-98	Structure and function of proteins Bc-3813 (Moncton University)
Fall 97, 99, 2001	Biochemistry laboratory Bc 3872 (Moncton University)
Win. 1997	Introduction to microbiology (CEGEP Lévis-Lauzon) Contaminants and toxicology (CEGEP L.-L.)
Fall 1996	General biology II (101-401-87) (CEGEP L.-L.) Elements of biology and ecology (CEGEP L.-L.)
Fall 1995	Animal and vegetal biology I (101-106-87) (CEGEP L.-L.) General biology I (101-301-78) (CEGEP L.-L.)
Summer 1995	Biochemistry I (210-315-90) (CEGEP L.-L.) Biochemistry II (210-415-87) (CEGEP L.-L.)
Win. 1995	Botany (101-190-82) (CEGEP L.-L.)
Win. 1994	Human anatomy and physiology I (101-902-86) (CEGEP L.-L.) Botany (101-190-82) (CEGEP L.-L.) Human biology II (101-921-78) (CEGEP L.-L.) Biofermentation (680-030-93) (CEGEP L.-L.)

TEACHING EXPERIENCE IN LABORATORY

TERM CLAS	S, professor
Fall 1992	Food chemistry II, Dr B.K. Simpson (McGill University)
Win. 1991	Introduction to food engineering, Dr L Adambounou, (UQAR)
Win. 1988-89-90-91	Cell physiology. Robert Chabot (1991) and Dr M-J Demalsy (1988-89-90), (UQAR.)
Fall 1990	Technology and nutritional value of foods. Dr L Adambounou, (UQAR)
Win. 1989-90	Microbiology. Dr A Strachan, (UQAR)
Fall 1987-88-90	Vegetal biology I. R. Chabot (1988) and Dr M-J Demalsy, (UQAR)
Fall 1988	Vegetal physiology I. Hélène Gilbert, (UQAR)

COMMUNICATIONS

Sept 2011	Poster presentation, European Association of Fish Pathologists, Sept 2011, Split, Croatia "Transcriptional response of Atlantic salmon after primary versus secondary exposure to Infectious salmon anemia" Co-authors: Francis Leblanc, Mark Laflamme, Jean-René Arseneau, Steven Leadbeater, Brain Glebe
June 2011	Guest speaker, Practical Tools for Managing Bacterial Kidney Disease, Nanaimo BC. "BKD update - east coast Canada"
Sept 2009	14 th EAFF, Prague, Czech Rep. ACUTE RESPONSE OF ATLANTIC SALMON (<i>Salmo salar</i>) TO INFECTIOUS SALMON ANEMIA VIRUS (ISAV) Mélanie Roy, Francis Leblanc, Mark Laflamme, Kira Salonijs, Nathalie C. Simard, <u>Nellie Gagné</u>
June 2009	CAHLN 2009, PEI Validation of Infectious Salmon Anemia qRT-PCR assay in the absence of Gold Standard. Co-authors: Charles Caraguel, Larry Hammell, Mélanie Robichaud-Haché
July 2008	American Fisheries Society, Fish Health Section 2008, Atlantic Veterinary college, PEI "Viral nomenclature: toward standardization". Co-author : Ritchie R.
June 2008	Applied genomics to improve Aquatic Health : International workshop, Barcelona, Spain. « Vaccines : perspectives »
Feb 2008	University of Moncton, guest speaker.

Dec 2007	<p>“La biologie moléculaire appliquée au diagnostique de pathogènes des animaux aquatiques ». Conferences of the chemistry and biochemistry dept. DFO Moncton – training day for Oceans and Sciences staff. Guest speaker.</p> <p>Overview of Molecular biology Unit activities.</p>
Sept 2007	<p>EAFP 2007, Grado, Italy Workshop: Viral nomenclature. Chair Paper: Virulence of nodavirus isolates in Atlantic cod and carrier detection. Co-authors: MacKinnon, A.-M., Boston, L. Léger, L. Harmon, P.</p>
Aug 2007	<p>Atlantic OMICS Symposium and Expo, Moncton NB. Francis Leblanc, Mélanie Roy, Mark Laflamme and Nellie Gagné. Immune response of Atlantic salmon (<i>Salmo salar</i>) in response to infection by infectious salmon anemia virus (ISAV). August, 2006.</p>
June 2007	<p>Eastern Fish Health Workshop, Gettysburg, PA, USA “Diagnostic methodologies for detection of betanodavirus infections of Atlantic cod (<i>Gadus morhua</i>). Authors: Iwamoto T, Groman D, Yason C, Gagne N, Johnson S. Invited speaker, ISAV Research Strategy workshop, St-John, NB</p>
Dec 2006	DFO- National Science Workshop, Mont-Joli, Qc
Nov 2006	<p>Infectious salmon anemia: what we have learned in a decade. Co-authors: Dr Rachael Ritchie, NB Dept Agriculture and Aquaculture.</p>
Fev 2006	<p>Aquatic Biotechnology and Genomics Science workshop, Montreal, Qc The Phylogeography and pathogenomics of viral hemorrhagic septicemia virus (VHSV) and infectious salmon anemia virus (ISAV) in Canada. Co-authors: Philip Byrne, DVM, Dr Kyle Garver</p>
Sept 2005	<p>EAFP 2005, Copenhagen, DK Isolation of Viral Haemorrhagic Septicaemia virus (VHSv) from several fish species in estern Canada. Co-authors: A-M MacKinnon, L Boston, Dr G Olivier</p>
July 2005	<p>AAC 2005, St-John’s, NF Nodavirus: status and current research in Atlantic Canada. Co-authors: L Boston, Dr L Brown, L Bruce, M Cook-Versloot, R Cusack DVM, Dr B Dixon, Dr D Groman, Dr T Iwamoto, Dr S Johnson, A-M MacKinnon, Dr G Olivier.</p>
July 2005	<p>AAC 2005, St-John’s, NF Update on MSX in Atlantic Canada. Co-authors: M Stephenson, Dr S McGladdery, M Maillet, A Veniot, J Arseneault</p>
October 2003	<p>AAC 2003, Victoria, BC. Molecular detection and characterization of Nodavirus in several marine fish species from Atlantic Canada. Co-authors: Dr SC Johnson, M Cook, Dr D Groman, AM MacKinnon and Dr G Olivier.</p>
October 2003	<p>Aquanet 2003, Vancouver, BC. Poster: “Molecular detection and characterization of Nodavirus in several marine fish species from Atlantic Canada”. Co-authors: Dr SC Johnson, M Cook, Dr D Groman, AM MacKinnon and Dr G Olivier</p>
November 2002	<p>Molecular profile of haddock nodavirus isolates. Presentation at the “Early Rearing of Haddock” workshop, St-Andrews, NB.</p>
June 1993	<p>CIFST (« Canadian Institute of Food Science and Technology »), Toronto. 2 posters : « Optimization of the enzymatic production of chitin » « Utilization of chitosan for the preservation of fresh shrimps ».</p>
June 1991	<p>Co-author : Dr BK Simpson CIFST (« Canadian Institute of Food Science and Technology »), Montreal. Poster : « Functional properties of herring roe » Co-author : Dr L Adamounou</p>

May 1987	ACFAS, Ottawa. Oral communication : « Biologie de la population de l'annélide polychète <i>Nereis virens</i> dans la baie du Cap-à-l'Orignal, P.Q. ».
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PUBLICATIONS

(22) Caraguel C, Stryhn H, **Gagné N**, Dohoo I, Hammell L. 2011.

[A modelling approach to predict the variation of repeatability and reproducibility of a RT-PCR assay for infectious salmon anaemia virus across infection prevalences and infection stages.](#)

Prev Vet Med. Epub ahead of print.

(21) Charles Caraguel, Henrik Stryhn, **Nellie Gagné**, Ian Dohoo and Larry Hammell (2011) Use of a third class in latent class modelling for the diagnostic evaluation of five infectious salmon anaemia virus detection tests. Prevent Vet Med, doi:10.1016/j.prevetmed.2011.10.006

(20) Charles G. B. Caraguel, I Henrik Stryhn, **Nellie Gagné**, Ian R. Dohoo, K. Larry Hammell (2011) Selection of a cutoff value for real-time polymerase chain reaction results to fit a diagnostic purpose: analytical and epidemiologic approaches. J Vet Diagn Invest 23:2–15

(19) [LeBlanc F](#), [Laflamme M](#), [Gagné N](#) (2010) . **Genetic markers of the immune response of Atlantic salmon (*Salmo salar*) to infectious salmon anemia virus (ISAV).** [Fish Shellfish Immunol.](#) Aug;29(2):217-32. Epub 2010 Apr 3.

(18) N Chérif, **N Gagné**, D Groman, F Kibenge, T Iwamoto, C Yason and S Hammami (2010) Complete sequencing of Tunisian redspotted grouper nervous necrosis virus betanodavirus capsid gene and RNA-dependent RNA polymerase gene. J.Fish Dis. 33: 231-240.

(17) Caraguel C, Stryhn H, **Gagné N**, Dohoo I and Hammell L (2009) Traditional descriptive analysis and novel visual representation of diagnostic repeatability and reproducibility: application to an infectious salmon anaemia virus RT-PCR assay. Prevent. Vet. Med. 92: 9-19.

(16) Ritchie RJ and **Gagné N** (2008) Virulence of Infectious salmon anaemia virus (ISAV) isolates in Atlantic salmon (*Salmo salar* L.) in the Bay of Fundy: A review. AAC special publications, *submitted*.

(15) Ritchie RJ, McDonald JT, Glebe B, Yound-Lai W, Johnsen E and **Gagné N** (2009) Comparative virulence of Infectious salmon anaemia virus (ISAV) isolates in Atlantic salmon (*Salmo salar* L.). J. Fish Diseases, 32:157-171.

(14) Johnson A, Binette SL, Cook-Versloot M, Beattie M, McGeachy S, **Gagné N**, McDonald JT and Ritchie R (2008). Association between ISAV mortalities and ISAV molecular type in the Bay of Fundy, Canada. Canadian Technical Report of Fisheries Aquatic Sciences 2782

(13) **N. Gagné***, A.-M. MacKinnon, L. Boston, B. Souter, M. Cook, S. Griffiths and G. Olivier (2007) Isolation of viral hemorrhagic septicaemia virus (VHSV) from mummichogs, sticklebacks, striped bass and brown trout in eastern Canada. *J. Fish Diseases*, 30(4):213-23.

(12) Ritchie, R.J. and **Gagné, N.** 2006. Development of a strand-specific RT-PCR assay for ISAV. Can. Tech. Rep. Fish Aquat. Sci 2675: iv+27p.

(11) **Gagné N***, Cochenne N, Stephenson M, McGladdery S, Meyer, GR, Bower SM. (2008) First report of a *Mikrocytos*-like parasite in European oysters *Ostrea edulis* L. from Canada after transport and quarantine in France. *Dis. Aquat. Org.*; 80(1):27-35.

* Email: gagnena@dfo-mpo.gc.ca

(10) **Gagné N**, Johnson SC, Cook-Versloot M, MacKinnon A-M and Olivier G (2005). Detection and characterization of nodavirus in several marine fish species from the Northeastern Atlantic. *Bull Aquac Ass Can* 104 (2): 57-64.

(9) McClure CA, Hammell KL, Dohoo IR, **Gagné N** (2004) Lack of evidence of infectious salmon anemia virus in pollock *Pollachius virens* cohabitating with infected farmed Atlantic salmon *Salmo salar*. *Dis Aquat Org* 61:149-152.

(8) Nérrette, P., Dohoo, I., Hammell, L., **Gagné, N.**, Barbash, P., MacLean, S., Yason, C. (2005) Estimation of repeatability and reproducibility of three diagnostics tests for infectious salmon anaemia virus. *J. Fish Dis.* 28:101-110.

(7) Harmon P, MacKinnon AM, Boston L, and **Gagné N** (2004). Nodavirus in Haddock, *Melanogrammus aeglefinus*. *AAC Spec. Pub.* No.8, p.43-46.

(6) **Gagné N**, Johnson SC, Cook-Versloot M, MacKinnon AM, Olivier G (2004) Molecular detection and characterization of nodavirus in several marine fish species from the northeastern Atlantic. *Dis Aquat Org* 62(3):181-189.

[DAO 62:181-189](#) [Full article in pdf format](#)

(5) Simpson BK, **Gagné N**, Ashie INA and Noroozi E (1997). Utilization of chitosan for preservation of raw shrimp (*Pandalus borealis*). *Food Biotechnology*, 11(1) :25-44.

(4) Harvey M, Bourget E and **Gagné N** (1997). Spat settlement of the giant scallop *Placopecten magellanicus* (Gmelin 1791) and other bivalve species on artificial filamentous collectors coated with chitinous material. *Aquaculture*, 148 :277-298.

(3) **Gagné N** and Adambounou LT (1992). Physico-chemical and functional properties of roe from autumn spawning herring (*Clupea harengus harengus* L.). *Food Research International*, vol. 25.

(2) Simpson BK, **Gagné N** and Simpson MV (1994). Bioprocessing of chitin and chitosan. *In* : Fisheries Processing : biotechnological applications, Dr AM Martin, ed. Chapman and Hall, London.

(1) **Gagné N** and Simpson BK (1993). Use of proteolytic enzymes to facilitate the recovery of chitin from shrimp waste. *Food Biotechnology*, 7(3) :253-263.

Adambounou L et **Gagné N** (1991). Paramètres d'optimisation des propriétés fonctionnelles des oeufs de poisson (hareng, morue, truite, saumon et lompe). Rapport d'étape présenté au MAPAQ.

SCHOLARSHIPS

1999	FCAR (Fondation pour les chercheurs et l'avancement de la recherche), doctoral scholarship.
1998	Doctoral scholarships for women, N.-B.
1993	NSERC (Natural Science and Engineering Research Council). Ph.D. scholarship.
1991	NSERC (Natural Science and Engineering Research Council). M.Sc. scholarship.

Date: _____

Signature: _____