

LIZ WIRTANEN
241, rue Vaillancourt
St-Jérôme QC J7Z 1G5
Canada

Cel.: (514) 651-2153
liz.wirtanen@iriscience.com

WRITTEN AND SPOKEN LANGUAGES

French, English, Spanish

TEACHING DEGREE

2011 B.E.S., Université Laval, Québec

SCIENCE DEGREES

1998 Ph.D. in Cellular and Molecular Biology, Université Laval, Québec
1988 B.Sc. in Biology, Université Laval, Québec

SCHOLARSHIP

1990 - 1995 *Fonds de la recherche en santé du Québec* scholarship to accomplish a doctorate.

TEACHING EXPERIENCE

ÉCOLE POLYVALENTE SAINT-JÉRÔME

Saint-Jérôme, 2009-2010

Teacher

Research, development and teaching of a Science and Technology course to grade 10 students. This course conforms to the novel Québec Education Program, emphasizing on the development of competencies through meaningful learning situations. Contents include concepts in electricity, mechanics, engineering, and ecology. Teaching of the mathematics *Cultural, Social and Technical* option to grade 10 students.

Saint-Jérôme, 2007-2009

Teacher

Research, development and teaching of a Science and Technology course to grade 8 students. Contents include concepts in chemistry, ecology, geology, geophysics, astronomy, engineering and mechanics. Two projects, *My Ecofriendly House* and *La Confrérie du 3e oeil*, were the object of articles in the *Journal Coups de cœur*, *Le Journal de Prévost*, and *Journal LE NORD*. The project *My Ecofriendly House* was presented at Canada's science teacher's festival *Science On Stage* in Saskatoon, Saskatchewan, in August 2009, event covered on television by Radio-Canada.

Saint-Jérôme, 2006-2007

Teacher

Teaching of a Human Biology course to grade 9 students of the International Baccalaureate Middle Years Programme. Collaboration with the creation of the event *24 heures de science*, a Government initiative to promote science throughout the province of Québec, covered in *L'ÉCHO DU NORD*. Collaboration to the local Science festival *Expo-science Bell*, covered in the *Journal LE NORD*. Creation of the project *Les métiers de La Santé*, covered in *Coups de coeur à l'école*.

BUSINESS EXPERIENCE

IRISCIENCE

Montréal, 1999-

www.iriscience.com

President and founder

Iriscience produces science education multimedia tools. Our first mandate was to develop a computer animation on ovarian cancer presented in Paris during the event *Le Printemps du Québec à Paris -1999*. This production has been seen by over 250 000 people in documentaries, presentations, programs and via Internet. The Canadian Cancer Society, Paramount Pictures, Télé-Québec, the Ovarian Cancer Alliance Canada, and the National Ovarian Cancer Association are among the users of this product. The company is currently developing a product for high school science education called *Destination Universe*. Iriscience was the object of articles in the scientific journal *Découvrir*, the economics newspaper *Le mode d'Emploi*, and *Le Lien Multimédia* magazine. It was also the focus of a documentary on *Zone X*, Télé-Québec's science program. The company's business plan was awarded a prize at the 1999 edition of *the concours québécois en entrepreneurship*. Visit our web site at www.iriscience.com!

RESEARCH EXPERIENCE

UNIVERSITY OF PRINCE EDWARD ISLAND

Charlottetown, 1995-1996

Postdoctoral research associate

Optimization of a protein fusion expression system and modification of the *de novo* designed gene *MB-1* by site directed mutagenesis. Production, purification and crystallization of the proteins in conditions of microgravity onboard NASA's *Columbia* space shuttle (Nov 19 to Dec 7 1996 flight - STS80).

UNIVERSITÉ LAVAL

Québec, 1990-1998

Graduate student

My doctoral thesis focuses on the morphogenesis of the nervous system in the amphibian *Ambystoma mexicanum*. Using recombinant DNA technology, I isolated and sequenced the cDNAs encoding a novel vitamin A receptor, aRAR γ 3, and a novel orphan nuclear receptor, aDOR1, from the neurulating embryo. Study of the expression of these genes by RT-PCR suggests that aRAR γ 3 may be important in establishing the body axes of the embryo, and that aDOR1 may have a role at the very beginning of embryonic development as well as in brain development and function. **The aDOR1 work made the cover page and editorial of the December 1997 issue of the international journal *Differentiation*.**

L'HÔTEL-DIEU DE QUÉBEC

Québec, 1988-1989

Research assistant

Genomic cloning and sequencing of the rat cytochrome *P450 2B3* gene: study of its regulatory elements in stable transfectants.

RESEARCH-RELATED PUBLICATIONS

1. Wirtanen, L. and Séguin, C. (2000). Cloning of cDNAs encoding retinoic acid receptor RAR γ 1, RAR γ 2, and a new splicing variant, RAR γ 3, from *Ambystoma mexicanum* and characterization of their expression during early development. *Biochimica et Biophysica Acta* **1492**, 81-93.
2. Grundy, J., Morrison, J.J., MacCallum, J.D., Wirtanen, L. and Beauregard, M. (1998). Crystallization and Stabilization of MB-1, a *de novo* Designed Protein for Optimized Feeding Technology. *Journal of Biotechnology* **63**, 9-15.
3. Grundy, J.E., Wirtanen, L. Y. and Beauregard, M. (1998). Addition of a poly-(6X) His tag to Milk Bundle-1 and Purification using Immobilized Metal-Affinity Chromatography (IMAC). *Protein Expression and Purification* **13**, 61-66.
4. St-Jacques, E., Guay, J., Wirtanen, L., Huard, V., Stewart, G. and Séguin, C. (1998). Cloning of a Complementary DNA Encoding an *Ambystoma mexicanum* Metallothionein, AmMT, and expression of the gene during development. *DNA and Cell Biology* **17**, 83-91.
5. Wirtanen, L. (1998). Identification et analyse de l'expression de quatre récepteurs nucléaires au cours de l'embryogenèse de l'amphibien *Ambystoma mexicanum*. Doctoral thesis. Reference: W 4 UL 1998 W799. Université Laval library.
6. Wirtanen, L., Huard, V. and Séguin, C. (1997). Molecular Cloning from Neurulating *Ambystoma mexicanum* Embryos of the cDNA Encoding an Orphan Nuclear Receptor (aDOR1) Closely Related to TR2-11. *Differentiation* **62**, 159-170. **This article made the cover page and editorial of this issue.**
7. Grundy, J., Hefford, M.A., Morrison, J.J., MacCallum, J.D., Wirtanen, L. and Beauregard, M. (1997). Development of *de novo* Designed Proteins for Optimized Feeding Technology: Crystallizability and Stability of the MB-1 Family. Peer-reviewed published proceedings of the 7th Canadian Microgravity Conference, 11-15 May, 1997.
8. Jean, A., Reiss, A., Desrochers, M., Dubois, S., Trottier, E., Trottier, Y., Wirtanen, L., Adesnik, M., Waxman, D.J. and Anderson, A. (1994). Rat Liver Cytochrome P450 2B3: Structure of the *CYP2B3* Gene and Immunological Identification of a Constitutive P450 2B3-Like Protein in Rat Liver. *DNA and Cell Biology* **13**, 781-791.