

Curriculum Vitae

YVAN DUTIL
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C A R R E R P R O F I L E

Physicist with a broad scientific background in the fields of space systems, optical instrumentation, data analysis, energy, sustainable development and radiation protection. Very comfortable with multidisciplinary projects and offering an original approach in the analysis of technical problems. Recognized scientific communicator.

S K I L L S A N D A C H I E V E M E N T S

Data Analysis & Instrumentation

- Participate in the development of algorithms for atmospheric remote sensing missions.
- Judicial expert witness (speeding, radar, lidar, multimedia file)
- Create a scene model for a space debris surveillance mission to assess in-flight performance.
- Participate in the testing of instruments for qualification of space and commercial instruments
- Interacts with scientists and space agency managers to clarify the technical definition and performance of missions.
- Write technical proposals for space missions.
- Familiar with spectroscopy and imaging systems.
- Designs a broadband radiometer for a space mission.

Environment and Energy

- Radiation protection
- Scientific coordinator and Head of thermal storage and life cycle analysis axis of the t3e Chair of the École de Technologie Supérieure
- Researcher and analyst for the Commission on Quebec energy issues
- Consultant for the Sustainable Development Commissioner of Quebec
- Designs and contributes to the establishment of the Mont Mégantic Dark Sky Preserve.

Public communications

- Presents report in advisory commissions (energy, light pollution, voting system, scientific heritage).
- Participate in public debates on subjects related to scientific research and sustainable development.
- Participates in interviews in electronic and print media.
- Freelance journalist for the Agence Science Presse
- Blogger for Science on Blogue !, for Voir and Québec Numérique
- Scientific columnist at Radio-Canada

Education

- Adjunct professor at Laval University and the University of Quebec at Rimouski
- Coordinator of the Science de la Nature program at the CNDF
- Teaching physics and mathematics at the college level
- Tutor for TELUQ University

P R O F E S S I O N A L E X P E R I E N C E S

Ministère de la Santé et de Services Sociaux du Québec Direction du génie biomédical, de la logistique et de l'approvisionnement <i>Researcher-Analyst</i> Radiation protection (Member of the national radioprotection officer team) Supply of medical radioisotope Selection and repartition of medical equipment	2017–
École de Technologie Supérieure Chaire de recherche industrielle en technologies de l'énergie et en efficacité énergétique (t3e) <i>Responsible for thermal storage and life cycle analysis</i> <i>Scientific coordinator</i> Plan scientific activities Write scientific articles	2009–2013 2012–2013 2009–2012
Campus Notre-Dame-de-Foy <i>Professor of physics and mathematics</i> <i>Coordinator of the Science of Nature program</i>	2007–2009
ABB Bomem <i>System analyst</i> Design space and commercial remote sensing instruments Develop performance models Write technical proposals	2001–2006
Universitat Politècnica de Catalunya (Barcelone, Espagne) <i>Post-doc</i> Research the evolution of galaxies and light pollution Participate in scientific conferences	2000
Centre de Recherche de la Défense Valcartier <i>Post-doc</i> Analyze algorithms for characterizing the atmosphere by infrared spectroscopy	1998–1999

O T H E R S P R O F E S S I O N A L E X P E R I E N C E S

Research and analysis consultant <i>System analyst (autonomous energy system, space mission), legal expert witness, sustainable development</i>	2007–
Tuteur <i>TELUQ PHY 2001 Astronomie : histoire et concepts</i>	2015–2017
Freelance science journalist <i>Agence Science Presse, Ciel et Espace, Astronomie Magazine, Astronomy Now, Québec Numérique</i>	2006–
Researcher-Analyst <i>Commission sur les enjeux énergétiques du Québec</i>	2013–2014

F O R M A T I O N

Ph. D. Physics <i>Les gradients d'abondances dans les galaxies spirales de type précoce</i> Université Laval (Québec)	1993–1998
M. Sc. Physics <i>Abondance de l'oxygène dans la galaxie magellanique NGC 2366</i> Université Laval (Québec)	1992–1993
B. Sc. Physics Université Laval (Québec)	1989–1992

P R O D U C T I O N S

20 refereed publications, 55 conference reports, 15 summaries and circulars, 18 briefs and technical reports (4 presented in parliamentary committee), 6 book chapters, 4 non-refereed publications, 9 popular science articles.

Reviewer

Acta Astronautica, Applied Energy, Applied mathematical modelling, Applied Sciences, DYNA (Medellin), Energies, Energy & Buildings, Energy Efficiency, Environmental Science & Technology, Fluids, International Journal of Astrobiology, International Journal of Heat and Mass transfer, International Journal of Thermal Sciences, Journal of Energy Engineering, Journal of Materials in Civil engineering, Journal of Quantitative Spectroscopy and Radiative Transfer, Materials, Physica A, PloS One, Recent Patents on Engineering, Renewable and Sustainable Energy Reviews, Sci, Solar Energy, Sustainable Cities and Society, Sustainability

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Professional physicist licensee ACP #314

Citations : 1685 *h-index*:16 *g-index*: 40

S T U D E N T D I R E C T I O N

Université du Québec à Rimouski	2012–2016
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Adjunct professor, Département de mathématiques — informatique – génie

Master co-direction:

Contribution et conception préliminaire d'un système de récupération et de stockage de chaleur pour l'amélioration des performances d'un système hybride éolien-diesel avec stockage d'air comprimé

Université Laval	2006–2009
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Adjunct professor, Département de physique, génie physique et d'optique,

Master co-direction:

Détection par spectrométrie en réflectance diffuse de colonies microbiennes endolithiques

C E R T I F I C A T I O N S

E is for Epidemiology	september 2020
Emergency risk communication	april 2020
Crisis and Emergency Risk Communication, CDC	march 2019
Radiation Emergency Training, CDC	january 2019
The Threat of Nuclear Terrorism, Stanford University	december 2017
Les outils du scientifique des données (avec mention), Coursera	may 2015
La programmation en R (avec mention), Coursera	may 2015
Obtenir et trier des données, Coursera	august 2015
Exploration analytique de données, Coursera	october 2015

O T H E R S C O M P E T A N C I E S

French, English, Spanish (basic)

Matlab / Octave, IDL, Fortran, R,

Systems analysis; Risk management

Data analysis; Statistics; Genetic algorithms and particles swarm

Image and spectra processing; Forensic analysis of multimedia data and voice

Climatic changes; Sustainable development

Thermal storage; Solar energy; Biophysical economics

Space mission design

Control of electrostatic discharges; Class 10000 clean room

Voting systems; Social choice theory; Equity Theory