

Philippe Desjardins-Proulx

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CURRENT POSITION	Ph.D. candidate, Université du Québec à Montréal, Canada, Quebec Center for Biodiversity Science, McGill University, Canada.
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CITIZENSHIP	Canada
LANGUAGES	FRENCH: Native language ENGLISH: Full professional proficiency JAPANESE: Elementary proficiency
EXPERTISE	<ul style="list-style-type: none">• Artificial Intelligence (Machine Learning): My thesis focuses on the problem of deep transfer learning, which could be described as the capacity to automatically transfer knowledge between a source (the knowledge we want to transfer) and a target (the model we want to build). I rely on graphical models and techniques from natural language processing.• Scientific computing: Almost all my undergraduate projects were done on scientific computing in biology and I worked 4 years (2009-2012) as a research professional, focusing on C/C++/CUDA simulations on the Canada Research Chair on Terrestrial Ecosystems' scientific cluster.• Ecology: I have contributed to theoretical ecology (speciation, community ecology) and worked on several ecological data-sets.
EDUCATION	Department of Biology, Université du Québec à Montréal, Montréal, Canada. Ph.D., September 2012 – <ul style="list-style-type: none">• Thesis Proposal: <i>Achieving deep transfer learning with semantic networks, with applications to species distribution modeling</i>• Adviser: Dr. Dominique Gravel• Area of Study: Machine learning; Artificial Intelligence; Natural Language Processing; Probabilistic Graphical Models; Statistical learning; Learning transfer; Ecology.• Courses: Advanced Distributed Computing (A13). College of Engineering, University of Illinois at Chicago, Chicago, USA. Graduate Certificate in Bioinformatics, 2012, <ul style="list-style-type: none">• Area of Study: Data Mining & biostatistics. Université du Québec, Québec, Canada. B.S., 2009, <ul style="list-style-type: none">• Major in Biology,• Minor in Mathematics & Computer Science.

AWARDS	<p>Alexander Graham Bell Graduate Scholarship (2012)</p> <ul style="list-style-type: none"> • From: Natural Sciences and Engineering Research Council of Canada • Description: Most competitive Canadian scholarship in science. • Value: 105 000\$ (equivalent to 105 000 USD or 8 150 000 JPY, 2012 est.) <p>Windows Azure Research Award (2013)</p> <ul style="list-style-type: none"> • From: Microsoft Research • Description: Access to the Windows Azure cloud for selected science proposals. • Proposal: <i>Growing Intelligence with Cloud Markov Logic.</i> • Value: >40 000 USD.
REFEREED JOURNAL PUBLICATIONS	<p>[1] P Desjardins-Proulx. Achieving Deep Transfer Learning with Markov Logic and Semantic Networks. <i>In prep.</i></p> <p>[2] P Desjardins-Proulx, EP White, JJ Adamson, K Ram, T Poisot, and D Gravel. The case for open preprints in biology. <i>PLoS Biology</i> 11(5): e1001563</p> <p>[3] R Vergilino, TA Elliott, P Desjardins-Proulx, TJ Crease and F Dufresne. Evolution of a transposon in <i>Daphnia</i> hybrid genomes. <i>Mobile DNA</i> 4-7, 2013. DOI: 10.1186/1759-8753-4-7</p> <p>[4] D Ai, P Desjardins-Proulx, C Chu, and G Wang. The influence of immigration and dispersal limitation on the repeatability of niche and neutral communities. <i>PLOS ONE</i> 7(9): e46164, 2012. DOI: 10.1371/journal.pone.0046164</p> <p>[5] P Desjardins-Proulx and D Gravel. A complex speciation-richness relationship in a simple neutral model. <i>Ecology and Evolution</i> 2(8): 1781–1790, 2012. DOI: 10.1002/ece3.292</p> <p>[6] P Desjardins-Proulx and D Gravel. How likely is speciation in neutral ecology? <i>The American Naturalist</i> 179(1):137-144, 2012. DOI: 10.1086/663196</p>
OTHER CONTRIBUTIONS	<p>[7] P Desjardins-Proulx. The case for arXiv and a broader conception of peer-reviews. Invited blog, International Network of Next-Generation Ecologists, 2012. http://www.innge.net/?q=node/330.</p> <p>[8] P Desjardins-Proulx, JL Rosindell, T Poisot, and D Gravel. A simple model to study phylogeographies and speciation patterns in space, 2012. arXiv: 1203.1790.</p> <p>[9] P Desjardins-Proulx. A foot in the neutral trap. Invited comment for <i>Trends in Ecology & Evolution</i>, 2012.</p> <p>[10] P Desjardins-Proulx. L'origine de la Biodiversité. Le Mouton Noir, Mai-Juin. Cahier Spécial sur la Biodiversité p.2, 2010. <i>Selected and republished by Gaia-Press, a group sponsored by the Université Laval.</i></p>
JOB EXPERIENCES	<p>Research Professional, Canada Research Chair on Terrestrial Ecosystem</p> <ul style="list-style-type: none"> • From 2009 to 2012. • Supervisor: Dr. Dominique Gravel • Responsabilities: Programming high-performance simulations in C, C++, and CUDA on a distributed cluster; Design of ecological models to understand biodiversity; Teaching scientific computing to graduate students.

TEACHING EXPERIENCES	Université du Québec, Québec, Canada. <ul style="list-style-type: none"> • 2013. I organized a series of meetings on information theory and inference. • 2012. CUDA training (intensive one-day course). • 2012. Scientific computing with C and C++ (grad. students/post-docs). • 2011. Scientific computing with C and C++ (grad. students/post-docs). 	
REFeree SERVICE	<i>Physica A; Journal of Theoretical Biology; Theoretical Ecology; Acta Biotheoretica; Molecular Ecology Ressources; Journal of Plant Ecology.</i>	
PROFESSIONAL MEMBERSHIPS	<ul style="list-style-type: none"> • Institute of Electrical and Electronics Engineers • Quebec Center for Biodiversity Science 	2012–... 2012–...
PROGRAMMING SKILLS	I have some experience with many programming languages, libraries, frameworks. I list here my current primary working tools: <ul style="list-style-type: none"> • Languages: C#, F#, C, C++, Haskell. • Databases: MySQL, PostgreSQL, Neo4J. • Operating Systems: Linux, Windows. 	
GRADUATE COURSES	<ul style="list-style-type: none"> • 2013. Advanced Distributed Computing [3 credits] • 2012. Datamining (machine learning) [4 credits] • 2011. Biostatistics [4 credits] • 2010. Intro. to bioinformatics [4 credits] • 2010. Reading course on Ancestral Recombination Graphs [3 credits] 	Athabasca UIC UIC UIC UQAR
REFerees	On request.	