# HEDVIG NENZÉN

Département des Sciences Biologiques Université du Québec à Montréal Montréal, QC, Canada, H3C 3P8 +1 418 723 1986 ext.1751 nenzen.hedvig@courrier.uqam.ca

**EDUCATION** 

PhD in Biology
Université du Quebéc à Montréal
Canada

Thesis: Space-time interactions in forest metacommunities

Advisors: Pedro Peres-Neto and Dominique Gravel

Master, Ecology and Conservation 8/2008 – 8/2010

Uppsala University Sweden

Advisor: Miguel B. Araújo

Bachelor of Arts, Biology, magna cum laude 8/1999 – 5/2003 Whittier College California, USA

#### **PUBLICATIONS**

Nenzén, HK, R Swab, DA Keith, MB Araújo. 2012. demoniche – an R-package for simulating spatially-explicit population dynamics. *Ecography* 35: 577-580. 10.1111/j.1600-0587.2012.07378.x

Nenzén, HK, MB Araújo. 2011. Choice of threshold alters projections of species range shifts under climate change. *Ecological Modelling* 222: 3346-3354. 10.1016/j.ecolmodel.2011.07.011

#### RESEARCH PRESENTATIONS and POSTERS

Forest Complexity Modelling Summer School, Canada
Synchrony in forest insect outbreak model. Nenzén, HK, P Peres-Neto, D Gravel.

2013 (invited presentation)

Quebec Center for Biodiversity Science Annual Symposium 2012 (presentation)

Space-time interactions in forest metacommunities. Nenzén, HK, P Peres-Neto, D Gravel.

Joint Congress on Evolutionary Biology, CA 2012 (poster) Evo-Eco interactions in complex spatial food webs. Nenzén, HK, P Peres-Neto, D Gravel.

Unravelling Pleistocene food webs. Nenzén, HK and S Varela. Applications of Network Theory – the Conference, Sweden 2011 (poster)

Responses to climate and land-use changes in a coupled demographic and bioclimatic envelope model.

Nenzén, HK, K Naoki, MI Gómez, R Early and MB Araújo. International Biogeography Society

Conference, Greece 2011 (poster)

Seedling recruitment in the coastal sage scrub -grassland ecotone with respect to native and non-native grasses. Nenzén, HK and C Swift. Ecological Society of America Conference, USA 2003 (poster)

Use of LIDAR to determine structure on two different aged hardwood forests. Nenzén, HK and T Parker.

Smithsonian Environmental Research Center, USA

2002 (presentation)

The effect of solarization on germination rates of invasive species in S. California. Nenzén, HK, C Swift. Southern California Conference for Undergraduate Research, USA 2002 (poster)

Nenzén, HK and Jordan, N. Determining the rates of growth of invasive and native species under conditions with and without Arbuscular Mycorrhizal Fungi 2002 (poster)

#### **AWARDS** and **GRANTS**

Forest Complexity Modelling program (\$10,000 yearly)	2011-2013
FARE Excellence graduate fund, UQAM (\$6,000 yearly)	2011-2013
Best popular science resume, with coauthors, Popular Science conference, Canada	2013
Quebec Center for Biodiversity Science Excellence Award (\$1,825)	2012
Travel grant, International Biogeography Society Annual Conference (\$190)	2010
Internship stipend, Smithsonian Environmental Research Center (\$6000)	2003
Outstanding Biology Student (department honor)	2003
Elected to Biological Honors Society	2003
Graduated Magna Cum Laude	2003
Summer stipend, University of Minnesota (\$3500)	2002
John Greenleaf Whittier Scholarship	1999-2003
Best biology student, High School graduating class	1999

#### RESEARCH EXPERIENCE

Researcher

Rui Nabeiro Biodiversity Chair, CIBIO

12/2010 – 7/2011
Évora, Portugal

• Created R-package with linked demographic and climatic modelling. Hosted and arranged two talks by visiting researchers.

Conservation Planning 9/2007 – 7/2008 Conservation International La Paz, Bolivia

• Identified 'Key Biodiversity Areas' in Bolivia. Created Geodatabase with 100,000 georeferenced species occurrence records.

Associated researcher 8/2009 - 2/2010

Spatial Analysis Center, University of San Andrés

 Carried out field inventory to investigate structure of threatened tree-line forest. Performed germination experiments at different temperatures to determine effects on reproduction.

Conservation Planner 9/2007 – 7/2008 Conservation International La Paz, Bolivia

• Identified 'Key Biodiversity Areas' in Bolivia. Created Geodatabase with 100,000 georeferenced species occurrence records.

Field Botanist 7/2004 – 5/2005 Amazon Conservation Association La Paz, Bolivia

• Participated in two month-long research excursions to Madidi National Park. Collected and identified plants, collected and analyzed transect data in grassland and forest habitats.

Ecology Intern summer 2003 Smithsonian Environmental Research Center Maryland, USA

• LIDAR to investigate structure and function of forest stands of different ages and structures.

Life Sciences Undergraduate Research Program Intern summer 2002
University of Minnesota Minnesota, USA

• The effect of pathogens and Arbuscular Mycorrhizal Fungi on native and invasive species.

# TEACHING and MENTORING EXPERIENCE

Workshop instructor, 'Introduction à R' (24h)	9/2012
Université du Québec à Rimouski, Canada	
Workshop organizer and instructor, 'Introduction to R' (12h)	4/2011
Universidade de Évora, Portugal	
Workshop co-instructor, 'Global change and Biodiversity' Msc course (10h)	6/2010
Universidad International Menéndez Pelayo, Spain	
Biology Teacher, middle and high school	1 - 12/2006
Saint Andrews International School, Bolivia	
Environmental Education Instructor, Rock Eagle 4-H Center and	7 - 12/2003
Brooklyn Center for the Urban Environment, USA	1 - 5/2004
Laboratory Assistant and Tutor, Organic Chemistry, USA	1 - 5/2003
Teaching Assistant/ Freshman advisor, Freshman Writing Seminar, USA	part time $2001 - 2003$

# SCIENCE OUTREACH and SERVICE

Premier jour après l'extinction de l'humanité sur Terre. Popular Science conference,	2013 (presentation)
Rimouski, Canada	
L'écologie théorique: exemple de modélisation d'un écosystème boréal,	2013 <i>(kiosque)</i>
Popular Science conference, Rimouski, Canada	
Judge, Evolution conference student presentation award	2012
Session moderator, Quebec Center for Biodiversity Science Annual Symposium	2012
Volunteer, ESA conferences.	2003, 2012
Le Synchronisme dans la Nature. Popular Science conference, Rimouski, Canada	2012 (presentation)
Judge, Evolution conference student presentation award	2012
Moderator, Quebec Center for Biodiversity Science Annual Symposium, Canada	2012
Communications Intern, Food International Action Network, Sweden	summer 2009

Reviewer: Ecography, Journal of Biogeography, Peerage of Science, QCBS research awards

# SOFTWARE

demoniche – spatial population dynamics. Available at: <a href="http://demoniche.r-forge.r-project.org/">http://demoniche.r-forge.r-project.org/</a>

# SKILLS and LANGUAGES

Programming and package-building in R	Fluent in Swedish, English and Spanish
C, python, sage, LaTeX	Conversational in French and Portuguese
ArcMap, ArcCatalog, QGIS	Basic Aymara, Bolivian language

# WORKSHOPS and SCHOOLS

Forest Complexity Modelling Summer School, Canada	5/2013
Mixed Models Workshop, Forest Complexity Modelling program, UQAM	9/2012
Individual- and Agent-Based Modelling Workshop, University of Dresden	6/2012
Forest Complexity Modelling Summer School, Canada	5/2012
Community Phylogenetics, Quebec Centre for Biodiversity Science, Canada	10/2011, 11/2012
Dynamical Models in Life Sciences, Summer School, Portugal	7/2011