Jeanette D. Wheeler

Woods Hole Oceanographic Institution
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Education

Massachusetts Institute of Technology / Woods Hole Oceanographic Institution, Aug. 2010-present

- Currently completing requirements for a Ph.D in Biological Oceanography
- Supervised by Dr. Lauren Mullineaux, Senior Scientist, WHOI

University of Alberta, Edmonton, AB, Canada Sept. 2008-Aug. 2010

- M.Sc. in Applied Mathematics, with a focus in Mathematical Ecology
- Thesis: *Temperature-dependent growth and population dynamics in an alpine butterfly*
- Supervised by Dr. Mark Lewis, Tier 1 Canada Research Chair in Mathematical Biology
- Member of the Lewis Research Group, an interdisciplinary collaborative focussing on problems in spatial ecology

Memorial University of Newfoundland, St. John's, NL, Canada Sept. 2003-Apr. 2008

- B.Sc. in Applied Mathematics (Honours)
- Honours Thesis: *Survivorship in age-0 Atlantic cod (Gadus morhua) with respect to settlement habitat complexity: A deterministic model*
- Supervised by Dr. Andrew Foster, Associate Dean of Science (undergraduate)
- B.A in German Language

Research Experience

Department of Mathematical and Statistical Sciences, University of Alberta

- *M.Sc. Candidate* **Sept. 2008-Aug. 2010**
  - Studied temperature-dependent population dynamics in Rocky Mountain Apollo (*Parnassius smitheus*), using various deterministic and stochastic modelling techniques, and design and conduct laboratory experiments for model parameterization.
  - Supervisor: Mark Lewis (Dept. Math. and Stat. Sci., Dept. Biol. Sci.), with thesis supervisory committee Dr. Jens Roland (Dept. Biol. Sci.) and Dr. Caroline Bampfylde (Alberta Environment)
  - Research funded through NSERC and Alberta Ingenuity

Department of Mathematics and Statistics, Memorial University of Newfoundland

- *B.Sc. Honours Student* **Sept. 2007-Apr. 2008**
  - Used deterministic models to predict survivorship in age-0 Atlantic cod (*Gadus morhua*) with respect to settlement habitat complexity, focussing on use of eelgrass (*Zostera marinus*) as a nursery habitat in nearshore Newfoundland waters.
  - Supervisor: Dr. Andrew Foster (Dept. Math. Stats.)
- *Undergraduate Student Researcher* **May 2007-Sept. 2007**
  - Modelled plankton interactions under environmental fluctuations using systems of stochastic differential equations
  - Supervisor: Dr. Yuan Yuan (Dept. Math. Stats.)
  - USRA (Undergraduate Student Research Award) grant funded by NSERC

- *Undergraduate Student Researcher* **May 2006-Sept. 2006**
  - implemented numerical techniques to optimize computationally-intensive seismic models
  - Supervisors: Dr. R.P. Bording (Dept. Earth Sci.) and Dr. S. Kocabiyik (Dept. Math. Stats.)
  - USRA grant funded by NSERC

Journal Publications

- Matter, S.F., A. Doyle, K. Illerbrun, **J. Wheeler**, J. Roland (2011). An assessment of direct and indirect effects of climate change for populations of the Rocky Mountain Apollo butterfly (*Parnassius smintheus* Doubleday). In press for *Insect Science.* **April 2011**

Manuscripts in Preparation

- **J. D. Wheeler**, C.J. Bampfylde, M.A. Lewis. Modelling temperature-dependent larval development and subsequent demographic Allee effects in adult populations of the alpine butterfly *Parnassius smintheus*. In prep.

Invited Seminars and Conference Presentations

- Invited seminar, University of Alberta Mathematical Biology Seminar Series **Sept. 2010**
- Oral presentation, 6th International Conference on the Biology of Butterflies, Edmonton, Canada **July 2010**
- Oral presentation, 7th Canadian Young Researchers Conference, Edmonton, Canada **May 2010**
- Poster presentation, PIMS IGTC Annual Summit, Vancouver, Canada **July 2009**
- Invited seminar, Memorial University Department of Mathematics and Statistics Seminar Series **April 2008**
- Project presentation, PIMS Mathematical Biology Summer Workshop, Edmonton, Canada **May 2007**
- Invited talk at OPERA (Organisme Pétrolier de Recherche Appliquée), Pau, France **May 2006**

Teaching Experience

- **Department of Mathematical and Statistical Sciences, University of Alberta**
  - Teaching Assistant, Linear Algebra **Winter 2010**
  - Teaching Assistant, Calculus II **Winter 2009**
  - Teaching Assistant, Calculus I **Fall 2008, Fall 2009**
- **Department of Mathematics and Statistics, Memorial University of Newfoundland**
  - Teaching Assistant, Technical Writing in Mathematics **Winter 2008**

Scholarships and Awards

Graduate

- Alberta Ingenuity M.Sc. Graduate Scholarship **May 2009**
- NSERC Alexander Graham Bell Canada Graduate Scholarship **Sept. 2008**
- Walter H. Johns Graduate Fellowship **Sept. 2008**
- Josephine Mitchell Recruitment Scholarship **Sept. 2008**
- Science Graduate Scholarship **Sept. 2008**

Undergraduate

- Lou Visentin Award (Dean's List for Science for four consecutive years) **Sept. 2008**
- Austrian Ambassador's Prize for academic excellence in German **April 2008**
- Captain Robert A. Bartlett Science Award **April 2008**
- NSERC Undergraduate Student Research Award **May 2007**
- NSERC Undergraduate Student Research Award **May 2006**
- Centenary of Responsible Government Scholarship **Fall 2005**
- Governor General Medal for Academic Achievement **Nov. 2003**
- District Electoral Exam Scholarship for Cape St. Francis **Aug. 2003**
- Leslie Harris Memorial Scholarship **April 2003**