

## Delphine Deryng

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### Research interests

I'm interested in the interactions between humans and global environmental issues associated with climate change and land use. Through my research, I aim to help bridging the gap between Science and Policy, with a focus on better understanding and interpreting results from numerical models. Having a background in physics and numerical analysis, my research involves modeling and data analysis at the global scale.

### Education

- **MSc. in Geography**  
*McGill University, Montreal, Quebec, Canada* 2010
  - Thesis: Simulating the effects of climate and land management practices on global crop yield
- **MSc. in Fundamental Physics**  
*Université Denis Diderot, Paris, France* 2006
  - Thesis: Analysis of the spectrum of possible values of the Cosmological Constant and fine-tuning of the parameters for a successful inflation in the Field-Theory landscapes
  - 2004-2005: Exchange program at Université de Montréal & McGill University (Montreal, QC, Canada)
- **BSc. in Physics with Honors**  
*Université Denis Diderot, Paris, France* 2004

### Experience

- **Research Assistant**  
*Land Use and Global Environmental Change* Since January 2007  
*Department of Geography - McGill University, Montreal, Quebec, Canada*
  - Developed and evaluated process and statistical based models on global crop yield and water resources
  - Extracted, compiled, analyzed, and processed massive amounts of data on global agricultural management practices and global land use and land cover
  - Participated actively in international workshops and conferences
  - Prepared weekly laboratory research meetings
- **Research Intern**  
*ETC Group* Since October 2009  
*Action Group on Erosion, Technology and Conservation, Montreal, Quebec, Canada*
  - Identified and classified current and future biofuel initiatives worldwide for a synthesis report on human appropriation of biomass
  - Participated in the preparation of side events during subsidiary meetings of the UN Convention on Biological Diversity (Montreal, November 2009)
- **Research Assistant**  
*Département de Physique et Regroupement Québécois sur les Matériaux de Pointe (RQMP)* Fall 2006  
*Université de Montréal, Montreal, Quebec, Canada*
  - Simulated and analyzed the effect of the thermal ablation of wet solids by ultrashort laser pulses
- **Research Internship**  
*Institut d'Astrophysique Spatiale (IAS), Orsay, France* Winter 2006
  - Reconstructed 2-D signal for the WMAP experiment
- **Research Internship**  
*Laboratoire d'Astroparticules et Cosmologie (APC), Paris, France* Summer 2004
  - Reconstructed 1-D signal for the ARCHEOPS experiment

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### Software and technical skills

**Programming languages:** Fortran 77/90, IDL, C/C++

**Data analysis:** Statistical data analysis tools (GnuPlot, R), Geographic Information Systems (ArcGIS), Excel

**Communication tools:** Word, PowerPoint, LaTeX

**Operating Systems:** Mac OS X, Windows XP, Linux

### Languages

English (fluent), French (mother tongue), Spanish (oral and written proficiency)

### Communication skills

- **Graduate Teaching Workshop**  
*McGill University, Montreal, QC, Canada* *Fall 2009*
- **Scientific communication internship** *Spring 2006*  
*Musée Marie Curie, Paris, France*  
– Wrote an educational pamphlet on radioactivity for visitors of the museum
- **Qualification in Scientific Communication** *Winter 2006*  
*Centre de la Vulgarisation de la Connaissance - Orsay, France*

### Publications

- Deryng, D., Sacks, W., Ramankutty, N. (submitted) "Simulating the effects of climate and land management practices on global crop yield", *Global Biogeochemical Cycles*
- Sacks, W., Deryng, D., Foley, J., Ramankutty, N. (in press) "Crop planting dates: An analysis of global patterns", *Global Ecology Biogeography*
- Perez, D., Beland, L. K., Deryng, D., Lewis, L. J., and Meunier, M. (2008) "Numerical study of the thermal ablation of wet solids by ultrashort laser pulses", *Phys. Rev. B* 77

### Workshops and conferences

- **McGill Conferences on Global Food Security, Montreal, QC, Canada** *October 2008 and 2009*
- **AGU fall meeting, San Francisco, USA** *December 2008*  
Poster presentation: Developing a global crop model for maize, wheat, and soybeans
- **3rd AIMES Young Scholar's Network Workshop, Bristol, UK** *June 2007*  
Modeling Global Land-Use Decision Making

### Awards and academic affiliation

- Student stipend (2009) - GEC3 (Global Environmental and Climate Change Centre)
- Travel award (2008) - GEC3
- Member of the American Geophysical Union (AGU) since 2007

### References are available on request