

Walter Moreira

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OBJECTIVES Find a position as a mathematician/computer software engineer where I can apply my skills in mathematics, programming, and problem solving requiring scientific and technical research.

- EDUCATION**
- ◇ **Ph.D. in Mathematics.** Texas A&M University (2008). GPA: 3.94.
Dissertation: Products of representations of the symmetric group and non-commutative versions.
 - ◇ **M.S. in Mathematics** Universidad de la República, Montevideo, Uruguay (2000). Thesis: Russian options for a diffusion with jumps. Evaluated as “Excellent” by the advisory committee.
 - ◇ **B.S. in Mathematics** Universidad de la República, Montevideo, Uruguay (1998). Graduated top of the class.

- SKILLS**
- ◇ Mathematical research.
 - ◇ Programming: proficiency in several languages and technologies (C, Python, Ruby, Mathematica, Matlab, Haskell, Scheme/Lisp, Unix shell scripting, Smalltalk, SQL, HTML/CSS and Web frameworks).
 - ◇ Training in formal computer science topics, allowing fast learning of new programming languages and technologies (mathematical semantics of programming languages, lambda calculus, type theory, logical frameworks).
 - ◇ Experience in oral presentations and communication of results.
 - ◇ Excellent technical writing, including superior typography skills in $\text{T}_{\text{E}}\text{X}/\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$.
 - ◇ Fluent in Spanish and English.

EXPERIENCE

- 2008–PRESENT ◇ Assistant Research Engineer at the Computer Science Department of Texas A&M University. Duties include development of internal applications in Java, design and development of databases and web applications, and research in algorithms.
- 2004–2008 ◇ Teaching assistant at the Department of Mathematics of Texas A&M University.
- 1998–2004 ◇ Assistant professor at the Department of Mathematics of Universidad de la República, Uruguay. Designed and implemented a new curriculum for *Introduction to computer science* at the undergraduate level.
- ◇ Network administrator for the Department of Mathematics.
- 1997–1998 ◇ Consultant for the State Energy Company of Uruguay (UTE). Developed software to estimate efficiency in high power energy transport networks.
- 1996–1998 ◇ Teaching assistant at the Department of Mathematics of Universidad de la República, Uruguay.

SOFTWARE DEVELOPMENT ◇ **RPy**: <http://rpy.sourceforge.net>
Python interface to the R statistical programming language. It is included and maintained in several Linux distributions (Ubuntu, Debian, Fedora/Red Hat), and in the Fink Project for Mac OS X.

◇ **PerTec**: (exclusive use for the State Energy Company, Uruguay)
Application for estimating the efficiency of energy transport networks (with Isabel Cañette).

◇ **Wind**: <http://www.math.tamu.edu/~wmoreira/wind.html>
Application for counting roots of polynomial systems.

SELECTED TALKS IN CONFERENCES ◇ *American Mathematical Society Sectional Meeting*, Fayetteville, Arkansas, November, 2006. Title: “Combinatorics of the Free Baxter Algebra.”

◇ *Graduate Students Combinatorics Conference*, University of Minnesota, April, 2005. Title: “The Smash Product of Symmetric Functions.”

◇ *VIII Latin American Congress of Probability and Mathematical Statistics*, La Habana, Cuba, November, 2001. Title: “Russian Options for a Diffusion with Jumps.”

◇ *XV Jornadas de Economía, Central Bank of Uruguay*, Montevideo, November, 2000. Title: “Russian Options for a Diffusion with Jumps.”

PUBLICATIONS ◇ *Combinatorics of the Free Baxter Algebra*.
Electronic Journal of Combinatorics 13(1), 2006 (with Marcelo Aguiar).
http://www.emis.de/journals/EJC/Volume_13/Abstracts/v13i1r17.html

◇ *The Smash Product of Symmetric Functions*.
Extended abstract. Proceedings of the 17th International Conference on Formal Power Series and Algebraic Combinatorics, 2005 (with Marcelo Aguiar and Walter Ferrer).
<http://arxiv.org/abs/math/0412016>

◇ *Russian Options for a Diffusion with Negative Jumps*.
Publicaciones Matemáticas del Uruguay (9), 2002 (with Ernesto Mordecki).
<http://premat.fing.edu.uy/papers/2001/moreira.ps>

◇ *Some Comments about the Axiomatic Set Theory*.
Galileo, second epoch, number 18, October 1998. Department of Philosophy, Universidad de la República, Uruguay.

REFERENCES Available upon request.

WORK AUTHORIZATION Authorized to work via Optional Practical Training (OPT post-completion from Texas A&M University). Green card application in process.