

Curriculum Vitæ

Christian Gabriel Beneš

CONTACT INFORMATION

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EDUCATION

Ph.D., Duke University Department of Mathematics (*Advisor: Gregory F. Lawler*) 2004
M.A., Duke University Department of Mathematics 2000
B.S. in Mathematics, University of Geneva, Switzerland 1998

POSITIONS HELD

The City University of New York, Brooklyn College, *September 2007 - present*
Assistant Professor
Tufts University, *September 2004 - August 2007*
Assistant Professor
Duke University Department of Mathematics, *August 1998 - April 2004*
Graduate Student
Cornell University Department of Mathematics, *January 2002 - July 2003*
Visiting Graduate Student
Institut Mittag-Leffler, Djursholm, Sweden, *August 2001 - December 2001*
Invited Guest Researcher

PUBLICATIONS

A Surprising Exponent for Small Random Walk Holes. In Preparation
A Sharp Local Central Limit Theorem. In Preparation
On the Rate of Convergence of Loop-Erased Random Walk to SLE₂. Submitted
Data analysis and statistical tests for near-infrared functional studies of the brain (with Angelo Sassaroli, Yunjie Tong, and Sergio Fantini) Proc SPIE 6850, 685008 (2008); DOI:10.1117/12.761707
Counting Planar Random Walk Holes. *Annals of Probability* 36, 1, 91-126, 2008
Some Estimates for Planar Random Walk and Brownian Motion. <http://arxiv.org/abs/math.PR/0611127>
Some Problems Concerning Planar Random Walks. Ph.D. Dissertation, Duke University, 2004

RESEARCH INTERESTS

My main field of research is probability. More specifically, I work with discrete models arising in statistical physics. I have studied the number of holes generated by planar random walk and proved that an observation made by Mandelbrot is correct. This work has led me to a somewhat independent interest in local central limit theorems and other questions about the geometry of the planar random walk path. I have also worked with the Schramm-Loewner Evolution and, in particular, studied the rate of convergence of loop-erased random walk to SLE₂.

SEMINAR AND COLLOQUIUM TALKS

Probability Seminar, CUNY Graduate Center	<i>October 2010</i>
Probability Seminar, University of Delaware	<i>May 2010</i>
Mathematics Colloquium, Tufts University	<i>April 2010</i>
Department Seminar, Bronx Community College	<i>April 2010</i>
Probability Seminar, University of Geneva	<i>April 2008</i>
Probability Seminar, New York University	<i>February 2008</i>
Probability Seminar, CUNY Graduate Center	<i>October 2007</i>
Mathematics Colloquium, University of Regina	<i>April 2007</i>
Mathematics Colloquium, Tufts University	<i>October 2006</i>
Probability Seminar, University of Wisconsin	<i>October 2005</i>
Probability Seminar, Cornell University	<i>April 2004</i>
Mathematics Colloquium, Tufts University	<i>February 2004</i>

CONTRIBUTED RESEARCH TALKS

Faculty Fellowship Publication Program Seminar, CUNY	<i>March 2010</i>
33rd Conference on Stochastic Processes and Their Applications, Berlin	<i>July 2009</i>
7th World Congress in Probability and Statistics, Singapore	<i>July 2008</i>
Northeastern Statistics Symposium, University of Connecticut	<i>April 2005</i>
Seminar on Stochastic Processes, Cornell University	<i>March 2005</i>
6th World Congress in Probability and Statistics, Barcelona, Spain	<i>July 2004</i>
Seminar on Stochastic Processes, University of British Columbia, Canada	<i>May 2004</i>
Cornell University Graduate Probability Seminar	<i>February 2004</i>
Duke University Mathematics Graduate Seminar	<i>October 2003</i>
Cornell University Graduate Probability Seminar	<i>April 2003</i>
Cornell University Mathematics Olivetti Club Seminar	<i>October 2002</i>
Institut Mittag-Leffler, Djursholm, Sweden	<i>December 2001</i>

TALKS FOR UNDERGRADUATES

Brooklyn College Math Club	<i>April 2009</i>
Brooklyn College Math Club	<i>November 2007</i>
Wheaton College Colloquium	<i>February 2007</i>
Tufts University Society of Physics Students	<i>November 2006</i>
Ithaca College Math Club	<i>April 2003</i>
Hamilton College Colloquium	<i>October 2002</i>

HONORS

Faculty Fellowship Publication Program, CUNY	<i>2010</i>
Laha Award, Institute of Mathematical Statistics	<i>2004</i>
L.P. and Barbara Smith Award for Excellence in Teaching, Duke University Department of Mathematics	<i>academic years 00-01 and 02-03</i>
Nomination for the Department of Mathematics Teaching Award, Cornell University Department of Mathematics	<i>Fall 2002</i>

TEACHING EXPERIENCE

Brooklyn College

Instructor of Mathematics

Fall 2007 - present

Math 2.9	Precalculus	<i>Fall 07</i>
Math 3.3	Calculus I	<i>Spring 08</i>
Math 4.3	Calculus II	<i>S 09</i>
Math 5.3	Multivariable Calculus	<i>S 08</i>
Math 9.5	Transition to Advanced Mathematics	<i>F 08</i>
Math 51.1	Introduction to Probability and Statistics	<i>F 07, F 09, S 10, F 10, S 11</i>
Math 52	Statistics	<i>F 09, S 10, F 10, S 11</i>
Math 53	Time Series	<i>S 09, S 11</i>
Math 81.1	Independent Study	<i>F 09, S 10, F 10, S11</i>
Math 83100	Probability Theory I (at the CUNY Graduate Center)	<i>F 08</i>

Tufts University

Instructor of Mathematics

Fall 2004 - Summer 2007

Math 6	Finite Math	<i>Summer 2007</i>
Math 12	Calculus II	<i>Fall 2004, Spring 2005</i>
Math 13	Calculus III	<i>Fall 2004 - Spring 2007</i>
Math 38	Differential Equations	<i>Summer 2007</i>
Math 161	Probability	<i>Fall 2005 & 2006</i>
Math 162	Statistics	<i>Spring 2006 & 2007</i>

Duke University

Instructor of Mathematics

Fall 1999 - Spring 2001, Fall 2003

Preparation and presentation of lectures, supervision of group work, writing and grading tests and quizzes, grading projects and papers, preparing and grading the final exam for the course. Math 25L, 26L, 31L, and 32L are laboratory (“reform”) calculus courses. I was the sole instructor for Math 103.

Math 25L	Calculus-Precalculus I	<i>Fall 2000, Fall 2003</i>
Math 26L	Calculus-Precalculus II	<i>Spring 2001</i>
Math 31L	Calculus I	<i>Fall 1999</i>
Math 32L	Calculus II	<i>Spring 2000</i>
Math 103	Intermediate Calculus	<i>Summer 2001</i>

Lab Instructor

Fall 1998, Spring 1999

Taught weekly Calculus Labs (calculator applications of the class material) for 31L and 32L; gave short lectures, helped the students with material and calculators, grading quizzes and reports.

Calculus Tutor

Fall 1998 - Spring 2001, Fall 2003

Staffed the “Help Room” where students go for help in the undergraduate Calculus courses.

Cornell University**Teaching Assistant***Fall 2002 - Spring 2003*

In charge of Recitations for Math 192 (Calculus for Engineers); jobs included preparation and supervision of exercise sessions, office hours, and grading exams.

Grader for Math 672 (a Second Graduate Course in Probability Theory) for Professor Durrett; jobs included discussion of problems with students, grading of homeworks and exams.

Other Teaching Experience**Private Mathematics Tutor***1993 - 1998, 2002*

Tutored students for various high school math courses and for a course in Applied Complex Analysis.

Geneva Public School System Teacher*Spring 1997 - Summer 1998*

Taught courses in mathematics, physics, and computer science in high school classes of all levels as substitute teacher.

TEACHING DEVELOPMENT

Writing Across the Curriculum Workshop*June 2009*

Brooklyn College

New Faculty Teaching Workshop*Fall 2007, Spring 2008*

Brooklyn College

Certificate in Instructional Technology*Fall 2003*

Duke University

T.A. Training*Fall 1998*

Duke University Department of Mathematics

PROFESSIONAL SERVICE

Referee for *The Annals of Probability, J. Phys. A*

Local Organizer of the 9th Northeast Probability Seminar at the CUNY Graduate Center *2010*

Ph.D. committee member at Tufts University *2008, 2010*

Grant reviewer for the PSC-CUNY Research Foundation *2009*

Advisor for the Putnam Club at Brooklyn College *2009-present*

Advisor for the Actuarial Club at Brooklyn College *2010*

Honors Thesis Advisor at Brooklyn College *2009-2010*

Mellon Mays Undergraduate Fellow mentor at Brooklyn College *2008-2009*

External Reader for Masters' Reports at the University of Regina *2007*

Committee member for Qualifying Exam at Tufts University *2005-2006*

Undergraduate Advisor at Tufts University *2005-2007*

Grant reviewer for the Netherlands Organization for Scientific Research *2004*

COMMITTEE WORK

Professional Staff Congress Mathematics Department representative Brooklyn College	<i>2009-2010</i>
Committee on Prizes and Awards (Chair) Brooklyn College Mathematics Department	<i>2009-2012</i>
Space and Facilities Committee (member) Brooklyn College Mathematics Department	<i>2009-2012</i>
Committee on Research and Seminars (member) Brooklyn College Mathematics Department	<i>2009-2012</i>
Committee on Committees (member) Brooklyn College Mathematics Department	<i>2009-2012</i>

GRANTS

Brooklyn College **New Faculty Fund** Award (*Spring 2011*), **PSC-CUNY** Award # 63405-00 41 (*2010*), Brooklyn College **New Faculty Fund** Award (*Spring 2010*), **Mathematisches Forschungsinstitut Oberwolfach** grant to spend a week at their facility under the Research in Pairs program (*August 2009*), **National Science Foundation** grant for the 33rd Conference on Stochastic Processes and Their Applications, Berlin (*July 2009*), **PSC-CUNY** Award # 62408-00 40 (*2009*), **Banff International Research Station** grant to spend a week at their facility under the Research in Team program (*August 2008*), **Dean's grant** to attend the 7th World Congress in Probability and Statistics in Singapore (*July 2008*), **PSC-CUNY** Award # 60130-38 39 (*2008*), **National Science Foundation** grant for the Seminar on Stochastic Processes at the University of Delaware (*April 2008*), Brooklyn College **New Faculty Fund** Award (*Spring 2008*), **Tufts University** Dean's grant and **National Science Foundation** grant for the IMS Annual Meeting and 10th Brazilian School of Probability at IMPA, Rio de Janeiro, Brazil (*August 2006*), **Tufts University** Dean's grant for the New Directions in Probability Conference and Workshop on Random Walks in Random Media at the University of Minnesota (*August 2005*), **National Science Foundation** grant for the Seminar on Stochastic Processes at Cornell University (*March 2005*), **National Science Foundation** grant for the Northeastern Probability Seminar at the City University of New York (*October 2004*), **Pacific Institute for the Mathematical Sciences** grant for the Summer School in Probability at the University of British Columbia (*May 2004*), **National Science Foundation** grant for the Seminar on Stochastic Processes at the University of British Columbia (*May 2004*), **NATO** grant for the Workshop on Conformal Invariance and Random Spatial Processes at the NATO Advanced Study Institute in Edinburgh (*July 2003*), **National Science Foundation** grant for the Seminar on Stochastic Processes at the University of Washington (*March 2003*), **National Science Foundation** grant for the Seminar on Stochastic Processes at Princeton University (*March 2002*), **Institut Mittag-Leffler** grant for the Program in Probability and Conformal Mappings (*Fall 2001*), **National Security Agency** grant for the Seminar on Stochastic Processes at the University of Florida (*March 2001*)

CONFERENCES ATTENDED

33rd Conference on Stochastic Processes and Their Applications, Berlin (*July 2009*), **Northeastern Probability Seminar** at the Courant Institute at NYU (*November 2008*), **7th World Congress in Probability and Statistics**, Singapore (*July 2008*), **Seminar on Stochastic Processes** at the University of Delaware (*April 2008*), **Northeastern Probability Seminar** at the City University of New York (*November 2007*), **IMS Annual Meeting and 10th Brazilian School of Probability** at IMPA, Rio de Janeiro, Brazil (*August 2006*), **New Directions in Probability** at the University of Minnesota (*August 2005*), **Workshop on Random Walks in**

Random Media at the University of Minnesota (*August 2005*), **Summer School in Probability** at Cornell University (*July 2005*), **Northeastern Statistics Symposium** at the University of Connecticut (*April 2005*), **Seminar on Stochastic Processes** at Cornell University (*March 2005*), **Northeastern Probability Seminar** at the City University of New York (*October 2004*), **Joint World Congress of the Bernoulli Society for Statistics and Probability and Annual Meeting of the Institute for Mathematical Statistics** at the University of Barcelona, Spain (*July 2004*), **Probability, Analysis, and Logic: Conference in honor of Ed Nelson** at the University of British Columbia (*June 2004*), **Summer School in Probability** at the University of British Columbia (*May-June 2004*), **Seminar on Stochastic Processes** at the University of British Columbia (*May 2004*), **Joint Mathematics Meetings** in Phoenix, AZ (*January 2004*), **Program in Conformal Invariance and Random Spatial Processes** at the NATO Advanced Study Institute in Edinburgh, UK (*July 2003*), **Seminar on Stochastic Processes** at the University of Washington (*March 2003*), **Program in Geometry and Statistics of Random Growth** at the Institut Henri Poincaré in Paris, France (*January 2003*), **Conference on Stochastic Processes in honor of Richard Isaac** at the City University of New York (*November 2002*), **Conference on Analysis and Probability on Fractals** at Cornell University (*June 2002*), **Seminar on Stochastic Processes** at Princeton University (*March 2002*), **Program in Probability and Conformal Mappings** at Institut Mittag-Leffler (*Fall 2001*), **Seminar on Stochastic Processes** at the University of Florida (*March 2001*)

OTHER ACTIVITIES

Statistical Consulting for Tufts University Office of Equal Opportunity	<i>2007</i>
Probability Textbook Review for W.H. Freeman Publishing	<i>2006</i>
Board member of the Somerville Math fund	<i>2006-2007</i>
External jury for Geneva High School Exams	<i>2006</i>

SKILLS

Languages

Fluency in French, German, and English. Intermediate knowledge in Italian, Spanish, and Portuguese. Basic knowledge in Czech and Swedish. Studied Latin and ancient Greek respectively for 7 and 6 years.

Computer Languages

Good knowledge of Matlab, Mathematica, \LaTeX , some experience with HTML, Pascal, Maple, Excel, Word, C.

AFFILIATIONS

Institute of Mathematical Statistics	<i>since 2000</i>
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REFERENCES

Research

Gregory F. Lawler (thesis advisor)
Department of Mathematics
University of Chicago
5734 S. University Avenue
Chicago, IL 60637
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Teaching

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