Lea Popovic

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Citizenship: Canadian
Languages: French, German

Education

• **Hon.B.Sc.**, University of Toronto, Department of Mathematics (6/1997)

• **Ph.D.**, University of California Berkeley, Department of Statistics (12/2003)
· Thesis Advisor: David Aldous, Title: "A Stochastic Model for Macroevolution"

Employment

• **Postdoctoral Fellow,** Institute of Mathematics and its Applications, University of Minnesota , (2003-2005)
· Thematic year: "Probability and Statistics in Complex Systems"

○ **Visiting researcher,** Mathematics Institute, Erlangen-Nurnberg University (6/-7/2004)

• **Postdoctoral Fellow,** Department of Mathematics, Cornell University (2005-2007)
· Postdoctoral Advisor: Rick Durrett

Research Interests

Probability theory and applications:
· branching processes, random trees, random graphs, coalescents, measure-valued processes, diffusion approximations, interacting particle systems, stochastic processes on networks
· applications to evolutionary biology, population genetics, and cell biology

Research Grants

• **NSF-DMS** #0553701, co-PI, Focused Research Group with: T. Kurtz, G. Rempala, G.Craciun, (2006-2009)

Publications

1. *"Asymptotic Genealogy of a Critical Branching Process"* (2003), **Ann. of Appl. Probab.**, **14**(4).

2. *"A Critical Branching Process Model for Biodiversity"* (2004, **Adv. in Appl. Probab.**, **37**(4)), (with D. Aldous).

3. *"Multiscale Approximations for Reaction Networks"* (2005), **Ann. of Appl. Probab. 16**(4), (with K.Ball, T. Kurtz, G.Rempala).

4. *"Genealogy of Catalytic and Mutually Catalytic Branching Models"* (2006), submitted to **Ann. of Appl. Probab.**, (with A. Greven, A. Winter).

5. *"Stochastic Models for Phylogenetic Trees on Higher-order Taxa"* (2006), to be submitted, (with D. Aldous, M.Krikun).

Manuscripts in Preparation

6. *"Convergence of Perturbed Supercritical Multitype Branching Processes"*.

7. *"Genealogy of Catalytic Branching Random Walks"*, (with A. Greven, A. Winter).

8. *"Threshold Contact Process on a Random Graph"*, (with R.Durrett).

9. *"Diffusion Model for Subfunctionalization"*, (with R.Durett).

Presentations at Conferences

Oberwolfach/Meeting on Branching Processes, Oberwolfach, Germany (7/2003)

AIM/Workshop on Geometry of Biological Phenomena, Palo Alto, CA (6/2003)

Bernoulli Society Congress/IMS Meeting, Barcelona, Spain (8/2004)

MSRI/Workshop on Real World Networks, Berkeley, CA (4/2005)

Workshop on Stochastic Models in Cell Biology, Ithaca, NY (4/2006)

SIAM/SMB Life Sciences Conference, Raleigh, NC (8/2006)

Teaching Experience

• **Graduate courses**:
· *Stochastic calculus with applications to mathematical finance* (spr/1999, spr/2003)
· *Probability Theory* (fall/2006)

• **Undergraduate courses**:
· *Introduction to probability and statistics for engineers* (spr/1999)
· *Introduction to stochastic processes* (spr/2005)
· *Living in a random world* (spr/2006)

Teaching assistant for courses: statistical learning theory (grad.), introductory statistics (undergr.) (1998-2002)

Awards and Scholarships

○ University Scholarship, University of Toronto (1994, 1995, 1996)

• Chancellors Medal, University of Toronto (1997)

○ Summer Undergraduate Research Fellowship, California Institute of Technology (1996)

○ NSERC Undergraduate Student Research Award (1995, 1996)

○ NSERC Postgraduate Student Fellowship (1997)

○ University Science Fellowship & University Prize, Princeton University (1997)

○ Loeve Prize in Probability, Department of Statistics University of California Berkeley (1998)

• Outstanding Student Instructor Award, University of California Berkeley (2000)

Organizational Activities

President: Statistics Graduate Students Association (2000/2001)

Organizer: Graduate Student Seminar (2002), Postdoc Seminar (2003/2004), Probability Seminar (2005/2006)

co-Organizer: Workshop on Stochastic Models in Cell Biology (2006)

References

1. David Aldous, Dept of Statistics, University of California Berkeley, aldous@stat.berkeley.edu

2. Tom Kurtz, Dept of Mathematics, University of Wisconsin Madison, kurtz@math.wisc.edu

3. Andreas Greven, Mathematics Institute, Erlangen-Nurnberg University, greven@mi.uni-erlangen.de

4. Rick Durrett, Dept of Mathematics, Cornell University, durrett@math.cornell.edu

5. **[teaching]** John Rice, Dept of Statistics, University of California Berkeley, rice@stat.berkeley.edu

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