

BIOGRAPHICAL SKETCH

Tom Alberts

Professional Preparation

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| University of Alberta | Edmonton, AB, Canada | Mathematics and Statistics | B.S. 2002 |
| New York University | New York, NY | Mathematics | Ph.D. 2008 |
| University of Toronto | Toronto, ON, Canada | Postdoc 2008–11 | |
| Caltech | Pasadena, CA | Postdoc 2011–14 | |

Appointments

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| Jul.14 – Present | Assistant Professor, Department of Mathematics, University of Utah. |
| Sep.11 – Jun.14 | Scott Johnson Senior Postdoctoral Fellow, Department of Mathematics, Caltech. |
| Sep.08 – Aug.11 | NSERC Postdoctoral Fellow, Department of Mathematics, University of Toronto |

Publications

Most Closely Related to the Proposed Project

1. *A Dimension Spectrum for SLE Boundary Collisions*. Alberts T. & Binder I. & Viklund F., **Communications in Mathematical Physics**, **343**, no. 1, 273-298 (2016). DOI: 10.1007/s00220-016-2587-x
2. *The Covariant Measure of SLE on the Boundary*. Alberts T. & Sheffield S., **Prob. Theor. Rel. Fields**, **3-4**, 331-371 (2011). DOI: 10.1007/s00440-009-0252-4
3. *The Near-Critical Scaling Window for Directed Polymers on Disordered Trees*. Alberts T. & Ortgiese M., **Electron. J. Prob.**, no. **19**, 1-24. (2013). DOI: 10.1214/EJP.v18-2036
4. *Intermediate Disorder Regime for 1+1 Dimensional Directed Polymers*. Alberts T., Khanin K. & Quastel J., **Annals of Probability**, **42**, no. 3, 1212-1256 (2014). DOI: 10.1214/13-AOP858
5. *The Continuum Directed Random Polymer*. Alberts T., Khanin K. & Quastel J., **Journal of Statistical Physics**, **154**, no. 1-2, 305-326 (2014). DOI: 10.1007/s10955-013-0872-z

Selected Other Significant Publications

1. *Diffusions of Multiplicative Cascades*. Alberts T. & Rifkind B., **Stochastic Processes and their Applications**, **124**, no. 2, 1141-1169 (2014). DOI: 10.1016/j.spa.2013.10.007
2. *The Intermediate Disorder Regime for a Directed Polymer Model on a Hierarchical Lattice*. Alberts T., Clark J. & Kocic S., **Stochastic Processes and their Applications**, **127**, no. 10, 3291-3330 (2017). DOI: 10.1016/j.spa.2017.02.011
3. *Nested Critical Points for a Directed Polymer on a Disordered Diamond Lattice*. Alberts T. & Clark J., **Journal of Theoretical Probability**, online version (2017). DOI: 10.1007/s10959-017-0787-8
4. *Some Partial Results on the Convergence of Loop-Erased Random Walk to SLE(2) in the Natural Time Parameterization*. Alberts T., Kozdron M. & Masson R., **J. Stat. Phys.**, **153**, no. 1, 119-141. (2013). DOI: 10.1007/s10955-013-0816-7
5. *The Green's Function for the Radial Schramm-Loewner Evolution*. Alberts T., Kozdron M. & Lawler G., **J. Phys. A: Math.**, **45**, 494015. (2012). DOI:10.1088/1751-8113/45/49/494015

Synergistic Activities

- Mentoring of undergraduate students with probability interests.
 - Mentored 2 students as part of the Caltech SURF program (internal summer REU program). Resulted in 1 publication with another in progress.
 - Mentored 9 University of Utah students since 2014 through internal departmental REU program.
 - Topics ranging from stochastic heat equation on Markov Chains, convex geometry for last passage percolation, the RSK algorithm, limit shapes of signed involutions, extrema of correlated Gaussian random variables.

- General interest talks on probability theory given to non-mathematical audiences.
 - *Science Night Live*, a general interest talk for the wider Salt Lake City community.
 - *Science Day*, a talk on the mathematics behind game shows to high school students.
 - *Science at Breakfast*, a talk on branching processes to the local business community.
- Journal Service.
 - Selected Invited Journal Referees: *Annals of Probability*, *Probability Theory and Related Fields*, *Electronic Journal of Probability*, *Journal of Statistical Physics*, *Stochastic Processes and their Applications*, *Journal of Theoretical Probability*, *Annals of the IHP: Prob. and Stat.*, *Nonlinearity*, *Transactions of the AMS*
- Co-organized **Qualitative Methods in KPZ Universality** Conference.
 - Held during the CIRM semester on *KPZ Universality and Directed Polymers*.
 - 25 speakers, 4 days, about 50 in audience.
 - Material available online: <http://khanin-shlosman.weebly.com/conference.html>
- Co-organized **Frontier Probability Days** Workshop.
 - Organizer in May 2014 (University of Arizona) & May 2016 (University of Utah).
 - Bi-annual probability conference in the Intermountain West.
 - 8 plenary speakers, 20 invited speakers including students
 - 2.5 days, about 75 in audience.
 - Material available online: <http://www.math.utah.edu/~firas/FPD16/>