

David Keating

CONTACT INFORMATION	Department of Mathematics 970 Evans Hall Berkeley, CA 94720-3840	Office: 935 Evans Hall 714-474-6532 dkeating@berkeley.edu
EDUCATION	University of California, Berkeley , Berkeley, CA Ph.D., Mathematics, August 2015 - Present <ul style="list-style-type: none">• Advisor: Prof. Nicolai Reshetikhin B.A., Mathematics, May 2015 B.A., Physics, May 2015	
RESEARCH EXPERIENCE	Research Assistant September 2014 to May 2015 Department of Mathematics, University of California, Berkeley Supervisor: Prof. Nicolai Reshetikhin <ul style="list-style-type: none">• <i>Numerical studies of lattice models in Statistical Mechanics. In particular, the study of limit shape formation in the Six-Vertex model.</i> National Undergraduate Fellowship in Plasma Physics June 2014 to Aug 2014 Princeton Plasma Physics Laboratory, Princeton, NJ Supervisor: Dr. Igor Kaganovich <ul style="list-style-type: none">• <i>Particle-in-cell simulations of abnormal Helium glow discharges using the Large Scale Plasma Code (LSP)</i> Research Assistant March 2013 to May 2015 Department of Electrical Engineering and Computer Science, University of California, Berkeley Supervisor: Prof. Sayeef Salahuddin <ul style="list-style-type: none">• <i>Study of the domain wall processes responsible for magnetic switching and the effect of the Spin Hall Effect Spin Transfer Torque on switching behavior in micron-sized magnets</i>• <i>Simulations of magnetic Skyrmions using the Object Oriented Micromagnetic Programming Framework (OOMMF)</i>	
PUBLICATIONS AND PREPRINTS	<ol style="list-style-type: none">1. Corteel, S., Gitlin, A., Keating, D., and Meza, J. “A Vertex Model for LLT Polynomials.” <i>In preparation.</i>2. Keating, D., Reshetikhin, N., and Sridhar, A. “Integrability of Limit Shapes of the Inhomogeneous Six Vertex Model.” <i>Preprint</i> arXiv:2004.08971 [math-ph] (2020)3. Corteel, S., Keating, D., and Nicoletti, M. “Arctic curves phenomena for bounded lecture hall tableaux.” <i>Preprint</i> arXiv:1905.02881 [math.CO] (2019).4. Keating, D., Reshetikhin, N., and Sridhar, A. “Conformal Limit for Dimer Models on the Hexagonal Lattice.” <i>Journal of Mathematical Sciences</i> 242, 701-714 (2019).5. Keating, D. and Sridhar, A. “Random Tilings with the GPU.” <i>Journal of Mathematical Physics</i> 59, 091420 (2018)	

6. Carlsson, J., Khrabrov, A., Kaganovich, I., Sommerer, T., and **Keating, D.** “Validation and benchmarking of two particle-in-cell codes for a glow discharge.” *Plasma Sources Science and Technology*, 26(1) (2016).
7. Bhowmik, D., Nowakowski, M., You, L., Lee, O., **Keating, D.**, Wong, M., Boker, J., and Salahuddin, S. “Deterministic Domain Wall Motion Orthogonal To Current Flow Due To Spin Orbit Torque” *Scientific Reports* 5 (2015).

INVITED TALKS

1. *Vertex Model for LLT Polynomials*, Berkeley Combinatorics Seminar, UC Berkeley, November 2020.
2. *Arctic Curves, Lecture Hall Tableaux, and the Tangent Method*, LPSM Friday Seminar, Sorbonne University, November 2019.
3. *Arctic Curves, Lecture Hall Tableaux, and the Tangent Method*, Berkeley Combinatorics Seminar, UC Berkeley, September 2019.
4. *Arctic Curves in Lecture Hall Tableaux*, Asymptotic Algebraic Combinatorics Workshop, Banff International Research Station, March 2019.
5. *Random Tilings with the GPU*, Representation Theory, Mathematical Physics and Integrable Systems, Centre International de Rencontres Mathématiques, June 2018.

TEACHING EXPERIENCE

Teaching Assistant	Spring 2019
Math 54 - Linear Algebra and Differential Equations	
Instructor: Prof. Ming Gu	
Outstanding GSI Award	2018
Teaching Assistant	Fall 2018
Math 54 - Linear Algebra and Differential Equations	
Instructor: Prof. Constantin Teleman	
Teaching Assistant	Spring and Fall 2017
Math 53 - Multivariable Calculus	
Instructor: Prof. Edward Frenkel	
Teaching Assistant	Fall 2016
Math 54 - Linear Algebra and Differential Equations	
Instructor: Prof. Ming Gu	
Teaching Assistant	Spring 2016
Math 1B - Calculus	
Instructor: Dr. Alexander Paulin	
Teaching Assistant	Fall 2015
Math 1A - Calculus	
Instructor: Dr. Alexander Coward	