



AUTUMN KENT

Department of Mathematics · University of Wisconsin
480 Lincoln Drive · Madison, WI 53706
kent@math.wisc.edu www.math.wisc.edu/~kent

EDUCATION

Ph.D. (Mathematics) University of Texas at Austin · August 2006
ADVISOR: Cameron McA. Gordon

B.A. (Mathematics and Literature) University of North Carolina at Asheville · May 1999

POSITIONS

Associate Professor · University of Wisconsin – Madison · 2016–present

Assistant Professor · University of Wisconsin – Madison · 2010–2016

Tamarkin Assistant Professor · Brown University · 2006–2010

VISITS

IAS · 2015–2016

PCMI · July 2012

PCMI · July 2011

MSRI · Fall 2007

Centre Bernoulli, E.P.F. Lausanne · August 2005

AWARDS, HONORS, FELLOWSHIPS, AND GRANTS

Vilas Associate · University of Wisconsin · 2018–2020

von Neumann Fellowship · Institute for Advanced Study · 2015–2016

NSF CAREER Award · DMS-1350075 · 2014–2019

NSF Grant · DMS-1104871 · 2011–2014

University Housing Honored Instructor Award · University of Wisconsin · Spring 2012

University Housing Honored Instructor Award · University of Wisconsin · Fall 2010

National Science Foundation Postdoctoral Fellowship · 2006

Clay Mathematics Institute Liftoff Fellowship · Summer 2006

Frank Gerth III Dissertation Award · University of Texas at Austin · 2006

Finalist, American Institute of Mathematics Five-Year Fellowship · 2006

Donald D. Harrington Dissertation Fellowship · University of Texas at Austin · 2005–2006

University Continuing Fellowship · University of Texas at Austin · 2003–2004

University Preemptive Fellowship · University of Texas at Austin · Spring–Summer 2001

Departmental Fellowship · University of Texas at Austin · Fall 2000 · Summer 2001

MATHEMATICAL WRITING (preprints available at www.math.wisc.edu/~kent, or upon request)

- 25** *Undistorted purely pseudo-Anosov groups* (with M. Bestvina, K. Bromberg, and C. J. Leininger)
(to appear in *Journal für die reine und angewandte Mathematik*)
- 24** *Spacious knots* (with J. Purcell)
(to appear in *Mathematical Research Letters*)
- 23** *Skinning bounds along thick rays* (with K. Bromberg and Y. Minsky)
(submitted)
- 22** *Lipschitz constants to curve complexes* (with V. Gadre, E. Hironaka, and C. J. Leininger)
Mathematical Research Letters 20 (2013), no. 4, 647–656.
- 21** *Thick-skinned 3-manifolds* (with Y. Minsky)
Geometric and Functional Analysis, Volume 24 (2014), 1981–2001.
- 20** *Experiments with skinning maps* (with D. Dumas)
(in preparation)
- 19** *Pseudo-Anosov subgroups of fibered 3-manifold groups* (with S. Dowdall and C. J. Leininger)
Groups, Geometry, and Dynamics, Volume 8, Issue 4, 2014, 1247–1282
- 18** *A geometric criterion to be pseudo-Anosov* (with C. J. Leininger)
Michigan Mathematical Journal 63 (2014), 227–251.
- 17** *Congruence kernels around affine curves*
Journal für die reine und angewandte Mathematik 713 (2016), 1–20.
- 16** *Geometric limits of knot complements, II: Graphs determined by their complements*
(with J. Souto) *Mathematische Zeitschrift* (2012) 271:565–575.
- 15** *A fake Schottky group in $\text{Mod}(S)$* (with C. J. Leininger)
In the tradition of Ahlfors–Bers, V, 185–196, *Contemporary Mathematics*, 510, AMS, 2010.
- 14** *Bers slices are Zariski dense* (with D. Dumas)
Journal of Topology 2009 2(2) 373–379.
- 13** *Intersections and joins of free groups*
Algebraic & Geometric Topology 9 (2009) 305–325.
- 12** *Slicing, skinning, and grafting* (with D. Dumas)
American Journal of Mathematics 131 (2009), 1419–1429.
- 11** *Trees and mapping class groups* (with C. J. Leininger and Saul Schleimer)
Journal für die reine und angewandte Mathematik 637 (2009), 1–21.
- 10** *Skinning maps*
Duke Mathematical Journal 151, no. 2 (2010), 279–336.

- 9** *Subgroups of mapping class groups from the geometrical viewpoint* (with C. J. Leininger)
In the tradition of Ahlfors–Bers, IV, 119–141. Contemporary Mathematics, 432, AMS, 2007.
- 8** *Uniform convergence in the mapping class group* (with C. J. Leininger)
Ergodic Theory and Dynamical Systems (2008), 28, 1177–1195.
- 7** *Shadows of mapping class groups: capturing convex cocompactness* (with C. J. Leininger)
Geometric and Functional Analysis, Volume 18 (2008), 1270–1325.
- 6** *Surface groups are frequently faithful* (with J. DeBlois),
Duke Mathematical Journal 131, no. 2 (2006), 351–362.
- 5** *Totally geodesic boundaries of knot complements*,
Proceedings of the American Mathematical Society 133 (2005), 3735–3744.
- 4** *Achievable ranks of intersections of finitely generated free groups*,
International Journal of Algebra and Computation, Vol. 15 No. 2 (2005) 339–341.
- 3** *A short proof that composite twisted unknots are singly twisted unknots*,
Journal of Knot Theory and its Ramifications 13 (2004), no. 7, 873–875.
- 2** *Bundles, handcuffs, and local freedom*,
Geometriae Dedicata 106 (2004), 145–159.
- 1** *A geometric and algebraic description of annular braid groups* (with D. Peifer),
International Journal of Algebra and Computation, Vol. 12, Nos. 1 & 2 (2002) 85–97.

SPEAKING

- 55** *Skinning maps along thick rays*—Geometry and Topology of 3–manifolds Workshop · OIST
– Okinawa, Japan · Spring 2018
- 54** *On word hyperbolic surface bundles*—Geometry of Teichmüller space and mapping class
groups · University of Warwick · Spring 2018
- 53** *Spacious knots*—Max Dehn Seminar · University of Utah · Spring 2018
- 52** *Skinning maps along thick rays*—Virginia Topology Conference 2017: Hyperbolic 3–manifolds
and beyond · University of Virginia · Fall 2017
- 51** *Skinning maps along thick rays*—Geometric topology in low dimensions · University of War-
wick · Fall 2017
- 50** *Skinning maps along thick rays*—Moduli Spaces · Ventotene, Italy · Fall 2017
- 49** *Hyperbolic-by-hyperbolic hyperbolic groups*—Groups explored through geometry and dy-
namics: A Conference in Celebration of Lee Mosher · Princeton University · Fall 2017
- 48** *On word hyperbolic surface bundles*—GEAR retreat · Stanford · Summer 2017
- 47** *On word hyperbolic surface bundles*—Geometry Seminar · UIC · Spring 2017

- 46** *Coarsely hyperbolic surface bundles*—GGD day · Indiana University · Spring 2017
- 45** *Crash course in convex cocompactness*—Group Theory Seminar · UIUC · Spring 2017
- 44** *Spacious knots*—Teichmüller Theory and Geometric Structures Seminar · Rutgers – Newark · Spring 2016
- 43** *Spacious knots*—Geometry/Topology Seminar · Boston College · Spring 2016
- 42** *Spacious knots*—Geometric Topology Seminar · Columbia University · Spring 2016
- 41** *Spacious knots*—Topology/Geometry Seminar · Temple University · Spring 2016
- 40** *Congruence Subgroup Problems*—Topology/Geometry Seminar · Yale · Fall 2015
- 39** *Skinning maps*—Workshop on Geometric Structures on 3–Manifolds · Institute for Advanced Study · Fall 2015
- 38** *Thoughts on convex cocompactness*—AMS Sectional Meeting · University of Alabama in Huntsville · Spring 2015
- 37** *Thoughts on convex cocompactness*—Wasatch Topology Conference · Park City, Utah · August 2014
- 36** *Congruence subgroups problems*—Teichmüller Theory and Mapping Class Groups · Israel · Spring 2014
- 35** *Congruence subgroups problems*—AMS Sectional Meeting · University of Maryland, Baltimore County · Spring 2014
- 34** *Congruence subgroups problems*—Plenary Lecture · 48th Spring Topology and Dynamics Conference · University of Richmond · Spring 2014
- 33** *Congruence subgroups problems*—AMS Sectional Meeting · Temple University · Fall 2013
- 32** *Thick–skinned 3–manifolds*—Geometry, Topology, and Dynamics Seminar · UIC · Spring 2013
- 31** *Congruence subgroup problems*—Topology Seminar · UW – Milwaukee · Spring 2013
- 30** *Congruence subgroup problems*—Geometric Group Theory on the Gulf Coast · South Padre Island, TX · Spring 2013
- 29** *Geometric subgroups of mapping class groups*—Geometry Seminar · Temple University · Fall 2012
- 28** *Geometric subgroups of mapping class groups*—Geometry & Topology Seminar · Caltech · Fall 2012
- 27** *Congruence subgroup problems*—Geometry Topology Seminar · Georgia Tech · Fall 2012
- 26** *Mapping class groups through profinite spectacles*—Geometry Seminar · University of Wisconsin · Spring 2011

- 25** *Mapping class groups through profinite spectacles*—Wasatch Topology Conference · Park City, Utah · Winter 2010
- 24** *Mapping class groups through profinite spectacles*—Topology Seminar · Rice University · Fall 2010
- 23** *Transcendence of Bers slices*—Topology Seminar · University of Michigan · Fall 2008
- 22** *Inequalities in free groups*—Geometric Group Theory Seminar · Tufts University · Fall 2008
- 21** *Mapping class groups through profinite spectacles*—AMS Mathematical Research Communities · Snowbird Resort, Utah · Summer 2008
- 20** *Curves and hyperbolic geometry* (two expository lectures)—AMS Mathematical Research Communities · Snowbird Resort, Utah · Summer 2008
- 19** *Skinning maps*—Ahlfors–Bers Colloquium (workshop) · Rutgers University · Spring 2008
- 18** *Slicing, skinning, and grafting*—Topology Seminar · University of Texas at Austin · Spring 2008
- 17** *The leopard and Lobachevskii*—MSRI · Fall 2007
- 16** *The beginning of the end*—Geometry and Dynamics in Surfaces and 3–Manifolds · Brown University · Spring 2007
- 15** *Skinning maps*—Topology Seminar · Princeton University · Spring 2007
- 14** *Skinning maps*—Topology Seminar · University of Texas at Austin · Spring 2007
- 13** *Geometry and the mapping class group*—Midwest Topology Seminar · University of Illinois at Chicago · Spring 2007
- 12** *Skinning maps*—Geometry Seminar · California Institute of Technology · Spring 2007
- 11** *Skinning maps*—Topology/Geometry Seminar · Yale · Fall 2006
- 10** *Skinning maps*—AMS Sectional Meeting · University of Connecticut · Fall 2006
- 9** *Being purely pseudo-Anosov*—The 2nd annual William Rowan Hamilton Geometry and Topology Workshop · Trinity College, Dublin · Fall 2006
- 8** *The beginning of the end*—Hyperbolic Geometry Workshop · Program at the Fields Institute: Holomorphic Dynamics, Laminations, and Hyperbolic Geometry · Spring 2006
- 7** *Boundaries of hyperbolic 3–manifolds*—Georgia Topology Conference · Spring 2006
- 6** *Totally geodesic boundaries of 3–manifolds*—Thesis defense · Topology Seminar · University of Texas at Austin · Spring 2006
- 5** *Shadows of mapping class groups: capturing convex cocompactness*—Twenty–First Wasatch Topology Conference · Park City · 2005

4 *Shadows of mapping class groups: capturing convex cocompactness*—Topology Seminar · University of Texas at Austin · Spring 2005

3 *Surface groups are frequently faithful*—AMS Central Section Meeting · Meeting #1001 · Northwestern University · October 2004

2 *Totally geodesic boundaries of knot complements*—Topology Seminar · University of Texas at Austin · Fall 2004

1 *Bundles, handcuffs, and local freedom*—Topology Seminar · University of Texas at Austin · Spring 2003

SERVICE

Panelist, Gender Gap Panel—Women in Math and Statistics Conference · Harvard University · Spring 2018

Organizer, Moduli Crossroads Retreat, I · Madison, WI, June 2015.

Organizer with S. Dowdall, C. Leininger, & A. Reid, Workshop on Mapping Class Groups and Out(F_N) · Austin, TX, May 2015.

Organizer with C. Leininger & K. Rafi, AMS special session, Sectional Meeting, Lawrence, KS, March 2012.

Organizer with C. Leininger & J. DeBlois, AMS special session, Sectional Meeting, Urbana II, March 2009.

Organizer with M. Tomova, AMS Mathematics Research Community special session, Joint Meetings, Washington D. C., January 2009.

Primary speaker: Expository lectures at AMS Mathematics Research Community at Snowbird, Summer 2008.

Referee for the following journals: Acta Mathematica, Algebraic & Geometric Topology, American Journal of Mathematics, Annales scientifiques de l'École normale supérieure, Asian Journal of Mathematics, Bulletin of the London Mathematical Society, Duke Mathematical Journal, Geometriae Dedicata, Geometry & Topology, Inventiones Mathematicae, Journal of Combinatorial Algebra, Journal of Differential Geometry, JP Journal of Geometry and Topology, Mathematische Annalen, Pacific Journal of Mathematics, Proceedings of the American Mathematical Society, Proceedings of the London Mathematical Society, Proceedings – Mathematical Sciences, Revista Matemática Complutense, Transactions of the American Mathematical Society.

TEACHING

Fall 2017 · Math 340—Linear Algebra · University of Wisconsin

Spring 2017 · Math 240—Discrete Math · University of Wisconsin

Fall 2016 · Math 751—Algebraic Topology I · University of Wisconsin

Spring 2015 · Math 213—Calculus and introduction to differential equations · University of Wisconsin

Fall 2014 · Math 851–Teichmüller Theory · University of Wisconsin
Fall 2014 · Math 551–Elementary Topology · University of Wisconsin
Spring 2014 · Math 990–Supervised reading in geometry · University of Wisconsin
Spring 2014 · Math 752–Introductory Topology II · University of Wisconsin
Spring 2013 · Math 221–Calculus I · University of Wisconsin
Fall 2012 · Math 751–Algebraic Topology I · University of Wisconsin
Spring 2012 · Math 990–Supervised reading in geometry · University of Wisconsin
Spring 2012 · Math 234–Multivariable Calculus · University of Wisconsin
Fall 2011 · Math 851–Mapping Class Groups · University of Wisconsin
Fall 2011 · Math 990–Supervised reading in geometry · University of Wisconsin
Spring 2011 · Math 320–Linear Algebra and Differential Equations · University of Wisconsin
Spring 2011 · Math 752–Introductory Topology II · University of Wisconsin
Fall 2010 · Math 234–Multivariable Calculus · University of Wisconsin
Fall 2009 · Math 0170–Advanced Placement Calculus · Brown University
Spring 2009 · Math 1010–Analysis: Functions of One Variable · Brown University
Spring 2009 · Math 0100–Introductory Calculus II · Brown University
Fall 2008 · Math 0090–Introductory Calculus I · Brown University
Spring 2008 · Math 0540–Honors Linear Algebra · Brown University
Fall 2004 · Assistant Instructor: M305G–Elementary Functions and Coordinate Geometry · University of Texas at Austin
Fall 2001 · Teaching Assistant/Grader: M373K–Algebraic Structures I and M367L–Topology II: Knot Theory · University of Texas at Austin
Fall 2000 · Teaching Assistant: M403K–Business Calculus · University of Texas at Austin
Fall 1999 · Instructor: Math 060–Basic Mathematics · Asheville–Buncombe Technical Community College

SUPERVISION

Balázs Strenner · Ph.D. 2015.

REFERENCES

Mladen Bestvina, University of Utah
 Jeffrey Brock, Brown University
 Richard Canary, University of Michigan
 Cameron Gordon, University of Texas at Austin
 Yair Minsky, Yale University
 Alan Reid, University of Texas at Austin
 Gloria Mari-Beffa, University of Wisconsin – Madison (Teaching reference)