

J. Elisenda Grigsby

Curriculum Vitae

Math Dept, Boston College, 522 Maloney Hall, Chestnut Hill, MA 02467-3806
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Employment:

- 2009–pres. **Boston College**
Professor, 2017 - pres
Associate Professor, 2014 - 2017
Assistant Professor, 2009 - 2014
- 2006–2009 **Columbia University**
National Science Foundation Postdoctoral Fellow

Short-term Positions:

- 2018–2019 **Institute for Computational and Experimental Research in Mathematics**
Deputy Director
- Spr 2010 **Mathematical Sciences Research Institute**
Viterbi Endowed Postdoctoral Scholar
- 2005–2006 **Columbia University**
Visiting graduate student, Mathematics department

Education:

- 2000–2005 **University of California, Berkeley**
Ph.D., Mathematics, received May 2006
Knot Floer Homology in Cyclic Branched Covers
Thesis advisors: Robion Kirby, Peter Ozsváth
- 1994–1999 **Harvard University**
A.B. Cum Laude, Mathematics, received Mar 1999

Scientific Honors:

- 2016 **Presidential Early Career Award for Scientists and Engineers (PECASE)**
- 2016 **Simons Fellowship in Mathematics**
- 2014 **AWM-Birman Research prize in Geometry & Topology**
- 2012–pres. **National Science Foundation CAREER grant DMS-1151671**
- 2012 **Boston College Faculty Fellowship**
- 2012 **Boston College Research Incentive Grant**
- 2009–2012 **National Science Foundation research grant DMS-0905848**
- 2006–2009 **National Science Foundation postdoctoral fellowship**
- 2006 **University of California Dissertation-Year Fellowship**

Professional Service:

- Apr 2017–pres. **Algebraic & Geometric Topology Journal**, *Editor*
- 2018–20 **AMS-MAA Mathfest Joint Lecture Committee**, *AMS representative*
- Jun 2018 **ThompScharby Fest: Topology in dimensions 3, 3.5, and 4**, *Co-organizer*
- Aug 2016 **Hamilton/CAREER workshop: Low dimensional topology, complex and symplectic geometry**, *Lead organizer*
- 2015-16 **Tim Cochran Memorial Volume, JKTR**, *Co-editor*
- 2015-16 **AWM Research Symposium Proceedings, AWM-Springer**, *Co-editor*
- Apr 2015 **AWM Research Symposium special session**, *Lead organizer*
- Aug 2014 **ICERM/CAREER workshop: Combinatorial link homology theories, braids, and contact geometry**, *Lead organizer*
- Apr 2013 **AMS Sectional Meeting Special Session**, *Co-organizer*
- Jan 2010 **Connections for Women workshop: Knot homology theories**, *Lead organizer*
- Aug 2008 **Rob Kirby's 70th Birthday Conference**, *Co-organizer*

National Science Foundation

- CAREER review panel,*
Low-dimensional topology review panel ($\times 2$)

Publications/Preprints:

17. “On braided, banded surfaces and ribbon obstructions,”
arXiv:math.GT/1801.07158, *Submitted*
16. “Annular Khovanov-Lee homology, braids, and cobordisms,”
with Anthony Licata and Stephan Wehrli, arXiv:math.GT/1612.05953
Pure and Applied Math Quarterly: in honor of Simon Donaldson, to appear
15. “Annular Khovanov homology and knotted Schur-Weyl representations,”
with Anthony Licata and Stephan Wehrli, arXiv:math.GT/1505.04386
Compositio Mathematica, (2018), 154 no. 3, 459-502
14. “An elementary fact about unlinked braid closures,”
with Stephan Wehrli, arXiv:math.GT/1309.0759
Advances in the Mathematical Sciences: Research from the 2015 AWM Math Symposium,
(2016) Vol. 6, *AWM-Springer Series*, 93-101

Publications/Preprints:

13. “Sutured Khovanov homology distinguishes braids from other tangles,”
with Yi Ni, arXiv: math.GT/1305.2183
Mathematical Research Letters, (2014), 21 no. 6, 1263-1275
12. “Sutured Khovanov homology, Hochschild homology, and the Ozsváth-Szabó spectral sequence,”
with Denis Auroux and Stephan Wehrli, arXiv: math.GT/1303.1986
Transactions of the AMS, (2015), 367 no. 10, 7103-7131
11. “Categorified invariants and the braid group,”
with John A. Baldwin, arXiv: math.GT/1212.2222
Proceedings of the AMS (2015), 143 no. 7, 2801-2814
10. “Khovanov-Seidel quiver algebras and bordered Floer homology,”
with Denis Auroux and Stephan Wehrli, math.GT/1107.2841
Selecta Mathematica, (N.S.) 20 (2014)
9. “On gradings in Khovanov homology and sutured Floer homology,”
with Stephan Wehrli, arXiv: math.GT/1010.3727
Topology and Geometry in Dimension Three: Triangulations, Invariants, and Geometric Structures,
(2011) Vol. 560, *Contemporary Mathematics*, 111-128, AMS.
8. “On the naturality of the spectral sequence from Khovanov homology to Heegaard Floer homology,”
with Stephan Wehrli, arXiv: math.GT/0907.4378
Int. Math. Res. Notices, (2010); doi: 10.1093/imrn/rnq039
7. “Khovanov homology, sutured Floer homology, and annular links,”
with Stephan Wehrli, arXiv: math.GT/0907.4375
Algebraic & Geometric Topology 10 (2010) 2009-2039
6. “On the colored Jones polynomial, sutured Floer homology, and knot Floer homology,”
with Stephan Wehrli, arXiv: math.GT/0807.1432
Advances in Mathematics, (2009), doi:10.1016/j.aim.2009.11.002.
5. “Grid diagrams and Legendrian lens space links,”
with Kenneth Baker, arXiv: math.GT/0804.3048
Journal of Symplectic Geometry, (2009) Vol.7, Issue 4, 415-448.
4. “Grid diagrams for lens spaces and combinatorial knot Floer homology,”
with Kenneth Baker and Matthew Hedden, arXiv: math.GT/0710.0359
Int. Math. Res. Notices, (2008) Vol. 2008 : article ID rnn024
3. “Knot concordance and Heegaard Floer homology invariants in branched covers,”
with Daniel Ruberman and Sašo Strle, arXiv: math.GT/0701460
Geometry & Topology, 12 (2008) 2249-2275
2. “Combinatorial description of knot Floer homology of cyclic branched covers,”
arXiv: math.GT/0610238
Incorporated into joint paper with Ruberman-Strle

Publications/Preprints:

1. “Knot Floer homology in cyclic branched covers,”
arXiv: math.GT/0507498
Algebraic & Geometric Topology, 6 (2006) 1355-1398

Invited Conference/Colloquium Talks:

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|------|-----|-------------------------------------------------------------------------------------|
| 2018 | Sep | Invited Address, AMS Fall 2018 Eastern Sectional Meeting, University of Delaware |
| | Jun | Characters in low-dimensional topology: Boyer’s 65th birthday, Montreal, CA |
| | Mar | Quantum Knot Homology and Supersymmetric Gauge Theory, Aspen Center for Physics |
| | Jan | AMS Joint Mathematics meeting, San Diego |
| 2017 | May | Georgia Topology Conference, University of Georgia |
| | May | Braids in Algebra, Geometry, and Topology, Int. Cen. for Math. Sci., Edinburgh, UK |
| | Feb | Archimedean society seminar, Cambridge, UK |
| | Feb | Emmy Noether society seminar, Cambridge, UK |
| | Jan | Minicourse on Geom. Rep. Theory, Winter School, Newton Institute, Cambridge, UK |
| 2016 | Dec | Tech Topology Conference, Georgia Tech |
| | Oct | Colloquium, Brown University |
| | Jun | Topology & Geometry in 3 and 4 dimensions, Dubrovnik, Croatia |
| | Jun | Topology in dimension 3.5: a conference in memory of Tim Cochran, Rice University |
| | May | Graduate student conference on Algebra, Geometry, and Topology, Temple University |
| | Mar | Banff 5-day workshop, Banff International Research Station |
| | Mar | Advances in Quantum and Low-dimensional topology, University of Iowa |
| 2015 | Jun | Low dimensional topology workshop, Princeton University |
| | May | Moab topology conference, Utah State University, Moab |
| | Apr | AMS Sectional Meeting, University of Nevada, Las Vegas |
| | Mar | Guterman lecture, Tufts University |
| 2014 | Nov | Texas Geometry & Topology Conference, University of Texas, Austin |
| 2013 | Oct | AMS Sectional Meeting, Washington University |
| | Jul | Low-dimensional topology after Floer, Centre de Recherches Mathématiques |
| | May | Low-dimensional topology workshop, Simons Center for Geometry and Physics |
| | Apr | Banff 5-day workshop, Banff International Research Station |
| | Apr | Colloquium, Wellesley College |
| | Mar | AWM Research Symposium, Santa Clara University |
| | Jan | AMS Joint Mathematics meeting, San Diego |
| 2012 | Apr | Graduate Student Topology Conference, Indiana University |
| | Mar | Topology Workshop, Tokyo Institute of Technology |
| | Jan | AMS Joint Meeting, Boston |
| 2011 | Sep | AMS Sectional Meeting, Cornell University |
| | Jun | Trimester on Contact and Symplectic Topology, Université de Nantes |
| | Mar | Banff 5-day workshop, Banff International Research Station |
| 2010 | Sep | Hamilton Geometry & Topology workshop on Knots, Surfaces, and 3-manifolds, Dublin |
| | Jul | Mirror Symmetry Workshop, MIT |
| | Jun | Categorification and Low-dimensional Topology conference, SUNY, Stony Brook |
| | Jun | Jaco’s 70th Birthday conference, Oklahoma State University |
| | Mar | MSRI Research workshop: Homology theories of Knots and Links, Berkeley |
| | Feb | MSRI Academic Sponsors meeting, Berkeley |
| | Jan | MSRI Introductory workshop: Homology theories of Knots and Links, Berkeley |
| | Jan | MSRI Connections for Women workshop: Homology theories of Knots and Links, Berkeley |
| | Jan | AMS Joint National meeting, San Francisco |
| 2009 | Nov | First National Forum of Young Topologists, Tulane |
| | Oct | Math/Stats Colloquium, Colby College |

Invited Conference/Colloquium Talks:

- 2009 Jun Scharlemann's 60th Birthday conference, UC, Davis
- Apr AMS Sectional Meeting, North Carolina State University
- Mar Banff 5-day workshop, Banff International Research Station
- Feb Colloquium, University of Massachusetts, Amherst
- Jan Colloquium, Syracuse University
- Jan Colloquium, University of Iowa
- Jan Colloquium, University of California, Santa Cruz
- Jan Colloquium, Boston College
- Jan Colloquium, Tulane University
- Jan Colloquium, Rice University
- 2008 Dec Colloquium, University of Southern California
- Nov Colloquium, Wesleyan University
- Oct Modern Math Workshop, Salt Lake City
- Aug Holomorphic Curves Workshop, Stanford University
- Jun Jerry Levine Memorial Conference, Brandeis University
- Mar AMS Sectional Meeting, Louisiana State University
- 2007 Oct Colloquium, University of Nevada, Reno
- Sep Colloquium, Bryn Mawr University
- May Georgia Topology Conference, University of Georgia
- Mar Banff 5-day Workshop, Banff International Research Station
- 2006 Nov Ron Fintushel's 60th Birthday Conference, Tulane University
- Oct Texas Geometry and Topology Conference, Rice University
- 2005 Nov Colloquium, Bryn Mawr University

Invited Seminar Talks:

- 2017 Mar Geomery & Topology seminar, Imperial College
- Mar Geometry & Topology seminar, University of Glasgow
- Mar Diff. Geometry & Topology seminar, Cambridge University
- Feb Geometry seminar, Massachusetts Institute of Technology
- 2016 Oct Valley Geometry seminar, University of Massachusetts, Amherst
- Sep Gauge theory and Topology seminar, Harvard University
- 2015 Feb Gauge theory and Topology seminar, Harvard University
- 2013 Dec Geometry/Topology seminar, University at Buffalo, SUNY
- Nov Symplectic Geometry and Categorification seminar, Columbia University
- Nov Gauge theory and Topology seminar, Harvard University
- Oct Geometry/Topology seminar, University of Southern California
- Sep Topology seminar, Michigan State University
- May Topology seminar, Northwestern University
- Apr Mathematics seminar, Smith College
- Mar Topology seminar, Caltech
- 2012 Sep Topology seminar, Simons Center for Geometry & Physics
- Apr Symplectic geometry seminar, Columbia University
- Mar Philadelphia area Geometry-Topology seminar, University of Pennsylvania
- Jan Topology seminar, UC San Diego
- 2011 Oct Topology seminar, Dartmouth University
- Oct Topology seminar, Wesleyan University
- 2010 Nov Research seminar in mathematics, Northeastern University
- Oct Topology seminar, Brandeis University
- Sep Gauge Theory and Topology seminar, Harvard University
- Jan Algebra-Geometry-Combinatorics seminar, San Francisco State University

Invited Seminar Talks:

- 2009 Oct Topology seminar, University of California, Berkeley
Oct Geometry seminar, Boston University
Sep Geometry seminar, Massachusetts Institute of Technology
Sep Topology seminar, Tufts University
Sep Topology seminar, Boston College
Apr Topology seminar, University of Virginia
- 2008 Dec Topology seminar, Princeton University
Nov Topology seminar, University of Texas, Austin
Apr Topology seminar, Michigan State University
Apr RTG Lecture, Michigan State University
Mar Topology seminar, University of Georgia
- 2007 Oct Topology seminar, University of California, Berkeley
Feb Symplectic Geometry Seminar, Columbia University
Feb Geometry/Topology Seminar, Université du Québec à Montréal
Jan Topology Seminar, Georgia Institute of Technology
- 2006 Nov Geometry Seminar, Massachusetts Institute of Technology
Oct Topology Seminar, University of Texas, Austin
Oct Topology Seminar, Lafayette College
Jun Topology Seminar, Rice University
May Topology Seminar, University of California, Santa Barbara
Mar Topology Seminar, Princeton University
Mar Topology Seminar, University of Pennsylvania
- 2005 Aug Topology Seminar, Indiana University

Teaching:

Boston College

- MT 880, Graduate Differential Geometry, Instructor
- MT 855, *Braids, surfaces, 4-manifolds, and homology-type invariants*, Instructor, Spring 2016
- MT 210, *Linear Algebra*, Instructor, Spring 2015
- MT 831, *Graduate Algebraic Topology II*, Instructor, Fall 2014
- MT 855, *Applications of homology-type invariants in low-dimensional topology*, Spring 2014
- MT 216, *Introduction to Abstract Mathematics*, Instructor, Fall 2015, Fall 2013, Spring 2013, Spring 2012
- MT 808, *Graduate Algebraic Topology I*, Instructor, Fall 2011
- MT 210, *Linear Algebra*, Instructor, Fall 2010
- MT 105, *Honors Single-variable Integral Calculus*, Instructor, Fall 2009

Columbia University

- Calculus IV, *Multivariable Calculus*, Instructor, Spring 2009
- Undergraduate Topics in Geometry, *Knot Theory*, Instructor, Fall 2008
- REU, *Tower of Hanoi*, Co-Instructor (with J. Behrstock), Summer 2008
- Calculus IV, *Multivariable Calculus*, Instructor, Spring 2007

UC, Berkeley

- Math 55, *Discrete Mathematics*, Graduate Student Instructor, Fall 2004
- Math 110, *Upper-Division Linear Algebra*, GSI, Spring 2004
- Math 113, *Upper-Division Abstract Algebra*, GSI, Spring 2003
- Math 32, *Precalculus*, GSI, Fall 2002
- Math 54, *Lower-Division Linear Algebra*, GSI, Spring 2002
- Math 1A, *Calculus*, GSI, Fall 2001

Community/University Service:

- 2015–pres **AWM Boston College chapter**, *Faculty advisor*
- 2011–pres **Boston College Mathematics Society**, *Faculty advisor*
Organized information sessions on *Careers in mathematics, Research Experience for Undergraduates (REUs)* and *Applying to graduate school*,
Organized undergraduate lectures by local professionals on data science, information security, statistics in the health sciences
- 2008–pres **Girls' Angle**, *Board of directors*
Developed web content and provided operational advice for growing non-profit that encourages young women's interest in mathematics through mentorship and outreach:
www.girlsangle.org
- Fall 2017 **Learning seminar on the mathematics of neural networks**, *Lead organizer and lecturer*
Approx. 10 regular attendees with a diverse set of interests
(topology, number theory, dynamics, statistics, linguistics)
Blog: *iamalearningcomputer.blogspot.com*
- Oct 2016 **MIT Women in Math Lunch**, *Guest speaker*
- Jun 2016 **BC Provost's Research & Scholarship Integrity seminar**, *Panelist, Ethics of Peer Review*
- Apr 2016 **Harvard Women in Math and Statistics Conference**, *Panelist, Gender Gap Discussion*
- Jun 2013 **Association for Women in Science**, *Resume round table reviewer*
Reviewed CVs and offered advice during a 4-hour resume round table event
- May 2013 **BC Math Department Awards Ceremony**, *Speaker*
Gave 20 minute math presentation at departmental awards ceremony
- Sep 2011 **Math Prize for Girls**, *Panel discussion moderator*
Led a panel discussion showcasing nationally recognized math enrichment programs
- Aug 2010 **Hampshire College Summer Studies in Mathematics**, *Guest lecturer*
Lectured on elementary topology to talented high-school students
- May 2010 **Girls Inc**, *Guest instructor*
Led an hour-long discussion on topology with elementary schoolers in after-school program

Postdoctoral Mentorship:

- 2017 - pres **Patrick Orson**, Postdoctoral scholar, Boston College
Sum 2014 **Hoel Queffelec**, Visiting exchange scholar, Boston College
2010 - 2012 **Daniel Mathews**, Postdoctoral scholar, Boston College

Graduate Mentorship:

- Fall 2016 **Siddhi Krishna**, *Candidacy exam*, Boston College
Spr 2016 **Kyle Hayden**, *Candidacy exam*, Boston College
Sum 2015 **Lev Tovstopyat-Nelip**, *Candidacy exam*, Boston College
2014 - 2015 **Merve Cengiz**, *Sponsoring scientist*, Boston College
Spr 2014 **Joshua Batson**, *Dissertation defense committee*, MIT
2014, 2016 **Adam Saltz**, *Candidacy exam, Dissertation defense committee*, Boston College
Sum 2012 **Beth Romano**, *Reading course*, Boston College
Jul 2012 **Candice Price**, *Dissertation defense committee*, University of Iowa
May 2011 **Allison Gilmore**, *Dissertation defense committee*, Columbia
May 2010 **Thomas Peters**, *Dissertation defense committee*, Columbia

Undergraduate Mentorship:

- Sum 2017 **Haoyuan Jiang**, *Summer research mentor, BC*
Tian Ye, *Summer research mentor, BC*
Spr 2016 **Jian Zhou** (USC PhD program, Math), *Readings & research course, BC*
Sum 2015 **Sarah Collins** (Georgia Tech PhD program, Math), *Summer research mentor, BC*
Christopher Coscia (Dartmouth PhD program, Math), *Summer research mentor, BC*
Sum 2013 **Ga Yee Park**, (U Mass, Amherst PhD program, Math), *Summer research mentor, BC*
Filip Piasevoli (Harvard Masters, CS), *Summer research mentor, BC*
Zachary Skarka, *Summer research mentor, BC*
Spr 2013 **Octavio Freitas**, *Readings & research course, BC*
Sum 2011 **Lisa Piccirillo** (UT, Austin PhD program, Math), *Summer research mentor, BC*
Invited with full financial support to present results at *Young Mathematician's Conference 2011* at Ohio State University
Awarded NSF graduate research fellowship, 2013
Spr 2009 **So Eun Park**, *Honors thesis advisor, Columbia*
The Group of Symmetries of the Tower of Hanoi Graph
Published in *American Mathematical Monthly*, (2010) Vol. 117, No. 4
Spr 2009 **Michael Rand**, *Honors thesis advisor, Columbia*
On the Frame-Stewart Algorithm for the Tower of Hanoi

Referee/Reviewer:

Advances in Mathematics
Algebraic & Geometric Topology (x 3)
American Journal of Mathematics
Communications in Contemporary Mathematics
Duke Mathematical Journal
Fundamenta Mathematicae
Geometry & Topology (x 2)
Geometry & Topology Monographs
International Mathematics Research Notices
Journal of Differential Geometry
Journal of Symplectic Geometry
Journal of Topology
Mathematical Research Letters
Michigan Journal of Mathematics
Quantum Topology
Proceedings of the American Mathematical Society
Topology & its Applications
Zentralblatt MATH (x 2)

Dissertations supervised:

- May 2019 (exp.) **Melissa Zhang**, *Boston College*, co-supervised with D. Treumann
Aug 2018 (exp.) **Dongtai He**, *Boston College*
May 2017 **Ian Banfield**, *Boston College*
Staircases, baskets, and sutured Khovanov homology
Placement: Postdoc, Penn State University
May 2016 **Diana Hubbard**, *Boston College*
Properties and applications of the annular filtration on Khovanov homology
Placement: Postdoc, University of Michigan