CONTACT INFORMATION	Department of Mathematics & Statistics Sam Houston State University 1900 Avenue I Suite 420 Huntsville, TX 77340 USA	*Phone:* (610) 442-4559 *E-mail:* taylor.martin@shsu.edu

RESEARCH INTERESTS

Low dimensional topology, in particular, knot and link theory.

EMPLOYMENT

Sam Houston State University, Huntsville, Texas, USA

Assistant Professor, Mathematics.

EDUCATION

Rice University, Houston, Texas USA

Ph.D., Mathematics, May 2013.

Dissertation Topic: "Lower order solvability of links"
Advisor: Dr. Shelly Harvey

M.A., Mathematics, December 2010.

University of Rochester, Rochester, New York USA

B.S., Mathematics, May 2007.
High Distinction
B.A., Music, May 2007.
Distinction

HONORS AND AWARDS

2013 - 2014 Project NExT Fellow.

2013 Texas Section NExT Fellow.

NSF Vertical Integration of Research and Education in Mathematical Science Fellowship, Rice University, 2010-2012.

Graduate Fellowship, Rice University, 2007-2010, 2012 - 2013.

Rush Rhees Scholarship, University of Rochester, 2003 - 2007.

PUBLICATIONS AND PREPRINTS

Martin, T. and Otto, C. *Splittings of link concordance groups. Journal of Knot Theory and its Ramifications.* Volume 26, Number 2. February 2017.

Brelsford, C., Martin, T., and Bettencourt, L., *Optimal reblocking as a practical tool for neighborhood development.* to appear in Environment and Planning B: Urban Analytics and City Science.

Martin, T. *Classification of links up to 0-solvability.* In review. Available at http://arxiv.org/abs/1511.00156

Davis, C., Martin, T., Otto, C., and Park, J. *Every genus one algebraically slice knot is 1-solvable.* In review. Available at http://http://arxiv.org/abs/1606.00479

Brelsford, C., Martin, T., Hand, J., and Bettencourt, L. *Towards Cities without Slums: Topology and the spatial evolution of neighborhoods.* In review.

TEACHING EXPERIENCE

Undergraduate Research Advising
SAM REU, Supervised 6 undergraduate students, Summer 2015.
Undergraduate Research independent study with one student, Spring 2015.

Faculty, Sam Houston State University
Math 1332: College Mathematics.
Math 1420: Calculus 1.

Math 3300: Introduction to Math Thought.
Math 4377: Algebraic Structures.
Math 4370: Topics in Knot Theory and Topology.
Math 6332: Introduction to Topology

Training and Professional Development
2014 Project NExT Workshop, Portland, OR. August 5, 2014.
Project NExT at the 2014 Joint Mathematics Meetings, Baltimore, MD. January, 2014.
Teaching an Applied Topology Course mini-course at the 2014 JMM, Baltimore, MD. January 2014.
2013 Project NExT Workshop, Hartford, CT. August 6 - 9, 2013.
Teaching to Stimulate Learning at the College Level, Rice University, August 16 - 18, 2012.
Scientia Conference on Research and Innovation in Undergraduate Science and Engineering Education, Rice University, February 11 - 12, 2011.
Effective College Teaching Workshop, Rice University, August 19 - 20, 2010.
Graduate Teaching Seminar, Rice University, 2007-2009.

INVITED TALKS

Lower order quotients in the n-solvable filtration; Conference on 4-manifolds and knot concordance; Max Plank Institute for Mathematics, Bonn, Germany; October 17 - 21, 2016.

Knots and Links in 4 Dimensions, Colloquium, Santa Fe Institute, August 12, 2015.

Structure in Lower Order Quotients of the n-Solvable Filtration, Session on Knot Theory, Joint Mathematics Meetings, San Antonio, TX, January 2015.

Algebraic and geometric properties of links, STEM Colloquium, University of Wisconsin at Eau Claire, March 7, 2014.

Lower order solvability of links, Session on Knot Theory, Joint Mathematics Meetings, San Diego, CA, January 2013.

Lower order solvability of links, Mathematics Department Colloquium, Texas Christian University, November 2, 2012.

Classification of 0-solvable links and results about 0.5-solvability, Special Session on Knot Theory and 4-Manifolds, AMS Fall Section Meeting, Akron, OH, October 20, 2012.

Classification of 0-solvable links, Special Session on Low-Dimensional Topology, AMS Spring Section Meeting, Tampa, FL, March 12, 2012.

Classification of 0-solvable links, Special Session on Knot Theory, Joint Mathematics Meetings, Boston, MA, January 5, 2012.

Classification of 0-solvable links, Low-Dimensional Topology and Geometry, AMS Fall Section Meeting, Wake Forest, September 24, 2011.

Geometric moves preserving 0.5-solvability, Graduate Students in Topology and Geometry Conference, Michigan State University, April 2, 2011.

SELECTED TALKS AND PRESENTATIONS

Justification and proof-writing in Calculus 1 through group homework assignments., Session on The Creation and Implementation of Effective Homework Assignments, Joint Mathematics Meetings, Atlanta, GA, January 6, 2017.

Links up to 0-solvability, Mathematics & Statistics Colloquium, Sam Houston State University, November 11, 2015.

Lower order solvability and Milnor's invariants, Stulken Seminar in Topology, Rice University, September 24, 2012.

Gropes and Whitney towers, Current Mathematics Seminar, Rice University, April 19, 2012.

Branched covers of surfaces in 4-manifolds, VIGRE Topology Seminar, Rice University, February 21, 2012.

The Casson invariant from Saveliev's Lectures on the Topology of 3-Manifolds, VIGRE Topology Seminar, Rice University, December 6, 2011.

Classification of Algebraically split links up to 0-solve equivalence, Topology Seminar, Rice University, October 31, 2011.

The n-solvable filtration of the link concordance group, Undergraduate-Graduate Research Mixer, Rice University, October 7, 2010.

Clasp-pass moves on knots, links, and spatial graphs, VIGRE Topology Seminar, Rice University, August 17 & 24, 2010.

The L^2 signature of torus knots, VIGRE Topology Seminar, Rice University, February16, 2010.

The h-cobordism theorem: part II, Current Mathematics Seminar, Rice University, January 21, 2010.

SERVICE

Organizer, *Faculty Teaching Colloquium*, Sam Houston State University, Fall 2015 - present.
    Launched a monthly faculty seminar supporting innovation in teaching for all mathematics and statistics faculty.

Organizer, *Operation: Math Girls*, Sam Houston State University, February 20, 2016.
    Planned, orchestrated, and secured funding for OMG day for high school girls.

Organizer, *Operation: Math Girls*, Sam Houston State University, November 8, 2014.
    Planned and orchestrated the inaugural OMG day for high school girls.

Organizer, *Special session on Knot Concordance and 4-Manifolds* , Fall Central Meeting of the AMS, University of Wisconsin-Eau Claire, September 2014.

Organizer, *Methods of teaching an Introduction to Proofs Course*, Project NExT panel discussion, Project NExT Workshop, Portland, OR, August 2014.

Panelist, *Women in STEM Careers*, Sonia Kovalevsky Day, University of Wisconsin at Eau Claire, Eau Claire, WI, March 8, 2014.

Faculty representative and breakout session facilitator, Nebraska Conference for Undergraduate Women in Mathematics, University of Nebraska Lincoln, February 1 - 2, 2014.

Organizer, *Tried and true practices for IBL and active learning*, Project NExT panel discussion, Joint Mathematics Meetings, January 2014.

Panelist, *Careers in Mathematics*, Texas Undergraduate Mathematics Conference, St. Mary's University, San Antonio, TX, October 26, 2013.

Co-founder and Vice-President, Association for Women in Mathematics, Rice University, 2011 - 2013.
    Launched Rice University chapter of the AWM. Organized professional, outreach, and social events each semester.

Rice Mathematics Institute for Young Women, Rice University, 2011 - 2012.

Coordinator of Visiting Prospective Graduate Students, Department of Mathematics, Rice University, 2010 - 2012.

Mathematics Leadership Institute, Rice University School Mathematics Project, 2009 - 2010.

Girls Exploring Math and Science, Houston Muesum of Natural Science, Houston, TX, Febraury 11, 2012. Co-presenter, *Cracking the code*.
    Directed a booth on cryptography for local girl scouts.

Girls Exploring Math and Science, Houston Museum of Natural Science, Houston, TX, February 19, 2011. Co-presenter, *What color are your M&M's?*.
    Directed a booth teaching the statistics of M&M colors for local girl scouts.

Sally Ride Science Festival, Rice University, November 6, 2010. Presenter, *Fun with Tiling*.
    Facilitated sesions on tiling of the plane to school aged girls.

Kite Pyramids, Wilson Intermediate School, Aldine ISD, Houston, TX, May 6, 2009.
    Co-facilitated hands-on mathematics instruction on polygons, angles, and solids to sixth-grade students.

Fall Networking Conference, Rice University School Mathematics Project, Pin Oak Middle School, Houston, TX, September 19, 2009, September 11, 2010.
    Assisted in running networking conference for Houston primary and secondary math teachers.

Spring Networking Conference, Rice University School Mathematics Project, Pin Oak Middle School, Houston, TX, February 6, 2010, January 29, 2011.

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Research Experience for Undergraduate Faculty, Duke University, July 18 - 22, 2016.

Topology in Dimension 3.5, Rice University, June 1 - 4, 2016.

MPWR Workshop, Pittsburgh, PA, February 25, 2016.

Joint Mathematics Meetings, San Antonio, TX, January 11 - 13, 2015.

Fall Central Section Meeting, University of Wisconsin-Eau Claire, Eau-Claire, WI, September 20 - 21, 2014.

Project NExT Workshop and MathFest, Portland, OR, August 2014.

Joint Mathematics Meetings, Baltimore, MD, January 14 - 18, 2014.

Project NExT Workshop and MathFest, Hartford, CT, August 2013.

3-Manifolds Conference, Rice University, Houston, TX, April 19 - 21, 2013.

Spring Southeastern Section Meeting, University of Southern Florida, Tampa, FL, March 10 - 11, 2012.

Joint Mathematics Meetings, Boston, MA, January 4 - 7, 2012.

Fall Southeastern Section Meeting, Wake Forest University, Winston-Salem, NC, September 24 - 25, 2011.

Ninth Annual Graduate Student Topology and Geometry Conference, Michigan State University, East Lansing, MI, April 2 - 3, 2011..

Undergraduate-Graduate Research Mixer, Rice University, October 7, 2010.

William Rowan Hamilton Geometry and Topology Workshop, Hamilton Mathematics Institute, Trinity College, Dublin, Ireland, September 2010.

Eighth Annual Graduate Student Topology and Geometry Conference, University of Michigan, Ann Arbor, MI, April 10-11, 2010.

Georgia International Topology Conference, University of Georgia, Athens, GA, May 2009.

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