

Brian M. Loft

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Education

Ph.D. Mathematics, University of Oregon, Eugene, 2004.

Dissertation: “Connected components of the space of positive scalar curvature metrics on spheres.” Advisor: Dr. Boris Botvinnik.

M.S. Mathematics, Southwest Texas State University, San Marcos, December 1998.

B.S. Mathematics, Louisiana Tech University, Ruston, November 1993.

Professional Experience

Faculty Administrative Fellow, Fall 2017 – present.

Division of Academic Affairs, Sam Houston State University.

Interim Exec. Dir., Academic Success Center, Fall 2017 – present.

Division of Academic Affairs, Sam Houston State University.

Chair of Department of Mathematics & Statistics, Fall 2012 – Summer 2017.

Department of Mathematics and Statistics, Sam Houston State University.

Associate Professor, Fall 2011 – present.

Department of Mathematics and Statistics, Sam Houston State University.

Assistant Professor, Fall 2004 – Spring 2010.

Department of Mathematics and Statistics, Sam Houston State University.

Graduate Teaching Fellow, Fall 1999 – Spring 2004.

Department of Mathematics, University of Oregon.

Visiting Instructor, Spring 1999.

Department of Mathematics, Concordia University, Austin, TX.

Actuary, October 1994 – November 1995.

FIC Insurance Group, Austin, TX.

Peer-Reviewed Publications

Loft, B., Review of *The Cult of Pythagorus: Math and Myths* by Alberto Martínez, *MAA Monthly*, **121**, No. 8.

Loft, B., “Differential calculus”, *J. Inquiry-Based Learning Math.*, No. 31, 2013.

Loft, B., “A new model to use when teaching Euclidean geometry”, *Teaching Mathematics and its Applications*, Vol. 30, No. 2, 95-106 (2011).

Garcia, R., Lane, M. and Loft, B., “Algebraic combinatorics of diametric magic circles”, *Math. Comput. Simul.*, **82**, No. 1, 2011.

Loft, B. and Scariano, S., “A serendipitous path to Taylor’s theorem”, *Mathematics and Computer Education*, **44**, No. 2, 105-114 (2010).

Loft, B., “A generalization of a result of Hajduk concerning positive scalar curvature”, *JP Journal of Geometry and Topology*, Vol. 8, No. 3, 2008.

Loft, B. and Snow, J., “A genetic algorithm for drawing ordered sets,” *Texas College Mathematics Journal*, Vol. 3, 2006.

Loft, B., Lutterschmidt, W., Grey, C., “A species-specific model for computing surface area to volume ratio of snakes”, in preparation

Loft, B., Williams, D., Green, J., “An algorithm for the determination of HSP for Cleaning Applications”, in preparation

Synergistic Publications

Loft, B. and Holt, M., “Increasing STEM graduation rates at SHSU”, to appear in *Int. J. of App. Geospatial Research*, Vol. 1, Issue 3, 2010.

Honors, Grants & Awards

NSF IUSE grant (DUE-1725674), PI, awarded \$2,030,000 in 2017.

The STEM Center at SHSU will use evidence-based strategies to improve student preparation, faculty teaching efforts, and undergraduate research efforts in STEM disciplines.

TSUS Chancellor’s Faculty Fellowship, \$30,000 awarded June 2017-May 2018.

Will work with system-level academic affairs office to examine STEM student success efforts across the system, with an emphasis on active learning and mathematics pathways.

AASCU Frontier Set grant, PI, awarded \$640,000 in Spring 2017.

A 5-year program to improve advising, developmental & online education across campus.

THECB FOCUS grant, PI, awarded \$36,000 in Fall 2012.

A training grant for co-enrolled developmental math courses.

NSF S-STEM grant (11-54018), Co-PI, awarded \$600,000 in Spring 2012.

A research & scholarship grant meant to increase the retention of STEM majors.

NSA RE-12 grant (Math-0512-hawaii-2- 111013), Co-PI, \$21,000, awarded 2012.

Funds to be used as a supplement to MCTP funds.

NSF MCTP grant (09-598), Co-PI with R. Garcia, awarded \$765,798 in 2011.

A \$1.2 mill. collaborative hybrid REU site with the University of Hawai’i - Hilo.

Educational Advancement Foundation, PI, awarded \$4,500 in Fall 2010.

Used to develop IBL course notes for a differential calculus course.

NSF S-STEM grant (07-524), PI, awarded \$600,000 in 2008.

A research & scholarship grant meant to increase the retention of STEM majors.

Dept. of Energy, B & W Pantex, Co-PI with D. Williams, awarded \$100,000, 2008.

A project to optimize the solubility of polymers using Hansen solubility parameters.

Enhancement Grant for Research, Co-PI with R. Garcia, awarded \$18,000 in 2009.

A planning grant for the pending NSF REU proposal submitted in October 2009.

Center for Undergraduate Research in Mathematics, PI, awarded \$16,000 in 2008.

An undergraduate research and travel grant for the PI and three students.

Educational Advancement Foundation, PI, awarded \$7,170 in Fall 2004.

Used to develop IBL course notes for a *Mathematica*-assisted linear algebra course.

Research Interests

Differential topology, with emphasis on Surgery and Cobordism theories, both smooth and discrete. In particular, the affects of topology on the existence and structure of metrics of positive scalar curvature.

Synergistic Activities

Attempted (twice) to establish a bio-mathematics Bearkat Learning Community with then Associate Dean Keri Rogers.

Memberships

American Mathematical Society Member, 1996 – present.
Mathematical Association of America Member, 1996 – present.
Society of Actuaries, 1994 – 1995.

**Highlights
of Service
Activities****University Service**

Member, Honors Council of Bowers Honors College, Fall 2014 – present
 Member, Faculty Senate, Fall 2005 – Spring 2010.
 Member, University Affairs Committee of Senate, Fall '05 – Spring '08 (chair for 1 year).
 Member, Faculty Affairs Committee of Senate, Fall '08 – Spring '10 (chair for 1 year).
 Member, President's QEP Committee, Fall '08 – Fall '09.
 Designed the Foundations of Science course as part of SACS assessment.
 Attendee, annual meeting of TX Council of Faculty Senates, Austin, Spring 2008.
 Attendee of the TAMEST conference, San Antonio, Spring 2010.
 The annual meeting of The Academy of Medicine, Engineering, and Science of Texas.
 Faculty mentor (for student C. Combs) through FLASH Mentor program, 2008 – 2009.

College Service

Member, College Curriculum Committee, Fall 2016 – present, Spring 2011 – Spring 2013
 Member, search committee for Dean of College of Science, Fall 2011-Spring 2012.
 Instructor, GRE prep course, many times.
 Designed both 4- and 6-hour tutorial for students preparing for the GRE examination.
 Judge, SHSU Academic Challenge, annually 2004-2009.
 Moderator, UIL competition, Spring 2008 & 2009.
 Performed analysis of recent enrollment data in our remedial courses (MTH 031/032).
 Compiled IR data on enrollment, retention, and graduation rates of remedial students.
 Served on the doctoral committee of Kevin Perry, Dept. of Philosophy and Psychology

Departmental Service

Chair of department, Fall 2012 – Summer 2017.
 Member, Departmental Hiring Committee, 14 of the first 16 semesters at SHSU.
 Coordinator of Teaching Assistants, Fall 2005 – Spring 2007
 Held weekly seminars to improve effectiveness, made assignments for TA duties.
 Coordinator of undergraduate tutoring lab, Fall 2005 – Spring 2008
 Recruit, assign, and organize undergraduates for math tutoring lab.
 Coordinator of undergraduate employees, Fall 2005 – present
 Recruit, assign, and organize undergraduate graders.
 Representative of Mathematics Department during Saturdays@Sam, several semesters.
 Taught rest of MTH 377 after Dr. Andras Kroo left with health troubles, Spring 2009.
 Instructor of independent study courses for 1-2 students
 Spring 2008 (MTH 477), Fall 2008 (MTH 363), Spring 2009 (MTH 470 & MTH 363),
 Spring 2011 (MTH 470), Spring 2012 (MTH 560)
 Sponsor of a weekly study session for two students studying for first actuarial exam (P1).
 Advisor, student chapter of MAA, Fall 2009 – Spring 2010

Professional Service

Panel reviewer, NSF IUSE program, Spring 2015.

Panel reviewer, NSF S-STEM program, Spring 2008, Fall 2008, Fall 2009.

Panel reviewer, NSF MSP program, Spring 2008.

Each panel is 3-5 days in Washington, DC.

Panel reviewer, NIH Challenge grants, Summer 2008.

Panelist during “The First Year Experience as as Faculty Member”, MathFest, 2005.

Panel of Experienced Graduate Students, September 2002.

Advised incoming graduate students on teaching, choosing an advisor, other aspects.

Judge at undergraduate poster session, Joint meetings, 2004-2015.

Community Service

Instructor of English for non-native speakers, Huntsville Literacy Council, Spring 2009.

References

Dr. Jaimie Hebert, President
Georgia Southern University
912-478-5211
president@georgiasouthern.edu
Former dept. chair, dean, & provost

Dr. Jerry Cook, Assoc. V.P.
ORSP at SHSU
936-294-3620
jcook@shsu.edu
Colleague

Dr. Melinda Holt
SHSU Professor of Statistics
936-294-4859
mholt@shsu.edu
Assoc. chair, chair-elect of dept.

Dr. John Pascarella, Dean
SHSU College of Sciences & Engr. Tech.
936-294-1401
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Current supervisor