

Michael S. Gagliardo

Education

Ph.D., Mathematics, *University of Texas at Austin*, Advisor: Karen Uhlenbeck (2007)

M.A., Mathematics (Operations Research), *University of Texas at Austin* (2000)

B.S., Mathematics (minor: Physics), *Southwestern University* (1998)

Professional Experience

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| <i>California Lutheran University</i> | 2011-Present |
| Associate Professor | |
| <i>Jacksonville University</i> | 2007-2011 |
| Assistant Professor | |
| <i>University of Texas at Austin</i> | 1998-2000, |
| Lecturer, Mathematics Ombudsman, Assistant Instructor, Teaching Assistant | 2002-2007 |
| <i>Tarrant County Community College</i> | 2001 |
| Adjunct Instructor | |
| <i>UICI-Dallas, TX</i> | 2000-2002 |
| Information Administrator, Actuarial Assistant | |

Publications

- *3D Printing Chaos, Proceedings of Bridges: Mathematics, Music, Art, Architecture, Culture (2018)* (accepted)
- *Geometric aspects of the Kapustin-Witten equations*, with Karen Uhlenbeck, J. Fixed Point Theory Appl. **11** (2012) 185-198 DOI 10.1007/s11784-012-0082-3
- *The higher flows of harmonic maps and an application to the Virasoro action*, J. Math. Phys. **49**, 113501 (2008)

Research Interests

Mathematical 3D-Printing, Sudokus, Inquiry Based Learning, Mathematics of Architecture, Differential Geometry

Awards, Fellowships and Grants

Faculty Research and Creative Works Grant (2016-2017) (\$5,000)

Research for Undergraduate Faculty Fellow Continuation Grant, (Summer 2015)

Research for Undergraduate Faculty Fellow, (Summer 2014)

Excellence Award in Teaching, Jacksonville University (2009-2010)

Academy of Inquiry Based Learning small grant (2009-2010) (\$3,500)

Pre-tenured Faculty Learning Community Fellow (2009-2010)

Project NExT Fellow – Red Dot 08 (2008-2009)

Dodd Teaching Excellence Fellow (1999-2000)

Committees and Service

Faculty Executive Committee Chair (Fall 2018-Fall 2019)

Faculty Affairs and Development Committee member (Fall 2016 - Spring 2018)

Chemistry Assistant Professor search (Fall 2015, Fall 2016)

Student Life Committee Chair (Fall 2015 - Spring 2016)

EPPC-General Education Subcommittee Chair (Fall 2013 - Spring 2015)

Thousand Oaks Math Teachers' Circle leadership group (Spring 2012-present)

EPPC-General Education Subcommittee member (Fall 2012-Spring 2013)

Mathematics Club faculty advisor, CLU (2012-present)

Co-Organizer First Coast Meeting of the Florida Section of the MAA (2011)

University Curriculum committee member, Jacksonville University (2010-2011)

Visiting Assistant Professor Search Committee, Chair, Jacksonville University (2009)

Math Society faculty advisor, Jacksonville University (Fall 2009-2011)

Project NExT: Pre-tenure Review Panel co-organizer, MathFest, (2009)

Project NExT: Scholarship of Teaching and Learning Panel co-organizer, Joint meetings (2009)

Science and Engineering Lecture Series (SELS) organizer (2008-2011)

Student Life University committee member, Jacksonville University (2008-2010)

Florida and Georgia Academy of Science poster session organizer (2008)

Instructor Search Committee, Jacksonville University (2008)

Math Madness newsletter editor, Jacksonville University (2007-present)

Science Advisor, *Picasso at the Lapine Agile: a Reader's Play*, Jacksonville University (2007)

Honor Societies

Pi Mu Epsilon

Presentations (2007-present)

“3D Printing Chaos”, April 2019, CLU Mathematics Seminar

“Mathematical 3D Printing”, November 2018 Susan Greiser Price Arts and Learning Symposium:
From STEM to STEAM

“3D Printing Chaos”, Bridges Conference, July 2018

“Mathematics of Mixing and Matching”, Thousand Oaks Math Teachers' Circle, May 2018

“Fractals: Mathematics between Dimensions”, Thousand Oaks Math Teachers' Circle, March 2018

“3D Printed Surfaces in an IBL Multivariable Calculus Course”, Joint Meetings of the MAA/AMS,
San Diego, January 2018

“Using 3D Printed Surfaces in an Inquiry Style Multivariable Calculus Course”, Construct3D, Duke

University, May 2017

“Barcelona Through the Looking Glass: A travel seminar on Mathematics, Architecture, and Detective Fiction.”, Joint Meetings of the MAA/AMS, Atlanta, January 2017

“A Writing Intensive Geometry Course” (poster), HHMI-SU Transforming STEM Pedagogy, Southwestern University, Summer 2016

“The Wind and Mr. Ug: An exploration of Mathematical Worlds”, Thousand Oaks Math Teachers’ Circle, April 2015

“Flipping Linear Algebra”, Mathfest, Portland, August 2014

“Taxi-Cab Geometry”, Legacy of R.L. Moore Conference, June 2014

“Mathematics of Gaudi”, CLU, March 2014

“The Mathematics of why Maps Look Strange”, CSU Channel Islands, March 2014

“Circles and Squares”, Thousand Oaks Math Teachers’ Circle, November 2013

“The Mathematics of Gaudi”, CSU San Bernardino, October 2013

“Using wiki’s in the Class”, Center for Teaching and Learning, CLU, September 2013

“The Mathematics of Gaudi”, CSU Channel Islands, March 2013

“Are you sure its a circlce?”, Thousand Oaks Math Teachers’ Circle, February 2013

“Khan Academy/Active Learning”, Joint Meetings of the MAA/AMS, San Diego, January 2013

“Technology and Inquiry Based Learning”, Center for Teaching and Learning, CLU, October 2012

“Map Projections: The Geometry of Why Maps Look Strange”, CSU San Bernardino, March 2012

“Taxi-Cab Geometry”, Thousand Oaks Math Teachers’ Circle, February, 2012

“Comparison of Student Performance between IBL and Lecture Methods”, Joint Meetings of the MAA/AMS, New Orleans, January 6th, 2011

“Inquiry Based Learning in an Introductory Proofs Course”, JU Symposium, March 2010

“Faculty Learning Communities at Jacksonville University”, Scholarship of Teaching and Learning Commons Conference, University of Southern Georgia, March 2010

“Inquiry Based Learning using the Moore Method”, First Coast Meeting of the Florida Section of the MAA, University of North Florida, January, 2010

“Geometry in Differential Equations”, Florida State University, October 2009.

“Interesting Applets for Calculus”, First Coast Meeting of the Florida Section of the MAA, University of North Florida, January, 2009

“Infinity”, Philosophy Slam, Jacksonville University, March 2009

“Higher Flows of Harmonic Maps”, Joint Meetings of the MAA/AMS, Washington, DC., January 2009

“Solving Differential Equations using Geometric Techniques”, Science and Engineering Lecture Series, Jacksonville University, February 2008.

“A Loop Algebra Projection and some Applications” Thesis Defense (UT Austin), April, 2007

Conferences Attended (2007-present)

Susan Greiser Price Arts and Learning Symposium: From STEM to STEAM, November 2019
Bridges Conference, Stockholm, Sweden, July 2018
Joint Meetings of the MAA/AMS, San Diego, CA, January 2018
Construct3D, Duke University, May 2017
Joint Meetings of the MAA/AMS, Atlanta, GA, January 2017
Transforming STEM Pedology Through Active Learning, Southwestern University, June 2016
Mathfest, Portland, OR, August 2014
Research Experiences for Undergraduate Faculty, American Institute of Mathematics, July 2014
17th Annual Legacy of R.L. Moore Conference, Denver, CO, June 2014
Pacific Coast Undergraduate Mathematics Conference, Pepperdine University, March 2014
16th Annual Legacy of R.L. Moore Conference, Austin, TX, June 2013
Joint Meetings of the MAA/AMS, San Diego, CA, January 2013
MAA PREP Workshop: Inquiry Based Learning, Santa Barbara, CA June 2012
15th Annual Legacy of R.L. Moore Conference, Austin, TX, June 2012
SCGAS XIX, UC Irvine, January 2012
Joint Meetings of the AMS-MAA, Boston, MA, January 2012
SoCal Sectional Meeting of the MAA, Los Angeles, CA, 2011
14th Annual Legacy of R. L. Moore Conference, Washington, D.C., 2011
Geometry and its Applications, UC Irvine, Summer 2011
First Coast Regional Meeting of the MAA, Spring 2011
Joint Meetings of the AMS-MAA, New Orleans, LA, January 2011
13th Annual Legacy of R. L. Moore Conference, Austin, TX, 2010
MAA PREP Workshop: Inquiry Based Learning, Austin, TX, June 2010
SoTL Commons Conference, Georgia Southern University, March 2010
Joint meetings of the AMS-MAA, San Francisco, CA, January 2010
MathFest, Portland, OR, August, 2009
12th Annual Legacy of R.L. Moore Conference, Austin, TX, July 2009
SAGE, The University of Texas at Austin, May 2009
Joint meetings of the AMS-MAA, Washington, DC, January 2009
First Coast Regional Meeting of the MAA, January 2009
MathFest, Madison, WI, July 2008
Florida Section MAA, February 2008
Joint meetings of the AMS-MAA, San Diego, CA, January 2008
First Coast Regional Meeting of the MAA, Jacksonville University, November 2007
Joint Meetings of the AMS-MAA, New Orleans, LA, January 2007

Teaching Experience

California Lutheran University

MATH 482 Game Theory (Special Topics)
MATH 482 Curves and Surfaces (Special Topics)
MATH 381 Geometry (Writing Intensive)
MATH 343 Linear Algebra
MATH 285 Barcelona: Through the Looking Glass, (Travel Seminar)
MATH 282 Problem Solving (Special Topics)
MATH 262 Calculus III
MATH 252 Calculus II
MATH 251 Calculus I (Core 21)
MATH 151 Pre-Calculus (Core 21)
MATH 1ST Mathematical Explorations (Project GradLA)
INTD-101 Freshman Seminar (Fall 2013)

Jacksonville University

MATH 387 Wavelets (independent study/undergraduate research)
MATH 320 Linear Algebra
MATH 307 College Geometry
MATH 300, 141, 140 Calculus III, II, and I
MATH 141H, 140H Honors Calculus II and I
MATH 220WI Mathematics and Reasoning (intro to proofs, writing intensive, IBL style)
MATH 112 Applied Mathematics (business calculus)
MATH 110 Mathematics of Motion and Change (pre-calculus)
JU 101 The Dolphin Experience (transition to college)
MATH 504 Curves and Surfaces (graduate course)
MATH 502 A Survey of Geometries (graduate course)

The University of Texas at Austin

M341L Linear Algebra
M316L Foundations of Geometry, Statistics, and Probability

Tarrant County Community College

MATH 2513 Calculus with Analytic Geometry I

Student Research Projects

“A Markov Chain Analysis of the XFL Overtime Rules”, Jazmine Toledo (Fall 2020)
“A Generalization of the Hardy Distribution for Golf Hole Scores”, Ryan Kyaw (Fall 2020)
“The Prisoner’s Dilemma’s Relation to Toilet Paper During a Pandemic”, Jose Belmontes (Fall 2020)
“Fibonacci Sequence Mod m ”, Bryttney Avela (Fall 2020)

“Tiling 2-Deficient Rectangles with L -Pentominoes”, **published**, Monica Kane (Spring 2019)
“Picks, Bans, and Nash Equilibrium”, Russell Hernandez (Fall 2019)
“Curves without Tritangent Planes”, Arthur Carmona, (Fall 2019)
“An Examination of Hyperbolic Geometry in HyperRogue”, Mark Ramos (Fall 2019)
“Generalization of the Monty Hall Problem”, Kaitlyne Pursell (Fall 2019)
“Surface Mapping and the Klein Bottle”, Duncan McCombs (Fall 2018)
“Representations of the Three-Dimensional Rotation Matrices”, Benjamin Russell (Fall 2016)
“Orbits: A look at the Symmetry of 4×4 Sudoku Puzzles”, Jamell Dorton (Fall 2015)
“An Introduction to Translating Audio Signals into Wavelet Space”, Joshua Garrett (Fall 2015)
“Finding the Minimum Starting Values of a Sudoku Puzzle...”, Matthew Johnston (Fall 2015)
“Entries and Position Impact the Maximum Number of Solutions...”, Diana Salazar (Fall 2015)
“Effects of Matrix Symmetries on Eigenvalues and Dressing Actions”, Tavish Dunn (Fall 2014)
“Dominion: A Game Theory Simulation”, Sarah McKee (Fall 2014)
“Per-Symmetric Matrices”, **published**, Madeleine Chrsitman (Fall 2013)
“The Sprague-Grundy Theorem”, Andrea Cruz (Fall 2012)
“Lansey’s Hypothesis”, Justine Duke (Fall 2012)

Master’s Student Theses

“Conics in Different Metrics”, Andrei Chiciu (2012)
“An Investigation of Cooperative Learning vs. Traditional Instruction of Geometric Proofs”, Billy Vezcko (2009)
“Effects of Speed-Density Relationship on the Lighthill-Whitham-Richards Traffic Model”, Patricia Richters (2009)