

## CURRICULUM VITAE

### **MILÉ KRAJCEVSKI**

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Department of Mathematics and Statistics

University of South Florida, CMC342

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Tampa, FL 33620

### **EDUCATION**

Ph.D. in Mathematics, 1994 Binghamton University, State University of New York.

B.S. in Mathematics, 1979 (with emphasis on education) St Cyril and Methodius University in Skopje, Macedonia

### **POSITIONS HELD**

2013-Present: Assistant Professor, Department of Mathematics and Statistics, University of South Florida

2009-2013: Senior Instructor, Department of Mathematics and Statistics, University of South Florida

2008 Spring Semester: Visiting Scholar, Department of Mathematics and Applications University of Milano-Bicocca, Milano, Italy,

2000 Spring Semester: Visiting Assistant Professor, Department of Mathematics and Computer Science, Wesleyan University, Connecticut,

1995-2009: Instructor, Department of Mathematics and Statistics, University of South Florida

1988-1993: Teaching Assistant, Department of Mathematical Sciences, Binghamton University

1979-1987: Teaching Faculty, College of Natural and Mathematical Sciences, St Cyril and Methodius University in Skopje, Macedonia

### **COURSE COORDINATION**

I was the course coordinator for MAC1105 College Algebra from 2003 until 2006, and for MAC1147 Precalculus Algebra and Trigonometry and MAC1114 Trigonometry from 2006 until 2009.

From Fall of 2009 I serve as a liaison between the Department of Mathematics and Statistics and the Department of Secondary Education in the College of Education. In this role I am involved in modifying existing mathematics courses traditionally offered to the College of Education students and creating new courses for newly established programs.

## **COURSE DEVELOPMENT**

I have been involved in the design of new graduate courses MTG5256 Differential Geometry and MTG 4214 Modern Geometry. I was also involved in reshaping the content of MTG 3212 Geometry. In 2013 I designed geometry course for middle school teachers MTG3207 Geometry Connections. In 2009-2012 I designed a sequence of undergraduate courses under a common name of Visual Mathematics, with idea to promote and encourage visual arguments in Undergraduate mathematics. I have designed three different courses in this series: Visual Complex Analysis, Visual Topology, and Visual Algebra.

## **SUPERVISION AND MENTORING**

I am supervising the Teaching Assistants, and coordinating the Teaching Seminar, to improve the teaching proficiency of our Teaching Assistants from 1995 to the present. I am also actively involved as an advisor in our Math Club, working with undergraduate students on their first steps to research. I have been a committee member of three master theses.

## **RESEARCH PAPERS**

*Tilings of the Plane, Hyperbolic Groups and Small Cancellation Conditions*  
Memoirs of the American Mathematical Society, Number 733, 2001

*Tilings and groups* PROCEEDINGS, Volume xiii, Systemics, Cybernetics,  
Information Technologies and Applications, Orlando FL, 2003

*Providing written feedback on students' mathematical arguments: proof validations of prospective secondary mathematics teachers*  
(with Sarah K. Bleiler and Denise Thompson)  
Journal of Mathematics Teacher Education (2014) 17:105-127

*Languages Associated with Crystallographic Symmetry*  
(with Natasha Jonoska and Greg McColm)  
Lecture Notes In Computer Science 8553 (2014): 216- 229

*Counter machines and Crystallographic Structures,*  
(with N.Jonoska, G.McColm) (in press) DOI 10.1007/s11047-0115-9527-0

*Traversal Languages Capturing Isomorphism Classes on Sierpinski Gaskets*  
(with Natasha Jonoska and Greg McColm)  
UCNC Proceedings, Lecture Notes In Computer Science 9726 (2016)

*Navigating Co-Teaching: Perspectives from Mathematicians, Mathematics Educators, and Students* (with C.Beneteau, S. Bleiler-Baxter, G. Kersaint), 13<sup>th</sup> International Congress on Mathematical Education in Hamburg, July 2016, accepted.

*Perspectives on Collaborative Teaching and Implications for Teacher Preparation* (with C. Beneteau, S. Bleiler-Baxter, G. Kersaint, D. Thompson), Submitted for the 2017 Annual Perspectives in Mathematics Education (APME) volume, *Reflective and Collaborative Processes to Improve Mathematics Teaching*.

*The integration of Technology in Model Eliciting Activities to Support Mathematical Reasoning* (with R. Sears, K. Butler) submitted to Contemporary Issues in Technology and Teacher Education

*Common Visual Representations as a Source for Misconceptions* (with R. Sears)  
In preparation

### **MANUSCRIPTS REVIEWER**

Math and Art: An Introduction to Visual Mathematics by Sasho Kalajdzievski  
CRC Press, 2008

### **CONFERENCES AND INVITATIONS:**

Wesleyan University, Middletown, Connecticut, January 2000, (Invitation). Presentation  
*Geometry of Group Presentations*

MAA Suncoast Meeting, Florida Southern College, Lakeland 2002. Presentation:  
*Hyperbolic Groups: Basic Definitions and Examples*

MAA Suncoast Meeting XXIX, St Pete College, Tarpon Springs 2004. Presentation:  
*Yet, another tale of the three circles*

University of Milano-Bicocca, Milano, Italy, January 2008, (Invitation). Presentation:  
*Hyperbolic Geometry and Tilings*

MAA Suncoast Regional Meeting XXXIV, Polk State College, Lakeland 2009, Presentation:  
*Cayley Graphs- an Attempt to Visualize a Group*

Science and Mathematics Teacher Imperative 2010 National Conference (with Gladis Kersaint) *Collaborative Effort between a Mathematician and a Mathematics Teacher Educator to Enhance the Mathematics Preparation of Teachers* June 2010, Cincinnati OH

AMS Joint Mathematics Meeting, New Orleans, LA January 2011, Presentation:  
*Differing views on assessment: Two instructors' strategies for modeling assessment techniques for prospective secondary mathematics teachers in an upper level team-taught geometry course.* (joint work with S. Bleiler (presenter) and S. K., Kersaint)

MAA 44<sup>th</sup> Annual Meeting at Valencia Community College, February 2011, Presentation:  
*Random groups.*

Turing Centenary Conference, CiE 2012: How the World Computes University of Cambridge, June 2012. Presentation: *Languages Associated with Crystallographic Structures* (joint work with Greg McColm (presenter) and Natasha Jonoska)

AMS Joint Mathematics Meeting, San Diego, CA, January 2013 Presentation: *Lesson Learned from a Teaching Experiment Focused on Proof Validation* (joint work with Sarah K. Bleiler (presenter) and Denisse R. Thompson)

NCTM Annual Meeting, Research Pre-session, Denver, CO April 2013  
Sarah K. Bleiler, Denisse R. Thompson & Mile Krajcevski, *Strengths and Weaknesses of Preservice Secondary Teachers' Proof Validation*. (Poster Session)

*Visual Proofs in Mathematics* Invited Lecture at University of Tampa, October 30, 2013

2014 Annual Association of Mathematics Teacher Educators (AMTE) Conference, Irvine CA, February 5-8, 2014 Presentation:  
Gladis Kersaint, Ruthmae Sears & Mile Krajcevski, *Partnership to Design a Middle School Mathematics Teacher Preparation Program from the Ground Up*

MAA Florida Section Meeting, Fort Myers, February 21-22, 2014. Presentation:  
*The role of visualization in undergraduate mathematics*

Conference on Research in Undergraduate Mathematics (RUME), February 27-March 1, Denver, CO

AMS Spring Eastern Sectional Meeting, University of Maryland, Baltimore March 29-30, 2014 Special Session on Discrete Geometry in Crystallography.  
Presentation: N. Jonoska (presenter), G. McColm, M. Krajcevski, *Crystallographic Structures and Intersection Hierarchy of Context-free Languages*

2014 Canadian Mathematical Society Summer Meeting, Winnipeg June 6-9.  
Presentation: *Challenges with using visual representations in undergraduate mathematics* (Session on Innovation and outreach in mathematics education)

UCNC 2014, July 14–18, 2014, London Ontario, Canada. Presentation: N. Jonoska, G. McColm, M. Krajcevski *Languages associated with crystallographic structures*

MAA-FL Suncoast Regional Meeting XXXIX, USF Sarasota-Manatee, December 5, 2014

AMS Joint Mathematics Meeting, San Antonio, TX, January 10-13  
Presentation: Do typical visual representations obstruct mathematical cognition?  
(MAA general Contributed Paper Session on Research in Geometry)

Guest Lecturer for the course Computational Hydraulics at the Department of Integrated Water Systems and Governance, UNESCO-IHE Institute for water Education, Delft, The Netherlands

Fall Western Sectional Meeting of AMS, Fullerton CA, October 24, 2015

Presentation: *Pre-service Teachers' Misconceptions about Visual Representations of altitude, median and angle bisector of a triangle*, (with R. Sears)

AMS Joint Mathematics Meeting, Seattle, WA, January 5-9, 2016

Presentation: *Students' Inclination to incorporate sketches during problem solving* (MAA Session on the Scholarship of Teaching and Learning in Collegiate Mathematics)

SIAM Conference on Mathematical Aspects of Material Science, Philadelphia, PA May 8-12, 2016. With Gregory McColm, Jean-Guillaume Eon and Marjorie Senechal organized Mini Symposium: Mathematical Crystallography I-IV.

13<sup>th</sup> International Congress on Mathematical Education in Hamburg, July 2016. Presentation: *Navigating Co-Teaching: Perspectives from Mathematicians, Mathematics Educators, and Students* (with C. Beneteau, S. Bleiler-Baxter, G. Kersaint), Topic Study Group 48 Pre-Service mathematics education of secondary teachers.

## **AWARDS AND GRANTS**

USF World Faculty Travel Mobility Grant (\$ 2,465)

Helois STEM Middle School Residency Program Implementation Grant (PI Gladis Kersaint) 2012, Grant Partner

NSF Grant DUE-1035273, \$ 1.2 million, Robert Noyce Science, Technology, Engineering and Mathematics (STEM) This grant was awarded to an interdisciplinary team of faculty from the College of Education (Gladis Kersaint as PI, Allan Feldman as co-PI) and the College Arts and Sciences (I and Jeffrey Ryan from Geology Department as co-PI's), from August 1, 2010 to July 31, 2015

PROMiSE A Grant funded by the USDOE and awarded by FLDOE Mathematics and Science Partnership Initiative, in partnership with three Florida Public Universities, four large school districts, HEC, NEFEC. Grant Partner, 2009

Project ACE (Achievement through Content Experience) with Hillsborough County and Florida Department of Education, work on design and development of professional modules to improve Mathematics content knowledge of Elementary and Middle School Teachers. Grant Partner, 2007

Internal CAS Travel Grant, for workshop on Teaching Mathematics in Colleges and Universities, AMS Meeting, Gainesville Florida, 2002

Recipient of the award for the Best Student of the year 1978 at the Faculty of Natural and Mathematical Sciences, St Cyril and Methodius in Macedonia,

### **PROFESSIONAL AND SERVICE ACTIVITIES**

Permanent Correspondent of Florida Epsilon Chapter of Pi Mu Epsilon

Faculty Sponsor of USF Math Club

Undergraduate Advisor 2000-2001

Nagle Lecture Series Committee 2004-2005, 2013-2014 (Co-Chair)

Member of the Undergraduate Committee

Member of two Search Committees, 1999, 2000

Member of two tenure-track positions Search Committees at College of Education,  
Department of Secondary Education, 2011, 2012

### **MEMBERSHIPS**

American Mathematical Society,

Mathematical Association of America,

National Council of Teachers of Mathematics

Pi Mu Epsilon, National Honorary Mathematics Society