

Sara W. Lapan

Work Address:

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CURRENT POSITION:

2016 July - Present Assistant Professor of Teaching, Mathematics at UC Riverside.

EDUCATION:

- 2007-2013** University of Michigan. *Ann Arbor, Michigan*
2013 *Ph.D. Mathematics*. Thesis advisor: Mattias Jonsson.
2011 *M.S. Mathematics*.
2003-2007 University of Chicago. *Chicago, Illinois*
2007 *B.S. Mathematics with Honors*
2007 *B.A. Economics*.

MAJOR AREAS OF RESEARCH INTEREST:

Complex dynamics, holomorphic dynamics, several complex variables, and dynamical systems.

PUBLICATIONS:

- S. Lapan. *Domain of Attraction for Maps Tangent to the Identity in \mathbb{C}^2 with Characteristic Direction of Higher Degree*. Journal of Geometric Analysis (2015).
- S. Lapan. *Attracting domains of maps tangent to the identity whose only characteristic direction is non-degenerate*. International Journal of Mathematics, **24** (2013).
- S. Lapan. *On the existence of attracting domains for maps tangent to the identity*. Ph.D. Thesis, University of Michigan (2013).

PREPRINTS:

- S. Lapan. *Interesting examples in \mathbb{C}^2 of maps tangent to the identity without domains of attraction* (2016).
- S. Lapan, B. Linowitz, and J. Meyer. *Systole inequalities for arithmetic locally symmetric spaces* (2017).

WORKS IN PROGRESS:

- S. Lapan. *Examples of maps tangent to the identity in \mathbb{C}^n , $n \geq 3$, with (or without) a domain of attraction along a given characteristic direction*.
- S. Lapan and F. Rong. *Existence of a domain of attraction for some maps tangent to the identity along a characteristic direction with imaginary director*.
- S. Lapan. *Varied dynamics in a neighborhood of the origin for maps tangent to the identity*.

INVITED CONFERENCE TALKS:

- Workshop on Connections Between Complex Dynamics, Statistical Physics, and Limiting Spectra of Self-similar Group Actions at IUPUI. August 15-19, 2016.
- Midwest Women in Mathematics Symposium at Dominican University. March 7, 2015.
- Special Session in Holomorphic Dynamics at the JMM. January 12, 2015.
- Midwest Women in Mathematics Symposium at Notre Dame University. April 5, 2014.

- Midwest Women in Mathematics Symposium at University of Illinois at Chicago. April 2013.
- Summer Program for Women in Mathematics Reunion at the Joint Mathematics Meetings in San Diego, California. January 10, 2013.
- RTG Workshop: Complex & Non-Archimedean Dynamics at University of Michigan. December 8, 2012.
- BIRS: Interactions between continuous & discrete holomorphic dynamical systems. July 2012.
- Young Mathematicians Conference at Ohio State University. August 20, 2004.

SEMINAR TALKS & COLLOQUIUMS:

- MPDS Seminar at UCR. March 2, 2017.
- FRG Seminar at UCR. December 1, 2016.
- Presentation on research and teaching at UCR. May 9, 2016.
- Colloquium at Kutztown University. February 23, 2016.
- Analysis Seminar at University of Montana. February 18, 2016.
- Colloquium at University of Montana. February 18, 2016.
- Informal Complex and Arithmetic Dynamics Seminar at Northwestern University. November 5, 2015.
- Complex Analysis, Dynamics and Geometry Seminar at University of Michigan. March 16, 2015.
- Analysis and Convexity Seminar at University of Oklahoma. March 2, 2015.
- CDSNS Colloquium at Georgia Institute of Technology. February 10, 2015.
- Graduate Student Seminar at Northwestern University. April 11, 2014.
- Ergodic Theory Seminar at University of Illinois at Urbana-Champaign. March 17, 2014.
- Dynamics Seminar at University of Chicago. January 27, 2014.
- Dynamical Systems Seminar at Northwestern University. November 5, 2013.
- SCV Seminar at Göteborgs Universitet: Chalmers. September 9, 2013.
- Several Complex Variables Seminar at University of Michigan. April 16, 2012.
- Student Analysis Seminar at University of Michigan. March 30, 2011.
- Directed Reading Program at University of Chicago. June 2006.

POSTER SESSIONS:

- *Varied dynamics in a neighborhood of the origin for maps tangent to the identity.* Holomorphic Dynamics in One and Several Variables, ICM Satellite Conference in Gyeongju, South Korea. August 23-26, 2014.
- *Attracting domains for holomorphic maps in \mathbb{C}^m tangent to the identity.* Midwest Dynamical Systems Meeting at University of Illinois at Urbana-Champaign. November 1-3, 2013.

MATHEMATICS CONFERENCES ATTENDED:

- *Midwest Dynamical Systems Conference* at Ohio State University. October 30-November 1, 2015.
- *Non-Archimedean Geometry and its Applications* at University of Michigan. June 1-5, 2015.
- *IMS XXV: Celebrating 25 years of low-dimensional dynamics.* May 8-12, 2015.
- *Midwest Women In Mathematics Symposium* at Dominican University. March 7, 2015
- Joint Mathematics Meetings in San Antonio, TX. January 10-12, 2015.
- *Midwest Dynamical Systems Seminar* at University of Michigan. November 7-9, 2014.
- *Holomorphic Dynamics in One and Several Variables.* ICM Satellite Conference in Gyeongju, South Korea. August 23-26, 2014.
- *What's Next? The mathematical legacy of Bill Thurston* at Cornell University. June 2014.

- *Midwest Women in Mathematics Symposium* at University of Notre Dame. April 5, 2014.
- *70th Birthday Conference for John Franks and Clark Robinson* at Northwestern University. December 7, 2013.
- *Midwest Dynamical Systems Meeting* at University of Illinois at Urbana-Champaign. November 1-3, 2013.
- *Midwest Women in Mathematics Symposium* at University of Illinois at Chicago. April 2013.
- *Joint Mathematics Meetings* in San Diego, California. January 9-12, 2013.
- *RTG Workshop on Complex & Non-Archimedean Dynamics* at University of Michigan. December 7-9, 2012.
- *Midwest Dynamical Systems Seminar* at University of Notre Dame. October 26-28, 2012.
- *INdAM New trends in holomorphic dynamics* in Cortona, Italy. September 3-7, 2012.
- *Interactions between continuous and discrete holomorphic dynamical systems* at the Banff International Research Station. July 9-13, 2012.
- *International Conference in Nevanlinna Theory and Complex Geometry* at University of Notre Dame. March 14-18, 2012.
- *Trends in Dynamics* at Northwestern University. April 27-May 1, 2011.
- *AMS Sectional Meeting: Special Session on Complex Analysis and Dynamical Systems* at University of Notre Dame. November 5-7, 2010.
- *NORDAN: Complex Analysis and Geometry* in Lökeberg, Sweden. May 7-9, 2010.
- *KAWA: Komplex Analysis Winter School* in Toulouse & Albi, France. January 25-29, 2010.
- *RTG workshop on complex dynamics* at University of Michigan. December 4-6, 2009.
- *Midwest SCV conference* at Purdue University. October 11-12, 2009.
- *Joint Mathematics Meetings* in New Orleans, Louisiana. January 5-8, 2007.
- *Young Mathematicians Conference* at Ohio State University. August 20-22, 2004.

OUTREACH AND ADDITIONAL EXPERIENCES IN MATHEMATICS:

- Academic Service:
 - Committees:
 - * Member of Undergraduate Research in Curriculum Committee at UCR 2017-Present
 - * Member of Committee on Preparatory Education at UCR 2017-Present
 - * Member of Placement Exam Committee at UCR 2016 - Present
 - * Member of Undergraduate Committee in the Math Dept at UCR 2016-7
 - * Member of Bosch Scholarship Committee in the Math Dept at UCR 2016-7
 - * Member of Outstanding VAP Selection Committee in the Math Dept at UCR 2016-8
 - * Member of the VAP Hiring Committee in the Math Dept at UCR 2017-8
 - Created learning glass videos for precalculus as a Math Video Project Summer 2017
 - Faculty sponsor for the UCR chapter of [AWM](#). 2016-Present
 - Mentor for the [Math Alliance](#) February 2017-Present
 - Co-organizer and website-creator of the special session [Characteristics of a Successful Mathematics Gateway Program](#) at AMS Fall Western Sectional Meeting, 2017
 - Created and maintain the UCR Fractals, Dynamics & Mathematical Physics website: www.math.ucr.edu/~frgmpds/ Spring 2017-Present
 - Created and maintain a community calendar of conferences in dynamical systems:
 - Currently hosted at: www.math.ucr.edu/~frgmpds/conferences.html 2015-Present
 - Co-organized the Dynamical Systems Seminar at Northwestern University. 2013-2015
 - Designed and maintained the NU Dynamics website: www.math.northwestern.edu/~dynamics
 - Poster judge for 11th Annual Undergraduate Research Symposium at UCR, May 2017
 - Panelist at the Women in STEM Panel held at UCR, February 2017
 - Panelist at the Math Club/AWM Panel on Graduate School held at UCR, May 2017

- Wrote letters of recommendation for undergraduate students.
- Referee for Ergodic Theory and Dynamical Systems.
- TA coordinator and course coordinator for Differential Calculus of Multivariable Functions at Northwestern University (Fall 2015 and Spring 2016, respectively).
- Faculty contact for the [Gateway Science Workshops](#) (GSW) for Differential Calculus at Northwestern University, Winter 2014. GSW is a peer-led mentor program designed for students to better understand course material. Faculty contacts create worksheets for the weekly GSW meetings and meet with the mentors.
- Public Outreach
 - Volunteer for the Evanston Math Circle, November 14, 2015.
 - Volunteer for the [Graduate Research Opportunities for Women](#) (GROW) Conference at Northwestern University, October 24-25, 2015. This conference is for women-identified undergraduate students interested in graduate school in the mathematical sciences.
 - Volunteered for [FEMMES](#) capstone event for girls in 4th-6th grade, that engages them in STEM fields and provides them with female role models. January 26, 2013.
 - Invited speaker at Macomb Community College event: “Women in Mathematics: Breaking the Barrier.” November 27, 2012.
 - Created and filmed a [dance to explain thesis](#) for the Dance Your Ph.D. contest. 2012.
 - [Young Scholar’s Program](#) mathematics counselor at University of Chicago. Ran discussion sessions at the weekend program during the academic year and one summer program for advanced middle and high school students. 2004-7.
- Undergraduate Extracurricular Learning Experiences:
 - Summer Program for Women in Mathematics ([SPWM](#)) participant at George Washington University. Summer 2006.
 - [Directed Reading Program](#) on Vector Bundles and K-Theory with Kate Ponto at University of Chicago. Spring 2006.
 - [VIGRE](#) Summer Program participant at the University of Chicago. Summer 2005.
 - [REU](#) at Iowa State University. Developed mathematical models to study the biological and chemical aspects of tumor angiogenesis and the onset of cancer. Drafted a paper describing the models and results. Summer 2004.
- Member: American Mathematical Society (AMS)

DEVELOPMENT IN MATHEMATICS EDUCATION PEDAGOGY:

- Applied and was accepted to be a [Project NExT](#) Fellow, 2017. As a fellow, will attend 3 conferences with Project NExT sessions: MathFEST 2017, JMM 2018, and MathFEST 2018.
- Attended the [MPWR \(Mentoring & Partnership for Women in RUME\) Seminar](#). February 22, 2017.
- Attended the First-Year Faculty Teaching Excellence Seminar at UCR. Fall 2016.
- Participated in the Purdue IMPACT Faculty Learning Community (FLC) workshops at UCR, Fall 2016.
- Attended the *Legacy of R. L. Moore – IBL Conference*. June 25-27, 2015.
- Attended the *Spring 2014 Chicago Symposium Series on Excellence in Teaching Mathematics and Science: Research and Practice*. April 12, 2014.
- Northwestern University instructor training, 2013.
- Audited the course *Mathematics Curriculum: Research and Development* taught by Vilma Mesa at University of Michigan. Winter 2012.
- University of Michigan Graduate Student Instructor Training, 2007.

TEACHING EXPERIENCE IN MATHEMATICS:

University of California, Riverside (UCR) Math Dept.	2016-Present
Northwestern University (NU) Math Dept.	2013-2016
University of Michigan (UM) Dept of Math.	2007-2013
University of Chicago. Harper Math Tutor & Young Scholar's Program counselor.	2005-2007

Instructor:			September 2007 - Present
2017	Fall	6A: Precalculus I (<i>2 sections</i>)	UCR
2016	Spring	6A: Precalculus I and 6B: Precalculus II	UCR
2017	Winter	6B: Precalculus II	UCR
2016	Fall	6A: Precalculus (<i>2 sections</i>)	UCR
2016	Spring	202: Finite Mathematics	NU
2016	Spring	230: Differential Calculus of Multivariable Functions (<i>2 sections</i>) ¹	NU
2015	Fall	230: Differential Calculus of Multivariable Functions (<i>3 sections</i>) ²	NU
2015	Spring	234: Multiple Integration & Vector Calculus (<i>2 sections</i>)	NU
2015	Spring	202: Finite Mathematics	NU
2014	Spring	202: Finite Mathematics (<i>2 sections</i>)	NU
2014	Winter	220: Differential Calculus in One Variable (<i>2 sections</i>)	NU
2014	Fall	220: Differential Calculus in One Variable (<i>3 sections</i>)	NU
2013	Fall	220: Differential Calculus in One Variable (<i>2 sections</i>)	NU
2013	Spring	115: Differential Calculus in One Variable	UM
2010	Fall	116: Integral Calculus in One Variable	UM
2009	Winter	115: Differential Calculus in One Variable	UM
2008	Fall	115: Differential Calculus in One Variable	UM
2008	Winter	115: Differential Calculus in One Variable	UM
2007	Fall	105: Data, Functions and Graphs	UM

Teaching Assistant:			September 2011 - December 2011
Graded homework and exams, held 3 weekly office hours, and ran a weekly guided computer lab showing students how to use Maple to plot and compute objects from the course.			
2011	Fall	215: Multi-Variable Differential and Integral Calculus	UM

Grader:			September 2008 - December 2008
2008	Fall	596: Graduate Complex Analysis	UM

Tutor:			September 2005 - June 2007
Harper math tutor at the University of Chicago. Duties included holding weekly office hours for a wide range of courses ranging from introductory calculus to analysis and linear algebra.			

¹Also course coordinator for all 6 sections of 230.

²Also TA coordinator for all 15 sections of 230, which had 16 different TAs.