

Curriculum Vitae

Jihyeon Jessie Yang ¹

Contact

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Personal details

Place of birth: South Korea
Citizenship: Korean
Permanent Residency: Canada

Languages: Korean/English (fluent),
Japanese/French (reading)

Position and Education

- 2021/07 - present **Assistant Professor.**
Department of Mathematics and Statistics, York University
- 2020/09 - 2021/05 **Sessional Lecturer.**
Department of Mathematical and Computational Sciences, University of Toronto Mississauga, Canada
- 2016/08 - 2020/05 **Assistant Professor.**
Department of Mathematics, Marian University-Indianapolis, U.S.A.
- 2015/09-2016/04 **Sessional Lecturer.**
Department of Mathematical and Computational Sciences, University of Toronto Mississauga, Canada
- 2012/09-2015/08 **Postdoc.**
Department of Mathematics and Statistics, McMaster University, Canada
Mentor: Megumi Harada
- 2007/09-2012/08 **PhD., Mathematics.**
Department of Mathematics, University of Toronto, Canada.
Advisor: Askold Khovanskii
- 2001-2005 **Master of Arts, Mathematics.**
Departments of Mathematics, State University of New York at Stony Brook, U.S.A.
Advisors: Sorin Popescu and Dusa McDuff
- 1992-1997 **Bachelor of Science, Mathematics.**
Department of Mathematic, Pusan National University, Pusan, South Korea
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Teaching

<York University>

- Fall 2021 **MATH 1013: Applied Calculus I** I am an instructor for one of six sections. There are about 1300 students enrolled with about 200 students in my section.
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¹updated August 2021

<University of Toronto Mississauga>

- Winter 2021 **MAT 224: Linear Algebra II** I am a lecturer for one of three sections. There are about 180 students enrolled with about 60 students in my section. I am responsible for three-hour synchronous online lectures and one-hour online office hour every week. Also, with other co-instructors, we make 3 quizzes and a final exam, and supervise students' activities on Discussions Board.
- Fall 2020 **MAT135: Differential Calculus** I was a lecturer for one of ten sections. There were about 1,400 students enrolled with about 120 students in my section. I was responsible for two-hour synchronous online lectures, making a short video (at most 10 minutes long) for asynchronous online lectures, and two-hour online office hours every week. Also, with other co-instructors, we made five non-exam assessments and a final exam, and supervise students' activities on Piazza (course message board).

<Marian University-Indianapolis>

I was a course instructor for the following courses with full responsibility for each course.

- Spring 2020 **MAT 145: Precalculus**
MAT 298: Directed Research
MAT 315: Differential Equations
MAT 450: Real Analysis
- Fall 2019 **MAT 145: Precalculus**
MAT 310: Linear Algebra
MAT 330: Advanced Geometry
- Spring 2019 **MAT 145: Precalculus**
MAT 315: Differential Equations
MAT 335: Number Theory
- Fall 2018 **MAT 090: Introductory Algebra**
MAT 145: Precalculus
MAT 310: Linear Algebra
MAT 499: Independent Study
- Spring 2018 **MAT 145: Precalculus**
MAT 250: Problem-Solving and Introduction to Proofs
MAT 298: Directed Research
MAT 315: Differential Equations
MAT 450: Real Analysis
- Fall 2017 **MAT 090: Introductory Algebra**
MAT 145: Precalculus
MAT 310: Linear Algebra
MAT 330: Advanced Geometry
- Spring 2017 **MAT 090: Introductory Algebra**
MAT 145: Precalculus

MAT 250: Logic and Sets

Fall 2016

MAT 090: Introductory Algebra

MAT 145: Precalculus

MAT 310: Linear Algebra

<University of Toronto Mississauga>

Fall 2015

MAT134Y: Calculus for Life Sciences I was a lecturer for two sections of this course. One section has about 150 students and the other section has about 100 students. I was responsible for three - hour lectures per week for each section, two-hour office hours, and collaboration with the course coordinator for evaluations of students.

<McMaster University>

I was a course instructor for the following courses (except for MAT1A03/1ZA3) with full responsibility for each course.

Summer 2015

MAT1F03: Introduction to Calculus and Analytic Geometry

Winter 2015

MAT2R03: Linear Algebra II

Fall 2014

MAT2L03: Mathematical Methods for Business and Social Sciences

Winter 2014

MAT3V03: Graph Theory

MAT1A03/1ZA3: Calculus for Science I

Summer 2013

MAT 2R03: Linear Algebra II

Winter 2013

MAT 4ET/6ET3: Topics in Algebra (Introduction to Algebraic Geometry)

<University of Toronto>

2010/05-2010/08

Course instructor, Groups and Symmetry

Full responsibility for the classes of about 50 students, including making syllabus, lecturing, supervising teaching assistants, designing tests and evaluating students.

2007/09-2012/08

Teaching Assistant

Gave weekly tutorials and office hours, marked assignments and term tests for various undergraduate math courses, including Linear Algebra for Engineers, Calculus I, Calculus II, Linear Algebra, Groups and Symmetry.

<State University of New York at Stony Brook>

2004/05-2004/06

Course instructor, Introduction to Calculus (Session I)

Full responsibility for the classes of about 35 students at Manhattan Campus, including making syllabus, lecturing, designing quizzes and tests and evaluating students.

2004/07-2004/08

Course instructor, Calculus A (Session II)

Same as above.

2003/05-2003/06

Course instructor, Introduction to Calculus (Session I)

Same as above.

2001/09-2005/08

Teaching Assistant

Graduate Core Courses (Algebra, Analysis): Marked assignments, made the solutions sheets and posted them on the board for each class of about 10 students every second week;
Various undergraduate courses.

Supervision for Undergraduate Student Research

I have supervised 16 projects, all of which were presented with posters at semiannual **Undergraduate Research Symposium** at Marian University-Indianapolis. In 2012 Summer, Megumi Harada (Professor at McMaster University) and I organized and supervised a project, Toric Varieties, at **Fields MITACS Undergraduate Summer Research Program**.

Fall 2019	Kim Graham, Genesis Ortiz, and Jihyeon Jessie Yang, <i>MLP: Math-Learning through Performance</i>
Fall 2019	Elizabeth Hales, <i>Study of color changes using Linear Algebra</i>
Fall 2019	Audry Wilcox, <i>Applications of Linear Algebra and Geometry in Agribusiness</i>
Fall 2019	Alicia Regalado, <i>Application of Linear Algebra to Probability Theory</i>
Spring 2019	Andy Barnes, <i>Dealing with Big numbers: Wilson's Theorem</i>
Fall 2018	Cierra Carney, <i>Geometrical Investigations of Pythagorean Triples</i>
Fall 2018	Marta Morris, <i>Mathematical Investigation on Titration Curves in Chemistry</i>
Spring 2018	Alex Griebing, <i>Mathematical Investigation in Stress-Strain Relations</i> , awarded for outstanding work.
Spring 2018	Angel Soto-Lozada, Conrad Keglowsch, Marta Morris, <i>Mathematical Models for Learning Process and Applications</i>
Spring 2018	Alex Wiemals, <i>Application of Logics: Critical thinking and Electrical circuits</i>
Fall 2017	Hope Spaulding, <i>An Educational Application of Fano's Geometry</i>
Fall 2017	Maria Portman, <i>Applications of Four-Line Geometry</i>
Fall 2017	Devon Newport, <i>Applications of Four-Point Geometry</i>
Fall 2017	Alex Griebing, <i>Applications of Linear Algebra in Biomedical Engineering</i>
Fall 2017	Victoria Yagodinski, <i>Applications of Linear Algebra in Physical Chemistry</i> , awarded for outstanding work.
Fall 2017	Amanda Warnke, <i>Semi-regular Tessellations with 3 polygons</i>

Other Teaching-Related Experience

2021/06-08	Active Learning Playground Teaching Commons, York University <ul style="list-style-type: none">• June 23, Exploring SoTL Using Question Formulation Technique• July 07, Exploring Experiential Education Using Escape Rooms/Fishbowls• July 21, Exploring Students As Partners Using Concept Mapping/Affinity Grouping• August 04, Exploring Assessment Using Case Studies/Send-A-Problem
2021/07-08	Caring to Teach: Supporting Student Transitions between Teaching and Learning Environments Teaching Commons, York University, July 09, 2021 - August 10, 2021
2021/07-08	Beyond eClass: Interactive Pedagogies Using Zoom, H5P, and More Teaching Commons, York University, July 26, 2021 - August 27, 2021
2021/07	GNL Information Session Teaching Commons, York University, July 07, 2021
2021/07	Instructional Skills for Remote Delivery Course Teaching Commons, York University, July 19, 2021 - July 30, 2021
2021/07	Course Design Intensive Teaching Commons, York University, July 21, 2021 - July 28, 2021

- 2021/06 **Innovating your syllabus** Teaching Commons, York University, June 30, 2021
- 2021/02 **Inclusive Pedagogy: Equity Approaches Roundtable** Teaching & Learning Collaboration at University of Toronto Mississauga, February 25, 2021
- 2021/02 **Statistics for the Scholarship of Teaching and Learning (SoTL)** Teaching & Learning Collaboration at University of Toronto Mississauga, February 9, 2021
- 2021/01 **Helping Students With Foundational Skills** Teaching & Learning Collaboration at University of Toronto Mississauga, January 28, 2021
- 2020/12 **Winter Camp for UTM Instructors** Teaching & Learning Collaboration at University of Toronto Mississauga, December 14, 2020
- 2020/11 **Racially-Inclusive Pedagogy Roundtable** Teaching & Learning Collaboration at University of Toronto Mississauga, November 18, 2020
- 2020/10 **TDI (Teaching Development & Innovation) Grant Winner Showcase** Teaching & Learning Collaboration at University of Toronto Mississauga, October 28, 2020
- 2020/09 **Ready, Set, Teach Day** Teaching & Learning Collaboration at University of Toronto Mississauga, September 8, 2020
- 2020/08 **Community Building for Remote Courses** Teaching & Learning Collaboration at University of Toronto Mississauga, August 27, 2020
- 2020/08 **Inclusive Assessment Design** Teaching & Learning Collaboration at University of Toronto Mississauga, August 25, 2020
- 2019/11-2020/05 **Sponsor for AWM Student Chapter** (the Association for Women in Mathematics) at Marian University-Indianapolis. I initiated this organization at this school.
- 2019/05 **Master class series II. Teaching for Learning, I received the certificate of achievement.** the Center for Teaching and Learning, Marian University-Indianapolis. **Class 1: Developing Student Mastery, Class 2: Supporting Self-Directed Learners.** Each of the two classes is about 3 hours in length and the workload outside of class is estimated to be about 15 hours in total.
- 2018/11 **Facet Associate Faculty and Lecturer Conference (FALCON) 2018, Successful Strategies for Student Engagement: Sometimes it's the little things,** Indiana University, November 9-10, 2018
- 2018/08 **Tools for Teaching Conference: Small Teaching, Cheating Lessons,** Marian University-Indianapolis, August 14, 2018
- 2018/08 **Master class series I: Teaching with Canvas. I received the certificate of achievement.** the Center for Teaching and Learning, Marian University-Indianapolis. **Class 1: Effective Course Design, Class 2: Developing Courses for Learning, Class 3: Facilitating Learning.** Each of the three classes is about 5 hours in length and the workload outside of class is estimated to be about 35 hours in total.
- 2018-2020 **Book club,** the Center for Teaching and Learning, Marian University-Indianapolis. The center chooses a book before each semester and hosts a meeting for discussion. The following is the list of books that I participated to discuss about:
- *How Learning Works* by Ambrose, Bridges, DiPietro, Lovett, and Norman
 - *Learner-Centered Teaching* by Terry Doyle
 - *Fierce Conversations* by Susan Scott
 - *Teaching Across Cultural Strengths* by Chávez and Longerbeam
- 2018/01 **MAA(Mathematical Association of America) Mini-course: Directing Undergraduate Research,** 2018 JMM (Joint Mathematics Meetings), San Diego, January 10-13, 2018
- 2018/01 **2018 SoTL (Scholarship of Teaching and Learning Workshop): Understanding What Really Happens in the Classroom,** Marian University-Indianapolis, January 3, 2018

- 2017/10 **Advising workshop: Supporting 21st Century Scholars**, Marian University-Indianapolis, October 25, 2017
- 2017/08 **The Fall Faculty Development Conference: Tools for Teaching**, Marian University-Indianapolis, August 15, 2017
- 2017/08 **Global Leadership Summit**, August 10-11, 2017
- 2017/05 **Faculty and Staff Annual Reflection Day**, Marian University-Indianapolis, May 11, 2017
- 2017/05 **Faculty Con 2017: Engaging Students, Ideas that Work**, Marian University-Indianapolis, May 10, 2017
- 2017/03 **New Advisor Training sessions**, Marian University-Indianapolis
- 2016/11 **Fall 2016 Advising Workshops: Stress or Crisis?**, Marian University-Indianapolis, November 15, 2016
- 2016/09 **Fall 2016 Advising Workshops: 21st Century Scholars and State Grant Funding**, Marian University-Indianapolis, September 7, 2016
- 2016/09 **Quantitative Reasoning Faculty Workshop**, The Indiana Math Innovation Council & the Core Transfer Library (CTL) Math Faculty Panel, September 27, 2016 at Ivy Tech Community College.
- 2016/08 **Teaching Excellence Colloquium**, Marian University-Indianapolis, August 16, 2016
- 2016/02 **Mathematics Education Forum**, Fields Institute for Research in Mathematical Sciences, Canada. Attended the Forum on a monthly basis during the academic year.
- 2016/01 One of my lectures was videotaped by the Academic Skills Centre at University of Toronto Mississauga. I reviewed the video with a faculty member of the Centre and discussed on further developments of my teaching skills.
- 2014/10 **Connecting Women in Mathematics Across Canada**, Banff International Research Station, Canada. It was a two-day workshop focusing on three main topics: Giving a research talk, **University Teaching**, and Research.
- 2002/09-2003/04 I was invited to participate in a special program, **Mathematics for Biology**, for undergraduate students in the Department of Biology, State University of New York at Stony Brook in 2002. I took part in the discussion sessions organized by Biology department and was responsible to have a meeting with a teaching assistant from Biology department every other week to provide suggestions.
- 2001/08 I passed MAT598 **Teaching Practicum** at State University of New York at Stony Brook in 2001. We discussed various aspects of teaching mathematics in classes and had one-to-one meetings with the supervisor after monitoring of my classes and recording a video of my teaching.
- 1993 I took the following courses at Pusan National University: **Philosophy and History of Education, Sociology of Education, Educational Psychology, Educational Administration and Educational Management.**
- 1992-2008 I tutored various students from elementary school to university level. I also worked as a volunteer tutor for people with disability who couldn't learn mathematics in regular institutions.

Organization

- 2019/08 AWM Student Chapter (the Association for Women in Mathematics) at Marian University-Indianapolis.
- 2014/12 With Eric Katz, the special session, Toric and Combinatorial Algebraic Geometry, at 2014 CMS Winter Meeting, Canada, December 5-8, 2014
- 2013/06-08 Reading Seminar for graduate students at McMaster University which aimed for studying the book of Hartshorne, Algebraic Geometry.
- 2012/07 With Megumi Harada, a project, Toric varieties, at Fields MITACS Undergraduate Summer Research Program, July 3-August 24, 2012
- 2012/01-04 With Jordan Watts, the Quantum Cohomology Reading Seminars at the University of Toronto.

Awards

- 2019/06 Funding from the University of Hong Kong, Department of Mathematics and the Institute of Mathematical Research, Hong Kong, China.
- 2017/07 Fields Research Fellowship, the Fields Institute, Canada
- 2012/09-2015/08 Postdoctoral Fellowship at McMaster University, Canada.
- 2011 School of Graduate Studies Conference Grant.
- 2007/09-2012/08 University of Toronto Graduate Fellowship.
- 2001/09-2005/08 State University of New York at Stony Brook Graduate Fellowship.
- 1996 4th in Korean National Mathematics Contest for Undergraduate Students.
- 1996 Pusan National University Scholarship for High Achievements.
- 1995 Pusan National University Scholarship for High Achievements.
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Service to the profession

- 2019/08-2020/05 Sponsor : AWM Student Chapter (the Association for Women in Mathematics) at Marian University-Indianapolis.
- 2018/01 Judge : 2018 MAA Undergraduate Student Poster session held at JMM (Joint Mathematics Meetings), San Diego, January 10-13, 2018.
- 2017/03 Judge : Senior Division Central Indiana Regional Science and Engineering Fair on March 11, 2017.
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Service to Marian University-Indianapolis

- 2017-2019 Committee member : Honors Academy
- 2018-2019 Committee member : Search Committee for Statistics
- 2018/11 Interviewer : Saint Mary Academic Scholarship Competition
- 2017/12 Judge : 2017 Fall Undergraduate Research Symposium
- 2017-2018 Committee member : Search Committee for Statistics
- 2017-2018 Committee member : Search Committee for Mathematics
- 2017-2018 Committee member : Search Committee for Computer Science
- 2017/11 Interviewer : Saint Mary Academic Scholarship Competition
- 2016/12 Judge : 2016 Fall Undergraduate Research Symposium
- 2016/11 Interviewer : Saint Mary Academic Scholarship Competition

Community Engagement

- 2016/09- 2020/05 Soprano in Choir at Immaculate Heart of Mary parish at Indianapolis
- 2018/10- 2020/05 Member in Board of Directors of HOA (Homeowners Association)
- 2018/08- 2020/05 Soprano in Choir at Korean Catholic Church at Indianapolis
- Fall 2016 Soprano in Sacred Choir at Marian University-Indianapolis
- 2012/11 Volunteer in Food4Kids (www.food4kids.ca).
- 2008/01-2012/08 Soprano in Newman Center Catholic Parish at University of Toronto.
- 2009/11 Volunteer teacher for kindergartners: a music-class titled *Korean Songs* at Charles Street Day Care Center (Toronto, Canada)
- 2009/08 Volunteer teacher for kindergartners: a math-class titled *No-Ground Ant* at Charles Street Day Care Center (Toronto, Canada)
- 1993-1994 Volunteer teacher in a non-profit organization in South Korea for people with disability who did not have an access to proper education.
- 1992-1996 Soprano in Pusan National University Chorus
- 1994-1995 Secretary in Pusan National University Chorus
- Occasional Volunteer for various neighborhood outreach programs: Gleaners Food Bank of Indiana, Wheeler Mission.

Invited Lecture Series

- 2019/07 *Tropical geometry and Newton-Okounkov theory*, three talks at Symplectic Monday, Center for Geometry and Physics, Institute for Basic Science, South Korea, July 8, 2019.
- 2014/07 *Okounkov Bodies, Toric Degenerations, and Bott-Samelson Varieties*, Lecture Series at KAIST (Korea Advanced Institute of Science and Technology), South Korea, July 15-24, 2014.
- 2014/06 *GAIA Special Lecture Series*, GAIA (The Center for Geometry and its Applications), South Korea, June 24-25, 2014.
- 2011/08 *Tropical Mathematics*, Lecture Series at POSTECH (Pohang University of Science and Technology), South Korea, August 02-04, 2011.

Invited Talks

- 2019/07 *Combinatorics for Algebra and Geometry: Tropical geometry and Newton-Okounkov theory*, Pusan National University, South Korea, July 4, 2019.
- 2019/06 *Tropical geometry and Newton-Okounkov theory*, Women in Geometry and Topology, Center for Geometry and Physics, Institute for Basic Science, South Korea, June 24 - 28, 2019.
- 2019/06 *Talk 1: Introduction to Tropical geometry and Newton-Okounkov theory*, Workshop on Geometry and Lie Theory, The University of Hong Kong, Hong Kong, China, June 17-18, 2019.
- 2019/06 *Talk 2: Tropical geometry and Newton-Okounkov cones for Grassmannian of planes from compactifications*, Workshop on Geometry and Lie Theory, The University of Hong Kong, Hong Kong, China, June 17-18, 2019.
- 2018/03 *Bott Canonical Bases*, AMS Spring Central Sectional Meeting, Ohio State University, Columbus, OH, U.S.A. March 16-18, 2018.

- 2017/05 *Bott Canonical Bases of Representations*, AMS Spring Eastern Sectional Meeting, Hunter College, City University of New York, New York, NY, U.S.A. May 6-7, 2017.
- 2017/03 *Tropical geometry and Newton-Okounkov body for Grassmannian of planes*, Modern Analysis & Geometry Seminar, IUPUI (Indiana University-Purdue University Indianapolis), March 28, 2017.
- 2015/08 *Newton-Okounkov bodies of Bott-Samelson varieties and toric degenerations to Bott towers*, Combinatorial Constructions in Topology, University of Regina, Canada, August 17-21, 2015.
- 2015/07 *Newton-Okounkov body theory and connection to Representation theory*, Workshop on recent developments in the geometry and combinatorics of Hessenberg varieties, Fields Institute, Toronto, Canada, July 22-24, 2015.
- 2014/05 *Grossberg-Karshon twisted cubes and Newton polytope*, Osaka City University, Japan, May 6, 2014.
- 2013/03 *Initial Ideals and Tropical Severi Varieties*, Algebra Seminar at University of Western Ontario, Canada, March 4, 2013.
- Jan. 2013 *Tropical Severi Varieties and Applications*, Joint Mathematics Meetings Special Session on Tropical Geometry, San Diego, CA, U.S.A., January 9-12, 2013.
- 2012/11 *Tropical Severi Varieties*, Tropical Geometry Seminar at Yale University, New Haven, CT, U.S.A., November 29, 2012.
- 2012/11 *Tropical Severi Varieties*, Geometry and Topology Seminar at Waterloo University, Canada, November 21, 2012.
- 2012/11 *"Limits" of Schemes*, Geometry and Topology Seminar at McMaster University, Canada, November 1, 2012.
- 2012/10 *Tropical Severi Varieties and Applications*, American Mathematical Society Fall Central Sectional Meeting Special Session on Toric Algebraic Geometry and Beyond, October 20-21, 2012.
- 2012/05 *Parameter Spaces of Curves constructed from polygons*, Ontario Combinatoric Workshop at the Fields Institute, Toronto, Canada.
- 2012/02 *Tropical Severi Varieties and Applications*, Geometry and Topology Seminar at McMaster University, Canada, February 2, 2012.
- 2011/11 *Parameter Spaces of Curves On Toric Surfaces*, Joint Seminar with TU Kaiserslautern at University of Saarlandes, Germany, November 3, 2011.
- 2011/10 *Parameter Spaces of Curves On Toric Surfaces*, Algebraic Geometry Seminar at Queen's University, Canada, October 31, 2011.
- 2011/08 *Tropical Mathematics and Severi Varieties of Curves on Toric Surfaces*, Pusan National University, South Korea, August 02, 2011.
- 2011/06 *Tropicalizations of Severi Varieties*, Women in Mathematics, University of Toronto, Canada, June 29, 2011.
- 2011/04 *Tropicalization and Connections to Secondary Fans*, Graduate Student Seminar at University of Toronto, Canada, April 13, 2011.
- 2011/04 *Tropicalizations of Severi Varieties and Connections to Secondary Fans*, Ninth Annual Graduate Student Topology and Geometry Conference at Michigan State University, U.S.A., April 3, 2011.
- 2009/06 *Severi Variety and Subdivisions*, Tropical Geometry Summer School at Korea Institute for Advanced Study, South Korea, June 2009.
- 2005/04 *The Geometry of Semigroups*, Columbia-Stony Brook Junior Algebraic Geometry Seminar at Stony Brook University, U.S.A., April 2005.

Contributed talks/Short communications/Poster Presentations

- 2019/04 *Math-Learning through Performance*, Contributed talks, MAA Indiana Section Spring 2019 Meeting, University of Indianapolis, Indianapolis, IN, U.S.A., April 5-6, 2019
- 2018/10 *Combinatorics for Geometry*, Contributed talks, MAA Indiana Section Fall 2018 Meeting, Hanover College, Hanover, IN, U.S.A., October 13, 2018
- 2018/05 *Building Bridges*, Poster Presentation, Marian Faculty Research Symposium, Marian University-Indianapolis, IN, U.S.A., May 09, 2018
- 2017/02 *Bott Canonical Basis*, Poster Presentation, Fifth Midwest Women in Mathematical Symposium, IUPUI (Indiana University-Purdue University Indianapolis), February 25, 2017
- 2015/07 *Functoriality of Newton-Okounkov body-toric degeneration and applications to Schubert varieties*, Poster presentation, Workshop on recent developments in the geometry and combinatorics of Hessenberg varieties, Fields Institute, Toronto, Canada, July 22-24, 2015.
- 2015/02 *Toric Desingularization of Gelfand-Zetlin toric variety*, Contributed talk, Geometry and Topology Seminar at McMaster University, Canada, February 5, 2012.
- 2014/10 *Tropical Geometry and Newton-Okounkov Body Theory*, Short communication, Connecting Women in Mathematics Across Canada, Banff International Research Station, Canada, October 3-5, 2014.
- 2014/08 *Okounkov bodies, toric dedgenerations, and Bott-Samelson varieties*, Short communication, International Congress of Mathematicians, South Korea, August 19, 2014.
- 2014/08 *Convexity of supports of the Grossberg-Karshon twisted cubes*, Poster presentation, International Congress of Mathematicians, South Korea, August 15, 2014.
- 2014/08 *Okounkov bodies, toric dedgenerations, and Bott-Samelson varieties*, Contributed talk, Topology of Torus Actions and Applications to Geometry and Combinatorics, South Korea, August 8, 2014.
- 2011/06 *Tropicalizations of singular strata and applications*, Poster presentation, Toric geometry and applications, KU Leuven, Belgium, June 6-10, 2011.

Conference attended

- 2019/06 Women in Geometry and Topology, Center for Geometry and Physics, Institute for Basic Science, South Korea, June 24 - 28, 2019.
- 2019/06 Workshop on Geometry and Lie Theory, The University of Hong Kong, Hong Kong, China, June 17-18, 2019.
- 2019/04 MAA Indiana Section Spring 2019 Meeting, University of Indianapolis, Indianapolis, IN, U.S.A., April 6, 2019.
- 2019/01 Winter Cracker Barrel (Faculty Development Event), Marian University-Indianapolis, IN, U.S.A., January 11, 2019
- 2018/11 Facet Associate Faculty and Lecturer Conference (FALCON) 2018, Successful Strategies for Student Engagement: Sometimes it's the little things, Indiana University, November 9-10, 2018
- 2018/10 MAA Indiana Section Fall 2018 Meeting, Hanover College, Hanover, IN, U.S.A., October 13, 2018
- 2018/08 Tools for Teaching Conference: Small Teaching, Cheating Lessons, Marian University-Indianapolis, IN, U.S.A., August 14, 2018
- 2018/05 Marian Faculty Research Symposium, Marian University-Indianapolis, IN, U.S.A., May 09, 2018
- 2018/03 AMS Spring Central Sectional Meeting, Ohio State University, Columbus, OH, U.S.A., March 16-18, 2018

2018/01 Joint Mathematics Meeting, San Diego, U.S.A., January 10-13, 2018

2018/01 2018 SoTL (Scholarship of Teaching and Learning Workshop): Understanding What Really Happens in the Classroom, Marian University-Indianapolis, IN, U.S.A., January 3, 2018

2017/05 Faculty Con 2017: Engaging Students, Ideas that Work, Marian University-Indianapolis, IN, U.S.A., May 10, 2017

2017/05 AMS Spring Eastern Sectional Meeting, Hunter College, City University of New York, New York, NY, U.S.A., May 6-7, 2017.

2017/02 Fifth Midwest Women in Mathematical Symposium, IUPUI (Indiana University-Purdue University Indianapolis), February 25, 2017.

2016/09 Quantitative Reasoning Faculty Workshop, The Indiana Math Innovation Council & the Core Transfer Library (CTL) Math Faculty Panel, Ivy Tech Community College, September 27, 2016.

2016/08 Teaching Excellence Colloquium, Marian University-Indianapolis, IN, U.S.A., August 16, 2016.

2016/05 TechKnowFile 2016, University of Toronto, Canada, May 4-5, 2016.

2015/08 Combinatorial Constructions in Topology, University of Regina, Canada, August 17-21, 2015.

2015/07 Workshop on recent developments in the geometry and combinatorics of Hessenberg varieties, Fields Institute, Toronto, Canada, July 22-24, 2015.

2014/12 CMS Winter Meeting, Hamilton, Canada, December 5-8, 2014.

2014/10 Connecting Women in Mathematics Across Canada, Banff International Research Station, Canada, October 3-5, 2014.

2014/08 International Congress of Mathematicians, Seoul, South Korea.

2014/08 Topology of Torus Actions and Applications to Geometry and Combinatorics (A satellite conference of ICM 2014), Daejeon, South Korea.

2014/05 Okounkov Bodies and Applications, Oberwolfach, Germany.

2013/04 AGNES (Algebraic Geometry Northeastern Series), Yale, U.S.A.

2013/01 Joint Mathematics Meetings, San Diego, CA, U.S.A.

2012/12 Combinatorial Commutative Algebra and Applications, MSRI, Berkeley, CA, U.S.A.

2012/10 Fields Medal Symposium, Fields Institute, Toronto, ON, Canada

2012/10 American Mathematical Society Fall Sectional Meeting, Akron, OH, U.S.A.

2012/07 The 5th Mathematical Society of Japan Seasonal Institute, 2012 International summer school and conference on Schubert calculus, Osaka, Japan

2012/05 Ontario Combinatorics Workshop, Fields Institute, Toronto, ON, Canada.

2011/07 Workshop on Moduli and Birational Geometry, POSTECH, South Korea.

2011/06 Toric geometry and Applications, Leuven, Belgium.

2009/08 Connections for Women: Tropical Geometry, MSRI, Berkeley, CA, U.S.A.

2009/06 KIAS Summer School on Tropical Geometry, Seoul, South Korea.

Publications

Published

- *Tropical geometry and Newton-Okounkov cones for Grassmannian of planes from compactifications*, with Christopher Manon, *Canad. J. Math.* (2020), 1-33. doi:10.4153/S0008414X20000735
- *Singular string polytopes and functorial resolutions from Newton-Okounkov bodies*, with Megumi Harada, *Illinois Journal of Mathematics* (2018), 62, 271–292
- *Newton-Okounkov bodies of Bott-Samelson varieties and Grossberg-Karshon twisted cubes*, with Megumi Harada, *Michigan Math. J.* (2016) 65 , 413 - 440
- *Secondary fans and Tropical Severi varieties*, *Manuscripta Mathematica* (2016), 149 (1), 93-106.
- *Grossberg-Karshon twisted cubes and basepoint-free divisors*, with Megumi Harada, *J. Korean Math. Soc.* (2015), 52 (4): 853 - 868.
- *Tropical Severi varieties*, *Port. Math.* (2013) 70 , no. 1, 59-91.

Work in progress

- *Bott Canonical Bases?*, with Yael Karshon