Dr. Carmen A. Bruni

CONTACT INFORMATION	Dr. Carmen A. Bruni David R. Cheriton School of Computer Science University of Waterloo DC 3119, 200 University Ave W Waterloo, ON N2L 3G1 Canada	*Phone:* +1-519-888-4567 Ext 30146 *E-mail:* cbruni@uwaterloo.ca www.cs.uwaterloo.ca/~cbruni/ Citizenship: Canadian

RESEARCH INTERESTS

Mathematical Education. (Formerly, **Diophantine equations with a focus on elliptic curves and the modular method:** elliptic curves, elliptic curves with rational two torsion, Chabauty's method, modular forms, Hilbert modular forms, algebraic number theory, algorithm design.)

EDUCATION

University of British Columbia (UBC), Vancouver, BC

Ph.D., Mathematics   **September 2010 - April 2015**
- Thesis Topic: *Twisted Extensions of Fermat's Last Theorem*
- Advisor: Professor Michael A. Bennett
- Area of Study: Elliptic Curves, Modular Forms and Diophantine Equations

University of Waterloo, Waterloo, ON

MMATH, Pure Mathematics   **September 2009 - August 2010**
- Thesis Topic: *The Riemann-Roch Theorem*
- Advisor: Professor David McKinnon
- Area of Study: Algebraic Geometry

BMATH, Double Major Pure Mathematics and Computer Science
     September 2005 - April 2009
- *With Distinction*, Dean's Honours List

PUBLICATIONS

- "Authentic Experiences in Two Mathematics Graduate Student Instructor Training Courses", (Carmen Bruni and Fok-Shuen Leung) - Published December 23rd, 2020, Vol. 9 No. 2 in Syllabus (2020)

  ⟨https://www.syllabusjournal.org/syllabus/article/view/266⟩

- "The Flourishing of Care in a Multidisciplinary Faculty Learning Community" (Julie A. Timmermans, Carmen Bruni, Rob Gorbet, Barbara Moffatt, Gordon Stubley, Diane Williams and Trevor Holmes) International Journal for Academic Development Volume 23 Issue 4 (2018), 367-373.

  ⟨https://www.tandfonline.com/doi/full/10.1080/1360144X.2018.1521335⟩

- "Sums of Two Cubes as Twisted Perfect Powers, Revisited", (Michael A. Bennett, Carmen Bruni and Nuno Freitas) - Algebra & Number Theory 12-4 (2018), 959–999. DOI 10.2140/ant.2018.12.959

  ⟨https://msp.org/ant/2018/12-4/index.xhtml⟩

- "From Exam to Education: The Math Exam/Educational Resources Wiki", (Carmen Bruni, Christina Koch, Bernhard Konrad, Michael Lindstrom, Iain Moyles, Will Thompson) - Published July 14, 2016, Volume 26 issue 7 in PRIMUS (Problems, Resources, and Issues in Mathematics Undergraduate Studies).

⟨ http://www.tandfonline.com/eprint/avS8WHryamXqUUXhtfJE/full ⟩

- "Twisted Extensions of Fermat's Last Theorem". Thesis April 2015

⟨https://open.library.ubc.ca/cIRcle/collections/ubctheses/24/items/1.0166239⟩

Awards

· Academic   University of British Columbia

- Four Year Fellowship   **September 2011 - August 2015**

  Value: $16,000$ per year. Increased to $18,000$ effective May 1, 2012
- NSERC CGS-M   **September 2010 - August 2011**

  Value: $17,500$

University of Waterloo

- Ontario Graduate Scholarship   **September 2009 - August 2010**

  Value: $15,000$
- President's Graduate Scholarship   **September 2009 - August 2010**

  Value: $10,000$
- NSERC - USRA   **May 2009 - August 2009**

  Value: $4,500$
- Duke Energy Scholarship   **September 2005 - April 2009**

  Value: $20,000$ (USD) over four years
- Ronald G. Scoins National Scholarship   **September 2005 - April 2009**

  Value: $18,000$ over four years
- Canada Millennium Scholarship   **September 2005 - April 2007**

  Value: $4,000$ per year
- President's Scholarship   **September 2005 - December 2005**

  Value: $2,000$

· Teaching   University of Waterloo

- eCampus Ontario Computer Science Test Bank Project   **April 2021**

  Received a government of Ontario grant to create a test bank.   Value $40,000$
- MEF Funding for student hire for Math 135 Resources Page

  April 2017 - December 2017

  Received funding to make resources AODA compliant.   Value: $11,500$
- Outstanding Undergraduate Teaching Assistant   **September 2006 - April 2009**

  Received six outstanding teaching assistant evaluations from professors at the University of Waterloo for my role as a grader for various undergraduate courses given for timely return of assignments as well as constructive feedback.

University of British Columbia

- UBC FL-TLEF Grant for the Math Educational Resources Wiki

  June 2014 - August 2015

  Received money for research project on MER Wiki   Value: $12,508$
- Mathematics Department Graduate Teaching Award   **May 2013**

  Received an award from the University of British Columbia for excellence in teaching.   Value 150
- Killam Graduate Teaching Award   **April 2013**

  Received one of five prestigious Killam Graduate Teaching Assistant Award from the University of British Columbia awarded across all graduate students in the faculty of Science at UBC for my outstanding work as both an undergraduate instructor and teaching assistant.   Value 1000
- Teaching Assistant Accreditation Program   **December 2012**

  Completed the Teaching Assistant Accreditation Program.   Value: 300

University of Waterloo, Waterloo, ON

Instructor **September 2015 - present**

Faculty of Mathematics instructor from 2015 in the Centre for Education in Mathematics and Computing (2015-2017) and in Computer Science (2017-present) and as a Computer Science academic advisor (2018-present)

- CS (Teaching Average 4.56/5, Standard Deviation 0.11 across 21 completed courses)
  - Instructor for CS 116 (Average 4.52): Introduction to Computer Science 2. (January-April 2017 and 2019, September 2019-August 2021). Course Coordinator (May 2020-Present). Developed CS116 online (2018-present)
    - Taught a total of 10 sections of approximately 90 students per section introductory Python.
  - Instructor for CS 241 (Average 4.7): Foundations of Sequential Programs. (January-April 2019, 2020)
    - Taught four 80 student sections an introductory compilers course.
  - Instructor for CS 245 (Average 4.5): Logic and Computation. (May-December 2018)
    - Taught five sections of sizes 35, 40, 43, 89 and 90 introductory Logic.
  - Instructor for CS 137 (Average 4.6): Programming Principles. (September-December 2017 and 2018)
    - Taught two sections of sizes 122 and 140 introductory programming in C. Course coordinator for single section course.
  - Instructor for CS 136 (Average 4.5): Elementary Algorithm Design and Data Abstraction. (January-April 2018)
    - Taught three sections of sizes 61, 67, 76 introductory programming in C.
- MATH (Teaching Average 4.46/5 across 6 completed courses)
  - Instructor for MATH 135: Algebra for Honours Mathematics. (September-December 2016, 2015 and January-April 2016)
    - Teaching 2 classes per term of 60 students proofs and number theory. (Total of 6 classes)
- CO (Teaching Average 3.6/5 from CO 480)
  - Instructor for CO 480: History of Mathematics. (May-August 2017)
    - Redesigned and taught a 120 student course in History of Mathematics - geared more towards Number Theory concepts.
  - Co-Instructor for CO 380: Problem Solving Strategies. (May-August 2016)
    - Taught one fifth of course of 60 students (Topics: factoring, inequalities and functional equations).
    - Teaching evaluations for this course are not available.

Langara College, Vancouver, BC

Instructor **January 2015 - April 2015**

- Instructor for MATH 1174: Calculus I - Economic and Business Applications.
  - Taught 38 students differential calculus with business applications.
  - Created assignments and midterms for evaluations.

University of British Columbia, Vancouver, BC

Instructor **January 2015 - April 2015**

- Instructor for MATH 210: Introduction to Mathematical Computing.
- Teaching evaluation score of 3.8/5.0.
  - Students used Python and Sage via Sage Math Cloud to solve mathematical problems using a computer.
  - Created assignments, midterms and final examination for the single section course of 55 students.

Teaching Assistant **September 2014 - December 2014**

- Teaching assistant for MATH 102: Differential Calculus with Applications to Life Sciences.
  - Maintained WebWork assignments and course wiki.
  - Graded midterms for the course.

Instructor **January 2014 - April 2014**

- Instructor for MATH 103: Integral Calculus with Applications to Life Sciences (85 students).
- Teaching evaluation score of 4.7/5.0.
  - Wrote a syllabus for the course found at ⟨https://github.com/cbruni/MATH-103-Syllabus-UBC-⟩
  - Created a series of videos and pencasts which are available at ⟨http://wiki.ubc.ca/Science:Math Exam Resources ⟩ or on my home webpage.

Workshop Facilitator **September 2013 - December 2013**

- Workshop facilitator for MATH 180: Differential Calculus with applications to Physical Sciences.

Online Educational Resource **August 2013**

- Created and modified HTML and JavaScript webpages to assemble a precalculus resource for incoming students at UBC.

Instructor **January 2013 - April 2013**

- Instructor for MATH 103: Integral Calculus with Applications to Life Sciences (85 students).
- Teaching evaluation score of 4.4/5.0.

Workshop Facilitator **September 2012 - December 2012**

- For MATH 180 and MATH 184: Differential Calculus with applications to Business and Commerce.

Instructor **January 2012 - April 2012**

- Instructor for MATH 101: Integral Calculus with Applications to Physical Sciences and Engineering (80 students).
- Teaching evaluation score of 4.7/5.0.

Teaching Assistant - Tutor **September 2011 to December 2011**

- Tutored in the tutorial centre for first and second year mathematics courses

Teaching Assistant - Grader **January 2011 to April 2011**

- Graded for MATH 313: Topics in Number Theory for Professor Vinayak Vatsal

Teaching Assistant - Tutor **September 2010 to December 2010**

- Tutored in the tutorial centre for first and second year mathematics courses and held office hours for MATH 180, Differential Calculus with Physical Applications, taught by Professor Rajiv Gupta.

University of Waterloo, Waterloo, ON

Teaching Assistant - Tutorial Instructor **January 2010 to April 2010**

- Mini-session instructor for MATH 118: Calculus 2 for Engineering

Teaching Assistant - Tutor **September 2009 to December 2009**

- Tutor for MATH 135: Algebra for Honours Students

Undergraduate Teaching Assistant - Grader **September 2006 to April 2009**

Selected Talks

· Academic
- *Sage: An Open-Source Mathematical Software System*
  Undergraduate Mathematics Colloquium at UBC — **November 2014**
- *Twisted Extensions of Fermat's Last Theorem*
  Canadian Number Theory Association (CNTA XIII), Ottawa — **June 2014**
- *Twisted Extensions of Fermat's Last Theorem*
  2014 Canadian Mathematical Society Summer Meeting, Winnipeg — **June 2014**
- *The Wonderful World of ~~Disney~~ Modular Forms*
  Graduate Colloquium at UBC — **March 2014**
- *Twisted Extensions of Fermat's Last Theorem*
  CMS Winter Meeting Satellite Session, Montreal — **December 2012**
- *Techniques for Solving Diophantine Equations*
  Graduate Colloquium at UBC — **November 2012**
- *An Introduction to Kolmogorov Complexity*
  Undergraduate Mathematics Colloquium at UBC — **February 2012**
- *The Busy Beaver Function*
  Graduate Colloquium at UBC — **January 2012**
- *Elliptic Curve Cryptography*
  Graduate Mathematics Colloquium at the University of Waterloo — **June 2010**

· Education
- *Fall Is Coming* — **August 2020**
  CEMC Math Teachers' Conference, Waterloo, Ontario
- *Facilitator in CoMInDS Teaching Seminar: Pre-Term Orientation!* — **August 2020**
  CoMInDS, Online
- *Invited Panelist - Experiences from S20* — **July 2020**
  Computer Science Talk, Waterloo, Ontario
- *80640 - Fall Is Coming* — **July 2020**
  CMS CCREM Conference, Online
- *Invited Panelist - Remote Teaching and S20 Assessments* — **April 2020**
  Computer Science Talk, Waterloo, Ontario
- *Teaching 101* — **November 2019**
  Waterloo's Teaching Association, Waterloo, Ontario
- *Patterns and Sequences* — **August 2019**
  CEMC Math Teachers' Conference, Waterloo, Ontario
- *Instructor Training Courses* — **June 2019**
  BIRS Innovations in New Instructor Training, Banff, Alberta
- *Lessons Learned from a Graduate Student Seminar* — **March 2019**
  2019 Fields Math Ed Forum, Toronto, Ontario
- *Lessons Learned from a Graduate Student Seminar* — **December 2018**
  2018 Canadian Mathematical Society Winter Meeting, Vancouver, British Columbia
- *Online Adventures!* — **June 2018**
  2018 Canadian Mathematical Society Summer Meeting, Fredericton, New Brunswick
- *Invited Workshop Leader Fields Workshop Toronto, Ontario* — **April 2018**
  First Year University Mathematics Across Canada: Facts, Community and Vision
- *Classroomless Classrooms* — **December 2017**
  2017 Canadian Mathematical Society Winter Meeting, Waterloo, Ontario
- *Patterns and Sequences* — **August 2017**
  CEMC Math Teachers' Conference, Waterloo, Ontario
- *Mathematical Housing: Downsizing a First Year Proofs Course* — **December 2016**
  2016 Canadian Mathematical Society Winter Meeting, Niagara Falls, Ontario
- *Patterns and Sequences* — **November 2016**
  Grand River Valley Mathematics Association Meeting, Waterloo, Ontario
- *Patterns and Sequences* — **August 2016**

CEMC Math Teachers' Conference, Waterloo, Ontario

- *The Math Exam/Educational Resources Wiki*   **December 2014**
  2014 Canadian Mathematical Society Winter Meeting, Hamilton, Ontario
- *Solving America's Math Problem*   **November 2014**
  Teaching Seminar at UBC
- *The Math Exam/Educational Resources Wiki*   **February 2014**
  Lunch Series Talks in Teaching at UBC
- *Academic Motivation in Calculus*   **February 2014**
  Teaching Seminar at UBC
- *Where Learning Starts? A Framework for Thinking About Lectures in University Mathematics*   **November 2013**
  Teaching Seminar at UBC
- TAAP Beta Course   **March 2013**
  Lunch Series Talks in Teaching at UBC

· OUTREACH
- *Math 101 Day*
  Annual Outreach Event, University of Waterloo   **Every July 2015-Present**
- *Careers in CS*
  School Visits in Kingston   **February 2019**
- *March Break Open House Speaker*
  Annual Outreach Event, University of Waterloo   **March 2018**
- *Fall Open House Speaker*
  Annual Outreach Event, University of Waterloo   **November 2017**
- *Problem Solving Sessions*
  CMS Toronto Math Camp   **July 2017**
- *Problem Solving Sessions*
  CEMC Toronto Math Camp   **July 2017**
- *Problem Solving Sessions*
  School Visits in Calgary, Alberta   **March 2017**
- *Math - What is it Good For?*
  TCDSBPD Day, Toronto, Ontario   **February 2017**
- *Luhn's Algorithm*
  School Visit, University of Waterloo   **January 2017**
- *Fractals and Python*
  School Visit, University of Waterloo   **December 2016**
- *Mathematics in the Real World (Forecasting, Statistics and Compound Interest)*
  Math Circles University of Waterloo   **October 2016**
- *Introduction to Graph Theory*
  Math 101 Day, University of Waterloo   **July 2016**
- *Pell's Equations*
  School Visits in Winnipeg, Manitoba   **March 2016**
- *Kolmogorov Complexity*
  EMACS, University of Waterloo   **October 2015**
- *Congruent Number Problem (3 Part Series)*
  Math Circles University of Waterloo   **October/November 2015**
- *Error Checking Codes*
  PC4G University of Waterloo   **October 2015**

POSTERS
- *The Math Exam/Educational Resources Wiki*
  2014 Canadian Mathematical Society Winter Meeting in Hamilton
      December 2014
- *The Math Exam/Educational Resources Wiki*
  Flexible Learning Open House - Poster Session at UBC   **June 2014**

- *The Math Exam/Educational Resources Wiki*
  CWSEI End-of-Year Event at UBC   **April 2014**

ORGANIZED
CONFERENCES
AND SEMINARS

CNTA Co-Organizer (Fields/University of Toronto)   **September 2018 - 2020**
- Helping to co-organize a biannual Canadian number theory conference which was to be held in Toronto with Patrick Ingram.
- Cancelled due to COVID-19

CMS Winter Meeting (Toronto, Ontario)   **December 2019**
- Co-organized session with Emily Braley and Caroline Junkins "Establishing and Fostering a Mathematical Community Online".
- Invited 12 speakers to talk about their online experiences.
- See https://winter19.cms.math.ca/index.php/education-sessions/ for more details.

BIRS Conference Co-Organizer (Banff, Alberta)   **June 2019**
- Helping to organize conference at BIRS on Innovations in New Instructor Training
- See https://www.birs.ca/events/2019/2-day-workshops/19w2231 for more details.

Graduate Teaching Seminar (University of Waterloo) **January - April 2017-2019**
- Ran a seminar for graduate students teaching mathematics graduate students how to teach.
- Involved giving seminar talks, peer reviewing student lead talks and a live practicum.
- On hiatus due to COVID-19

Teaching Seminar (University of Waterloo) **September 2015 - September 2019**
- Organized a set of seminar talks throughout the terms (excluding spring terms).
- Ran a lecture style seminar from Fall 2017 and Winter 2019 getting several speakers across all departments in mathematics.
- Led seminar on the book "How to Teach Mathematics" by Steven Krantz in Fall 2017 and Winter 2018.
- Led seminar on the book "Teach Like a Champion 2.0" by Doug Lemov in Fall 2016 and Winter 2017.
- Led seminar on the book "Make It Stick" by Peter C. Brown, Henry L. Roediger III , and Mark A. McDaniel in Winter 2016.
- Led discussions about assorted papers in mathematics education in Fall 2015.
- Seminar is currently being run by Zack Cramer and Blake Madill

STEM Education Conference Volunteer   **July 2014**
- Set up and aided with take down of STEM Education Conference held at UBC.

PIMS YRC Organizer   **September 2013 - June 2014**
- Organized PIMS Young Researchers Conference held on June 2-4, 2014 at UBC.
- Responsible for setting up food arrangements, securing funding and booking venues.

Graduate Seminar in Algorithms   **January 2014 - May 2014**
- Organized and participated in a weekly algorithms seminar with fellow graduate students (between 10 and 20 per week).
- Programmed algorithms in Python.

- Completed weekly exercises inspired by the book Introduction to Algorithms by Cormen, Leiserson, Rivest and Stein.
- Created and released a cross platform cell phone game using Python and Kivy.

Teaching Assistant Accreditation Program (TAAP) Coach

January 2014 - April 2014

- Coached, with Vincent Chan, a team of six students a total of twelve hours a week through a series of activities geared towards improving teaching skills amongst graduate students.
- Suggested weekly activities and ensured completion of activities by the participants.

Elliptic Curves Seminar   **January 2012 - April 2012**

- Organized and participated in a weekly seminar about elliptic curves with fellow graduate students (between 10 and 15 per week).

PROFESSIONAL SERVICE

University of Waterloo, Waterloo, ON

Senate Member on Committee for Student Appeals   **May 2021 - Present**

- Member of University Committee on Student Appeals (UCSA).

UAC Member   **May 2020 - Present**

- Member of UAC to help forward changes to faculty council.

UAPC Member   **May 2018 - Present**

- Member of UAPC to help forward changes to school curriculum.

Hiring Committees   **September 2018 - Present**

- Part of the hiring committee for new teaching staff ISC role (2018), online webmaster role (2018) and most recently in 2020 for lecturer hires.

Graduate TA Orientation   **August 2018 - Present**

- Helped with the Graduate TA orientation for Faculty of Mathematics from 2018-present.

Academic Advising   **May 2018 - Present**

- Hold office hours on average 2-3 times a month to help students with course decisions.
- Reply to emails in a prompt manner and answer student inquiries.
- Co-manage the waitlists (with Alice Gao).
- Frequently part of transfer days decision committee.
- Help with degree checks.

Euclid Contest Grader   **April 2016 - Present**

- Annual grading of a subset of the 19000+ papers received for the Euclid contest.

Senate Member   **May 2016 - Present**

- Member of senate.

School and Faculty Council Meeting Attendee   **September 2015 - Present**

- Attendee of many school and faculty council meetings.

Resource Webpages **August 2015 - Present**

- Visit my home webpage:

  https://cs.uwaterloo.ca/~cbruni/

  for more details. Created several student resource pages for MATH 135, CS 116, CS 136, CS 137, CS 245, CS 241 and CO 480.

School Visits **August 2015 - Present**

- Various visits to high schools to ignite student interest in mathematics.
- Give presentations and problems sets to prospective students.

Open House Events **August 2015 - Present**

- Participated in MATH 101, Fall and March Open House Events.
- Gave talks to prospective students.

Canadian Senior Mathematics Contest (CSMC) Grader

December 2015 - Present

- Annual grading of a subset of the 10000+ papers received for the CSMC contest.

CCC and CCO Contest Editor and Creator

December 2015 - Present

- Participated in the editing and creation of the Canadian Computing Contest (CCC) and the Canadian Computing Olympiad (CCO).

Recruitment Videos **March 2021**

- Created recruitment videos for Computer Science and Data Science for prospective students.

Convocation Ambassador **May 2018 - May 2020**

- Part of committee to try to increase faculty involvement in convocation
- Participated in convocations from 2016-present.
- Suspended due to COVID-19

OUF Volunteer **September 2019**

- Participated in the 3 day Ontario Universities Fair in Toronto

Advising Wiki Day **August 2019**

- Helped update the Advising Wiki.

Datathon Judge **May -September 2018**

- Served twice as a judge for local Datathon.

Senate Executive Council Member **May 2016 - April-2017**

- Member of executive senate council.

Contest Committees **August 2015 - August 2017**

- Member of the Canadian Senior Mathematics Contest creation committee
- Validator for the Fryer, Galois and Hypatia contests, Pascal, Cayley, Fermat and Euclid contests and for the Canadian Team Mathematics Contest.
- Validator for the Beaver Computing Challenge, the Canadian Computing Competition and the Canadian Computing Olympiad.

Math Circles   **September 2015-December 2017**

- Created problem sets and gave three series of three talks on History of Mathematics, the Congruent Number Problem and Real World Mathematics.
- Gave two additional talks on Triangles.

New Faculty Orientation   **August 2016**

- Invited panelist and facilitator for New Faculty Orientation and aide for International Student Orientation.

Crux Magazine

Crux Mathematicorium Editor   **July 2015 - December 2017**

- Editor for the Olympiad Corner section of Crux Magazine.

University of British Columbia, Vancouver, BC

Math Exam/Educational Resources Wiki   **March 2012 to April 2015**

- Wrote solutions for a free resource for students to receive help with exam problems for first and second year mathematics courses via the MediaWiki software.
- Organized content and developed digital content such as pencasts for the resource.
- Wrote grant proposals and gave talks and poster sessions on the resource.
- Worked as a team to provide students with an easy to navigate learning resource.
- For more information, visit the Math Exam/Educational Resources Wiki found at ⟨http://wiki.ubc.ca/Science:Math Exam Resources⟩

Math Mania Volunteer   **November 2014**

Math Liaison   **September 2013 to August 2014**

- Acted as mediator and bridged communication lines between the mathematics graduate students at UBC and the math club at UBC.

UBC Killam Award Committee Member   **September 2013 to March 2014**

- Helped choose prestigious Killam award winners for outstanding educators.
- Visited nominees' lectures and evaluated teaching performances.
- For more information, visit ⟨http://science.ubc.ca/faculty/awards/killam⟩

Canadian Open Mathematics Competition Marking   **December 2012-2013**

UBC Job Fair Volunteer   **November 2013**

Euclid Day   **May 2012**

Euclid Contest Marking   **April 2012**

PROFESSIONAL EXPERIENCE

External Consulting (details available upon request)   **August 2016-Present**

Private Tutor   **January 2013-April 2015**

University of Waterloo, Waterloo, ON

Undergraduate Researcher - USRA   **May 2009 - August 2009**

- Funding: NSERC - USRA and University of Waterloo - Department of Combinatorics and Optimization
    - "Knot Invariants, Turaev's Theorem and Khovanov Homology"
    - Supervisor: Professor David M. R. Jackson
- Studied knot theory and investigated properties of knot invariants.
- Studied the categorification of the Jones polynomial knot invariant in terms of Khovanov homology.

HARDWARE AND   Computer Programming:
SOFTWARE SKILLS   • (Current familiarity) C, C++, Python, Sage, Magma, MediaWiki
                   • (Past familiarity) Maple, Java, MATLAB, Mathematica.

                   Productivity Applications:
                   • TEX (LaTeX, BibTeX), most common productivity packages for Windows

CONFERENCES   • International Center for Academic Integrity (ICAI) (Online)   **March 2021**
AND WORKSHOPS   • CEMC Math Teachers' Conference, Waterloo, Ontario   **August 2020**
ATTENDED   • CoMInDS Teaching Seminar: Pre-Term Orientation Online   **August 2020**
                  • Discussion Group on MAA Practices Guide   **May-August 2020**
                  • CMS CCREM Conference, Online   **July 2020**
                  • Participant in Online Lilly Conference Bethesda   **May 2020**
                  • CEMC Math Teachers' Conference (Waterloo, Ontario)   **August 2019**
                  • BIRS - Innovations in New Instructor Training (Banff, Alberta)   **June 2019**
                  • 2019 Fields Math Ed Forum (Toronto, Ontario)   **March 2019**
                  • 2018 CMS Winter Meeting (Vancouver, British Columbia)   **December 2018**
                  • CoMInDS Summer Workshop - Improving the Preparation of Graduate Students to
                    Teach Undergraduate Mathematics (Orono, Maine)   **July 2018**
                  • 2018 CMS Summer Meeting (Fredericton, New Brunswick)   **June 2018**
                  • Kristofer Siy's Math Education Seminar   **May-August 2018**
                  • First Year University Mathematics Across Canada: Facts, Community and Vision-
                    Invited workshop leader (Toronto, Ontario)   **April 2018**
                  • 2017 CMS Winter Meeting (Waterloo, Ontario)   **December 2017**
                  • CEMC Math Contest Conference (Kitchener, Ontario)   **February 2017**
                  • 2016 CMS Winter Meeting (Niagara Falls, Ontario)   **December 2016**
                  • GRVMA Meeting (Waterloo, Ontario)   **November 2016**
                  • CEMC Math Contest Conference (Kitchener, Ontario)   **November 2016**
                  • CEMC Math Teachers' Conference (Waterloo, Ontario)   **August 2016**
                  • 2016 Bebras BCC Conference (Bodrum, Turkey)   **May 2016**
                  • CEMC Math Contest Conference (Kitchener, Ontario)   **February 2016**
                  • CEMC Math Contest Conference (Kitchener, Ontario)   **November 2015**
                  • CEMC Math Teachers' Conference (Waterloo, Ontario)   **August 2015**
                  • CEMC CS Teachers' Conference (Waterloo, Ontario)   **August 2015**
                  • 2014 CMS Winter Meeting (Hamilton, Ontario)   **December 2014**
                  • STEM Education and Our Planet(Vancouver, British Columbia)   **July 2014**
                  • 13th Conference of the CNTA (Ottawa, Ontario)   **June 2014**
                  • 2014 CMS Summer Meeting (Winnipeg, Manitoba)   **June 2014**
                  • 11th PIMS YRC (Vancouver, British Columbia)   **June 2014**
                  • PNNT Conference (Burnaby, British Columbia)   **May 2014**
                  • PNNT Conference (Seattle, Washington)   **June 2013**
                  • CMS Winter meeting (Montreal, Quebec)   **December 2012**
                  • Riemann Zeta Function Workshop (Burnaby, British Columbia)   **November 2012**
                  • CNTA XII Meeting (Lethbridge, Alberta)   **June 2012**
                  • BIRS Summer School: Contemporary methods for solving Diophantine equations
                    (Banff, Alberta)   **June 2012**
                  • Software Carpentry (Vancouver, British Columbia)   **May 2012**
                  • Pacific Northwest Number Theory Conference (Moscow, Idaho)   **May 2012**
                  • Automorphic Forms Workshop (Vancouver, British Columbia)   **April 2012**
                  • CMS Winter meeting (Toronto, Ontario)   **December 2011**
                  • Tate's Thesis Seminar (Vancouver, British Columbia)   **August 2011**
                  • Instructional Skills Workshop (Vancouver, British Columbia) **December 2010**