

ADDRESS

Mathematics and Computer Science
Northern Michigan University
1401 Presque Isle Ave.
Jamrich 2228
Marquette MI 49855

<http://euclid.nmu.edu/~darowe>

MATHEMATICAL INTERESTS

- Representation Theory
- Nonassociative Algebra
- Teaching Mathematics

EDUCATION AND ACADEMIC POSITIONS

- 2015→ Assistant Professor, Northern Michigan University
2009-2015 PhD, Mathematics, University of Toronto
2008-2009 MS, Mathematics, University of Toronto
2004-2008 BMath, University of Waterloo

PUBLICATIONS

- 2022 Davin Hemmila, J.D. Phillips, Daniel Rowe, Ron White, *The Varieties of Rings of Bol-Moufang Type*. (submitted to Journal of Algebra)
- 2022 Davin Hemmila, J.D. Phillips, Daniel Rowe, Ron White, *The Varieties of Rings of Bol-Moufang Type Outside Characteristic Two*. (manuscript in preparation)
- 2022 A. Webb, D. Rowe, *Sphere Kissing Problems, Archimedean Polyhedra, and Cyclic Vertex Figures*. (mauscript in preparation)
- 2018 A. Barnsley, M. McCormick, D. Rowe, M. Smith, A novel method to factor cubic polynomials: the *ad*-method, *MathAMATYC Educator*, vol. 9, no. 1 (2017) 50-56.
- 2015 PhD Thesis: *Lusztig Slices in the Affine Grassmannian and Nilpotent Matrices*.
University of Toronto Archives (2015).

COURSE INSTRUCTOR - NORTHERN MICHIGAN UNIVERSITY

ma541: Topics in Geometry (Curvature and Tensors)
ma516: (Algebraic) Topology
ma511: Advanced Linear Algebra

- ma340: Combinatorics
- (×2) ma483: Number Theory
- (×5) ma412: Abstract Algebra II
- (×5) ma312: Abstract Algebra I
- (×7) ma211: Linear Algebra I
- (×6) ma161: Calculus I
- (×3) ma115: Precalculus
- (×2) ma495: Graph Theory
- ma101: Quantitative Literacy
- ma495: Group Theory and Chemistry

COURSE INSTRUCTOR - UNIVERSITY OF TORONTO

- mat136: Calculus II
- mat224: Linear Algebra II
- (×3) mat223: Linear Algebra I

SERVICE

- 2019→ · Director of the NMU *MS Mathematics* program [[link](#)]
- 2019 · Director of the 2019 *U.P. High School Math Challenge* (100 students)
- 2019 · Co-director of the 2019-20 *Michigan Mathematics Prize*
- 2018 · Author of *NMU Master of Science in Mathematics* proposal (60 pages)
- 2018 · Organized travel, registration, and presentation slot for NMU students Helen Boburka and Ronald White at a Regional MAA Conference in Houghton MI, to present work on p -adic numbers and conic equations
- 2018 · Participated in two day workshop: *LACUC 101/201*, Portland Maine
- 2016 · Regional News (TV6 U.P.) interview re: the *U.P. High School Math Challenge*
- 2016 · Regional News (TV6 U.P.) interview re: NCAA March Madness Brackets
- 2018 · Co-director of the 2018-19 *Michigan Mathematics Prize*
- 2018 · Director of the 2018 *U.P. High School Math Challenge* (100 students)
- 2017 · Director of the 2017 *U.P. High School Math Challenge* (130 students)
- 2016→ · Faculty coordinator for the NMU Math Tutor Lab
- 2017→ · Service on university-wide committees: Academic Senate, Graduate Programs, Institutional Animal Care and Use. Departmental committees: executive, colloquium, mathematics
- 2015→ · Organizer of a weekly Math Club, coach of NMU teams for Alma MATHChallenge, Putnam
- 2018-19 · Attended the *Michigan Mathematics Prize* grading day at Albion College
- 2017-18 · Proofread Part I and Part II problems for the *Michigan Mathematics Prize*
- 2016 · *Math Memes* [[talk poster](#)], Science on Tap - Ore Dock Brewing Co, Marquette MI
- 2016→ · Academic advisor for NMU mathematics majors
- 2016 · Organized travel, registration, and presentation slot for NMU student Anthony Webb at the MAA: Mathfest in Columbus OH, to present our research on the Platonic solids
- 2016 · Organized a summer seminar on the book *Fearless Symmetry*, by Ash and Gross

- 2016 · Referee for paper: *Trace of a Point on a Rolling Circle Along a Smooth Curve*, by Mitchell Price, Dawitt Denu, Hyunjin Son, Eze Ramond Nwaeze
- 2016 · Regional News (TV6 U.P.) interview re: the *U.P. High School Math Challenge*
- 2016 · Regional News (TV6 U.P.) interview re: the Powerball lottery
- 2016 · Participated in two day workshop: *Pathways to Institutional Student Retention*, Troy MI
- 2015 · Organized conference trip to LSSU where three NMU math seniors presented research
- 2012-14 · Grader for the Canadian Open Mathematics Competition
- 2013 · *Giving an IBL Math Class*, teaching workshop presentation, University of Toronto
- 2008-9 · Toronto Mathematics Mentorship Program [mathplus.math.utoronto.ca]

AWARDS

- 2017 · Curriculum Development Grant, \$3,000, re: ma101: *Quantitative Literacy*
- 2016-17 · Summer Grants, \$1,500×2, to help update the NMU Math Placement Exam
- 2013-14 · Ontario Graduate Scholarship, \$15,000, University of Toronto
- 2010-11 · Ontario Graduate Scholarship, \$15,000, University of Toronto
- 2009-10 · NSERC Canada Graduate Scholarship, \$17,500, University of Toronto
- 2008-9 · Ontario Graduate Scholarship, \$15,000, University of Toronto
- 2008 · Helen Sawyer-Hogg Admission Award, \$8,000, University of Toronto
- 2008 · NSERC Research Assistantship, \$8,000, University of Waterloo
- 2007 · NSERC Research Assistantship, \$8,000, University of Waterloo
- 2004 · René Descartes Entrance Scholarship, \$4000, University of Waterloo

ACADEMIC TALKS

- 2021 · *Nonassociative Algebra and NMU MS Mathematics*, Invited Colloquium, LSSU
- 2020 · *OBS Studio and Hy-flex math classes*, Invited Talk, MAA Regional, LSSU
- 2019 · *Lusztig Slices in the Affine Grassmannian*, Invited Colloquium, MTU
- 2018 · *A Novel Method to Factor Cubics over \mathbb{Z}* , Invited Talk, MAA Regional, MTU
- 2018 · *Michigan Mathematics Prize Awards Banquet*, Invited Plenary Address, Albion College
- 2018 · *The Mathematics of Spot It!*, NMU Colloquium
- 2018 · *Hops, Skips, and Steps: a History of the Euclidean Algorithm*, NMU Colloquium
- 2018 · *Group Representations, Symmetric Functions, and Cubic Factoring*, NMU Colloquium
- 2018 · *The Thue-Morse Sequence*, NMU Colloquium
- 2018 · *Pell's Equation, Square Roots, Continued Fractions, and Chakras?*, NMU Colloquium
- 2017 · *The Buffon Needle Experiment*, Plenary Lecture, MAA Regional, NMU
- 2017 · *Pandigital Approximations*, NMU Colloquium
- 2016 · *Kissing the Platonics*, NMU Colloquium
- 2016 · *Factoring using the ad-method*, NMU Colloquium
- 2016 · *Conjugacy, Polynomials, and Lattices*, NMU Colloquium
- 2016 · *Lattices and Characteristic Polynomials*, Invited Talk, MAA Regional, LSSU
- 2015 · *The Fifth Roots of One and Representation Theory*, NMU Colloquium
- 2015 · *Continuous Growth and the Constant e* , Wisconsin Colleges - Barron and Marinette

- 2014 · *Lusztig Slices in the Affine Grassmannian*, CMS Meeting, Hamilton Ontario
- 2014 · *The Moduli Stack of G -Bundles on a Curve and Affine Lie Algebras*, Toronto Seminar
- 2013 · *Affine Schubert Decompositions and the Affine Weyl Group*, University of Oregon
- 2013 · *Braid Actions, PBW Bases, and MV Polytopes*, Duntroon Workshop
- 2013 · *Using Geometric Satake to Calculate Tensor Multiplicities*, Toronto Seminar
- 2013 · *The Satake Isomorphism*, Toronto Seminar
- 2013 · *The Weyl Character Formula From the Viewpoint of Kazhdan-Lusztig Theory*, Toronto
- 2012 · *Hypertoric Category \mathcal{O}* , Toronto Seminar
- 2012 · *Koszul Duality and Category $\mathcal{O}(\mathfrak{g})$* , Toronto Seminar
- 2012 · *Beilinson-Bernstein Localization of \mathfrak{g} -modules*, Toronto Seminar
- 2012 · *Finite \mathcal{W} -algebras and the Skryabin Equivalence*, Toronto Seminar
- 2011 · *Microlocal Structure Sheaf of a Filtered Algebra*, Toronto Seminar
- 2011 · *Constructible Sheaves*, MIT-RTG Colorado Workshop on Microlocal Sheaves
- 2011 · *Complex Modular Functors and the KZ-Connection*, Toronto Seminar
- 2011 · *The Category $\mathcal{O}(\mathfrak{g})$* , Toronto Seminar
- 2011 · *The l -adic Sheaf to Function Dictionary*, Toronto Seminar
- 2010 · *\mathcal{D} -modules, Perverse Sheaves, and The Riemann-Hilbert Problem*, Toronto Seminar
- 2010 · *The Equivalence Between A -mod and $\mathcal{O}_{\text{Spec } A}$ -mod*, Toronto Seminar
- 2010 · *Tannakian Duality*, Toronto Seminar
- 2010 · *Index Theory From the Viewpoint of the Derived Push-Forward*, Toronto Seminar
- 2010 · *Special Relativity and Representation Theory*, Toronto Seminar
- 2009 · *An Introduction to Noncommutative Geometry*, Waterloo Geometry Seminar
- 2009 · *An Introduction to Representations of Finite Groups Over \mathbb{C}* , Toronto Seminar
- 2008 · *Spectra of Commutative C^* -Algebras and von Neumann Algebras*, Toronto Seminar
- 2008 · *Haar Measure on Locally Compact Groups*, Waterloo Seminar
- 2007 · *Roth's Theorem in the Primes*, Waterloo Seminar
- 2007 · *Primes in Arithmetic Progressions and L -Functions*, Waterloo Seminar
- 2007 · *Arithmetic Progressions in Abelian Groups*, Canada Undergrad Math Symposium

CONFERENCES ATTENDED

- 2020 · Mathematical Association of America Regional Meeting, LSSU, via zoom
- 2019 · Mathematical Association of America Regional Meeting, Marquette MI
- 2018 · Mathematical Association of America Regional Meeting, Houghton MI
- 2018 · American Mathematical Society Joint Meetings, San Diego CA
- 2017 · Mathematical Association of America Regional Meeting, Marquette MI
- 2016 · Mathematical Association of America National Meeting, Columbus OH
- 2015 · Mathematical Association of America Regional Meeting, Sault Ste. Marie MI
- 2015 · American Mathematical Society Joint Meetings, San Antonio TX
- 2014 · Canadian Mathematical Society Winter Meeting, Hamilton ON
- 2014 · Geometric Representations, Centre de Recherches Mathématiques, Montréal
- 2014 · Combinatorial Representations, Centre de Recherches Mathématiques, Montréal
- 2013 · Quantum Affine Schubert Calculus, University of Oregon

- 2013 · Workshop on Mirković-Vilonen Polytopes, Duntroon ON
- 2013 · Geometry and Physics, Centre de Recherches Mathématiques, Montréal
- 2012 · Categorical Representation Theory, University of Oregon
- 2012 · Fundamentals of The Langlands Program, Fields Institute, Toronto
- 2012 · Algebraic Symplectic Geometry, CIRM Marseille, France
- 2011 · Category-Theoretic Methods in Representation Theory, University of Ottawa
- 2011 · MIT-RTG Talbot Workshop on Microlocal Sheaf Theory, Breckenridge CO
- 2011 · Representation Theory and Quantization, Fields Mathematical Institute, Toronto
- 2010 · Workshop on Ngô's Proof of the Fundamental Lemma, Duntroon ON
- 2010 · Geometry and Physics, Perimeter Institute, Waterloo ON

TEACHING ASSISTANT - UNIVERSITY OF TORONTO

- 2011-15 Trinity College Mathematics Tutor
- 2014 mat247: Algebra II
- 2014 mat185: Linear Algebra I for Engineering Science
- 2012 pmu199: Mathematical Explorations
- 2011-12 mat329: Mathematics for Elementary School Teachers
- 2011 mat223: Linear Algebra I
- 2011 pmu199: Aha! Mathematical Discovery and Creativity
- 2011 mat224: Linear Algebra II
- 2010 mat157: Analysis I
- 2010 mat237: Calculus III
- 2008-9 mat135: Calculus I

SEMINARS ORGANIZED - UNIVERSITY OF TORONTO

- 2013 The Geometric Satake Isomorphism, University of Toronto
- 2012 Nilpotent Orbits and Finite \mathcal{W} -algebras, University of Toronto
- 2010-2012 Math-Physics Seminar, University of Toronto

VOLUNTEERING

- 2012-15 Lake Ontario Waterkeeper [waterkeeper.ca]
- 2013-15 National Water Centre [swimdrinkfish.ca]
- 2010-13 *MABELLE*arts Community Arts Group [mabellearts.ca]

LANGUAGES

English, Français, TeX, HTML-CSS, R, Python

ADDITIONAL INFORMATION

- Born December 1986
- Dual Citizen: United States, Canada
- PhD Advisor: Joel Kamnitzer [math.toronto.edu/jkamnitz/]

REFERENCES

- J.D. Phillips, Professor and Chair of Mathematics, Northern Michigan University
- Joel Kamnitzer, Professor and Associate Chair of Mathematics, University of Toronto
- Eckhard Meinrenken, Professor, University of Toronto
- Felix Recio, Senior Lecturer Emeritus, University of Toronto
- Sean Uppal, Lecturer, University of Toronto
- Marco Gualtieri, Professor, University of Toronto