

# Michael Chou

Providence College, Department of Mathematics and Computer Science  
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## Employment

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<b>Providence College</b> <i>Assistant Professor</i> Research Interests: Data science, number theory, elliptic curves, cryptography	<b>Providence, RI</b> 2022–present
<b>Salve Regina University</b> <i>Assistant Professor</i>	<b>Newport, RI</b> 2019–2022
<b>Tufts University</b> <i>Norbert Wiener Assistant Professor</i>	<b>Medford, MA</b> 2017–2019

## Education

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<b>University of Connecticut</b> <i>Ph.D. in Mathematics</i> Thesis Advisor: Álvaro Lozano-Robledo Dissertation Title: <i>Torsion of rational elliptic curves over abelian extensions of <math>\mathbb{Q}</math></i>	<b>Storrs, CT</b> 2012–2017
<b>University of Arizona</b> <i>Masters program in Mathematics</i>	<b>Tucson, Arizona</b> 2011–2012
<b>Wesleyan University</b> <i>B.A. in Mathematics</i>	<b>Middletown, CT</b> 2007–2011

## Research Publications

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- 1: (With M. Karker) *Torsion of elliptic curves in the compositum of Dihedral fields*, International Journal of Number Theory, Volume 19, No. 2, pp 389-308 (2023).
- 2: (With P. Clark, M. Milosevic) *Acyclotomy of torsion in the CM case*, The Ramanujan Journal, Volume 55, pp 1015-1037 (2021).
- 3: (With H. B. Daniels, I. Krijan, F. Najman) *Torsion groups of elliptic curves over the  $\mathbb{Z}_p$ -extensions of  $\mathbb{Q}$* , New York Journal of Mathematics, Volume 27 (2021).
- 4: *Torsion of rational elliptic curves over the maximal abelian extension of  $\mathbb{Q}$* , Pacific Journal of Mathematics, Volume 302, November (2019).
- 5: *Torsion of rational elliptic curves over quartic Galois number fields*, Journal of Number Theory, Volume 160, pp 603-628, March (2016).

## Grants

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- NSF DMS-1802058, Workshop on Automorphic Forms and Related Topics. \$21,000. (March 2018) (Co-PI's: Robert Lemke Oliver, Amanda Folsom, Steven J. Miller)

## Honors and Awards

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**Tufts University:** University-wide Award – Teaching with Technology Honorable Mention 2019

- University of Conn.:** Michael Neumann Dissertation Award 2017
- University of Conn.:** PreDoctoral Fellowship 2016
- University of Conn.:** Louis J. DeLuca Memorial Outstanding Teaching Assistant Award 2016

## Teaching Experience

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**Providence College** **Providence, RI**  
*Assistant Professor* *2022 – present*

- **Courses taught:** Introduction to Statistics, Calculus I, Calculus II

**Salve Regina University** **Newport, RI**  
*Assistant Professor* *2019 – 2022*

- **Courses taught:** Statistical Methods, Calculus I, Math in Social Sciences, Abstract Algebra, Real Analysis, Cryptography through History
- **Independent Studies:**
  - Machine Learning – Reinforcement Learning
  - Senior Capstone – Cryptography

**Tufts University** **Medford, MA**  
*Norbert Wiener Assistant Professor* *2017 – 2019*

- **Courses taught:** Mathematical Cryptography, Algebraic Number Theory, Number Theory, Linear Algebra, Calculus I

**University of Connecticut** **Storrs, CT**  
*Instructor & Teaching Assistant* *2012 – 2017*

- **Courses Taught:** Problem Solving, Precalculus, Elementary Discrete Mathematics, Applied Linear Algebra, Calculus for Business and Economics, Multivariable Calculus

*Directed Reading Program Mentor* *Fall '15, Fall '16, Spring '17*

Supervised an undergraduate student in advanced math readings culminating in a presentation to their peers

- Vyas Krishnamurthy – “Matrix Groups” by M.L. Curtis
- Jake Murphy – “Elliptic Curves, Modular Forms and Their L-functions” by Á. Lozano-Robledo

## Service

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**Providence College:**  
 Mathematics and Computer Science Department Webmaster *September 2022 – present*

- Update Problem of the Week
- Ensure up-to-date information

**Salve Regina University:**  
 Faculty Salary and Benefits Committee – elected member *September 2020 – June 2022*

- Performed data analysis on university courses to inform policy
- Negotiated salary increases for faculty and adjuncts
- Advocated for increased health and retirement benefits, professional development funds

Nominations and Election Committee – elected chair *September 2020 – June 2022*

PhD in Humanities Committee Member, Salve Regina Univ. *March 2020 – June 2022*



- o “Torsion of rational elliptic curves over quartic Galois number fields”, 2015 Boston University/Keio University Number Theory Workshop, Boston University. *September 2015*

### **Seminar Talks**.....

- o “Modern Cryptography”, Connecticut College. *March 2021*
- o “From Euclid to Wiles”, Salve Regina University. *February 2018*
- o “Introduction to elliptic curves”, Colloquium, University of Hartford. *November 2018*
- o “Growth of torsion of elliptic curves from  $\mathbb{Q}$  to the maximal abelian extension”, AGeNTS Seminar, Tufts University. *September 2017*
- o “Growth of torsion of elliptic curves from  $\mathbb{Q}$  to the maximal abelian extension”, Algebra Seminar, Wesleyan University. *November 2016*
- o “Growth of torsion of elliptic curves from  $\mathbb{Q}$  to the maximal abelian extension”, Number Theory Seminar, Amherst College. *October 2016*
- o “Growth of torsion of elliptic curves from  $\mathbb{Q}$  to the maximal abelian extension”, Number Theory Seminar, Boston University. *October 2016*
- o “Growth of torsion of elliptic curves from  $\mathbb{Q}$  to the maximal abelian extension”, Algebra Seminar, University of Connecticut, Storrs. *September 2016*
- o “Torsion of rational elliptic curves over quartic Galois number fields”, Algebra Seminar at Wesleyan University. *November 2015*
- o “Torsion of rational elliptic curves over quartic Galois number fields”, Algebra Seminar at University of Connecticut, Storrs. *October 2015*
- o “Torsion subgroups of elliptic curves over number fields”, SIGMA Seminar, University of Connecticut, Storrs. *September 2014*
- o “Irrationality”, Math Club, University of Connecticut, Storrs. *September 2014*

### **Conferences and Workshops Attended**

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- o Alternative Grading Workshop, Providence College, Providence, RI *August 2022*
- o QSIDE Institute – Datathon4Justice *October 2021*
- o Joint Math Meetings, Denver, CO *January 2020*
- o NE-IBLM, Willimantic, CT *October 2019*
- o Joint Math Meetings, Baltimore, MD *January 2019*
- o Maine-Québec Number Theory Conference, Université Laval, Quebec City *October 2018*
- o Canadian Number Theory Association Conference, Université Laval, Quebec City *July 2018*
- o Torsion groups and Galois representations of elliptic curves, University of Zagreb, Croatia *June 2018*
- o CT Summer School in Number Theory, University of Connecticut, Storrs, CT *May 2018*
- o Upstate Number Theory Conference, University at Buffalo, Buffalo, NY *April 2018*
- o 32<sup>nd</sup> Automorphic Forms Workshop, Tufts University, Medford, MA *March 2018*
- o Joint Math Meetings, San Diego, CA *January 2018*
- o Maine-Québec Number Theory Conference, University of Maine, Orono, ME *October 2017*
- o Joint Math Meetings, Atlanta, GA *January 2017*
- o CT Summer School in Number Theory, University of Connecticut, Storrs, CT *August 2016*

- o Rubin Fest, Harvard University, Cambridge, MA *June 2016*
- o Upstate Number Theory Conference, University of Rochester, Rochester, NY *April 2016*
- o AMS Special Session on Elliptic Curves, University of Georgia, Athens, GA *March 2016*
- o Arizona Winter School: Arithmetic Geometry, University of Arizona, Tucson, AZ *March 2016*
- o Joint Math Meetings, Seattle, WA *January 2016*
- o Maine-Québec Number Theory Conference, University of Maine, Orono, ME *October 2015*
- o BU/Keio University Workshop 2015, Boston University, Boston, MA *September 2015*
- o Arithmetic 2015 Silvermania, Brown University, Providence, RI *August 2015*
- o Upstate Number Theory Conference, Cornell University, Ithaca, NY *April 2015*
- o Arizona Winter School: Arithmetic Dynamics, University of Arizona, Tucson, AZ *March 2014*
- o Joint Math Meetings, Baltimore, MD *January 2014*
- o Maine-Québec Number Theory Conference, University of Maine, Orono, ME *October 2013*
- o Joint Math Meetings, Boston, MA *January 2012*