

Jonathan Wang

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Citizenship: United States

Professional Positions

- 9/2021– Present **Senior Postdoctoral Fellow**, *Perimeter Institute for Theoretical Physics*, Waterloo, Ontario, Canada.
- 9/2018– 8/2021 **NSF Postdoctoral Fellow/Pure Math Instructor**, *MIT*, Cambridge, MA.
Sponsoring Scientist: Roman Bezrukavnikov
- 9/2017– 7/2018 **Member**, *Institute for Advanced Study*, Princeton, NJ.

Research Interests

Representation Theory, Automorphic Forms, L -functions, Relative & Geometric Langlands Programs

Education

- 2012–2017 **Ph.D. in Mathematics**, *University of Chicago*, Chicago, IL.
Thesis Title: On an invariant bilinear form on the space of automorphic forms via asymptotics
Advisor: Vladimir Drinfeld
- 2011–2012 **MASt, Mathematics**, *University of Cambridge*, Cambridge, UK.
Essay Title: Introduction to \mathcal{D} -modules and representation theory
Advisor: Ian Grojnowski
- 2007–2011 **A.M., Mathematics**, *Harvard University*, Cambridge, MA.
- 2007–2011 **A.B., Mathematics**, *Harvard University*, Cambridge, MA, *summa cum laude*.
Thesis Title: The moduli stack of G -bundles
Advisor: Dennis Gaitsgory

Fellowships and Awards

- 2018–2021 NSF Postdoctoral Research Fellowship (MSPRF) DMS-1803173
2017 Wirszup Fellowship, University of Chicago Mathematics Department
- 2013–2016 National Defense Science and Engineering Graduate Fellowship (NDSEG)
- 2011–2013 NSF Graduate Research Fellowship
- 2011–2012 Churchill Scholarship
- 2011 Herb Alexander Award, Harvard Mathematics Department

Teaching

- Spring 2021 **Instructor**, *MIT*, Virtual.
18.704 Seminar in Algebra, undergraduate seminar with 12 students on Representation Theory of Lie Algebras via Examples.
- Fall 2020 **Recitation Instructor**, *MIT*, Virtual.
18.06 Linear Algebra, 2 recitations with 19, 18 students, 145 students in class.
- Fall 2019 **Recitation Instructor**, *MIT*, Cambridge, MA.
18.02 Multivariable Calculus, 3 recitations with 17, 10, 20 students, 359 students in class.
- 2016-17 **Lecturer**, *University of Chicago*, Chicago, IL.
Math 151-152-153 Calculus I-II-III sequence, 21, 26, 24 students.

2013-14 **TA**, *University of Chicago*, Chicago, IL.
Math 161-162-163 Honors Calculus I-II-III (IBL) sequence, ~ 30 students.

Spring 2009 **TA**, *Harvard*, Cambridge, MA.
Math 130 Classical Geometry, ~ 30 students.

Mentorship

Spring 2021 **Mentor**, *MIT PRIMES*, Virtual.

Mentored one high school student in the PRIMES-USA program. *Student Paper Title*: On LU matrices and Springer theory.

Spring 2020-**Mentor**, *MIT UROP*, Cambridge, MA.

Summer 2021 Mentored one undergraduate on a research project about minimal K -types and intertwining operators for $GL_n(\mathbb{Q}_p)$.

Summers **Mentor**, *University of Chicago REU*, Chicago, IL.

2015-16 Mentored three undergraduates each summer on diverse topics of study.

Winter 2015 **Mentor**, *University of Chicago Directed Reading Program (DRP)*, Chicago, IL.

Mentored an undergraduate in an independent study project.

Summer 2011 **Research Advisor**, *University of Minnesota Duluth REU*, Duluth, MN.

Mentored undergraduates on independent research projects in combinatorics and number theory.

Invited Lectures

Available at <https://www.jonathanpwang.com/talks.html>

Conferences

1/2022 **Periods, Functoriality and L-functions**, Workshop, CIRM.

5/2021 **Relative Aspects of the Langlands Program, L-Functions and Beyond Endoscopy**, CIRM, *Geometric Periods*.

3/2021 **Recent Developments in Automorphic Representations**, AMS Eastern Sectional Meeting Special Session, *Geometric Hecke Periods*.

1/2019 **On the Langlands Program: Endoscopy and Beyond**, National University of Singapore/Institute of Mathematical Sciences, *The Drinfeld–Gaitsgory operator on automorphic functions*.

11/2017 **Junior Number Theory Days**, Rutgers University, *The Drinfeld–Gaitsgory operator on automorphic functions*.

Seminars

12/2021 University of Maryland, Lie Groups and Representation Theory Seminar.

11/2021 Duke, Number Theory Seminar.

11/2021 Purdue, Automorphic Forms and Representation Theory Seminar.

10/2021 Yale, Geometry, Symmetry and Physics Seminar.

9/2021 Perimeter Institute, Mathematical Physics Seminar.

4/2021 Michigan State University, Algebra Seminar.

3/2021 Institut de Mathématiques de Marseille, Séminaire Représentations des Groupes Réductifs.

11/2020 IST Austria, Algebraic Geometry and Number Theory Seminar.

11/2020 Hausdorff Center for Mathematics (Bonn), Special Seminar.

10/2020 University of Toronto, Geometric Representation Theory Seminar.

10/2020 National University of Singapore, Representation Theory and Number Theory Seminar.

10/2020 Harvard/University of Chicago, Geometric Langlands Office Hours.

10/2020 Columbia, Automorphic Forms and Arithmetic Seminar.

9/2020 MIT, Lie Groups Seminar.

2/2020 University of Texas–Austin, Geometry Seminar.

2/2019 Northeastern University, Pick My Brain Seminar.

12/2017 University of Wisconsin–Madison, Algebraic Geometry Seminar.
11/2017 UCLA, Number Theory Seminar.
11/2017 California Institute of Technology, Number Theory Seminar.
10/2017 University of Maryland, Lie Groups and Representation Theory Seminar.
11/2017 University of Toronto, Number/Representation Theory Seminar.
12/2016 MIT, Infinite Dimensional Algebra Seminar.
11/2016 Yale, Algebra and Number Theory Seminar.
10/2016 UIUC, Algebraic Geometry Seminar.
10/2016 University of Chicago, Number Theory Seminar.
10/2016 Northwestern University, Number Theory Seminar.

Outreach

2/2017 University of Chicago, Women in Math Symposium.

Professional Services

- Co-organizer of special session at Spring 2021 Meeting of the AMS Western Section (Virtual): Geometric and Categorical Methods in Representation Theory
- Co-organizer of Representation Theory graduate student seminar in 2016-17 at University of Chicago.
- Referee for: Advances in Mathematics, Algebra & Number Theory, Annales ENS, Compositio Mathematica, Duke Mathematical Journal, IMRN, Inventiones Mathematicae, Journal of the AMS, Journal of Topology, Representation Theory
- Teaching assistant for the graduate summer school at PCMI Summer Session 2015, Geometry of moduli spaces and representation theory.