Serin Hong

Personal Information

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Citizenship:	South Korea (U.S. permanent resident)

Employment

Simons Laufer Mathematical Sciences Institute (MSRI)

Simons Bridge Postdoctoral Fellow, August 2022 – present

University of Michigan

Research Fellow, August 2022 – present
Postdoctoral Assistant Professor, September 2018 – July 2022

Education

California Institute of Technology

Ph.D. in Mathematics, June 2018

- Advisor: Elena Mantovan
- Mandatory military service for South Korea, July 2010 – July 2013

M.S. in Mathematics, June 2010 (awarded June 2011)

Stanford University

M.S. in Electrical Engineering, June 2009
B.S. in Mathematics with Honors, June 2008

Publications and Preprints

[10] *On nonemptiness of Newton strata in the B^+_{dR}-Grassmannian for GSp_{2n}*, arXiv:2211.05807, preprint.

[9] *On nonemptiness of Newton strata in the B^+_{dR}-Grassmannian for GL_n*, arXiv:2209.08374, submitted.

[8] *Extensions of vector bundles on the Fargues-Fontaine curve II*, arXiv:2203.12838, submitted.

[7] *On certain extensions of vector bundles in p-adic geometry*, Math. Res. Lett., to appear.

[6] *Classification of subbundles on the Fargues-Fontaine curve*, Algebra & Number Theory. (2021)

[5] *Classification of quotient bundles on the Fargues-Fontaine curve*, Selecta Math., to appear.

[4] *Extensions of vector bundles on the Fargues-Fontaine curve* (with C. Birkbeck, T. Feng, D. Hansen, Q. Li, A. Wang, and L. Ye), J. Inst. Math. Jussieu. (2022).

[3] *Harris-Viehmann conjecture for Hodge-Newton reducible Rapoport-Zink spaces*, J. London Math. Soc. (2018).

[2] *On the Hodge-Newton filtration for p-divisible groups of Hodge type*, Math. Z. (2019).

[1] *On Hodge-Newton reducible local Shimura data of Hodge type*, Caltech Ph.D. dissertation (2018).

Awards and Honors

2022 – 2023	Simons Bridge Postdoctoral Fellowship
2022	Early-career AMS-NSF-Simons-ICM Travel Grant (canceled due to the Russo-Ukrainian war)
2021	Juha Heinonen Award for Excellence in Postdoctoral Teaching
2019 – 2021	Honored Instructor
2019	Oberwolfach Leibniz Graduate Students Grant
2018	Scott Russell Johnson Graduate Dissertation Prize
2016	Apostol Award for Excellence in Teaching
2014	Scott Russell Johnson Prize for Excellence in Graduate Research
2010	Scott Russell Johnson Prize for Excellence in First-Year Graduate Studies
2008	J. E. Wallace Sterling Award for Scholastic Achievement *for the top 25 graduating seniors in the School of Humanities and Sciences*
2008	Highbridge Award for Mathematical Problem Solving
2005 – 2008	William Lowell Putnam Mathematical Competition *Top 25 individuals (2005, 2008), Top 5 teams (2007, 2008)*
2004 – 2009	Samsung Scholarship
2003	International Mathematical Olympiad *Silver Medal*

Conference Talks/Lecture Series

2021	*KMS Annual Meeting*, online
2021	*SNU Special Lecture Series*, Seoul National University, Korea
2021	*PMI Intensive Lecture Series*, Postech, Korea
2020	*AMS Sectional Meeting*, Purdue University, IN (canceled due to COVID-19 outbreak)
2019	*Upstate Number Theory Conference*, Cornell University, NY (contributed)
2018	*Number Theory/Topology Mini Workshop*, KAIST, Korea
2016	*West Coast Algebraic Topology Summer School*, University of Oregon, OR (contributed)

Invited Seminar Talks

2022	*Caltech*, Number Theory Seminar
2022	*Seoul National Unversity*, Number Theory Seminar
2022	*Postech*, Number Theory Seminar
2022	*Purdue*, Number Theory Seminar
2021	*Univ. of Arizona*, Algebra and Number Theory Seminar
2021	*Postech*, Number Theory Seminar
2020	*KIAS*, Number Theory Seminar
2020	*Univ. of Michigan*, Group, Lie and Number Theory Seminar
2019	*Seoul National Unversity*, Number Theory Seminar
2019	*Binghamton*, The Arithmetic Seminar
2018	*Univ. of Michigan*, Group, Lie and Number Theory Seminar
2017	*Caltech*, Number Theory Seminar
2017	*UCLA*, Number Theory Seminar
2017	*UC San Diego*, Number Theory Seminar
2016	*Caltech*, Number Theory Seminar

Other Invited Events

2021	*BIRS Workshop: Basic Functions, Orbital Integrals, and Beyond Endoscopy*, online
2019	*Workshop on Geometrization of the Local Langlands Program*, McGill University, Canada
2019	*Oberwolfach Workshop: Arithmetic of Shimura Varieties*, Oberwolfach, Germany
2017	*Arizona Winter School: Perfectoid Spaces*, University of Arizona, AZ

Graduate Students Advised

2021 Maxim Melnik, M.S. (joint with Urs Hartl)

Teaching Experience

University of Michigan

Instructor

Math 215: Multi-variable Calculus	Fall 2020 – Winter 2022
Math 679: Introduction to p-adic Hodge theory	Winter 2020
Math 115: Single-variable Calculus	Fall 2018 – Winter 2020

California Institute of Technology

Instructor

Math 17: Putnam Problem Solving Seminar	Fall 2015, Fall 2016
Math 7: Number Theory for Beginners	Spring 2016

Teaching Assistant

ACM 95: Applied Mathematics for the Physical Sciences	Winter 2018
ACM/EE 117: Probability and Random Process	Fall 2017
Math 3: Probability and Statistics	Winter 2014, Winter 2016
Math 7: Number Theory for Beginners	Spring 2015
Math 120: Graduate Algebra	Fall 2014 – Winter 2015
Math 1: Calculus of One and Several Variables	Fall 2009 – Spring 2010

Community Services and Outreach Programs

2022	University of Michigan African Presidential Scholars (UMAPS)
2020 - 2022	Ann Arbor Community Resources (AACR)
2019	Postdoctoral Mentorship for graduate students

Additional Activities

Referee for Duke Math. Journal, Nagoya Math. Journal
Reviewer for Mathematical Reviews / MathSciNet
Supervisor for the Number Theory Reading Seminar at the University of Michigan (2021-2022)
Co-organizer for the Arithmetic Geometry Learning Seminar at Caltech (2017)
Head coach for the Putnam competition team at Caltech (2015-2016)
Tutor/Mentor for a summer camp for mathematically gifted Korean middle school students (2013)
Author of the textbook "Creative Thinking and Mathematics" for Korean middle schools (2013)
Developer of an education program for mathematically gifted Korean middle school students (2012)
Lecturer at the Korean Mathematical Olympiad Summer/Winter School (2004-2005)