

Jun–Yong Park

CONTACT INFORMATION

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RESEARCH INTERESTS

My interests lie at the intersection of algebraic geometry and algebraic topology. Particularly, I like to think about the topology of algebraic spaces originating from moduli problems e.g. the moduli space of fibered algebraic surfaces, moduli space of morphisms between certain varieties/stacks. And their arithmetic implications as enumerating curves and abelian varieties over global function fields.

ACADEMIC POSITIONS

Max Planck Institute for Mathematics, Bonn, Germany

Postdoctoral Fellow, 2021 Fall - Present

IBS Center for Geometry and Physics, POSTECH, Pohang, South Korea

Research Fellow / Military Service, 2018 Fall - 2021 Spring

EDUCATION

University of Minnesota Twin Cities

Ph.D. in Mathematics, 2012 Fall - 2018 Spring

Advisor: Craig Westerland

M.Sc. in Mathematics, 2016 Spring

B.Sc. in Mathematics, 2008 Fall - 2011 Fall

Pennsylvania State University

Mathematics Advanced Study Semester, 2009 Fall

Independent University of Moscow

Mathematics in Moscow, 2010 Spring

Brown University

Visiting student hosted by Thomas Goodwillie, 2018 Spring

ARTICLES IN PREPARATION

Arithmetic moduli of elliptic surfaces

(with Dori Bejleri and Matthew Satriano)

Étale cohomological stability of the moduli space of stable elliptic surfaces

(with Oishee Banerjee and Johannes Schmitt)

SUBMITTED ARTICLES

1. *Arithmetic geometry of the moduli stack of Weierstrass fibrations over \mathbb{P}^1*
arXiv:2107.12231. (with Johannes Schmitt)
2. *Enumerating odd-degree hyperelliptic curves and abelian surfaces over \mathbb{P}^1*
arXiv:2002.00563. (with Changho Han)

PUBLISHED ARTICLES

3. *Motive of the moduli stack of rational curves on a weighted projective stack*
Research in the Mathematical Sciences, **8**, No. 1 : #1 (2021) (with Hunter Spink)
Special issue of PIMS 2019 Workshop on Arithmetic Topology
4. *Arithmetic of the moduli of semistable elliptic surfaces*
Mathematische Annalen, **375**, No. 3-4 : 1745-1760 (2019) (with Changho Han),

5. *Unique fiber sum decomposability of genus 2 Lefschetz fibrations*
Topology and its Applications, **222** : 29-52 (2017)
6. *Lantern substitution and new symplectic 4-manifolds with $b_2^+ = 3$*
Mathematical Research Letters, **21**, No. 1 : 1-17 (2014) (with Anar Akhmedov)

AWARDS	Postdoctoral Research Fellowship, Institute for Basic Science, 2018 - 2021
INSTRUCTOR	Multivariable Calculus (University of Minnesota Summer 2014)
TEACHING ASSISTANT	Calculus I (University of Minnesota Fall 2012) Calculus II (University of Minnesota Spring 2013) Honors Vector Calculus (University of Minnesota Fall 2013) Vector Analysis (University of Minnesota Spring 2014) Linear Algebra and Differential Equations (University of Minnesota 2014 - 2015) Multivariable Calculus (University of Minnesota 2015 - 2017) Riemannian Geometry taught by Robert Gulliver (University of Minnesota Fall 2012) Algebraic Topology taught by Alexander Voronov (University of Minnesota Fall 2016)
WORKSHOP CO-ORGANIZATION	Pohang Mathematics Workshop, Maison Glad Jeju Island, South Korea, December 5–8, 2019
CONFERENCE, WORKSHOP TALKS	Pacific Rim Mathematical Association Congress, Vancouver, Canada, December 2022 Fourth W. Killing and K. Weierstrass Colloquium, University of Gdańsk, Poland, July 2022 Invariants in Algebraic Geometry, Institut de Mathématiques de Bourgogne, Dijon, May 2022 KMS Annual Meeting – Trends in Arithmetic Geometry, Online, October 2021 KMS Spring Meeting – Number Theory and Arithmetic, Online, July 2020 Inaugural France-Korea Conference in Algebraic Geometry, Number Theory and Partial Differential Equations, Institut de Mathématiques de Bordeaux, November 2019 Chicago Summer School in Topology and Geometry, University of Chicago, June 2018 AMS Graduate Conference in Geometry & Topology, Brown University, April 2018 Midwest Algebraic Geometry Graduate Conference, University of Illinois Chicago, April 2017
SEMINAR TALKS	Algebra, Geometry & Physics, Humboldt-Universität zu Berlin, April 2022 Number Theory Lunch Seminar, Max Planck Institute for Mathematics, February 2022 Webinar in Number Theory, French-Korean IRL in Mathematics, February 2022 Number Theory Lunch Seminar, Max Planck Institute for Mathematics, September 2021 Algebraic Geometry Seminar, Korea Institute for Advanced Study, July 2021 Algebraic Geometry Seminar, IBS Center for Geometry and Physics, August 2020 Harvard / MIT Algebraic Geometry Seminar, MIT, April 2018 Algebra and Algebraic Geometry Seminars, Brown University, April 2017 CGP Seminar, IBS Center for Geometry and Physics, January 2017
LECTURE SERIES	Postdoctoral Lecture Series, “Arithmetic of the moduli of fibered algebraic surfaces with heuristics for counting curves over global fields” 3 lectures (IBS - CGP October 2018)