Jun–Yong Park

Contact Information

School of Mathematics and Statistics
The University of Melbourne
Parkville VIC 3010 Australia

Email: june.park@unimelb.edu.au

Website: `www.fibration.net`

Research Interests

Intersection of algebraic geometry, topology, and number theory. Particularly, I like to think about the topology of algebraic spaces originating from moduli problems e.g. moduli spaces of fibered algebraic surfaces, Hom stacks of morphisms, height moduli of rational points on stacks. And their arithmetic implications as counting families of curves or abelian varieties over global function fields.

Academic Positions

The University of Melbourne, Victoria, Australia

Research Fellow, 2022 Fall - Present

Max Planck Institute for Mathematics, Bonn, Germany

Postdoctoral Fellow, 2021 Fall - 2022 Spring

IBS Center for Geometry and Physics, Pohang, South Korea

Senior 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

Submitted articles

1. *Height moduli on cyclotomic stacks and counting elliptic curves over function fields*
arXiv:2210.04450. (with Dori Bejleri and Matthew Satriano)
2. *Étale cohomological stability of the moduli space of stable elliptic surfaces*
arXiv:2207.02496. (with Oishee Banerjee and Johannes Schmitt)
3. *Arithmetic geometry of the moduli stack of Weierstrass fibrations over* $\mathbb{P}^1$
arXiv:2107.12231. (with Johannes Schmitt)

Published articles

4. *Enumerating odd–degree hyperelliptic curves and abelian surfaces over* $\mathbb{P}^1$
Mathematische Zeitschrift, **304**, No. 1 : #5 (2023) (with Changho Han),
5. *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
6. *Arithmetic of the moduli of semistable elliptic surfaces*
Mathematische Annalen, **375**, No. 3-4 : 1745-1760 (2019) (with Changho Han),

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

Awards

Andrew Sisson Support Package Award, The University of Melbourne, 2022

Postdoctoral Researcher Fellowship, Max Planck Society, 2021 - 2022

Senior Researcher Fellowship, Institute for Basic Science, 2018 - 2021

Instructor

Topics in AG: Elliptic Surfaces - Classical to Moduli (University of Melbourne Spring 2023)

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

Pure Mathematics Seminar, The University of Melbourne, Spring 2023 - Present

Pohang Mathematics Workshop, Maison Glad Jeju Island, South Korea, December 5–8, 2019

Conference, Workshop Talks

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

Seminar Talks

Harvard / MIT Algebraic Geometry Seminar, Harvard University, April 2023

Geometry & Topology Seminar, University of Waterloo, April 2023

Topology Seminar, University of Southern California, April 2023

Number Theory and Algebraic Geometry Seminar, Simon Fraser University, January 2023

Algebra and Topology Seminar, Australian National University, November 2022

Arithmetic Algebraic Geometry Seminar, The University of Melbourne, November 2022

Number Theory Seminar, Seoul National University, September 2022

Algebra, Geometry & Physics, Humboldt-Universität zu Berlin, April 2022

Webinar in Number Theory, French-Korean IRL in Mathematics, February 2022

Topology Seminar, Max Planck Institute for Mathematics, November 2021

Number Theory Lunch Seminar, Max Planck Institute for Mathematics, September 2021

Algebraic Geometry Seminar, Korea Institute for Advanced Study, July 2021