

## Jun-Yong Park

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### CONTACT INFORMATION

School of Mathematics and Statistics  
University of Melbourne  
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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 or abelian varieties over global function fields.

### ACADEMIC POSITIONS

#### **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**

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)
4. *Enumerating odd-degree hyperelliptic curves and abelian surfaces over  $\mathbb{P}^1$*   
arXiv:2002.00563. (with Changho Han)

### PUBLISHED ARTICLES

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)

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| INSTRUCTOR                       | Multivariable Calculus (University of Minnesota Summer 2014)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| TEACHING<br>ASSISTANT            | Calculus I (University of Minnesota Fall 2012)<br>Calculus II (University of Minnesota Spring 2013)<br>Honors Vector Calculus (University of Minnesota Fall 2013)<br>Vector Analysis (University of Minnesota Spring 2014)<br>Linear Algebra and Differential Equations (University of Minnesota 2014 - 2015)<br>Multivariable Calculus (University of Minnesota 2015 - 2017)<br>Riemannian Geometry taught by Robert Gulliver (University of Minnesota Fall 2012)<br>Algebraic Topology taught by Alexander Voronov (University of Minnesota Fall 2016)                                                                                                                                                                                                                                                                                                           |
| WORKSHOP<br>CO-ORGANIZATION      | Pohang Mathematics Workshop, Maison Glad Jeju Island, South Korea, December 5–8, 2019                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| CONFERENCE,<br>WORKSHOP<br>TALKS | Fourth W. Killing and K. Weierstrass Colloquium, University of Gdańsk, Poland, July 2022<br>Invariants in Algebraic Geometry, Institut de Mathématiques de Bourgogne, Dijon, May 2022<br>KMS Annual Meeting – Trends in Arithmetic Geometry, Online, October 2021<br>KMS Spring Meeting – Number Theory and Arithmetic, Online, July 2020<br>Inaugural France-Korea Conference in Algebraic Geometry, Number Theory and Partial Differential Equations, Institut de Mathématiques de Bordeaux, November 2019<br>Chicago Summer School in Topology and Geometry, University of Chicago, June 2018<br>AMS Graduate Conference in Geometry & Topology, Brown University, April 2018<br>5 <sup>th</sup> Heidelberg Laureate Forum, Heidelberg University, September 2017<br>Midwest Algebraic Geometry Graduate Conference, University of Illinois Chicago, April 2017 |
| SEMINAR<br>TALKS                 | Number Theory Seminar, Seoul National University, September 2022<br>Algebra, Geometry & Physics, Humboldt-Universität zu Berlin, April 2022<br>Number Theory Lunch Seminar, Max Planck Institute for Mathematics, February 2022<br>Webinar in Number Theory, French-Korean IRL in Mathematics, February 2022<br>Topology Seminar, Max Planck Institute for Mathematics, November 2021<br>Number Theory Lunch Seminar, Max Planck Institute for Mathematics, September 2021<br>Algebraic Geometry Seminar, Korea Institute for Advanced Study, July 2021<br>Algebraic Geometry Seminar, IBS Center for Geometry and Physics, August 2020<br>Harvard / MIT Algebraic Geometry Seminar, MIT, April 2018<br>Algebra and Algebraic Geometry Seminars, Brown University, April 2017<br>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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |