

Curriculum Vitae

Yu-Chi Hou

Contact Information

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Research Paper

- (1) Quantization of Semipositive Adjoint Line Bundles, submitted arxiv:2512.11523
- (2) Asymptotic Expansion of the Bergman Kernel via Semi-Classical Symbolic Calculus,
Bull. Inst. Math. Acad. Sin. (N.S.) 17 (2022), no. 1, 1–51.

Research Interest

Geometric Analysis, Complex Geometry, and Algebraic Geometry. I am currently interested in canonical metrics in Kähler geometry and their relation to algebraic geometry.

Education

- 2022 – Ph.D in Mathematics– University of Maryland, College Park
Advisor: Prof. Tamás Darvas
- 2019 – 2022 M.S. in Mathematics – National Taiwan University
Thesis: Asymptotic of Bergman Kernel
Advisor: Prof. Chin-Yu Hsiao
- 2013 – 2018 B.S. in Mathematics – National Taiwan University
- 2010 – 2013 High School Diploma – Taipei Municipal Jianguo High School

Employment

- Sep. 2018 – July 2019 Research Assistant – National Taiwan University
Supervisor: Prof. Chin-Lung Wang
- March– July 2022 Research Assistant – Inst. of Math., Academia Sinica
Supervisor: Prof. Chin-Yu Hsiao

Honors and Awards

- 2016 Chow Hung-Ching Scholarship (Institute of Mathematics, Academia Sinica)
- 2017 Chow Hung-Ching Scholarship (Institute of Mathematics, Academia Sinica)
- 2020 Fall Excellent Teaching Assistant (Dept. of Math., NTU)
- 2020 Chow Hung-Ching Scholarship (Institute of Mathematics, Academia Sinica)

2021 Hu Dun–fu Scholarship (Lida Society)

2022 Hauptman Fellowship (Dept. of Math., UMD)

2025 Hauptman Fellowship (Dept. of Math., UMD)

2025 Government scholarships for study Abroad (Ministry of Education, Taiwan)

Teaching Experience

Teaching Assistant

2020 Fall	Differential Geometry I (grad level) at NTU	Instructor: Prof. Chin-Lung Wang
2021 Spring	Differential Geometry II (grad level) at NTU	Instructor: Prof. Chin-Lung Wang
2022 Fall	Math 115 at UMD	Instructor: Dr. Raluca Rosca
2023 Spring	Math 115 at UMD	Instructor: Dr. Raluca Rosca
2023 Fall	Stat 100 at UMD	Instructor: Prof. Matthew Griffin
2024 Fall	Math 141 at UMD	Instructor: Dr. Jaime Paradela Diaz
2025 Fall	Math 141 at UMD	Instructor: Dr. Jonathan Fernandez

Grader

2023 Spring	Math 437 at UMD	Instructor: Prof. Tamás Darva
2023 Spring	Math 660 at UMD	Instructor: Prof. Harry Tamvakis
2026 Spring	Math 403 at UMD	Instructor: Dr. Steven Chadwick
2026 Spring	Math 437 at UMD	Instructor: Prof. Tamás Darvas

Organization, Service, and Outreach

2023 Spring	Student Seminar on Toric Variety
	Organizer and Speaker
	Topic: Algebraic and Differential Geometric Aspect of Toric Varieties
2023 Spring	Directed Reading Program
	Mentor
	Topic: Multivariate Division Algorithm and Gröbner Basis
2023 Fall	Student Complex Geometry
	Organizer and Speaker
	Topic: Cheeger–Colding Theory and GH Limits of Polarized Manifolds

Seminar Talks

- 2022 Nov Asymptotic of Bergman Kernel I: Positive Case
Student Complex Geometry Seminar, UMD
- 2022 Dec Asymptotic of Bergman Kernel II: Indefinite Case
Student Complex Geometry Seminar, UMD
- 2023 Feb Donaldson's Heat Flow Approach to Hermitian–Einstein Metrics on Stable Bundles
Student Complex Geometry Seminar, UMD
- 2023 Sep de Rham Theorem and Hodge Theorem
RIT on Hodge Theory, UMD
- 2023 Sep Kähler Manifolds and Hodge Decomposition
RIT on Hodge Theory, UMD
- 2024 Nov Kodaira–Spencer Theory and Local Torelli Theorem for K3 Surfaces
RIT on K3 Surface, UMD