SHUANG-YEN LEE

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EDUCATION

National Taiwan University   Taipei, Taiwan
Bachelor of Science in Mathematics   Sep 2017 - Aug 2021

· Bachelor's Thesis: *Characterizing algebraic curves using p-adic norms, supervised by Professor Chin-Lung Wang*

National Taiwan University   Taipei, Taiwan
Ph.D. in Mathematics, supervised by Professor Chin-Lung Wang   Sep 2021 - present

· Thesis Title: *Quantum Extremal Transitions and A-model variation of Hodge structures*

RESEARCH INTERESTS

Birational geometry over local fields

Gromov–Witten invariants and variation of Hodge structures

Transitions between varieties

RESEARCHES

Publications and preprints

· Global Igusa zeta function and K-equivalence, Asian Journal of Mathematics, Vol. 29, Issue 2 (2025), pp. 97-114, https://dx.doi.org/10.4310/AJM.250717204543.
· Quantum Extremal Transitions and Special L-values, joint work with C.-L. Wang and S.-S. Wang, https://arxiv.org/abs/2210.06767.
· Remarks on GW/PT under del Pezzo transitions, joint work with C.-L. Wang and S.-S. Wang, https://arxiv.org/abs/2508.07715.

Recent work

· Quantum Extremal Transitions —— Type III, work in progress.
· Gromov–Witten invariants under primitive extremal transitions in higher dimension, work in progress.

AWARDS

International Math Olympiad Silver Medal (2017)

Dean's List Award (6 times)

Dean's Award of College of Science (2021)

K.-S. Shih's Scholarship for Bachelor's Thesis (2021)

GRANTS AND FELLOWSHIPS

Royal Palm Elite Doctoral Scholarship   Sep 2021 - present

TALKS

East Asia Core Doctoral Forum in Mathematics   Seoul, Korea
Seoul National University   Jan 2026

· *Quantum Extremal Transitions and Special L-values*

D-modules Arising from Geometry   Taipei, Taiwan
Taida Institute for Mathematical Sciences   Oct 2025

· *Quantum Extremal Transitions and Special L-values*

Algebraic Geometry Seminar
Academia Sinica

Taipei, Taiwan
Aug 2025

· *Quantum Extremal Transitions and Special L-values*

East Asia Core Doctoral Forum in Mathematics
National Center for Theoretical Sciences

Taipei, Taiwan
Jan 2023

· *Global Igusa zeta function and K-equivalence*

SEMINAR TALKS

2025 TIMS & NCKU algebraic geometry group meeting
Taida Institute for Mathematical Sciences / National Cheng Kung University

Taipei / Tainan, Taiwan
Jan 2025

· *Fourier–Mukai transform and D-equivalence*

Calabi–Yau with small parameters
Taida Institute for Mathematical Sciences

Taipei, Taiwan
Jul 2023

· *GKZ systems and the secondary fan moduli*

CONFERENCE AND WORKSHOP PARTICIPATION

Summer Research Institute in Algebraic Geometry
Colorado State University

Fort Collins, CO, USA
Jul 2025

Short Course in Algebraic Topology
Taida Institute for Mathematical Sciences

Taipei, Taiwan
Jan 2025

· by Professor Donald Stanley
· Participant and Teaching assistant

Focus Program on Toric Topology, Geometry and Polyhedral Products
The Fields Institute for Research in Mathematical Sciences

Toronto, Canada
Aug 2024

Geometry Crossing Singularities
Taida Institute for Mathematical Sciences

Taipei, Taiwan
Jul 2024

Enumerative Geometry in East Asia
Academia Sinica

Taipei, Taiwan
Dec 2023

TEACHING EXPERIENCE

Teaching Assistant

· Introduction to Mathematical Analysis	Sep 2018 - Jun 2019
· Algebra (Honor Program)	Sep 2019 - Jun 2020
· International Math Olympiad 2020 Taiwan team Observer A	May 2020 - Sep 2020
· Calculus	Sep 2020 - Jun 2021
· Complex Analysis (Honor Program)	Sep 2021 - Jun 2022
· Lie Groups and Lie Algebras	Sep 2022 - Jan 2023
· Intersection Theory	Mar 2023 - Jun 2023
· Linear Algebra	Sep 2023 - Jun 2024
· Introduction to Abstract Algebra	Sep 2024 - Jun 2025
· Differential Geometry	Sep 2025 - present

LANGUAGES & COMPUTER SKIILS

Chinese (native), English (fluent), Python