

Chao-Ming LIN

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Interests

Differential Geometry / Complex Geometry / Geometric Analysis / Real Algebraic Geometry.

Education

- Sep 2017–June 2023
Ph.D. in Mathematics
University of California, Irvine
Advisors: [Zhiqin Lu](#) and [Xiangwen Zhang](#)
Thesis: [Class of Curvature Equations, Convexity, and Real Algebraic Geometry](#)
- Sep 2014–July 2016
M.S. in Mathematics
National Taiwan University
Advisor: [Chung-Jun Tsai](#)
Thesis: Survey on G_2 manifolds and further applications
- Sep 2010–May 2014
B.S. in Mathematics
National Taiwan University

Work Experience

- Aug 2023–Present
Zassenhaus Assistant Professor
[Ohio State University](#)
Mentor: [Bo Guan](#)
- Aug 02 2023–Aug 07 2023
Visitor in Mathematics
[Chinese University of Hong Kong](#)
Mentor: [Man Chun Lee](#)
- July 2023–Aug 2023
Visitor in Mathematics
[National Taiwan University](#)
Mentor: [Chung-Jun Tsai](#)

Nov 2022–Dec 2022, Dec 2020–April 2021
Visitor in Mathematics
National Center for Theoretical Sciences
Mentor: Chung-Jun Tsai

Aug 2016–June 2017
R.A. in Mathematics
National Center for Theoretical Sciences
Mentor: Chung-Jun Tsai

Papers

Oct 2023
On the Solvability of General Inverse σ_k Equations
<https://arxiv.org/abs/2310.05339>, 2023

Sep 2022
On the Convexity of General Inverse σ_k Equations
Journal of Functional Analysis, 2023
<https://arxiv.org/abs/2209.11370>

Jan 2022
The deformed Hermitian–Yang–Mills Equation, the Positivstellensatz, and the Solvability
Advances in Mathematics, 2023
<https://arxiv.org/abs/2201.01438>

Dec 2020
Deformed Hermitian–Yang–Mills equation on Compact Hermitian Manifolds
Mathematical Research Letters, *accepted* (2022)
<https://arxiv.org/abs/2012.00487>

Conference Talks

May 2024
Recent Advances in Differential Geometry
American Mathematical Society Spring Western Sectional Meeting
https://www.ams.org/meetings/sectional/2299_program.html

Dec 2023
Geometric Analysis Session
Canadian Mathematical Society Winter Meeting

<https://www.winter23.cms.math.ca>

https://www2.cms.math.ca/Events/winter23/sessions_scientific#ga

Jul 2023

Recent Progress in special Lagrangian Equations and deformed Hermitian–Yang–Mills Equation

National Center for Theoretical Sciences

https://ncts.ntu.edu.tw/events_2_detail.php?nid=404&fbclid=IwAR3G7E03LkoHbTDJ0vANOzckpibCvn8ZU0s237Gkmwypyv8jEbwoTLPkvwM

Dec 2021

Recent Developments in Complex Geometry and Geometric Analysis

Canadian Mathematical Society Winter Meeting

<https://www2.cms.math.ca/Events/winter21/abs/rdc#cml>

Invited Seminar Talks

Apr 2024

Geometry/Topology Seminar

University of California, Davis

<https://www.math.ucdavis.edu/research/seminars?type=5&when=future>

Apr 2024

Geometry and Physics Seminar

Boston University

<https://math.bu.edu/research/geom/seminar.html>

Mar 2024

Informal Geometric Analysis Seminar

Northwestern University

Mar 2024

Geometry and Geometric Analysis Seminar

Purdue University

<https://sites.google.com/view/purdue-gga>

Feb 2024

Analysis Seminar

Columbia University

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Jan 2024, Dec 2022, Nov 2022, Mar 2021, Dec 2018, Apr 2017

NCTS Differential Geometry Seminar

National Center for Theoretical Sciences

https://ncts.ntu.edu.tw/events_1_detail.php?nid=2389

https://ncts.ntu.edu.tw/events_1_detail.php?nid=2367

https://ncts.ntu.edu.tw/events_1_detail.php?nid=1917

https://www.math.sinica.edu.tw/www/seminar/abstract_view.jsp?seminar_id=2689

https://140.112.36.108/events_1_detail.php?nid=889

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Nov 2023, Mar 2022

Geometric Analysis Seminar

Beijing International Center for Mathematical Research

<https://bicmr.pku.edu.cn/content/show/43-3146.html>

<https://bicmr.pku.edu.cn/content/show/43-2663.html>

<https://www.math.pku.edu.cn/teachers/jianchunchu/seminar.html>

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May 2023

Differential Geometry Seminar

Ohio State University

<https://math.osu.edu/events/convexity-general-inverse-sigmak-equations-and-some-applications>

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April 2023

UCR Geometry-Topology seminar

University of California, Riverside

<https://sites.google.com/view/brian-collier/ucr-geometry-topology-seminar>

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Feb 2023

Algebraic Geometry in String Theory Seminar

Center of Mathematical Sciences and Applications at Harvard University

<https://cmsa.fas.harvard.edu/event/agst-22423/>

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Feb 2023

Informal Complex Geometry and PDE Seminar

Columbia University

<http://math.columbia.edu/~kjs/seminar>

I	<p>Jan 2023</p> <p>Joint Geometric Analysis Seminar</p> <p>Chinese University of Hong Kong</p> <p>https://www.math.cuhk.edu.hk/seminars/convexity-general-inverse-k-equations-and-some-applications</p>
I	<p>Apr 2022</p> <p>The Mathematics Colloquium at Rutgers-Newark</p> <p>Rutgers University</p> <p>https://sites.rutgers.edu/chen-wan/colloquium/</p>
I	<p>Feb 2022</p> <p>Geometry and Topology Seminar</p> <p>McMaster University</p> <p>https://www.math.mcmaster.ca/news-events/events/g-1-4r0bt9198d8j7q501kob4lbt5v_202202032030.html</p>
I	<p>Oct 2021</p> <p>Differential Geometry Seminar</p> <p>University of California, Irvine</p> <p>https://www.math.uci.edu/node/37181</p>
II	<p>Apr 2021, Dec 2020</p> <p>NCTS Postdoc Seminar on Differential Geometry</p> <p>National Center for Theoretical Sciences</p>

Teaching Experience

Lecturer

I	<p>Spring 2024</p> <p>Math 1131 Calculus for Business (2 sections, 140 & 210 enrollments; mentor 2 & 3 TAs)</p>
I	<p>Autumn 2023</p> <p>Math 1131 Calculus for Business (280 enrollments; mentor 4 TAs)</p>
I	<p>Summer II 2022</p> <p>Math 3A Introduction to Linear Algebra (60 students; mentor 1 TA)</p>

Teaching Assistant

I	<p>Spring 2023</p> <p>Math 2A Calculus</p>
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_____ II _____	Winter 2019, Summer II 2018 Math 2B Calculus
_____ I I _____	Summer I 2021, Fall 2019 Math 3A Introduction to Linear Algebra
_____ IIII _____	Winter 2020, Summer I 2020, Summer I 2019, Spring 2019, and Fall 2018 Math 3D Elementary Differential Equations
_____ II _____	Spring 2022, Fall 2021 Math 5A Calculus for Life Sciences
_____ I _____	Fall 2020 Math 5B BioCalculus
_____ I I _____	Fall 2020, Fall 2019 Math 118 Theory of Differential Equations
_____ II I _____	Winter 2022, Spring 2021, Winter 2021 Math 134B Financial Derivatives
_____ I I _____	Spring 2023, Spring 2021 Math 134C Financial Models
_____ I I _____	Summer I 2022, Summer I 2020 Math 175 Combinatorics
_____ I _____	Spring 2020 Math 205C Introduction to Graduate Analysis

Honors and Awards

_____ I _____	Spring 2021 Von Neumann Outstanding Performance as a Graduate Student Award
_____ I _____	Spring 2016 Phi Tau Phi Scholastic Honor
_____ I _____	Fall 2015 Excellent TA Award Tsai Wang-Lin Scholarship Hu Dun-Fu Scholarship
_____ I _____	Fall 2011 High GPA Award

Li Bung-Fung Scholarship

Misc Experience

_____ June 2018–April 2023
Treasurer of Taiwanese Graduate Student Association
University of California, Irvine

Last updated: January 16, 2024.