

Chao-Ming LIN

<https://chaominl.github.io>

<mailto:lin.4579@osu.edu>

tel: +1 949-466-2130

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 and Physics Seminar
Boston University
<https://math.bu.edu/research/geom/seminar.html>

_____ | Apr 2024
Geometry Seminar
University of California, Davis

_____ | 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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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>
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- Jan 2023
Joint Geometric Analysis Seminar

Chinese University of Hong Kong

<https://www.math.cuhk.edu.hk/seminars/convexity-general-inverse-k-equations-and-some-applications>

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Apr 2022

The Mathematics Colloquium at Rutgers-Newark

Rutgers University

<https://sites.rutgers.edu/chen-wan/colloquium/>

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Feb 2022

Geometry and Topology Seminar

McMaster University

https://www.math.mcmaster.ca/news-events/events/g-1-4r0bt9198d8j7q501kob4lbt5v_202202032030.html

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Oct 2021

Differential Geometry Seminar

University of California, Irvine

<https://www.math.uci.edu/node/37181>

_____ II _____

Apr 2021, Dec 2020

NCTS Postdoc Seminar on Differential Geometry

National Center for Theoretical Sciences

Teaching Experience

Lecturer

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Autumn 2023

Math 1131 Calculus for Business

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Summer II 2022

Math 3A Introduction to Linear Algebra

Teaching Assistant

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Spring 2023

Math 2A Calculus

_____ 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
_____ II _____	Fall 2020, Fall 2019 Math 118 Theory of Differential Equations
_____ III _____	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

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

Last updated: January 15, 2024.