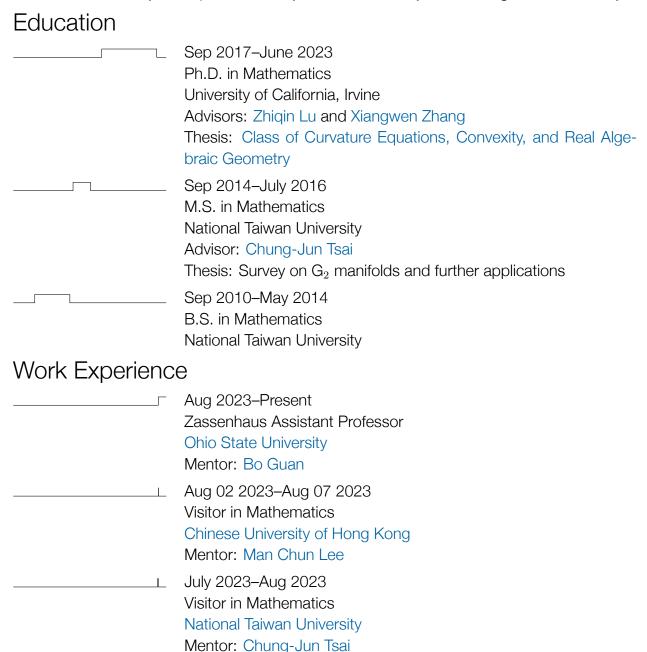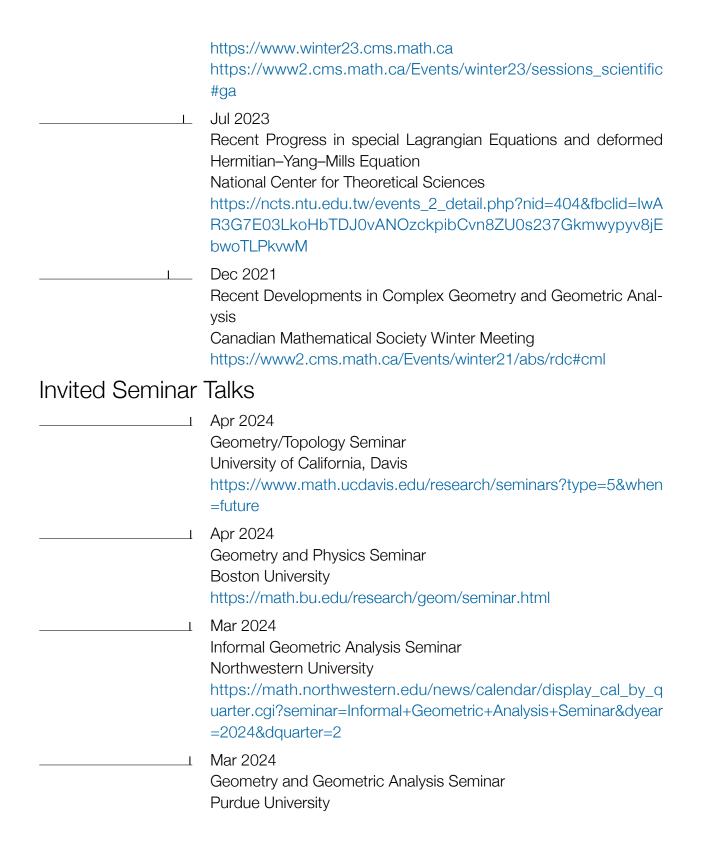# Chao-Ming LIN

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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
https://math.northwestern.edu/news/calendar/display_cal_by_quarter.cgi?seminar=Informal+Geometric+Analysis+Seminar&dyear=2024&dquarter=2

Mar 2024
Geometry and Geometric Analysis Seminar
Purdue University

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

Feb 2024
Analysis Seminar
Columbia University
https://www.math.columbia.edu/~egiorgi/seminar-ga.html

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

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

May 2023
Differential Geometry Seminar
Ohio State University
https://math.osu.edu/events/convexity-general-inverse-sigmak-e
quations-and-some-applications

April 2023
UCR Geometry-Topology seminar
University of California, Riverside
https://sites.google.com/view/brian-collier/ucr-geometry-topolog
y-seminar

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/

Feb 2023
Informal Complex Geometry and PDE Seminar
Columbia University
http://math.columbia.edu/~kjs/seminar

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

Apr 2022
The Mathematics Colloquium at Rutgers-Newark
Rutgers University
https://sites.rutgers.edu/chen-wan/colloquium/

Feb 2022
Geometry and Topology Seminar
McMaster University
https://www.math.mcmaster.ca/news-events/events/g-1-4r0bt9198d8j7q501kob4lbt5v_202202032030.html

Oct 2021
Differential Geometry Seminar
University of California, Irvine
https://www.math.uci.edu/node/37181

Apr 2021, Dec 2020
NCTS Postdoc Seminar on Differential Geometry
National Center for Theoretical Sciences

Teaching Experience

Lecturer

Spring 2024
Math 1131 Calculus for Business (2 sections, 140 & 210 enrollments; mentor 2 & 3 TAs)

Autumn 2023
Math 1131 Calculus for Business (280 enrollments; mentor 4 TAs)

Summer II 2022
Math 3A Introduction to Linear Algebra (60 students; mentor 1 TA)

Teaching Assistant

Spring 2023
Math 2A Calculus

Winter 2019, Summer II 2018
Math 2B Calculus

Summer I 2021, Fall 2019
Math 3A Introduction to Linear Algebra

Winter 2020, Summer I 2020, Summer I 2019, Spring 2019, and Fall 2018
Math 3D Elementary Differential Equations

Spring 2022, Fall 2021
Math 5A Calculus for Life Sciences

Fall 2020
Math 5B BioCalculus

Fall 2020, Fall 2019
Math 118 Theory of Differential Equations

Winter 2022, Spring 2021, Winter 2021
Math 134B Financial Derivatives

Spring 2023, Spring 2021
Math 134C Financial Models

Summer I 2022, Summer I 2020
Math 175 Combinatorics

Spring 2020
Math 205C Introduction to Graduate Analysis

Honors and Awards

Spring 2021
Von Neumann Outstanding Performance as a Graduate Student Award

Spring 2016
Phi Tau Phi Scholastic Honor

Fall 2015
Excellent TA Award

Tsai Wang-Lin Scholarship

Hu Dun-Fu Scholarship

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: February 16, 2024.