

# Chao-Ming LIN

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## Interests

Differential Geometry / Complex Geometry / Geometric Analysis.

## 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–Aug 2025  
Zassenhaus Assistant Professor  
[Ohio State University](#)  
Mentor: [Bo Guan](#)
- 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](#)

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

## Papers

\_\_\_\_\_┐ Sep 2022  
*On the Convexity of General Inverse  $\sigma_k$  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*  
<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

\_\_\_\_\_┐ 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](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

\_\_\_\_\_┐ 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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| Mar 2022

Geometric Analysis Seminar  
Beijing International Center for Mathematical Research  
<https://bicmr.pku.edu.cn/content/show/43-2663.html>  
<https://www.math.pku.edu.cn/teachers/jianchunchu/seminar.html>

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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](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>

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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=2389)  
[https://ncts.ntu.edu.tw/events\\_1\\_detail.php?nid=2367](https://ncts.ntu.edu.tw/events_1_detail.php?nid=2367)  
[https://ncts.ntu.edu.tw/events\\_1\\_detail.php?nid=1917](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://www.math.sinica.edu.tw/www/seminar/abstract_view.jsp?seminar_id=2689)  
[https://140.112.36.108/events\\_1\\_detail.php?nid=889](https://140.112.36.108/events_1_detail.php?nid=889)

\_\_\_\_\_ II \_\_\_\_\_

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

## Teaching Experience

### Lecturer

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Summer II 2022  
Math 3A Introduction to Linear Algebra

### Teaching Assistant

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Spring 2023  
Math 2A Calculus

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Winter 2019, Summer II 2018  
Math 2B Calculus

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

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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
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Last updated: August 01, 2023.