Kuang-Ru Wu (吳伖儒)

Erdős Center, HUN-REN Rényi Institute, Reáltanoda utca 14, H-1053, Budapest, Hungary
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Research Interests:

- Complex Differential Geometry, Partial Differential Equations, Several Complex Variables.

Education:

- *Ph.D. in Mathematics,* Purdue University   2014 - 2020.
      Advisor: László Lempert.
- *M.S. in Mathematics,* National Taiwan University   2011 - 2013.
      Advisor: Chiung-Ju Liu.
- *B.S. in Physics and Mathematics,* National Tsing Hua University   2007 - 2011.

Employment:

- Postdoc, Erdős Center   2025 - present.
- Visiting Assistant Professor, National Tsing Hua University.   2023 - 2025.
- Postdoctoral Researcher, Institute of Mathematics, Academia Sinica.   2020 - 2023.
- Adjunct Assistant Professor, Department of Mathematics, NTU.   2021 - 2023.

Publication and Preprints:

- [1] Mean curvature of direct image bundles. ArXiv: 2508.00820.
- [2] A potential theory for the Wess--Zumino--Witten equation in the space of Kähler potentials. ArXiv: 2410.00710.
- [3] Positively curved Finsler metrics on vector bundles III. ArXiv: 2312.16848.
- [4] Positively curved Finsler metrics on vector bundles II, *Pacific Journal of Mathematics, 326(2023), no.1, 161–186.* ArXiv: 2210.12645.
- [5] Positively curved Finsler metrics on vector bundles, *Nagoya Math. Journal, 248 (2022), 766-778.* ArXiv: 2107.00538.
- [6] A Wess--Zumino--Witten type equation in the space of Kähler potentials in terms of Hermitian--Yang--Mills metrics, *Analysis and PDE, Volume 16 (2023), No.2, 341-366.* ArXiv: 2001.08623.
- [7] Griffiths extremality, interpolation of norms, and Kähler quantization, *Journal of Geometric Analysis 32 (2022), no. 7, Paper No. 203* . Joint with T. Darvas. ArXiv: 1910.01782.
- [8] A Dirichlet problem in noncommutative potential theory, *Michigan Math. Journal, Volume 69, Issue 2 (2020), 369-380.* ArXiv: 1804.05278.

Invited Conference and Seminar Talks:

- *Conference on Several Complex Variables--L^2 Estimates and Extensions--*, Tohoku University, Sendai, September 2025.
- *Workshop on Cohomological and metric aspects of Hermitian and almost complex manifolds,* Rényi Institute of Mathematics, September 2025.
- *Several Complex Variables and Complex Geometry Conference dedicated to the mathematical work of Yum Tong Siu,* Academia Sinica, January 2025.
- *Math Department Colloquium,* National Tsing Hua University, October 2024.
- *Young Mathematicians Workshop on SCV,* Osaka Metropolitan University, August 2024.
- *Taiwanese Mathematical Society Annual Meeting, Special Sessions,* January 2024.
- *The Fourth Taiwan-Japan Joint Conference on Differential Geometry*, NCTS, November 2023
- *Complex analysis and geometry: celebrating the 70+1th birthday of László Lempert,* short talk, June, 2023.
- *Geometry and Geometric Analysis Seminar,* Purdue University, April, 2023.
- *Colloquium,* National Cheng Kung University, December 2022.
- *The 5th International Workshop, Geometry of Submanifolds and Integrable Systems,* Takamatsu Japan, November 2022.
- *KIAS, seminar talk, virtual,* November 2022.
- *Rutgers Complex Analysis/Geometry Seminar, virtual,* April 2022.
- *Taiwanese Mathematical Society Annual Meeting, Special Sessions,* January 2022.
- *Math Department Colloquium,* National Tsing Hua University, November 2021.
- *AS-NCTS Geometry Seminar,* Academia Sinica, September 2021.
- *Virtual East-West Several Complex Variables Seminar,* September 2021.
- *Chongqing University of Technology,* virtual, July 2021.
- *NCTS Differential Geometry Seminar,* National Taiwan University, April 2021.
- *Taipei Postdoc Seminar,* Academia Sinica, November 2020.
- *AS-NCTS Geometry Seminar,* Academia Sinica, October 2020.
- *AMS Sectional Meeting,* Purdue University, April 2020. (meeting canceled)
- *Geometry and Topology Seminar,* University of Wisconsin-Madison, Feb 2020.
- *Geometric Analysis Seminar,* Purdue University, October 2019.
- *Informal Geometric Analysis Seminar,* University of Maryland, December 2018.
- *AMS Sectional Meeting,* University of Arkansas, November 2018.
- *AMS Sectional Meeting,* Ohio State University, March 2018.
- *Geometric Analysis Seminar,* Purdue University, March 2018.

Teaching Experience:

- National Tsing Hua University:
  - Calculus 2 (Spring 2025)
  - Calculus 1 and Precalculus (Fall 2024)
  - Calculus 2 (Spring 2024)
  - Calculus 1 (Fall 2023)
- National Taiwan University:
  - Calculus 3 and 4 lecturer (Spring 2023)
  - Calculus 1 and 2 lecturer (Fall 2022)
  - Calculus 3 and 4 lecturer (Spring 2022)
  - Calculus 1 and 2 lecturer (Fall 2021)

- Purdue University:
  - MA261 Calculus 3 recitation (Fall 2019)
  - MA261 Calculus 3 recitation (Fall 2018)
  - MA165 Calculus 1 recitation (Fall 2017)
  - MA527 Advanced Mathematics for Engineers and Physicists I grader (Fall 2015)
  - MA351 Linear algebra grader (Summer 2015)
  - MA351 Linear algebra grader (Spring 2015)
  - MA351 Linear algebra grader (Fall 2014)

- National Taiwan University:
  - Honors advanced calculus recitation (Spring 2013)
  - Complex analysis recitation (Fall 2012)
  - Calculus 2 recitation (Spring 2012)
  - Calculus 1 recitation (Fall 2011)
- National Tsing Hua University:
  - Advanced Calculus recitation (Spring 2011)
  - Calculus 1 recitation (Fall 2010)

Research Assistantship:
- Purdue University:
  Spring 2016, Fall 2016, Spring 2017, Spring 2018, Spring 2019.

Honors and Awards:
- Outstanding Teaching Award at NTU (2023)
- Graduation with Distinction Award (2011)
- ZyXEL Scholarship (highest honor to a junior student in College of Science, 2010)
- Presidential Award (awarded to the top College of Science student, 2010)
- Six-week Exchange Scholarship to Tsinghua University, Beijing (2009)
- College of Science Young Elite Scholarship (three times, awarded to top three students)