Yuan Shyong, Ooi

CONTACT INFORMATION	National Center for Theoretical Sciences (NCTS) Taipei, Taiwan	*Permanent E-mail:* shyong224@gmail.com
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RESEARCH INTERESTS

Differential Geometry (Submanifold theory):
- higher codimension minimal submanifold, classical minimal hypersurface bernstein-type problem
- graphical minimal submanifold (minimal surface system), Dirichlet problem of minimal surface system, existence and regularity problem, stability and uniqueness problem
- self-similar solution of mean curvature flow, rigidity and classification of mean curvature flow soliton solution.

ACADEMIC POSITION

Oct 2020 - July 2021 : National Taiwan University (NTU), Postdoctoral Fellow
Aug 2021 - Feb 2024 : Pusan National University (PNU), Basic Research Laboratory (BRL) Postdoctoral Fellow
March 2024 - present : National Center for Theoretical Sciences, Postdoctoral Fellow
Sep 2024 - July 2025 : National Taiwan University (NTU), Adjunct Assistant Professor

EDUCATION

National Taiwan University, Taipei, Taiwan

Ph.D. Mathematics, Jun 2020

- Advisor: Yng-Ing, Lee
- Thesis: Existence and Uniqueness of Minimal Submanifold in Higher Codimension

National Taiwan University, Taipei, Taiwan

M.Sc., Mathematics, July 2014

- Advisor: Yng-Ing, Lee
- Thesis: Min-max construction of minimal surface

University of Science, Malaysia, Penang, Malaysia

B.Sc.(Honours), Mathematics, Aug 2010

HONORS AND AWARDS

- NTU International Graduate Student support fund, 2012
- Excellent Teaching Assistant award, 2013
- NTU International Graduate Student Scholarship, 2014
- NTU International Graduate Student Scholarship, 2015

ACADEMIC EXPERIENCE

Pusan National University, Busan, South Korea

Co Lecturer (Geometric Measure Theory) **Sep 2023 - Jan 2024**
Teaching graduate level course with Prof. Juncheol Pyo (PNU). Based on Leon Simon lectures note on Geometric Measure theory. Teaching in English.

National Taiwan Univeristy, Taipei, Taiwan

Instructor (Calculus 3 and 4 MATH4008/MATH4009) **Feb 2025 - June 2025**
Teaching freshmen multivariable Calculus and Vector Calculus course. Teaching in Chinese.

Instructor (Calculus 1 and 2 MATH4006/MATH4007)   **Sep 2024 - Jan 2025**
Teaching freshmen single variable Calculus course. Teaching in Chinese.

Instructor (Calculus 3 and 4 MATH4008/MATH4009)   **Feb 2021 - July 2021**
Half-semester of Multivariable Calculus and another half-semester of Vector Calculus. Teaching in English.

Grader   **Sep 2019 - Jan 2020**
Grading the homework of the course Undergraduate Geometry (Honour).

Teaching Assistant (Introduction to Real Analysis)   **Sep 2014 - June 2018**
Conduct tutorial classes and set quiz problems. I served as TA for this course for 8 semesters.

Teaching Assistant (Calculus)   **Sep 2012 - Jun 2014**
Conduct tutorial classes and set quiz problems. I served as Calculus TA for 4 semesters.

Teaching Assistant (Undergraduate Geometry)   **Sep 2011 - Jan 2012**
Conduct tutorial classes.

PUBLICATIONS

1. Lee, Yng-Ing., Ooi, Yuan Shyong. and Tsui, Mao-Pei. Uniqueness of Minimal Graph in General Codimension. J Geom Anal 29, 121133 (2019)
2. Ooi, Yuan Shyong. Existence and Uniqueness of Minimal Submanifold in Higher Codimension, Ph.D Thesis (2020)
3. Ooi, Yuan Shyong. Higher codimension minimal submanifold with isolated singularity. J Geom Anal 32, no.5, Paper No. 164, 30 pp (2022)
4. Ooi, Yuan Shyong, John Ma Man Shun and Juncheol Pyo. Rigidity results for graphical translators for the mean curvature flow moving in non-graphical direction. Proceedings of the American Mathematical Society 151.12 (2023): 5391-5402.

PREPRINT

1. Stability properties and rigidity results of λ-translating hypersurfaces. submitted (Joint work with Jihyeon Lee)

ON GOING PROJECT 1. Study rigidity properties of free boundary stable minimal hypersurface (with Keomkyo Seo)

SELECTED INVITED TALK

- East Asian Core Doctoral Forum on Mathematics 2017, Seoul University, Jan 2017
- NCTS Mini-Workshop on Geometric Analysis, Jan 2017
- Academia Sinica and NCTS: Taipei Postdoc Seminar, Oct 2020
- Pusan National University: BRL Geometry Seminar, Sep 2021
- Pusan National University BRL: Workshop on Geometry Analysis, Dec 2021
- Pusan National University BRL: Workshop on Geometry Analysis and Related topics, Feb 2022
- 2022 KMS spring meeting (online talk) April 2022
- Pusan National University BRL: Workshop on Geometry Analysis and Related topics II, April 2022
- Pusan National University BRL: Workshop on Geometry Analysis and Related topics III, June 2022
- POSTECH: Invited talk, Sep 2022
- KIAS: Invited talk, Nov 2022
- Pusan National University BRL: Workshop on Geometry Analysis and Related topics IV, Jan 2023
- 2023 OCAMI-RIRCM International Workshop on Riemannian Symmetric Spaces, Osaka, Japan, Feb 2023
- NCTS Differential Geometry online seminar, March 2023

- International Conference on Differential Geometry and its Applications in honor of Jaigyoung Choe's 70th birthday, Jeju Island, Korea, June 2023
- Chongqing University of Technology: online talk, Nov 2023
- UCSB online Geometry Seminar: online talk, Feb 2024
- Academia Sinica and NCTS: Taipei Postdoc Seminar, April 2024
- National Chung Cheng University: Geometry Seminar, April 2024
- NCTS: Young Geometric Analysts Forum, Aug 2024
- NTHU Geometry Seminar, March 2025
- The 5th Japan-Taiwan Joint Conference on Differential Geometry, Nov 2025

EXPOSITORY TALK
- National Taiwan University: Differential Geometry Seminar, Sep 2016
- National Taiwan University: GMT Learning Seminar, Jan 2018
- National Taiwan University: Differential Geometry Postdoc Seminar, Oct 2020
- National Taiwan University: Differential Geometry Postdoc Seminar, April 2021
- Pusan National University: PNU Geometry and Topology Seminar, Sep 2021
- Pusan National University: Reading seminar (A introduction to minimal surface by Colding-Minocozzi) Sep 2022 - June 2023
- Pusan National University: Differential geometry seminar (Leon Simon's Geometric measure theory Chap 1 - Chap 6) Sep 2023 - Jan 2024

SERVICE
- Co-organizer of East Asian Core Doctoral Forum on Mathematics 2017, Seoul, Korea.
- Co-organizing reading seminar on Minimal surface theory, 2022
- Co-organizer of International Conference on Differential Geometry and its Applications in honor of Jaigyoung Choe's 70th birthday, 2023.

LANGUAGE

Chinese (native), English, Malay

REFERENCES
- Yng-Ing Lee, National Taiwan University (yilee@math.ntu.edu.tw)
- Mao-Pei, Tsui, National Taiwan University (maopei@math.ntu.edu.tw)
- Juncheol, Pyo, Pusan National University (juncheolpyo@gmail.com)