

CHIH-JUNG KU

PhD Candidate / Visiting Scholar

Taiwan / United States

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LINKS

[Linkedin](#), [ResearchGate](#), [Google Scholar](#)

PROFILE

Study PhD. program at National Taiwan Normal University, ranked 26th in QS World University Rankings by Subject 2022. Currently, a visiting scholar at Purdue University (with grants from the National Science and Technology Council), assisting STEM teacher workshops in the TRAILS program, a National Science Foundation (NSF) funding project.

EDUCATION

❖ **National Taiwan Normal University** 2020 — Present

PhD

Major in Technology and Engineering Education, PhD Fellowship

❖ **National Taiwan Normal University** 2018 — 2020

M.S. in Education

Major in Technology and Engineering Education, Excellent Student Award

❖ **National Taiwan Normal University** 2011 — 2015

B.S. in Engineering

Major in Technology Education, Graduate with Technology Teacher Certificate

EMPLOYMENT HISTORY

❖ **Research Assistant, National Taiwan Normal University** 2018 — Present

- Conducted workshops and seminars to promote the importance of STEM education among K-12, teacher education, and higher education
- Held robotics competitions for over 10 sessions in secondary levels and assisted in-service technology teachers training workshops for 5 years
- Assisted with qualitative, quantitative, and mix-method research
- Skilled in the development of experiments and interviews; performed statistical analyses to critical vital trends and insights in the data, resulting in the successful completion of the research project; presented reports to stakeholders
- Collaborated with a team of researchers to brainstorm ideas and develop research plans

❖ **Secondary School Teacher, Taipei Municipal Chengyuan Senior High School** 2020 — 2022

- Instructed students on how to use technology to enhance their learning
- Utilized technology in the classroom to enhance the learning experience
- Conducted workshops and seminars to promote the importance of STEM education among high school students

PUBLICATIONS & PRESENTATIONS

- ❖ **Journal Papers** 2020 — Present
- Ku, C.-J., Lin, K.-Y., Kwon, H., & Kelley, T. R. (2023). *Development of the Six-Stage Integrated STEM Instructional Design Model: International Perspectives* [Manuscript submitted for publication]. Department of Technology Application and Human Resource Development, National Taiwan Normal University.
 - Ku, C. J., Hsu, Y. S., Chang, M. C., & Lin, K. Y. (2022). A model for examining middle school students' STEM integration behavior in a national technology competition. *International Journal of STEM Education*, 9(1), 1-13. <https://doi.org/10.1186/s40594-021-00321-z> (**SSCI, Education & Educational Research, IF=6.7 (2022), Rank: 11/269**)
 - Yu, K. C., Wu, P. H., Lin, K. Y., Fan, S. C., Tzeng, S. Y., & Ku, C. J. (2021). Behavioral intentions of technology teachers to implement an engineering-focused curriculum. *International Journal of STEM Education*, 8(1), 1-20. <https://doi.org/10.1186/s40594-021-00305-z> (**SSCI, Education & Educational Research, IF=6.7 (2022), Rank: 11/269**)
 - Ku, C. J., Loh, W. L. L., Lin, K. Y., & John Williams, P. (2020). Development of an instrument for exploring preservice technology teachers' maker-based technological pedagogical content knowledge. *British Journal of Educational Technology*, 52(2), 552-568. <https://doi.org/10.1111/bjet.13039> (**SSCI, Education & Educational Research, IF=6.6 (2022), Rank: 12/269**)
- ❖ **Book Chapter** 2020 — Present
- Ku, C. J. & Lin, K. Y. (in press). International Models for Standards-Based STEM Instruction - 14. Case study: Taiwan. In S. Bartholomew, M. Hoepfl, & P. J. Williams (Eds.), *Standards-Based Program Planning & Implementation in Technology and Engineering Education*.
 - Ku, C. J. & Lin, K. Y. (2022). Status and trends of STEM education in Taiwan. In Y. F. Lee & L. S. Lee (Eds.), *Status and Trends of STEM Education in Highly Competitive Countries: Country Reports and International Comparison* (pp. 361-402). Wu-Nam Book Inc. <https://files.eric.ed.gov/fulltext/ED616799.pdf>
 - Ku, C. J. & Lin, K. Y. (2020). Technology teacher education in Taiwan. In L. S. Lee & Y. F. Lee (Eds.), *International technology teacher education in the Asia-pacific region* (pp. 263-308). Wu-Nam Book Inc. <https://eric.ed.gov/?id=ED613315>
- ❖ **Presentations** 2019 — Present
- Ku, C. J., Lin, K. Y., & Mak, C. T. (2023, April 12-15). *Bridging theory and practice in STEM teaching*. ITEEA 85th Annual Conference, Minneapolis, USA.
 - Ku, C. J., Lin, K. Y., Mak, C. T., Hsu, Y. S., & Kwon, H. (2022, December 7-10). *Technology Teachers' Readiness from Affective, Behavioral, and Cognitive Aspects and Self-Efficacy in STEM Education*. 11th DATTArc-ICTE-TENZ-ITEEA 2022 Conference, Gold Coast, Australia.
 - Mak, C. T., Ku, C. J., & Lin, K. Y. (2022, May 20). *An exploratory study of overseas STEM teacher education programs*. 2022 Conference of Engineering, Technological & STEM Education, Pingtung County, Taiwan.
 - Ku, C. J. & Lin, K. Y. (2022, March 9-13). *Instructional design model on STEM education—PADPIE model development*. ITEEA 84th Annual Conference, Orlando, USA.
 - Ku, C. J. & Lin, K. Y. (2021, March 22-27). *Exploring the Influencing Factors of Secondary Teachers Implementing Robotics Education*. ITEEA 83th Annual Conference, Baltimore, USA.
 - Ku, C. J. & Lin, K. Y. (2021, January 25-26). *Constructing a Model of STEM Integration Behavior in Technological Competition*. ICTE 2021 Conference: Less is More+: Issues of STEM/STEAM, Maker, and Emerging Technology in Technology Education, Taipei, Taiwan.
 - Ku, C. J., Lin, K. Y., & Sie, Y. J. (2020, March 11-14). *Exploring Preservice Technology Teachers' Perfection of Technological Pedagogical Content Knowledge*. ITEEA 82th Annual Conference, Baltimore, USA.
 - Lin, K. Y., Yu, K. C., Fan, S. C., Tseng, S. Y., & Ku, C. J. (2019, October 1-3). *The Technology Teachers' Behavioral Intention in Implementing Engineering-Oriented Curriculum*. TENZ 2019 Conference, Auckland, New Zealand.
 - Ku, C. J. & Lin, K. Y. (2019, January 16-18). *An Analysis of the Ability Indicators of Technological Problem Solving in Technology Education*. ICTE 2019 Conference, Cheongju, South Korea.

ENGAGEMENT: PROFESSIONAL AFFILIATIONS

❖ Reviewer 2019 — Present

Having experience reviewing journal papers, conference papers, and professional community journal papers, e.g., British Journal of Educational Technology, Technology and Engineering Education, ICTE Conference in 2021, DATTArc Conference in 2022, etc.

❖ ICTE committee member 2022 — Present

International Conference on Technology Education in the Asia-Pacific Region (ICTE) is a biennial international conference promoting communication and academic exchange on Technology Education. ICTE international conferences occur once every two years in different countries, allowing participants to share insights on technology, engineering education, and STEM education. The committee comprises researchers from Taiwan, Japan, South Korea, Australia, New Zealand, Hong Kong, and the US. It holds monthly meetings to discuss opportunities and challenges in technology education from various perspectives. I take minutes with a New Zealand senior lecturer during our monthly meetings.

❖ CTETE member 2023 — Present

The Council on Technology and Engineering Teacher Education (CTETE) provides leadership to colleges/universities in the areas of standards, research, and professional interests related to higher education. CTETE provides an opportunity for technology and engineering teacher education professionals to report on and learn more about relative topics.

❖ ITEEA & TENZ member 2018 — Present

The International Technology and Engineering Educators Association (ITEEA) and Technology Education New Zealand (TENZ) are both professional associations which support technology, design, engineering, and interdisciplinary/STEM educators. Both organizations hold international conferences which allow teachers, researchers, and learners to discuss relative issues and share experiences.

❖ International Conferences 2019 — Present

To broaden my international perspective, I participated in international conferences to share our research findings and have discussions with participants. From one to another, I improved my critical thinking and social skills; learned to express my opinions constructively. These experiences benefit me while doing academic research as well as collaborating with others.

Oral presentations:

ICTE 2019 (South Korea)
TENZ 2019 (New Zealand)
ITEEA 2020 (USA)
ICTE 2021 (Taiwan)
ITEEA 2021 (USA)
ITEEA 2022 (USA)
DATTArc 2022 (Australia)
ITEEA 2023 (USA)

❖ 21CLA cohort 2022 — 2023

The 21st Century Leadership Academy (21CLA) facilitates leadership development within ITEEA and the technology and engineering education profession. The 21CLA aims to develop cohort members' new knowledge and skills and help them become more effective leaders in the technology and engineering profession.

❖ ICTE 2021 Conference Committee 2021

During the international conference, I was involved in the peer review process to review conference papers; played the role of chairman in 3 oral presentation sessions. As an international conference committee, my collaboration, problem-solving, and language skills improved when contacting 12 keynote speakers and managing the conference programs.

MY RESEARCH GRANTS

- ❖ **Building a Model of Integrating Reverse Engineering Pedagogy in STEM Teacher Professional Development** 2023 — Present

The Grant of Graduate Students Study Abroad Program is sponsored by the National Science and Technology Council to perform advanced research abroad.

- ❖ **Utilizing Productive Failure in Integrated STEM Pedagogy** 2020 — 2022

Operation Directions Governing Ministry of Education Subsidies for Universities That Offer Teacher Training Programs for Projects to Develop Subject-Specific Teaching Materials, Teaching Methods and Training for Their Teaching Personnel.

HONORS & AWARDS

- ❖ **Recipient of PhD Fellowship** 2020 — 2023

National Taiwan Normal University

- ❖ **21st Century Leadership Academy** 2022 — 2023

International Technology and Engineering Educators Association

- ❖ **Phi Tau Phi Scholastic Honor Society** 2020

The Phi Tau Phi Scholastic Honor Society of the Republic of China

- ❖ **Three-time recipient of Excellent Graduate Student Scholarship** 2018 — 2020

National Taiwan Normal University

- ❖ **Recipient of Excellent Student Award** 2019

Department of Technology Application and Human Resource Development

SKILLS

Computer Skills	<i>Expert</i>	Communication Skills	<i>Expert</i>
Public Speaking	<i>Expert</i>	Ability to Work Under Pressure	<i>Expert</i>
Problem Solving	<i>Expert</i>	Fast Learner	<i>Expert</i>
Leadership	<i>Expert</i>	Time Management	<i>Expert</i>
Teamwork	<i>Expert</i>		

LANGUAGES

Mandarin	<i>Native speaker</i>	English	<i>Highly proficient</i>
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CERTIFICATES

- ❖ **IELTS Overall Score 7.0** 2022
- ❖ **The Certificate in EMI Skills Online Course** 2022
- ❖ **Technology Teacher Certificate** 2015