

EN-CHI LEE

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SCHOOL	College of Science, University of Arizona, Tucson, Arizona
GitHub	 GitHub
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EDUCATION

- 2023–present **University of Arizona**, Tucson, Arizona
Majors: Geophysics & Planetary Geoscience
Minors: Mathematics & Oceanic and Atmospheric Sciences
Expected graduation: May 2026
- 2022–2023 **National Taiwan University**, Taipei, Taiwan
Major: Geosciences
Transferred to the University of Arizona

RESEARCH EXPERIENCES & WORKSHOPS

- 2025–present **Senior independent study**
Department of Geosciences, University of Arizona
Mentor: Dr Amanda Hughes
- Generating geologically consistent synthetic seismic reflection data using numerical modeling.
 - Evaluating the performance of machine learning methods in seismic interpretation using the synthetic data.
- 2025–present **Yin Climate Research Group**, Undergraduate researcher
Department of Geosciences, University of Arizona
Mentor: Dr Jianjun Yin
- Analysed tide gauge data and decomposed the relative contributions of different sea-level change mechanisms.
 - Modeled the effect of atmospheric forcing on local sea-level changes.
- 2024–present **Arizona Polar Ice Lab**, Undergraduate researcher
Department of Geosciences, University of Arizona
Mentor: Dr Christopher Harig
- Developed codebase *ULMO* to analyse satellite and oceanographic data; used it to jointly estimate and model sea-level budgets in ocean basins.
 - Showed that mismodeled glacial isostatic adjustment (GIA) is a significant source of discrepancy in previous sea level budget estimates.
- 2025 **Geology Field School**
Department of Geosciences, University of Arizona
Instructors: Dr Peter DeCelles, Dr Barbara Carrapa, & Dr Paul Kapp

- Studied and individually mapped several faults and related structures of the Sevier Thrust Belt and Laramide Orogeny.
- Constructed map-scale and orogeny-scale cross-sections to understand the tectonic evolution of the North American Cordillera.

2023

Dynamics and Modelling Laboratory, Undergraduate researcher

Department of Atmospheric Sciences, National Taiwan University

Mentor: Dr Hung-Chi Kuo

- Implemented an algorithm to solve for boundary layer dynamical adjustment numerically and similar PDE systems.
- Evaluated the performance of the Pangu AI model in forecasting typhoon development compared to numerical weather prediction; Showed the model was unstable and yielded nonphysical storm structures for longer forecasts.

2022

Seismology Skill Building Workshop, Participant

IRIS Consortium (now EarthScope)

- Participated in the self-motivated workshop with a 99% average score.
- Performed analysis using Shell scripts, SAC, and ObsPy to study the behaviours of seismic events, earthquake positioning, and waveforms.

PUBLICATIONS

- [4] Yin, J. & **E.-C. Lee** (2026). High-tide and storm-surge flooding along the U.S. East and Gulf Coasts. In preparation for *Journal of Climate*.
- [3] **Lee, E.-C.** & C. Harig (2025). The impact of GIA corrections on gravimetric basin-scale ocean mass budgets. Submitted to *JGR: Solid Earth*; preprint available on *EarthArXiv*. doi: [10.31223/X5RR16](https://doi.org/10.31223/X5RR16)
- [2] **Lee, E.-C.** (2025). Unified localisation of mass over oceans (ULMO) [Software]. *Zenodo*. doi: [10.5281/ZENODO.17625698](https://doi.org/10.5281/ZENODO.17625698)
- [1] **Lee, E.-C.** & C. Harig (2024). Investigating the variance of GIA corrections on gravimetric basin-scale ocean mass budgets [Abstract]. In: *AGU24 Annual Meeting*. ADS: [2024AGUFG51B.3394L](https://doi.org/10.1781/AGUFG51B.3394L)

SELECTED PRESENTATIONS

- May 2025 **Investigating the Variance of GIA Corrections on Gravimetric Basin-Scale Ocean Mass Budgets (talk)**
ACCESS Workshop, Northern Arizona University
- May 2025 **Geospatially Conditioned Diffusion for Worldbuilding and Fantasy Cartography (talk)**
Mathematics of Generative AI Course Project Showcase, University of Arizona
- Mar 2025 **Investigating the Variance of GIA Corrections on Gravimetric Basin-Scale Ocean Mass Budgets (talk)**
GeoDaze 2025, University of Arizona

Dec 2024	Investigating the Variance of GIA Corrections on Gravimetric Basin-Scale Ocean Mass Budgets (poster) <i>AGU24 Annual Meeting, Washington, D.C.</i>
Sep 2024	Estimating Basin-Scale Ocean Mass Budgets with Satellite Gravity (talk) <i>McNair Scholar Research Conference, University of New Mexico</i>
Aug 2024	Estimating Basin-Scale Ocean Mass Budgets with Satellite Gravity (talk & poster) <i>Undergraduate Research Opportunities Consortium (UROC) Colloquium, University of Arizona</i>
May 2024	Dust, Habitability, and the Evolution of the Martian Climate (talk) <i>Geology of the Solar System Course Project Showcase, University of Arizona</i>

EMPLOYMENT & SERVICE

2026–present	GEOS304 Structural Geology , Preceptor Department of Geosciences, University of Arizona <ul style="list-style-type: none">• Review weekly lecture material for the lab component of the course.• Assist in the lab instruction and provide real-time feedback to students.
2024–present	Arizona Journal of Interdisciplinary Studies , Editor University of Arizona <ul style="list-style-type: none">• Peer-reviewed and edited interdisciplinary research articles for publication.• Organised outreach events and showcase of published research.
2024	AGU24 Annual Meeting , Student volunteer Washington, D.C.

SELECTED HONOURS & DISTINCTIONS

2023–present	Scholarship for Students Participating in International Science Olympiads and International Science Exhibitions to Study Abroad <i>Ministry of Education, Taichung, Taiwan</i> Awarded 30 000 USD/year to study abroad.
2023–present	Dean's List with Distinction <i>University of Arizona, Tucson, Arizona</i> Awarded for a 4.0 GPA.
2023–2025	Transfer Global Wildcat Award <i>University of Arizona, Tucson, Arizona</i> Awarded 11 000 USD/year for outstanding academic performance.
2022–2023	Fu Bell Scholarship <i>National Taiwan University, Taipei, Taiwan</i> Awarded 200 000 NTD/year for outstanding academic performance.

2022–2023	Presidential Award <i>National Taiwan University, Taipei, Taiwan</i> Awarded for maintaining a top 5% GPA within the department.
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PROFESSIONAL AFFILIATIONS & MEMBERSHIPS

2024–present	American Geophysical Union , Member
2023–present	Arizona Science, Engineering, and Mathematics Scholars (ASEMS) , Scholar
2022–present	Seismological Society of America , Member