

# Yi-Ting Tu (涂懿庭)

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## EDUCATION

<b>University of Maryland, College Park, MD, USA</b> <i>Ph.D. candidate in Physics</i> <ul style="list-style-type: none"> <li>• Advisor: Sankar Das Sarma</li> </ul>	Aug. 2021 – Present
<b>National Tsing Hua University, Hsinchu, Taiwan</b> <i>Bachelor of Science</i> <ul style="list-style-type: none"> <li>• Double Major: Physics and Mathematics</li> <li>• Graduated with Honor in Physics</li> </ul>	Sep. 2015 – Jun. 2020

## RESEARCH EXPERIENCE

<b>Condensed Matter Theory Center, University of Maryland</b> <i>Advisor: Sankar Das Sarma</i>	Apr. 2022 – Present
<b>Condensed Matter Theory Group, National Tsing Hua University</b> <i>Advisor: Po-Yao Chang</i>	Jul. 2020 – Aug. 2021
<b>Quantum Optics Group, National Tsing Hua University</b> <i>Advisor: Ray-Kuang Lee</i>	Feb. 2018 – Jun. 2020

## AWARDS & SCHOLARSHIPS

Academic Achievement Award, seven semesters (top 5% in class)	2016 – 2019
2019 NTHU College of Science Elite Student Award	Spring 2019
Undergraduate Research Scholarship, Ministry of Science and Technology, Taiwan	Fall 2018
The Zhu Shun Yi He Qin Scholarship	Spring 2018

## SCIENTIFIC ACTIVITIES

[1] APS Global Physics Summit, Anaheim, CA, USA “Anomalous Time Crystals” (Oral)	Mar. 2025
[2] APS March Meeting, Minneapolis, MN, USA “Localization spectrum of a bath-coupled generalized Aubry-André model in the presence of interactions” (Oral)	Mar. 2024
[3] APS March Meeting, Las Vegas, NV, USA “Avalanche stability transition in interacting quasiperiodic systems” (Oral)	Mar. 2023
[4] APS March Meeting, online “Non-Abelian fracton order from gauging a mixture of subsystem and global symmetries” (Oral)	Mar. 2022
[5] The NCTS international summer school and workshop on emergent quantum many-body phenomena, online “Non-Abelian fracton order from gauging a mixture of subsystem and global symmetries” (Oral)	Jul. 2021
[6] APS March Meeting, online “Gauge Theories and Stabilizer Codes: From Abelian to non-Abelian models” (Oral)	Mar. 2021

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| [7] | Young Researchers Forum on Quantum Information Science, Hsinchu, Taiwan<br>“Positive Partial Transpose Criterion in Symplectic geometry” (Oral) | Aug. 2019 |
| [8] | Annual Meeting of the Physical Society, Hsinchu, Taiwan<br>“Positive Partial Transpose Criterion in Symplectic geometry” (Oral)                 | Jan. 2019 |
| [9] | Asian Quantum Information Science Conference, Nagoya, Japan<br>“Positive Partial Transpose Criterion in Symplectic geometry” (Poster)           | Sep. 2018 |

## PUBLICATIONS & PREPRINTS

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- [1] Yi-Ting Tu, David M. Long, and Dominic V. Else, “Anomalies of global symmetries on the lattice,” arXiv: 2507.21209 (2025).
- [2] Zi-Jian Li, Yi-Ting Tu, and Sankar Das Sarma, “Many-body Localization in a Slowly Varying Potential,” Phys. Rev. B **112**, 014203 (2025).
- [3] Yi-Ting Tu and Sankar Das Sarma, “Negative intercept of the apparent zero-temperature extrapolated linear-in- $T$  metallic resistivity,” Phys. Rev. B **110**, 075151 (2024).
- [4] Yi-Ting Tu, David M. Long, and Sankar Das Sarma, “Interacting quasiperiodic spin chains in the prethermal regime,” Phys. Rev. B **109**, 214309 (2024).
- [5] Sankar Das Sarma and Yi-Ting Tu, “Role of many phonon modes on the high-temperature linear-in- $T$  electronic resistivity,” Phys. Rev. B **109**, 235118 (2024).
- [6] Yi-Ting Tu, Seth M. Davis, and Sankar Das Sarma, “Energetic comparison of exciton gas versus electron-hole plasma in a bilayer two-dimensional electron-hole system,” Phys. Rev. B **109**, 165307 (2024).
- [7] Yi-Ting Tu and Sankar Das Sarma, “Wiedemann-Franz law in graphene in the presence of a weak magnetic field,” Phys. Rev. B **108**, 245415 (2023).
- [8] Yi-Ting Tu, DinhDuy Vu, and Sankar Das Sarma, “Localization spectrum of a bath-coupled generalized Aubry-André model in the presence of interactions,” Phys. Rev. B **108**, 064313 (2023).
- [9] Yi-Ting Tu and Sankar Das Sarma, “Wiedemann-Franz law in graphene,” Phys. Rev. B **107**, 085401 (2023).
- [10] Yi-Ting Tu, DinhDuy Vu, and Sankar Das Sarma, “Avalanche stability transition in interacting quasiperiodic systems,” Phys. Rev. B **107**, 014203 (2023).
- [11] Yi-Ting Tu, Iksu Jang, Po-Yao Chang, and Yu-Chin Tzeng, “General properties of fidelity in non-Hermitian quantum systems with PT symmetry,” Quantum **7**, 960 (2023).
- [12] Yi-Ting Tu, Yu-Chin Tzeng, and Po-Yao Chang, “Rényi entropies and negative central charges in non-Hermitian quantum systems,” SciPost Phys. **12**, 194 (2022).
- [13] Yi-Ting Tu and Po-Yao Chang, “Non-Abelian fracton order from gauging a mixture of subsystem and global symmetries,” Phys. Rev. Research **3**, 043084 (2021).

## TEACHING EXPERIENCE

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### Teaching Assistant of Graduate Course in

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|--------------------------------------|-----------------------|
| • Condensed Matter Physics(II)       | Feb. 2021 – Jun. 2021 |
| • Special Topic: Quantum Information | Sep. 2020 – Jan. 2021 |

### Teaching Assistant of Undergraduate Course in

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|--|-----------------------|
| • Experimental Physics II: Electricity and Magnetism | Aug. 2021 – May 2022  |
| • Linear Algebra (College of EECS)                   | Sep. 2019 – Jan. 2020 |
| • Quantum Physics                                    | Sep. 2018 – Jun. 2019 |

## PROGRAMMING LANGUAGES & SOFTWARE

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| • Mathematica (Advanced)                     | • C (Intermediate)      |
| • L <sup>A</sup> T <sub>E</sub> X (Advanced) | • Python (Intermediate) |
| • Julia (Intermediate)                       | • MATLAB (Basic)        |