TINGLONG FENG

Institute for Theoretical Physics ◇ Utrecht University
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EDUCATION

Utrecht University, Master of Science in Theoretical Physics 2024-2026

Xi'an Jiaotong University, Bachelor of Medicine in Clinical Medicine 2019-2024
GPA for **advanced mathematics and physics courses**: 3.89/4.30 or 91.48/100, including

Main Courses	Credits	Grades	Main Courses	Credits	Grades
Mathematical and Physical Equation	2	98	Electrodynamics	4	87
Complex Analysis and Integral Transformation	3	96	Quantum Field Theory	3	A
Thermodynamics and Statistical Physics I	4	94	Introductory General Relativity	2	A
Quantum Mechanics	4	89	Introduction to Group Theory	2	92
Theoretical Mechanics	3	89	Introduction to Elementary Particles	2	84

PUBLICATIONS

1 Y. Bai, **T.-L. Feng**, S. Kim, C.-Y. Lee, L.-H. Liu, W. Zhao, and S. Zhou, "Correlators for pseudo Hermitian systems," *JHEP* **11** (2024) 161. DOI: 10.1007/JHEP11(2024)161. (arXiv:2408.07506)

2 **T. Feng**, "Stability of the Potential Super Jupiter in Alpha Centauri System," *arXiv*:2406.19177 [astro-ph.EP] (2024).

3 **T. Feng**, "Holographic Approach to Neutron Stars," *arXiv*:2401.01617 [hep-th] (2024).

RESEARCH PROJECTS

A Study of Quantum Tunneling September 2025 - present
Supervisor: Prof. Tomislav Prokopec, Utrecht University

- Developed a real-time, flux-based analytic framework for metastable decay, capturing short-time deviations, exponential decay, and late-time power-law tails.
- Derived closed-form, computable *dawn* and *twilight* time scales and applied them to 1D resonance benchmark models.

Correlators for pseudo Hermitian systems January-August 2024
Supervisor: Prof. Siyi Zhou, Chongqing University

- Developed the in-in and Schwinger–Keldysh formalisms for pseudo-Hermitian fields.
- Analyzed loop corrections to primordial non-Gaussianity. Indicated the symplectic-fermion loop differs from the scalar-boson case by a relative minus sign, which does not lead to an observational distinction at the level of the three-point function

Stability of Planetary System June 2024
Course project for Theoretical Mechanics, Xi'an Jiaotong University

- Deployed REBOUND/MEGNO framework to investigate long-term orbital stability in binary systems.
- Identified regions of phase space that could host a stable Jupiter-mass planet around Alpha Centauri AB. Compared them with analogous configurations like the Neptune-mass planet in GJ 65AB.

Graphene Production September 2019 - May 2021
Supervisor: Prof. Wei Wei, Xi'an Jiaotong University

- Innovated traditional electrochemical exfoliation methods to produce high-quality graphene. Achieved better ion intercalation by modifying an electrolytic cell with graphite sheets and employing an electric field.
- Confirmed less defective graphene compared to conventional methods using physical modeling and Raman spectroscopy

Health Economics Modelling of Infectious Disease May 2020 - May 2021

Supervisor: Prof. Fan Zhang, Xi'an Jiaotong University

- Employed mathematical modeling to analyze government funding allocation between clinical treatment and preventive medicine during epidemics
- Suggested prioritizing clinical treatment for diseases like influenza with high prevalence and recovery rates, while prioritizing preventive medicine for low prevalence and recovery rate diseases like cancer.

TEACHING

Host of Theoretical Physics Seminars

QFT Seminars (website, recording)	November 2025
Cosmology Seminars (recording)	September 2024
Astrophysics Seminars (website, recording)	March 2024
Quantum Mechanics Seminars (website, recording)	April 2021
Classical Electrodynamics Seminars (website, recording)	February 2021
Analytical Mechanics Seminars (website, recording)	April 2020

SERVICE AND OUTREACH

United Academic Forum of Basic Science for Undergraduates December 2020 - February 2022

- Developed and co-organized this communication platform designed for undergraduates from various universities, fostering collaboration and engagement in basic science research. See this website.

Student Organisation at Xi'an Jiaotong University

- Staff of Scholastic Guidance Center of Qian Xuesen Honors College September 2020 - August 2021
- Deputy editor-in-chief of *Journal of Zhufeng* September 2021 - February 2022
- Reviewer of *Journal of Zhufeng* September 2020 - present

Student Organisation at Utrecht University

- Member of ABBA Student Association June 2025 - present

AWARDS

"Tengfei Cup" Technology Innovation Competition, second-class prize – Xi'an Jiaotong University	June 2020
"Tengfei Cup" Financial Technology Competition, third-class prize – Xi'an Jiaotong University	June 2021

PROGRAMMING

Familiar with C++, MATLAB, Mathematica, Python

LANGUAGE

Fluent in English (CEFR C1), capable of speaking a little Quenya (my Quenya learning notes)