

# Hao-Jui Kuan

## *Curriculum Vitae*

### Personal Data

Surname Kuan  
Name Hao-Jui  
Date of birth 13 July 1995  
Nationality Taiwan  
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### Education

2019 - **PhD in Theoretical Astrophysics (joint degree)**  
University of Tübingen, Tübingen, Germany (IAAT)  
Advisor: Kostas D. Kokkotas  
Main arguments: Quasi-normal modes (QNMs) in Magnetars, evolutionary study of binaries, and QNMs asteroseismology.

2017 - **PhD in Physics (joint degree)**  
National Tsing Hua University, Hsinchu, Taiwan (NTHU)  
Advisor: Chao-Qiang Geng  
Main arguments: Hydrodynamics simulation in alternative gravities

2013 - 2017 **B.Sc Double major in Physics and Mathematics**

### Research interest

- Evolutionary study of the pre-merger dynamics of magnetized neutron stars
- Dynamical aspects of compact objects in alternative theories
- Quasi-normal mode asteroseismology via universal relations, and tidal effects in binaries

### Publication summary

Refereed Articles	...	11	(2 PRL, 2 PRD, 3 MNRAS, 1 A&A, 2 CQG, 1 EPJC)
Citations(ADS)	...	74	
Normalized Citations (ADS)	...	24.1	
h index (ADS)	...	5	

### Awards, Honors, Fellowships & Grants

2020 - 2021 Principal Investigator of Sandwich-Scholarship Programme;  
13,500 euro, funded by Deutscher Akademischer Austauschdienst (DAAD), and Ministry of Science and Technology, Taiwan (MOST) with funding ID being JYP 109-2927-I-007-503.

2017 - 2020 President's Scholarship by NTHU for PhD applicants with excellent grades.

### Selected Presentations

2022

- Sep 10      **"Premerger Neutron Star Physics"**, plenary talk,  
Eleventh Aegean summer school, Syros, Greece.
- Sep 08      **"Gravitational Phase Transition"**, parallel talk,  
Eleventh Aegean summer school, Syros, Greece.
- May 16-19    **"Tidal effects in the pre-merger stage of coalescing binary neutron stars"**, e-poster,  
PHAROS: The multi-messenger physics and astrophysics of neutron stars, Roma, Italy.
- Mar 3        **"Resonance shattering as triggers for precursors of SGRBs"**, parallel talk,  
DPG Meeting of the Matter and Cosmos Section (SMuK), Heidelberg, Germany. (remotely)

## 2021

- Aug30 - Sep3    **"Tidal  $g$ -mode resonances in coalescing binaries of neutron stars as triggers for precursor flares of short gamma-ray bursts"**, parallel talk  
DPG Meeting of the Matter and Cosmos Section (SMuK), Bad Honnef, Germany. (remotely)
- July 27        **" $g$ -mode resonances as triggers for precursors of SGRBs"**, invited talk  
Grav@zon group seminar, Federal University of Pará, Pará, Brazil. (remotely)
- Jun 22        **"Dynamical formation of scalarized black holes and neutron stars through stellar core collapse"**, invited talk  
cosmo/GW journal club, Johns Hopkins University, Maryland, USA. (remotely)

## 2020

- Feb 24-28      **"Inverse-Chirp Imprint of GW in Scalar Tensor Theory"**, parallel talk  
56th Karpacz Winter School in Theoretical Physics, Karpacz, Poland.

## Teaching experience

- At NTHU**      Teaching assistant for General Relativity (2016 Fall, 2018 Fall), Mathematical Physics (2017-2018), Thermal Physics (2016-2017), Calculus (2018-2019)
- At IAAT**      Teaching assistant for Physical Practical (2021 Summer & Winter)  
Teaching assistant for Grundkurs Elektromagnetismus (2022 Summer)

## Miscellaneous

- Computer skills**    Programming: Python, Fortran  
Scientific SW: Matlab, Mathematica, Gnuplot
- Language**        English (fluent), Mandarin (Mother tongue), Japanese (fluent)

## References

- **Prof. Dr. Kostas Kokkotas**  
Theoretical Astrophysics (IAAT)  
Eberhard Karls Universität Tübingen  
Auf der Morgenstelle 10, 72076 Tübingen, Germany  
e-mail: kostas.kokkotas@uni-tuebingen.de
- **Dr. Daniela Doneva**  
Theoretical Astrophysics (IAAT)  
Eberhard Karls Universität Tübingen  
Auf der Morgenstelle 10, 72076 Tübingen, Germany  
e-mail: daniela.doneva@uni-tuebingen.de
- **Dr. Arthur Suvorov**  
Manly Astrophysics

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- **Prof. Dr. Stoytcho Yazadjiev**

Sofia University St Kliment Ohridski  
15 Tsar Osvoboditel Boulevard  
BG-Sofia 1504, Bulgaria  
e-mail: yazad@phys.uni-sofia.bg

- **Prof. Dr. Chao-Qiang Geng**

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National Tsing Hua University  
Kuang-Fu Road, Section 2, No. 101, Hsinchu 300, Taiwan  
e-mail: geng@phys.nthu.edu.tw

**Tübingen**

**November 4, 2022**

**Hao-Jui Kuan**