

# Alexandros Ziampras | Curriculum Vitae

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## Academic track record

<b>Ludwig Maximilian University of Munich</b> <i>Postdoctoral Research Assistant in planet formation</i> Research topics: Protoplanetary disk outbursts, radiation transport, synthetic imaging.	<b>Munich, Germany</b> 2024–today
<b>Queen Mary University of London</b> <i>Postdoctoral Research Assistant in planet formation</i> Research topics: Planet–disk interaction, radiation transport, synthetic imaging.	<b>London, UK</b> 2021–2024
<b>Eberhard Karls University of Tuebingen</b> <i>PhD in Computational Astrophysics, graded “excellent” (“Summa cum laude”)</i> Research topics: Planets in turbulent disks, radiation transport, vertical shear instability.	<b>Tuebingen, Germany</b> 2019–2021
<b>Eberhard Karls University of Tuebingen</b> <i>MSc in Astrophysics, GPA of 1.0 on the German scale (“Very Good”)</i> Specialization: Planet Formation, Theoretical Astrophysics, Computational Astrophysics.	<b>Tuebingen, Germany</b> 2017–2019
<b>Aristotle University of Thessaloniki (AUTH)</b> <i>BSc (Hons) in Physics, GPA of 9.23/10 (“Excellent”)</i> Specialization: Astrophysics, Radio Astronomy, Computational Physics.	<b>Thessaloniki, Greece</b> 2013–2017

## Experience

<b>Teaching: Theoretical Astrophysics exercise class (MSc)</b> <i>Topics: properties of flows, fluid dynamics, physics of stars.</i>	<b>Uni Tuebingen, DE</b> Oct. 2019–Oct. 2021
<b>Teaching: Computational Astrophysics exercise class (MSc)</b> <i>Topics: numerical methods, simulation of flows, astrophysical applications.</i>	<b>Uni Tuebingen, DE</b> Apr. 2019–Oct. 2021
<b>Research assistant (HiWi)</b> <i>Code development, university outreach</i> <ul style="list-style-type: none"><li>○ Developed a high-performance radiation transport module for the numerical MHD code PLUTO in C.</li><li>○ Participated in the university outreach program to promote the Master’s in Astro- &amp; Particle Physics course.</li></ul>	<b>Uni Tuebingen, DE</b> Oct. 2017–Mar. 2019
<b>Exercise grading: Numerical Methods, Astronomy &amp; Astrophysics (BSc)</b> <i>Topics: numerics in physics; physics of planets, stars and galaxies; cosmology.</i>	<b>AUTH, GR</b> Oct. 2016–Jun. 2017

## Computational skills

**Operating systems:** Linux (Ubuntu 16+, Mint), Microsoft Windows (XP, Vista, 7, 10).

**Programming and markup languages:**

- Highly experienced with C, Python 2.7, 3.X (incl. numpy, matplotlib, scipy), bash, TeX typesetting.
- Basic knowledge of C++, Fortran, Julia, Javascript, HTML, Python tensorflow, keras.

**Commercial software:**

- Highly experienced with Mathematica, OriginPro, Microsoft Office (Word, Excel, PowerPoint).
- Basic knowledge of MatLab, LibreOffice, OpenOffice.

**Scientific software:**

- PLUTO, FARGO3D: Computational astrophysics codes (Mignone+, 2007, Benítez-Llambay+, 2016)
- RADMC3D: Monte Carlo radiation transport code (Dullemond+, 2012)
- CASA: Radio interferometry data reduction package (The CASA Team+, 2022)
- REBOUND: N-body integrator (Rein & Liu, 2012)

**Applicable skills:** Scientific computing, numerical modeling, code development, remote computing on large computer clusters. Experienced with management, analysis, and visualization of very large data sets.

## Languages

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**Greek:** native

**English:** fluent (C2)

**German:** basic (B1)

## Selected publications

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- **A. Ziampras**, R. P. Nelson, S.-J. Paardekooper (2024, MNRAS, **528**, 6130):  
*Type-I migration in inviscid disks: the effect of radiation transport on the dynamical corotation torque*
- **A. Ziampras**, S.-J. Paardekooper, R. P. Nelson (2023, MNRAS, **525**, 5893):  
*Buoyancy response of a disk to an embedded planet: a cross-code comparison at high resolution*
- **A. Ziampras**, R. P. Nelson, R. R. Rafikov (2023, MNRAS, **524**, 3930):  
*Modeling planet-induced gaps and rings in ALMA disks: the role of in-plane radiative diffusion*
- **A. Ziampras**, W. Kley, R. P. Nelson (2023, A&A, **670**, A135):  
*Hydrodynamic turbulence in disks with embedded planets*
- C. P. Dullemond, **A. Ziampras**, D. Ostertag, C. Dominik (2022, A&A, **668**, A105):  
*Razor-thin dust layers in protoplanetary disks: Limits on the vertical shear instability*
- T. Rometsch, **A. Ziampras**, W. Kley, W. Béthune (2021, A&A, **656**, A130):  
*Survival of planet-induced vortices in 2D disks*
- **A. Ziampras**, W. Kley, C. P. Dullemond (2020, A&A, **637**, A50):  
*The importance of radiative effects in gap opening by planets in protoplanetary disks*
- **A. Ziampras**, S. Ataiee, W. Kley, C. P. Dullemond, C. Baruteau (2020, A&A, **633**, A29):  
*The impact of planet wakes on the location and shape of the water ice line in a protoplanetary disk*

## Theses

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- **PhD thesis:** *Planets in turbulent disks*  
supervised by Prof. Dr. Wilhelm Kley (Uni Tuebingen), Prof. Dr. Richard Nelson (QMUL)
- **MSc thesis:** *Shock heating by planet-induced spirals in radiative protoplanetary disks*  
supervised by Prof. Dr. Wilhelm Kley (Uni Tuebingen)
- **BSc thesis:** *Development and testing of an N-body simulation algorithm on a planetary system*  
supervised by Prof. Dr. Manolis Plionis (AUTH), Prof. Dr. Kleomenis Tsiganis (AUTH)

## Project supervision

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- Master's thesis of James S. Wright (QMUL) on *Synthetic observations of protoplanetary discs with planet–disc interaction*.
- Master's thesis of Nicholas Tukasi (QMUL) on *Synthetic observations of ALMA disks*.
- Research project of Jibin Joseph (Uni Tuebingen → AIP, Potsdam) on *Numerical viscosity of finite-volume codes*, related paper published in A&A (**678**, A134).
- Research project of Prakruti Sudarshan (Uni Tuebingen → MPIA, Heidelberg) on *Cooling in circumbinary disks*, related paper published in A&A (**664**, A157).
- Bachelor thesis of Divin Gavran (Uni Tuebingen) on *Torque distribution of planets*.

## Other activities

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- **Reviewer activity:** I have reviewed manuscripts for the journals A&A, MNRAS, PASJ.
- **Academic activity:** A full list of conferences, seminars and schools can be provided upon request.  
Most recent conference contribution: *Contributed talk at Ringberg Workshop on the Minor Bodies of the Solar System, December 2024, Ringberg castle, Germany*.  
Most recent talk: *Group seminar at DAMTP, November 2024, Cambridge, UK*.
- **Conference organization:** Member of the SOC for the symposium on *(Exo-)Planet formation at different stages of disk evolution* in EAS 2024, Padova, Italy.
- **GEPARD project:** Member of a scientific collaboration between Uni Tuebingen and the Côte d'Azur Observatory in Nice, France on accretion and migration of planets in protoplanetary disks (2019–2023).