

Tim van der Vuurst

✉ vdvuurst@strw.leidenuniv.nl

🌐 [Webpage](#)

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Education

- Sep 2023 - present 📖 **MSc Astronomy, Leiden University** Data Science specialisation
Current GPA (81 ECTs): 7.7/10
First-year project title: *A photometric population study on nuclear transient events from the Zwicky Transient Facility*
Supervisor: Dr. Sjoert van Velzen
Research grade (27 ECTs): 7.0/10, Report Grade (3 ECTs): 7.5/10
Extracurricular courses:
 - Urban Computing (6 ECs): 9.0/10
 - Automated Machine Learning (6 ECs): 7.5/10
- Sep 2019 - Jul 2023 📖 **BSc Astronomy, Leiden University**
GPA (180 ECs): 7.9/10
Thesis title: *The supermassive black hole - host galaxy mass scaling relation*
Supervisors: Prof. Dr. Joop Schaye and Zorrry Belcheva, MSc
Research Grade (18 ECTs) 8.5/10, Report Grade (3 ECTs) 8.0/10
Extracurricular courses:
 - Astrobiology (3 ECs): 10/10
 - Introduction to Video Game Making (6 ECs): 8.0/10

Research Publications

Journal Articles in Preparation

- 1 Y. Badoux, L. Pouw, T. van der Vuurst, and S. Portegies Zwart, "Kozai-driven mass loss of the circumbinary disk in D9 in orbit around the supermassive black hole Sgr A*," in prep.

Employment History

- Jan 2021 - present 📖 **Teaching Assistant**, Leiden University
Responsibilities include:
 - Helping to create and conduct working classes that apply lecture materials;
 - grading homework, exams, reports and code;
 - supervising astronomical observationsCourses assisted:
 - Practical Astronomy (4 years) | Astronomy BSc
 - Programming Methods for Physics (2 years) | Astronomy BSc & Physics BSc
 - Machine Learning (1 year) | Computer Science BSc
 - Einstein's Universe: Relativity and Black Holes (1 year) | Physics Minor
 - Cosmology - where do we come from? (1 year) | Physics Minor
- Dec 2024 - present 📖 **IT Helpdesk Support**, ISSC, Leiden University
Customer support for the University IT department
- Sep 2021 - Feb 2023 📖 **Junior Content Editor**, WisMon
Creating supplementary exercises and explanations at all high school levels for the courses Mathematics, Physics and Chemistry, commissioned for StudyGo (formerly WRTS)

Employment History (continued)

Jan 2015 - Nov 2020  **Tutor**, various employers and independent
Tutoring at the primary school level and various high school levels for Mathematics, Physics and Chemistry

Miscellaneous Experience

Outreach

Sep 2019 - Sep 2020  **High school talks**
Giving talks for the Physics and Astronomy bachelors on behalf of Leiden University at Open Days at various high schools throughout the Netherlands

Dec 2023  **Symposium talk**
About cosmology and large-scale structure as well as how my Bachelor Research Project pertained to those topics for a group of non-astronomy students at student association SSR Leiden

Extracurricular activities

Oct 2022 - Oct 2023  **Chair of student association subgroup**, SSR Leiden
Managing a group of 90+ members and organizing weekly activities, trips and events

Aug 2024 - Apr 2025  **Theater Director and Writer** for amateur theater group “De Revue”

Skills

Coding	 Python (NumPy, SciPy, Tensorflow, PyTorch, Matplotlib, AMUSE), $\LaTeX$, GitHub
Data analysis	 Bayesian methods, statistical modeling
Astrophysics	 Hydrodynamical simulations, high-energy transients, galaxy formation, Galactic Center kinematics, Astrophysical modeling
Languages	 Dutch (native), English (C2) and German (B1)
Misc.	 Academic research, writing and presenting; university-level teaching