Richelle van Capelleveen

Curriculum Vitae

Personal details

Dutch

Leiden
Netherlands

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in://rfvancapelleveen

Education

2023 – present	**PhD** Exoplanets / Direct Imaging	Leiden University, Leiden
2020 – 2023	**Master** Astronomy and Data Science	Leiden University, Leiden
2015 – 2020	**Bachelor** Astronomy	Leiden University, Leiden
2012 – 2014	**Bachelor** Electrical Engineering Unfinished	Delft University of Technology, Delft
2009 – 2012	**International Baccalaureate** English A2 Higher Level Score: 6/7 (near-native proficiency)	Hofstad Lyceum, The Hague

BSc and MSc research projects

05-22 – 03-23	**Master Research Project** The Eclipse of ASASSN-21qj: A Collisional Event	Supervisor: Dr. M.A. Kenworthy
10-20 – 10-21	**First Research Project** Discovering Globular Clusters with Artificial Intelligence	Supervisors: Dr. E.M. Rossi and Dr. T. Marchetti
01-20 – 07-20	**Bachelor Research Project** The Rotation of Andromeda: Using Machine Learning to Select Isolated Gaia DR2 Stars	Supervisor: Dr. A.G.A. Brown

Publications

1. **Richelle F. van Capelleveen**, Christian Ginski, Matthew A. Kenworthy, Jake Byrne, Chloe Lawlor, Dan McLachlan, Eric E. Mamajek, Tomas Stolker, Myriam Benisty, Alexander J. Bohn, Laird M. Close, Carsten Dominik, Sebastiaan Haffert, Rico Landman, Jie Ma, Ignas Snellen, Ryo Tazaki, Nienke van der Marel, Lukas Welzel, and Yapeng Zhang. *WIde Separation Planets In Time (WISPIT): A Gap-clearing Planet in a Multi-ringed Disk around the Young Solar-type Star WISPIT 2*. In: The Astrophysical Journal Letters 990.1, 2025, p. L8. DOI: 10.3847/2041-8213/adf721
2. Laird M. Close, **Richelle F. van Capelleveen**, Gabriel Weible, Kevin Wagner, Sebastiaan Y. Haffert, Jared R. Males, Ilya Ilyin, Matthew A. Kenworthy, Jialin Li, Joseph D. Long, Steve Ertel, Christian Ginski, Alycia J. Weinberger, Kate Follette, Joshua Liberman, Katie Twitchell, Parker Johnson, Jay Kueny, Daniel Apai, Rene Doyon, Warren Foster, Victor Gasho, Kyle Van Gorkom, Olivier Guyon, Maggie Y. Kautz, Avalon McLeod, Eden McEwen, Logan Pearce, Lauren Schatz, Alexander D. Hedglen, Ya-Lin Wu, Jacob Isbell, Jenny Power, Jared Carlson, Emmeline Close, Elena Tonucci, and Matthijs Mars. *Wide Separation Planets in Time (WISPIT): Discovery of a Gap H-alpha Protoplanet WISPIT 2b with MagAO-X*. in: The Astrophysical Journal Letters 990.1, 2025, p. L9. DOI: 10.3847/2041-8213/adf7a5
3. **Richelle F. van Capelleveen**, Matthew A. Kenworthy, Christian Ginski, Eric E. Mamajek, Alexander J. Bohn, Rico Landman, Tomas Stolker, Yapeng Zhang, Nienke van der Marel, and Ignas Snellen. *WIde Separation Planets In Time (WISPIT): Two directly imaged exoplanets around the Sun-like stellar binary WISPIT 1*. In: Astronomy & Astrophysics accepted 2025-08-25, 2025

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4. Matthew Kenworthy†, Simon Lock†, Grant Kennedy†, **Richelle van Capelleveen†**, Eric Mamajek†, Ludmila Carone†, Franz-Josef Hambsch, Joseph Masiero, Amy Mainzer, J. Davy Kirkpatrick, Edward Gomez, Zoë Leinhardt, Jingyao Dou, Pavan Tanna, Arttu Sainio, Hamish Barker, Stéphane Charbonnel, Olivier Garde, Pascal Le Dû, Lionel Mulato, Thomas Petit, and Michael Rizzo Smith. *A planetary collision afterglow and transit of the resultant debris cloud*. In: Nature 622.7982, 2023, pp. 251–254. DOI: 10.1038/s41586-023-06573-9

Awarded telescope time

Accepted PI / Co-PI proposals

Title	Facility	Instrument	Type	Year	Hours
A PDS 70 analogue: imaging the gas and dust of a giant disk with an embedded protoplanet	ESO/ALMA	Band 6	Cycle 12	2025	2.2
The continuation of the WiSPIT survey	ESO/VLT	SPHERE	P116	2025	36.7
When worlds collide: formation and evolution of a synestia	JWST	MIRI/NIRSpec	Cycle 3 GO	2024	16.8
WiSPIT: Wide Separation Planets In Time: Finishing the Winter sample	ESO/VLT	SPHERE	P114	2024	11.3
When worlds collide: formation and evolution of a synestia	JWST	MIRI/NIRSpec	Cycle 2 DDT	2024	8.6
Confirming young planets to young suns in Sco-Cen: last part of the YSES survey	ESO/VLT	SPHERE	P113	2024	3.8
WiSPIT: Wide Separation Planets In Time: second epoch of the Summer stars	ESO/VLT	SPHERE	P113	2024	37.9

Scientific presentations

Public and conference talks

Title	Location	Type	Year
WISPIT 1: a wide separation multi-planet system	NAC	Parallel talk	2025
When Worlds (probably) Collide!	Exoplanets 5	Plenary talk	2024
Waarnemingen van een botsing tussen planeten	LWSK	LWSK member talk	2024

Student supervision

Co-supervision of bachelor's and master's students

Student(s)	Level	Year	Title
Emma Verkooijen & Anastacia Peters	BSc	2025	*Increasing the sensitivity of direct imaging of exoplanets in YSES*
Alberto Brentegani	MSc	2025	*Fitting the ring system of ASASSN-23ht*
Julia Pessers	MSc	2025	*The curious transit of ASASSN-24fw*
Niels van Leur	MSc	2025	*A sudden and long transit of ASASSN-24fa: Collisions creating a debris disk*
Niels Korpel	BSc	2024	*The curious case of ASASSN-23ao: Investigating a star's recent dimming event*

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Computer skills

advanced	Python, LaTeX
proficient	scikit-learn, Keras, TensorFlow, Arch Linux, Debian
intermediate	C++, ADQL

Languages

native/bilingual	Dutch, English	fluent in speaking, reading and writing
beginner	French, German	intermediate reading, elementary speaking and writing

Experience

2023 – present Leiden University — Leiden, Netherlands
PhD Candidate in exoplanets / direct imaging at Leiden Observatory

2022 – 2023 Leiden University — Leiden, Netherlands
Student assistant for 'Introduction to Astrophysics'
Creating the weekly homework assignments, explaining the answers in the weekly tutorial class and helping the students understand the course material.

2022 – 2023 Leiden University — Leiden, Netherlands
Writer
Writing and designing a syllabus with worked out problems and solutions relevant to first year BSc Astronomy courses.

2020 – 2021 Red Cross / HMC Westeinde — The Hague, Netherlands
Volunteer for Ready2Help / Screening HMC Westeinde
As a volunteer for Ready2Help (and later as hospital employee) I screened visitors and patients of the HMC Westeinde hospital for COVID-19 symptoms during the COVID-19 pandemic.

2017 – 2018 Leiden University — Leiden, Netherlands
Practicum supervisor for 'Quantum Rules!'
Explaining complex phenomena in a simple, clear, and captivating way.

2015 – 2016 OGD IT services — Delft, Nederland
Servicedesk employee of the Shared Service Desk
First line and/or second line support for over thirty clients varying from small companies, to government institutions, to multinationals. This job taught me how to quickly familiarise myself with a large amount of applications, asses risks and prioritise incidents.

2015 OGD IT services — Delft, Netherlands
Functional Application Manager at the Agency of the Ministry of Social Affairs and Employment (full-time gap year job)
Managing the applications that were part of the subsidy management system Diane. I was responsible for:

- Running tests in the acceptance environment;
- Deploying changes to the production environment;
- Detecting and solving incidents;
- Conducting incident analysis to find patterns in incidents;
- Formulating long-term solutions to issues exposed with incident analysis.

2012 – 2014 Delft University of Technology — Delft, Netherlands
Student employee Marketing and Communication

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Interests

Professional: observational astronomy, exoplanets and planet formation, direct imaging, dusty transits, exoplanet collisions, problem-solving, data analysis, machine learning, deep learning
Personal: swimming, museums, hiking, gaming, digital typesetting (design), skiing, travelling

Service and committees

LWSK (2023-present): board member
Wellbeing committee (2023-present): member
Machine learning / AI Journal Club (2021-2023): member
Haagse Watervrienden (2022-2024): volunteer childrens' swimming instructor
Laakhaventoren (2021): residents' committee
Study association astronomy (2015-2016): bar committee
Study association electrical engineering (2012-2014): activity committee, winter sports committee, Maxwell committee (the Maxwell is the quarterly magazine of the Electrotechnische Vereeniging), bar committee, mentor, photo committee of the freshmen weekend (EOW)

Memberships

Leidse Weer- en Sterrekundige Kring
Royal Netherlands Astronomical Society
European Astronomical Society