

Floor van Donkelaar

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Affiliation: University of Zurich

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Research interests Computational Astrophysics, Galaxy Formation, Galaxy Evolution

Education

Lund University	Lund, Sweden
MSc in Astrophysics	Aug 2019 – May 2021
Supervisor: Prof. Dr. Oscar Agertz	GPA: 3.83/4

University of Twente (ATLAS)	Enschede, The Netherlands
BSc in physics, minor in modern physics	Sep 2016 – Jul 2019
Mentor: Prof. Dr. Jennifer L. Herek	GPA: 3.85/4

Research experience

University of Zurich (PhD)

Supervisor: Prof. Dr. Lucio Mayer Jan 2022 – Present

- Research on the formation of disc galaxies investigating the gasue halos with the high resolution cosmological simulation, PHOEBOS, to be used in combination with observations of SKA.
- Research on the formation of galaxy structures with GIGAERIS, a cosmological, N-body hydrodynamical “zoom-in” simulation of the formation of a Milky Way-sized galaxy.

Lund University (MSc Thesis)

Supervisor: Prof. Dr. Oscar Agertz Feb 2020 – Sep 2021

Research on the difference between the velocity dispersion of stars in the Milky Way in comparison to gas-rich high redshift galaxies with the use of N-body hydrodynamical simulations. Thesis available [here](#).

Oxford University

Supervisor: Dr. Kearn Grisdale Jun 2020 – Nov 2020

Analyzing gas and stellar properties of Giant Molecular Clouds in Large Magellanic Clouds with the use of N-body hydrodynamical simulations.

Leibzin-Institut für Astrophysik Potsdam (BSc Thesis)

Supervisor: Dr. Kasper Borello Schmidt Mar 2019 – Jun 2019

Understanding the star formation rate, metallicity and thermal pressure in galaxies around $z = 0.4$ with the use of spectral data from MUSE.

Leibzin-Institut für Astrophysik Potsdam

Supervisor: Dr. Kasper Borello Schmidt Jul 2017

Generating template spectra of MUSE-Wide emission lines sources.

Teaching experience & public outreach

Teaching assistant, University of Zurich	
AST 248: The Sun and Planets	Spring 2023
AST 295: Astrobiology proseminar	Fall 2022
AST 202: The Universe: Contents, Origin, Evolution and Future	Spring 2022
AST 201: Introduction to Astrobiology	Fall 2021

	Chief Public Relations, Green Team Twente Jun 2017 – Sep 2018 Student team working on one of the most efficient hydrogen city cars in world. As head of the public relations and graphic designer of the team, it was my main responsibility to decide about the appearance of the team and organize the main events.
	Workshop developer, University of Twente May 2017 – Jun 2018 We supported and developed workshops about mentoring and the writing of personal development plans in the science track of the honours program.
Publications	Stellar cluster formation in a Milky Way-sized galaxy at $z>4$ - II. A hybrid formation scenario for the nuclear star cluster and its connection to the nuclear stellar ring Floor van Donkelaar, Lucio Mayer, Pedro R. Capelo, Tomas Tamfal, Thomas R. Quinn and Piero Madau <i>submitted to MNRAS</i> (March 2023)
	Stellar cluster formation in a Milky Way-sized galaxy at $z>4$ - I. The proto-globular cluster population and the imposter amongst us Floor van Donkelaar, Lucio Mayer, Pedro R. Capelo, Tomas Tamfal, Thomas R. Quinn and Piero Madau <i>MNRAS</i> (June 2023)
	From giant clumps to clouds - II. The emergence of thick disc kinematics from the conditions of star formation in high redshift gas rich galaxies Floor van Donkelaar, Oscar Agertz and Florent Renaud. <i>MNRAS</i> (March 2022)
Skills	Programming Python MATLAB SQL C C++
	Languages Dutch (Native) English (Fluent) German (Elementary) Swedish (Elementary)
	Other LaTeX Windows OS Linux OS Microsoft Office Package Adobe Package
Organizations	PhD Representative May 2022 – Present at the Institute of Computational Sciences
	UCT Alumni Association Sep 2021 – Aug 2022 Chair & PR representative
	Faculty Council EEMCS Sep 2017 – Aug 2018 Elected member
Other interests	Public Relations, Graphic Design & Rugby