

# Floor van Donkelaar

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**Citizenship:** The Netherlands

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## Research interests

Computational Astrophysics, Galaxy Formation, Galaxy Evolution

## Education

### University of Zurich

PhD in Computational Astrophysics

Supervisor: Prof. Dr. Lucio Mayer

Zurich, Switzerland

Sep 2021 – Present

### Lund University

MSc in Astrophysics

Supervisor: Prof. Dr. Oscar Agertz

Lund, Sweden

Aug 2019 – May 2021

GPA: 3.83/4

### University of Twente (ATLAS)

BSc in physics, minor in modern physics

Mentor: Prof. Dr. Jennifer L. Herek

Enschede, The Netherlands

Sep 2016 – Jul 2019

GPA: 3.85/4

## Research experience

### University of Zurich

Supervisor: Prof. Dr. Lucio Mayer

Jan 2022 – Present

Research on the formation of disc galaxies investigating the gasue halos with PHOEBOS to be used in combination with observations of SKA.

Research on the formation of the thin and thick disc 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 Cloud in Large Magellanic Clouds with the use of hydrodynamical simulations.

### Leinbzin-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.

### Leinbzin-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 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 programme.

Talks & tutorials

**On disc kinematics: The influence of the thin disc on star clusters**

March 2022

Talk at the Winter Aspen Conference: Globular Clusters

**The Properties and Scaling Relations of GMCs in the LMC**

Sep 2020

Talk at the extragalactic simulation group of Oxford University

Publications

**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.

*MNRAS* (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

**UCT Alumni Association**

Sep 2021 – Present

Chair & PR representative

**Faculty Council EEMCS**

Sep 2017 – Aug 2018

Elected member

Other interests

Public Relations, Graphic Design & Rugby