



# Dr. Martin Sparre

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*Postdoctoral researcher*

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## Contact information

Dr. Martin Sparre  
Potsdam University  
Germany

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Website: [www.martinsparre.com](http://www.martinsparre.com)  
Born: December 3rd 1986, Helsingør, Denmark.

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## Research Employment

- 2017–present **Postdoctoral researcher**, (*start: September 1st 2017*).  
Postdoctoral researcher at Potsdam University, with additional funding/support from AIP Potsdam and Massachusetts Institute of Technology.
- 2015–2017 **Sapere aude fellow at HITS and DARK**, (*start: March 1st 2015*).  
Sapere aude postdoctoral fellow at Heidelberg Institute for Theoretical Studies (HITS) and Dark Cosmology Centre (DARK), University of Copenhagen. Located full-time at HITS, but grant is administered by University of Copenhagen.
- 2010–2014 **PhD at DARK**.  
4 year PhD programme at DARK, University of Copenhagen. During my PhD I visited HITS for 6 months and University of Leicester for 3 months.
- 2010 **CERN**.  
3 month summer student programme at CERN.

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## Education and Academic Degrees

- 2010–2014 **PhD at University of Copenhagen**.  
Degree awarded January 20th 2015.  
Advisor: Prof. Johan P. U. Fynbo,  
I wrote **6 first-author papers** in my PhD,  
Thesis title: *Galaxy formation: observations and simulations of galaxies"*

- 2008–2012 **MSc at University of Copenhagen.**  
Advisor: Prof. Johan P. U. Fynbo. Msc program was a part of the PhD program.
- 2006–2008 **BSc at University of Copenhagen.**  
Advisor: Dr. Steen H. Hansen and Dr. Jesper Sommer-Larsen.
- 2003–2006 **High School.**  
Frederiksborg Gymnasium, Denmark.

## Grants and Prizes

- 2014 **Postdoc grant from the Danish Council for Independent Research.**  
2 year post-doctorial grant for going to HITS. 1,846,907 DKK / **247,900 EUR.**
- 2014 **Sapere Aude Prize from the Danish Council for Independent Research.**  
1/2 year post-doctorial grant. 499,940 DKK / **67,106 EUR.**

## Software development and data analysis

- **Hydrodynamical simulations:** Running and development of simulations with the Gadget and AREPO codes. I have developed a framework to do high-resolution zoom-in simulations, and I contribute to the development of the *windtunnel branch* in AREPO.
- **Spectroscopic data:** I have developed a code to reduce data from the X-shooter spectrograph (at the Very Large Telescope in Chile): *XSHPipelineManager: Wrapper for the VLT/X-shooter Data Reduction Pipeline*, Astrophysics Source Code Library, record ascl:1509.001.
- **Programming languages:** C, C++, Python. Parallelisation with OpenMP and MPI.

## Mentoring

- I have mentored the following students that have produced or will produce a refereed publication, where I am 2nd author: **Sebastian Bustamante** (published in MNRAS), **Isabella P. Carucci** (published in JCAP), **Maan Hani** (published in MNRAS) and **Emilie Gehl Skulberg** (Emilie is PhD student in Philophy History at Cambridge University. Paper 1 submitted as a book chapter for the volume *The Matter of Mimesis* as part of the series in *Studies in Art & Materiality*, published by Brill. Paper 2 to be submitted to *Endeavour*, a journal about history and philosophy of science)

## Teaching experience

- 2018 **Lecturing.**  
Organizer of a master's course, *A 1-week crash course on scientific programming*, at Potsdam University. I organised 20 hours of lectures/teaching. October 8th-12th 2018.
- 2018 **Lecturing.**  
Organizer of a master's course, *Galaxy mergers and transformations*, at Potsdam University. I have given 15 lectures (each lecture is 2x45 min.) in the spring/summer semester.

2009-2014 **University tutoring.**  
Teaching assistant in classical mechanics, relativity, thermodynamics, introduction to mathematics. University of Copenhagen

2009-2010 **High school teacher in physics.**  
Part-time teacher at Frederiksborg Gymnasium.

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## Refereeing

Refereeing for *Monthly Notices of the Royal Astronomical Society* and *The Astrophysical Journal*.

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## Selected talks

- 2019 **Linking galaxies from the epoch of initial star formation to today, Sydney, Australia, invited talk, 30 min. talk.**
- 2018 **Illustris TNG workshop, Garching, Germany, workshop talk, 12 min. talk.**
- 2018 **COSMOS collaboration workshop, Copenhagen, Denmark, workshop talk, 15 min. talk.**
- 2018 **Galaxy interactions and mergers across cosmic time, Sexten, Italy, invited workshop talk, 25 min. talk.**
- 2018 **Astrophysical Shocks, AIP Potsdam, Germany, workshop talk, 20 min. talk.**
- 2017 **Circle of Life conference, Kruger Park, South Africa, Conference talk, 20 min. talk.**
- 2017 **CLUES Workshop, Madrid/Spain, Workshop talk, 30 min. talk.**
- 2017 **Galaxies and Stars workshop, Lund/Sweden, Workshop talk, 20 min. talk.**
- 2017 **SFB seminar talk, Heidelberg/HITS, seminar with 3 speakers, 15 min. talk.**
- 2016 **VIRGO Collaboration meeting, Durham, workshop talk, 15 min. talk.**
- 2016 **EPFL Lausanne, Seminar talk, 45 min. seminar.**
- 2016 **CCA, Center for Computational Astrophysics, 1 hour seminar.**
- 2016 **MPIA, Max-Planck-Institut für Astronomie, 20 min. coffee talk.**
- 2016 **MPA, Max Planck Institute for Astrophysics, 30 min. lunch talk.**
- 2016 **ESO, European Southern Observatory, 45 min. black-board discussion.**
- 2016 **HITS, Heidelberg Institute for Theoretical Studies, 45 min. seminar.**
- 2016 **Catalina Island, Galpath conference, 25 min. conference talk.**
- 2016 **EWASS 2016 : European Week of Astronomy and Space Science, 15 min. conference talk.**
- 2015 **ESO, European Southern Observatory, 45 min. seminar.**
- 2014 **Caltech, 45 min. seminar.**
- 2014 **Obergurgl galaxy conference, 20 min. conference talk.**
- 2014 **AREPO-fest, workshop, Boston, 20 min. talk.**