Emiel H. Por, MSc.

Curriculum Vitae

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Personal information

Born November 19th, 1992 in Zoetermeer, The Netherlands
Nationality: Dutch

Research interests

- Coronagraphy
- High-performance computing
- N-body simulations
- Adaptive optics
- Statistics and machine learning

Education

2013–2016 **Master of Science**, *cum laude*, Leiden University.
Astronomical Instrumentation, including 46EC of additional courses in Theoretical Physics and Mathematics. Some of the courses were taken at Delft University of Technology.
Graduated August 2016 with an average grade of 9.33/10.

2010–2013 **Bachelor of Science**, *cum laude*, Leiden University.
Astronomy. Graduated July 2013 with an average grade of 8.8/10.

2010–2013 **Bachelor of Science**, *cum laude*, Leiden University.
Physics. Graduated July 2013 with an average grade of 8.7/10.

Employment

2016–Present **PhD Candidate**, Leiden University.
Developing Phase Sorting Interferometry (PSI) and other focal-plane wavefront sensing methods after a stellar coronagraph under the supervision of dr. Matthew Kenworthy.

2013–2017 **Teaching Assistant**, Leiden University.

- Astronomical Observing Techniques (Sep 2014–Jul 2017, 3 years)
  Taught by prof. dr. Christoph Keller.
  A second/third year astronomy Bachelor course introducing the students to the physical principles and technical concepts of observational astronomy. Work consisted of teaching at the weekly seminars and grading assignments and the final exam.
- Natuurkunde B (Sep 2013–Jan 2014, 1 year)
  Taught by dr. Martina Huber.
  A second year Life Science and Technology Bachelor course teaching the principles of quantum mechanics, atomic structure and molecular orbitals. Work consisted of teaching at the weekly seminars and grading assignments.

Research

Major Master Project
September 2015–July 2016

Focal-plane Electric Field Sensing with Pupil-plane Holograms.
Supervised by prof. dr. Christoph Keller.
Final grade: 10/10.
Using sequential probes on a deformable mirror allows for measurement of the electric field in the focal plane. We used a pupil-plane holographic phase-only element to generate all probe images simultaniously.

Minor Master Project
February–October 2014

Post-Newtonian N-Body Dynamics.
Supervised by prof. dr. Simon Portegies Zwart and Adrian Hamers, MSc.
Final grade: 10/10.
An investigation into order expansions of the post-Newtonian equations of motion in both triple systems and systems with a central massive body. A numerical implementation, employing a Hermite integration scheme and Kustaanheimo-Stiefel regularization, was written, integrated into AMUSE and validated using several post-Newtonian effects in triple systems.

Bachelor Project
February–July 2013

Sparse Aperture Masking at the Leiden Old Observatory.
Supervised by dr. Matthew Kenworthy and prof. dr. Martin van Exter.
Final grade: 9.5/10.
The design and implementation of a Non-Redundant Masking observing mode at the student telescope at the Leiden Old Observatory. First-light observations correctly revealed a known close binary which could not be seen without using this technique.

Conferences

SPIE
Edinburgh, NL

SPIE Astronomical Telescopes and Instruments, June 2016.
I presented a poster and submitted a conference proceeding on my Major Master Project.

NAC
Nunspeet, NL

Netherlands Astronomy Conference, May 2016.
I presented my poster on my Major Master Project and was awarded the Runner-up Design prize.

Lorentz Center
Leiden, NL

Combining Coronagraphs and Wavefront Control, October 2014.
The aim of the workshop was to bring together researchers in the fields of high contrast imaging, coronagraphs and wavefront sensing to see how the latest developments in these fields can be combined to enhance future instruments.

Computer Skills

Basic	HTML, CSS, JavaScript, R
Intermediate	OpenCL, Matlab, IDL, LabVIEW, LaTeX
Advanced	C/C++, Python
Software packages	AMUSE (Astrophysical Multipurpose Software Environment), scikit-learn

Languages

English	Fluent (TOEFL iBT® Score 114/120 in November 2015)
Dutch	Mother tongue
German	Intermediate