

# Curriculum Vitae: Daniel Mikkola

✉ [mikkola@astro.lu.se](mailto:mikkola@astro.lu.se)  
🌐 <http://www.astro.lu.se/~mikkola/>

## Personal information

Surname: Mikkola  
Name: Daniel  
Title: Mr  
Date of birth: 6 October 1992  
Nationality: Swedish

Work address:  
Lund Observatory  
Dept. of Astronomy & Theoretical Physics  
Box 43, SE-22100 Lund, Sweden

## Academic history

- 2017 – current    📖 **Ph.D., Lund University** in Astronomy.  
Thesis title     : *Galactic dynamics in the gaia era.*  
Supervisors     : [David Hobbs](#), [Paul J. McMillan](#)  
Research field   : Galactic dynamics,  $N$ -body simulations, Computational astrophysics.
- 2016 – 2017     📖 **M.Sc., Lund University** in Astrophysics.  
Thesis title     : *Radial migration of stars, measured in  $N$ -body simulations.*  
Supervisor       : [Paul J. McMillan](#)  
Research field   : Spiral galaxies, Radial migration,  $N$ -body simulations.
- 2015 – 2016     📖 **Master student, Aarhus University** in Astronomy.  
One year of courses at Aarhus University, no thesis work.
- 2012 – 2015     📖 **B.Sc. Lund University** in Astronomy.  
Thesis title     : *Formation of super-Earths via pebble accretion onto planetesimals.*  
Supervisor       : [Anders Johansen](#)  
Research field   : Planet formation, Exoplanets

## Research - interests

Galactic dynamics • Galaxy evolution • Stellar kinematics • Galactic structure • Computational astrodynamics • Galactic solar neighbourhood • Disc galaxies



## Research - publications

- 1    **Mikkola, Daniel** et al.: *Velocity distribution of Gaia stars without radial velocities*. In: (in prep).
- 2    **Mikkola, Daniel**, Paul J. McMillan, and David Hobbs: *Radial migration and vertical action in  $N$ -body simulations*. In: MNRAS 495.3 (May 2020), pp. 3295–3306. 📄 DOI: [10.1093/mnras/staa1223](https://doi.org/10.1093/mnras/staa1223). arXiv: [2004.13646](https://arxiv.org/abs/2004.13646) [[astro-ph.GA](#)].




## Contributed presentations

- 29 June - 3 July 2020    📖 **European Astronomical Society 2020, (Virtual)**, Poster  
Title: Which stars radially migrate in disc galaxies?
- 6 May 2020             📖 **MPIA Heidelberg (Germany)**, Talk  
Title: Radial migration and vertical action in  $N$ -body simulations

## Contributed presentations (continued)

- 5 May 2020       **Stellar Populations group, Lund (Sweden)**, Talk  
Title: Radial migration and vertical action in  $N$ -body simulations
- 27 May 2019       **The New Milky Way meeting, Örenäs castle (Sweden)**, Talk  
Title: Effects of spiral arms in  $N$ -body galaxy simulations

## Teaching


- Lecturer       **Course:** Introduction to Python programming - (2018 - current)
- Course assistant       **Course:** Statistical Methods in Astrophysics. Masters level course - (2017 - current)
-  **Course:** Computational Astrophysics. Masters level course - (2017 - current)

## Teaching qualifications




**Pedagogical course:** 4.5 ECTS, Learning and Teaching in Higher Education - Theory and Practice - (2019)

## Outreach/Representation







### Outreach

- 2013 - current       **Physics & lasershow:** Lund university. Employee, sound/lights, on-stage performer. Inspirational show with physics experiments and lasers meant to inspire youth to study science.
- Event participation:** Int. Science festival *Gothenburg*, NMT-days *Lund*, LUNE-days *Lund*, Culture Night *Lund* (20- 13, 14, 15, 16, 17, 18, 19) • Slaski Festiwal Nauki *Poland* (2019) • Scifest *Uppsala* (20- 18, 17) • Festival Znanosti *Slovenia*, Open Science Days *Montenegro*, Science City *Växjö* (2016) • Innocarnivalen *Malmö* (2014) • Nordic Physics Days *Lund* (2013)

### Representation

- 2013-2015       **LUNA Science Student Union:** Lund university, Board member
- 2017-2018       **Dept. of Astronomy and Theoretical Physics** Lund university, Board representative
- 2020-current       **Dept. of Astronomy and Theoretical Physics** Lund university, Steering group representative

## Skills

- Languages       Strong reading, writing & speaking competence for English, Swedish, & Danish.
- Coding       Python, MATLAB, L<sup>A</sup>T<sub>E</sub>X, C++ ,Unity
- Databases       ADQL
- Web Dev       HTML
- OS       macOS, Linux, Windows
- Driver's license       Swedish type B

## References

---

1. **Dr. Paul J. McMillan**  
Associate Professor at  
Lund Observatory, Dept. of Astronomy & Theoretical Physics, Lund University, Box 43, SE-22100 Lund, Sweden.  
**E-mail:** [paul@astro.lu.se](mailto:paul@astro.lu.se)
  
2. **Dr. David Hobbs**  
Associate Professor at  
Lund Observatory, Dept. of Astronomy & Theoretical Physics, Lund University, Box 43, SE-22100 Lund, Sweden.  
**E-mail:** [david@astro.lu.se](mailto:david@astro.lu.se)
  
3. **Dr. Johan Zetterberg**  
Senior lecturer at  
Combustion Physics, Dept. of Physics, Lund University, Box 118, SE-22100 Lund, Sweden.  
**E-mail:** [johan.zetterberg@forbrf.lth.se](mailto:johan.zetterberg@forbrf.lth.se)
  
4. **Prof. Anders Johansen**  
Professor at  
GLOBE Institute, University of Copenhagen, Oester Voldgade 5-7, 1350 Copenhagen, Denmark  
Professor at  
Lund Observatory, Dept. of Astronomy & Theoretical Physics, Lund University, Box 43, SE-22100 Lund, Sweden.  
**E-mail:** [anders@astro.lu.se](mailto:anders@astro.lu.se)