Curriculum Vitae: Daniel Mikkola

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Personal information

Surname: Mikkola
Names: Daniel Zebastian
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 – 2022 **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.
60 ECTS, one year of courses within the programme.

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, D.**, McMillan, P. J., Hobbs, D., & Wimarsson, J. (in prep). *Velocity distribution of gaia stars without radial velocities.*
2. **Mikkola, D.**, McMillan, P. J., & Hobbs, D. (2020). *Radial migration and vertical action in n-body simulations.* MNRAS, *495*(3), 3295–3306. https://doi.org/10.1093/mnras/staa1223

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
Talk title: Radial migration and vertical action in N-body simulations

Contributed presentations (continued)

5 May 2020 — **Stellar Populations group, Lund (Sweden)**, Talk
Talk title: Radial migration and vertical action in N-body simulations

27 May 2019 — **The New Milky Way meeting, Örenäs castle (Sweden)**, Talk
Talk title: Effects of spiral arms in N-body galaxy simulations

Teaching

Lecturer — Introduction to Python programming - (2018 - current)

Course assistant — Statistical Methods in Astrophysics. Masters level course - (2017 - current)

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 *Växsjö* (2016) • Innocarnivalen *Malmö* (2014) • Nordic Physics Days *Lund* (2013)

Representation

2020-current — **Dept. of Astronomy and Theoretical Physics** Lund university, Steering group representative

2017-2018 — **Dept. of Astronomy and Theoretical Physics** Lund university, Board representative

2013-2015 — **LUNA Science Student Union:** Lund university, Board memeber

Skills

Languages — Strong reading, writing & speaking competence in English, Swedish, & Danish.
Coding — Python, MATLAB, LaTeX, C++ ,Unity, HTML
Databases — ADQL

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

2. **Dr. David Hobbs**
   Senior lecturer at
   Lund Observatory, Dept. of Astronomy & Theoretical Physics, Lund University, Box 43, SE-22100 Lund, Sweden.
   E-mail: 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

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