

Curriculum Vitae: Daniel Mikkola

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Personal information

Surname: Mikkola
Names: Daniel Zebastian
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 – 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



Publications

- 1 **Mikkola, D.**, McMillan, P. J., Hobbs, D., & Wimarsson, J. (in prep). *Velocity distribution of white dwarfs in gaia edr3.*
- 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

- 28 June - 2 July 2021 📖 **European Astronomical Society 2021, (Virtual), S15 & SS21**, Posters
S15: *The velocity distributions of white dwarfs in Gaia EDR3*
SS21: *Radial migration and vertical action in N -body simulations*
- 29 June - 3 July 2020 📖 **European Astronomical Society 2020, (Virtual)**, Poster
Which stars radially migrate in disc galaxies?
- 6 May 2020 📖 **MPIA Heidelberg (Germany)**, Talk
Radial migration and vertical action in N -body simulations




Contributed presentations (continued)

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

Grants and awards

- November 2020  **Walter Gyllenberg foundation** grant from the Royal Physiographic Society of Lund, for computing resources and academic visitors.
Amount: 105 000 SEK.

Teaching

- Lecturer**  Introduction to Python programming - (2018 - current)
- Course assistant**  Statistical Methods in Astrophysics. Masters level course - (2017 - 2021)
-  Computational Astrophysics. Masters level course - (2017 - 2021)

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)
- 2021  **Astronomisk Ungdom:** Knut Lundmarks-dagarna
Talk title: Vintergatans dynamik och historien den döljer
- 2020  **Astronomisk Ungdom:** Inspirational Lecture
Talk title: Vintergatans dynamik och historien den döljer
-  **Malmö Astronomi- & RymdfartsSällskap MARS:** Inspirational Lecture
Talk title: Vintergatans dynamik och historien den döljer




Representation

- 2020-2021  **Dept. of Astronomy and Theoretical Physics** Lund university, Lund Astronomy Advisory Group (LAAG) representative
-  **Dept. of Astronomy and Theoretical Physics** Lund university, Steering group representative

Outreach/Representation (continued)

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

Skills

- Languages  Strong reading, writing & speaking competence in English, Swedish, & Danish.
- Coding  Python, MATLAB, L^AT_EX, C++ , Unity, HTML
- Databases  ADQL

References

1. **Dr. Paul J. McMillan**
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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
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3. **Dr. Johan Zetterberg**
Senior lecturer at
Combustion Physics, Dept. of Physics, Lund University, Box 118, SE-22100 Lund, Sweden.
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4. **Prof. Anders Johansen**
Professor at
GLOBE Institute, University of Copenhagen, Oester Voldgade 5-7, 1350 Copenhagen, Denmark
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