

Sophia Lilleengen

Curriculum Vitae

Astrophysics PhD Student at the University of Surrey

Department of Physics, Guildford, GU2 7XH, United Kingdom

✉ s.lilleengen@surrey.ac.uk

🌐 sophialilleengen.me

🆎 orcid.org/0000-0001-9046-691X

Education

PhD in Astrophysics, University of Surrey, Guildford, UK **2019 – Present**

Supervisors: Denis Erkal, Justin Read

Topic: The Effect of Deforming Dark Matter Halos on Stellar Streams.

Pre-doctoral Research Fellow, Center for Computational Astrophysics, Flatiron Institute, NYC, US **2022**

Supervisors: Adrian Price-Whelan, Kathryn Johnston

Topic: The Information Content in Stellar Streams in Time-Dependent Potentials.

Master of Science (M.Sc.) in Physics, University of Heidelberg, Germany **2016 – 2019**

Supervisors: Wilma Trick, Glenn van de Ven

Title: Adaptive Dynamics – can Actions of Globular Clusters constrain the Gravitational Potential of Galaxies?

Thesis carried out at the European Southern Observatory (ESO), Garching bei München, Germany

Bachelor of Science (B.Sc.) in Physics, University of Heidelberg, Germany **2012 – 2016**

Supervisors: Wilma Trick, Paolo Bianchini, Glenn van de Ven

Title: Hunting for Intermediate-Mass Black Holes in simulated Globular Clusters using Integrals of Motion.

Thesis carried out at the Max Planck Institute for Astronomy (MPIA), Heidelberg, Germany

Research Internships

Pre-doctoral Research Fellow, ICRAR / UWA, Perth, Australia **March 2019 – May 2019**

Supervisors: Chris Power, Peter Quinn

Topic: The impact of lumpiness in a dark matter halo on the diffusion in orbits.

Trainee, European Space Astronomy Center, Madrid, Spain **May 2017 – October 2017**

Supervisors: Ricardo Pérez Martínez, Ana Perez Garcia, Bruno Altieri

Topic: Characterising galaxy evolution in nearby galaxy clusters.

Publications

Publications

1. The effect of the deforming dark matter haloes of the Milky Way and the Large Magellanic Cloud on the Orphan-Chenab stream
S. Lilleengen et al., 2022 (arXiv:2205.01688)
2. Measuring the Mass of the Large Magellanic Cloud with Stellar Streams Observed by S^5
N. Shipp et al. (including **S. Lilleengen**), 2021 (doi:10.3847/1538-4357/ac2e93)

Conference Proceedings

1. Accreted Globular Clusters in external galaxies: Why adaptive dynamics is not the solution
S. Lilleengen; W.H. Trick; G. van de Ven
2020, IAUS353 "Galactic Dynamics in the Era of Large Surveys"

Talks, Conferences & Schools

- **Invited Talk** at "Towards Real-Time Galactic Dynamics" Lorentz Center Workshop, Leiden, Netherlands, 07/2022
- **Pre-Doc Symposium** at Flatiron Institute, NYC, USA, 06/2022
- **CCA Lunch Talk** at Flatiron Institute, NYC, USA, 06/2022
- **Special KICP Seminar** at University of Chicago, USA, 06/2022
- **Brown Bag Lunch Talk** at MIT, USA, 05/2022
- **Invited Seminar** at Institute of Astronomy (Cambridge) Dynamics Group, virtual / Cambridge, UK, 12/2021
- **Contributed Talk** at "A holistic view of the Milky Way: linking ages, chemistry and kinematics" (Symposium at EAS 2021 Conference), virtual / hosted by Leiden Observatory, Netherlands, 06/2021
- **Contributed Talk** at "Streams21: Constraints on Dark Matter" (Workshop), virtual / hosted by Flatiron Institute, NYC, USA, 02/2021
- **Contributed Talk** at "IAUS353: Galactic Dynamics in the Era of Large Surveys" (Conference & Summer School), Shanghai, China, 07/2019
- **Participant** at "The Milky Way in the Gaia Era" (Winter School), Saas-Fee, Switzerland, 01/2019
- **Contributed Talk** at "Survival of Dense Star Clusters in the Milky Way System" (Conference), Heidelberg, Germany, 11/2018
- **Volunteer** at "IAUS 344: Dwarf Galaxies" (Symposium at IAU 2018 General Assembly), Vienna, Austria, 08/2018
- **Poster with Flash Talk** at "The formation of globular clusters at high and low redshift" (Conference), Sexten, Italy, 07/2018
- **Participant** at "Schwarzschild modeling" (Workshop), Heidelberg, Germany, 04/2018
- **Participant** at "Astro Hack Week" (Workshop), Berkeley, USA, 08/2016
- **Talk** at "SFB Workshop: Star Clusters - Dynamics and Observations" (Conference), Heidelberg, Germany, 06/2016

Conference & Workshop Organisation

Co-Organiser, REACH Research Culture Week, virtual / hosted by University of Surrey, 11/2020

Co-Organiser, New Horizons Doctoral College Conference, virtual / hosted by University of Surrey, 06/2020

Principal Organiser, Population Dynamics Collaboration Workshop, Riquewihr, France, 10/2018

Teaching & Mentoring

Mentor to first year Electronic Engineering PhD student, 2020 – 2021

Teaching Assistant, Mathematical & Computational Physics, University of Surrey, Guildford, UK, 2020

Public Outreach

Volunteer at astronomy evenings, University of Surrey, Guildford, UK, 2019

Planetarium Presenter at ESO Supernova, Garching bei München, Germany, 06/2018 - 02/2019

Outreach Talks at secondary schools, 12/2017 - 02/2019

Honours

Excellence Award of the German Association for Physics, 07/2012