

Curriculum Vitae: Eric P. Andersson

CONTACT INFORMATION

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Work Address:
American Museum of Natural History,
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RESEARCH INTEREST

Galaxy formation and evolution, star clusters, star formation, stellar evolution, stellar feedback and chemical enrichment, computational hydrodynamics

PUBLICATIONS

Maintained list available at ([link to ADS](#))

RESEARCH EXPERIENCE

- (2024 - now) **Research Scientist**
[Dept. of Astrophysics, American Museum of Natural History, NY, USA](#)
- Self-funded by NASA ROSES ATP Grant 80NSSC24K093
- (2023 - 2024) **Postdoctoral researcher**
[Dept. of Astrophysics, American Museum of Natural History, NY, USA](#)
- Scientific mentor: Prof. Mordecai-Mark Mac Low
- (2018) **Internship in Astrophysics**
[Dept. of Astronomy and Theoretical Physics, Lund University, Sweden](#)
- Project: *Tidal stripping as a mechanism for placing globular clusters on wide orbits: the case of MGC1 in M31*
 - Scientific mentor: Prof. Melvyn B. Davies
- (2017) **Internship in Astrophysics**
[Dept. of Astronomy and Theoretical Physics, Lund University, Sweden](#)
- Project: *Implementation and testing of new adaptive-particles algorithm for the PENCIL code*
 - Scientific mentor: Dr. Chao-Chin Yang

EDUCATION

- (2018 - 2022) **Doctoral student of astronomy**
[Dept. of Astronomy and Theoretical Physics, Lund University, Sweden](#)
- Thesis: *The galactic scale impact of feedback from individual stars*
 - Advisors: Dr. Oscar Agertz & Dr. Florent Renaud,
- (2016 - 2018) **Master student of Astrophysics**
[Dept. of Astronomy and Theoretical Physics, Lund University, Sweden](#)
- Thesis: *Can tidal interactions produce MGC1?*
 - Advisor: Prof. Melvyn B. Davies
- (2013 - 2016) **Bachelor student of Theoretical physics**
[Dept. of Astronomy and Theoretical Physics, Lund University, Sweden](#)
- Thesis: *Fast-forward the Sedimentation of Solid Particles in Protoplanetary Disks*
 - Advisor: Dr. Chao-Chin Yang

SELECTED TALKS

- (7 July, 2025) **CITA Seminar** (Toronto, Canada)
Invited seminar: *The star-by-star formation of the smallest galaxies*
- (12 June, 2025) **Romeo-fest** (Gothemburg, Sweden)
Invited talk: *Individual stars in high resolution galaxy simulation: star formation and stellar feedback*
- (5 June, 2025) **Lund Observatory seminar** (Lund, Sweden)
Invited seminar: *The star-by-star formation of the smallest galaxies*
- (30 May, 2025) **Bally-fest** (Visegrad, Hungary)
Contributed talk: *Galaxy simulations with individual stars & the formation of the smallest galaxies*
- (23 April, 2025) **Seminar at Yale** (New Haven, US)
Invited seminar: *The star-by-star formation of the smallest galaxies*
- (18 December, 2024) **Nordita and Astronomy seminar** (Stockholm, Sweden)
Invited seminar: *Galaxy simulations with individual stars & the formation of the smallest galaxies*
- (19 September, 2024) **CfA ITC colloquium** (Boston, US)
Colloquium: *Galaxy simulations with individual stars & the formation of the smallest galaxies*

- (13 August, 2024) **Star formation workshop** (Hamilton, Canada)
Invited talk: *Galaxy simulations with individual stars & the formation of the smallest galaxies*
- (11 June, 2024) **Workshop on clouds, star clusters and black holes** (Alpbach, Austria)
Contributed talk: *Star cluster formation in star-by-star simulations of dwarf galaxies*
- (7 May, 2024) **ESO Seminar** (Santiago, Chile)
Invited seminar: *Dwarf galaxy simulations resolving all visible stars across a Hubble time*
- (24 April, 2024) **RAMSES user meeting** (New York, USA)
Contributed talk: *Star-by-star simulations of dwarf galaxies in cosmological environments*
- (1 March, 2024) **Strasbourg astronomical observatory** (France)
Colloquium: *The galactic scale impact of individual stars*
- (28 February, 2024) **Building Galaxies from scratch** (Vienna, Austria)
Contributed talk: *Star-by-star simulations of dwarf galaxies in cosmological environments*
- (5 July, 2023) **A multi-wavelength view on globular clusters near and far** (Sexten, Italy)
Contributed talk: *The influence of feedback on the stars cluster mass function*
- (29 June, 2023) **Phases of Galactic Evolution** (Sexten, Italy)
Invited talk: *The evolution and mixing of chemical elements in galaxies simulated star-by-star*
- (19 April, 2023) **RAMSES user meeting** (Oxford, UK)
Contributed talk: *INFERNO: A star-by-star model including feedback, enrichment, and realistic natal velocities in RAMSES*
- (30 May, 2022) **University Of Surrey** (Guildford, UK)
Invited seminar: *Resolved stars in galaxy simulations*
- (25 March, 2022) **Abundance gradients to trace galaxy formation and evolution** (Sexten, Italy)
Invited talk: *Chemical evolution and abundance gradients in hydrodynamic simulations*
- (29 September, 2021) **RAMSES user meeting** (virtual)
Contributed talk: *Ramses simulations with resolved stars*
- (3 October, 2019) **RAMSES user meeting** (Copenhagen)
Contributed talk: *Simulating individual star in RAMSES*
- (5 August, 2019) **Santa Cruz Galaxy Workshop** (CA, US)
Contributed talk: *Understanding galaxy formation star by star*
- (19 November, 2018) **Survival of Dense Star Clusters in the MW System** (MPIA, Heidelberg)
Contributed talk: *Tidal stripping as a mechanism for placing globular clusters on wide orbits*

STUDENT SUPERVISION

- (2024-2025) Supervision of graduate student Sally Jiang (AMNH/Columbia)
- (2024-2025) Supervision of Luanna Veroneze Quinalha as summer student (Barnard SRI program, NYC) and as research intern (AMNH)
- (2023) Supervision of summer student Madeline Maldonado Gutierrez (Barnard SRI program, NYC)
- (2021) Supervision of summer student Elin Sandvik (MSc level)
- (2019) Assisting supervision of MSc student Mateo Prgomet (*MNRAS paper*)

TEACHING

Lund University

- (2021) Training in teaching and learning in higher education (Lund university course)
- (2018-2022) Lecturing, lab development and supervision in Galaxies and Cosmology course (BSc)
- (2018-2022) Supervising observational exercise in Introduction to Astrophysics course (BSc)
- (2018-2020) Tutoring in Stellar Structure and Evolution course (MSc)
- (2019) Tutoring in High Energy Astrophysics course (MSc)
- (2018) Supervising remote radio-telescope observations in Galaxies and Cosmology course (BSc)

GRANTS/FUNDING

- (2024) **NASA ROSES-2023 Astrophysics Theory Program (grant 80NSSC24K0935)**
The origin of ultra-faint dwarf galaxies and their globular clusters, 670K USD
- (2020) **Royal Physiographic Society in Lund**
Evolving galaxies star-by-star, 105K SEK (12K USD)
- (2018) **Royal Physiographic Society in Lund**
Investigating the impact of runaway stars, 50K SEK (6K USD)
- (2024) **NSF AAG-2023** (award offered, but declined)
The origin of ultra-faint dwarf galaxies and their globular clusters

NOTABLE COLLABORATIONS

- (2023-now) **Torch**; Couple gas and direct N-body for star cluster formation
- Roles: *Code developer, Leader of science projects*
- (2021-now) **EDGE**; Resolving light & dark in isolated dwarfs
- Roles: *Key code developer, Leader of science projects, Member of management group*

COMPUTER ALLOCATIONS

- (2024) **Co-I of NSF ACCESS allocation**
(Next Generation Star Cluster Formation Modeling), 6.1 million CPU hours
- (2024) **PI of NASA HEC allocation**
Awarded with NASA grant 80NSSC24K0935), 21 million CPU hours
- (2021) **Co-I of DiRAC allocation** (EDGE3.0: From first light to massive black hole seeds), 170 million CPU hours, PI: Justin Read
- (2021) **Co-I of EuroHPC allocation** (LUMI pilot phase), 150 million CPU hours, PI:Oscar Agertz
- (2016-2021) **Co-I of 11 national allocations** (SNIC), 215K CPU hours/month, Lunarc-*Aurora* & Linköping (NCS-*Tetralith*).
- (2020) **Co-I of a PRACE allocation**, 45 million CPU hours, PI:Oscar Agertz

PRESS

- (2020) Runaway stars explaining mysterious FUV light
Press coverage by national and international media e.g. Science News, Lund University news, Expressen & Skanska Dagbladet.

LEADERSHIP & OUTREACH

- (2023 – 2025) **Seminar committee** at AMNH
- (2024) **SOC/LOC for RAMSES User Meeting at the Flatiron Institute**
- (2024) **LOC for AMUSE workshop at the AMNH**
- (2021) **Management group of EDGE2.0**, International collaboration, Member
- (2021) **Department board**, Lund University, PhD representative
- (2018 – 2022) **Board of undergraduate education**, Lund University.
- (2018 – 2022) **Telescope responsible**, Lund University.
- (2020) **PhD student Council, Lund University**, Chair and main organiser
- (2019) **Galaxy formation meetings (GalForm)**, Lund University, Chair and main organiser.
- (2017 – 2018) **ALVA, Local public outreach organization**, Lund University.
President (2017-2018) & Vice president (2016-2017).
- (2017) **Lund planetarium**, Lund Observatory. Host of planetarium shows.
- (2017) **LOC for the 4-MOST DFDR consortium**, Lund University.
- (2017) **LOC for the Knut & Alice Wallenberg foundation 2017 symposium** Lund University.

REFERENCES

1. Prof. Mordecai-Mark Mac Low
American Museum of Natural History, Research advisor, mordecai@amnh.org
2. Dr. Oscar Agertz
Lund Observatory, Primary PhD supervisor, oscar.agertz@astro.lu.se
3. Prof. Romain Teyssier
Princeton University, close collaborator, teyssier@princeton.edu
4. Dr. Florent Renaud
University of Strasbourg, PhD supervisor, florent.renaud@astro.unistra.fr