

Eric Rohr (he/him)

📍 Max Planck Institut für Astronomie
Königtushl 17
69117, Heidelberg, Germany

✉️ rohr@mpia.de
☎️ +49 6221 528347
🌐 ecrohr.github.io

Reserach Interests and Keywords

A current list of all publications can be found on [ads](#) or [ORCID](#).

- galaxy formation and evolution, cosmic baryon cycle, multiphase gas
- galaxy clusters, the intracluster medium, circumgalactic medium
- galaxy environments, ram pressure stripping, jellyfish galaxies
- star-formation, stellar feedvack, supermassive black hole formation, growth, and feedback
- numerical methods, cosmological hydrodynamic simulations, idealized simulations of galaxies

Education

Ph.D. Astronomy, 2024; Universität Heidelberg October 2020-Present
Jellyfish Galaxies and the Multiphase Nature of Gas Around Galaxies. Advisor: Dr. Annalisa Pilleich.

B.Sc. Astronomy-Physics, 2020; *University of Virginia* August 2016-May 2020
Why We Should Kerr About the Dark Secrets of Relativistic Accretion Disks in Athena++. Advisor: Prof. Shane Davis.

Academic Appointments and Research Experience

Post-Doctoral Researcher* December 2024-May 2025
Institut für Theoretische Astrophysik as part of the Zentrum für Astornomie in Heidelberg. Advisor: Prof. Dr. Ralf Klessen. Project: *Zooming into the tails of jellyfish galaxies*.

Ph.D. Student and IMPRS-HD Fellow October 2020-November 2024
Max Planck Institut für Astronomie as a part of the International Max Planck Research School for Astronomy and Cosmic Physics at Universität Heidelberg; Advisor: Dr. Annalisa Pillepich. Thesis title: *Jellyfish Galaxies and the Multiphase Nature of Gas Around Galaxies*.

Undergraduate Research Assistant May 2019-July 2020
University of Virginia. Advisor: Prof. Shane Davis. Project: *Why We Should Kerr About the Dark Secretes of Relativistic Accretion Disks in Athena++*.

VSGC Undergraduate Research Scholar August 2018-May 2019
University of Virginia as part of the Virginia Space Grant Consortium. Advisor: Prof. Mark Whittle. Project: *HST STIS Observations of the Central Radio/X-ray Source in the Compact Starburst Galaxy Henize 2-10*.

ThinkSwiss Research Scholar May 2018-August 2018
Universität Zürich. Advisor: Prof. Robert Feldmann. Project: *Describing the Galaxy Size-Halo Size Relation at Cosmic Noon in FIREbox*.

Publications

A current list of all publications can be found on [ads](#) or [ORCID](#).

As a first author:

4. Rohr, E., Pillepich, A., Nelson, D., et al. in review: “The cooler past of the intracluster medium in TNG-Cluster”. MNRAS.
3. Rohr, E., Pillepich, A., Nelson D. et al. (2024): “The hot circumgalactic media of massive cluster satellites in the TNG-Cluster simulation: existence and detectability”. A&A, 686, A86.

2. Rohr, E., Pillepich, A., Nelson D. et al. (2023): “Jellyfish galaxies with the IllustrisTNG simulations - when, where, and for how long does ram pressure stripping of cold gas occur?”. MNRAS, 524, 3502.
1. Rohr, E., Feldmann, R., Bullock, J. et al. (2022): “The galaxy-halo size relation of low-mass galaxies in FIRE”. MNRAS, 510, 3967.

As a contributing author:

5. Ayromlou, M., Nelson, D., Pillepich A. et al. incl. Rohr, E. (2024): “An Atlas of Gas Motions in the TNG-Cluster Simulation: from Cluster Cores to the Outskirts”. A&A, 690, A20.
4. Lehle, K., Nelson D., Pillepich A. et al. incl. Rohr, E. (2024): “The heart of galaxy clusters: demographics and physical properties of cool-core and non-cool-core halos in the TNG-Cluster simulation”. A&A, 687, A129.
3. Nelson, D., Pillepich, A., Ayromlou M. et al. incl. Rohr, E. (2024). “Introducing the TNG-Cluster Simulation: overview and physical properties of the gaseous intracluster medium”. A&A, 686, A157.
2. Zinger, E., Pillepich, A., Joshi, G. et al. incl. Rohr, E. (2024): “Jellyfish galaxies with the IllustrisTNG simulations - citizen-science results towards large distances, low-mass hosts, and high redshifts”. MNRAS, 527, 8257.
1. Göller, J., Joshi, G., Rohr, E. et al. (2023): “Jellyfish galaxies with the IllustrisTNG simulations - No enhanced population-wide star formation according to TNG50”. MNRAS, 525, 3551.

Conferences, Talks, and Seminars

Given 30 talks among invited, contributed, and seminars and over the past five years. Selected highlights:

- **Invited Talk*** *Resolving the Circumgalactic Medium and Its Impact on Galaxy Evolution* conference. Santa Cruz, Chile. November 2024.
- **Invited Seminar*** University of Zurich. Zurich, Switzerland. November 2024.
- **Invited Talk*** *Decade of Discovery: Celebrating 10 Years of the Illustris Project* workshop. Castello di Gargonza, Italy. November 2024.
- **Invited Talk** Lunch Talk Series at the European Southern Observatory: “Satellite Signatures in the Multiphase Halo Gas with the IllustrisTNG and TNG-Cluster Simulations”. Garching bei München, Germany. July 2024.
- **Contributed Talk** *EAS Annual Meeting 2024*: “Observable signatures from massive satellites in TNG-Cluster”. Remote in Padova, Italy. July 2024.
- **Invited Talk** Galaxies Group Meeting at the Max Planck Institute for Astrophysics: “Going out with a bang: the deaths of jellyfish galaxies in TNG50”. Garching bei München, Germany. April 2024.
- **Invited Talk** Cosmology Seminar at the Max Planck Institute for Astrophysics: “The case for the CGM around massive satellites in TNG-Cluster”. Garching bei München, Germany. April 2024.
- **Invited Talk** Cosmic Baryon Cycle from Space workshop: “The satellite-CGM connection in TNG”. Bern, Switzerland, February 2024.
- **Invited talk** Galaxy Coffee at the Institute of Astrophysics of the Canary Islands: “Introducing the TNG-Cluster Simulation: the case for the circumgalactic medium around massive satellites”. La Laguna, Spain. November 2023.
- **Invited Talk** Galaxy Cluster Seminar at the Center for Astrophysics | Harvard & Smithsonian: “Introducing the TNG-Cluster Simulation: the case for the circumgalactic medium around massive satellites”. Remote in Cambridge, Massachusetts, USA. November 2023.
- **Contributed talk** *Journey through Galactic Environments* conference: “Jellyfish galaxies as sources of cold gas in the CGM in the IllustrisTNG Simulations”. Porto Ercole, Italy. September 2023.
- **Contributed talk** at *What Matter(s) Around Galaxies* conference: “Jellyfish galaxies with the IllustrisTNG simulations: when, where, and for how long does ram pressure occur, and implications for the cold CGM gas”. Champuloc, Italy. September 2022. [Link to slides](#).
- **Contributed talk** *Epoch of Galaxy Quenching* conference: “Jellyfish Galaxies with the IllustrisTNG simulations: when, where, and for how long does cold gas mass loss occur?”. Cambridge, United Kingdom. September 2022. [Link to talk](#).
- **Contributed talk** *AAS 235 Winter Meeting 2020*: “Describing the Galaxy-Halo Size Relation at Cosmic Noon in FIREbox”. Honolulu, Hawaii. January 2020. [Link to abstract](#).

Honors and Awards

- *D. Nelson Limber Prize* from the Department of Astronomy at University of Virginia in May 2020. **\$500.**
- *Alexander Vyssotsky Prize* from the Department of Astronomy at University of Virginia in May 2019. **\$1,000.**
- *Undergraduate Research Scholarship* from the Virginia Space Grant Consortium, a division of NASA, to be taken at University of Virginia from August 2018-May 2019. **\$4,000.**
- *ThinkSwiss Research Scholarship* from the Office of Science, Technology, and Higher Education at the Embassy of Switzerland, to be taken at University of Zurich from May-August 2018. **4,800 CHF.**

Teaching and Mentoring

- **Co-Supervisor** of Fulbright Fellow Shalini Kurinchi-Vendhan at Max Planck Institute of Astronomy with Annalisa Pillepich, November 2023-Present
- **Tutor** for the Fortgeschrittenenpraktikum Wellenfrontanalyse (Advanced Lab on Wavefront Analysis; FP36) at University of Heidelberg. Winter Semester 2022-23.
- **Assistant Tutor** at the Saas Fee Winter School *Circum-Galactic Medium Across Cosmic Time*. March 2023.
- **Tutor** for Cosmology (MVAstro4) at the University of Heidelberg. Summer Semester 2021, 2022.
- **Teaching Assistant** for Observational Astronomy (ASTR3130) at the University of Virginia. Spring 2020.
- **Tutor** for Advanced Placement (AP) Physics as part of the Global Teaching Project remotely teaching high school students in Mississippi. Fall 2019-Spring 2020.
- **Teaching Assistant** for the undergraduate telescope observing lab at the University of Virginia. Fall 2017-Spring 2020.
- **Co-Instructor** for The Philosophical Implications of Physics (INST1550) at the University of Virginia. Spring 2019.
- **Lab Assistant** for Elementary Physics Lab I and II (PHYS2630 and PHYS2640). Fall 2018-Spring 2019.

Service & Outreach

- Referee for MNRAS, A&A, and AAS Journals. 2022-Present
- Student Representative for the 16th generation of IMPRS-HD students. Fall 2020-Fall 2024.
- Member of the International Max Planck Research School Board in Heidelberg. Spring 2022-Fall 2024.
- Published blog “How Do the Tails of Jellyfish Galaxies Form” on the Heidelberg [STRUCTURES Blog](#). April 2024.
- Organizer of Merendella (Happy Hour) at the Max Planck Institute for Astronomy. Summer 2021-2023.
- Published pub “Quantifying how a jellyfish galaxy loses its cold gas” on the [Galactic Atmospheres](#) forum. October 2023.
- Volunteer at Explore Science public day in Mannheim, Germany (in German). June 2022.
- Student Representative on the Graduate-Undergraduate Committee at the Department of Astronomy at the University of Virginia. Fall 2019-Spring 2020.
- Volunteer at the Leander McCormick Observatory Public Nights at the University of Virginia. Fall 2017-Spring 2020.

Languages

💻 **Computer:** Python (expert), C (advanced), C++ (advanced), Fortran (proficient), html (proficient)

🗣️ **Natural:** English (native), German (fluent, C1)