

# Ekaterina ILIN

PhD student in astrophysics

## education

- 2018  
→07/2022 **PhD in Astrophysics @ Leibniz Institute for Astrophysics Potsdam (AIP), Germany**  
Supervisor: Prof. Dr. Katja Poppenhäger  
*Stellar flares in star-exoplanet systems and young stars*  
  
→ I am interested in the magnetism of small stars, its origins, long-term evolution, and the space weather it creates for (exo)planets.
- 2016 →2018 **Master of Science in Astrophysics @ University of Potsdam, Germany**  
Supervisor: Prof. Dr. Klaus Strassmeier, mentor: Dr. Sarah J. Schmidt  
*Flares in clusters using K2 data*  
1,0 "with distinction"
- 2012 →2016 **Bachelor of Science in Physics @ Karlsruhe Institute for Technology, Germany**  
Specialization in biophysics, Supervisor: Prof. Dr. Ulrich Nienhaus  
*Uptake of TAT-coated gold nanoclusters in live HeLa cells*  
1,4 "very good"

## refereed publications

### Localizing flares to understand stellar magnetic fields and space weather in exo-systems

Ilin, E.; Poppenhäger, K.; Alvarado-Gómez, J. D.

2021, *Astronomische Nachrichten*, doi:10.1002/asna.202101111 arXiv:2112.09676

### Giant white-light flares on fully convective stars occur at high latitudes

Ilin, E.; Poppenhäger, K.; Schmidt, S. J.; Järvinen, S. P.; Newton, E. R.; Alvarado-Gómez, J. D.; Pineda, S. J.; Davenport, J. R. A.; Oshagh, M.; Ilyin, I.

2021, *Monthly Notices of the Royal Astronomical Society*, 507/2, pp 1723–1745 doi:10.1093/mnras/stab2159 arXiv:2108.01917

### AltaiPony – Flare science in Kepler, K2 and TESS light curves

Ilin, E.

2021, *Journal of Open Source Software*, 6(62), 2845 10.21105/joss.02845

### Flares in Open Clusters with K2. II. Pleiades, Hyades, Praesepe, Ruprecht 147, and M67

Ilin, E.; Schmidt, S. J.; Poppenhäger, K.; Davenport, J. R. A.; Kristiansen, M. H.; Omohundro, M.

2021, *Astronomy & Astrophysics*, 645, A42, 25 pp. doi:10.1051/0004-6361/202039198 arXiv:2010.05576

### Flares in Open Clusters with K2. I. M45 (Pleiades), M44 (Praesepe) and M67

Ilin, E.; Schmidt, S. J.; Davenport, J. R. A.; Strassmeier, K. G.

2019, *Astronomy & Astrophysics*, 622, A133/16. doi:10.1051/0004-6361/201834400 arXiv:1812.06725

## teaching and supervision

- 2020  
→ongoing **Mentoring graduate student @ University of Heidelberg**  
Mentoring Aaron Maas during his first peer-reviewed research project on TRAPPIST-1 flares
- 2020 **Teaching assistant @ University of Potsdam**  
Galaxies and Cosmology undergraduate course
- 2016 →2018 **Teaching assistant @ University of Potsdam**  
Introduction to mathematical methods in physics

## telescope time

2021	<b>XMM-Newton, 36ks priority A</b> PI: <b>E. Ilin</b> , Co-Is: K. Poppenhäger, Co-Is: , B. Stelzer
2020	<b>SALT HRS, 2.8 hours DDT</b> PI: K. Poppenhäger, Co-Is: <b>E. Ilin</b> , S. J. Schmidt

## awards, scholarships, funding

2021 →ongoing	<b>Fulbright Scholarship @ American Museum of Natural History</b> Awarded to doctoral students by the German-American Fulbright Commission. Includes a stipend, travel grant, and academic support throughout a six month research stay in the USA.
2020 →ongoing	<b>Doctoral Scholarship @ German Academic Scholarship Foundation</b> Includes a stipend, travel grants, and academic support throughout the doctoral studies.
2019	<b>Graduation Award @ Physikalische Gesellschaft zu Berlin, Berlin, Germany</b> Award for excellent master theses in physics earned at universities in Berlin and Potsdam.
2018	<b>Visiting Scientist @ NASA Ames Research Center, Mountain View, CA, USA</b> Awarded funding for a research visit at the Kepler mission headquarters.
2014	<b>Erasmus+ Scholarship @ Universitet i Oslo, Norway</b> Awarded funding for six months of undergraduate studies. Focus: space physics, computational physics
2012 →2018	<b>Full Scholarship @ German Academic Scholarship Foundation</b> Includes a stipend, travel grants, and academic support throughout the undergraduate and graduate studies.

## academic presentations and posters (selection)

2021	<b>Invited talk @ Harvard Smithsonian Center for Astrophysics Exoplanet Pizza Lunch</b> Magnetic worlds: What flares tell us about small stars and their planets
2021	<b>Contributed talk @ European Astronomical Society Meeting</b> The coolest stars may not hit their planets with their flaring all that much
2021	<b>Contributed talk @ XMM-Newton Science Workshop</b> Giant white-light flares on fully convective stars occur at high latitudes
2020	<b>Contributed talk @ Annual Meeting of the German Astronomical Society</b> Flares, mass, age, AND rotation. Calibrating the flaring-age-mass relation in open clusters
2019	<b>Contributed talk @ 16th Potsdam Thinkshop</b> At a gallop: stellar flares from Kepler/K2 and TESS
2019	<b>Contributed talk @ Planet-Star Connections in the Era of TESS and Gaia</b> Stellar magnetic evolution: flaring activity in K2 open clusters
2019	<b>Seminar talk @ Centre for Star and Planet Formation (STARPLAN)</b> Stellar magnetic evolution: superflares
2018	<b>Conference poster @ CoolStars20</b> Exploring flaring activity as an age indicator using open cluster data
2018	<b>Contributed talk @ Dwarf Stars and Clusters with K2</b> In search of the flaring-age relation.

## outreach and civic involvement

2021 →ongoing	<b>Student representative @ Internal Scientific Committee at AIP</b> Duties include: <b>representing (under)graduate and PhD students</b> affiliated with the AIP; running social events for the institute staff; on-boarding of new students to AIP
2021	<b>Public talks @ YouTube channel "Sterne, Weltall und das Leben"</b> <b>30-min YouTube video</b> and <b>follow-up 12-min YouTube video</b> about electromagnetic star-planet interactions on the <b>popular German astronomy channel</b> "Sterne, Weltall und das Leben", > 37k views total.
2019	<b>Interview @ Women in Research Blog</b> <b>Blog post</b> about my understanding of scientific research and opinions on how to support <b>women in STEM</b> .
2019 →2021	<b>Community leader @ NEAD e. V.</b> Co-founder and former chair of the board at the German Effective Altruism Network (NEAD e. V.). Coordinated the German-speaking <b>Effective Altruism</b> community: organization strategy, volunteer management and leadership.
2013 →2019	<b>Community leader @ Deutsches Jungforschernetzwerk - juFORUM e.V.</b> Organizing interdisciplinary workshops and symposia for students and <b>young researchers in STEM</b> , e.g., presenting at science fairs, publishing articles in the association's magazine; member of the executive board.

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**languages** Russian, German (bilingual), English (C2), French (B2)

**skills** Python, Unix, LaTeX, Git(Hub)

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