

Alexander Salganik

PhD Researcher in Astrophysics

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Last CV Update: Thursday 4th June, 2026

Summary

Second-year PhD candidate and high-energy astrophysicist specializing in X-ray pulsars and accretion onto strongly magnetized neutron stars. Author of seven first-author papers in leading journals and Principal Investigator on multiple approved X-ray observing programs (incl. NuSTAR, IXPE). My research focuses on broadband spectral and timing studies of accreting neutron stars, with current work integrating X-ray polarimetry to constrain emission geometry and magnetic field topology.

Publications — First Author

1. *On the nature of the X-ray pulsar XTE J1859+083 and its broadband properties* 2022
Salganik A., Tsygankov S. S., Djupvik A. A., Karasev D. I., Lutovinov A. A., Buckley D. A. H., Gromadzki M., Poutanen J.
MNRAS 509, 5955. [DOI](#)
2. *Discovery of a pulse-phase-transient cyclotron line in the X-ray pulsar Swift J1808.4–1754 and identification of an optical companion* 2022
Salganik A., Tsygankov S. S., Lutovinov A. A., Djupvik A. A., Karasev D. I., Molkov S.V.
MNRAS 514, 2707. [DOI](#)
3. *First characterization of a new high-mass X-ray binary in LMC eRASSU J050810.4–660653 with SRG/ART-XC, NuSTAR, and Swift* 2022
Salganik A., Tsygankov S. S., Lutovinov A. A., Mushtukov A. A., Mereminskiy I. A., Molkov S.V., Semena A.N.
MNRAS 514, 4018. [DOI](#)
4. *RX J0440.9+4431: another supercritical X-ray pulsar* 2023
Salganik A., Tsygankov S. S., Doroshenko V., Molkov S.V., Lutovinov A. A., Mushtukov A. A., Poutanen J.
MNRAS 524, 5213. [DOI](#)
5. *Discovery of a bimodal luminosity distribution in persistent Be/X-ray pulsar 2RXP J130159.6-635806* 2025
Salganik A., Tsygankov S. S., Chernyakova M., Malyshev D., Poutanen J.
A&A 698, A71. [DOI](#)
6. *Discovery of a 0.8-mHz quasi-periodic oscillation in the transient X-ray pulsar SXP31.0 and associated timing transitions* 2026
Salganik A., Tsygankov S. S., Molkov S.V., Lapshov Igor Yu., Lutovinov A.A., Tkachenko A. Yu., Mushtukov A. A., Poutanen J.
A&A 705, A141. [DOI](#)
7. *First detection of X-ray polarization from the long-period X-ray pulsar 4U 1954+319* 2026
Salganik A., Kong L., Forsblom S. V., Zhou M., Liu H., Zhao Q., Tsygankov S. S., Santangelo A., Poutanen J.
A&A 710, A36. [DOI](#)

Grants

- **EDUFI Fellowship:** doctoral research (€17,100) Oct 2024
- **Wihuri Foundation Grant:** doctoral research (€30,000). Oct 2024
- **Wihuri Foundation Grant:** doctoral research (€32,000) Oct 2025

Travel Grants

- Frontiers in X-ray Polarimetry (FiXP) Academy travel grant (€1200) Mar 2025
- University of Turku EXACTUS travel grant (€2000) 2025-2026
- The Turku University Foundation (€800) Apr 2026
- AAS High Energy Astrophysics Division (HEAD) travel grant (\$500) Oct 2025

Accepted Proposals

General Observer:

- PI: IXPE proposal for GX 1+4 observations. 2025
- PI: IXPE proposal for 1E 1145.1-6141 observations. 2025
- PI: NuSTAR proposal for X Persei observations. 2026
- PI: Insight-HXMT proposal for observations of cyclotron line harmonics. 2024

Director's Discretionary:

- PI: NuSTAR 100 ks TOO observations of 1A 1118-61. Jan–Feb 2026
- PI: IXPE 194 ks TOO observations of 4U 1954+319. Oct 2025
- PI: NuSTAR 41 ks TOO observations of 4U 1954+319. Oct 2025
- PI: NuSTAR 140 ks TOO observations of SXP 31.0 May 2025
- PI: NuSTAR 59 ks TOO observations of LS V +44 17 Jan–Apr 2023
- PI: NuSTAR 56 ks TOO observations of eRASSU J050810.4–660653 Dec 2021

Awards and Honors

- Personal Scholarship of the Government of St. Petersburg in the field of Physics 2018–2020
- IKI RAS Best Scientific Work Prize (for researchers under 35) ([press release](#)) 2023
- Enhanced Academic Scholarship of St. Petersburg State University for academic and research excellence 2020–2024

Research Press Releases

- INTEGRAL Picture of the Month: Observations of RX J0440.9+4431 in the supercritical accretion regime ([link](#)) Jun 2023
- IKI RAS Press Release: RX J0440.9+4431 switched to the super-critical accretion regime ([link](#)) Jun 2023
- Main RAS Press Release: RX J0440.9+4431 transitions into super-critical accretion ([link](#)) Jun 2023

Education

St. Petersburg State University Integrated Bachelor's and Master's Degree in Astrophysics (with Distinction)	2018–2024
University of Turku PhD in Astrophysics (Self-funded research supported by EDUFI and Wihuri grants)	2024–present

Work Experience

Space Research Institute (IKI RAS) <i>Senior Laboratory Assistant</i> (part-time)	2019–2023
University of Turku <i>Teaching Assistant</i> – Observational X-ray and Gamma-ray Astrophysics Course	2025

Professional Service

• Peer-review for <i>The Astrophysical Journal</i> , <i>Advances in Space Research</i> , <i>Astronomy & Astrophysics</i>	
• Member of the Finnish Astronomical Society (FAS)	2025–present
• NewAthena Science Community Member	2025–present
• Member of the European Astronomical Society (EAS)	2026–present

Talks

On the nature of the X-ray pulsar XTE J1859+083 and its broad-band properties:	
• Conference Fundamental and Applied Space Research 2021, IKI RAS	Apr 2021
• Invited Talk at St. Petersburg State University	Dec 2021
• Conference Astronomy and Space Exploration, Ural Federal University	Jan 2022
Study of the X-ray pulsars Swift J1808.4-1754 and eRASSU J050810.4-660653 based on space observatories' data:	
• Conference Fundamental and Applied Space Research 2023, IKI RAS	Apr 2023
Study of the transition of the pulsar RX J0440.9+4431 to the super-critical accretion regime:	
• Conference Physics of Neutron Stars 2023, Ioffe Institute	Jul 2023
• Invited Talk, Princeton University	Sep 2023
• Invited Talk, Ioffe Institute	Sep 2023
• Conference High-energy Astrophysics Today and Tomorrow HEA-2023, IKI RAS	Dec 2023
Discovery of a bimodal luminosity distribution in persistent Be/X-ray pulsar 2RXP J130159.6-635806:	
• Invited Talk, THEAPA Group Meeting, University of Maryland	Mar 2025
Discovery of a 0.8-mHz quasi-periodic oscillation in the transient X-ray pulsar SXP31.0 and associated timing transitions:	
• The 22nd meeting of the AAS High Energy Astrophysics Division	Oct 2025
• FinCOSPAR, Aalto University, Espoo, Finland	Jan 2026

Testing pulsar geometry constraint methods with simulated polarization data:

- Invited talk, ISSI Workshop “Polarimetric Insight into Extreme Magnetism”, Bern, Switzerland

Feb 2026

First detection of X-ray polarization from the long-period X-ray pulsar 4U 1954+319:

- Nordic-Baltic Astronomy Days 2026, Oral contribution, Finland

May 2026