

# Alexander Salganik

PhD Researcher in Astrophysics

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Last CV Update: Monday 6<sup>th</sup> October, 2025

## Summary

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I am a highly motivated PhD researcher at the University of Turku with five first-author publications in *MNRAS* and *A&A*. My research focuses on X-ray Astrophysics, particularly on X-ray pulsars. I have extensive experience in spectral and timing analyses using data from leading space missions and observatories. My primary goal is to expand my research to include X-ray polarimetric observations of pulsars, aspiring to become a world-leading researcher or professor in the field of high-energy astrophysics.

## Education

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**St. Petersburg State University** 2018–2024  
Integrated Bachelor's and Master's Degree in Astrophysics (with Distinction)

**University of Turku** 2024–present  
PhD in Astrophysics (Self-funded research supported by EDUFI and Wihuri grants)

## Work Experience

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**Space Research Institute (IKI RAS)** 2019–2023  
*Senior Laboratory Assistant* (part-time)

**University of Turku** 2025  
*Teaching Assistant/Demonstrator* – Observational X-ray and Gamma-ray Astrophysics Course

## Professional Service

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- Peer-review for *The Astrophysical Journal* 2024–present
- Peer-review for *Advances in Space Research* 2024–present
- Member of the Finnish Astronomical Society (FAS) 2025–present
- NewAthena Science Community Member 2025–present

## Publications — First Author

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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., Molokov 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](#)

## Grants

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- **EDUFI Fellowship:** Highly competitive fellowship supporting doctoral research (€17,100) Oct 2024
- **Wihuri Foundation Grant:** Highly competitive grant supporting doctoral research (€30,000 total) ([foundation](#), [press release](#)) Oct 2024
- **Frontiers in X-ray Polarimetry (FiXP) Academy travel grant** (€1200) Mar 2025

## Awards and Honors

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- 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

## Accepted Proposals

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### General Observer:

- **PI: IXPE proposal for GX 1+4 observations.** 2024
- PI: Insight-HXMT proposal for observations of cyclotron line harmonics. 2024
- Co-I: IXPE proposal for 4U 1907+09 observations. 2023

### Director's Discretionary:

- PI: Swift 6 ks TOO observations of Swift J1808.4–1754 Aug 2021
- PI: NuSTAR 56 ks TOO observations of eRASSU J050810.4–660653 Dec 2021
- PI: Swift 39 ks TOO observations of eRASSU J050810.4–660653 Dec 2021
- PI: NuSTAR 59 ks TOO observations of LS V +44 17 Jan–Apr 2023
- PI: NuSTAR 140 ks TOO observations of SXP 31.0 May 2025

## Research Press Releases

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- 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

## Talks

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### **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

## Workshops

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- Frontiers in X-ray Polarimetry (FiXP) Academy Apr 2025