

Research interest: multimessenger astronomy, high-energy astroparticle physics (neutrinos, radio and gamma-rays), active galactic nuclei, black holes, cosmology, cosmic radiation in old sediment layers

## Education

- 2017 **PhD in Physics (Astrophysics)**, with *summa cum laude* qualification. Supervisors: Prof. László Á. Gergely and Dr. Kisztina Éva Gabányi, University of Szeged, Doctoral School of Physics.
- 2012 **MSc in Astronomy**, with *excellent* qualification. Supervisor: Dr. Johanna Jurcsik (cons. Prof. Károly Szatmáry), University of Szeged.

## Positions

- 2024- **Astronomer Postdoc**, Ruhr-University Bochum, Theoretical Physics IV: Plasma-Astroparticle Physics, Faculty of Physics and Astronomy.
- 2023-2024 **Humboldt Experienced PostDoc Fellowship**, Ruhr-University Bochum, Astronomical Institute, Faculty of Physics and Astronomy.
- 2022-2023 **CIM fellow, PostDoc**, Ruhr-University Bochum, Theoretical Physics IV: Plasma-Astroparticle Physics, Astronomical Institute, Faculty of Physics and Astronomy.
- 2022- **Voluntary fellow**, Konkoly Observatory, ELKH Research Center for Astronomy and Earth Sciences.
- 2019-2022 **Research fellow, Premium PostDoc**, Konkoly Observatory, ELKH Research Center for Astronomy and Earth Sciences.
- 2017-2019 **Assistant research fellow**, Institute of Physics, University of Szeged.
- 2015-2017 **Predoctoral student**, Institute of Physics, University of Szeged.

## Scientometrics

- **Papers in refereed journals: 87**, of which **first author in: 19**
- **Total number of citations: 1707**
- **Cumulative impact factor: 589.994 (as of the year of publication)**
- **H-index: 23**

## Collaborations, memberships

- 2021- European Astronomical Society
- 2020- **IceCube Collaboration**
- 2019- Public body of the Hungarian Academy of Sciences
- 2018- Junior member of the International Astronomical Union

## Proposals

- 2024 **NuSTAR**, 240+50 ks
- 2016- **EVN, VLA**, various projects

## Awards

- 2021 **Bruno Rossi Prize**, as member of the IceCube Collaboration
- 2018 **Junior Prima Award** in category Hungarian Science
- 2011 Special prize of the Hungarian Astronomical Foundation, XXX. National Scientific Students' Associations Conference.

## Conferences, scientific travels

- 2024
  - o IceCube Collaboration Fall Meeting, Wisconsin-Madison, USA (**talk**, 23-27 September, 2024)
  - o Cosmic neutrinos from radio-loud and radio-quiet AGN, Columbia University, New York , USA, (**invited talk**, 18 September, 2024)
  - o Cosmic neutrinos from radio-loud and radio-quiet AGN, University of Nevada, Las Vegas, USA, (**invited talk**, 11 September, 2024)
  - o 1st Nordic Meeting on Neutrino and Radio Astronomy, Göteborg, Sweden (**talk**, 27–30 May 2024)
  - o University of Maryland, Space and Cosmic Ray Physics Seminar, online (**invited talk**, 15 April, 2024)
  - o MANST Meeting, Bochum, Germany (**poster**, 24-25 March, 2024)
  - o IceCube Collaboration Summer Meeting, Münster, Germany (**talk**, 17-22 March, 2024)
- 2023
  - o TeV Particle Astrophysics, Naples, Italy (**talk**, 11–15 Sept 2023.)
  - o IceCube Collaboration Summer Meeting, Aachen, Germany (**talk**, 12-17 March, 2023)
  - o 4th Graduate School on Plasma-Astroparticle Physics, Bad Honnef, Germany (29 Jan-3 Febr, 2023)
- 2022
  - o CRC ring lecture series - CRC1491, Dortmund, Germany (**invited talk**, online, 20 May 2022)
  - o HEP-Cosmo-Astro seminar/Proca seminars series, Cluj-Napoca, Romania (**invited talk**, online, 19 May 2022)
  - o Short-term research visit, Ruhr-Universität Bochum, Germany (04-22 April 2022)
- 2021 - all virtual
  - o European Physical Society conference on high energy physics (EPS-HEP) 2021 (**invited talk**, 26-30 July 2021)
  - o International Cosmic Rays Conference 2021 (12-23 July 2021)
  - o European Astronomical Society Annual Meeting (**poster**, 28 June - 2 July 2021)
  - o 70th Lindau Nobel Laureate Meeting (27 June - 2 July 2021)
- 2019
  - o Short-term research visit, Ruhr-Universität Bochum (9-13 December 2019, Bochum, Germany)
  - o Short-term research visit, Max-Planck-Institut für Radioastronomie (3-7 June 2019, Bonn, Germany)
- 2018
  - o ELFT Summer School, Astroparticle Physics (**invited talk**, 3-7 September, 2018, Mátraháza, Hungary)
  - o 15th Marcel Grossman Meeting (**2 talks**, 1-7 July, 2018, Rome, Italy)
- 2017
  - o 10th Bolyai-Gauss-Lobachevsky Conference (**talk**, 21-26 August, 2017, Gyöngyös, Hungary)
  - o Balaton Summer School (**talk**, 17-23 July 2017, Siófok, Hungary)
- 2016
  - o Travelling assembly of Hungarian physicists (**poster**, 24-27. August 2016, Szeged, Magyarország)
- 2015
  - o Long-term research program, Max-Planck-Institut für Radioastronomie (18 May-26 June 2015, Bonn, Germany)
- 2014
  - o Group meeting "MAGNA" (24-28 November 2014, Bern, Switzerland)
  - o 7th Workshop of Young Researchers in Astronomy and Astrophysics (**talk**, 17-19 September 2014, Budapest, Hungary)
  - o 44th Young European Radio Astronomers Conference (**talk**, 08-12 September 2014, Torun, Poland)
  - o Group meeting "MAGNA" (17-23 March 2014, Bern, Switzerland)
- 2013
  - o Short-term research visit, Max-Planck-Institut für Radioastronomie (14-26 October 2013, Bonn, Germany)
  - o ERASMUS Summer Term, Argelander Institut für Astronomie (**2 talks**, 2 April-31 July 2013, Bonn, Germany)
  - o SnowPAC2013 Black Hole Fingerprints: Dynamics, Disruptions and Demographics (**poster**, 17-22 March 2013, Snowbird, Utah, USA)
- 2012
  - o 5th Meeting of COST Action MP0905 "Black Holes in a Violent Universe" Black Holes and Jets (**poster**, 21-23 November 2012, Palermo, Italy)
  - o 6th Workshop of Young Researchers in Astronomy and Astrophysics (**talk**, 3-6 September 2012, Budapest, Hungary)
- 2011
  - o XXX. National Scientific Students' Associations Conference (27-29 April 2011, Nyíregyháza, Hungary)

## Supervision

3 BSc and 1 MSc succesfully finished. 1 BSc and 1 MSc in progress.

## Teaching activity

- 2023 General Relativity (2 lectures, Ruhr-University,Bochum, MSc level)
- 2021 High-energy astronomy (1 lecture, ELTE, Budapest, Hungary, MSc level)
- 2016-2019 Physics laboratory practice 3 (University of Szeged, Hungary, BSc level)
- 2016-2019 Electromagnetism practice (University of Szeged, Hungary, BSc level)
- 2016 Relativistic astrophysics lecture (University of Szeged, Hungary, MSc level)
- 2014-2019 Physics-biophysics laboratory practice (University of Szeged, Hungary, BSc level)
- 2012-15 Physics practice for engineers (University of Szeged, Hungary, BSc level)

## Professional and community service

- 2021- Referee for ApJ, MNRAS, MDPI
- 2021- Co-founder and permanent speaker of the Astronomy on Air podcast series
- 2019-2021 Organizer of the Astronomy on Tap Budapest
- 2015-2020 Founder and organizer of the Astroparty at the Beach
- 2006- Public talks and observations, interviews in magazines (50+)

## Computer skills

- Basic Maple
- Intermediate FermiTools, Fermipy, Docker, AIPS, Wolfram Mathematica, html
- Advanced Linux, bash-shell, L<sup>A</sup>T<sub>E</sub>X, C, python, DIFMAP, IRAF, ISIS, WCSTools

## Observational routine

- 2008-2012 Konkoly Observatory, Budapest, Hungary (> 100 nights)
- 2011-2012 Piskéstető Mountain Station of Konkoly Observatory, Piskéstető, Hungary (~20 nights)
- 2011 Observatory of Szeged, Szeged, Hungary (~15 nights)

## Languages

- English **Fluent** *(intermediate language exam, Telc, 2014)*
- German **Intermediate** *(intermediate language exam, Goethe Institut, 2005)*