Jelena Strišković
jstriskovic@fizika.unios.hr

PERSONAL

Date of birth: October 13th 1989
Nationality: Croatian

EDUCATION

PhD student in Astroparticle Physics

Faculty of Physics, University of Rijeka (Croatia)
October 2018 – Present

- Expected Completion: October 2024
- Thesis topic: Study of active galactic nuclei variability and Lorentz invariance violation with MAGIC and LST-1 telescopes (Thesis topic defended on October 28, 2022)
- Grade point average: 5.00/5.00

Master's Degree in Physics and Computer Science Education (mag. educ. phys. et inf.)

Department of Physics, Josip Juraj Strossmayer University of Osijek (Croatia)
October 2013 – October 2015

- Thesis topic: Measurements of noise levels with an acoustic camera
- Grade point average: 4.91/5.00
- Awards:
    - Rector's Award for excellence (2015)
    - Dean's Award for excellence (2014)
    - Publication: Co-authored paper in Library & Information Science Research, Vol. 37(3), 2015: "Croatian university students' use and perception of electronic resources."

Bachelor's Degree in Physics (univ. bacc. phys.)

Department of Physics, Josip Juraj Strossmayer University of Osijek (Croatia)
October 2009 – October 2013

- Thesis topic: Analysis of the attitudes of students of Josip Juraj Strossmayer University of Osijek regarding electronic and printed sources
- Grade point average: 4.73/5.00
- Awards:
    - Awarded for the Best Workshop on Brain Awareness Week Osijek (2013)
    - Rector's Award for excellence (2011)
    - Dean's Award for excellence (2010)
- During my Bachelor's studies, in addition to regular courses at the Department of Physics (185 ECTS), I audited and passed an additional 23 courses (130 ECTS) at the Faculty of Applied Mathematics and Computer Science (Josip Juraj Strossmayer University of Osijek) with a grade point average 4.00/5.00. Two courses were not scientific (English in Mathematics and Russian in Mathematics).

WORK EXPERIENCE

Current position:

Teaching and Research Assistant

Department of Physics, Josip Juraj Strossmayer University of Osijek
September 2018 – Present

- Taught nine different courses at the Department of Physics, Faculty of Applied Mathematics and Computer Science, and the Faculty of Civil Engineering and Architecture at Josip Juraj Strossmayer University of Osijek. In total, I have accumulated more than 1000 hours of teaching at the University level.
- Awards: Award for the best lecturer of the Department of Physics in Osijek (for academic years 2020/2021 and 2021/2022); first teaching and research assistant to receive this award.
- Department's Ethics committee member (2023 – Present)
- Department's Council member (2019 – 2023)
- In charge of the Department's Outreach pages

The research portion of my current position (Teaching and Research Assistant) is done through LST-1, MAGIC and COST Action Quantum gravity phenomenology in multi-messenger approach (CA18108) research activities.

Previous positions:

Teacher of Physics, Computer Science and Mathematics

Primary school Jinko Juhn, Podgorač
November 2016 – September 2018

Teacher of Physics and Mathematics

High school Valpovo, Valpovo
November 2015 – June 2016

RESEARCH EXPERIENCE

MAGIC collaboration (June 2020 – Present)

Roles and duties:

- Shift leader: Participated in data acquisition shifts six times in the last two years, holding various roles from operator to shift leader.
- Software Board Member: Data Check Coordinator (February 2022 – Present).
- In charge of the Bending model (January 2022 – Present)
- Flare advocate (ATel #14032, ATel #14090, #14826, ATel #15161)
- Member of gammaLIV task force
- Leading "BL Lac 2020" publication
- Corresponding author for "New constraints on Lorentz invariance violation using the extraordinary flare of Mrk 2014" (Finishing Phase 1 of collaboration review).
- Early Career Representative in Executive Board (July 2022 – Present)
- Member of Outreach and DEI task forces

COST Action Quantum gravity phenomenology in multi-messenger approach (CA18108) (2020 – 2023)

- I created and am maintaining a catalogue of all experimental results of searches for violation or deformation of Lorentz symmetry. For this work, I was awarded a virtual mobility grant (CA18108, October 2021).

- Discussions, writing and producing some plots for sections “Interactions with background photons” and “Interactions of electrons and photons” for the review paper „Quantum gravity phenomenology at the dawn of the multi-messenger era”.
- Short term scientific missions:
    - “Searches for Lorentz invariance violations with gamma rays using a flare of the astrophysical source BL Lacertae in very-high-energy gamma rays observed by LST-1”, Labaratorie d’Annecy de Physique des Particules (LAPP), Annecy (France) (23/06/2022- 03/07/2022)
    - “Exploring the gamma-ray horizon with MAGIC telescopes and its connection to Lorentz invariance violation”, Institut de Fisica d’Altes Energies (IFAE), Barcelona (Spain) (01/03/2023-15/03/2023)
- Active Outreach committee member

LST collaboration (October 2019 – Present):
Roles and duties:

- Shift leader: Participated in 4 onsite and one remote LST-1 commissioning shift in the last two years, holding various roles from operator to shift leader.
- Core member of a team working on Lorentz invariance violation searches with LST-1
- Work on LST2-4 camera commissioning during ERASMUS+ traineeship (4 months in total). Work included checks, validation tests and measurements of the overall connectivity, the dark pedestal, the pedestal with background, possible cross-talks between modules, backplane calibrations and the stability of the trigger region.

Invited Researcher

- Laboratoire d’Annecy de Physique des Particules (LAPP), engaged in research under Dr. Sami Caroff, April 2022.

Erasmus+ Traineeship: Institut de Fisica d’Altes Energies (IFAE), Barcelona (Spain)

- Development of the gLike program for Lorentz invariance violation (LIV) (22/03/2021 - 24/06/2021).
- Development of a binned likelihood as a part of gLike program for Lorentz Invariance Violation (LIV) studies and work on the next LSTs cameras (14/03/2022- 20/06/2022, break from 01/04/2022 - 01/05/2022).
- Exploring the gamma-ray horizon with MAGIC telescopes and its connection to Lorentz invariance violation and work on the LST-3 camera and LST-1 commissioning (15/03/2023-01/06/2023).

ORAL PRESENTATIONS AT INTERNATIONAL CONFERENCES

- TeV Particle Astrophysics (TeVPA): Constraints on Lorentz Invariance Violation using the extraordinary flare of Mrk 421 in 2014, September 2023, Naples (Italy).
- The XVIII International Conference on Topics in Astroparticle and Underground Physics (TAUP): Constraints on Lorentz Invariance Violation using the extraordinary flare of Mrk 421 in 2014, August 2023, Vienna (Austria).

- Workshop on theoretical and experimental advances in quantum gravity: New searches for Lorentz invariance violation with MAGIC and LST-1 telescopes, September 2022, Belgrade (Serbia).
- CA18108 First training school: Oral presentation: "Binned or unbinned likelihood, that is the question", October 2021, Corfu (Greece). I participated in writing lecture notes published in Proceedings of Science CORFU2021, 319, DOI: 10.22323/1.406.0319.

ORAL PRESENTATIONS AT NATIONAL CONFERENCES

- 4th Young scientist day: Searches for Lorentz invariance violation with imaging atmospheric Cerenkov telescopes, October 2022, Osijek
- 3rd Young scientist day: Influence of Lorentz invariance violation on very high energy gamma-ray spectra from astrophysical sources, November 2021, Osijek
- Croatian astronomical society conference: Lorentz invariance violation searches with imaging atmospheric Cherenkov telescopes, November 2021, Zagreb

PROFESSIONAL SERVICES

- Local Organising Committee Member: CA18108 4th Annual Conference, July 2023, Rijeka (Croatia)
- Scientific Committee Member: 3rd Young Scientist Day, November 2021, Osijek (Croatia)

PUBLICATIONS WITH MAJOR CONTRIBUTION

- Addazi, A., et al. *Quantum gravity phenomenology at the dawn of the multi-messenger era - A review,* Progress in particle and nuclear physics, 125 (2022), 103948, 119 doi:10.1016/j.ppnp.2022.103948 (arXiv:2111.05659)
- Terzić, T.; Kerszberg, D.; **Strišković, J.,** *Probing Quantum Gravity with Imaging Atmospheric Cherenkov Telescopes*, Universe, 7 (2021), 9; 345, 44 doi:10.3390/universe7090345 (arXiv:2109.09072)
- D'Amico, G.; Terzić, T.; **Strišković, J.;** Doro, M.; Strzys, M.; van Scherpenberg, J., *Signal estimation in on/off measurements including event-by-event variables*, Physical Review D, 103 (2021), 12; 123001, 16 doi:10.1103/physrevd.103.123001 (arXiv: 2105.01019)
- Dukić, D. and **Strišković, J.,** *Croatian university students' use and perception of electronic resources*, Library & Information Science Research, Vol. 37(3), pp. 244-253, 2015.

The full list of publications is listed in 08_Publications_Striskovic.pdf

MEMBERSHIPS AND ASSOCIATIONS

Croatian Astronomical Society
Pint of Science Croatia

LANGUAGES

- Croatian (Native speaker)
- Serbian (Fluent speaker in both Cyrillic and Latin script)
- English (Fluent speaker)
- Spanish (Basic proficiency)
- German (Basic proficiency)

MISCELLANEOUS

- Valid EU drivers' license
- Corrector for the book "Razumljivi svijet: od kuhinje do crne rupe (Understandable world: from the kitchen to the black hole)" authored by Dr. Dario Hrupec, IN TRI, Zagreb, 2023.

Osijek, 08/01/2024