

Curriculum Vitae

Personal information:

Name: Mgr. Patrik Čechvala, PhD. Adress: Višňová 7, 900 27, Bernolákovo, Slovak republic

Date of birth: 11 May 1994 Place of birth: Bratislava, Slovak republic

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Work experience:

- 09/2024-present Department of Astroparticle Physics, Institute of Physics of Czech Academy of Sciences – stay, WorkSpace Europe program, Czech republic – researcher, MSCA COFUND P4F grant
- 04/2024-08/2024 Department of Nuclear Physics and Biophysics, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Slovakia - researcher
- 03/2024-04/2024 Le Laboratoire Univers et Théories, Observatoire de Paris, Meudon, Université Paris – Diderot – stay, Bourse de recherche, France - researcher
- 11/2023-02/2024 Department of Astroparticle Physics, Institute of Physics of Czech Academy of Sciences – stay, WorkSpace Europe program, Czech republic - researcher
- 09/2023-10/2023 Astrosolutions, s. r. o. – observer, Slovakia

Education:

- 2018-2023 **PhD in Astronomy and Astrophysics**, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Slovak republic
- 2016-2018 **Master in Astronomy and Astrophysics**, Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Slovak republic
- 2013-2016 **Bachelor in Physics** Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava, Slovak republic
- 2008-2013 **Baccalaureate**, Metodova High School – bilingual frech-slovak program, Bratislava, Slovak republic

Internships

- 08/2024 IAU Volunteer, XXXII. International Astronomical Union IAU General Assembly, Cape Town, South Africa
- 05/2024 STARMUS festival in Bratislava, volunteer
- 06/2023-07/2023 ISAPP 2023, Neutrino physics, astrophysics and cosmology – summer school for PhD students, Villa Monastero, Varenna, Italy

05/2023	Dynamics in the Universe – summer school for PhD students, Astronomical and Geophysical Observatory, Modra, Slovakia
07/2021	SAIA mobility – National Scholarship Programme of the Slovak Republic – astroparticle physics group, MAGIC telescopes data analysis, Institute of Astrophysics of the Canary Islands IAC, Tenerife, Spain
07/2021	Astronomy Education Adventure in the Canary Islands 2021, Galileo Teacher Training Program and IAC’s educational project PETeR – summer school, Institute of Astrophysics of the Canary Islands IAC, Tenerife, Spain
10/2020	SPU27.1x: Science & Cooking: From Haute Cuisine to Soft Matter Science, a course of study offered by HarvardX, an online learning initiative of Harvard University
08/2020	GAIA & TESS: Tools for understanding the Local Universe Summer School – summer school, Brno, Czech republic
03-06/2019	ERASMUS+ mobility - astroparticle physics group, MAGIC telescopes data analysis, Institute of Astrophysics of the Canary Islands IAC, Spain
08/2018	Volunteer, General Assembly of the International Astronomical Union IAU, Vienna, Austria
10/2017	CRPropa Users and Developers Meeting, Vrije Universiteit Brussel, Brussels, Belgium
08/2017	Summer School on Exoplanets, Ondřejov, Astronomical Institute of the Czech Academy of Sciences, Czech Republic
05-06/2017	Radiative Transfer in Solar and Stellar Atmospheres, Spring school, Tatranská Lomnica, Astronomical Institute of the Slovak Academy of Sciences, Slovak republic
04/2012	DALF C1 – certificate, french language, French Institute in Bratislava, Slovakia

Grants and project involvements

- 2022 – 2024 - Visegrad grant id. 22210105 in cooperation with International Astronomical Union
Visegrad Fund-International Astronomical Union Awards - student mobilities between V4 countries, contact person for Slovakia, https://iau.org/science/grants_prizes/iau-visegrad/
- 2022 – 2024- Visegrad grant id. 22220116
Boosting the social impact of the Cosmic Ray Extremely Distributed Observatory (CREDO) project, <https://credo.science/>
- 2018 – 2023 - APVV-18-0103 - Slovak Research and Development Agency grant

Paradigmatické zmeny v nazeraní na vesmír a človeka z filozofickej, teologickej a fyzikálnej perspektívy, <https://uniba.sk/veda/vedecke-projekty-a-granty/apvv/apvv180103/>

- 2021 - UK/409/2021 – Comenius University grant
Štúdium galaktických zdrojov gama žiarenia a interakcia vysokoenergetických fotónov s prostredím a materiálmi
- 2020 - UK/363/2020 – Comenius University grant
Zdroje gama žiarenia vo vesmíre – štúdium energetického spektra a časovej premennosti

Teaching experiences:

- Astronomy and Astrophysics - leading practical exercises for lectures, lectures are introduced for students of the 3rd year of bachelor studies and serve as an introduction to the topic
- Theoretical Astrophysics - leading practical exercises for lectures, lectures are introduced for students of the 1st year of master studies
- Astronomy and Meteorology - leading practical exercises for lectures, lectures are introduced for master students of didactics of physics as an introduction to the topic
- University of the Third Age - chosen lectures during program, lectures are introduced for retired people as further education and form the part of a 2-year program at Comenius University

Organizational skills

- 03/2023 Women and Girls in Astronomy – an international initiative by International Astronomical Union – preparation of public-outreach lecture in Natural History Museum SNM
- 11/2022 International Cosmic Day in Bratislava, Slovakia, organized by DESY, Germany – public lecture about cosmic rays, <https://icd.desy.de/> , https://fmph.uniba.sk/detail-novinky/back_to_page/kalendar-4/article/kozicky-den-24112022/
- 01/2019 100 Hours of Astronomy in Bratislava, Slovakia – IAU100 international initiative, celebration of centenary of International Astronomical Union - organization of public lectures and discussion, https://fmph.uniba.sk/detail-novinky/back_to_page/novinky-5/article/100-hodin-astronomie-v-bratislave/
- 10/2018-03/2019 Above and Beyond exhibition in Natural History Museum in Bratislava, Slovakia – travelling exhibition of the International Astronomical Union prepared for the IAU 100th anniversary celebrations – main coordinator, <https://www.iau-100.org/above-and-beyond-in-bratislava>
- 2017 - 2023 Annual astronomy workshops for astronomy students of the Faculty of Mathematics, Physics and Informatics, Comenius University in Bratislava at Astronomical and Geophysical Observatory in Modra – organisation of lectures, presentation of student projects and hands-on sessions - <http://astroworkshop.matfyzjein.sk/>

- 2017 Cassini scientist for a day – competition organised by NASA and ESA for students, contact point for Slovakia, <https://sci.esa.int/web/education/-/59142-students-explore-saturn-and-its-moons-in-the-cassini-competition>, <https://planetaria.sk/cassini-scientist-for-a-day-stan-sa-na-den-vedcom/>
- From 2012 Astronomy public lectures at Natural History Museum – Slovak National Museum in Bratislava - <https://www.snm.sk/muzea-snm/prirodovedne-muzeum/prirodovedne-muzeum/navstivte/podujatia?clanok=astronomicky-klub-snm-pm>

Other Work Experience:

Since 2011 Natural History Museum - Slovak National Museum - external employee - supervisor of the astronomical amateur club for children, tours of the museum for visitors, explanations of scientific experiments at the interactive science expositions, organisation of science festivals and lectures

Honors and Awards

- 2023 2nd place and public award, final of Central Europe, „Ma thèse en 180 secondes” – competition for PhD students for presenting the topic of their thesis in French, Charles University, Prague, Czech republic
- 2023 3rd place, Student science conference, 2023, Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava
- 2023 1st place in Slovakia, „Ma thèse en 180 secondes” – competition for PhD students for presenting the topic of their thesis in French, <https://institutfrancais.sk/kto-je-slovenskym-vitazom-sutaze-moj-doktorat-za-180-sekund/>
- 2016 Winner of the Student science conference, 2016, Faculty of Mathematics, Physics and Informatics, Comenius University, Bratislava

Memberships

- European Astronomical Society; Slovak Astronomical Society near Slovak Academy of Sciences; Slovak Planetariums, Residents Association, International Planetarium Society Member

Languages

- slovak – native; czech – fluent, english – fluent, C1; french – fluent, C1; spanish – beginner, A2; german – beginner, A1

IT Skills and Programming

- OS Windows, Linux, Microsoft Word, Excel, Powerpoint, C++, Python, ROOT, SimProp, Geant4

Public outreach

- popular science lectures for public, public astronomical observations – Natural History Museum SNM, European Researchers Night, Night of Museums and Galleries, summer schools, pop-culture festivals – AnimeShow, ComicSalon, SlavCon
- video-lectures: <https://www.youtube.com/user/MatFyzjeln>
 - In English – Sky over Middle-Earth, Astronomy in the work of J. R. R. Tolkien, <https://www.youtube.com/watch?v=L62mE-k9Ks0&t=1653s>
 - In French – Simulations des interactions des rayons cosmiques avec la matière, <https://www.youtube.com/watch?v=oxFD02dulEg>
 - In Slovak – High-energy particles from the Universe, <https://www.youtube.com/watch?v=nkWhSoPSn5s>
 - In Slovak – Astronomy related hoaxes and conspiracy theories, <https://www.youtube.com/watch?v=fRFERgi6aol&t=77s>
 - In Slovak – 3 interesting thing in the night sky, <https://www.youtube.com/watch?v=ZPADLkL5Ymo&t=37s>
 - In Slovak – Preparations for the observations with astronomical telescope, <https://www.youtube.com/watch?v=0AKyy5XewjU&t=230s>
 - In Slovak – Partial solar eclipse, construction of LEGO ISS, livestream, https://www.youtube.com/watch?v=Tf_HCmnGSew&t=4101s
 - In Slovak – Astronomy in Paris, <https://www.youtube.com/watch?v=4zTe0uU3iE4&list=PLqiGU4u5LkCEyo1bxWdAFJrTKsl2hdUhB>
 - In Slovak – Gamma Astronomy, <https://www.youtube.com/watch?v=0YhbH01u5bA&list=PLqiGU4u5LkCEyo1bxWdAFJrTKsl2hdUhB&index=2>
- astronomy related articles, serie of articles about molecular gastronomy and science in the kitchen – <https://www.quark.sk/?s=patrik+%C4%8Dechvala&submit=>

Interests and Hobbies

- gastronomy, travelling, dancing, walking with dog, gardening, fitness

Patrik Čechvala