CURRICULUM VITAE

Personal Information:

Full name	Alejandro Svyatkovskyy Kholyavka
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Academic background:

2019 - 2023 **BSc in Physics** (specialization in Materials) at Universidad Europea de Madrid. Thesis: *Simulation of the Diffuse Emission of the Galaxy in the Context of the LiteBIRD Space Mission*, supervised by Dr. Marcos López–Caniego Alcarria.

Specialization Courses: Materials Physics, Advanced Materials Physics, Characterization Techniques, Biomaterials and Tissue Physics, Materials for Energy Storage and Conversion, Introduction to Nanotechnology.

2023 - 2024 **MSc in Theoretical Physics** (specialization in Astrophysics and Cosmology) at Universidad Autónoma de Madrid. Thesis: *Multimessenger Signatures of Particle Acceleration by Black Holes*, supervised by Dr. Rafael Alves Batista.

Specialization Courses: Radiative Processes in Astrophysics, Observational Techniques in Astrophysics, Stellar Structure and Evolution, Astroparticle Physics, Computational Astrophysics, Advanced Gravity.

2024 - present **MSc in Advanced Physics and Applied Mathematics** (specialization in Astrophysics and Relativity) at Universitat de les Illes Balears. Thesis: *Exploring the rich numerical phenomenology of the binary black hole ringdown*, supervised by Dr. Xisco Jiménez Forteza (Project part of the AECT-2025-1-0011 allocation at Barcelona Supercomputing Center (MareNostrum 5)).

Specialization Courses (Astrophysics and Relativity): Fundamentals of Solar Magnetohydrodynamics, Applications of Solar Magnetohydrodynamics, Relativity and Geometry, Black Holes, Gravitational Waves, Elements of Numerical Relativity.

Specialization Courses (Applied Mathematics): Introduction to Dynamical Systems, Techniques for Studying Periodic Solutions to Ordinary Differential Equations, Mathematical Models in Neuroscience, Introduction to Mathematical Models in Image Restoration.

Specialization Courses (Quantum Systems): Quantum Field Theory.

Professional background:

2019 - 2022 Futsal Assistant Referee (2nd Division “B”) at the Royal Spanish Football Federation

2022 Janitor at Paseo de las Delicias 101, Madrid.

2022 - present Track Marshal and Timekeeper at Circuito de Madrid Jarama - RACE.

2023 Internship Student at the Blas Cabrera Institute of Physical Chemistry, Spanish National Research Council (CSIC), in the Surface Analysis and Mössbauer Spectroscopy Group, under the supervision of Dr. José Francisco Marco Sanz.

Language skills

	Level		
	Speaking	**Reading/Writing**	**Listening**
Spanish	Native		
Ukrainian	Native		
English*	C1	C1	C1
Catalan	B1	B1	B1

*(*Certified level according to the Common European Framework of Reference for Languages-CEFR)*

Additional training:

Programming Languages: Python, C++, MATLAB, Mathematica.

Scientific Data Analysis and Visualization: SciDAVis, Origin.

Mössbauer Spectroscopy:: Recoil, MossA.

Molecular Design, Visualization, and Modeling: ArgusLab, Vesta.

Astronomy: Aladin, SASDABA (Star Analyser Spectroscopic Data Base), TOPCAT (Tool for OPerations on Catalogues And Tables), VOSA (VO Sed Analyzer).

Portfolio (Projects Conducted for Laboratory Courses)-click on the title to visualize it:

2021 Study of Normal Modes of Vibration: Chladni Figures.

2022 Particle Detection (Diffusion Cloud Chamber).

2023 Study of Dye-Sensitized Solar Cells.

2024* Estimation of the Age of Star Clusters in the Heart Nebula Using Color-Magnitude Diagrams.

**This project was carried out during a research stay at the Calar Alto Astronomical Observatory in February 2024 for the Observational Techniques in Astrophysics course of the Master's Degree in Theoretical Physics.*