



# Jakub Wawruszczak

**Nationality:** Polish **Date of birth:** 16/12/2004 **Gender:** Male

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## ABOUT ME

I am a physics graduate from Wrocław University of Science and Technology, currently pursuing a Master's degree in Technical Physics with a specialization in Theoretical Physics. My academic focus lies in quantum systems, quantum information, and computational methods in many-body physics.

## EDUCATION AND TRAINING

### Quantum engineerer

**Wrocław University of Science and Technology** [ 01/10/2022 – 02/02/2026 ]

City: Wrocław | Country: Poland | Website: <https://pwr.edu.pl/en/> | Field(s) of study: Natural sciences, mathematics and statistics: • Physics • Physical sciences not elsewhere classified

### Internship - "Gate Tunable Flux Qubit Josephson Junctions Circuits"

**Universität Wien** [ 07/07/2025 – 13/09/2025 ]

City: Vienna | Country: Austria | Website: <https://quantumtransport.univie.ac.at> | Field(s) of study: Natural sciences, mathematics and statistics: • Physics

### Internship - "CPT symmetry violations in positronium (Ps) decays"

**Jagiellonian University** [ 02/09/2024 – 30/09/2024 ]

City: Kraków | Country: Poland | Website: <https://www.uj.edu.pl/pl> | Field(s) of study: Natural sciences, mathematics and statistics: • Physics • Biology

### Workshops at the Institute of Low Temperatures and Structural Research

**Institute of Low Temperatures and Structural Research** [ 26/06/2023 – 04/07/2023 ]

City: Wrocław | Country: Poland | Website: [www.intibs.pl/en](http://www.intibs.pl/en)

## PROJECTS

[ 15/03/2024 – 25/11/2024 ]

**Numerical simulations of simple quantum systems and networks** I researched the delocalization of particles and attempted to determine the quantum percolation threshold for several different lattices. I explored a variety of methods, some of which I designed myself. Furthermore, I compared these results with classical solutions.

[ 20/10/2024 – 01/01/2026 ]

**Bachelor's thesis: The influence of measurement on the dynamics of quantum systems** My bachelor's thesis focused on analyzing the influence of regular (projective) and Bell measurements on the dynamics of a quantum system. I compared their impact on the system's evolution and investigated strategies for monitoring quantum systems in a way that preserves their quantum properties to the greatest possible extent.

[ 19/10/2025 – 26/10/2025 ]

**Global Quantum Hackaton** Together with my team we developed a quantum-inspired Sudoku solver—and won first place. It was sudoku with elements of quantum mechanic like superposition or entanglement.

## LANGUAGE SKILLS

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**Mother tongue(s):** Polish

**Other language(s):**

**English**

**LISTENING** C1 **READING** C1 **WRITING** B2

**SPOKEN PRODUCTION** B2 **SPOKEN INTERACTION** C1

**German**

**LISTENING** A2 **READING** A2 **WRITING** A2

**SPOKEN PRODUCTION** A1 **SPOKEN INTERACTION** A2

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## CONFERENCES AND SEMINARS

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[ 01/08/2024 – 14/08/2024 ] Tibilisi, Georgia

**International Conference of Physics Students (ICPS) participation**

[ 24/10/2025 – 26/10/2025 ] Skopje, Macedonia

**The Fourth Physics for Physicists Students Conference participation**

[ 25/02/2026 – 28/02/2026 ] Jena, Germany

**PSSF-jDPG Exchange** I presented a scientific poster based on my Bachelor's thesis, which investigated the impact of regular (projective) and Bell-type measurements on the dynamics of the Heisenberg spin chain.

## WORK EXPERIENCE

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 **Self-employment** – Wrocław, Poland

**Private tutor**

[ 15/10/2022 – Current ]

- tutoring primary/high school/university students in math, physic and calculus
- preparing learning materials, lesson plans etc.

## SKILLS

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Microsoft Office

**Programming**

MATLAB / Python (computer programming) / c++ programmer / armadillo directories

**Modeling 2D/3D**

Inventor / Autocad

## VOLUNTEERING

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[ 01/12/2024 – 12/04/2025 ] Wrocław

**Internships opportunities**

I am organizing meetings for students from my university with companies around my city, to help them find the best possibilities for their carriers development.