



NIKOLA GREDIČAK

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Summary

Detail-oriented Physicist with expertise in experimental research and three years of experience at the Institute of Physics. Proficient in programming languages such as C++, Python, and MATLAB, with a strong background in data analysis and problem-solving. An effective communicator, highly motivated, and capable of teamwork.

Education

Master of Physics (Research Stream) | Faculty of Science, University of Zagreb *August 2024*

- GPA: 4.0
- Master's Thesis Topic: Determination of Ultrafast Dynamics of Photoexcited Charge Carriers in Semiconductor Thin Films of Transition Metal Dichalcogenides and Oxynitrides
- Supervisor: Silvije Vdović
- Research results related to the master's thesis were presented at conferences in Spain and Zadar under the title: "Photoelectrochemical properties and carrier dynamics of BiVO₄ photoanodes prepared by reactive magnetron sputtering."

Experience

Instructor for Matura | Santa *November 2024 – Present*

- Provided comprehensive instruction and preparation for the national matura exam.

Physics Teacher | Middle School *September 2024 – May 2025*

- Taught physics to middle school students, adapting teaching methods to diverse learning styles.

Volunteer | Institute of Physics, Zagreb *2021 – 2024*

- Volunteered in a laboratory specializing in experiments with pulsed lasers as a source of laser radiation.
- Generated ultrashort pulses within a hollow optical fiber in the visible spectrum during student practice.

- Measured pulse duration using the FROG (Frequency-Resolved Optical Gating) technique.
- Utilized transient absorption spectroscopy to study ultrafast dynamics in semiconductors as part of the master's thesis.

Private Instructor for Children | Self-Employed 2016 – 2024

- Provided private tutoring in Physics, Mathematics, and Chemistry, tailored to the needs of elementary and high school students.
- Approached each student individually, ensuring understanding of complex concepts through personalized learning methods.
- Aimed to foster self-confidence and success through clarity and patience.

Skills

- **Software:** MS Office
- **Programming Languages:** Python, MATLAB, C++, LaTeX
- **Technical:** Experience in conducting measurements and data processing in the field of transient spectroscopy.
- **Soft Skills:** Highly motivated, team player, communicative, open-minded.
- **Languages:** Fluent in English.

Interests

- Music
- Amateur Table Tennis
- Electronics and Modern Technology
- Amateur Writing
- Film Industry