

# Lyubomir Shoylev

🏠 10 Iglia Str, 8127 Burgas, Bulgaria

☎ +359 877 95 44 34 | ✉ luboshoilev@gmail.com | 📺 Lyubomir Shoylev | 🌐 lyubomirShoylev

## About me

I like to think deeply about complex problems and tackle them using creative maths. Looking to grow my skills in data-driven and modelling applications.

## Skills

**PROGRAMMING** Python, Jupyter Notebooks, MATLAB,  $\text{\LaTeX}$ , C++

**SOFTWARE** Linux Distros, Git & GitHub, VS Code, Slack, MS Office Suite

**GENERAL** Problem Solving, Collaboration, Public Speaking, Organization Skills, Teaching

### LANGUAGES

Bulgarian — Native  
English — CAE C2 certificate  
Russian — Basic proficiency

## Work History

### COMPOS Programme (details)

Tutor (Oct 2022 – Jul 2023)

- Prepared and delivered weekly 1.5 hour classes to Yr 12 students from covering advanced maths and physics.
- Graded homework assignments.
- Reported monthly workload to supervisors.

## Awards

**2019** - Silver - International Olympiad in Astronomy and Astrophysics

**2019** - National - Laureate of the National Olympiad in Philosophy

**2017** - Exceptional Award from "1000 stipendii" project

**2017** - Bronze - International Astronomy Olympiad

## Interests

Outreach & Education ·  
Cooking · Movies · Board Games · Reading · Learning

Last Updated: Jul 2023

## Education

**University of Oxford, St Hilda's College** | Oxford, UK  
MMathPhys in Mathematical and Theoretical Physics | Exp Jul '23

- Classification: Awaiting.

BA in Physics | Exp Jul '23

- Classification: Awaiting. Average 80+% in exams for all three years, allowing transfer to the MMathPhys.
- 'College Scholarship in Physics' for all three years.
- 'Commendation for Practical Work' for the first two years.

**High School of Maths and Nat. Sciences** | Burgas, Bulgaria  
HS Diploma (Diploma za Sredno Obrazovanie) | Grad. Jun '19

- Overall grade: 5.92/6.00 with 'Matura' in Maths with grade 6.00/6.00. Appointed Assistant Flagbearer '18–19 for achievements in Natural Sciences.

## Experience

**AstroPy Library** | 2022 Beli Brezi Astro Summer School

A **library** of science scripts for astronomical data using **AstroPy Project**. The project is a collaboration part of the teaching at the summer school.

- Studied the framework of Astropy used to handle FITS image files.
- Prepared routines using **Jupyter Notebooks** for the science tasks.
- Documented the notebooks and the **GitHub** repository for future use.
- Taught students the physics and how to use the prepared routines.

**Masters Dissertation** | Gravitational effects on spin precession

A 6-month research project supervised by **Dr Mario Reig**.

- Investigated background literature covering vast ranges of theoretical physics: Quantum Mechanics, the Standard Model, General Relativity and their interplay, as well as experimental practices.
- Reported progress to supervisor in a monthly written report+meeting.
- Produced a 60 page dissertation as a research review on the topic.

**Computing Project: ODE Solver** | 2nd Year lab practical

A **project** about numerical study of differential equations (ODEs) in **Python**.

- Implemented the ODE solver using **Numpy** as a custom module.
- Extended the project by studying the numerical accuracy of the solver.
- Implemented **multithreading** to speed up execution of calculations.
- Produced a short report in  $\text{\LaTeX}$  with figures using **Pyplot**.

## Outreach

Co-founded the 'Astro School Burgas' (AsBs) NGO in 2021 focused on astronomy education and science outreach. Organised with the AsBs team:

**National round of Astronomy Olympiad** | 6–8 May, 2022

A 3-day event with 150 attendees, jointly organised with local authorities.

- Organised the team workflow in **Trello** using automatisation.
- Prepared participation and feedback forms in **Google Forms** and information packets and brochures for print in **MS Word**.
- Managed a team of volunteers on-site for various planned events.

**Astro Forum Burgas** | Jan 2016–2020

A public event engaging the public with contemporary astronomy. I took on various tasks, including booking the venue, giving lectures, and interacting with attendees.