

# ***The Space Education for Bulgaria Project***

**03 October 2022, Velingrad, Bulgaria,  
XIIIth Bulgarian-Serbian Astronomical Conference**

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Credit: GETTY IMAGES; VIRGIN GALACTIC; BLUE ORIGIN





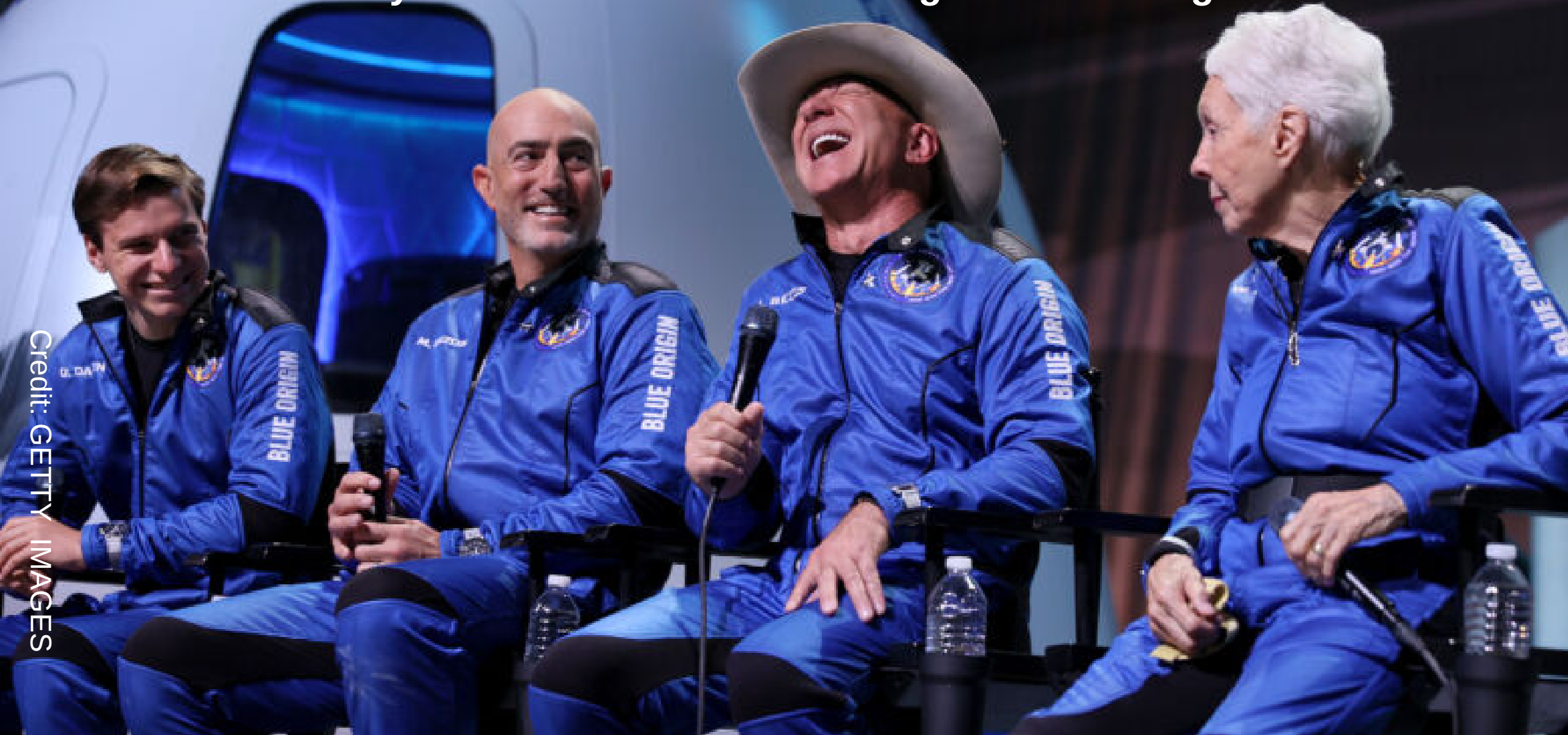
**Hello, Space\*!**

22 May 2021 –

The First Human Suborbital  
Flight of Virgin Galactic  
(second one with Sir Richard  
Branson on board took place  
on 11 July 2021, pictured here)

# Hello, Space!

20 July 2021 – The First Human Flight of Blue Origin



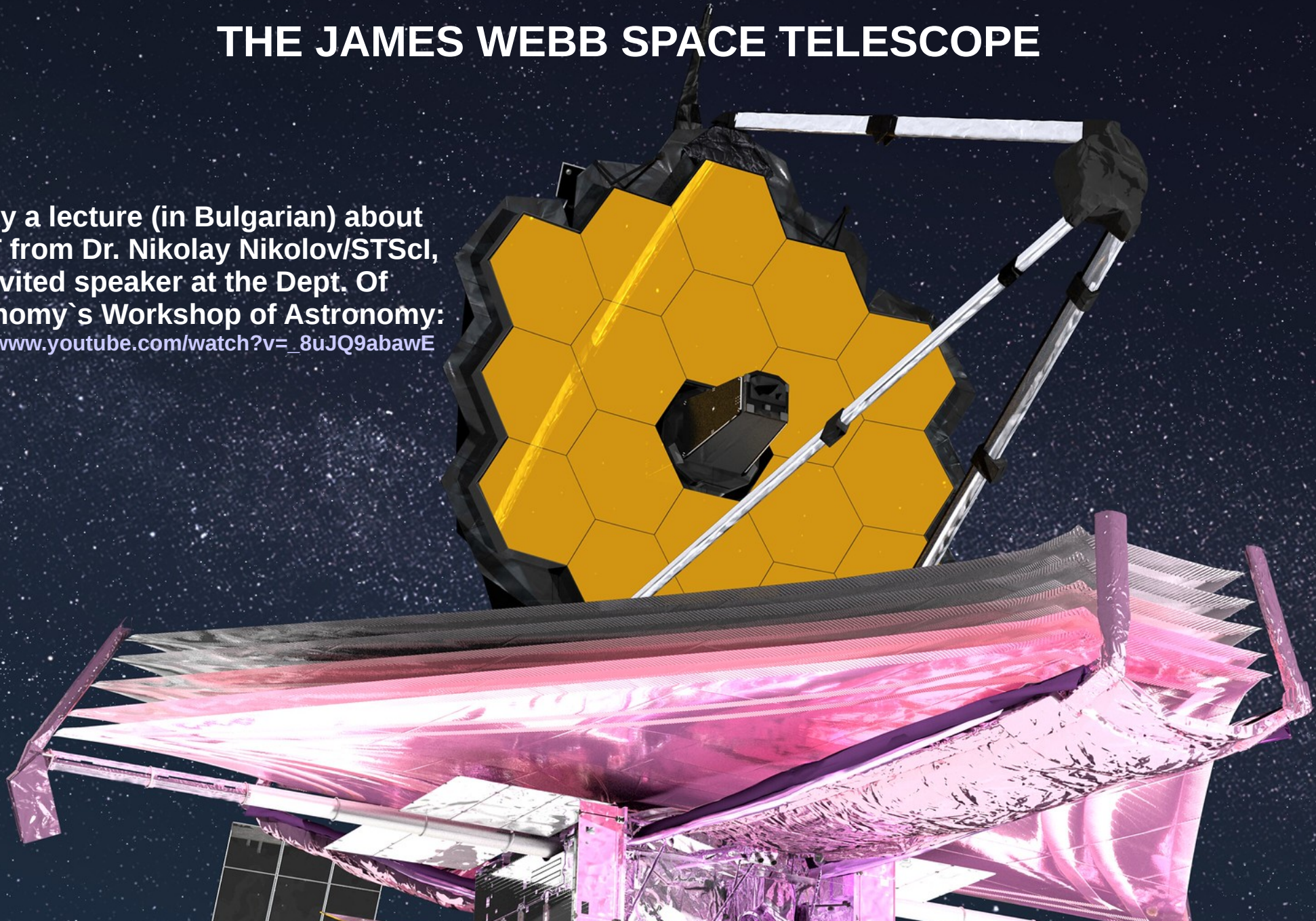
**Hello, Space!**  
**16 September 2021 – SpaceX launched Inspiration4, the  
first orbital spaceflight with *private citizens only!***



# THE JAMES WEBB SPACE TELESCOPE

Enjoy a lecture (in Bulgarian) about JWST from Dr. Nikolay Nikolov/STScI, invited speaker at the Dept. Of Astronomy's Workshop of Astronomy:  
[https://www.youtube.com/watch?v=\\_8uJQ9abawE](https://www.youtube.com/watch?v=_8uJQ9abawE)

Credit: NASA GSFC/CIL/Adriana Marnique-Gutierrez

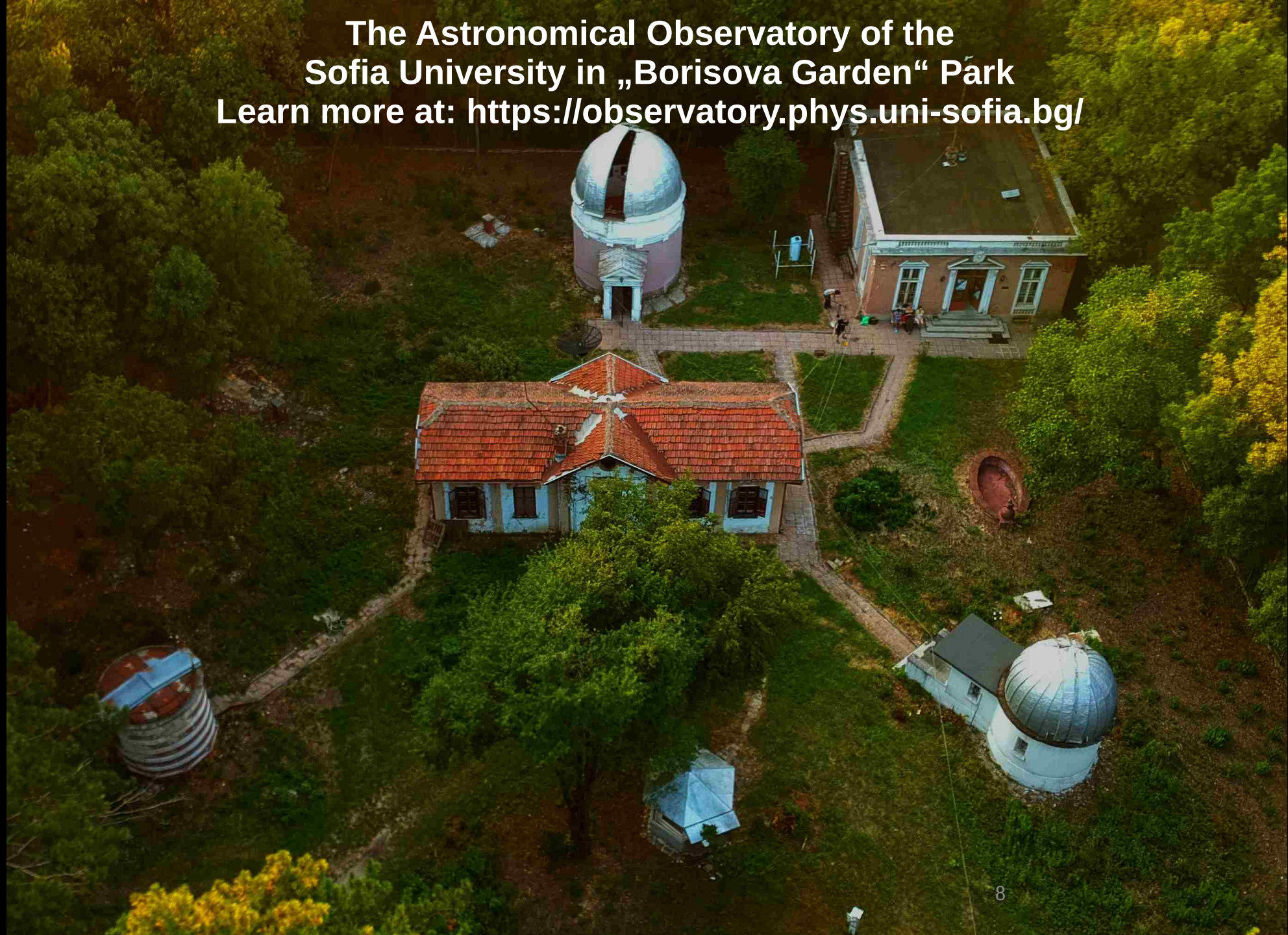


***The Bulgarian Trail in Space Research and Education:  
The Experience of the Department of Astronomy at the  
Faculty of Physics, Sofia University, Bulgaria - a Leader in  
Science, Education and Science Communication in Astronomy***

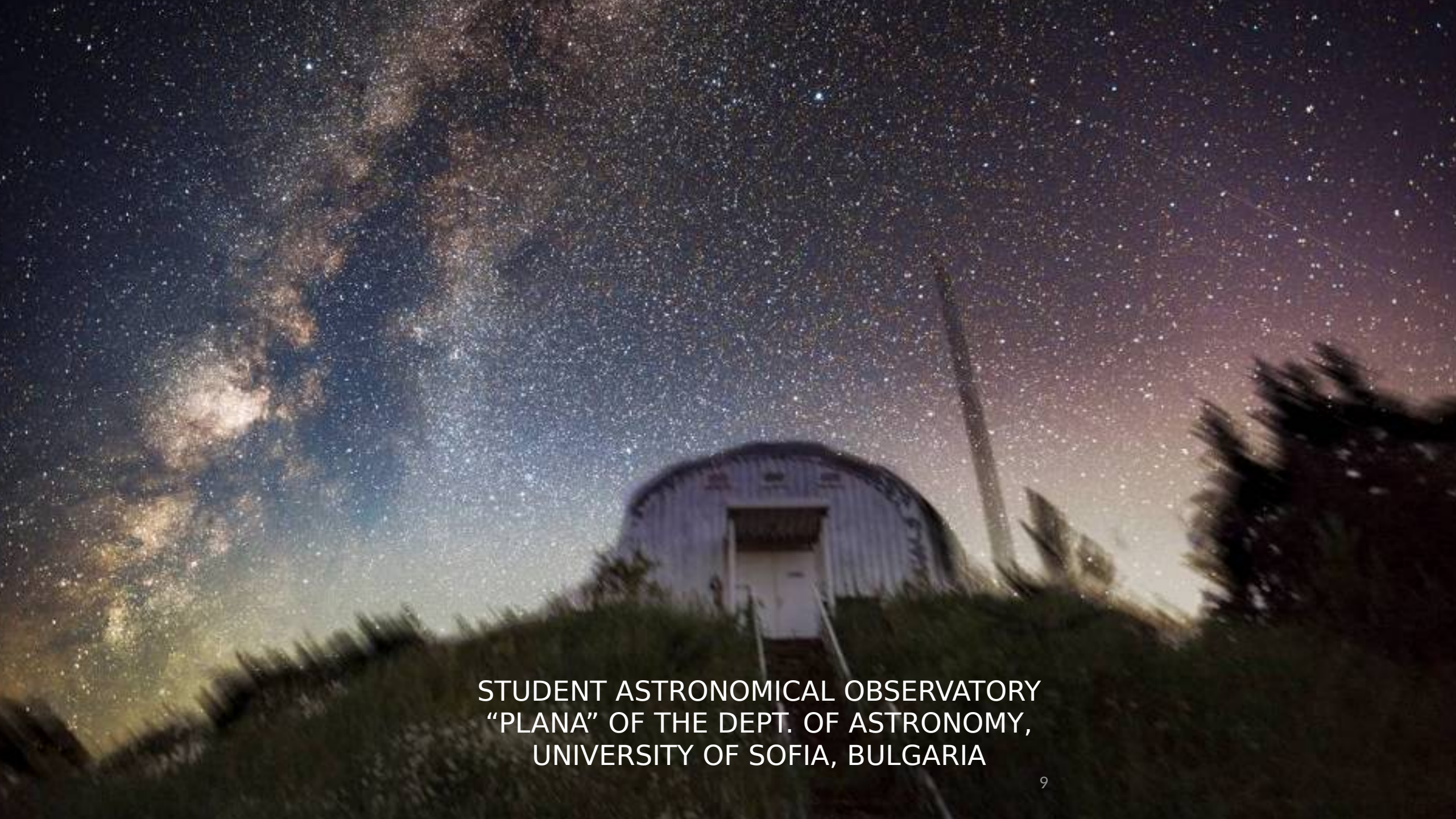


SCIENCE AND SCIENCE COMMUNICATION:  
FROM 1897 UP TO PRESENT

**The Astronomical Observatory of the  
Sofia University in „Borisova Garden“ Park  
Learn more at: <https://observatory.phys.uni-sofia.bg/>**







STUDENT ASTRONOMICAL OBSERVATORY  
"PLANA" OF THE DEPT. OF ASTRONOMY,  
UNIVERSITY OF SOFIA, BULGARIA

**DEPT. OF ASTRONOMY AT THE UNIVERSITY OF SOFIA –  
SCIENCE, EDUCATION AND SCIENCE COMMUNICATION**



**Weekly Popular Science Lectures (The Astronomy Workshop) with 100-300 visitors!**

**We reach more than 120 000 people directly and more than 1,6 mln. indirectly annually!**

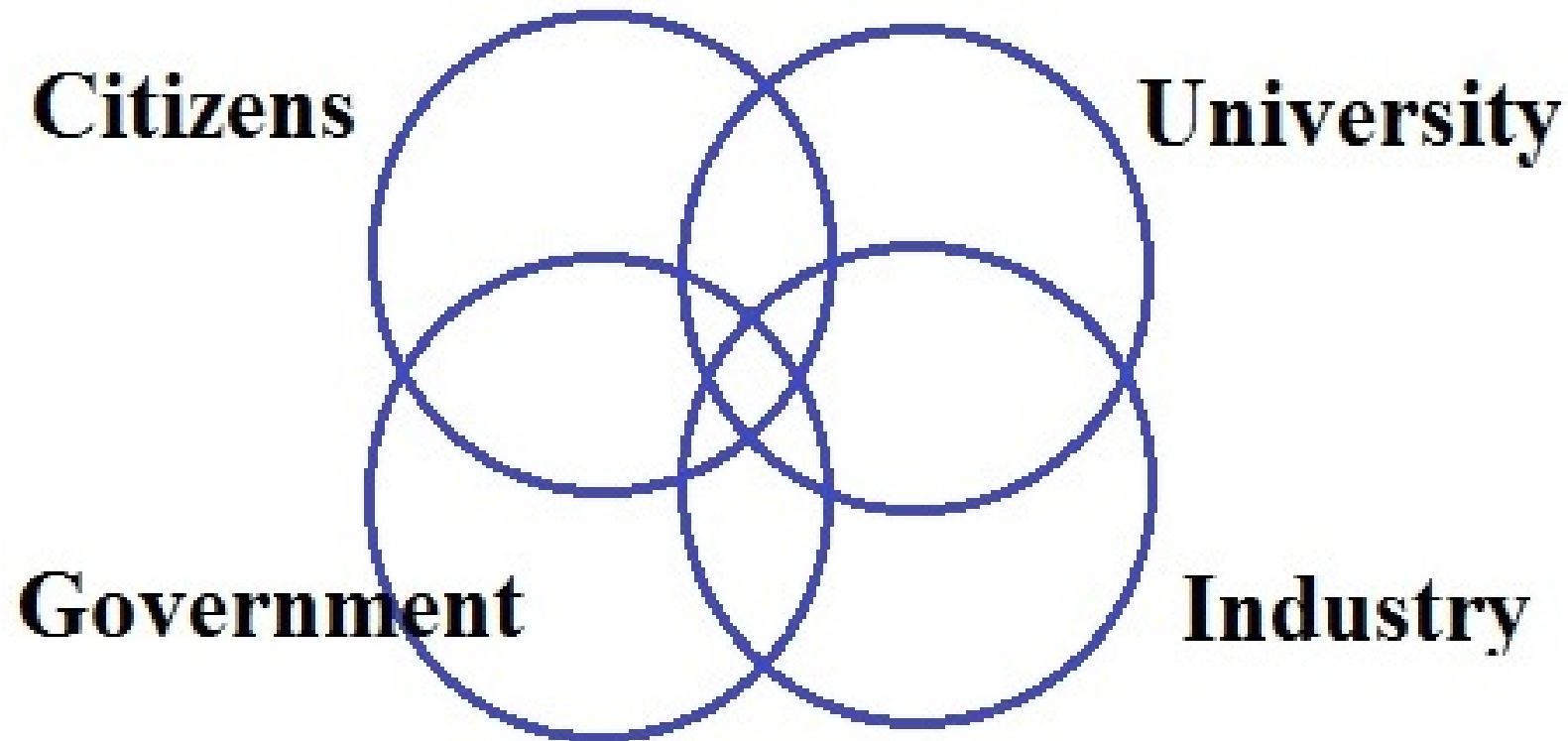


**Visits to Schools and Partner Institutions**



**More than 50 events per year, including night observations!**

# Quadruple Helix Model



## **SCIENCE and EDUCATION:**

### **The Space Education for Bulgaria Project (SpaceEdu4BG)**

**The „Space Education for Bulgaria“ (SpaceEdu4BG) project is funded by the European Space Agency (ESA) in the framework of the Plan for European Cooperating States (PECS), ESA Contract No. 4000133835/21/NL/Cbi with the Sofia University „St. Kl. Ohridski“. The project started in February 2021 and has a duration of 24 months.**



## SCIENCE and EDUCATION:

### The Space Education for Bulgaria Project (SpaceEdu4BG)

**The goal and the scope of the project is to develop nine new university courses about space technology and its practical applications, including syllabi, presentations and lecture notes for each course. The topics of the courses are selected to be in line with ESA's main thematics and strategic vision for space sector development in Bulgaria and the cooperation between Bulgaria and ESA.**



# SCIENCE and EDUCATION: The Space Education for Bulgaria Project (SpaceEdu4BG)

## The SpaceEdu4BG Core Team:

**Vladimir Bozhilov, SU** -- Project Manager, Leader of WP1; Responsible for the overall project management, coordination and project outreach; Co-author of course C1.

**Elisaveta Peneva, SU** -- WP 2 leader, task leader, courses developer; Responsible for WP2 management, author of C2 and co-author of C1 courses development

**Stefan Lalkovski, SU** -- Project support, task leader, course developer; Responsible for project registers maintenance; author of C9 and co-author of C1 courses development

**Rositsa Miteva, Institute for astronomy with NAO Rozhen, BAS** -- Responsible for C8 course development and co-author of C1

**Guergana Guerova, SU** -- task leader, course developer; Responsible for C4 course development (with **Dr. Tzvetan Simeonov**, added as co-author)

**Mario Gachev, Technical Univeristy, Sofia** -- responsible for C6 course development

**Stoil N. Ivanov, SU & SAT-1** -- course developer; Responsible for C3 and C5 courses development, and co-author of C1

**Zdravko Dimitrov, SAT-1** -- course developer; Responsible for C7 course development



# SCIENCE and EDUCATION:

## The Space Education for Bulgaria Project (SpaceEdu4BG)

### The SpaceEdu4BG Courses:

- C1 Introduction to Space and the Space Environment, Target group: B.Sc.**
- C2 Earth Observation, Target group: M.Sc. (suitable for B.Sc. students also)**
- C3 Satellite Mission Design, Target group: B.Sc.**
- C4 GNSS Basics and Applications, Target group: M.Sc.**
- C5 Nanosatellites, Target group: M.Sc.**
- C6 Theory and Practice of Satellite Communications, Target group: M.Sc.**
- C7 Space and Technology Entrepreneurship, Target group: M.Sc. (suitable for BSc. also)**
- C8 Introduction and Modern Concepts in Space Weather Research, Target group: M.Sc. (suitable for B.Sc and early-stage Ph.D. students)**
- C9 Project Management and Risk Assessment in Space Technologies and Applications, Target group: B.Sc.**



## SCIENCE and EDUCATION with ESA: „SpaceEdu4BG“

**The successful implementation of the project will strengthen the theoretical and practical preparation of young professionals for a career in space industry. Furthermore, “SpaceEdu4BG” will further increase the image of the Faculty of Physics at the Sofia University “St. Kl. Ohridski” as the leading place for state-of-the-art education in the field of space research in Bulgaria.**

**The courses are to be implemented in the programmes at the Faculty of Physics in the Academic year 2022/2023. The successful implementation of the project will lead to better synergies in the field of space research and their application in Bulgaria and will strengthen further the cooperation between the Bulgarian scientific community and ESA.**





***THANK YOU!***

