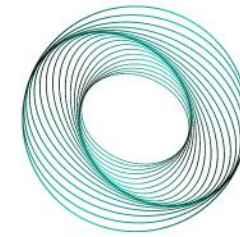




Funded by
the European Union



BioQantSense
Project

NEWSLETTER

Vol.3 - 2025/2026

This project has received funding from the European Union's Horizon WIDERA 2021-ACCESS-03-01 under the Grant agreement ID: 101079355

Welcome to the third edition of the BioQantSense project's **NEWSLETTER**! The BioQantSense project, **Twinning for excellence of the Serbian Research Center for quantum biophotonics**, started on the 1st of October 2022. It is a research project funded by the European Commission under the Horizon Europe Programme of the European Union.

The project is coordinated by the **Institute of Physics Belgrade, Serbia (IPB)** and its partners are:

- 1) Consiglio Nazionale delle Ricerche - Firenze, Italy (**CNR-INO, National Institute of Optics**),
- 2) Friedrich-Schiller University - Jena, Germany (**ABBE Center of Photonics**), and
- 3) Faculty of Biology, University of Belgrade, Serbia (**CLM, The Centre for Laser Microscopy**).



| YEAR 3

2

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3

2

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After **THREE YEARS** of intensive collaboration, pioneering research, and knowledge exchange, we have reached the final chapter of our Twinning project. Our mission was to elevate IPB into a leading regional center of excellence, and today we are proud to share the transformative results of our journey through the world of quantum light and biological systems.

PROJECT JOURNEY

As the BioQantSense project approaches its final phase, we are pleased to share the outstanding results achieved during the three and a half year project. These achievements were made possible by the dedication and collaborative spirit of the entire BioQantSense team, which brought together experts from diverse backgrounds. Their unique contributions and insights opened new perspectives and opportunities that went beyond what we had anticipated at the start of the project.

As a result of the BioQantSense project, the **Laboratory for Quantum Biophotonics (LQB)** was developed as a pivotal research unit within the Institute of Physics (IPB), serving as an important pillar in the strategic development towards becoming a Center of Excellence in quantum photonics' technologies and biophotonics.

The development of the **LQB** is directly aligned with the strategic plan defined by the BioQantSense project (**101079355 — BioQantSense — HORIZON-WIDERA-2021-ACCESS-03**), which aims to strengthen scientific excellence, technological capacities and integration into the European research and innovation landscape.

After 42 months of intensive collaboration, the BioQantSense has officially concluded, leaving a lasting impact on our research community.

KEY HIGHLIGHTS

PROJECT DURATION

42 months of scientific collaboration

TOTAL BUDGET

1.060.605 EUR

NEW RESEARCH ACTIVITIES

2 successfully developed

KNOWLEDGE TRANSFER

28 staff exchanges

SCIENTIFIC EXCELLENCE

7 joint peer-reviewed publications

30 and more, researchers involved in a specialized knowledge exchange

CAPACITY BUILDING

> new Laboratory for
Quantum Biophotonics

FUTURE GROWTH

8 joint proposals submitted
for future EU funding

SCIENTIFIC EXCELLENCE

80 conference presentations

INSTITUTIONAL CAPACITY

> website of the IPB's
Department for Projects
and Cooperation
has been launched

<https://www.ipb.ac.rs/projekti/>



MILESTONES

6

DELIVERABLES

25

CONFERENCE ATTENDINGS

22

YOUTUBE CHANNEL

144 subscribers

6249 views

SOCIAL NETWORK ACCOUNTS

3

Facebook, LinkedIn,
Twitter

NEW RESEARCH ACTIVITES

- 1** Quantum imaging in the near and mid-infrared region via quantum interferometry with entangled photon pairs to deliver label-free, non-invasive visualization of living, transparent biological samples.
- 2** State-of-the-art digital holographic microscopy (DHM) to generate both amplitude and phase 3D images of an object, providing detailed information on intercellular refractive index and cell thickness.

Both quantum and classical imaging systems are integrated with microfluidic and micro-optical Lab-on-a-chip platforms, enabling simultaneous observation of biological samples using both classical and quantum light.



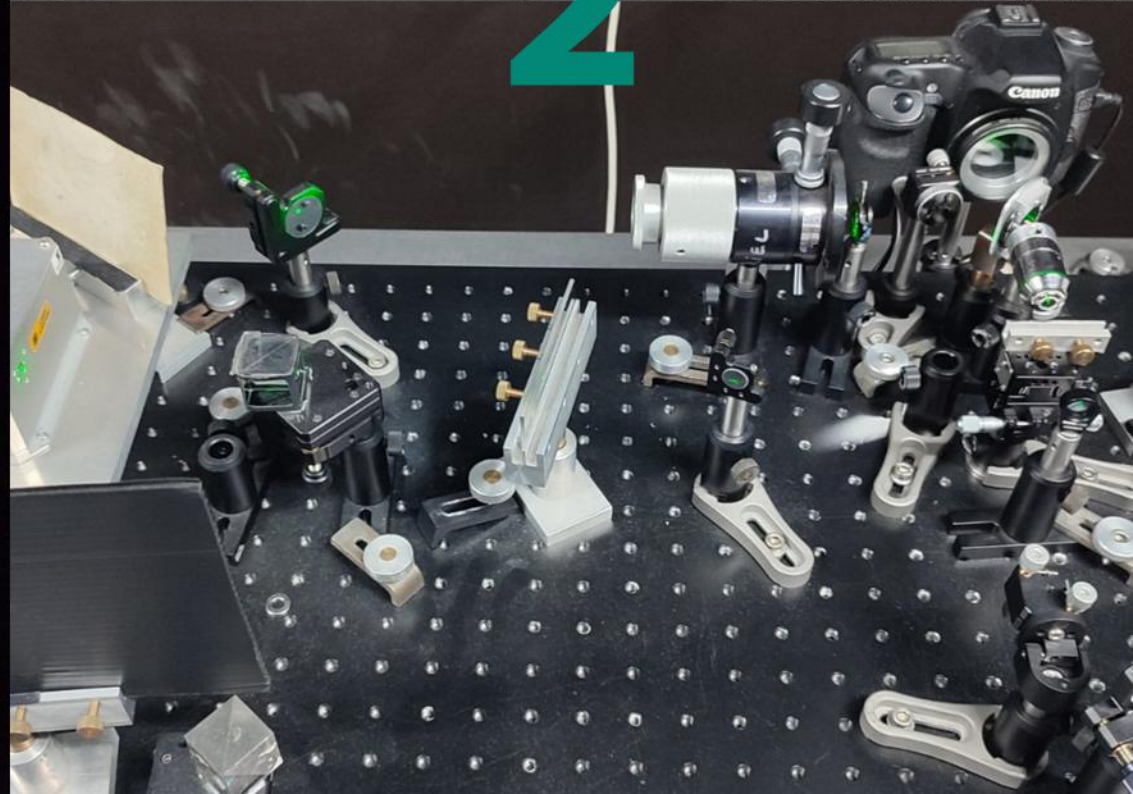
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*holographic
microscopy of
astrocytes*

2



COMMUNICATION AND DISSEMINATION

- The team produced 7 peer-reviewed articles in high-impact journals, covering topics in quantum and classical laser microscopy, photonics and biophotonics.
- Project members actively participated in 22 international conferences and workshops. The team delivered 68 talks (invited, contributed, progress reports) and 12 poster contributions, more than 10 invited seminars and lectures.
- The project organized and delivered 4 dedicated BioQantSense workshops, 1 winter school, and 1 special session.





- The BioQantSense project also organized and delivered 6 interviews with team members.

- More than 50 project meetings.

- More than 80 news items and updates published on the BioQantSense website.

- More than 200 news items and updates published on dedicated social media accounts (Facebook, LinkedIn, Twitter).

- Final project meeting.

ПРОФ. РИКАРДО ЧИКИ

НАЦИОНАЛНИ ИНСТИТУТ ЗА ОПТИКУ, ЕВРОПСКА ЛАБОРАТОРИЈА
ЗА НЕЛИНЕАРНУ СПЕКТРОСКОПИЈУ, ФИРЕНЦА, ИТАЛИЈА
ПРОЈЕКАТ BIOQANTSENSE



ПРОФ. ФРАНЧЕСКО РИБОЛИ

НАЦИОНАЛНИ ИНСТИТУТ ЗА ОПТИКУ, ЕВРОПСКА ЛАБОРАТОРИЈА
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АКАДЕМИК БРАНИСЛАВ ЈЕЛЕНКОВИЋ

ЦЕНТАР ЗА ФОТОНИКУ ИНСТИТУТА ЗА ФИЗИКУ У БЕОГРАДУ
ПРОЈЕКАТ BIOQANTSENSE





SUSTAINABILITY AND FUTURE OUTLOOK

LIFE AFTER THE PROJECT

The established **Laboratory for Quantum Biophotonics** remains fully operational.

OPEN ACCESS

All our project publications, deliverables and training materials are now **available for the global research community** on our website.

NEW PROJECTS

8 new grant applications submitted based on BioQantSense results.

STRATEGIC PARTNERSHIPS

2 leading EU institutions established as long-term strategic partners.

EDUCATIONAL IMPACT

The newly developed curriculum on quantum biophotonics will remain a permanent part of the master's program.

ACADEMIC IMPACT

Upcoming doctoral thesis by PhD student Filip Krajinic, currently being finalized.

Thank you!

We extend our deepest gratitude to our partners, the European Research Executive Agency (REA) for their support, and our dedicated team of researchers and administrative staff who turned this ambitious vision into reality.

Contact Us

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