**EUGLOH Summer School**

Lasers is Medicine and Life Sciences (LAMELIS)

**1st – 5th July 2024**

Organised by University of Szeged (Hungary)

with the participation of invited speakers from partner institutions and the member universities of the EUGLOH alliance:

Université Paris-Saclay (France)

Lund University (Sweden)

Ludwig-Maximilians-Universität München (Germany)

Universidade do Porto (Portugal)

University of Alcalá (Spain)

University of Hamburg (Germany)

University of Novi Sad (Serbia)

The Arctic University of Norway (Norway)

# WHAT CAN YOU LEARN?

Lectures, interactive discussion sessions and teamwork from distinguished experts of the field provide comprehensive overview of the basic theoretical background and practical applications of **lasers in medicine and life sciences**.

Since lasers revolutionised additive manufacturing, state-of the art developments in **3D printing** technologies with a primary focus on application in life sciences are also covered.

Discussion and dissemination the implications of these developments in a broad sense, including industrial, social and legislative perspectives.

**Participating students are trained in-person or by live streaming courses online in different topics related to the development of transversal skills:**

* Basic theory and operation of lasers
* Basics of optics
* Classification of lasers
* Lasers in medical imaging
* Lasers in therapy
* Laser-assisted manufacturing
* Lasers in perspectives:
	+ Economic
	+ Social
	+ Government
	+ Industry
	+ Legislative
* Additive manufacturing, 3D printing

# WHO IS THE TARGET AUDIENCE?

Although the depth of talks is tailored for students in life sciences, the summer school is open to students from all faculties interested in the theoretical background and practical implementation of lasers in life sciences.

Bachelor, master and PhD students from all faculties of the partner universities of the EUGLOH alliance. No special background knowledge is required. School is also open for junior and senior scientists of the participating universities.

# HOW ARE PARTICIPANTS SELECTED?

1. Motivation: as a primary filter, applicants must submit a motivation letter explaining their motivation to apply for the event (maximum 3000 characters), which will be assessed on a 1‑5 scale.

2. Timestamp of application (‘first come, first served’) will be used as a secondary filter to break possible ties between applicants.

# WHAT PEDAGOGICAL METHODS/TOOLS ARE APPLIED?

Lectures and practical sessions (visiting clinical and research facilities) for students participating in-person and online video streaming for students participating online. Interactive communication tools, teamwork.

# HOW IS ATTENDENCE AWARDED?

EUGLOH Certificate and 4 ECTS will be provided for the students participating in-person, and 2 ECTS for students following lectures online.

# WHERE ARE THE LECTURERS FROM?

***University of Szeged and partner institutions:***

* Department of Medical Physics and Informatics, University of Szeged
* Department of Optics and Quantum Electronics, University of Szeged
* Extreme Light Infrastructure - Attosecond Light Pulse Source (ELI-ALPS), Szeged
* HUN-REN Biological Research Centre, Szeged
* National University of Ireland, Galway, IE
* University of Kent, UK
* Friedrich-Schiller-Universität, Jena, DE

***Ludwig-Maximilians-Universität München***

***Lund University***

* Division of Atomic Physics
* Division of Combustion Physics
* Ophthalmology

***The Arctic University of Norway, Tromsø***

***University of Alcalá***

***University of Hamburg***

***University of Novi Sad***

***University of Porto***

***Université Paris-Saclay***

* FABLAB UPSACLAY

# WHERE CAN YOU GET INFORMATION?

*General information:* eugloh@rekt.szte.hu

*Academic programme:*

*Prof. Ferenc Peták*, Department of Medical Physics and Informatics, University of Szeged (EUGLOH, academic leader of Work Package for Research and Innovation), *petak.ferenc@med.u-szeged.hu*

*Prof. Ferenc Bari*, Department of Medical Physics and Informatics, University of Szeged (LAMELIS, lead organiser), *bari.ferenc@med.u-szeged.hu*

*Administrative support:* Eszter Sasi-Pokriva, *sasi-pokriva.eszter@med.u-szeged.hu*

# Registration

Online registration: <https://modulo.etr.u-szeged.hu/Modulo2/default/hu/invitation/index/11080211?azon=d5221167-d80b-4f6a-9182-b918b30a4ae6>