



Subcommittee on Photonics Life Engineering

Leadership organization: Osaka University

• Representative: Katsumasa FUJITA (Osaka Univ.)

• Leader: Satoshi FUJITA (AIST)







Subcommittee on Photonics Life Engineering



Organization

Primary area: Health care

Secondary area: Photonics Biotechnology

Subcommittee name: Photonics Life Engineering

Themes: We will focus on interdisciplinary research centered on photonics technologies that enable measurement, analysis, processing, and modeling over a wide dynamic range from molecules and proteins to cells and biological tissues. By creating technological innovations in bioimaging, molecular and cellular analysis, and bioprinting, we will create a bio-community center and promote research aimed at the creation and social implementation of fundamental technologies for next-generation medicine, therapy, drug discovery, public health, and health care.

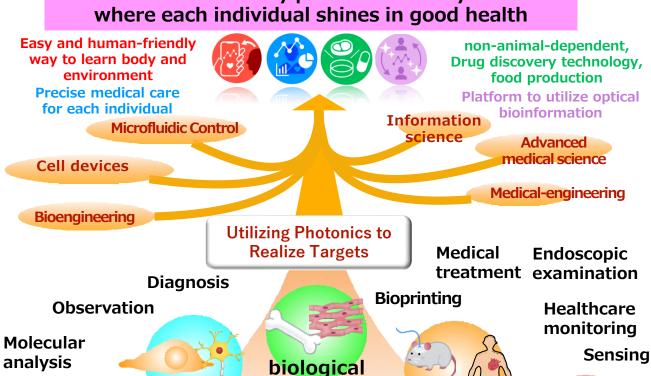
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Vision and Research Targets

A life-friendly photonics society





Cells

Science and technology of light-matter interaction. The strength of this technology is that it is gentle to living organisms and has superior sensitivity and dynamic range.

tissues

Photonics

Environment







Collaboration with JST/COI-NEXT



The Photonics Hub for Life and Biomedical Engineering (JST/COI-NEXT)

R&D Themes

Multimodal measurement and imaging for biological information

Compact, lowcost diagnostic and testing devices

Biological tissue devices for cellular response measurement

Fabrication of functionally controlled artificial organs **Bioanalysis and** diagnostics based on bioinformation analysis

Practical application of research results and human resource development





Katsumasa FUJITA Hidenori NAGAI



Osaka Univ.



AIST



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Osaka Univ.



Osaka Univ.



Keiko FUKUDA Osaka Univ.

The Photonics Hub for Life and Biomedical Engineering

A center where people gather to make photonics technology and creativity.

AIST

Aiming to realize a safe and secure society through photonics technology

Purpose of the subcommittee = collaboration with other BiocK community members

- •Technology/IP information sharing and technology transfer to BiocK members
- -> Toward social implementation of medical devices utilizing photonics!
- ·Collaboration with subcommittees that support entrepreneurship
- -> Venture capital investment
- ·Research/technical collaboration with other research subcommittees
- -> New research collaborations

Kick-off Symposium (2022.8.5) Supported by BiocK



https://www.link-j.org/member_event/post-4693.html



Greetings from President Nishio, **Osaka University**



General explanation by PL Fujita



Panel Discussion







Network Activities



Regular PhotoLIFE workshops for member companies

- 17th PhotoLIFE Workshop March 2, 2022
- 18th PhotoLIFE Workshop June 6, 2022
- 19th PhotoLIFE Workshop September 5, 2022
- ✓ Regular workshops for consortium members, mainly 17 companies
- ✓ Bridge technology to companies
- ✓ Joint research with companies

 ⇒ To social implementation
- ✓ Combination strategy of OPEN innovation and CLOSED innovation





Collaboration with NCVC

✓ Visited Dr. Naoki Mochizuki, Director General of the National Cardiovascular Center, and exchanged opinions about research collaboration.





Director General, Mochizuki







