

ONLINE END USER WORKSHOP

A multimodal system for better diagnosis of breast cancer - the SOLUS system

December 3, 2021 - 14:00 - 18:00 CET

New, highly sensitive and specific tools are needed to better diagnose breast cancer and prevent unnecessary invasive procedures.

The EU-funded project SOLUS (Smart Optical and Ultrasound Diagnostics for Breast Cancer) aims at improving the diagnosis of breast cancer through an innovative multimodal imaging system with the ability to differentiate between benign and malignant lesions non-invasively. To achieve that, SOLUS combines ultrasound imaging with diffuse optical tomography, and assessing tissue morphology, stiffness, composition and blood parameters at the same time.

The development of the novel SOLUS system required significant advances in photonics; we've developed a Smart Optode as the key element of the imaging system, but also available a stand-alone device for time-domain multi-wavelength diffuse optics, with potential applications in medical and non-medical fields.

The SOLUS End User Workshop is open to everyone who is interested in breast cancer diagnostics, medical imaging and photonics.

The workshop will present the project achievements, discussing advances in photonics, the newly developed smart optode and the multimodal SOLUS system for better breast cancer diagnostics.

The smart optode's potential as an independent photonics device will also be discussed.

A detailed programme is available on the next page.

EVENT DETAILS

Date: December 3, 2021

Time: 14:00 - 18:00 CET / 8:00 - 12:00 EST

Location: Online workshop

Registration: free

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FREE OF CHARGE**



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TOPICS AND PROGRAMME

The SOLUS system for multimodal imaging: Development and initial results

- 14:00: **Overview of the SOLUS project** – Paola Taroni, Politecnico di Milano
- 14:15: **Advances in photonic technology** – Alberto Tosi, Politecnico di Milano
- 14:30: **The Smart Optode** – Simone Tisa, MPD
- 14:40: **The multimodal imaging system** – Mathieu Perriollat, CEA-LETI
- 14:50: **Data analysis for diffuse optical tomography** – Simon Arridge, University College London
- 15:00: **Protocols and phantoms for performance assessment** – Alberto Dalla Mora, Politecnico di Milano
- 15:10: **Breast imaging in clinics** – Pietro Panizza, Ospedale San Raffaele
- 15:20: **Initial outcomes of the clinical validation** – Pietro Panizza, Ospedale San Raffaele
- 15:30: **Demonstration of the SOLUS system**
- 15:40: **Breast cancer management and diffuse optics** – Moderated by Eva M. Fallenberg (Technical University Munich), Pietro Panizza, Rubina M. Trimboli (Humanitas Scientific Hospital, Milan), Paola Taroni

The Smart Optode: Potential applications

- 16:40: **Functional Near Infrared Spectroscopy** – Alessandro Torricelli (Politecnico di Milano)
- 16:50: **Investigation of adipose tissue for preventive purposes** – Antonio Pifferi (Politecnico di Milano)
- 17:00: **Characterization of wood for industrial applications** – Cosimo D'Andrea (Politecnico di Milano)
- 17:10: **PIONIRS: Exploiting the smart optode for brain monitoring** – Mauro Buttafava (Pionirs)
- 17:20: **BioPixS: Phantoms for standardization and performance assessment in Biophotonics** – Sanathana Konugolu (BioPixS)
- 17:30: **Closing**



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