CONCISE
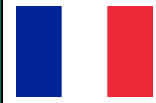COmputatioNal Imaging as a training network for Smart biomedical dEvices

DC 4: Development and characterisation of a clinically-compatible real-time multispectral endoscopic fluorescence imaging system.

Project Description: With a strong track record of clinical translation at IRCAD, the optimised endoscopic imaging prototypes will be tested during preclinical trials to validate their performance in real surgical situations. In particular, we will perform perfusion experiments, such as colon resection and anastomosis, as well as sentinel lymph node mapping in the lung. The results from these procedures will be compared to state-of-the-art clinical systems used today in surgery for fluorescence imaging.

Expected Results: Investigation of novel spatially-resolved multispectral imaging acquisition & processing methods for advanced (real-time & quantitative) fluorescence imaging. Design and fabrication of a clinical-compatible endoscopic platform integrating advanced fluorescence. Performance assessment and validation of the system with dedicated diffused and fluorescent phantoms. Work will be performed jointly with DC5 and DC11.

Requirements

- **Surgeon or Resident in General or Digestive Surgery**
- Ability to work both independently and in a team.
- Previous research experiences are positively evaluated.
- English fluency* (Both written and oral). English fluency can be demonstrated by providing evidence of any of the following: TOEFL (CBT) – >= 210; TOEFL (iBT) – >= 78; TOEFL (PBT) – >= 547; TOEFL (ITP®) – >= 543; TOEIC – >= 720; IELTS – >= 6; Trinity College London – >= ISE II.

Exceptions for native speakers and applicants having completed a prior cycle of studies in English apply. Click here to learn more about your specific requirements!

Host Insititution: IRCAD (Strasbourg, France)
Supervisor: Dr. Michele Diana

Estimated gross allowance: 35.000 €/year

PhD awarding institution: IRCAD

Secondment 1	Secondment 2	Secondment 3
Partner: INTUITIVE	Partner: UCL	Partner: POLIMI
Supervisor: Prof. Sylvain Gioux	Supervisor: Prof Simon Arridge	Supervisor: Prof. Cosimo D'Andrea

Planned Starting Date: 01/09/2023   **Application Deadline:** 15/05/2023

Contact: michele.diana@ircad.fr

Funded by the European Union

Engineering and Physical Sciences Research Council