SEMINAR ANNOUNCEMENT

"Increasing tissue specificity in optical 3D imaging of samples through multispectral measurements"

Prof. Jorge Ripoll

Monday, April 14, 2025, 12:00 – 13:30
A.Pagiatakis Room, FORTH Main Building, 1st Floor

Abstract

During the past decade there have been significant improvements in the way we obtain 3D images from whole specimens and tissue samples. These have been based not only on technical and hardware advances but also on different clearing techniques. This talk covers these advances and proposes an approach to include multispectral measurements to improve tissue specificity, for those cases where specific fluorescent markers are not possible to implement. The results apply to both in-vivo and ex-vivo, so long as the tissues are sufficiently transparent.

Short CV Jorge Ripoll

Prof. Jorge Ripoll holds a PhD in Physics from the Autonomous University of Madrid (UAM), awarded in 2000. He has completed pre- and post-doctoral research stays at several prestigious institutions, including the University of Pennsylvania (USA), the Joint Research Centre (Italy), University College London (UK), the Foundation for Research and Technology-Hellas (Greece), and Harvard University (USA). In 2002, he was a Fellow in Radiology at Harvard and subsequently served as a Visiting Fellow at Massachusetts General Hospital – Harvard (2002–2007). He held a tenure-track position at FORTH from 2005 to 2008 and was appointed as a tenured research professor there from 2008 to 2012. He has also served as a Visiting Professor at ETH Zurich (2010–2011) and the University of Fribourg, Switzerland (2012). Since 2011, he has been affiliated with the Department of Bioengineering at the University Carlos III of Madrid (UC3M), initially as an adjunct professor and, since September 2012, as a Visiting Professor. Co-founder of the European Society for Molecular Imaging (ESMI) and a former member of its Executive Committee. Recipient of the Chinese Academy of Sciences Fellowship for Young International Scientists (2011–2012) and the UC3M's Young Investigator Excellence Award (2016). Principal investigator in eight European-funded projects, received a Marie Curie Reintegration Grant, and is currently involved in the FET project **SENSITIVE** under the H2020 framework. He has supervised eight doctoral theses, the most recent of which were completed at UC3M. Author of over 120 peer-reviewed journal articles, has given more than 40 invited talks in academic centers and over 35 invited talks at international conferences. Prof. Ripoll is also the author of the book *"Principles of Diffuse Light Propagation"*, published by World Scientific Press (2012). He is the inventor of 13 patents and has served as a consultant for companies such as PerkinElmer (2010–2012, 2016–present), Visen Medical (2003–2010), Scanco (2004), and Genex Tech (2002). In 2013, he co-founded 4D-Nature Imaging Consulting S.L., a company specializing in in-vivo optical imaging technologies.