Keynote Speech 2

Time: Thursday, 28 October 2021 14:55-15:45 (Tehran)

Title: Optical micro sensors and micromanipulation: fabrication and applications in single cell analysis.

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Abstract: The combination of optical tweezers with advanced signal processing is a potential enabler of single cell diagnostics. In particular, its combination with optical fiber technology allows for a new set of versatile sensing tools. A brief overview of recent developments in single cell manipulation and analysis using optical fiber devices will be given, including design, fabrication and application in single cell diagnostic and sensing.

Pedro A. S. Jorge graduated in Applied Physics (Optics and Lasers) at the Univ. of Minho (1996), MSc in Optoelectronics and Lasers at the Physics Department of University of Porto (2000); in 2006 concluded his PhD program at University of Porto in collaboration with the Dept. of Physics and Optical Sciences at the Univ. of Charlotte, North Carolina, USA, with work in luminescence based optical fiber systems for biochemical sensing applications using luminescent nanoparticles. Since 1997 Pedro Jorge has been involved in several research and technology transfer projects related to optical fibre sensing technology, developing new sensing configurations and interrogation techniques for optical sensors. Pedro Jorge is a Senior researcher at INESC TEC where he leads the Biochemical Sensors team exploring the potential of optical fibre and integrated optics technologies in industrial, environmental and medical applications coordinating several projects in these areas. He has more than 200 publications in the fields of sensors in national and international conferences and peer reviewed journals, author of 3 book chapters and also holds one patent. Pedro Jorge is a member of SPIE.