BIO-CV Frédéric Zamkotsian, LAM

Dr. Frederic Zamkotsian is a CNRS Research Director at Laboratoire d'Astrophysique de Marseille (LAM, Aix-Marseille University, CNRS, CNES). He received the Ph.D. degree in Physics in 1993 from the University of Marseille (France). Since then, he worked in the field of opto-electronics and semiconductor physics for optical telecommunication in France and in Japan. In 1998, he joined LAM where he developed the conception and the characterization of new Micro-Opto-Electro-Mechanical Systems (MOEMS) as well as innovative MOEMS-based instruments for ground-based and space telescopes. His current interests are in programmable slits for application in multi-object spectroscopy (JWST, European networks, Euclid, BATMAN), deformable mirrors for adaptive optics, and programmable gratings for spectral tailoring. He is the Principal Investigator of BATMAN, a spectro-imager to be installed in 2021 on the 4m-class TNG telescope (French-Italian consortium), and in 2023 on the 8m-class telescope Gemini-South behind the Multi-Conjugate Adaptive Optics system, GeMS. He has initiated several studies in MOEMS, like the project MIRA, a European micro-mirror array, with EPFL and CSEM (Switzerland). He is leading many studies for space agencies (ESA, CNES) on new instrumentation in space for Universe and Earth Observation, as well as European FP7 program (next generation components like CGH, etc) and H2020 program (OPTICON) devoted to astronomical instrumentation. He has published over 200 papers and international conference proceedings, as well as 3 book chapters. He supervised seven PhD students since 2002: A. Liotard (2005) on MOEMS characterization bench development, S. Waldis (2010) and M. Canonica (2012) in collaboration with EPFL (Switzerland) on MIRA design, realization and characterization, D. Nguyen (2017) and N. Trinh Nguyen (scheduled 2020) in collaboration with FEMTO-ST in Besancon (France) for multi-scale multi-physics MOEMS design software development, R. Alata (2017) on new generation of Computer Generated Hologram using MOEMS-masking techniques, and M. Vachey (scheduled 2020) on the design of next generation compact spectro-imagers for Universe and Earth Observation.