Curriculum vitae

Luca Tartara

Luca Tartara was born in Broni (PV) on April 6, 1974. He received his laurea degree with honors in Electronics from the Faculty of Engineering, Università degli Studi di Pavia in 1999 defending a thesis about frequency conversion of light pulses in a waveguide. He was then called up to the Presidency of the Council of the Ministers and worked in the group in charge of the organization of the main events of the Holy Jubilee of the Year 2000. Afterwards he joined back Università degli Studi di Pavia to pursue a PhD in Electronics and Computer Engineering. His PhD thesis dealt with the experimental investigation of the propagation of ultrashort pulses in conventional and microstructured optical fibers. Particularly he demonstrated a novel technique for the measurement of the nonlinear coefficient of telecom fibers and provided some of the first observations and descriptions of the solitonlike dynamics leading to the generation of new spectral components and supercontinuum radiation ultimately. During his PhD studies he also spent study periods at Spectra Physics Lasers, Mountain View, U.S.A., and at the Laser Research Center at the University of Vilnius, Lithuania, in order to acquire expertise in the development of ultrashort lasers. After receiving his PhD he got a grant from the Abdus Salam International Centre for Theoretical Physics, Trieste, and joined the Indian Institute of Technology in Kharagpur to set-up a novel picosecond laser system to be subsequently employed for the investigation of material and devices for photonics. In 2005 he was appointed to Assistant Professor with the Department of Electronics, now Department of Electrical, Computer and Biomedical Engineering at Università degli Studi di Pavia, where he is now an Associate Professor of Physics. He is in charge of Femtolab, a research laboratory established by the former National Institute for the Physics of Matter and equipped with several parametric and laser sources delivering pulses with durations ranging from the femtosecond to the picosecond scale and wavelengths from ultraviolet to infrared. His scientific activity spreads over several fields of ultrafast nonlinear optics and laser physics, from the generation and characterization of ultrashort pulses to the investigation of their properties and applications in light-matter interaction. Particularly he has demonstrated new lay-outs for laser systems delivering broadly-tunable pulses with high spectral quality and also at several wavelengths simultaneously, which have been then employed in his research activity. To this aim he also contributed to the development of novel techniques for the characterization of ultrashort pulses capable to retrieve the full spatio-temporal amplitude and phase profile. He then applied such tools to the investigation of the nonlinear propagation of optical radiation in bulk media and in waveguiding structures in several regimes. He has lately focused his interest on nonlinear optical microscopy. He holds an international patent in such an area and is now collaborating with a company for the development of an instrument exploiting the claims of the patent. His research activity has been performed in the framework of national and international projects, for one of which he has acted as a local coordinator, leading to cooperations with scientists from several universities, research centers and private companies as well. The results obtained have led to more than eighty papers on peer-reviewed journals and international conferences, several of them being invited contributions, and a book chapter. Moreover he has been a member of the scientific committee of international conferences, is a member of the editorial board of The Scientific World Scientific Journal, and regularly acts as a referee for the most important journals in his field. He was co-director of 2012 STELLA (School for Training in Experiments with Lasers and Laser Applications), an advanced summer school in laser physics and engineering. At Università degli Studi di Pavia he is also a member of the technical-scientific committee of MADE (Centre for Advanced Materials and Devices), formerly CILSOMAF (Interdepartmental Centre for Lasers, Optical Spectroscopy and Photonic Materials). His teaching activity has developed mostly in courses of physics for first-year students at the Faculty of

Engineering. Particularly he has been teaching since 2006 the classes of “Principle of Physics” for the laurea degree in Architecture and Building Engineering. Since the academic year 2012/13 he has also been teaching “Nonlinear Optics” to students attending the first year of the master degree in Electronics Engineering. He has also acted several times as a supervisor for graduating students. Finally he has been a member of the organizing committee of “Laserfest - Un'idea brillante” and “Ondivaghiamo”, events devoted to scientific divulgation having drawn thousands of visitors.