

Brief résumé of Manuel Filipe P. C. M. Costa

Prof. Manuel Filipe Pereira da Cunha Martins Costa
Universidade do Minho, Portugal



Manuel F. M. Costa holds a PhD degree in Science (Physics) from the University of Minho (Portugal) where he works since 1985 at its Physics Department teaching and performing applied research in optical metrology, image processing, thin films nanostructures and applications, solar energy, optometric instrumentation and science education and literacy. He is President of the Ibero-American Optics Network, RIAO, for the term 2019-2022 President of the Hands-on Science Network, HSCI; Deputy Chair of the Scientific Advisory Board of the European Optical Society; President of the Portuguese Society for Optics and Photonics, SPOF; and, President of the Portuguese Territorial Committee of the International Commission for Optics, ICO. He is a Fellow of European Optical Society since 2013.

Manuel Filipe Costa holds a PhD degree in Science (Physics) from the University of Minho (Portugal) working since 1985 at its Physics Department teaching and performing in applied research in optical metrology, image processing, optometry and optometric instrumentation, material sciences, optical coatings and nanomaterials production and characterization, as well as in optics, physics and science and S&T education, particularly: optical dimensional metrology including the development of optical microtopographers based on active triangulation, optical based non-destructive evaluation methods and tools for nanomaterials and surface coatings, thin films production and characterization for optical applications and thermal and corrosion barriers, image processing, skin cancer optical diagnosis, optometry, optical instrumentation and sensors, solar energy, solgel' diffraction gratings, and on pedagogical aspects of undergraduate teaching of physics and optometry, as well as on science education and literacy. He presented over three hundred fifty invited, oral or poster communications at international meetings and published around the same number of scientific papers, monographs and books. He is author of the international patent WO 2006/011065-A1. He has been the editor of twenty-seven books and proceedings books. He is member of the editorial board International Journal of the Spanish Optics Society, OPA (ISSN 2171-8814), of the Intercultural Communications Journal (ISSN 1512-4363) and of the SAGE Open Journal (ISSN: 2158-2440) and was member of the editorial board of the "International Journal on Environment and Health Online (Umwelt und Gesundheit Online)" and editor-in-chief of the International Journal on Hands-on Science (ISSN 1646-8937). He has been or is external evaluator for ESF, Alban, INTAS, and EC' FP7 and H2020 programs among others. Serves or served as referee for over fifty international journals in optics, physics, metrology, sensors, environment and education. He is or has been the coordinator of a large number of pedagogic projects on in-school hands-on learning of science and educational robotics, and developed educational kits in optics, fiber optics, electromagnetism and biomechanics. His teaching duties included the responsibility of over twenty undergraduate and master classes on Optics and Optometry, and several other in different other topics of Physics and Science Education. Abroad he delivered lectures at universities of Spain, Greece, Czech Republic, Turkey, Brazil, Slovakia, Tunisia and Morocco and in international training courses on optics, renewable energies and sustainable development and educational robotics in Portugal, Spain, France, Turkey, Slovakia, Romania, Greece and Austria. He is or has been supervisor of over twenty master and PhD students as well as mentor of several undergraduate students including Erasmus students from Spain, Turkey and China. He is actively committed to the improvement of optics education but also of science and technology in general. Generalization of scientific literacy in all levels of our society is another major topic of intervention. Every year he delivers a large number of motivational informal talks and seminars for school students and teachers. He organized and performed countless outreach activities. Organized and acted as chairperson of twenty-four international conferences, five major international workshops, four international Summer Schools in the field of Optics and Photonics and Optometry and Visual Sciences, as well as of over thirty European (Socrates/LLL/Comenius/ERASMUS+) teacher training courses (referenced at the good practice examples book of the European Commission ISBN 978-92-79-07769-2, 2008). He organized several national and international science fairs, contests and many other outreach activities in Portugal and abroad. He projected implemented and organized the educational laboratories of Fiber Optics, Image Acquisition and Processing, Geometrical Optics and Signal Processing of the Physics Department of the University of Minho, as well as the research laboratory on Microtopography. Since 1986 he acted as member of scientific steering program or local organization committees of a large number of national or international conferences and was session chair in many international conferences. Coordinated globally or at national level several European cooperation projects (FP7, Tempus, Socrates, LLL and Erasmus+) and bilateral cooperation projects and institutional agreements with institutions from Argentina, Austria, Australia, Brazil, Georgia, Greece, India, Spain, Turkey, Ukraine and USA. He is or has been the responsible for seven research projects and member of the research teams of over twenty other projects. He has been member of the European IST Network "Phantoms. Network of Excellence in nanotechnologies" (IST-2000-26021); national delegate for Portugal to the board of the EU' Actions COST P7 and COST IE 0601; and member of the board of Network of Youth Excellence, NYEX. He is President of the Ibero-American Optics Network, RIAO, for the term 2019-2022. He is President of the Board and founder of the Portuguese Society for the Development and Research in Optics and Photonics, SPOF (www.optica.pt), President and founder of the International Association "Hands-on Science Network" (www.hsci.info). He is Deputy Chair of the Scientific Advisory Committee of the European Optical Society, EOS. He was member of the Board of Stakeholders of the PHOTONICS'21 association from 2014 to 2018. He is member of the Board of the Ibero-American Optics Network, RIAO, since 2010. He is president of the Portuguese Territorial Committee of the International Commission for Optics (elected in 2011 and re-elected to serve until 2020). He is Fellow of the European Optical Society, EOS, and Senior member of the International Society of Optical Engineering, SPIE. Expresses himself fluently in Portuguese, English and Spanish, with ease in French, and fairly in Italian. He was the only among all staff of the School of Science of the University of Minho to be evaluated "Excellent" at all of the ten consecutive years (2008-2017 evaluation period) so far concluded of the Performance Assessment (RAD-ECUM) of the teaching staff of the School of Sciences of the University of Minho.