

Dr. Paulo José da Silva Tavares

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Paulo Tavares graduated in Physics in 1989 at the Sciences Faculty of Porto's University. He joined Texas Instruments (TI), Portugal in 1989, where he worked for ten years, first as a Failure Analysis Engineer and then as Failure Analysis Laboratory Supervisor. During that period, he took an MSc in Lasers and Optoelectronics at the Sciences Faculty of Porto's University. He also worked in TI Dallas, TX, and Freising, Germany for extended periods. After TI shut the Porto operation, he started a private technical consulting business, Prudente & Tavares consulting Ltd. where he still holds a management, nonremunerable position. He joined the doctoral programme in Mechanical Engineering of the Engineering Faculty of Porto's University, having worked in Three Dimensional Image Acquisition with active methods. His thesis was approved unanimously with distinction in 2010. He published 28 articles in international journals with peer review which have been cited over 147 times up to the present and he made 14 oral communications in international conferences. He is currently an h7 researcher according to international standards (c.f. Scopus or ResearcherID). He started the SPIE Iberia chapter - Society for Photo-optical and Instrumentation Engineers. He is also a founding member and serves on the board of the Portuguese Optics and Photonics Society - SPOF. Dr. Tavares is a nongovernmental expert (CnGE) with the European Defence Agency.

From 2002 to 2010 he taught several subjects in the Institute of Advanced Studies in Finance and Tax, IESF. He was invited to the board of the institute in 2008 as Vice-President and made President of the Board in 2010. He quit the Institute and joined a research team in Crack Propagation and Structural Health Monitoring at the Optics and Experimental Mechanics Laboratory (LOME) of the INEGI in 2012 where he is currently working as researcher.

Dr. Tavares co-supervised the activity of research MSc or PhD students in the frame of project 'LightTrain' of the EFRD program, concerning the design of new concepts for bus vehicles under-frame, in Mechanical Eng., on the development of a Photon Doppler Velocimetry detector for high speed plastic deformation monitoring and in Mechanical Eng., on the development of a dedicated image sensor for monitoring and accurate measurement of deformations in high speed rotation objects such as engine fan blades. He has been appointed as coordinator of the Structural Health Monitoring division of LOME.

Dr. Tavares is also involved in the pursuit of a hybrid experimental/numerical method for accurate determination of the Stress Intensity Factor in fatigue crack growth with Digital Image Correlation and Thermo-elastic Stress Analysis, which is intended to expedite the evaluation of fatigue cracks in field work. He also developed and optimized a dedicated illumination device for crack growth measurement with a vision system, which is pending patent, and the vision system software itself.

Dr. Tavares organized the first Iberia conference for Optics Researchers in 2004 and has been co-chair of the conference of the International Journal of Structural Integrity, IJSI, the International Conference on Structural Analysis of Advanced Materials, ICSAAM2015, and the International Conferences on Structural Integrity – ICSI2015 and ICSI2017. He is an active member in SPIE, ESIS, SPOF, EOS and SPIEF technical societies.

In view of his attributions as head of the SHM division of LOME, he is also actively involved in the development of a substantial set of partnerships to address a program that will study and monitor civil structures, specifically in railway and airport support structures.