



Pierre Blanche

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BIO

Dr. Blanche received his Ph.D. in physics from the University of Liege (Belgium) in 1999 in the field of non-linear optics and holography. He then held a post-doctoral position at the University of Arizona where he developed new refreshable holographic recording materials called photorefractive polymers. Back in Belgium, Dr. Blanche co-founded a company manufacturing large volume phase gratings for the optics industry, astronomers, and space applications. Dr. Blanche returned to the University of Arizona in 2005 where he is currently a Research Professor. Dr. Blanche has more than 70 publications in high ranking scientific journals, has participated to more than 60 international conferences, is author of 12 books or book chapters, and has been granted 9 patents (3 pending). His fields of interest are diffraction optics, holography, 3D and see through displays (AR/HUD), as well as non-linear and photonic materials. Dr Blanche is a Fellow of Optica (formerly OSA) and life member of SPIE.

Texas Instruments Phase Light Modulator for Holography

ABSTRACT

The newly developed Texas Instruments Phase Light Modulator (PLM) is a micro electro mechanical system (MEMS) composed of an array of micro-mirrors that move up and down by a fraction of a wavelength. Such a phase array is particularly well adapted to diffract incident light for holography applications. These include lidar beam steering, but also holographic 3D display, and augmented reality projection. In this seminar, Dr. Blanche will describe the latest research from his group that covers machine learning computer generated holograms, curved holographic waveguide combiner, and the status of holographic 3D display using the Texas Instruments PLM.