

Master Lectures on Photonics Integration

“Photonic Instrumentation in a Nutshell”

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IEEE Life Fellow, OSA Emeritus Fellow

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Sponsorship:

Heterogeneously-integrated Silicon Photonic Integration Center, (HiSiPIC)
Ministry of Education

Abstract: In this talk, we provide an overview of Photonic Instrumentation considering in particular the milestones of development of those instruments that have been very successful from both the scientific and industrial point of views. These are: telemeters for topography and geodesy and LiDARs for the automotive, interferometers for mechanical measurements and scientific experiments, civil engineering testing and OCTs for biomedical diagnostics, laser Doppler velocimeters for fluid measurements, gyroscopes for inertial navigation and consumer, and particle size analyzers for industrial titration.



SILVANO DONATI has been Full Professor of Optoelectronics of University of Pavia (Italy) from 1980 to 2012 at the Department of Electronics and is now Emeritus Professor. He started lecturing courses at University of Pavia in 1971 and became Full Professor in 1980. Since then he leads the Section of Optoelectronics active on photodetector and noise, electro-optical instrumentation, and optical fiber communications.

Author of two books: ‘Photodetectors’ 2nd ed. Wiley 2021, and ‘Photonic Instrumentation’, 2nd ed. CRC 2023, this last translated in Chinese (Jiao Tong

University Press, 2006) and also available as paperback, India edition, and e-book (2008).

He has taught for over twenty years courses in Electronic Circuit Design, Electronics Materials and Technology, Photodetector Devices, Electrooptical Instrumentation and Optical Fiber Communications in the curriculum of Electronics Engineering of the Italian Master degree in EE.

He authored or co-authored 350+ publications on peer-reviewed Journals and Conference Proceedings, 6 book chapters and was the Editor of 12 Conference Proceedings he has chaired. His seminal papers have received 8500+ citations and his H factor is 44.

He is the recipient of "Marconi" gold medal, two "Siemens" gold medal, the IEEE PS Distinguished Service Award, and the A.Kressel Award of IEEE for semiconductor lasers. He is Life Fellow of the IEEE, and Emeritus Fellow of OSA.