

Giuseppe Martini

On 1977 he received the Laurea degree in Nuclear Engineering from Politecnico di Milano. Since then he is working at the Electronics Department – University of Pavia, since 1981 as Research Assistant. From 1993 until 1998 Visiting professor of "Electronic Instrumentation and Measurements" at the Engineering Faculty of the University of Bergamo. Professor of "Electronics I" (Undergraduate) and "Noise in Circuit and Systems" (Graduate) at the Engineering Faculty of the University of Pavia. He started his research activity in optoelectronics, studying the statistical properties of laser generated speckle pattern and their application to metrological instrumentation. He has been active also in the field of optical sensors (fiber optical gyro), optical sensor components and optoelectronic instrumentation. At present his main research activities are in the field of microelectronics, electro-optical instrumentation and sensors, noise in circuits and systems. He is presently actively involved in research concerning electronic noise, noise analysis of electronic components, electronic circuits and systems, true-random number generation. He was involved into the EC FP6 project MEGAFRAME, being in charge of the optical concentrators for the SPAD-based high speed focal plane array. In the 2000 Expert Evaluator for the FP5 program GROWTH (Competitive and Sustainable Growth) of the European Commission. He is "Tutor" for the "Piano Componentistica Avanzata – Cluster14" of the Italian Ministry of University and Research (MiUR). Expert Evaluator of the Italian Ministry of Economic Development (MiSE), for the evaluation of industrial innovation proposal. Expert Evaluator of Tuscany Region, for the evaluation of industrial innovation proposal. Senior Member of IEEE (Institute of Electrical and Electronics Engineers) and Member of OSA (Optical Society of America).

Author of more than 70 paper on peer-reviewed journals and conference proceedings

#### Recent papers 2012-17

- 1) Martini, G.; Randone E.; Donati, S.; "Very Low Frequency Self-Mixing Laser Diode Vibrometer," IEEE SENSORS 2012 Proceedings, pp.254-257, October 28-31, 2012, Taipei, Taiwan, ISBN: 9781457717659, IEEE Catalog Number: CFP12SEN-USB, IEEE, Piscataway, NJ USA (2012)
- 2) Donati, S.; Martini, G.; Tambosso, T.; "Speckle Pattern Errors in Self-Mixing Interferometry," Quantum Electronics, IEEE Journal of; Vol.49, no.9, pp.798-806, September 2013, DOI 10.1109/JQE.2013.2276894
- 3) Martini, G.; Randone E.; Donati, S.; "SELF-MIXING LASER DIODE VIBROMETER FOR VERY LOW FREQUENCY APPLICATIONS," The 21th annual International Conference on Advanced Laser Technologies ALT'13 Book of Abstracts, p.144, presentation LS-O-8, 16-20 Sept, 2013, Budva, Montenegro
- 4) Donati, S.; Martini, G.; "Systematic and random errors in self-mixing measurements: effect of the developing speckle statistics", Appl. Opt. 53, 4873-4880 (2014)
- 5) Martini, G.; Donati, S.; Tambosso, T., "Ultimate error sources in self-mixing interferometry," SENSORS, 2014 IEEE , vol., no., pp.771,774, 2-5 Nov. 2014 doi: 10.1109/ICSENS.2014.6985113
- 6) S.Donati, V. Annovazzi Lodi, G.Martini: "Optical transmitter for fiber optic communications" European patent, No. PCT/EP2015/062427 filed June2, 2015.
- 7) G. Martini; F. G. Bruno; "True Random Numbers Generation from Stationary Stochastic Processes", Proceedings of the 24th International Conference on Noise and Fluctuations ICNF 2017, Vilnius, Lithuania, June 20-23, 2017, paper C1.2
- 8) Donati, S.; Martini, G.; "In-Cavity Phase Modulator for Integrated DQPSK Transmitters": DOI 10.1109/LPT.2017.2721937, IEEE Photonics Technology Letters, in Press, 2017