

Curriculum Vitae of Lucio Claudio Andreani

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Lucio Claudio ANDREANI (date of birth: 15-07-1962) obtained the degree in Physics in 1985 at the University and Scuola Normale Superiore, Pisa, and the PhD in Physics in 1989 at the Scuola Normale Superiore. Until 1992 he was a post-doc at the Institut Romand de Recherche Numérique en Physique des Matériaux (IRRMA) of the Ecole Polytechnique Fédérale de Lausanne. Since the academic year 1992/1993 he is researcher, since 1998/1999 associate professor, since 2006/2007 full professor at the University of Pavia. In 2006-2007 he has been the coordinator of Doctorate in Physics at the University of Pavia. Since 1/11/2007 and until 29/02/2012 he has been Director of the Department of Physics “A. Volta” of the University of Pavia, now merged into the Physics Department: <http://fisica.unipv.it> Since February 2014 he is again coordinator of the Doctorate in Physics at the University of Pavia.

His research interests span several areas in condensed matter physics, including electronic and photonic nanostructures (electronic states and radiation-matter interaction in semiconductor heterostructures, excitons and polaritons in microcavities, photonic crystals) and strong correlations (Kondo systems). His most significant works concern binding energies and the radiative recombination of excitons in quantum wells, radiation-matter interaction and polariton states in semiconductor microcavities, and more recently the theory of photonic crystal waveguides and of intrinsic and disorder-induced losses in these systems. His theoretical research is characterized by a close relation with experiments, as shown by the numerous works in collaboration with Italian and foreign experimental groups. Since about 2000 his research activity is largely focused on nanophotonics, especially photonic crystals, concerning both the theory and the interpretation of optical experiments performed in Pavia and in other laboratories. More recently, this research evolved into activities related to photovoltaics, silicon photonics, and plasmonics. A full list of publications is available on the Department web site: <http://fisica.unipv.it/personale/Persona.php?ID=17>

Information on the group activities and on current research lines is on the web page: <http://fisica.unipv.it/nanophotonics>

Lucio Andreani has been scientific manager of several projects concerning Si- and III-V-based photonic crystals. The main themes are related to the control of light emission and propagation, as well as nonlinear optics and photovoltaic conversion, in photonic structures of various dimensionalities. His current projects concern nanophotonics, silicon photonics, and metasurfaces. He is strongly committed to performing and promoting applied research and technological transfer towards research centers and industries. He is responsible of research contracts with ST Microelectronics (light emission in silicon) and with ENI (development of photovoltaic cells based on fluorescent concentrators and photonic crystals). Lucio Andreani is author/coauthor of more than 245 scientific papers in international journals or books and of a few patents, gave several invited talks at national and international conferences, and is member of committee or co-organizers of international conferences (SPIE Photonics Europe, CLEO, OSA meetings).

A list of projects under the direct responsibility of Lucio Andreani is:

MIUR PRIN 2017 NOnlinear photonics with METal-less Nanoantennas and metasurfaces (NOMEN). Involved units: Brescia, PoliMI, CNR-LNESS Como, Pavia. Responsible of Pavia Unit. Status: running. See <https://sites.google.com/a/unibs.it/nomen/>

Ricerca sul Sistema Energetico – RSE S.p.A. research contract 2016-2018 “Optimization and characterization of nanostructured antireflection coatings”. Responsible for the contract. Status: Completed.

EU FP7 STREP project 2011-2015 FABULOUS - "FDMA Access By Using Low-cost Optical Network Units in Silicon Photonics". Responsible for UNIPV-Physics. Status: completed. See <http://www.fabulous-project.eu/>

EU FP7 Marie Curie ITN Network 2011-2014 PROPHET - "Postgraduate Research in Photonics as an Enabling Technology". Large EU ITN network: responsible for UNIPV. Status: Completed. See <http://www.prophet-itn.eu/>

ENI S.p.A. research contract 2011-2014 "Photonics for photovoltaic systems based on fluorescent concentrators". Responsible for the contract. Status: completed.

Fondazione Cariplo 2010-2013 "Nanophotonics for thin-film photovoltaics"
Responsible of the project. Status: Completed.

ENI S.p.A. research contract 2009-2011 "Photonic crystals for photovoltaic cells".
Responsible for the contract. Status: Completed.

Fondazione Banca del Monte di Lombardia 2010-2011 "Laboratorio per il Fotovoltaico"
Responsible for the project. Status: Completed.

MIUR-FAR project 2007-2011 “Silicon laser” (legge 297/99)
Units: ST Microelectronics, Catania, Firenze, Cagliari, Pavia. Responsible for UNIPV.
Status: completed. Waiting for payment ☺

Fondazione Cariplo 2007-2010 "Manipulation of light on nanometric scales for photonic and plasmonic applications".
Responsible for the project. Status: Completed.

ST Microelectronics research contract 2007 "Silicon laser".
Responsible for the contract. Status: Completed.

Fondazione Cariplo 2005-2007 "All-optical switching in photonic crystals: towards the optical transistor"
Responsible for the project. Status: completed.

MIUR Cofin 2004-2006 "Silicon-based photonic crystals for the control of light propagation and emission"
Involved units: Pavia, Trento, Torino, Trieste, Firenze. Project coordinator. Status: completed.

MIUR Cofin 2002-2004 "Silicon-based photonic crystals: technology, optical properties and theory"

Involved units: Pavia, Trento, Torino, Trieste, Firenze. Project coordinator. Status: completed.

INFM PRA 2002-2005 "GaAs-based photonic crystals: fabrication, optical properties and theory"

Involved units: Pavia, Trieste, Lecce, Firenze. Project coordinator. Status: completed.

INFM PAIS 2001 "Fabrication and optical characterization of two-dimensional photonic crystals"

Involved units: Trieste, Lecce, Pavia. Project coordinator. Status: completed.

MIUR Cofin 2000-2002 "One- and two-dimensional photonic crystals: growth, theory and optical properties". Involved units: Pavia and Trento. Project coordinator. Status: completed.

Bibliometric data – Scopus, 20-12-2020: 346 total cited papers, 9570 total citations, 18 papers with > 100 citations, H-factor=49