

## FRANCESCO QUOCHI

### BIBLIOMETRIC INDICATORS (Google Scholar)

Number of publications >150

Number of citations >4000

h-index 33

i10-index 67

Book Chapters 5

Inventor of 1 patents (US 6,795,617 B2) with Bell Laboratories, Lucent Technologies, Inc.

### EXPERTISE

Optical spectroscopy of semiconductors, solid-state and molecular materials for photonics, optoelectronics and sensing.

Ultrafast optical spectroscopy techniques: transient sub-ps absorption, picosecond photoluminescence and photoluminescence upconversion.

Nonlinear optics: two-photon absorption, optical Kerr effect, self-phase modulation and four-wave mixing.

Phenomenological modeling of optical, photonic, and photophysical processes in semiconductors, solid-state and molecular materials.

### AWARDS AND RECOGNITIONS

2017 National Scientific Habilitation (ASN) to full professorship in SC 02/B1.

2015 Premialità Regione Sardegna 2013. Prize for scientific suitability of PRIN 2012 national research project submitted as Principal Investigator.

2000 Swiss National Science Foundation prospective researcher fellowship.

### PROJECTS

-POR-FESR Sardegna 2014-2020, Project “Piano Strategico Sulcis” (2018/2019). Title: Plasmonic Luminescent Sensors for Detection of Heavy Metals in Water”. Duration: 15 months. Role: Principal Investigator.

-Progetti biennali di Ateneo FdS/RAS 2018, Università degli Studi di Cagliari. Title: Innovative Nanosized Systems Bearing Supramolecular Functions: Recognition and Sensing. Duration: 48 months. Role: participant.

POR-FESR Sardegna 2014-2020, Azioni Cluster Top-Down 2017. Title: New Electro-optic Methods of in-Situ Detection of Heavy Metals. Project scientifically suitable for financing. Role: Principal Investigator.

-Progetti biennali di Ateneo FdS/RAS 2016, Università degli Studi di Cagliari. Title: Innovative Molecular Functional Materials for Environmental and Biomedical Applications. Duration: 48 months. Role: Participant.

-Intervento Innova.RE 2014, Università degli Studi di Cagliari. Title: Optical Sensors Based on Plasmonic Nanostructures for Heavy-Metal Detection in Aqueous Solutions. Project scientifically suitable for financing. Role: Principal Investigator.

-Bando PRIN 2012. Title: Plasmonics for efficient near-infrared emitting nanocomposites based on lanthanide complexes. Project scientifically suitable for financing. Role: Principal Investigator.

-Programma Visiting Professor (VP), second call 2011/2012, Università degli Studi di Cagliari. Title: Time-Resolved Spectroscopy of Organic Nanofibers Grown by Organic-Organic Hetero-Epitaxy. VP: C.P. Simbrunner (Johannes Kepler University Linz). Duration: 3 months. Role: Principal Investigator.

-Regione Autonoma della Sardegna - Promozione della Ricerca Scientifica e dell’Innovazione Tecnologica in Sardegna 2010. Title: Eco-friendly Nanomaterials for Next-Generation Solid-State Solar Cells. Duration: 36 months. Role: Participant.

-Regione Autonoma della Sardegna - Promozione della Ricerca Scientifica e dell’Innovazione Tecnologica in Sardegna 2009. Titolo: Near-Infrared-Emitting Lanthanide Complexes: Study of Structure/Property relationships for Molecular Photonics. Duration: 24 months. Role: Participant.

-Regione Autonoma della Sardegna - Promozione della Ricerca Scientifica e dell’Innovazione Tecnologica in Sardegna 2008. Title: Design of Hybrid Organic-Inorganic Nanomaterials for Photovoltaics. Duration: 24 months. Role: Participant.

-Ministero Affari Esteri. Programma Esecutivo di Collaborazione Scientifica & Tecnologica Italia/Austria 2004. Title: Blue organic lasers. Duration: 24 months. Role: Participant.

-Bando FIRB 2003. Title: Synthesis of novel organic materials and supramolecular architectures for high efficiency optoelectronic and photonics systems. Duration: 36 months. Role: Participant.  
-Programma Operativo Nazionale (PON) 2003. Title: Laboratory of Optical Spectroscopy, Transport Properties and Magnetism of Materials under Extreme Pressures. Duration: 24 months. Role: Participant.  
-Programma Operativo Nazionale (PON) 2003. Title: Interdisciplinary Microscopy Laboratory: Electronic, Optical, Compositional and Structural Properties of Natural and Synthetic Materials. Duration: 24 months. Role: Participant.

## EDUCATION

1999 PhD in Physical Sciences, Department of Physics, Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland.  
1994 Master's Degree in Physics, full marks (110/110) cum laude, Università degli Studi di Pisa, Italy.  
1989 High School Degree, full marks (60/60), Liceo Scientifico "E. Fermi", Cecina (LI), Italy.

## WORK EXPERIENCE

2010-present Researcher and Associate Professor SC 02/B1, SSD FIS/01, Dipartimento di Fisica, Università degli Studi di Cagliari. Research Fields: Photophysics Organic and Hybrid Materials for Optoelectronics, Photovoltaics and Environmental Monitoring.  
2003-2010 Research Contractor (Assegnista di Ricerca), SSD FIS/01, Dipartimento di Fisica, Università degli Studi di Cagliari. Research field: Ultrafast Optical Spectroscopy of New Optoelectronic Materials.  
2000-2002 Research Consultant, Advanced Photonics Research Department, Bell Laboratories, Lucent Technologies, Holmdel NJ, USA. Research field: Ultrafast Optical Spectroscopy of Semiconductor Nanostructures and Microcavities for Surface-Emitting Vertical-Cavity Lasers (VCSELs). Nonlinear Optical Spectroscopy of Semiconductors for Optical Communications.  
1995-1999 Research Assistant, Institute for Photonics and Quantum electronics, Swiss Federal Institute of Technology Lausanne (EPFL). Research field: Coherent Ultrafast Spectroscopy of Semiconductor Nanostructures and Microcavities.

## SUPERVISION OF STUDENTS AND TEACHING ACTIVITIES

Supervision of 2 postdocs, 3PhD students, ca. 20 bachelor's and master's students  
2016-present Experimental Physics II, Electricity and Optics, for physicists  
2013-2016 Experimental Physics I, Mechanics and Thermodynamics, for physicists  
2013-2014 Optical Spectroscopy for physicists  
2006-2013 General Physics I, Mechanics and Thermodynamics, for engineering students  
2006-2012 General Physics II, Electromagnetism, for engineering students

## ORGANIZATION ACTIVITIES AND COMMISSIONS OF TRUST

2019-present Member of the Editorial Board of Electronics (ISSN 2079-9292), published by MDPI.  
2016 Member of the Scientific Committee of the Topical Meeting "Organic & Hybrid Semiconductor Materials and Devices (TOM7)", EOSAM 2016.  
2013-2019 Reviewer for Italian Ministry of Education, University and Research (MIUR), macrosector ERC PE3.  
2009 Member of the Organization Committee of "IV Convegno Nazionale sui Materiali Molecolari Avanzati per Fotonica ed Elettronica", Arbatx, Italy.  
2009-2019 Member of the PhD evaluation committee of the "Research Training Programme: Functional Materials and Nanotechnology" University of Southern Denmark (SDU), Sønderborg, DK.  
2008-present External Evaluator of Open Technology Programme projects, Technology Foundation - STW, The Netherlands.  
2006 Member of the Organization Committee of "III Convegno Nazionale sui Materiali Molecolari Avanzati per Fotonica ed Elettronica", Arbatx, Italy.  
2003-present Reviewer for scientific journals: Physical Review B - Physical Review Letters (APS), Applied Physics Letters (AIP); Journal of American Chemical Society - Inorganic Chemistry - ACS Photonics - Crystal Growth & Design - Journal of Physical Chemistry B (ACS); Applied Physics A (Springer); Journal of Optics (IOP); Nanomaterials (MDPI); European Physical Journal (EPJ); Organic Electronics (Elsevier); Advanced Materials - Advanced Functional Materials - Advanced Optical Materials - Angewandte Chemie (Wiley).

## NATIONAL AND INTERNATIONAL PRESENTATIONS

Participation to ca. 50 national and international conferences and schools with mostly oral presentations.

## SELECTED INVITED TALKS

2019 Minisymposium “NANO: From Technology to Innovation”, South Danish University, Sønderborg, Denmark.

2013 Dipartimento di Fisica, Università di Pavia, Italy.

2012 International Workshop on Green Photonics at NAIST (National Institute for Science and Technology), Nara, Japan.

2006 Short Course – Advances in Optical Technologies for Environment and Industry – Programma Interreg. Medocc. – Réseau Optique Méditerranéen, University of Cagliari, Italy.

2005 Workshop on “Organic Nanofibers for New Technologies”, South Danish University, Odense, Denmark.

1999 INFMeeting 1999, Catania, Italy.

1998 Scuola Normale Superiore, Pisa, Italy.

1998 Workshop on Optical Properties of Microcavities, SISSA, Trieste.