

Curriculum Vitae

Matteo Galli

Personal Data

Data of birth: 23 September 1968
Place of birth: Como (CO)
Citizenship: Italian
Residence: Via Cardano 79, 27100 Pavia (PV)

Actual position: Full Professor - 02/B1, SSD FIS01

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Summary

Matteo Galli obtained the PhD in physics at the University of Pavia in 2000, then he spent one year at the Technische Universität of Vienna, with a research prize of the European Science Foundation (ESF). From 2000 to 2003 he has been a research associate at the Physics Department of the University of Pavia, and from 2003 to 2006 a research associate at the National Institute of Matter Physics INFM. From 2006 to 2015 he has been Assistant Professor in experimental physics (SSD FIS/01) at the University of Pavia. Since 2016 he is Associate Professor in condensed matter physics (SSD FIS/03) at the University of Pavia.

The research interests of MG include several topics in condensed matter physics, spectroscopy, nano-photonics and integrated quantum photonics. His earlier relevant works concerned the study of the optical and electronic transport in heavy fermion and intermediate valence systems under high hydrostatic pressure, high magnetic fields and low temperature. His most recent relevant works, instead, are focused on the study of radiation-matter interaction in photonic nanostructures, with particular attention to nonlinear and quantum optical properties of integrated devices based on photonic crystals, waveguides, nanocavities and micro-ring resonators for applications in photonics, telecommunications, solar cells, bio-sensing and quantum information.

The research activity of MG is carried on in the framework of several national and international projects, in collaboration with a number of highly recognized Research Groups worldwide. His experimental work is conducted in close connection with theoretical colleagues, yielding a thorough and deep understanding of both fundamental and applicative aspects of his research. His experimental work is characterized by the development of innovative experimental techniques, specifically designed and applied to the study of photonic nanostructures. In particular, MG proposed and developed a new method for the measurement of guided modes and photonic bands in two-dimensional photonic crystal slabs, by means of angle-resolved attenuated total micro-reflectance. He developed and patented a technique for the measurement of phase and refractive index dispersion in transparent materials by means of white-light Fourier transform micro-spectroscopy. He also proposed and implemented a new method for the measurement of the intrinsic quality factor and the resonant frequency of confined modes in photonic crystal nanocavities, by means of resonant scattering of light.

The research of MG develops essentially along two main closely related lines: classical photonics and integrated quantum photonics. The most relevant achievements by MG in the field of **classical photonics** are focused on light confinement and emission in high-Q photonics crystal cavities and light transport in strongly scattering disordered materials. These includes, among others: the demonstration of optical Fano effect in photonic crystal cavities; the realization of a silicon-based electrically-driven

integrated light-emitter based on high-Q photonic crystal cavities, showing a record emission efficiency; the design and demonstration of a ultra-high Q silicon photonic crystal cavity, showing a second world-record quality factor of 2 millions; the first demonstration of second-and third-harmonic generation in a silicon photonic crystal cavity at ultra-low continuous wave pump power; the first experimental realization of efficient second-harmonic generation in a doubly-resonant photonic crystal cavity based on a bound state in the continuum; the demonstration of a plasmonic nano-antenna for the simultaneous collection of topographic and Raman images with a few nanometers resolution and a few molecules sensitivity; The first experimental demonstration and theoretical interpretation of the Raman coherent backscattering effect;

In the field of **integrated quantum photonics**, the main contributions of MG are related to the development of nonclassical light sources and devices for applications in light-based quantum technologies, such as quantum cryptography, quantum key distribution, and quantum computing. Relevant achievements in this field include: the first demonstration of a micrometer-scale integrated silicon source of time-energy entangled photons, based on resonantly enhanced four-wave-mixing in a micro-ring resonator (*Optica* **2**, 88-94, (2015)); the first demonstration of an integrated source of spectrally filtered correlated photons for large-scale quantum photonic systems (*Physical Review X* **4**, 041047 (2014)); the experimental demonstration of a novel universal tool for quantum state characterization by stimulated emission tomography (*Scientific Reports volume* **6**, 23564 (2016)); the first demonstration of an electrically driven source of time-energy entangled photons based on a self-pumped silicon micro-ring resonator (*Optics Letters* **45**, 2768-2771 (2020)); the first demonstration of Spontaneous four-wave mixing in an array of silicon microresonators (*Physical Review Applied* **18** (3), 034007); the first demonstration of programmable frequency-bin quantum states in a nano-engineered silicon device (*Nature Communications* **14** (1), 176; *Physical Review Applied* **19** (6), 064026).

Currently, the research activity of MG is carried on at the Physics Department of the University of Pavia, where he is responsible for the **Quantum Photonics Laboratory**, created in 2018 in the framework of the MIUR Project "Dipartimenti di Eccellenza", with a total budget of almost **2M Euro** assigned to research in quantum photonics. The Laboratory is now fully equipped with state-of-the-art instruments and set-up for advanced experiments in integrated nonlinear and quantum photonics, spanning from the visible to near infrared spectral range. To guarantee full access to cutting-edge integrated photonics technology, which is essential for generating competitive research and developing breaking through ideas, the Laboratory established a strong collaboration with world leading nanofabrication centres and International microelectronics/photonics industries, such as the Laboratoire d'électronique des technologies de l'information (CEA-Leti) and ST Microelectronics.

MG published more than 140 articles in international peer-reviewed journals, and presented his work at more than 60 invited or contributed talks in international conferences or at important Research Centres. MG is a referee for several high-impact journals, such as *Nature Nanotechnology*, *Nature Materials*, *Light Science and Applications*, *Optica*, *APL Photonics*, *Physical Review (A,B)*, *Applied Physics Letters*, *Optics Letters*, *Optics Express*.

MG has been the supervisor of **19 Master thesis** for the Degree in Physics; he has been supervisor of **15 PhD students** and **5 post-doc fellows** in classical and quantum photonics.

Bibliometric Indices

Publications: 251 (142 Peer-reviewed articles, 109 Conference papers, 5 Book Chapters)

Total citations: 6260 (Scopus), 8063 (Google Scholar)

Average citations/publication (articles): 44 (Scopus), 57 (Google Scholar)

H-index: 38 (Scopus), 46 (Google Scholar)

Professional Career

Since 2016 - Associate Professor of Condensed Matter Physics, 02/B1 – FIS03, Physics Department – University of Pavia.

2014 – Italian Certification for tenured Full Professorship of Condensed Matter Physics, 02/B1 – FIS03.

2013 – Italian Certification for tenured Associate Professorship of Condensed Matter Physics, 02/B1 – FIS03.

2006 - 2016: Tenured Researcher, Physics Department – University of Pavia.

2003 - 2006: Research Associate (3 years), National Institute for the Physics of Matter - INFM, UdR Pavia.

2000 - 2003: Research Associate (3 years), Physics Department – University of Pavia

1999 - 2000: Post-doc fellow, Technische Universität of Vienna.

1996 - 2000: PhD in Physics, with a thesis on “*Transport and Optical Experiments Under Pressure on Strongly Correlated Electron Systems*”. Supervisor: Prof. Franco Marabelli.

1996 - 1997: Research activity at the Technische Universität of Vienna, as a PhD student in Physics of the University of Pavia

1995 - 1996: Military service

1994 - 1995: Research activity on “optical properties of electronic systems with a reduced magnetic moment”, Physics Department – University of Pavia.

1994: Master-degree in Physics at the University of Pavia, with a thesis on “Optical and electrical properties of *YbCu₄M* compound as a function of *Yb-4f* hybridization”. Supervisor: Prof. Franco Marabelli.

Fellowships

- **2003:** Appointment as a Researcher of the National Institute for the Physics of Matter INFM.
- **2000:** Research Grant on “Optical properties of photonic crystals”, Physics Department – University of Pavia
- **2000:** Research Prize of the European Science Foundation ESF, for research on “*Fermi-Liquid instabilities in Correlated Metals*”.
- **2000:** Fellowship of the National Institute for the Physics of Matter INFM, Technische Universität of Vienna
- **1999:** Fellowship of the National Institute for the Physics of Matter INFM, Physics Department – University of Pavia
- **1999:** Fellowship of the foundation “Angelo della Riccia”, Technische Universität of Vienna

Invited talks at National and International Conferences

1. Nonclassical light sources for silicon photonics, **Invited talk**, *Italian National Conference on the Physics of Matter FISMAT* 2019, 30 September – 04 October 2019, Catania, Italy.
2. Demonstration of optical frequency combs in photonic crystal cavities, **Invited talk**, *International Conference on Transparent Optical Networks ICTON* 2019, 9-13 July 2019, Anger, France.

3. Nonclassical light sources for silicon photonics, **Invited talk**, *Conference on Lasers and Electro-Optics (CLEO)*, 15 -18 May 2018, San Jose, CA, USA.
4. High-Q/V photonic crystal cavities realized by an effective Aubry-André-Harper bichromatic potential, **Invited talk**, *International Conference on Transparent Optical Networks ICTON 2017*, 2-6-July 2017, Girona, Spain.
5. High-resolution measurement of energy correlations of photon pairs generated in silicon ring resonators, **Invited talk**, *International Conference on Transparent Optical Networks ICTON 2015*, 5-9 July 2015, Budapest, Hungary.
6. Nonlinear and quantum optics in silicon microring resonators, **Invited talk**, *Progress in Photonics 2015*, 16 October 2015, Florence, Italy.
7. Generation of time-energy entangled photons on a silicon chip
Invited talk, *International Conference on Transparent Optical Networks ICTON 2014*, 6-10 July, 2014, Graz, Austria.
8. Surface Enhanced Raman Scattering and Photoluminescence through Bloch Surface Waves in Dielectric Multilayers.
Invited talk, *International Conference on Transparent Optical Networks ICTON 2013*, 23-27 June 2013, Cartagena, Spain.
9. Classical and quantum nonlinear optics in silicon-based microcavities
Invited talk, *Photonics North 2013*, 3-5 June 2013, Ottawa, Canada.
10. Enhancing optical functionalities of silicon with photonic crystal nanocavities
Invited talk, *Frontiers in Optics/Laser Science FIO/LS 2012*, 14-16 October 2012, Rochester, USA.
11. Linear and nonlinear optics in silicon photonic crystal nanocavities
Invited talk, *2012 Workshop on Fundamentals and Applications of Photonic Crystals*, May 30 June 1, 2012, Ottawa, Canada.
12. Light generation in silicon photonic crystal cavities
Invited talk, *IEEE International Conference on Group IV Photonics GFP*, 14-16 September 2011, London, UK.
13. Low-power continuous-wave generation of second- and third-harmonic light in silicon photonic crystal nanocavities
Invited talk, *Conference on Lasers and Electro-Optics (CLEO)*, Baltimore, MD, May 01-06, 2011.
14. Nonlinear optics in silicon photonic crystal nanocavities
Invited talk, *13° Convegno Nazionale delle Tecnologie Fotoniche 2011*, 9-11 May 2011, Genova, Italy.
15. Control of light-matter coupling in silicon photonic crystal cavities
Invited talk, *Réunions Plénières Interférences d'Ondes*, 2 – 4 November 2009, Paris (France) .
16. Exciton polaritons in two-dimensional photonic crystals
Invited talk, *XCV Congresso Nazionale della Società Italiana di Fisica*, 28 September - 3 October 2009, Bari.
17. k-space spectroscopy of photonic crystal slabs
Invited talk, *International Conference on Transparent Optical Networks ICTON 2008*, 23-26 June, Atene (Greece).

18. Photonic mode spectroscopy of silicon photonic crystal slabs
Invited talk, E-MRS 2008, 26-29 Maggio 2008, Strasbourg, (France).
19. Spettroscopia ottica di nanostrutture a cristallo fotonico
Invited talk, XCI Congresso Nazionale della Società Italiana di Fisica, 26 Settembre – 1 Ottobre 2005, Catania (Italy).

Invited Seminars at Universities and Research Centers

1. "Optical Properties of Photonic Crystal Structures based on Silicon", MATIS IMM-CNR *University of Catania, July 2004.*
2. "Optical Properties of Silicon-based Photonic Crystals", *Californian NanoSystems Institute, University of Santa Barbara, USA, February 2004*
3. "Enhanced Er³⁺ emission in silicon-on-insulator photonic crystal waveguides", *ETH Zuerich, Switzerland, November 2006*
4. "Enhancement of light emission in Silicon Photonic Crystal slabs", *Institut Néel, Grenoble, France, July 2008*
5. "Light emission in silicon photonic crystal cavities", *School of Physics and Astronomy, University of St. Andrews, United Kingdom, July 2011*
6. "Linear and nonlinear optics in silicon photonic crystal cavities", *Centre for Quantum Photonics, University of Bristol, United Kingdom. July 2011*
7. "Linear and nonlinear optics in silicon photonic crystal cavities", *Institute for Microstructural Sciences, National Research Council of Canada, Ottawa, Canada, May 2012*
8. "Silicon photonic crystal cavities: physics and applications", *7th Optoelectronics and Photonics Winter School, Trento, March 2013.*
9. "Silicon nanostructures for classical and quantum photonics" *Istituto Nazionale di Ricerca Metrologica INRIM, Torino, April 2017.*

Contributed talks at National and International Conferences

1. Photon Pair generation in integrated silicon microcavities, Talk, *Single Photon Devices – The Italian perspective, Roma, April 21, 2017*
2. Demonstration of a silicon ultra-high-Q photonic crystal cavity based on an effective bichromatic confinement potential, Talk, *International Conference on Photonic and Electromagnetic Crystal Structures PECS IIX, 17-21 July 2016, York, UK*
3. Continuous-wave harmonic generation in silicon photonic crystal nanocavities, Talk, *International Conference on Photonic and Electromagnetic Crystal Structures PECS IX, 26-30 September 2010, Granada, Spain*
4. Continuous-wave harmonic generation in silicon photonic crystal nanocavities, Talk, *European Semiconductor Laser Workshop 2010, 24-25 September 2010, Pavia, Italy*

5. Increase of light emission from Erbium in silicon photonic crystal nanocavities, Talk, *SPIE Photonics Europe 2010, 12-16 April 2010, Brussels, Belgium*
6. Silicon photonic crystal cavities with far-field optimization for high coupling efficiency and quality factor, Talk, *European Material Research Society E-MRS meeting 2010, June 7 - 11, 2010, Strasbourg, France*
7. Experimental evidence of light localization in disordered photonic crystal waveguides
Talk, *New Frontiers in Micro and Nano Photonics, 23-26 April 2008, Firenze (Italy)*
8. Enhanced light emission in active silicon-on-insulator photonic crystal slabs and slot waveguides
Talk, *International Conference on Photonic and Electromagnetic Crystal Structures PECS VII, 8-11 April 2007, Monterey CA (USA).*
9. Enhanced 1.54 μm emission in active silicon-on-insulator photonic crystal slabs
Talk, *European Optical Society Meeting, 16-19 October 2006, Paris (France).*
10. Enhanced Er³⁺ emission in silicon-on-insulator photonic crystal waveguides
Talk, *E-MRS 2006, 29 May – 2 June 2006, Nice (France).*
11. Dispersion of Defect Modes in Silicon Photonic Crystal Slabs Measured by Attenuated Total Reflectance, Talk, *International Conference on Photonic and Electromagnetic Crystal Structures PECS VI, 19-24 June 2005, Heraklio (Greece).*
12. Dispersion of Guided Modes in Silicon-On-Insulator Photonic Crystal Slabs Measured by Attenuated Total Reflectance, Talk, *Photonic West 2005, 24-27 February, San Jose (CA), (USA).*
13. Optical Spectroscopy of Silicon-On-Insulator Waveguide Photonic Crystals
Talk, *MRS Spring Meeting 2004, 12-16 April 2004, S. Francisco (USA).*
14. Measurement of Radiative and Guided Modes in Silicon-On-Insulator Photonic Crystal Slabs, Talk, *International Conference on Transparent Optical Networks ICTON 2004, 4-8 Luglio, Wroclaw (Poland).*
15. Measurement of Radiative and Guided Modes in Silicon-On-Insulator Photonic Crystal Slabs
Talk, *INFM Meeting 2004, 8-10 Giugno 2004, Genova (Italy).*
16. Optical properties and photonic bands of si-based photonic crystals
Talk, *CLEO Europe – EQEC 2003, June 22-27, 2003; Munich (Germany).*
17. Optical spectroscopy and interferometric studies on Si-based photonic crystals
Talk, *MRS Fall Meeting 2002, 2 - 6 December 2002, Boston (USA).*
18. Second harmonic optical studies of GaAs/AlGaAs photonic crystal waveguides
Talk, *MRS Fall Meeting 2002, 2 - 6 December 2002, Boston (USA).*
19. Si-based Photonic Crystals: Optical Spectroscopy and Interferometric Studies
Talk, *INFM Meeting 2002, 24-28 Giugno 2002, Bari (Italy).*
20. Variable angle reflectance of 2D macroporous silicon photonic crystals
Talk, *INFM Meeting, National Conference on Physics of Matter, 18 - 22 June 2001, Roma (Italy).*
21. Electronic Structure and Magnetic Properties of URhSi
Talk, *7th Joint MMM-Intermag Conference, January 6-9, 1998, San Francisco CA (USA).*

Patents

1. **Matteo Galli** and Franco Marabelli, "*Method for the refractive index determination by white-light interferometry*"; **Patent n. MI2003A000763, deposited 11/04/2003.**

Patent in the field of spectroscopy and photonics. The patent consists in an experimental method for determining the refractive index, over a very wide spectral range from the visible to the mid infrared (0.4 μm - 5 μm wavelength), in non-absorbing optical materials. The method is based on a white-light Mach-Zehnder interferometer coupled to a Fourier-transform spectrometer, which allows a direct measurement of the optical phase shift of a light beam passing through a transparent medium. This yields the refractive index together with its derivatives with a relative accuracy of 10^4 , without any assumption on material dispersion.

2. Pablo Postigo, Martinez Louis Javier, Alfonso Alija, Briones Fernandez-Pola Fernando, Gonzalez Díez Maria, Gonzalez Sotos Luisa, Lucio Claudio Andreani, **Matteo Galli**, Luque Lopez Antonio, Martí Vega Antonio, "*Uso di materiali con topografia superficiale modificata in dispositivi che generano una corrente elettrica a partire dalla luce incidente*"
Patent n. 200801231 deposited 08/05/2008.

Patent in the field of physical technology and microelectronics. The patent consists in a methodology for the fabrication of materials with a high optical transmission, and their applications to devices that generate an electrical current from light absorption, such as photo-detector, solar cells and thermo-photovoltaic devices. The increase in generation efficiency of electrical current is obtained through a modification of the surface topology in a semiconductor-based structure, by realizing a periodic lattice of optical nanocavities.

National and International Research Projects

- **Participant, Responsible for Spoke 4 - UniPV, NextGenerationEU PNRR-PE4 2022-2025** "National Quantum Science and Technology Institute", total budget assigned to spoke 4- UniPV: **970 kEuro**
- **Participant, Responsible for Spoke 10 - UniPV, NextGenerationEU PNRR-CN1 2022-2025** "High Performance Computing", total budget assigned to spoke 4- UniPV: **507 kEuro**
- **Substitute-PI**, Project PRIN-MUR 2022 – "Onchip scalable squeezing sources – OASIS"
- **Co-Investigator**, Project MIUR 2018-2023 – Dipartimenti di Eccellenza, "Fisica quantistica: fondamenti e tecnologie", total budget assigned to Quantum Photonics Laboratory: **1947 kEuro**.
- **Co-Investigator**, European Project QuantERA 2018-2021 "CMOS Compatible Single Photon Sources based on SiGe Quantum Dots", total budget assigned to UniPV: **214 kEuro**
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV**, Fondazione Cariplo 2010-2013 "*Nanophotonics for thin-film photovoltaics*"
- **Participant, Co-responsible for the experimental activity at the Physics Dep. UniPV**, MIUR FIRB Futuro in Ricerca 2010-2013 "*Nonlinear and quantum optics in nanoscale photonic structures*"
- **Participant, Co-responsible for the experimental activity at the Physics Dep. UniPV**, Fondazione Alma Mater Ticinensis "*Semiconductor devices for entangled photon pair generation*"
- **Principal Investigator**, European Project ERA NanoSci-E+ (2008) "*Lasings of Erbium in Crystalline Silicon Photonic Nanostructures*", total budget assigned to UniPV: **210 kEuro**
- **Participant, Co-responsible for the experimental activity at the Physics Dep. UniPV**, CNISM Innesco project 2007 "*Photonic Crystal Polaritons for Entangled Photon Generation*"

- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, ENI S.p.A.** research contract 2009-2011 "*Photonic crystals for photovoltaic cells*".
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, MIUR-FIRB** 2007-2011 "*Analog and Mixed-mode Microelectronics for advanced systems*"
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, Fondazione Banca del Monte di Lombardia** 2010-2011 "*Laboratorio per il Fotovoltaico*"
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, Fondazione Cariplo** 2007-2010 "*Manipulation of light on nanometric scales for photonic and plasmonic applications*"
- **Participant, Regione Lombardia** 2007-2009, research-educational project "*From materials science to molecular biomedicine*".
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, ST** Microelectronics research contract 2007 "*Silicon laser*".
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, MIUR Cofin** 2006 "*Advanced photonic devices for biomedical applications*"
- **Participant, Responsible for the experimental activity at the Physics Dep. UniPV, Fondazione Cariplo** 2005-2007 "*All-optical switching in photonic crystals: towards the optical transistor*"
- **Participant, UE FP6 Network of Excellence "NanoPhotonics to Realize Molecular-Scale Technologies (PhOREMOST)"** 2005-2008
- **Participant, MIUR Cofin** 2004 "Silicon-based photonic crystals for the control of light propagation and emission"
- **Participant, MIUR-FIRB** 2003-2005 "*Miniaturized systems for electronics and photonics*"
- **Participant, INFN PRA** 2002 "*GaAs-based photonic crystals: fabrication, optical properties and theory*"
- **Participant, INFN PAIS** 2001 "*Fabrication and optical characterization of two-dimensional photonic crystals*"
- **Participant, MIUR Cofin** 2000 "*One- and two-dimensional photonic crystals: growth, theory and optical properties*"

The research activity of Matteo Galli is inserted in the framework of many National and International projects, and it is carried on in collaboration with several highly recognized Research Groups, such as:

- CEA-Leti: Laboratoire d'électronique des technologies de l'information, Grenoble, France
- School of Physics and Astronomy, University of St. Andrews, UK
- Department of Physics and Institute for Optical Sciences, University of Toronto, Canada.
- JKU- Johannes Kepler University, Linz, Austria
- KIT - Cork Institute of Technology, Cork, Ireland
- EPFL – Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland
- Department of Physics and Astronomy, University of Rochester, Rochester, USA
- School of Engineering, University of Glasgow, Glasgow, UK.
- European Laboratory of Non-Linear Spectroscopy LENS, Firenze, Italy
- Laboratorio MATIS CNR-INFN, Catania, Italy
- Laboratoire des Technologies de la Micro-électronique (LTM-CNRS) di Grenoble, France
- Instituto de Ciencia de Materiales CSIC-ICMM di Madrid, Madrid, Spain
- Instituto de Microelectronica de Madrid IMM, Madrid, Spain
- NNL-TASC-INFN Nanolithography Beamline, Synchrotron Light Source, Trieste, Italy
- INFN e Dipartimento di Fisica, Università di Trento, Trento, Italy
- INFN e Dipartimento di Fisica, Politecnico di Torino, Torino, Italy

Publication highlights

1. **News and Views, Nature Photonics** 11, "Raman shines back", highlight on: Nature Photonics 11 (3), 170-176 (2017)
2. **Phys.org, Optics & Photonics**, "Coherence of Raman light arises from disorder" *Phys.org*. 13 February 2017, highlight on: Nature Photonics 11 (3), 170-176 (2017)
3. **Research Italy**, 2-7-2017, "Italian researchers prove the coherence of the Raman Effect", highlight on: Nature Photonics 11 (3), 170-176 (2017)
4. **Un anno all'Università di Pavia** 2017, "La coerenza della luce Raman emerge dal disordine", highlight on: Nature Photonics 11 (3), 170-176 (2017)
5. **IEEE Spectrum, Tech Talk Semiconductor Devices**, 26 January 2015: "Entanglement on a Chip", highlight on: Optica 2, 88-94, (2015)
6. **Fastweb**, 28 gennaio 2015, "Un anello per rendere le comunicazioni Internet più sicure", highlight on: Optica 2, 88-94, (2015)
7. **Un anno all'Università di Pavia** 2016, "La fisica quantistica su microchip", highlight on: Optica 2, 88-94, (2015)
8. **Optics & Photonics**, "A faster path to optical circuits." *Phys.org*. 16 June 2014, highlight on: Applied Physics Letters 104 (24), 241101 (2014)
9. **Research Highlights, Nature Materials** 10, "Silicon does it", highlight on Appl. Phys. Lett. 98, 201106 (2011)
10. **Cover Story, Laser Photonics Rev.** 7 (1), highlight on: Appl. Phys. Lett. 98, 201106 (2011)
11. **Cover Story, Applied Physics Letters** 104 (24), highlight on: Appl. Phys. Lett. 98, 201106 (2011)
12. **Cover Story, Nature Nanotechnology** 5 (1), highlight on: Nature Nanotechnology 5, 67-72 (2010)
13. **News and Views, Nature Nanotechnology** 5 (1), "A 7-nm light pen makes its mark", highlight on: Nature Nanotechnology 5 (1), 67-72 (2010)
14. **Optics InfoBase, Spotlight on Optics**, highlight on: Optics Express 18 (15), 16064-16073 (2010)
15. **Optics InfoBase, Spotlight on Optics**, highlight on: Optics express 18 (25), 26613-26624 (2010)

Official Assignments

- **Responsible** for the Quantum Photonics Laboratory, Physics Department – University of Pavia
- **Responsible** for the Didactic Laboratory of Quantum Physics, Physics Department – University of Pavia
- **Responsible** for the Photovoltaic Laboratory, Physics Department – University of Pavia
- **Member** of the Committee of the PhD School in Physics, Physics Department – University of Pavia
- **Member** of the Committee for the tutoring activity in Physics, Physics Department – University of Pavia
- **Delegate** of the Physics Department at "Centro di Orientamento Universitario" (COR) of the University of Pavia.

Participation to Examination Boards for the recruitment of researchers

1. **AY 2020-2021.** Member of the Examination Board for the selective procedure of a Researcher (RTDA) in Condensed Matter Physics, Engineering Department of Information Science DEI – University of Padova.

2. **AY 2019-2020.** Member of the Examination Board for the selective procedure of a Researcher (RTDA) in Condensed Matter Physics, Physics and Astronomy Department of the University of Florence.
3. **AY 2018-2019.** Member of the Examination Board for the selective procedure of a 1st level Researcher, Istituto Nazionale di Ricerca Metrologica (INRIM).
4. **AY 2019-2020.** Member of the Examination Board for the selective procedure of a tenured Technician in Electronics, Physics Department - University of Pavia
5. **AY 2018-2019.** Member of the examination Examination Board of the PhD School in Physics– XXXV ciclo, Physics Department - University of Pavia.

Participation to Examination Boards for the Degree in Physics

- Member of the examination board in **Solid State Physics I** (Master Degree in Physics), AY 2007-2008 to 2010-2011.
- Member of the examination board in **Solid State Physics I** (Master Degree in Physics), since AY 2007-2008
- Member of the examination board in **Laboratory of Physics Instrumentation** (Master Degree in Physics), since AY 2007-2008
- Member of the examination board in **Semiconductor Nanostructures** (Master Degree in Physics), since AY 2011-2012
- Member of the examination board in **Photonics** (Master Degree in Physics), since AY 2011-2012
- Member of the examination board in **Solid State Spectroscopy** (Master Degree in Physics) AY 2010-2011 to 2015-2016
- Member of the examination board in **Electromagnetism** (Bachelor's Degree in Physics) AY 2010-2011 to 2015-2016.
- Member of the examination board in **Physics** (Bachelor's Degree in Pharmaceutical Sciences) since AY 2007-2008
- Member of the examination board in **Experimental Physics** (Bachelor's Degree in Biotechnology), AY 2007-2008 to 2010-2011.
- Member of the examination board in **Electromagnetism** (Master Degree in Engineering, University of Bergamo) AY 1997-1998 to 2000-2001.

Public Scientific Performances

Lucio Fregonese and **Matteo Galli**, “Measuring the speed of light: history and replication of the Foucault experiment”, **Pavia**, November 20, 2015, **Aula del 400**.
Live Experiment

Lucio Fregonese and **Matteo Galli** e, “Measure of the speed of light”, **XXXV Convegno della Società Italiana degli Storici della Fisica e dell’Astronomia 2015**, 16 – 19 Settembre 2015.
Live Experiment

Lucio Fregonese and **Matteo Galli** “Measuring the speed of light: history and replication of the Foucault experiment”, **VI Festa di Scienza e Filosofia Foligno 2016**, Foligno, 16 April 2016, Auditorium di Santa Caterina.
Live Experiment

Lucio Fregonese and **Matteo Galli** e, “Foucault’s crucial experiment”, **Festival della Scienza – Segni**, Genova 27 October – 6 November 2016.

Live Experiment

Lucio Andreani and **Matteo Galli**: “Pi greco, la fase, l’interferenza: dalla fisica classica alla fisica quantistica” **π-day**: giornata del pi-greco (π -day), 14 March, years **2017, 2018, 2019**

Teaching Activity

Official Courses for the Degree in Physics

- **AY 2018-2019 - present**: holder of the official course on **Fisica Sperimentale I** – FIS/01 (5 CFU - 60 h), Bachelor’s degree in Physics – University of Pavia.
- **AY. 2014-2015 - present**: holder of the official course on **Laboratorio di Fisica Quantistica** - FIS/01 (6 CFU - 72 h), Master degree in Physics – University of Pavia.
- **AY 2009-2010 to 2013-2014**: holder of the official course on **Introduzione alla Fisica dei Solidi** - FIS/03 (3 CFU - 24 h), Master degree in Physics – University of Pavia.
- **AY 2007-2008 to 2017-2018**: holder of the official course on **Fisica II con Laboratorio** - 2° modulo FIS/01 (3 CFU - 40 h), Master degree in Physics – University of Pavia.
- **AY 2005-2006**: holder of the official course on **Laboratorio di Strumentazioni Fisiche** - FIS/01 (30 h), Master degree in Physics – University of Pavia.
- **AY 2004-2005** holder of the supplementary course on “Tecniche sperimentali di Fisica dei Semiconduttori” within the official course **Fisica dei Semiconduttori II** - FIS/03 (30 h), Master degree in Physics – University of Pavia
- **AY 2000-2001**: holder of a seminar course (40 h) within the official course of Electromagnetism, Master degree in Engineering – University of Bergamo.
- **AY 1998-1999 to 1999-2000**: holder of a seminar course (50 h/year), within the official course of Electromagnetism, Master degree in Engineering – University of Bergamo.
- **AY 1997-1998**: holder of a seminar course (37 h), within the official course of Electromagnetism, Master degree in Engineering – University of Bergamo.

Teaching at Master or PhD Schools

- **AY 2013-2014**, Lectures on “Nanophotonics and Nanoplasmonics” (9 h), **Scuola Universitaria Superiore di Catania**.
- **AY 2006-2007, 2007-2008**, holder of the official course “Didactic laboratory of modern physics” (10 h/year) at **S.I.L.S.I.S.**, University of Pavia
- **AY 2004-2005**: Lectures (10 h) on “Experimental techniques in optical spectroscopy”, PhD school in Physics, University of Pavia
- **AY 2002-2003** Lectures on “Fourier-Transform Spectroscopy” (9 h), **1st level master in material science and technology**, University of Pavia.

- **AY 2000-2001, 2001-2002, 2006-2007, 2007-2008, 2008-2009, 2009-2010**, Lectures on “Experimental techniques in optical spectroscopy” (5 h/year), **European School of Advanced Studies (ESAS)** in Material Science, University of Pavia.
- **AY 1998-1999, 1999-2000**, Lectures on “Optical Spectroscopy Techniques” (6 h/year **European School of Advanced Studies (ESAS)** in Material Science.

Supervision of Bachelor’s/Master degree thesis in Physics

1. **Supervisor** of the Master thesis in Physics – Program LM+ 2019/2020 “*Development of silicon photonics multiplexers/demultiplexers for quantum information processing*”, by **Sara Congia**, University of Pavia c/o Laboratoire d'électronique des technologies de l'information (CEA-Leti), Grenoble.
2. **Supervisor** of the Bachelor’s thesis in Physics “*Emissione di luce da un componente di silicio con cavità fotonica*”, by **Simone Zanotti**, University of Pavia, 2019.
3. **Supervisor** of the Master thesis in Physics “*Modi equispaziati in nanocavità ottiche a cristallo fotonico*”, by **Andrea Barone**, University of Pavia, 2019; Co-Supervisor Prof. Dario Gerace
4. **Supervisor** of the Master thesis in Physics “*Design, fabrication and characterization on an integrated nonlinear interferometer*”, by **Federico Andrea Sabbatoli**, University of Pavia, 2017; Co-Supervisor Prof. Marco Liscidini.
5. **Supervisor** of the Master thesis in Physics “*Sensing dell’indice di rifrazione di un gas in cavità a cristallo fotonico*”, by **Angelica Simbula**, University of Pavia, 2013; Co-Supervisor Dr. Roberto Lo Savio.
6. **Supervisor** of the Bachelor’s thesis in Physics “*Slow-light in cristalli fotonici di silicio*”, by **Jacopo Valsecchi**, University of Pavia, 2012.
7. **Supervisor** of the Master thesis in Physics “*Bloch Surface waves in 1D photonic crystals: a new approach to optical sensing*”, by **Stefano Pirotta**, University of Pavia, 2011.
8. **Supervisor** of the Master thesis in Physics “*Bistabilità ottica in nanocavità a cristallo fotonico*”, by **Paolo Andrich**, University of Pavia, 2010.
9. **Supervisor** of the Master thesis in Physics “*Progettazione e realizzazione di un apparato sperimentale per la misura dell’efficienza quantica in celle fotovoltaiche*”, by **Angelo Bozzola**, University of Pavia, 2010.
10. **Supervisor** of the Bachelor’s thesis in Physics “*Celle fotovoltaiche di III generazione a concentratori fluorescenti*”, by **Stefano Pirotta**, University of Pavia, 2009.
11. **Supervisor** of the Master thesis in Physics “*Scattering risonante di luce da cavità a cristallo fotonico*”, by **Simone Luca Portalupi**, University of Pavia, 2008.
12. **Supervisor** of the Master thesis in Physics “*Commutazione ottica in cristalli fotonici di silicio*”, by **Sara de Angelis**, University of Pavia, 2007.
13. **Co-Supervisor** of the Master thesis in Physics “*Emissione di luce a 1.5 micron in guide d’onda fotoniche SOI*”, by **Alberto Politi**, University of Pavia, 2005; Supervisor: Prof. G. Guizzetti.

14. **Co-Supervisor** of the Master thesis in Physics "*Principi di funzionamento del microscopio a forza atomica*", by **Simone Portalupi**, University of Pavia, 2005; Supervisor: Prof. G. Guizzetti.
15. **Co-Supervisor** of the Bachelor's thesis in Physics "*Guide d'onda e stati di difetto in cristalli fotonici*" by **Sara de Angelis**, University of Pavia, 2004; Supervisor: Prof. Lucio Andreani.
16. **Co-Supervisor** of the Master thesis in Physics "*Spettroscopia ottica e bande fotoniche di cristalli fotonici su guide d'onda SOI*" by **Francesca Paleari**, University of Pavia, 2003; Supervisor: Prof. G. Guizzetti.

Supervision of PhD students

1. **AY 2023 – present.** PhD Co-Supervisor of **Brusaschi Emanuele**, XXXVII ciclo of the PhD in Physics at the University of Pavia.
2. **AY 2022 – present.** PhD Co-Supervisor of **Bacchi Marcello**, XXXVII ciclo of the PhD in Physics at the University of Pavia.
3. **AY 2022 – present.** PhD Co-Supervisor of **Noemi Tagliavacche**, XXXVII ciclo of the PhD in Physics at the University of Pavia.
4. **AY 2019 – 2022.** PhD Supervisor of **Andrea Barone**, XXXV ciclo of the PhD in Physics at the University of Pavia. Subject: "Nonlinear and Quantum Photonics in Photonic Crystal Cavities"
5. **AY 2017 – present.** PhD Supervisor of **Federico Andrea Sabattoli**, XXXIII ciclo of the PhD in Physics at the University of Pavia. Subject: "On-chip quantum sources based on ultra-low losses silicon waveguides".
6. **AY 2016 – 2019.** PhD Supervisor of **Francesco Garrisi**, XXXII ciclo of the PhD in Physics at the University of Pavia. Subject: "Nonclassical states of light: fundamental physics and CMOS devices".
7. **AY 2016 – 2019.** PhD Supervisor of **Marco Clementi**, XXXII ciclo of the PhD in Physics at the University of Pavia. Subject: "Nonlinear optics in photonic crystal cavities".
8. **AY 2015 – 2018.** PhD Supervisor of **Micol Previde Massara**, XXXI ciclo of the PhD in Physics at the University of Pavia. Subject: "Silicon integrated devices for quantum photonics in the telecom band".
9. **AY 2013 – 2017.** PhD Supervisor of **Salvatore Del Sorbo**, XXIX ciclo of the PhD in Physics at the University of Pavia. Subject: "Light scattering in Disordered Textures with Self-Similarity and High Aspect-Ratio".
10. **AY 2013 – 2016.** PhD Supervisor of **Angelica Simbula**, XXIX ciclo of the PhD in Physics at the University of Pavia. Subject: "Microring resonators as integrated sources of nonclassical states of light".
11. **AY 2012 – 2015.** PhD Supervisor of **Giulia Urbinati**, XXVIII ciclo of the PhD in Physics at the University of Pavia. Subject: "Photonics crystal cavities for integrated optical circuits".
12. **AY 2011 – 2014.** PhD Supervisor of **Stefano Pirotta**, XXVII ciclo of the PhD in Physics at the University of Pavia. Subject: "Enhanced light matter interaction in dielectric photonic nanostructures".
13. **AY 2010 - 2013.** PhD Supervisor of **Davide Grassani**, XXVI ciclo of the PhD in Physics at the University of Pavia. Subject: "Generation of energy-time entangled photons on a silicon chip".
14. **AY 2009 - 2012.** PhD Supervisor of **Stefano Azzini**, XXV ciclo of the PhD in Physics at the University of Pavia. Subject: "Nonlinear and quantum optics in silicon photonic nanostructures".

15. **AY 2008 - 2011.** PhD Supervisor of **Simone Luca Portalupi**, XXIV ciclo of the PhD in Physics at the University of Pavia. Subject: "Light confinement and emission in silicon photonic crystal nanocavities".

Supervision of Post-Doc fellows

1. **AY 2019 – 2020.** Supervisor of the research activity of Dr. **Francesco Garrisi**, within the National Project Dipartimento di eccellenza: "Fisica quantistica: fondamenti e tecnologie".
2. **AY 2019 – 2020.** Supervisor of the research activity of Dr. **Marco Clementi**, within the European Project QuantERA CUSPIDOR: "CMOS Compatible Single Photon Sources based on SiGe Quantum Dots".
3. **AY 2009 – 2012** Supervisor of the research activity of Dr. **Roberto Lo Savio**, within the European Project LECSIN: "*Lasing of Erbium in Silicon photonic Nanostructures*".
4. **AY 2007 – 2010** Supervisor of the research activity of Dr. **Michele Belotti** within the National Project MIUR-FIRB: "*Analog and Mixed-mode Microelectronics for advanced systems*".
5. **AY 2005 – 2007** Supervisor of the research activity of Dr. **Juan Francisco Galisteo-Lopez**, within the National Project CARIPLO: "*All-optical switching in photonic crystals: towards the optical transistor*".

Pavia, 5 December 2020



Matteo Galli

Publications of Matteo Galli

Articles

- 1. Model of thermo-optic nonlinear dynamics of photonic crystal cavities**
S. Iadanza, M. Clementi, C. Hu, S. A. Schulz, D. Gerace, M. Galli, and L. O'Faolain
Physical Review B **102**, 245404 (2020)
- 2. Doubly resonant second-harmonic generation of a vortex beam from a bound state in the continuum**
J Wang, M Clementi, M Minkov, A Barone, J-F Carlin, N Grandjean, D Gerace, S Fan, M Galli, and R Houdré
Optica **7**, 1126-1132 (2020)
- 3. Electrically driven source of time-energy entangled photons based on a self-pumped silicon microring resonator**
F Garrisi, FA Sabbatoli, S Sam, A Barone, MP Massara, F Pirzio, F Morichetti, A Melloni, M Liscidini, M Galli, D Bajoni
Optics Letters **45** (10), 2768-2771 (2020)
- 4. Silicon nitride photonics for the near-infrared**
TD Bucio, C Lacava, M Clementi, J Faneca, I Skandalos, A Baldycheva, M Galli, K Debnath, P Petropoulos, FY Gardes
IEEE Journal of Selected Topics in Quantum Electronics **26** (2), 1-13 (2020)
- 5. Selective tuning of optical modes in a silicon comb-like photonic crystal cavity**
M. Clementi, A. A. Barone, T. Fromherz, D. Gerace, M. Galli
Nanophotonics **9**, 205 -2010 (2019)
- 6. Experimental test of the collapse time of a delocalized photon state**
F Garrisi, MP Massara, A Zambianchi, M Galli, D Bajoni, A Rimini, O Nicosini
Scientific reports **9** (1), 1-7 (2019)
- 7. Cavity-enhanced harmonic generation in silicon rich nitride photonic crystal microresonators**
M Clementi, K Debnath, M Sotto, A Barone, AZ Khokhar, TD Bucio, S Saito, FY Gardes, D Bajoni, M Galli
Applied Physics Letters **114** (13), 131103 (2019)
- 8. Four-wave mixing in a silicon microring resonator using a self-pumping geometry**
M Previde Massara, FA Sabbatoli, F Pirzio, M Galli, D Bajoni
Applied Physics Letters **113** (12), 121111 (2018)
- 9. Light scattering properties of self-organized nanostructured substrates for thin-film solar cells**
C Mennucci, S Del Sorbo, S Pirotta, M Galli, LC Andreani, C Martella, MC Giordano, F Buatier de Mongeot
Nanotechnology **29** (35), 355301 (2018)
- 10. Nonlinear characterization of a silicon integrated Bragg waveguide filter**
MP Massara, M Menotti, N Bergamasco, NC Harris, T Baehr-Jones, M Hochberg, C Galland, M Liscidini, M Galli, D Bajoni
Optics letters **43** (5), 1171-1174 (2018)
- 11. Integrated sources of photon quantum states based on nonlinear optics**
L Caspani, C Xiong, BJ Eggleton, D Bajoni, M Liscidini, M Galli, R Morandotti, DJ Moss
Light: Science & Applications **6** (11), e17100-e17100 (2017)
- 12. Ultrahigh-Q photonic crystal cavities in silicon rich nitride**
K Debnath, M Clementi, T Domínguez Bucio, A Z Khokhar, M Sotto, K M Grabska, D Bajoni, M Galli, S Saito, FY Gardes
Optics Express **25** (22), 27334-27340 (2017)

13. **Nonclassical light sources for silicon photonics**
D. Bajoni and M. Galli
Photonics and Nanostructures - Fundamentals and Applications **26**, 24-34 (2017)
14. **Realization of high-Q/V photonic crystal cavities defined by an effective Aubry-André-Harper bichromatic potential**
A Simbula, M Schatzl, L Zagaglia, F Alpeggiani, LC Andreani, F Schäffler, T Fromherz, M Galli, D Gerace
APL Photonics **2**, 056102 (2017)
15. **Enhanced telecom emission from single group-IV quantum dots by precise CMOS-compatible positioning in photonic crystal cavities**
M. Schatzl, F. Hackl, M. Glaser, P. Rauter, M. Brehm, L. Spindlberger, A. Simbula, M. Galli, T. Fromherz, F. Schäffler
ACS Photonics **4**, 3, 665–673 (2017)
16. **Coherent backscattering of Raman light**
B. Fazio, A. Irrera, S. Pirotta, C. D'Andrea, S. Del Sorbo, M. J. Lo Faro, P. G. Gucciardi, M. A. Iatì, R. Saija, M. Patrini, P. Musumeci, C. Salvatore Vasi, D. S. Wiersma, M. Galli and F. Priolo
Nature Photonics **11**, pages170–176 (2017)
17. **Efficient continuous-wave nonlinear frequency conversion in high-Q gallium nitride photonic crystal cavities on silicon**
M. Sabry Mohamed, A. Simbula, J-F. Carlin, M. Minkov, D. Gerace, V. Savona, N. Grandjean, M. Galli, R. Houdré
APL Photonics **2**, 031301 (2017)
18. **Decoration of silicon nanowires with silver nanoparticles for ultrasensitive surface enhanced Raman scattering**
C D'Andrea, MJ Lo Faro, G Bertino, PM Ossi, FNeri, S Trusso, P Musumeci, M Galli, N Cioffi, A Irrera
Nanotechnology, Volume 27, 27 375603 (2016)
19. **Low-power four-wave mixing in porous silicon microring resonators**
A. Simbula, G. A. Rodriguez, M. Menotti, S. De Pace, S. M. Weiss, M. Galli, M. Liscidini, and D. Bajoni
Appl. Phys. Lett. **109**, 021106 (2016)
20. **Strongly enhanced light trapping in a two-dimensional silicon nanowire random fractal array**
B. Fazio, P. Artoni, M. Antonia Iatì, C. D'Andrea, M. Josè Lo Faro, S. Del Sorbo, S. Pirotta, P. G. Gucciardi, P. Musumeci, C. S. Vasi, R. Saija, M. Galli, F. Priolo & A. Irrera
Light: Science & Applications volume **5**, e16062 (2016)
21. **Energy correlations of photon pairs generated by a silicon microring resonator probed by Stimulated Four Wave Mixing**
D. Grassani, A. Simbula, S. Pirotta, M. Galli, M. Menotti, N. C. Harris, T. Baehr-Jones, M. Hochberg, C. Galland, M. Liscidini & D. Bajoni
Scientific Reports volume **6**, Article number: 23564 (2016)
22. **Micrometer-scale integrated silicon source of time-energy entangled photons**
D. Grassani, S. Azzini, M. Liscidini, M. Galli, M. J. Strain, M. Sorel, J. E. Sipe, and D. Bajoni
Optica Vol. **2**, Issue 2, pp. 88-94 (2015)
23. **Integrated Source of Spectrally Filtered Correlated Photons for Large-Scale Quantum Photonic Systems**
N C. Harris, D Grassani, A Simbula, M Pant, M Galli, T Baehr-Jones, M Hochberg, D Englund, D Bajoni, and C Galland
Phys. Rev. X **4**, 041047 (2014)

24. **Gallium nitride photonic crystal cavities with an average quality factor of 16900 in the near infrared**
N. Vico Triviño, M. Minkov, G. Urbinati, M. Galli, J.F. Carlin, R. Butté, V. Savona and N. Grandjean
Applied Physics Letters **105**, 231119 (2014).
25. **Genetically designed L3 photonic crystal nanocavities with measured quality factor exceeding one million**
Y. Lai, S. Pirotta, G. Urbinati, D. Gerace, M. Minkov, V. Savona, A. Badolato, and M. Galli
Applied Physics Letters **104**, 121107 (2014).
26. **Hydrogen induced optically-active defects in silicon photonic nanocavities**
Boninelli, S., Franzò, G., Cardile, P., Priolo, F., Lo Savio, R., Galli, M., Shakoov, A., O'Faolain, L., Krauss, T.F., Vines, L., Svensson, B.G
Optics Express **22**, 8843-8855 (2014).
27. **Active stabilization of a Michelson interferometer at an arbitrary phase with subnanometer resolution**
D. Grassani, M. Galli and D. Bajoni
Optics Letters **104**, 051111 (2014).
28. **Photonic crystal light emitting diode based on Er and Si nanoclusters co-doped slot waveguide**
Lo Savio, R., Galli, M., Liscidini, M., Andreani, L.C., Franzò, G., Iacona, F., Miritello, M., Irrera, A., Sanfilippo, D., Piana, A., Priolo, F.
Applied Physics Letters **104**, 121107 (2014).
29. **Silicon nanostructures for photonics and photovoltaics**
F. Priolo, T. Gregorkiewicz, M. Galli and T.F. Krauss
Nature Nanotechnology **9**, 19-32 (2014).
30. **Strong coupling between excitons in organic semiconductors and Bloch surface waves**
Pirotta, S., Patrini, M., Liscidini, M., Galli, M., Dacarro, G., Canazza, G., Guizzetti, G., Comoretto, D., Bajoni, D.
Applied Physics Letters **104**, 051111 (2014).
31. **Stimulated and spontaneous four-wave mixing in silicon-on-insulator coupled photonic wire nano-cavities**
Azzini, S., Grassani, D., Galli, M., Gerace, D., Patrini, M., Liscidini, M. Velha, P., Bajoni, D.
Applied Physics Letters **103**, 031117 (2013).
32. **Enhanced 1.54 μm emission in Y-Er disilicate thin films on silicon photonic crystal cavities**
Lo Savio, R., Miritello, M., Shakoov, A., Cardile, P., Welna, K., Andreani, L. C., Gerace, D., Krauss, T. F., O'Faolain, L., Priolo, F., Galli, M.
Optics Express **21**, 10278-10288 (2013).
33. **Surface-enhanced raman scattering in purely dielectric structures via bloch surface waves**
S. Pirotta, X. G. Xu, A. Delfan, S. Mysore, S. Maiti, G. Dacarro, M. Patrini, M. Galli, G. Guizzetti, D. Bajoni, J. E. Sipe, G. C. Walker, and M. Liscidini
Journal of Physical Chemistry C **117**, 6821-6825 (2013).
34. **Room temperature all-silicon photonic crystal nanocavity light emitting diode at sub-bandgap wavelengths**
Shakoov, A., Lo Savio, R., Cardile, P., Portalupi, S. L., Gerace, D., Welna, K., Boninelli, S., Franzò, G., Priolo, F., Krauss, T. F., Galli, M., O'Faolain, L.
Laser & Photonics Reviews **7**, 114 (2013).
35. **Enhancement of room temperature sub-bandgap light emission from silicon photonic crystal nano cavity by purcell effect**
Shakoov, A., Lo Savio, R., Portalupi, S. L., Gerace, D., Andreani, L. C., Galli, M., Krauss, T. F., O'Faolain, L.
Physica B-Condensed Matter **407**, 4027-4031 (2012).
36. **From classical four-wave mixing to parametric fluorescence in silicon microring resonators**
Azzini, S., Grassani, D., Galli, M., Andreani, L.C., Sorel, M., Strain, M.J., Helt, L.G., Sipe, J.E., Liscidini, M., Bajoni, D., *Optics Letters* **37**, 3807-3809 (2012)

37. **Ultra-low power generation of twin photons in a compact silicon ring resonator**
Azzini, S., Grassani, D., Strain, M.J., Sorel, M., Helt, L.G., Sipe, J.E., Liscidini, M., Galli, M., Bajoni, D.
Optics Express **20**, 23100-23107 (2012).
38. **Novel dispersion-adapted photonic crystal cavity with improved disorder stability**
K. Welna, S.L. Portalupi, M. Galli, L. O'Faolain, T.F. Krauss
IEEE Journal of Quantum Electronics, Vol. **48**, 1177-1183 (2012).
39. **Quantum confinement and electroluminescence in ultrathin silicon nanowires fabricated by a maskless etching technique**
A. Irrera, P. Artoni, F. Iacona, E. F. Pecora, G. Franzò, M. Galli, B. Fazio, S. Boninelli, F. Priolo
Nanotechnology **23**, 1361-6528 (2012).
40. **Ultra-low threshold polariton lasing in photonic crystal cavities**
S. Azzini, D. Gerace, M. Galli, I. Sagnes, R. Braive, A. Lemaitre, J. Bloch, D. Bajoni
Applied Physics Letters **99**, 111106-1-111106-3 (2011).
41. **Room-temperature emission at telecom wavelengths from silicon photonic crystal nanocavities**
R. Lo Savio, S. L. Portalupi, D. Gerace, A. Shakoor, T. F. Krauss, L. O'Faolain, Andreani L.C., M. Galli
Applied Physics Letters **98**, 201106-1 (2011).
42. **Optical study of hydrogen-irradiated GaAsN/GaAs heterostructures**
M. Geddo, M. Patrini, G. Guizzetti, M. Galli, R. Trotta, A. Polimeni, M. Capizzi, F. Martelli, S. Rubini
Journal of Applied Physics **109**, 123511-1 (2011).
43. **Electrical conduction and optical properties of doped silicon-on-insulator photonic crystals**
P. Cardile, G. Franzò, R. Lo Savio, M. Galli, T.F. Krauss, F. Priolo, L. O' Faolain
Applied Physics Letters **98**, 203506-1 (2011).
44. **Deliberate versus intrinsic disorder in photonic crystal nanocavities investigated by resonant light scattering**
S.L. Portalupi, M. Galli, M. Belotti, L.C. Andreani, T.F. Krauss, L. O'Faolain
Physical Review B **84**, 1098-0121 (2011).
45. **Self-assembled monolayers of silver nanoparticles firmly grafted on glass surfaces: low Ag⁺ release for an efficient antibacterial activity**
P. Pallavicini, A. Taglietti, G. Dacarro, Y. A. Diaz Fernandez, M. Galli, P. Grisoli, M. Patrini, G. Santucci De Magistris, R. Zanoni
Journal of Colloid and Interface Science **350**, 110-116 (2010).
46. **Spectroscopic investigation of artificial opals infiltrated with a heteroaromatic quadrupolar dye**
L. Berti, M. Cucini, F. Di Stasio, D. Comoretto, M. Galli, Marabelli F, N. Manfredi, C. Marinzi, A. Abbotto
Journal of Physical Chemistry C **5**, 67-72 (2010).
47. **Polarized pressure dependence of the anisotropic dielectric functions of highly oriented poly(p-phenylene vinylene)**
V. Morandi, M. Galli, F. Marabelli, D. Comoretto
Journal of Applied Physics **107**, 073106 (2010).
48. **Planar photonic crystal cavities with far-field optimization for high coupling efficiency and quality factor**
S.L. Portalupi, M. Galli, C. Reardon, T.F. Krauss, L. O'faolain, L.C. Andreani, D. Gerace
Optics Express **18**, 16064-16073 (2010).
49. **Nanoscale chemical mapping using three-dimensional adiabatic compression of surface plasmon polaritons**
F. De Angelis, G. Das, P. Candeloro, M. Patrini, M Galli, A. Bek, M. Lazzarino, I. Maksymov, C. Liberale, L.C. Andreani, E. Di Fabrizio
Nature Nanotechnology **5**, 67-72 (2010).

50. **Low-power continuous-wave generation of visible harmonics in silicon photonic crystal nanocavities**
M. Galli, D. Gerace, K. Welna, T.F. Krauss, L. O'faolain, G. Guizzetti, L.C. Andreani
Optics Express **18**, 26613-26624 (2010).
51. **All-optical switching in silicon-on-insulator photonic wire nanocavities**
M. Belotti, M. Galli, D. Gerace, L.C. Andreani, G. Guizzetti, M.D. Zain, N. P. Johnson, M. Sorel, R. De La Rue
Optics Express **18**, 1450-1461 (2010).
52. **Exciton polaritons in two-dimensional photonic crystals**
D. Bajoni, D. Gerace, M. Galli, J. Bloch, R. Braive, I. Sagnes A. Miriade A. Lamaitre, M. Patrini, L.C. Andreani
Physical Review B **80**, 201308(R) (2009).
53. **Theoretical and experimental investigation of radiative decay rates in active slotwaveguides**
Creatore C., Andreani L.C., Galli M., Miritello M., Lo Savio R., Priolo F.
Journal of Optics A: Pure and Applied Optics **11**, 114011 (2009).
54. **Two-dimensional surface emitting photonic crystal laser with hybrid triangular-graphite structure**
Martinez L.J., Alen B., Prieto I., Galisteo-Lopez J.F., Galli M., Andreani L.C., Seassal C., Viktorovitch P., Postigo P.A.
Optics Express **17**, 15043 (2009).
55. **Strong modification of light emission from a dye monolayer via bloch surface waves**
M. Liscidini, M. Galli, M. Shi, G. Dacarro, M. Patrini, D. Bajoni, J. E. Sipe
Optics Letters **34**, 2318 (2009).
56. **Silver high-aspect-ratio micro- and nanoimprinting for optical applications**
S. Buzzi, M. Galli, M. Agio, J.F. Löffler
Applied Physics Letters **94**, 223115 (2009).
57. **Demonstration of diffraction enhancement via bloch surface waves in a-SiN:H multilayers**
Liscidini, M., Galli, M., Patrini, M., Loo, R.W., Goh, M.C., Ricciardi, C., Giorgis, F., Sipe, J.E.
Applied Physics Letters **94**, 043117 (2009).
58. **Highly oriented poly(paraphenylene vinylene): polarized optical spectroscopy under pressure**
V. Morandi, M. Galli, F. Marabelli, D. Comoretto
Physical Review B **79**, 045202 (2009).
59. **Light scattering and fano resonances in high-q photonic crystal nanocavities**
M. Galli, S.L. Portalupi, M. Belotti, L.C. Andreani, L. O Faolain, T.F. Krauss
Applied Physics Letters **94**, 071101 (2009).
60. **Spectroscopic evaluation of surface functionalization efficiency in the preparation of mercaptopropyltrimethoxysilane self-assembled monolayers on glass**
P. Pallavicini, G. Dacarro, M. Galli, M. Patrini
Journal of Colloid and Interface Science **332**, 432 (2009).
61. **New approaches for enhancing light emission from er-based materials and devices**
A. Irrera, M. Galli, M. Miritello, R. LoSavio, F. Iacona, G. Franzo`, A. Canino, A.M. Piro, M. Belotti, D. Gerace, A. Politi, M. Liscidini, M. Patrini, D. Sanfilippo, P.G. Fallica, L.C. Andreani, F. Priolo
Physica E **41**, 891 (2009).
62. **Optical response with threefold symmetry axis on oriented microdomains of opal photonic crystals**
L. C. Andreani, A. Balestreri, J. F. Galisteo-López, M. Galli, and M. Patrini, E. Descrovi, A. Chiodoni, and F. Giorgis, L. Pallavidino and F. Geobaldo
Physical Review B **78**, 204304 (2008).

63. **A hybrid plasmonic-photonic nanodevice for label-free detection of a few molecules**
F. De Angelis, M. Patrini, G. Das, I. Maksymov, M. Galli, L. Businaro, L. C. Andreani, E. Di Fabrizio
Nano Letters **8**, 2321 (2008).
64. **All-optical switching in 2d silicon photonic crystals with low loss waveguides and optical cavities**
M. Belotti, J. F. Galisteo-López, S. De Angelis, M. Galli, I. Maksymov and L. C. Andreani
Optics Express **16**, 11624 (2008)
65. **Effect of implementation of a bragg reflector in the photonic band structure of the suzuki-phase photonic crystal lattice**
L. J. Martinez, A. R. Alija, P. A. Postigo, J. F. Galisteo-López, M. Galli, L. C. Andreani, C. Seassal, P. Viktorovitch
Optics Express **16**, 8509 (2008)
66. **Slow to superluminal light waves in thin 3D photonic crystals**
J. F. Galisteo-López, M. Galli, A. Balestreri, M. Patrini, L. C. Andreani, and C. López
Optics Express **15**, 15342 (2007)
67. **Laser nanosources based on planar photonic crystals as new platforms for nanophotonic devices**
P.A. Postigo, A.R. Alija, L.J. Martí'nez, M.L. Dotor, D. Golmayo, J. Sanchez-Dehesa, C. Seassal, P. Viktorovitch, M. Galli, A. Politi, M. Patrini, L.C. Andreani
Photonics and Nanostructures – Fundamentals and Applications **5**, 79-85 (2007)
68. **Optical response of artificial opals oriented along the Γ -X direction**
J. F. Galisteo-López, M. Galli, A. Balestreri, and L. C. Andreani
Applied Physics Letters **90**, 231112 (2007)
69. **Phase delay and group velocity determination at a planar defect state in three dimensional photonic crystals**
J. F. Galisteo-López, M. Galli, L. C. Andreani, A. Mihi, R. Pozas, M. Ocaña, and H. Míguez
Applied Physics Letters **90**, 101113 (2007)
70. **Photoreflectance and reflectance investigation of deuterium-irradiated GaAs**
M. Geddo, T. Ciabatonni, G. Guizzetti, M. Galli, and M. Patrini, A. Polimeni, R. Trotta, and M. Capizzi, G. Bais, M. Piccin, S. Rubini, F. Martelli, and A. Franciosi
Applied Physics Letters **90**, 091907 (2007)
71. **Theoretical and experimental study of the suzuki-phase photonic crystal lattice by angle-resolved photoluminescence spectroscopy**
AR. Alija, LJ. Martí'nez, PA. Postigo, J Sánchez-Dehesa, M Galli, A Politi, M Patrini, LC. Andreani, C Seassal, and P Viktorovitch
Optics Express **15**, 704 (2007)
72. **Direct evidence of light confinement and emission enhancement in active silicon-on-insulator slot waveguides**
M. Galli, D. Gerace, A. Politi, M. Liscidini, M. Patrini, and L. C. Andreani, A. Canino, M. Miritello, R. Lo Savio, A. Irrera, and F. Priolo
Applied Physics Letters **89**, 241114 (2006)
73. **Fabrication of soi photonic crystal slabs by soft uv-nanoimprint lithography**
Belotti M., Torres J., Roy E., Pepin A., Gerace D., Andreani L.C., Galli M., Chen Y.,
Microelectronic Engineering **83**, 1773-1777 (2006)
74. **Wide-band transmission of nondistorted slow waves in one-dimensional optical superlattices**
Ghulinyan M, Galli M, Toninelli C, Bertolotti J, Gottardo S, Marabelli F, Wiersma DS, Pavesi L, Andreani LC
Applied Physics Letters **88**, 241103 (2006)

75. **Strong enhancement of Er³⁺ emission at room temperature in silicon-on-insulator photonic crystal waveguides**
Galli M, Politi A, Belotti M, Gerace D, Liscidini M, Patrini M, Andreani LC, Miritello M, Irrera A, Priolo F, Chen Y
Applied Physics Letters **88**, 251114 (2006)
76. **Focused ion beam fabrication of one-dimensional photonic crystals on Si₃N₄/SiO₂ channel waveguides**
Cabrini S, Businaro L, Prasciolu M, Carpentiro A, Gerace D, Galli M, Andreani C, Riboli F, Pavesi L, Di Fabrizio E
Journal of Optics A **8**, 550-553 (2006)
77. **Evolution of optical response in the series YCu_{5-x}Au_x**
Marabelli F, Galli M, Moscardini M, Bauer E
Physica B **378**, 740-741 (2006)
78. **Synthesis, characterization and modelling of silicon-based opals**
Pallavidino L, Razo DS, Geobaldo F, Balestreri A, Bajoni D, Galli M, Andreani LC, Ricciardi C, Celasco E, Quaglio M, Giorgis F
Journal of Non-Crystalline Solids **352**, 1425-1429 (2006)
79. **Amorphous silicon nitride: a suitable alloy for optical multilayered structures**
Ricciardi C, Ballarini V, Galli M, Liscidini M, Andreani LC, Losurdo M, Bruno G, Lettieri S, Gesuele F, Maddalena P, Giorgis F
Journal of Non-Crystalline Solids **352**, 1294-1297 (2006)
80. **Wave transport in random systems: multiple resonance character of necklace modes and their statistical behavior**
Bertolotti J, Galli M, Sapienza R, Ghulinyan M, Gottardo S, Andreani LC, Pavesi L, Wiersma DS
Physical Review E **74**, 035602 (2006)
81. **Replication of photonic crystals by soft ultraviolet-nanoimprint lithography**
M. Belotti, J. Torres, E. Roy, A. Pepin, Y. Chen, D. Gerace, L.C. Andreani, M. Galli
Journal of Applied Physics **99**, 024309 (2006).
82. **Effective refractive index and group velocity determination of three-dimensional photonic crystals by white-light interferometry**
J.F. Galisteo López, M. Galli, M. Patrini, A. Belstreri, L. C. Andreani, C. López
Physical Review B **73**, 125103 (2006).
83. **Wide-band transmittance of one-dimensional photonic crystals carved in Si₃N₄/SiO₂ channel waveguides**
D. Gerace, M. Galli, D. Bajoni, G. Guizzetti, L. C. Andreani, F. Riboli, M. Melchiorri, N. Daldosso, L. Pavesi, G. Pucker, S. Cabrini, L. Businaro, E. Di Fabrizio
Applied Physics Letters **83**, 211116 (2005).
84. **Single-mode versus multimode behavior in silicon photonic crystal waveguides**
M. Galli, D. Bajoni, M. Patrini, G. Guizzetti D. Gerace, L. C. Andreani, M. Belotti and Y. Chen
Physical Review B **72**, 125322 (2005).
85. **Band structure and optical properties of opal photonic crystals**
E. Pavarini, L.C. Andreani, C. Soci, M. Galli, F. Marabelli, D. Comoretto
Physical Review B **72**, 045102 (2005).
86. **Measurements of photonic mode dispersion and linewidths in silicon-on-insulator photonic crystal slabs**
M. Galli, M. Belotti, D. Bajoni, F. Paleari, M. Patrini, G. Guizzetti D. Gerace, M. Agio, L. C. Andreani, and Y. Chen,
IEEE Journal of Selected Areas in Communications **23**, 1402 (2005)

87. **Interferometric determination of the anisotropic refractive index dispersion of poly-(p-phenylene-vinylene)**
M. Galli, F. Marabelli and C. Comnoretto,
Applied Physics Letters **86**, 201119 (2005).
88. **Excitation of radiative and evanescent modes in linear photonic crystal waveguides**
M. Galli, M. Belotti, D. Bajoni, M. Patrini, G. Guizzetti D. Gerace, M. Agio, L. C. Andreani, and Y. Chen,
Physical Review B **70**, 081307(R) (2004).
89. **Investigation of SOI photonic crystals fabricated by both electron-beam lithography and nanoimprint lithography**
M. Belotti, M. Galli, D. Bajoni, L.C. Andreani, G. Guizzetti, D. Decanini and Y. Chen,
Microelectronic Engineering Vol. **73-74**, 405 (2004).
90. **Photonic bands and group-velocity dispersion in Si/SiO₂ photonic crystals from white-light interferometry**
M. Galli, D. Bajoni, F. Marabelli, L. C. Andreani, L. Pavesi, and G. Pucker,
Physical Review B **69**, 115107 (2004).
91. **Optical properties and photonic mode dispersion in two-dimensional and waveguide-embedded photonic crystals**
L. C. Andreani M. Agio, D. Bajoni, M. Belotti, M. Galli, G. Guizzetti, A.M. Malvezzi, F. Marabelli, M. Patrini, G. Vecchi
Synthetic Metals **139**, 695 (2003)
92. **High resolution complex structures for two dimensional photonic crystals realized by X-ray diffraction lithography**
L. Businaro, F. Romanato, P. Candeloro, E. Di Fabrizio, M. Patrini, M. Galli, L.C. Andreani, A. Passaseo, M. De Vittorio,
Journal of Vacuum Science & Technology B **21**, 748 (2003).
93. **X-ray and electron-beam lithography of three-dimensional array structures for photonics**
F. Romanato, D. Cojoc, E. Di Fabrizio, M. Galli, and D. Bajoni
Journal of Vacuum Science and Technology B **21**, 2912 (2003).
94. **Morphology and optical properties of bare and polydiacetylenes-infiltrated opals**
D. Comoretto, F. Marabelli, C. Soci, M. Galli, E. Pavarini, M. Patrini, L.C. Andreani,
Synthetic Metals Vol. **139**, 633 (2003).
95. **Fabrication of 3D metallic photonic crystals by X-ray lithography**
F. Romamato, L. Businaro, L. Vaccari, S. Cabrini, P. Candeloro, M. De Vittorio, A. Passaseo, M.T. Todaro, R. Cingolani, E. Cattaruzza, M. Galli, C. Andreani, E. Di Fabrizio,
Microelectronic Engineering Vol. **67-68**, 479 (2003).
96. **Linear optical properties and photonic mode dispersion in GaAs /AlGaAs photonic crystal slabs**
M. Patrini, M. Galli, M. Agio, L. C. Andreani, D. Bajoni, G. Guizzetti, L. Businaro, E. Di Fabrizio, F. Romanato, A. Passaseo,
Physica E Vol. **17**, 418 (2003).
97. **Direct measurement of refractive index dispersion of transparent media by white light interferometry**
M. Galli, F. Marabelli, G. Guizzetti,
Applied Optics **OT 42**, 1 (2003).
98. **p-type macroporous silicon for two dimensional photonic crystals**
P. Bettotti, L. Dal Negro, Z. Gaburro, L. Pavesi, A. Loi, M. Galli, M. Patrini, F. Marabelli,
Journal of Applied Physics **92**, 6966 (2002).

99. **Optical properties and photonic bands of GaAs photonic crystal waveguides with tilted square lattice**
M. Galli, M. Agio, L.C. Andreani, L. Atzeni, D. Bajoni, G. Guizzetti, L. Businaro, E. Di Fabrizio, F. Romanato, A. Passaseo,
European Physical Journal B **27**, 79-87 (2002).
100. **Fabrication by means of X-ray lithography of 2D GaAs/AlGaAs photonic crystals with unconventional unit cell**
F. Romanato, L. Businaro, E. Di Fabrizio, A. Passaseo, M. De Vittorio, R. Cingolani, M. Patrini, M. Galli, D. Bajoni, L.C. Andreani, D. Peyrade and Y. Chen,
Nanotechnology **13**, 644 (2002).
101. **Optical response of one-dimensional (Si/SiO₂) multilayer photonic crystals**
M. Patrini, M. Galli, M. Belotti, L.C. Andreani, G. Guizzetti, G. Pucker, A. Lui, P. Bellutti, L. Pavesi,
Journal of Applied Physics **92**, 1816 (2002).
102. **Fabrication and optical measurements of silicon on insulator photonic nanostructures**
D. Peyrade, Y. Chen, A. Talneau, M. Patrini, M. Galli, F. Marabelli, M. Agio, L.C. Andrean, E. Silberstein and P. Lalanne
Microelectronic Engineering, **61**, 529 (2002).
103. **Photonic bands in patterned silicon on insulator waveguides**
M. Patrini, M. Galli, F. Marabelli, M. Agio, L.C. Andreani, D. Peyrade and Y. Chen
IEEE Journal of Quantum Electronics **38**, 885 (2002).
104. **Spectroscopy of photonic bands in macroporous silicon photonic crystals**
M. Galli, M. Agio, L.C. Andreani, M. Belotti, G. Guizzetti, F. Marabelli, M. Patrini, P. Bettotti, L. Dal Negro, Z. Gaburro, L. Pavesi, A. Loi, P. Bellutti,
Physical Review B **65**, 113111 (2002).
105. **Evolution of the ground state properties of YbMCu_{5-x}Au_x**
M. Galli, E. Bauer, St. Berger, Ch. Dusek, M. Della Mea, H. Michor, D. Kaczorowski, E. W. Scheidt, F. Marabelli,
Physica B **312-313**, 489 (2002)
106. **Crystal structure and physical properties of Eu_{0.83}Fe₄Sb₁₂**
E. Bauer, St. Berger, A. Galatanu., M. Galli, H. Michor, G. Hilscher, Ch. Paul,
Physical Review B **63**, 224414 (2001).
107. **Electronic structure and optical spectra of LuInCu₄ and YbMCu₄ (M=Cu, Ag, Au, Pd, and In)**
V.N. Antonov, M. Galli, F. Marabelli, A.N. Yaresko, A. Ya. Perlov, E. Bauer
Physical Review B **62**, 1742 (2000)
108. **Onset of magnetism and fermi-liquid instabilities in Yb compound**
E. Bauer, A. Galatanu, I. Naber, M. Galli, F. Marabelli, C. Seuring, K. Heuser, E.W. Scheidt, T. Schreiner and G.R. Stewart
Physica B **281-282**, 319 (2000).
109. **On electronic structure and pressure response of FeSi_{1-x}Ge_x**
Ch. Reichl, G. Wiesinger, G. Zaussinger, E. Bauer, M. Galli, F. Marabelli,
Physica B **259-261**, 866 (1999);
110. **Correlation between structural and optical properties of ion beam synthesized βFeSi₂ precipitates in Si**
M.G. Grimaldi, S. Coffa, C. Spinella, F. Marabelli, M. Galli, L. Miglio, V. Meregalli,
Journal of Luminescence **80**, 467 (1999)

- 111. Non-fermi-liquid behaviour of $\text{YbCu}_{5-x}\text{Al}_x$**
E. Bauer, R. Hauser, H. Michor, G. Hilscher, A. Galatanu, M. Galli, F. Marabelli, J.G. Sereni, M.G. Berisso P. Pedrazzini, P. Bonville
Physical Review B **60**, 1238 (1999);
- 112. Evolution of a non-Fermi-liquid state in $\text{YbCu}_{5-x}\text{Al}_x$**
E. Bauer, R. Hauser, H. Michor, G. Hilscher, A. Galatanu, M. Galli, J.G. Sereni, and P. Bonville,
Physica B **259-261**, 426 (1999).
- 113. Electronic structure and magnetic properties of URhSi**
M. Galli, F. Marabelli, A. Continenza, P. Monachesi, F. Canepa, M. L. Fornasini, “
Journal of Applied Physics **83**, 6438 (1998).
- 114. Specific heat of HoYb_2C**
M. El-Haghary, H. Michor, C. Jambrich, R. Hauser, M. Galli, E. Bauer and G. Hilscher,
Journal of Magnetism and Magnetic Materials **177-181**, 551 (1998).
- 115. Tuning of a non fermi liquid state in CeNiGa_2 by pressure and external field**
R. Hauser, M. Galli, E. Bauer, A. Kottar, G. Hilscher and D. Kaczorowski,
Journal of Magnetism and Magnetic Materials **177-181**, 292 (1998).
- 116. Field and pressure dependence of itinerant electrons metamagnetism in $\text{Er}_{1-x}\text{Y}_x\text{Co}_2$**
A.S. Markosyan, R. Hauser, M. Galli, E. Bauer, E. Gratz, G. Hilscher, K. Kamishima and T. Goto,
Journal of Magnetism and Magnetic Materials **185**, 235 (1998).
- 117. Evolution of a metallic and magnetic state in $(\text{Fe}, \text{Mn})\text{Si}$ and $\text{Fe}(\text{Si}, \text{Ge})$**
E. Bauer, R. Hauser, Ch. Reichl, G. Wiesinger, G. Zaussinger, M. Galli and F. Marabelli,
Journal of Magnetism and Magnetic Materials **177-181**, 1401 (1998).
- 118. Kinetics of the C49-C54 phase transition in TiSi_2 : new indications from sheet resistance, infrared spectroscopy and molecular dynamics simulations**
M.G. Grimaldi, F. La Via, V. Ranieri, S. Bocelli, M. Galli, F. Marabelli, F. Bonoli, M. Iannuzzi, L. Miglio,
Microelectronic Engineering **37/38**, 441 (1997).
- 119. Optical evaluation of the ionized EL2 fraction in proton (24 GeV) irradiated semi-insulating GaAs**
R. Ferrini, M. Galli, G. Guizzetti, M. Patrini, F. Nava, P. Vanni, C. Canali,
Applied Physics Letters **71**, 3084 (1997).
- 120. The electronic structure of YbCu_4In as observed through optical measurements**
M. Galli, F. Marabelli E. Bauer,
Physica B **230-232** (1997) 304.
- 121. Phonon response of $\text{Al}_x\text{Ga}_{1-x}\text{Sb}/\text{GaSb}$ epitaxial layers by FTIR and Raman spectroscopies**
R. Ferrini, M. Galli, G. Guizzetti, M. Patrini, A. Bosacchi, S. Franchi, R. Magnanini,
Physical Review B **56**, 7549 (1997).
- 122. Optical function of bulk and epitaxial GaSb from 0.0025 to 6 eV**
M. Patrini, G. Guizzetti, M. Galli, R. Ferrini, A. Bosacchi, S. Franchi, R. Magnanini,
Solid State Communications **101**, 93 (1997).
- 123. Electronic structure and Yb valence in the Kondo lattices YbCu_4M (M=Ag, Au, Pd, In)**
Continenza, P. Monachesi, M. Galli, F. Marabelli, E. Bauer
Physica Scripta, **T66**, 177-182 (1996).

124. **Evolution of carrier density in the series $\text{YCu}_{5-x}\text{In}_x$**
M. Galli, F. Marabelli, E. Bauer,
Physical Review B **53**, 9517 (1996).
125. **Theoretical interpretation of optical conductivity of YbCu_4Au**
Continenza, P. Monachesi, M. Galli, F. Marabelli, E. Bauer,
Journal of Applied Physics **79**, 6423 (1996).
126. **Optical response of the Kondo lattices YbCu_4Ag , YbCu_4Au and YbCu_4Pd**
M. Galli, F. Marabelli, E. Bauer
Physica B **206-207**, 355 (1995).

Conference Papers

1. **Doubly Resonant Photonic Crystal Cavity Based on a Bound State in the Continuum for Efficient Second Harmonic Generation**
Minkov, M., Fan, S., Wang, J., Hodre, R., Clementi, M., Barone, A., Gerace, D., Galli, M.
2020 Conference on Lasers and Electro-Optics, CLEO 2020
10 May 2020 through 15 May 2020
2. **Emission of Time-Energy Entangled Photon Pairs by a Self-Pumped Silicon Microresonator**
Garrisi, F., Sabbatoli, F.A., Sam, S., Barone, A., Bergamasco, N., Massara, M.P., Morichetti, F., Melloni, A., Pirzio, F., Liscidini, M., Galli, M., Bajoni, D.
2020 Conference on Lasers and Electro-Optics, CLEO 2020
10 May 2020 through 15 May 2020
3. **Doubly resonant photonic crystal cavity based on a bound state in the continuum for efficient second harmonic generation**
Minkov, M., Fan, S., Wang, J., Hodré, R., Clementi, M., Barone, A., Gerace, D., Galli, M.
CLEO: Science and Innovations, CLEO_SI 2020
10 May 2020 through 15 May 2020
4. **Low-Loss Silicon Technology for High-Q Bright Quantum Sources**
Bajoni, D., El Dirani, H., Galli, M., Garrisi, F., Hartmann, J.M., Liscidini, M., Monat, C., Pargon, E., Petit-Etienne, C., Sabbatoli, F.A., Sciancalepore, C.
16th IEEE International Conference on Group IV Photonics, GFP 2019
28 August 2019 through 30 August 2019
5. **Demonstration of optical frequency combs in photonic crystal cavities**
Clementi, M., Barone, A., Fromherz, T., Gerace, D., Galli, M.
21st International Conference on Transparent Optical Networks, ICTON 2019, 9 July 2019 through 13 July 2019
6. **A source of heralded single photon using high quality factor silicon ring resonators**
Sabbatoli, F.A., El Dirani, H., Garrisi, F., Sam, S., Petit-Etienne, C., Hartmann, J.M., Pargon, E., Monat, C., Liscidini, M., Sciancalepore, C., Galli, M., Bajoni, D.
21st International Conference on Transparent Optical Networks, ICTON 2019, 9 July 2019 through 13 July 2019
7. **Low-Temperature NH_3 -Free Silicon Nitride Platforms for Integrated Photonics**
Bucio, T.D., Scholl, S.L., Ilie, S.T., Lacava, C., Debnath, K., Khokhar, A.Z., Banakar, M., Sotto, M., Grabska, K.M., Clementi, M., Bajoni, D., Galli, M., Saito, S., Petropoulos, P., Gardes, F.Y.
15th IEEE International Conference on Group IV Photonics, GFP 2018,
29 August 2018 through 31 August 2018

8. **Four-wave mixing in a silicon self-pumped ring resonator**
Massara, M.P., Sabbatoli, F., Galli, M., Bajoni, D.
2018 Conference on Lasers and Electro-Optics, CLEO 2018
13 May 2018 through 18 May 2018
9. **Harmonic Generation in Silicon Rich Nitride Photonic Crystal Cavities**
Clementi, M., Debnath, K., Sotto, M., Bucio, T.D., Liscidini, M., Bajoni, D., Gardes, F., Galli, M.
2018 Conference on Lasers and Electro-Optics, CLEO 2018
13 May 2018 through 18 May 2018
10. **Four-wave mixing in a silicon self-pumped ring resonator**
Massara, M.P., Sabbatoli, F., Galli, M., Bajoni, D.
CLEO: Applications and Technology, CLEO_AT 2018
13 May 2018 through 18 May 2018
11. **2D photonic crystal structures in silicon rich nitride platform**
Debnath, K., Bucio, T.D., Galli, M., Bajoni, D., Al-Attili, A., Khokhar, A.Z., Oo, S., Saito, S., Gardes, F.Y.
2017 Conference on Lasers and Electro-Optics, CLEO 2017
14 May 2017 through 19 May 2017
12. **High-Q/V photonic crystal cavities realized by an effective Aubry-André-Harper bichromatic potential**
Galli, M., Simbula, A., Shatzl, M., Zagaglia, L., Alpeggiani, F., Shaffler, F., Fromherz, T., Gerace, D.
19th International Conference on Transparent Optical Networks, ICTON 2017, 2 July 2017 through 6 July 2017
13. **Efficient harmonic generation in high-Q gallium nitride photonic crystal cavities on silicon**
Savona, V., Mohamed, M.S.A., Simbula, A., Minkov, M., Carlin, J.-F., Gerace, D., Grandjean, N., Galli, M., Houdre', R.
The European Conference on Lasers and Electro-Optics, CLEO_Europe 2017, 25 June 2017 through 29 June 2017
14. **Four-wave mixing in porous silicon microring resonators**
Simbula, A., Rodriguez, G.A., Menotti, M., Galli, M., Bajoni, D., Weiss, S.M., Liscidini, M.
2016 Conference on Lasers and Electro-Optics, CLEO 2016
5 June 2016 through 10 June 2016
15. **Four-wave mixing in porous silicon microring resonators**
Simbula, A., Rodriguez, G.A., Menotti, M., Galli, M., Bajoni, D., Weiss, S., Liscidini, M.
18th International Conference on Transparent Optical Networks, ICTON 2016, 10 July 2016 through 14 July 2016
16. **GaN L3 photonic crystal cavities with an average quality factor in excess of 16000 in the near infrared**
Trivino, N.V., Minkov, M., Urbinati, G., Galli, M., Carlin, J.-F., Butte, R., Savona, V., Grandjean, N.
Conference on Lasers and Electro-Optics, CLEO 2015
10 May 2015 through 15 May 2015
17. **Measurement of energy correlations of photon pairs generated in silicon ring resonators**
Grassani, D., Simbula, A., Galli, M., Pirotta, S., Baehr-Jones, T., Hochberg, M., Harris, N.C., Galland, C., Sipe, J.E., Bajoni, D., Liscidini, M.
Conference on Lasers and Electro-Optics, CLEO 2015
10 May 2015 through 15 May 2015

18. **Emission of time-energy entangled photons from a silicon microring resonator**
Grassani, D., Azzini, S., Liscidini, M., Galli, M., Strain, M.J., Sorel, M., Sipe, J.E., Bajoni, D.
2015 European Conference on Lasers and Electro-Optics - European Quantum Electronics Conference, CLEO/Europe-EQEC 2015
21 June 2015 through 25 June 2015
19. **High-resolution measurement of energy correlations of photon pairs generated in silicon ring resonators**
Liscidini, M., Grassani, D., Simbula, A., Galli, M., Pirotta, S., Baehr-Jones, T., Hochberg, M., Harris, N.C., Galland, C., Sipe, J.E., Bajoni, D.
17th International Conference on Transparent Optical Networks, ICTON 2015, 5 July 2015 through 9 July 2015
20. **Bloch surface wave polaritons at room temperature**
Pirotta, S., Patrini, M., Liscidini, M., Galli, M., Dacarro, G., Guizzetti, G., Comoretto, D., Bajoni, D.
European Quantum Electronics Conference, EQEC 2015
21 June 2015 through 25 June 2015
21. **Emission of time-energy entangled photons from a silicon microring resonator**
Grassani, D., Azzini, S., Liscidini, M., Galli, M., Strain, M.J., Sorel, M., Sipe, J.E., Bajoni, D.
European Conference on Lasers and Electro-Optics, CLEO 2015
21 June 2015 through 25 June 2015
22. **Joint spectral density measurement of energy correlations of photon pairs generated by a silicon microring resonator**
Grassani, D., Simbula, A., Galli, M., Pirotta, S., Baehr-Jones, T., Hochberg, M., Harris, N.C., Galland, C., Liscidini, M., Bajoni, D.
European Quantum Electronics Conference, EQEC 2015
21 June 2015 through 25 June 2015
23. **On chip source of photon pairs with integrated pump filtering and signal/idler demultiplexing**
Harris, N.C., Grassani, D., Simbula, A., Pant, M., Galli, M., Baehr-Jones, T., Hochberg, M., Englund, D., Bajoni, D., Galland, C.
European Quantum Electronics Conference, EQEC 2015
21 June 2015 through 25 June 2015
24. **Emission of time-energy entangled photon pairs from an integrated silicon ring resonator**
Grassani, D., Azzini, S., Liscidini, M., Galli, M., Strain, M.J., Sorel, M., Sipe, J.E., Bajoni, D.
CLEO: QELS_Fundamental Science, CLEO_QELS 2014
8 June 2014 through 13 June 2014, San Jose, CA
25. **L3 photonic crystal nanocavities with measured Q-factor exceeding one million**
Lai, Y., Pirotta, S., Urbinati, G., Gerace, D., Galli, M., Minkov, M., Savona, V., Badolato, A.
CLEO: Science and Innovations, CLEO_SI 2014
8 June 2014 through 13 June 2014, San Jose, CA
27. **Room temperature bloch surface wave polaritons**
Pirotta, S., Patrini, M., Liscidini, M., Galli, M., Dacarro, G., Canazza, G., Guizzetti, G., Comoretto, D., Bajoni, D.
Optics InfoBase Conference Papers, 2014
CLEO: QELS_Fundamental Science, CLEO_QELS_SI 2014.

- 28. Silicon photonic crystals: Light emission, modulation and detection**
Debnath, K., Shakoor, A., Welna, K., Gardes, F., Reed, G.T., Ferrera, M., Deasy, K., Lidzey, D., Lo Savio, R., Cardile, P., Portalupi, S., Gerace, D., Boninelli, S., Franzó, G., Priolo, F., Knights, A.P., Galli, M., Krauss, T.F., O'Faolain, L.
Proceedings of SPIE - The International Society for Optical Engineering
Volume 8990, 2014, Article number 89900C
- 29. Generation of time-energy entangled photons on a silicon chip**
Grassani, D., Azzini, S., Galli, M., Liscidini, M., Strain, M.J., Sorel, M., Sipe, J., Bajoni, D.
International Conference on Transparent Optical Networks
2014, Article number 6876328.
- 30. Room temperature Bloch surface wave polaritons**
Liscidini, M., Pirodda, S., Patrini, M., Galli, M., Dacarro, G., Canazza, G., Guizzetti, G., Comoretto, D., Bajoni, D.
International Conference on Transparent Optical Networks
2014, Article number 6876624.
- 31. L3 photonic crystal nanocavities with measured Q-factor exceeding one million**
Lai, Y., Pirodda, S., Urbinati, G., Gerace, D., Galli, M., Minkov, M., Savona, V., Badolato, A.
Optics InfoBase Conference Papers, 2014
CLEO: QELS_Fundamental Science, CLEO QELS_SI 2014.
- 32. Emission of time-energy entangled photon pairs from an integrated silicon ring resonator**
Grassani, D., Azzini, S., Liscidini, M., Galli, M., Strain, M.J., Sorel, M., Sipe, J.E., Bajoni, D.
Optics InfoBase Conference Papers, 2014
CLEO: QELS_Fundamental Science, CLEO QELS 2014.
- 33. Microscopic investigations of advanced thin films for photonics**
Boninelli, S., Shakoor, A., Welma, K., Krauss, T.F., O'Faolain, L., Lo Savio, R., Portalupi, S., Gerace, D., Galli, M., Cardile, P., Bellocchi, G., Franzó, G., Miritello, M., Iacona, F., Priolo, F.
Journal of Physics: Conference Series
Volume 471, Issue 1, 2013, Article number 0120
- 34. Spontaneous parametric fluorescence in SOI integrated microresonators**
Azzini, S., Grassani, D., Liscidini, M., Galli, M., Gerace, D., Sorel, M., Strain, M.J., Velha, P., Bajoni, D.
Proceedings of SPIE - The International Society for Optical Engineering
Volume 8915, 2013, Article number 89151P
- 35. Integrated nanophotonics for quantum photonics devices**
Malhotra, T., Lai, Y., Galli, M., Gerace, D., Boyd, R., Badolato, A.
Optics InfoBase Conference Papers, 2013
Conference on Coherence and Quantum Optics, CQO 2013
- 36. Four-wave mixing and generation of correlated photon pairs in silicon ring resonators and photonic molecules**
Azzini, S., Grassani, D., Strain, M.J., Velha, P., Sorel, M., Helt, L.G., Sipe, J.E., Gerace, D., Liscidini, M., Galli, M., Bajoni, D.
CLEO: QELS_Fundamental Science, CLEO:QELS FS 2013, Pages QTh1E.3
- 37. Demonstration of surface enhanced raman scattering in purely dielectric structures via bloch surface waves**
Liscidini, M., Pirodda, S., Xu, X., Delfan, A., Mysore, S., Maiti, S., Dacarro, G., Patrini, M., Galli, M., Guizzetti, G., Bajoni, D., Sipe, J.E., Walker, G.
CLEO: Science and Innovations, CLEO_SI 2013, Pages CM4O.7

38. **Er doped-Si nanostructures coupled with photonic crystals for high enhancement of light extraction**
Miritello, M., Lo Savio, R., Galli, M., Irrera, A., Iacona, F., Franzò, G., Andreani, L., O'Faolain, L., Krauss, T., Priolo, F.
ECS Transactions, Volume 53, Issue 4, 2013, Pages 71-80
39. **Surface Enhanced Raman Scattering and photo-luminescence through Bloch Surface Waves in dielectric multilayers**
Pirotta, S., Xu, X.G., Delfan, A., Mysore, S., Maiti, S., Dacarro, G., Patrini, M., Guizzetti, G., Bajoni, D., Sipe, J.E., Walker, G.C., Liscidini, M., Galli, M.
International Conference on Transparent Optical Networks, 2013, Article number 6602933
40. **Room temperature electrically pumped silicon nano-light source at telecommunication wavelengths**
Shakoor, A., Savio, R.L., Cardile, P., Portalupi, S.L., Gerace, D., Welna, K., Boninelli, S., Franzò, G., Priolo, F., Krauss, T.F., Galli, M., O'faolain, L.
Proceedings of SPIE - The International Society for Optical Engineering Volume 8629, 2013, Article number 862918
41. **Novel photonic crystal nanocavity design with high tolerance to disorder**
Welna, K., Portalupi, S.L., Galli, M., O'Faolain, L., Krauss, T.F.
2012 IEEE Photonics Conference, IPC 2012 2012, Article number 6358596, Pages 270-271
42. **Integrated nonlinear optics: From classical to quantum phenomena**
Sipe, J.E., Azzini, S., Grassani, D., Galli, M., Andreani, L.C., Sorel, M., Strain, M.J., Helt, L.G., Liscidini, M., Bajoni, D.
AIP Conference Proceedings Volume 1475, 2012, Pages 33-35
43. **Enhancing optical functionalities of silicon with photonic crystal nanocavities**
Galli, M., Savio, R.L., Gerace, D., Portalupi, S.L., Andreani, L.C., O'Faolain, L., Shakoor, A., Welna, K., Krauss, T.F., Cardile, P., Irrera, A., Priolo, F.
Laser Science, LS 2012, Rochester, New York United States 14-18 October 2012
44. **Low-power continuous-wave generation of second- and third-harmonic light in silicon photonic crystal nanocavities**
Galli, M., Gerace, D., Portalupi, S.L., Welna, K., Reardon, C., Krauss, T.F., O'Faolain, L., Guizzetti, G., Andreani, L.C.
Optics InfoBase Conference Papers, 2011 Quantum Electronics and Laser Science Conference, QELS 2011
45. **Enhanced light emission from silicon using photonic crystal nanocavities**
O'Faolain, L., Galli, M., Shakoor, A., Savio, R.L., Portalupi, S.L., Welna, K., Gerace, D., Guizzetti, G., Andreani, L.C., Krauss, T.F., Irrera, A., Franzò, G., Priolo, F.
Optics InfoBase Conference Papers, 2011 Integrated Photonics Research, Silicon and Nanophotonics, IPRSN 2011
46. **Light generation in silicon photonic crystal cavities**
Galli, M., O'Faolain, L., Gerace, D., Lo Savio, R., Portalupi, S.L., Shakoor, A., Welna, K., Andreani, L.C., Krauss, T.F., Irrera, A., Franzò, G., Priolo, F.
IEEE International Conference on Group IV Photonics GFP 2011, Article number 6053747, Pages 154-156
47. **Subbandgap photoluminescence of Si photonic crystal nanocavity at room temperature**
Shakoor, A., O'Faolain, L., Galli, M., Lo Savio, R., Portalupi, S.L., Welna, K., Gerace, D., Guizzetti, G., Andreani, L.C., Krauss, T.F., Irrera, A., Franzò, G., Priolo, F.
IEEE International Conference on Group IV Photonics GFP 2011, Article num. 6053736, Pages 121-123

48. **Electrical and optical properties of ion implanted SOI-based photonic crystals**
Cardile, P., Franzò, G., Lo Savio, R., Galli, M., Krauss, T.F., Priolo, F., O'Faolain, L.
IEEE International Conference on Group IV Photonics GFP
2011, Article number 6053734, Pages 115-117
49. **Si nanowire light emitting devices**
Irrera, A., Artoni, P., Iacona, F., Franzò, G., Galli, M., Fazio, B., Priolo, F.
IEEE International Conference on Group IV Photonics GFP
2011, Article number 6053735, Pages 118-120
50. **Nonlinear optics in silicon photonic crystal nanocavities**
Andreani, L.C., Galli, M., Gerace, D., Guizzetti, G., Portalupi, S.L., Welna, K., Reardon, C., O'Faolain, L., Krauss, T.F.
International Conference on Transparent Optical Networks
2011, Article number 5970818
51. **Photoluminescence spectroscopy of silicon photonic crystal nanocavities**
Savio, R.L., Portalupi, S.L., Galli, M., Gerace, D., Andreani, L.C., Shakoob, A., O'Faolain, L., Krauss, T.F., Irrera, A., Franzò, G., Priolo, F.
2011 Conference on Lasers and Electro-Optics Europe and 12th European Quantum Electronics Conference, CLEO EUROPE/EQEC 2011, Article number 5943216
52. **Low-power continuous-wave frequency conversion in far-field optimized silicon photonic crystal nanocavities**
Gerace, D., Galli, M., Portalupi, S.L., Welna, K., Reardon, C., Krauss, T.F., O'Faolain, L., Guizzetti, G., Andreani, L.C.
2011 Conference on Lasers and Electro-Optics Europe and 12th European Quantum Electronics Conference, CLEO EUROPE/EQEC 2011, Article number 5943211
53. **Low-power continuous-wave generation of second- and third-harmonic light in silicon photonic crystal nanocavities**
Galli, M., Gerace, D., Portalupi, S.L., Welna, K., Reardon, C., Krauss, T.F., O'Faolain, L., Guizzetti, G., Andreani, L.C.
2011 Conference on Lasers and Electro-Optics: Laser Science to Photonic Applications, CLEO 2011 2011, Article number 5951363
54. **Nonlinear optics in silicon photonic crystal nanocavities**
Andreani, L.C., Galli, M., Gerace, D., Guizzetti, G., Portalupi, S.L., Welna, K., Reardon, C., O'Faolain, L., Krauss, T.F.
2011 ICO International Conference on Information Photonics, IP 2011
2011, Article number 5953794
55. **Enhancement of solar cell efficiency using two-dimensional photonic crystals**
Postigo, P.A., Kaldirim, M., Prieto, I., Martínez, L.J., Dotor, M.L., Galli, M., Andreani, L.C.
Proceedings of SPIE - The International Society for Optical Engineering
Volume 7713, 2010, Article number 771307
56. **Enhancement of light-matter interaction using surface states in photonic crystal structures**
Liscidini, M., Galli, M., Patrini, M., Dacarro, G., Bajoni, D., Loo, R.W., Goh, M.C., Shi, M., Sipe, J.E.
Proceedings of SPIE - The International Society for Optical Engineering
Volume 7608, 2010, Article number 76080W
57. **All optical switching in silicon-on-insulator photonic wire nano-cavities**
Belotti, M., Galli, M., Gerace, D., Andreani, L.C., Guizzetti, G., Md Zain, A.R., Johnson, N.P., Sorel, M., De La Rue, R.M.
Optics InfoBase Conference Papers, 2009, Slow and Fast Light, SL 2009

58. **Emission enhancement and redistribution via bloch surface waves**
 Shi, M., Galli, M., Bajoni, D., Liscidini, M., Sipe, J.E.
Optics InfoBase Conference Papers, 2009
Conference on Lasers and Electro-Optics, CLEO 2009
59. **Enhanced Light emission from Erbium doped silicon photonic crystal nanocavities**
 Galli, M., O'Faolain, L., Franzo, G., Krauss, T.F., Priolo, F., Andreani, L.C.
IEEE International Conference on Group IV Photonics GFP
2009, Article number 5338318, Pages 193-195
60. **All optical switching in silicon-on-insulator photonic wire nano-cavities**
 Belotti, M., Galli, M., Gerace, D., Andreani, L.C., Guizzetti, G., Md Zain, A.R., Johnson, N.P., Sorel, M., De La Rue, R.M.
Optics InfoBase Conference Papers, 2009
Integrated Photonics and Nanophotonics Research and Applications, IPNRA 2009
61. **Diffraction enhancement via bloch surface waves in a-SiN: H multilayers**
 Liscidini, M., Galli, M., Patrini, M., Loo, R., Goh, C., Ricciardi, C., Giorgis, F., Sipe, J.E.
Optics InfoBase Conference Papers
2009
62. **Two-dimensional surface emitting photonic crystal laser with hybrid triangular-graphite structure**
 Martínez, L.J., Alén, B., Prieto, I., Seassal, C., Viktorovitch, P., Galisteo-López, J.F., Galli, M., Andreani, L.C., Postigo, P.A.
CLEO/Europe - EQEC 2009 - European Conference on Lasers and Electro-Optics and the European Quantum Electronics Conference
2009, Article number 5191967
63. **Resonant scattering of light by high-Q photonic crystals nanocavities**
 Portalupi, S.L., Galli, M., Belotti, M., Andreani, L.C., O'faolain, L., Krauss, T.F.
CLEO/Europe - EQEC 2009 - European Conference on Lasers and Electro-Optics and the European Quantum Electronics Conference
2009, Article number 5192617
64. **All-optical logical operation in photonic wire nano-cavities**
 Belotti, M., Galli, M., Gerace, D., Andreani, L.C., Md Zain, A.R., Johnson, N.P., Sorel, M.^b, De La Rue, R.M.
CLEO/Europe - EQEC 2009 - European Conference on Lasers and Electro-Optics and the European Quantum Electronics Conference
2009, Article number 5192042
65. **Two-dimensional surface emitting photonic crystal laser with hybrid triangular-graphite structure**
 Martínez, L.J., Alén, B., Prieto, I., Seassal, C., Viktorovitch, P., Galisteo-López, J.F., Galli, M., Andreani, L.C., Postigo, P.A.
ICTON 2009: 11th International Conference on Transparent Optical Networks
2009, Article number 5185267
66. **Enhancing light-matter interaction via Bloch surface waves for biosensing applications**
 Liscidini, M., Galli, M., Patrini, M., Dacarro, G., Andreani, L.C., Bajoni, D., Ricciardi, C., Giorgis, F., Loo, R.W., Goh, M.C., Shi, M., Sipe, J.E.
ICTON 2009: 11th International Conference on Transparent Optical Networks
2009, Article number 5185336
67. **Emission enhancement and redistribution via Bloch Surface Waves**
 Shi, M., Galli, M., Bajoni, D., Liscidini, M., Sipe, J.E.
2009 Conference on Lasers and Electro-Optics and 2009 Conference on Quantum Electronics and Laser Science Conference, CLEO/QELS 2009, 2009, Article number 5224538


68. **Diffraction enhancement via Bloch surface waves in a-SiN:H multilayers**
Liscidini, M., Galli, M., Patrini, M., Loo, R., Goh, C., Ricciardi, C., Giorgis, F., Sipe, J.E.
2009 Conference on Lasers and Electro-Optics and 2009 Conference on Quantum Electronics and Laser Science Conference, CLEO/QELS 2009, 2009, Article number 5224780.
69. **All optical switching in silicon-on-insulator photonic wire nano-cavities**
Belotti, M., Galli, M., Gerace, D., Andreani, L.C., Md Zain, A.R., Johnson, N.P., Sorel, M., De La Rue, R.M.
2nd IEEE LEOS Winter Topicals, WTM 2009 2009, Article number 4771639, Pages 30-31
70. **Two-dimensional surface emitting photonic crystal laser with hybrid triangular-graphite structure**
Martínez, L.J., Alén, B., Prieto, I., Seassal, C., Viktorovitch, P., Galisteo-López, J.F., Galli, M., Andreani, L.C., Postigo, P.A.
Optics InfoBase Conference Papers, 2009 The European Conference on Lasers and Electro-Optics, CLEO_Europe 2009
71. **Diffraction enhancement via Bloch surface waves in a-SiN:H multilayers**
Liscidini, M., Galli, M., Patrini, M., Loo, R., Goh, C., Ricciardi, C., Giorgis, F., Sipe, J.E.
Optics InfoBase Conference Papers, 2009 International Quantum Electronics Conference, IQEC 2009
72. **k-space spectroscopy of photonic crystal slabs**
M. Galli, A. Politi, M. Belotti, D. Gerace, M. Liscidini, M. Patrini, L.C. Andreani, M. Miritello, A. Irrera, F. Priolo, Y. Chen
Proceedings of 2008 10th Anniversary International Conference on Transparent Optical Networks, ICTON, Volume 2, 2008, Article number 4598596, Pages 76-79.
73. **Emission properties of artificial opals infiltrated with a heteroaromatic quadrupolar dye**
Cucini, M., Comoretto, D., Galli, M., Marabelli, F., Abbotto, A., Bellotto, L., Marinzi, C.
Proceedings of SPIE - The International Society for Optical Engineering, Volume 6999, 2008, Article number 69992D.
74. **Effect of implementation of a Bragg reflector in the photonic band structure of the Suzuki-phase photonic crystal lattice**
Martínez, L.J., Alija, A.R., Postigo, P.A., Galli, M., Galisteo-López, J.F., Andreani, L.C., Seassal, C., Viktorovitch, P.
Optics InfoBase Conference Papers, 2008 Integrated Photonics and Nanophotonics Research and Applications, IPNRA 2008
75. **Enhancement of light emission in silicon photonic crystal slabs**
Andreani, L.C., Belotti, M., Galli, M., Gerace, D., Liscidini, M., Patrini, M., Politi, A., Irrera, A., Miritello, M., Priolo, F., Chen, Y.
Conference on Quantum Electronics and Laser Science (QELS) - Technical Digest Series 2007, Article number 4431802.
76. **Enhanced light emission in active silicon-on-insulator photonic crystal slabs and slot waveguides**
Gerace, D., Andreani, L.C., Belotti, M., Galli, M., Liscidini, M., Patrini, M., Politi, Canino, A., Irrera, A., LoSavio, R., Miritello, M., Priolo, F., Chen, Y.
Proceedings of 2007 9th International Conference on Transparent Optical Networks, ICTON 2007, Volume 2, 2007, Article number 4296125, Pages 8-11.
77. **Silicon-on-insulator photonic crystal slabs for biosensing**
Patrini, M., Galli, M., Belotti, M., Andreani, L.C., Stella, A., Di Fabrizio, E., Froner, E., Scarpa, M., Peroz, C., Chen, Y.
Conference on Lasers and Electro-Optics Europe - Technical Digest, 2007, Article number 4386647.

78. **Enhancement of light emission in silicon photonic crystal slabs**
Andreani, L.C., Belotti, M., Galli, M., Gerace, D., Liscidini, M., Patrini, M., Politi, A., Irrera, A., Miritello, M., Priolo, F., Chen, Y.
Optics InfoBase Conference Papers, 2007
Quantum Electronics and Laser Science Conference, QELS 2007
79. **Silicon-on-insulator photonic crystal slabs for biosensing**
Patrini, M., Galli, M., Belotti, M., Andreani, L.C., Stella, A., Di Fabrizio, E., Froner, E., Scarpa, M., Peroz, C., Chen, Y.
Optics InfoBase Conference Papers, 2007
The European Conference on Lasers and Electro-Optics, CLEO_Europe 2007
80. **Optical necklace states in Anderson localized 1D systems**
Bertolotti, J., Gottardo, S., Sapienza, R., Wiersma, D.S., Ghulinyan, M., Pavesi, L., Galli, M., Andreani, L.C.
Optics InfoBase Conference Papers, 2006
Photonic Metamaterials: From Random to Periodic, META 2006
81. **Optical properties of polystyrene opals infiltrated with cyanine dyes in the form of J-aggregates**
Marabelli, F., Comoretto, D., Bajoni, D., Galli, M., Fornasari, L.
Materials Research Society Symposium Proceedings, Volume 846, 2005, Article number DD12.11, Pages 333-338.
82. **Optical Spectroscopy of Silicon-On-Insulator Waveguide Photonic Crystals**
Belotti, M., Galli, M., Bajoni, D., Guizzetti, G., Gerace, D., Agio, M., Andreani, L.C., Lalanne, P., Chen, Y.
Proceedings of 2004 6th International Conference on Transparent Optical Networks, 1, pp. 359-362.
83. **Measurement of Radiative and Guided Modes in Silicon-On-Insulator Photonic Crystal Slabs**
M. Galli, D. Bajoni, M. Belotti, M. Patrini, G. Guizzetti, D. Gerace, M. Agio, L.C. Andreani, Y. Chen
Proceedings of 2004 6th International Conference on Transparent Optical Networks, Volume 1, 2004, Pages 359-362.
84. **Morphology, band structure and optical properties of artificial opals**
Comoretto, D., Pavarini, E., Galli, M., Soci, C., Marabelli, F., Andreani, L.C.
Proceedings of SPIE - The International Society for Optical Engineering, Volume 5511, Article number 19, Pages 135-143 (2004).
85. **Optical Spectroscopy of Silicon-On-Insulator Waveguide Photonic Crystals**
D. Bajoni, M. Galli, M. Belotti, F. Paleari, M. Patrini, G. Guizzetti, D. Gerace, M. Agio, L.C. Andreani, Y. Chen,
Material Research Society Symposium – Proceedings, Volume 817, 2004, Pages 89-94.
86. **Optical properties and photonic bands of si-based photonic crystals**
M. Galli, M. Belotti, M. Patrini, F. Marabelli, M. Agio, L.C. Andreani, G. Guizzetti, P. Bettotti, L. Pavesi, A. Lui, G. Pucker
Conference on Lasers and Electro-Optics Europe - Technical Digest, 2003, Article number 1313726, Page 668.
87. **Deep levels induced by high fluence proton irradiation in undoped GaAs diodes**
Castaldini, A., Cavallini, A., Polenta, L., Canali, C., Nava, F., Ferrini, R., Galli, M.
Material Research Society Symposium – Proceedings Volume 487, 1998, Pages 447-452.
88. **Kinetics of the C49-C54 Transformation in Patterned and Blanket TiSi₂ Films: a comparison**
F. La Via, S. Privitera, G. Grimaldi, V. Raineri, M. Galli, F. Marabelli, M. Iannuzzi and L. Miglio
Material Research Society Symposium – Proceedings Volume 514, 1998, Pages 219-224.

Book Chapters

1. L.C. Andreani, M. Galli, D. Gerace, L. O'Faolain, T. Krauss (2012). **Nonlinear optics in silicon photonic crystal nanocavities**. In: M.F. Limonov, R.M. De La Rue. Optical properties of photonic structures: interplay of order and disorder. p. 361-378, Taylor & Francis - CRC Press, ISBN: 9781439871911
2. Comoretto Davide, Morandi Valentina, Galli Matteo, Marabelli Franco, Soci Cesare (2010). **Optical Properties and Electronic States in Anisotropic Conjugated Polymers: Intra- and Interchain Effects**. In: P. Samorì and F. Cacialli. Functional Supramolecular architectures for organic electronics and nanotechnology. Weinheim: Wiley-VCH books, ISBN: 9783527326112.
3. Morandi V, Soci C, Galli M, Marabelli F, Comoretto D (2007). **Optical probes of electronic states in highly anisotropic polymeric semiconductors**. In: G. Guizzetti; L.C. Andreani; F. Marabelli and M. Patrini. Highlights on Spectroscopies of Semiconductors and Nanostructures. vol. 94, p. 75-86, Bologna: SOCIETÀ ITALIANA DI FISICA, ISBN: 9788874380350.
4. L.C. Andreani, M. Galli, M. Agio, D. Bajoni, M. Belotti, D. Gerace, G. Guizzetti, M. Liscidini, M. Patrini, A. Politi (2007). **Theory and optical properties of photonic crystal slabs**. In: Eds. G. Guizzetti; L.C. Andreani; F. Marabelli; M. Patrini. Highlights on Spectroscopy of Semiconductors and Nanostructures. p. 177-190, Bologna: Società Italiana di Fisica, ISBN: 9788874380350
5. F. Marabelli, M. Agio, L.C. Andreani, D. Bajoni, M. Belotti, M. Galli, G. Guizzetti, M. Patrini, L. Pavesi, P. Bettotti, L. Dal Negro, Z. Gaburro, G. Pucker, A. Lui, P. Bellutti, D. Peyrade, Y. Chen (2002). **Optical properties of one- and two-dimensional photonic crystals based on silicon**. In: Eds. L.C. Andreani; G. Benedek; E. Molinari. Radiation–Matter Interaction in Confined systems. Bologna: Società Italiana di Fisica, ISBN: 8874380046

Pavia, 5 December 2020

A handwritten signature in black ink, reading "Matteo Galli". The signature is written in a cursive, flowing style.