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Email: [marco.liscidini@unipv.it](mailto:marco.liscidini@unipv.it)**Personal data:**

Born on 11<sup>th</sup> October 1977 in Tirano (Sondrio), Italy  
Married

**Education**

- Ph.D. in Physics at the University of Pavia, 20<sup>th</sup> January 2006 with a dissertation on “Nonlinear Optical Properties of Planar Microcavities and Photonic Crystal Slabs.”
- Diploma at “Scuola Avanzata di Formazione Integrata”, University of Pavia, Italy, June 2005.
- Laurea in Physics (110/110 summa cum laude) at the University of Pavia, 15<sup>th</sup> July 2002, with a dissertation on “Second Harmonic Generation in one-dimensional photonic crystals.”

**Research Experience:**

- Full Professor, Department of Physics **University of Pavia**, Apr. 2024- **present**
- Technical advisor of **Xanadu Quantum Technologies**, Feb, 2018 – **present**
- Advisory board of the **National Quantum Science and Technology Institute**, Nov, 2022 – **present**
- Associate Professor, Department of Physics **University of Pavia**, Jan. 2017- Mar. 2024
- Visiting Professor, Impact Centre, **University of Toronto**, Feb. 2018 – July 2018
- Assistant Professor, Department of Physics, **University of Pavia**, Dec. 2013- Dec 2016
- Visiting Professor, Department of Physics and Astronomy, **Macquarie University**, Feb 2015 -Mar 2015
- Research associate, Department of Physics, **University of Pavia**, Dec. 2010 – Nov. 2013
- Research associate (Level 3), **CNR-CNISM UdR Pavia**, Sept. 2009 – Nov.2010
- Post-Doc, Department of Physics “A. Volta”, **University of Pavia**, Jan. 2009 – Aug. 2009
- Post-Doc, Department of Physics, **University of Toronto**, Jan. 2007 – Dec. 2008
- Post-Doc, Department of Physics “A. Volta”, **University of Pavia**, Jan. 2006 – Dec. 2007

**Teaching experiences:**

- Professor of “Photonics” at the Department of Physics of the University of Pavia, October 2011 – present
- Professor of “Theoretical and Quantum Physics for AI” at the Department of Mathematics of the University of Pavia, October 2022 - present
- Professor of “Elettromagnetismo I” at the Department of Physics of the University of Pavia, October 2021 - present (in collaboration with Prof. D.M. Rebuzzi).
- Professor of “Fisica, elettronica e strumentazioni biomediche” at Dipartimento di scienze del sistema nervoso e del comportamento of the University of Pavia, October 2021-2022
- Professor of “Fisica (Physics)” at the Dipartimento di Scienze del Farmaco of the University of Pavia, October 2016 – 2021
- Professor of “Elettromagnetismo II” at the Department of Physics of the University of Pavia, October 2015 – 2022 (in collaboration with Prof. M. Patrini and L.C. Andreani).
- Teaching assistant of “Elettromagnetismo II” at the Department of Physics of the University of Pavia, October 2010 – 2014 (Prof. G. Guizzetti).
- Teaching assistant of “Geometria ed Algebra” at the Department of Electronic Engineering of the University of Pavia, October 2009 – January 2010 (Prof. S. Brivio)
- Teaching assistant of “Fisica Sperimentale” for the interfaculty degree in Biotechnology at the University of Pavia, February-September 2009 (Prof. M. Geddo)
- Adjunct professor of “Geometria ed Algebra” at Department of Electronic Engineering of the University of Pavia, October 2006 – December 2006
- Teaching assistant of “Geometria ed Algebra” at Department of Electronic Engineering of the University of Pavia, November 2002- September 2006 (Prof. M. Grieco)

**Institutional Activities**

- Delegate at UniPV for Partenariato Esteso di Scienze e Tecnologie Quantistiche – January 2022 – **present**
- Delegate at UniPV for Dipartimento per il Servizio Assistenza e Integrazione Studenti Disabili e con DSA - January 2019 - **present**
- Delegate at the Dipartimento di Fisica per la Laurea Magistrale Plus e i rapporti con le aziende, 2019-2022

**Research projects and contracts**

- 2022- present National Quantum Science and Technology Institute, Budget 116 Meuro (co-Principal Investigator – Responsible Spoke 1)
- 2022 - present HORIZON-CL4-2021 Project HYPERSPACE (participant)
- 2019 - present Xanadu Quantum Technology research contract (Principal Investigator)
- 2017 - present MIUR Cofin – NOMEN (participant)
- 2018-2019 US ARMY “Stimulated and Spontaneous Four Wave-Mixing in Photonic Topological Insulators”– Budget 50 k\$ (Principal Investigator)
- 2010-2013 MIUR-FIRB “Nonlinear and quantum optics in nanoscale photonic structures”, Budget 480keuro (253 Keuro to Marco Liscidini) (co-Principal Investigator)
- 2009-2011 ENI S.p.A. research contract "Photonic crystals for photovoltaic cells" (participant)
- 2008 CNISM-INNESCO “Photonic crystal polaritons for entangled photon generation”
- 2004 MIUR Cofin "Silicon-based photonic crystals for the control of light propagation and emission" (participant)

- 2003-2005 MIUR-FIRB "Miniaturized systems for electronics and photonics"

**Conference committees**

- SPIE Photonic Europe 2022, Nonlinear Optics and its Applications
- CLEO 2020, QELS 3: Quantum Photonics
- CLEO 2019, QELS 3: Quantum Photonics

**Professional Memberships**

- Fellow of Optica (formerly the Optical Society of America)

**Written and spoken languages:**

Italian (mother tongue), English (fluent).

**Research interest:**

Photonics; Classical and Quantum Nonlinear optics; Integrated Photonics; Artificially structured materials; Optical sensing and biosensing; Light emission; Polaritons; Photovoltaics.

**Inventions/Patents:**

1. "Resonant interferometric coupler and method of modifying an optical signal using same" – US 63/346,930 (pending)
2. "Systems and methods for nonlinear optical light generation using linearly uncoupled resonators in integrated photonic devices – U.S. Patent 11,003,046
3. "Methods and devices for detection of analytes using Bloch surface wave-enhanced diffraction-based biosensors" – U.S. Patent 9,658,221
4. "Direct imprinting of porous substrates" - U.S. Patent 9,352,543
5. "Optical sensor comprising diffraction gratings with functionalized pores and method of detecting analytes using the sensor" – U.S. Patent 8,349,617
6. "Dispositivo per la concentrazione della luce - Italian Patent MI2013A001062

**List of Peer-reviewed Publications:**

1. M. Pont, G. Corrielli, A. Fyrrillas, I. Agresti, G. Carvacho, N. Maring, P.-E. Emeriau, F. Ceccarelli, R. Albiero, P.H.D. Ferreira, N. Somaschi, J. Senellart, I. Sagnes, M. Morassi, A. Lemaitre, P. Senellart, F. Sciarrino, M. Liscidini, N. Belabas, and R. Osellame, "High-fidelity generation of four-photon GHZ states on-chip," **npj Quantum Information**, 10, 50 (2024)
2. M. Banic, J.E. Sipe, and M. Liscidini, "Integrated photonic sources of frequency-bin-encoded multipartite entangled states," **Phys. Rev. A**, 109, 01350 (2024)
3. A. Barone, M. Clementi, T. Poempool, A. Marcia, D. Bajoni, M. Liscidini, D. Gerace, T. Fromherz, and M. Galli, "Generation of entangled photon pairs from a silicon bichromatic photonic crystal cavity," **APL Photonics**, 9, 016110 (2024)
4. H.-H. Lu, M. Liscidini, A. L. Gaeta, A. M. Weiner, and J. M. Lukens, "Frequency-bin quantum information," **Optica** 10, 1655 (2023)

5. M. Borghi, N. Tagliavacche, F. A. Sabattoli, H. El Dirani, L. Youssef, C. Petit-Etienne, E. Pargon, J.E. Sipe, M. Liscidini, C. Sciancalepore, M. Galli, and D. Bajoni, "Reconfigurable Silicon Photonic Chip for the Generation Of Frequency-Bin-Entangled Qudits," **Phys. Rev. Applied** 19, 064026 (2023)
6. L. Zagaglia, S. Zanotti, M. Minkov, M. Liscidini, D. Gerace, and L.C. Andreani, "Polarization states and far-field optical properties in dielectric photonic crystal slabs," **Opt. Lett.** 48, 5017 (2023)
7. M. Borghi, N. Tagliavacche, F.A. Sabattoli, H. El Dirani, L. Youssef, C. Petit-Etienne, E. Pargon, J.E. Sipe, M. Liscidini, C. Sciancalepore, M. Galli, and D. Bajoni, "Reconfigurable silicon photonic chip for the generation of frequency-bin-entangled qudits," **Phys. Rev. Applied** 19, 064026 (2023)
8. T. Perani, and M. Liscidini, "Grating Couplers for Guided Bloch Surface Waves," **J. Opt. Soc. Am. B** 40, 306 (2023)
9. M. Clementi, F. Sabattoli, M. Borghi, L. Youssef, L. Gianini, N. Bergamasco, H. El Dirani, N. Tagliavacche, C. Petit-Etienne, E. Pargon, J.E. Sipe, M. Liscidini, C. Sciancalepore, M. Galli, and D. Bajoni, "Programmable frequency-bin quantum states in a nano-engineered silicon device," **Nat. Comm.** 14, 176 (2023)
10. L. Zatti, J.E. Sipe, and M. Liscidini, "Generation of photon pairs by spontaneous four-wave mixing in linearly uncoupled resonators," **Phys. Rev. A** 107, 013514 (2023)
11. M. Huang, D. Wu, H. Ren, L. Shen, T.W. Hawkins, J. Ballato, U.J. Gibson, M. Beresna, R. Slavik, J.E. Sipe, M. Liscidini, and A. Peacock, "Classical Imaging with Undetected Photons using Four-Wave Mixing in Silicon core Fibers," **Photonics Res.** 11, 137 (2023)
12. M. Banic, L. Zatti, M. Liscidini and J.E. Sipe, "Two strategies for modeling nonlinear optics in lossy integrated photonic structures," **Phys. Rev. A** 106, 043707 (2022)
13. F.A. Sabattoli, L. Gianini, A. Simbula, M. Clementi, A. Fincato, F. Boeuf, M. Liscidini, M. Galli, and D. Bajoni, "Silicon source of frequency-bin entangled photons," **Opt. Lett.** 47, 6201-6204 (2022)
14. F.A. Sabattoli, H. El Dirani, L. Youssef, L. Gianini, L. Zatti, F. Garrisi, D. Grassani, C. Petit-Etienne, E. Pargon, J.E. Sipe, M. Liscidini, C. Sciancalepore, D. Bajoni, and M. Galli, "Nonlinear coupling of linearly uncoupled resonators through a Mach-Zehnder interferometer," **Appl. Phys. Lett.** 121, 201101 (2022)
15. D. Nigro, M. Clementi, C.S. Brès, M. Liscidini, and D. Gerace, "Single-photon nonlinearities and blockade from a strongly driven photonic molecule," **Opt. Lett.** 47, 5348 (2022)
16. M. Borghi, F.A. Sabattoli, H. El Dirani, L. Youssef, C. Petit-Etienne, E. Pargon, J.E. Sipe, A. Mataji-Kojouri, M. Liscidini, C. Sciancalepore, M. Galli, and D. Bajoni, "Super spontaneous four-wave mixing in an array of silicon microresonators," **Phys. Rev. Appl.** 18, 034007 (2022)
17. M. Banic, M. Liscidini, and J. E. Sipe, "Resonant and non-resonant integrated third-order parametric down conversion," **Phys. Rev. A** 106, 043707 (2022)
18. N. Quesada N., L.G. Helt, M. Menotti, M. Liscidini, and J. E. Sipe, "Beyond photon pairs: Nonlinear quantum photonics in the high-gain regime" **Adv. Opt. Phot.** 14, 291 (2022)

19. D. Grassani, H. El Dirani, F. Sabattoli, L. Youssef, C. Petit-Etienne, S. Kerdiles, E. Pargon, M. Liscidini, C. Sciancalepore, D. Bajoni, and M. Galli, "Extending thermal stability of short-livingsoliton states in Silicon Nitride microringresonators" **Opt. Continuum** 7, 1516 (2022)
20. M. Banic, M. Liscidini, and J. E. Sipe, "Generation of photon pairs by stimulated emission in ring resonators," **Opt. Lett.** 47, 1802 (2022)
21. L. Zatti, N. Bergamasco, E. Lomonte, F. Lenzini, W. Pernice, and M. Liscidini, "Spontaneous parametric downconversion in linearly uncoupled resonators," **Opt. Lett.** 47, 1766 (2022)
22. F. A. Sabattoli, H. El Dirani, L. Youssef, F. Garrisi, D. Grassani, L. Zatti, C. Petit-Etienne, E. Pargon, J.E.Sipe, M. Liscidini, C. Sciancalepore, D. Bajoni, and M. Galli, "Suppression of parasitic nonlinear processes in spontaneous four-wave mixing in linearly uncoupled resonators," **Phys. Rev. Lett.** 127, 033901 (2021)
23. N. Bergamasco, J.E. Sipe, and M. Liscidini, "Generation of Hyper-entangled States in Strongly Coupled Topological Defects," **Opt. Lett.** 46, 2244 (2021)
24. Y. Zhang, M. Menotti, K. Tan, V.D. Vaidya, D.H. Mahler, L.G. Helt, L. Zatti, M. Liscidini, B. Morrison, and Z. Vernon, "Squeezed light from a nanophotonic molecule," **Nat. Comm.** 12, 2233 (2021)
25. Y. Wang, M. Li, J.-K. Chang, D. Aurelio, W. Li, B.-J. Kim, J. Kim, M. Liscidini, J. Rogers, and F. Omenetto, "Light-activated shape morphing and light-tracking materials using biopolymer-based programmable photonic nanostructures," **Nat. Comm.** 12, 1651 (2021).
26. T. Perani and M. Liscidini, "Long-range Bloch surface waves in photonic crystal ridges," **Opt. Lett.** 45, 6534 (2020).
27. F. Garrisi, F. A. Sabattoli, S. Sam, A. Barone, M. Previde Massara, F. Pirzio, F. Morichetti, A. Melloni, M. Liscidini, M. Galli, and D. Bajoni, "Electrically driven source of time-energy entangled photons based on a self-pumped silicon microring resonator," **Opt. Lett.** 45, 2768 (2020).
28. V. Introini, M. J. Steel, J. E. Sipe, L. G. Helt, and M. Liscidini, "Spontaneous parametric down conversion in a doubly resonant one-dimensional photonic crystal," **Opt. Lett.** 45, 1244, (2020).
29. K. Tan, M. Menotti, Z. Vernon, J. E. Sipe, M. Liscidini, and B. Morrison, "Stimulated four-wave mixing in linearly uncoupled resonators," **Opt. Lett.** 45, 873 (2020).
30. Z. Vernon, N. Quesada, M. Liscidini, B. Morrison, M. Menotti, K. Tan, and J.E. Sipe, "Scalable Squeezed-Light Source for Continuous-Variable Quantum Sampling," **Phys. Rev. Appl.** 12, 064024 (2019).
31. N. Bergamasco and M. Liscidini, "Generation of photon pairs in topologically-protected guided modes," **Phys. Rev. A** 100, 053827 (2019).
32. T. Perani, D. Aurelio, and M. Liscidini, "Bloch-surface-wave photonic crystal nanobeam cavity," **Opt. Lett.** 44, 5133 (2019).
33. B. Fang, M. Menotti, M. Liscidini, JE Sipe, and V.O. Lorenz, "Three-Photon Discrete-Energy-Entangled W State in an Optical Fiber," **Phys. Rev. Lett.** 123, 070508 (2019).

34. G.A. Rodriguez, D. Aurelio, M. Liscidini, and S.M. Weiss, "Bloch surface wave ring resonator based on porous silicon," **Appl. Phys. Lett.** 115, 011101 (2019).
35. M. Liscidini and J.E. Sipe, "Scalable and efficient source of entangled frequency bins," **Opt. Lett.** 44, 2625 (2019).
36. S. Ramelow, A. Farsi, Z. Vernon, S. Clemmen, X. Ji, J. E. Sipe, M. Liscidini, M. Lipson, and A.L. Gaeta, "Strong Nonlinear Coupling in a Si 3N 4 Ring Resonator," **Phys. Rev. Lett.** 122, 153906 (2019).
37. M. Menotti, B. Morrison, K. Tan, Z. Vernon, J.E. Sipe, and M. Liscidini, "Nonlinear Coupling of Linearly Uncoupled Resonators," **Phys. Rev. Lett.** 122, 013904 (2019).
38. M. A. Ciampini, A. Gherardi, V. Crimi, C. Macchiavello, J.E. Sipe, M. Liscidini, and P. Mataloni, "Stimulated Emission Tomography: Beyond Polarization," **Opt. Lett.** 44,41 (2019).
39. L.C. Andreani, A. Bozzola, P. Kowalczewski, M. Liscidini and L. Redorici, "Silicon solar cells: toward the efficiency limits," **Advances in Physics: X** 4,1548305 (2019).
40. Y.Wang, W. Li, M. Li, S. Zhao, F. De Ferrari, M.Liscidini, and F. G. Omenetto, "Biomaterial-Based "Structured Opals" with Programmable Combination of Diffractive Optical Elements and Photonic Bandgap Effects," **Adv. Mat.** 31, 1805312 (2018).
41. H. Kaviani Baghbadorani, D. Aurelio, J. Barvestani, and M. Liscidini, "Guided Modes in Photonic Crystal Slabs Supporting Bloch Surface Waves," **J. Opt. Soc. Am. B** 35, 805 (2018).
42. M. Previde Massara, M. Menotti, N. Bergamasco, N. C. Harris, T. Baehr-Jones, M. Hochberg, C. Galland, M. Liscidini, M. Galli, and D. Bajoni, "Nonlinear characterization of a silicon integrated Bragg waveguide filter," **Opt. Lett.** 43, 1171 (2018).
43. D. A. Travo, R. A. Muniz, M. Liscidini, and J. E. Sipe, "Green's function method to study thin diffraction gratings," **Phys. Rev. B** 96, 205140 (2017).
44. N. Bergamasco, M. Menotti, J. E. Sipe, and M. Liscidini, "Generation of path-encoded Greenberger-Horne-Zeilinger states," **Phys. Rev. App.** 8, 054014 (2017).
45. Y. Wang, D. Aurelio, W. Li, P. Tseng, Z. Zheng, M. Li, D. L. Kaplan, M. Liscidini, and F. G. Omenetto, "Modulation of Multiscale 3D Lattice through Conformational Control: Painting Silk Inverse Opals with Water and Light," **Adv. Mater.** 29, 1702769 (2017).
46. D. Moss, L. Caspani, C. Xiong, B. Eggleton, D. Bajoni, M. Liscidini, M.Galli, and R. Morandotti, "Integrated sources of photon quantum states based on nonlinear optics," **Light: Science & Applications** 6, e17100 (2017).
47. D. Aurelio and M. Liscidini, "Electromagnetic field enhancement in Bloch surface waves," **Phys. Rev. B** 96 045308 (2017).
48. N. Fong, M. Menotti, E. Lisicka-Skrzek, H. Northfield, A. Olivieri, N. Tait, M. Liscidini, and P. Berini, "Bloch long-range surface plasmon polaritons on metal stripe waveguides on a multilayer substrate," **ACS Photonics** 4, 593 (2017).

49. L. G. Helt, A.M. Bran'czyk, M Liscidini, and M. J. Steel, "Parasitic photon-pair suppression via photonic stop-band engineering," **Phys. Rev. Lett.** 118, 073603 (2017).
50. Z. Vernon, M. Menotti, C. C. Tison, J. A. Steidle, M. L. Fanto, P. M. Thomas, S. F. Preble, A. M. Smith, P. M. Alsing, M. Liscidini, and J. E. Sipe, "Truly unentangled photon pairs without spectral filtering," **Opt. Lett.** 42, 3638 (2017)
51. Z. Vernon, M. Liscidini, and J. E. Sipe, "Quantum frequency conversion and strong coupling of photonic modes using four-wave mixing in integrated micro resonators," **Phys. Rev. A** 94, 023810 (2016).
52. M. Menotti, L. Maccone, J.E. Sipe, and M. Liscidini, "Generation of energy-entangled W states via parametric fluorescence in integrated devices, " **Phys. Rev. A** 94, 013845 (2016).
53. A. Simbula, G. A. Rodriguez, M. Menotti, S. De Pace, S. M. Weiss, M. Galli, M. Liscidini, and D. Bajoni, "Low-power Four-Wave Mixing in Porous Silicon Microring Resonators," **Appl. Phys. Lett.** 109, 021106 (2016).
54. B. Fang, M. Liscidini, J.E. Sipe, and V. Lorenz, "Multidimensional characterization of an entangled photon-pair source via stimulated emission tomography, " **Opt. Express** 24, 10013 (2016)
55. T. Onodera, M. Liscidini, J. E. Sipe, and L.G. Helt, "Parametric fluorescence in a sequence of resonators: An analogy with Dicke superadiance, " **Phys. Rev. A** 93, 043837 (2016).
56. M. Liscidini, J.E. Sipe, and L. Helt, "Continuous wave photon pair generation in silicon-on-insulator waveguides and ring resonators and Erratum: Comment,' **Opt. Express** 24, 9130 (2016).
57. S. Bhandaru, A. Bozzola, M. Liscidini, S.M. Weiss, "Efficiency Enhancement via Metal-coated Porous Amorphous Silicon Back Reflectors Incorporated in Amorphous Silicon Solar Cells," **MRS Comm.** 6, 117 (2016).
58. D. Grassani, A. Simbula, S. Pirotta, M. Galli, M. Menotti, N.C. Harris, T. Baehr-Jones, M. Hochberg, C. Galland, M. Liscidini, and D. Bajoni, "Energy correlations of photon pairs generated by a silicon microring resonator probed by Stimulated Four Wave Mixing," **Sci. Rep.** 6, 23564 (2016).
59. Z. Vernon, M. Liscidini, and J.E. Sipe, "No free lunch: the trade off between heralding rate and efficiency in microresonator-based heralded single photon sources," **Opt. Lett.** 41, 788 (2016).
60. I. Jizan, L. Helt, C. Xiong, M.J. Collins, D.-Y. Choi, C. Joon Chae, M. Liscidini, M.I. Steel, B. J. Eggleton, and A. Clark, "Bi-photon spectral correlation measurements from a silicon nanowire in the quantum and classical regimes.", **Sci. Rep.** 5, 12557 (2015).
61. L. Rozema, C. Wang, D.H. Mahler, A. Hayat, A.M. Steinberg, J.E. Sipe, and M. Liscidini, "Characterizing an Entangled-Photon Source with Classical Detectors and Measurements, " **Optica** 2, 430 (2015).
62. M. Liscidini and J.E. Sipe, "A classic never gets old", **Il Nuovo Saggiatore** 31, 18 (2015).
63. M. Menotti and M. Liscidini, "Optical resonators based on Bloch surface waves, " **J. Opt. Soc. Am. B** 32, 431 (2015).

64. D. Grassani, S. Azzini, M. Liscidini, M. Galli, M.J. Strain, M. Sorel, J. E. Sipe, and D. Bajoni, "A micrometer-scale integrated silicon source of time-energy entangled photons," **Optica** 2, 88 (2015).
65. L.C. Andreani, A. Bozzola, P. Kowalczewski, and M. Liscidini, "Photonic light trapping and electrical transport in thin-film silicon solar cells," **Sol. Energ. Mat. Sol. Cells** 135, 78 (2015).
66. B. Fang, O. Cohen, M. Liscidini, J.E. Sipe, and V. Lorenz, "Fast and highly-resolved capture of the joint spectral density of photon pairs," **Optica** 1, 2334 (2014).
67. A. Eckstein, G. Boucher, A. Lemaitre, P. Filloux, I. Favero, G. Leo, J. E. Sipe, M. Liscidini, S. Ducci, "High-resolution characterisation of two photon states," **Laser Photonics Rev.** 8, L76–L80 (2014).
68. P. Kowalczewski, A. Bozzola, M. Liscidini, and L.C. Andreani, "Light-trapping and electrical transport in thin-film solar cells with randomly rough texture," **J. Appl. Phys.** 115 , 194504 (2014).
69. S. Flores Daorta, A. Proto, R. Fusco, L.C. Andreani, and M. Liscidini, "Cascade Luminescent Solar Concentrators," **Appl. Phys. Lett.** 104, 153901 (2014).
70. R. Lo Savio, M. Galli , M. Liscidini , L. C. Andreani , G. Franzo<sup>1</sup> , F. Iacona , M. Miritello , A. Irrera , D. Sanfilippo , A. Piana , and F. Priolo, "Photonic crystal light emitting diode based on Er and Si nanoclusters co-doped slot waveguide," **App. Phys. Lett.** 104, 121107 (2014).
71. G. Lerario, A. Cannavale, D. Ballarini, L. Dominici, M. De Giorgi, M. Liscidini, D. Gerace, D. Sanvitto, and G. Gigli, "Room temperature Bloch surface wave polaritons, " **Opt. Lett.** 39, 20681 (2014).
72. S. Pirotta , M. Patrini , M. Liscidini , M. Galli , G. Dacarro , G. Canazza , G. Guizzetti , D. Comoretto, and D. Bajoni, "Strong coupling between excitons in organic semiconductors and Bloch Surface Waves" **App. Phys. Lett.** 104, 051111 (2014).
73. M. Liscidini and J.E. Sipe, "Stimulated Emission Tomography," **Phys. Rev. Lett.** 111, 193602 (2013).
74. E. Zhu, Z. Tang, L. Qian, L.G. Helt, M. Liscidini, J.E. Sipe, C. Corbari, A. Canagasabey, M. Ibsen, and P.G. Kazansky, Poled-fiber source of broadband polarization-entangled photon pairs," **Opt. Lett.** 38, 4397 (2013).
75. S. Azzini, D. Grassani, M. Galli, D. Gerace, M. Patrini, M. Liscidini, P. Velha, D. Bajoni, "Stimulated and spontaneous four-wave mixing in silicon-on-insulator coupled photonic wire nano-cavities", **Appl. Phys. Lett.** 103, 031117 (2013).
76. P. Kowalczewski, M. Liscidini, and L.C. Andreani, "Light trapping in thin-film solar cells with randomly rough and hybrid textures", " **Opt. Express** 21, A808 (2013).
77. A. Bozzola, M. Liscidini, and L.C. Andreani, "Broad-band light-trapping with disordered photonic structures in thin film silicon solar cells", **Prog. Photovolt: Res. Appl.** 22, 1237 (2014).
78. S. Pirotta, X. Xu, A. Delfan, S. Mysore, S. Maiti, G. Dacarro, M. Patrini, M. Galli, G. Guizzetti, D. Bajoni, J.E. Sipe, G. Walker, M. Liscidini, "Surface Enhanced Raman Scattering in Purely Dielectric Structures via Bloch Surface Waves", **J. Phys. Chem. C** 117, 6821 (2013).



79. C.S. Schuster, P. Kowalczewski, E.R. Martins, M. Patrini, M.G. Scullion, M. Liscidini, L. Lewis, C. Reardon, L.C. Andreani, and T. F. Krauss, "Dual gratings for enhanced light trapping in thin-film solar cells by a layer-transfer technique", **Opt. Express** 21, A433 (2013)
80. L.G. Helt, J.E. Sipe, and M. Liscidini, "Super spontaneous four-wave mixing in single-channel SCISSOR structures", **Opt. Lett.** 37, 4431(2012).
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**Invited Talks:**

1. "Generation of high-dimensional states in photonic integrated platforms," Central European Workshop on Quantum Optics - CEWQO 2023, July 2-6, 2023, Milan, Italy
2. "Squeezing Light for Quantum Technologies," Guest lecturer @ PLANCKS 2023 – May 12-16, 2023, Milan, Italy
3. "Non-classical Light from Reconfigurable Integrated Sources," CLEO 2023 - May 7-12, 2023, San Jose, California
4. "Generation of nonclassical light in integrated nanophotonic resonators," European Optical Society Annual meeting (EOSAM) 2021, September 13-17, 2021, Rome, Italy
5. "Generation of Photon Pairs by Parametric Fluorescence in Waveguide Arrays Supporting Topologically Protected Guided Modes," METANANO 2021, September 13-17, 2021, Tbilisi, Georgia (ONLINE EVENT)
6. "Parametric fluorescence in linearly uncoupled resonators", Bristol Quantum Information Technologies Workshop, BQIT 2021 April 26-28, 2021, Bristol UK (ONLINE EVENT)
7. "Engineering non-classical light in photonic integrated devices with linearly coupled and uncoupled resonators, " 22nd International Conference on Transparent Optical Networks ICTON 2020, July 19-23, 2020 Bari, Italy (ONLINE EVENT)
8. "Generation of Photon Pairs in Topologically Protected Guided Modes," 21st International Conference on Transparent Optical Networks ICTON 2019, July 9-13, 2019, Angers, France
9. "Classical and Quantum Nonlinear Optics in Silicon Photonics: Opportunities and Challenges," Leti Innovation Days 2019 June 24-28, 2019, Grenoble, France
10. "Engineering non-classical light in photonic integrated devices," Photonics for Quantum (PfQ) Workshop, January 23-25, 2019, Rochester Institute of Technology, USA
11. "Nonlinear optics in SiN: from the generation of photon pairs to strong nonlinear coupling," Workshop on Emerging Trends in Nonlinear Optics, ETNO 2018, Brescia, Italy
12. "Guided Bloch long-range surface plasmon polaritons", Trends in Nano Technologies, TNT 2018, Lecce, Italy
13. "Generation of energy-entangled W states," 19th International Conference on Transparent Optical Networks ICTON 2017, Girona, Spain
14. "Guided Bloch Long-range Surface Plasmon Polaritons," 19th International Conference on Transparent Optical Networks ICTON 2017, Girona, Spain

15. "Generation of non-classical states of light via parametric fluorescence in integrated devices", Bristol Quantum Information Technologies Workshop, BQIT 2017 April, 5-7, 2017, Bristol UK
16. "Low-Power Four Wave Mixing in Porous Silicon Ring Resonators, "18th International Conference on Transparent Optical Networks ICTON 2016, Trento, Italy
17. "Seeing classical and quantum optics in a new light," Convegno SISFA 2015, Arezzo, Italy
18. "A classic never gets old", Congresso SIF 2014, Pisa, Italia
19. "Generation of time-energy entangled photons on a silicon chip," 16th International Conference on Transparent Optical Networks ICTON 2014, Graz, Austria.
20. "Room temperature Bloch surface wave polaritons," 16th International Conference on Transparent Optical Networks ICTON 2014, Graz, Austria.
21. "From Classical to Quantum Nonlinear Photonics", Italian National Conference on Condensed Matter Physics, FisMat 2013, Milano, Italy, September 9-13, 2013
22. "Super spontaneous four-wave mixing", 15<sup>th</sup> International Conference on Transparent Optical Networks ICTON 2012, Cartagena, Spain, June 23-27, 2013
23. "Guided Modes in Photonic Crystal Ridges", SPIE Photonics North, Ottawa, Canada, June 3-5, 2013.
24. "From classical to quantum nonlinear optics in integrated photonic structures," 14<sup>th</sup> International Conference on Transparent Optical Networks ICTON 2012, University of Warwick, Coventry, UK, July 2 – 5, 2012.
25. "Thin-Film Silicon Solar Cells with a Photonic Pattern: Light Trapping towards Lambertian Limit," MRS Fall meeting, Boston, November 28 - December 2, 2011.
26. "Guided Bloch Surface Waves Polaritons," 13<sup>th</sup> International Conference on Transparent Optical Network, Stockholm, Sweden, June 27-30, 2011.
27. "Surface plasmons, waveguide modes, and Bloch surface waves: similarities and differences," SPIE Photonics North, Niagara Falls, Canada, June 1- 3, 2010.
28. "Enhancement of light-matter interaction using surface states in photonic crystal structures," SPIE Photonics West, San Francisco, California, January 23-28, 2010.
29. "Photonic crystals and applications to photovoltaic cells," Workshop on Nanoscience and Nanotechnology, Rome, Italy, October 19-23, 2009.
30. "Enhancing light-matter interaction via Bloch surface waves for biosensing applications," 11<sup>th</sup> International Conference on Transparent Optical Network, Ponta Delgada, Azores, Portugal June 28- July 3, 2009.
31. "Nonlinear optical properties of planar microcavities and 1D photonic crystals," 4<sup>th</sup> CRI Workshop, The Physics of Microresonators , Charlotte, North Carolina USA, June 6 -9, 2007.

32. "Enhanced light emission from silicon photonic crystals," SPIE Optics + Photonics, San Diego, California, August 26-30, 2007.

**Contributed Talks:**

1. "A reconfigurable source of entangled frequency bins," CLEO 2022 - San Jose, California, May 15-20, 2022
2. "Room temperature Bloch surface wave polaritons," CLEO 2014 - San Jose, California, June 8-13, 2014.
3. "Emission of time-energy entangled photon pairs from an integrated silicon ring resonator," CLEO 2014 - San Jose, California, June 8-13, 2014.
4. "High-resolution measurement of the joint spectral density of quantum correlated photon pairs," CLEO 2014 - San Jose, California, June 8-13, 2014.
5. "Stimulated Emission Tomography," CLEO 2014 - San Jose, California, June 8-13, 2014.
6. "Demonstration of Surface Enhanced Raman Scattering in Purely Dielectric Structures via Bloch Surface Waves", CLEO 2013 - San Jose, California, June 8-13, 2013
7. "Light-trapping: From Order to Disorder in Thin-film Silicon Solar Cells", CLEO 2013 - San Jose, California, June 8-13, 2013
8. "Guided Bloch Surface Wave polaritons: a route towards polariton circuits", CLEO/QELS 2012, San Jose, California, May 6-11, 2012.
9. "Directional photoluminescence enhancement in organic flexible microcavities", CLEO 2011, Baltimore, Maryland, May 1-6, 2011.
10. "Absorption enhancement and light trapping regimes in thin-film silicon solar cells with a photonic pattern", CLEO/QELS 2010, San Jose, California, May 16-21, 2010.
11. "Quasi-guided surface plasmon polaritons in anisotropic materials", CLEO/QELS 2010, San Jose, California, May 16 -21, 2010.
12. "Diffraction Based Biosensing with Porous Silicon", CLEO/QELS 2010, San Jose, California, May 16 -21, 2010.
13. "Efficiency of thin films silicon solar cells with a photonic pattern", SPIE Photonics Europe, Brussels, Belgium April 12-16, 2010.
14. "Bloch surface waves and diffraction-based biosensors" – 2<sup>nd</sup> National Nanomedicine Conference, Pavia, Italy, September 21-22, 2009.
15. "Gratings on porous silicon structures for sensing applications" - CLEO/QELS 2009, Baltimore, Maryland, May 31-June 5, 2009.

16. "Maximum scaling of Second-Harmonic Generation in One-dimensional Photonic Crystals" - CLEO/QELS 2008, San Jose, California, May 4-9, 2008.
17. "Emission in a Photonic Crystal Slab as function of etching depth: from a diffraction grating to a photonic crystal" – European Optical Society Annual Meeting, Paris, France, October 16-19, 2006.
18. "Enhancement of harmonic generation in microcavities and photonic crystal slabs" - SPIE International Congress on Optics and Optoelectronics, Warsaw, Poland, August 28-September 2, 2005.
19. "Enhanced Second Harmonic Generation in Doubly Resonant Microcavities" - International Quantum electronics Conference and the Pacific Rim Conference on Lasers and Electro-Optics, Tokyo, Japan, July 11-15, 2005.
20. "Resonant Second Harmonic Generation and Phase matching in one dimensional microcavities" - COST P11 Meeting, Roma, Italia, October 17-20, 2004.