

PERSONAL INFORMATION

Davide Rocco



 (BS), Italy
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Sex Male Date of birth  | Nationality italian

WORK EXPERIENCE

November 2015 – Now

Ph.D student

University of Brescia

- Department of Information Engineering, via Branze 38, Brescia 25123, Italy

Activity Research activities on dielectric nanoantennas

August 2015 – October 2015

Post-lauream research scholarship

University of Brescia

- Department of Information Engineering, via Branze 38, Brescia 25123, Italy

Activity Research project CARIPLO SHAPES

April 2015 – May 2015

Internship

ABE Elettronica S.r.l. – Caravaggio (BG) Italy

- Familiarization in the context of Research and Development Activities

Activity Microwave links in the frequency bands up to 24 GHz, satellite uplinks, antennas and antenna systems.

EDUCATION AND TRAINING

September 2012 – March 2015

Master's Degree in Communication Technologies and Multimedia

Department of Information Engineering, University of Brescia

- **Graduation** : 110/110
- Course taught in English
- **Main Themes** : Optical transmissions, modulation technique, antennas and microwave, coding and information compression, digital signal processing.
- **Dissertation topic** : Design and simulation of optical nanoantennas in dielectric material.
- **Thesis title** : Dielectric Optical Nanoantennas.

September 2008 – May 2012

Bachelor's degree in Electronics and Telecommunications

Curriculum: Telecommunications, Department of Information Engineering, University of Brescia

- **Graduation** : 102/110
- **Main Themes**: Analysis of analog and digital signals, electronics, information technology and programming, automatic, network protocols and systems.
- **Dissertation topic** : Design of Hilbert filters with different techniques: the window method, the frequency sampling method and the Parks-McClellan method.
- **Thesis title**: Progetto di filtri di Hilbert a fase lineare

September 2003 – June 2008

Diploma of Technical ManagerSpecialization: Electronics and Telecommunications
Istituto Tecnico Industriale Statale I.T.I.S "Benedetto Castelli", Via Cantore 9 Brescia

- **Graduation** : 95/100

Publications:

- V. F. Gili, L. Carletti, A. Locatelli, D. Rocco, M. Finazzi, L. Ghirardini, I. Favero, C. Gomez, A. Lemaitre, M. Celebrano, C. De Angelis, and G. Leo, "Monolithic AlGaAs second-harmonic nanoantennas," *Opt. Express* 24, 15965-15971 (2016).
- D. Rocco, L. Carletti, A. Locatelli, C. De Angelis, Valerio F. Gili, Giuseppe Leo "Modelling And Optimization Of The Second-Harmonic Radiation Pattern In Dielectric Nanoantennas" ECMS 2016. <http://dx.doi.org/10.7148/2016-0453>
- V. F. Gili, L. Carletti, D. Rocco, A. Locatelli, L. Ghirardini, I. Favero, C. Gomez, A. Lemaitre, M. Finazzi, M. Celebrano, C. De Angelis, and G. Leo, "Second-harmonic generation in AlGaAs nanoantennas," in *Photonics and Fiber Technology 2016 (ACOFT, BGPP, NP)*, OSA Technical Digest (online) (Optical Society of America, 2016), paper NT3A.3.
- M. Guasoni, N. Bontempi, D. N. Neshev, L. Carletti, D. Rocco, I. Alessandri, and C. De Angelis, "Design of All-Dielectric Photonic Crystals for Surface-Enhanced Raman Scattering," in *Photonics and Fiber Technology 2016 (ACOFT, BGPP, NP)*, OSA Technical Digest (online) (Optical Society of America, 2016), paper NW3A.3.
- L. Carletti, D. Rocco, A. Locatelli, V. F. Gili, G. Leo and Costantino De Angelis, "Enhanced second-harmonic generation driven from magnetic dipole resonance in AlGaAs nanoantennas", *Proc. SPIE 9884, Nanophotonics VI*, 98842B (April 19, 2016); doi:10.1117/12.2225902.
- L. Carletti, L. Ghirardini, V. F. Gili, L. Duò, M. Finazzi, D. Rocco, A. Locatelli, C. De Angelis, I. Favero, M. Ravaro, G. Leo, A. Lemaitre, M. Celebrano "Polarization-Resolved Second Harmonic Generation Measurements in AlGaAs Monolithic Nanoantennas", *CLEO/Europe-EQEC 2017*, 25 - 29 June 2017, Munich, Germany.
- C. De Angelis, V. F. Gili, D. Rocco, A. Locatelli, L. Ghirardini, I. Favero, C. Gomez, A. Lamaitre, M. Finazzi, M. Celebrano, G. Leo, "Second harmonic generation in AlGaAs nanoantennas", *Proc. SPIE 10111, Quantum Sensing and Nano Electronics and Photonics XIV*, 10111M (27 January 2017); doi: 10.1117/12.2242634.
- V. F. Gili, L. Carletti, D. Rocco, A. Locatelli, M. Ravaro, I. Favero, A. Lemaitre, L. Ghirardini, M. Finazzi, M. Celebrano, C. De Angelis, G. Leo, "Second harmonic generation in monolithic AlGaAs nanoantennas", *Nanophotonics and Micro/Nano Optics International Conference (NANOP 2016)*, invited oral presentation, Paris (France), Dec. 2016.
- L. Ghirardini, L. Carletti, V. F. Gili, G. Pellegrini, L. Duò, M. Finazzi, D. Rocco, A. Locatelli, C. De Angelis, I. Favero, M. Ravaro, G. Leo, A. Lemaitre, M. Celebrano, "Emission properties of second-harmonic generation in AlGaAs optical nanoantennas", *4th Optical Nanospectroscopy Conference*, oral presentation, Lisbon (Portugal), Mar. 2017.
- L. Carletti, D. Rocco, A. Locatelli, C. De Angelis, V. F. Gili, M. Ravaro, I. Favero, G. Leo, M. Finazzi, L. Ghirardini, M. Celebrano, G. Marino, A. V. Zayats "Controlling second-harmonic generation at the nanoscale with monolithic AlGaAs-on-AIOx antennas", *Nanotechnology*, Volume 28, Number 11. (2017).

- L. Ghirardini, L. Carletti, V. Gili, G. Pellegrini, L. Duò, M. Finazzi, D. Rocco, A. Locatelli, C. De Angelis, I. Favero, M. Ravaro, G. Leo, A. Lemaitre, and M. Celebrano, "Polarization properties of second-harmonic generation in AlGaAs optical nanoantennas," *Optics Letters* 42, 559-562 (2017)
- Gili, V., Carletti, L., Chouchane, F., Wang, G., Ricolleau, C., Rocco, D., Lemaitre, A., Favero, I., Ghirardini, L., Finazzi, M., Celebrano, M., De Angelis, C, Leo, G. (2017). "Role of the substrate in monolithic AlGaAs nonlinear nanoantennas" *Nanophotonics*, 0(0), pp. -. Retrieved 10 Oct. 2017, from doi:10.1515/nanoph-2017-0026
- D. Rocco, L. Carletti, A. Locatelli, C. De Angelis, "Controlling the directivity of all-dielectric nanoantennas excited by integrated quantum emitters," *J. Opt. Soc. Am. B* 34, 1918-1922 (2017).

Brescia, 10/10/2017