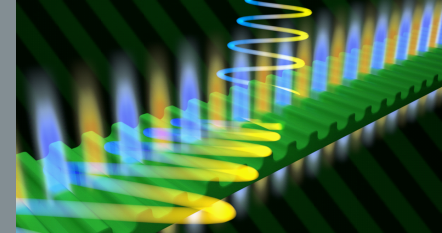





Giorgio Quaranta


PhD Student in Nanophotonics for Industrial Applications





 Italian


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 scholar.google.com/citations?user=tZLVjE8AAAAJ




motivated, passionate, versatile, creative, hard-working

I am a Ph.D. student in applied nanophotonics, developing optical structures based on thin-film for industrial up-scalable applications, such as optical security, optical combiners for near-eye displays and multispectral imaging. I am also an engineer on innovation, qualified in a broad range of micro and nanotechnology fields.

EDUCATION

PhD Student and
Doctoral Engineer

PhD Project in Nanophotonics for Industrial Applications
CSEM, Switzerland - EPFL, Switzerland

 NOV 2015 – PRESENT

Study of thin film optical structures based on resonant waveguide gratings for up-scalable applications, such as optical security, near-eye displays, multispectral imaging. Engineering project support for internal and industrial projects.

Master's Degree and
Assistant Engineer


International Master in Micro & Nano Technologies for ICT
CSEM, Switzerland - EPFL, Switzerland - INPG, France - PoliTo, Italy

 SEP 2013 – SEP 2015

Managing and designing highly scientific and innovative products and processes in all areas of industrial and applied research based on micro/nano devices and related technologies.

Bachelor's Degree

Physical Engineering
PoliTo, Italy

 SEP 2010 – SEP 2013

SKILLS AND ACHIEVEMENTS

Languages

Italian: native

French: elementary

English: fluent

German: elementary

Technical Skills

Cleanroom skills: electron beam lithography, nanoimprint lithography, AFM, SEM
Optical skills: optical simulators (RCWA, FDTD, FETD, FEM, SIE), optical metrology

Computer Skills

Matlab, Lumerical, OmniSim, Labview, Comsol, C++/Python-based SIE simulator.

Hobbies and Personal
Achievements

Swimming

Playing guitar

School-leaving certificate in Music Theory and "Solfeggio"

First Aid Course (Red Cross)

Other Experiences

1 month of au pair experience in a British family (gardening, babysitting, house maintenance)
6 years of volunteer experience as teacher of guitar and solfeggio at a parish recreation center

PROJECTS AND INTERNSHIPS

University Challenge

2018 Hyperloop SpaceX Competition (3rd position)

EPFL, Switzerland



SEP 2017 – JUL 2018

Master Thesis Project

Optimization of Waveguide Gratings for Optical Security

CSEM, Switzerland - EPFL, Switzerland



MAR 2015 – AUG 2015

Internship

Near-Field Optical Simulations in a RCWA Matlab Platform

CSEM, Switzerland - EPFL, Switzerland



JUN 2014 – AUG 2014

University Project

Head Up Display (HUD) for Dangerous Environments




INPG, France





FEB 2014 – MAY 2014

BIBLIOGRAPHY





Peer-reviewed publications:

-  G. Quaranta, G. Basset, O. J. F. Martin, and B. Gallinet, "Color-Selective and Versatile Light Steering with up-Scalable Subwavelength Planar Optics", *ACS Photonics* 4(5), 1060–1066 (2017).
-  G. Quaranta, G. Basset, Z. Benes, O. J. F. Martin, and B. Gallinet, "Light refocusing with up-scalable resonant waveguide gratings in confocal prolate spheroid arrangements", *JNP, JNOACQ* 12(1), 016004 (2018).
-  G. Quaranta, G. Basset, O. J. F. Martin, and B. Gallinet, "Recent Advances in Resonant Waveguide Gratings", *Laser & Photonics Reviews* 12(9), 1800017 (2018).

Patent applications:

-  G. Quaranta and G. Basset, "Optical security device", EP3205512 (B1).
-  G. Basset and G. Quaranta, "Optical Combiner and Applications Thereof", WO2017137127 (A1).

White papers:

-  G. Basset, G. Quaranta, F. Lütolf, L. Davoine, and M. Schnieper, "Subwavelength gratings for OVDs- From local interactions to using light-transport", arXiv preprint arXiv:1511.05543 (2015).
-  G. Quaranta, G. Basset, O. J. F. Martin, and B. Gallinet, "Steering and filtering white light with resonant waveguide gratings", in (SPIE, 2017), 10354, p. 1035408.
-  G. Quaranta, F. Geister, F. Lütolf, L. Dümperlmann, M. Stalder, B. Gallinet, and R. Ferrini, "Nanostructured Thin Films for Spectroscopy and Imaging", in (CSEM Scientific and Technical Report, 2017), p. 49.
-  G. Quaranta, G. Basset, Z. Benes, O. J. F. Martin, and B. Gallinet, "Large Area Fabrication of Patterns of Resonant Waveguide Gratings by Electron Beam Lithography for Up-scalable Applications", in (PIERS, 2018), p.323.