

Valerio Vitali

📍 Integrated Photonics Lab, University of Pavia
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Education

- 2016–2020** PhD in Electronics, Computer Science and Electrical Engineering, University of Pavia
Dissertation title: Study and realization of integrated lab-on-chip micro-opto-acousto-fluidic systems
Expected PhD defense date: February 2020
- 2014-2016** MSc (Laurea Magistrale) in Electronic Engineering, University of Pavia
Dissertation title: Characterization of integrated optical components based on silicon-on-insulator technology
Final grade: 110/110 cum laude
- 2011-2014:** BSc (Laurea Triennale) in Electronics and Computer Science Engineering, University of Pavia
Dissertation title: Two photon absorption in silicon and resonant wavelength shift in micro-ring resonators: study and characterization
Final grade: 110/110 cum laude

Other Academic Experiences

- Jun 2018-** Visiting PhD student at the University of Münster
- Dec 2018** *I worked as a visiting PhD student in the Nonlinear Photonics group, headed by Prof. Cornelia Denz. I have been involved into an ongoing project focused on the active-passive calibration of optical tweezers in viscoelastic media in order to study the rheological properties of complex media.*

Employment History

- Oct 2019-** Integrated Photonics Lab, University of Pavia, Via Ferrata 5/A, 27100, Pavia, Italy
- Present** *Research Associate*

Profile Summary

I hold a master's degree in Electronic Engineering from the University of Pavia. I completed my PhD course in Electronics, Computer Science and Electrical Engineering at the University of Pavia under the supervision of Prof. Paolo Minzioni and I am supposed to have my PhD defense in February 2020. My research activity has been characterised by a fruitful collaboration with several universities, both in Italy and other countries. I carried out my Bachelor and Master theses in the frame of a European Project named "FABULOUS" (Project #318704, FP7/ICT). The goal of this project was the realisation of low-cost and high-performance silicon photonic devices for application in next-

generation passive-optical-networks (NG-PON2). I mainly worked on the experimental characterisation of integrated optical components based on Silicon-On-Insulator (SOI) technology, such as optical waveguides and ring resonator filters for wavelength division multiplexing (WDM) applications. My PhD activity was focused on the development of integrated Lab-on-Chip (LoC) devices for biological and rheological applications. In particular, I developed an integrated optofluidic system allowing to study both the mechanical properties of single cells and the rheological properties of complex media, with a really low sample consumption (less than 1 μ L). As a side project of my PhD, I worked on the theoretical analysis and numerical simulations of cells separation in integrated acoustofluidic systems. During my study, I gained a significant experience and knowledge in the field of integrated optics, silicon photonics, optofluidics and acoustofluidics and my research interest currently covers a wide range of topics:

- Silicon photonics for telecom and sensing applications.
- Integrated optofluidics for biological and rheological applications.
- Integrated acoustofluidics for biological applications.

Publication record and metrics

- Full and updated details:
 - <https://scholar.google.it/citations?user=5FrtNLcAAAAJ&hl=it&authuser=1>
 - <https://www.scopus.com/authid/detail.uri?authorId=57189763844>
- H-index: 3 (Scopus), Total citation count: 23 (Scopus)
- H-index: 4 (Scholar), Total citation count: 36 (Scholar)
- Author of **6** research journal publications (JCR-indexed)
- Author of **9** conference proceeding publications (international only)

Awards

- Best Student of the year (2016) in the faculty of Engineering of the University of Pavia
- Travel grant for PhD school attendance to “International School on Light Sciences and Technologies” (ISLiST), 19-23 June 2017, Santander (Spain)
- Travel grant for PhD school attendance to “International School on Light Sciences and Technologies” (ISLiST), 25-29 June 2018, Santander (Spain)

Pavia, 04/11/2019

Signed: **Valerio Vitali**

