

Family name, First name: **Biagioni Paolo**

Identifiers: orcid.org/0000-0003-4272-7040; Researcher ID A-9940-2011

Date of birth: May 4th, 1978. Nationality: Italian.

URL for web site: www.fisi.polimi.it/en/people/biagioni

My career begins with a **Ph.D. in Physics** at Politecnico di Milano (IT), followed by about 3 years of **post-doctoral fellowships**. In particular, the fellowship awarded by the **Humboldt Foundation** and spent by the group of Prof. Bert Hecht at the University of Würzburg (DE) marked the beginning of my independence and consolidated my interests in nanoscale optical technologies. Afterwards, I decided to return to Politecnico di Milano, where I found the optimum environment with competences in optics and nanotechnologies to pursue my goals of novel molecular sensing techniques. I became **Assistant Professor** and then **Associate Professor** applying to two public calls and I started an independent research line on semiconductor plasmonics for sensing that was new at Politecnico and led to the successful submission of the FP7 FET-Open project ‘GEMINI’, which I coordinated from 2014 to 2017. Meanwhile, I continued profiting from the enthusiastic environment at my Department to foster collaborations. Moreover, more than half of my publications involve at least one international partner, with a network from which the project will benefit.

EDUCATION

March 2004 to Feb. 2007 **Ph.D. in Physics** at Politecnico di Milano (IT). Supervisor: Prof. Marco Finazzi. Thesis: “*Field enhancement and confinement at optical wavelengths: non-linear near-field microscopy and resonant metal nanoparticles*”. Title obtained on: May 15th, 2007. Final evaluation: with honors.

Sept. 1997 to Oct. 2003 **Master’s Degree in Electronic Engineering** from Politecnico di Milano (IT). Final evaluation: with honors.

CURRENT POSITION

Since Oct. 2014 **Associate Professor**, Physics Department, Politecnico di Milano (IT). In 2018 I also received the national habilitation for Full Professor according to the legislation.

PREVIOUS POSITIONS

March 2011 to Oct. 2014 **Permanent Assistant Professor** (‘**Ricercatore Universitario**’), Physics Department, Politecnico di Milano (IT).

June 2010 to Feb. 2011 **Fixed-term Assistant Professor** (‘**Ricercatore a tempo determinato**’), Physics Department, Politecnico di Milano (IT).

FELLOWSHIPS

June 2009 to May 2010 **Postdoctoral fellowship** – CNISM (the National Interuniversity Consortium for the Physical Sciences of Matter, Italy) – supervisor prof. Franco Ciccacci.

June 2008 to May 2009 **Postdoctoral Fellowship from the Humboldt Foundation**, after submission of the project ‘*Nano-antennas for light*’ – group of prof. Bert Hecht, Würzburg University (DE).

March 2007 to May 2008 **Postdoctoral fellowship** – Physics Department, Politecnico di Milano (IT) – supervisor prof. Franco Ciccacci.

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

I have been the **supervisor of 1 PhD student** (Mr. Romain Hernandez, co-tutelle with the University of Dijon in the frame of a project financed by the French-Italian University) and **5 post-doctoral fellows**: Dr. Emilie Sakat (2013-2015, now permanent CNRS researcher at IOGS-LCF, Palaiseau, FR), Dr. Giovanni Pellegrini (2015-2018), Dr. Federico Bottegoni (2015-2016), Dr. Andrea Picone (2015-2016), and Dr. Rossella Yivlialin (2016-2017). I have also been the thesis supervisor of **7 bachelor students** and **5 master students**.

TEACHING ACTIVITIES

Since 2010 I have been teaching **General Physics** to Engineering students (9 classes), **Scanning Probe Microscopy** to Master students in Engineering Physics (10 classes), and **Plasmonics** to Ph.D. students in Physics (5 classes), all at Politecnico di Milano (IT). For the Scanning Probe Microscopy class I developed original teaching material, which is in the process of becoming a **textbook** by a major US publisher.

ORGANISATION OF SCIENTIFIC MEETINGS

- Committee member, SPIE conference LA112, San Francisco (USA), January 2012.
- Chair of the workshop 'PLASMONICA 2013', Milano (IT), July 2013 (more than 100 participants).
- Committee member, workshop 'PLASMONICA' (4 editions): Roma (IT), July 2014; Padova (IT), July 2015; Genova (IT), Sept. 2016; Napoli (IT), June 2019.
- Committee member, '2nd International Conference on Enhanced Spectroscopies (ICES 2015)', Messina (IT), October 2015.
- Committee member, 'FOTONICA' (2 editions): Roma (IT), June 2016; Padova (IT), May 2017.
- Chair of the 'School of Photonics 2016', Cortona (IT), July 2016, and of the 'International School on Plasmonics and Nano-Optics', Cetraro (IT), June 2018 (about 50 participants each).
- Committee member, symposium 'Light-matter interactions at the nano-scale', CLEO Europe 2019.

INSTITUTIONAL RESPONSIBILITIES

- 2019-2020* Vice-President of the Italian Society for Optics and Photonics (SIOF), the Italian branch of the European Optical Society (EOS). President *in pectore* for 2021-2022.
- 2017-2018* Member of the Presidential Council, Italian Society for Optics and Photonics (SIOF).
- Since 2017* Coordinator of the CD LAB (the Interdepartmental Laboratory for Circular Dichroism).

COMMISSIONS OF TRUST AND REVIEWING ACTIVITIES

I was a reviewer for calls issued by the Italian Ministry of University and Research (FIRB and Rita Levi Montalcini projects), the French National Research Agency (ANR), and the German Research Foundation (DFG). I have been member of 7 committees at Politecnico di Milano for the appointment of Ph.D. or post-doc fellowships and of 2 Ph.D. committees for the final award of the title at ICFO, Barcelona (ES) and at the University of Pavia (IT). For about 10 years I have been serving as a reviewer for leading international journals such as Nature, Nano Letters, Physical Review Letters, and others (about 130 reviews overall).

MEMBERSHIPS OF SCIENTIFIC SOCIETIES

Member American Chem. Soc. (ACS), Italian Soc. Optics and Photonics (SIOF), European Opt. Soc. (EOS).

PAST AND PRESENT FUNDING

From 2014 to 2017 I was the **Coordinator of the EU project GEMINI** ('Germanium Mid-Infrared plasmonics for sensing'), funded by the FET-Open Xtrack (success rate below 3%) and from 2011 to 2014 I was Unit Coordinator in the consortium of the project SOQUADRO ('Solar cells based on quantum nanostructures grown by droplet epitaxy') funded by the Cariplo Foundation (IT). Since February 2017 I am the **Coordinator of the national PRIN project 'Plasmon-enhanced vibrational circular dichroism'** (success rate below 7%).

MAIN CURRENT INTERNATIONAL COLLABORATIONS RELEVANT TO THE PROJECT

- Prof. Bert Hecht, Department of Experimental Physics 5, University of Würzburg (DE), *Nanoantennas for polarized light and nonlinear optics* (from 2008, 18 co-authored publications)
- Prof. Douglas J. Paul, School of Engineering, University of Glasgow (UK), *Silicon-compatible platforms for integrated sensing* (from 2013, EU project 'GEMINI', 7 co-authored publications)
- Dr. Daniele Brida and Prof. Alfred Leitenstorfer, Dept. of Physics, University of Konstanz (DE) *Ultrafast spectroscopies for sensing* (from 2013, EU project 'GEMINI', 3 co-authored publications)

MAIN PAST INTERNATIONAL COLLABORATIONS RELATED TO THE PROJECT

- Prof. Stefen C. J. Meskers, Dept. Chemical Engineering and Chemistry, Eindhoven Univ. of Technology (NL), *Molecular chirality at the nanoscale* (2008 to 2012, 3 co-authored publications)
- Prof. Theo Rasing, Radboud Univ. Nijmegen (NL), *Polarization control for all-optical magnetic recording* (2009 to 2012, NanoSci-ERA project 'PHENOMENA')
- Dr. Alexander Weber-Bargioni, Molecular Foundry, Berkeley CA (USA), *Functionalized AFM tips for nanoscale molecular spectroscopy* (2013, 2 co-authored publications)

MAIN CURRENT LOCAL COLLABORATIONS RELEVANT TO THE PROJECT

- Prof. Giulio Cerullo and Prof. Dario Polli, Physics Department, Politecnico di Milano (IT), *Ultrafast broadband spectroscopies* (from 2005, 14 co-authored publications)
- Prof. Sergio Abbate, Department of Molecular and Translational Medicine, Univ. of Brescia (IT), *Plasmon-enhanced vibrational chiroptical spectroscopies* (from 2016)