

Simone Luigi Marasso

Date of birth: 6 Jan 1981 | **Nationality:** Italian | **Gender** Male | (+39) 0119114899 | simone luigi.marasso@cnr.it | <https://areeweb.polito.it/ricerca/micronanotech/main-page> | Lungo piazza d'armi n. 6, 10034, Chivasso (Turin), Italy

● WORK EXPERIENCE

1 JAN 2014 – CURRENT

RESEARCHER – NATIONAL RESEARCH COUNCIL (CNR)

Researcher at National Research Council Istituto dei Materiali per l'elettronica ed il Magnetismo (CNR-IMEM, 43124, Parma) and Unit Coordinator of CNR-IMEM at Politecnico di Torino operative center (Corso Duca degli Abruzzi, 24, 10129 Torino, ITALY).

Torino, Italy

1 JAN 2013 – 31 DEC 2013

POST DOC FELLOW – POLITECNICO DI TORINO

Corso Duca degli Abruzzi, 24 IT-10129 Torino (Italia)

Research activities in the field of Micro and Nano technologies. Design and fabrication of MEMS, Lab on Chip and microfluidic devices. Development of innovative technology processes.

Torino, Italy

1 AUG 2011 – 31 DEC 2012

R&D ENGINEER

Trustech SRL

C.so Re Umberto, 30 IT-10128 Torino (Italy)

Research and development in the Micro and Nano Technology field.

1 JAN 2010 – 31 JUL 2011

POST DOC FELLOW

Politecnico di Torino

Corso Duca degli Abruzzi, 24 IT-10129 Torino (Italy)

Research activities in the field of Micro and Nano technologies. Design and fabrication of MEMS, Lab on Chip and microfluidic devices. Development of innovative technology processes.

1 JAN 2006 – 31 DEC 2009

PHD STUDENT

Politecnico di Torino

Corso Duca degli Abruzzi, 24 IT-10129 Torino (Italia)

Design and fabrication of MEMS, genetic Lab on Chip and microfluidic devices. Development of innovative technology processes.

CURRENT

BOOK EDITOR

Invited Editor for the High Resolution Manufacturing From 2D To 3D/4D Printing: Applications in Engineering and Medicine, to be published by Springer Nature.

REVIEWER

2019 Reviewer Board Member of MDPI Academic Open Access Publishing.

2018 Guest Editor in the special issue for the journal Materials MDPI, Micromachines MDPI, Actuators MDPI.

2010 - Reviewer for more than 15 international scientific journals with peer review in the field of micro and nano technologies, materials, physics, chemistry, engineering, biomedical among them: Microfluidics and Nanofluidics Springer, additive manufacturing Elsevier, Scientific Reports Springer-Nature, IEEE access, Journal of Micromechanics and Microengineering – IOPscience, Biosensor & bioelectronics Elsevier.

1 JAN 2007 – CURRENT UNIVERSITY TEACHING

2020 Lecturer activity at Nanoinnovation 2020 school (1 hours)
2017-2018 Tutor activities in the Workshop "A nanotechnological device from modeling to characterization".
Master degree course "NANOTECHNOLOGIES FOR ICTs" dedicate to the talented selected student (5 hours)
2014 Professor of "Design of devices" for the PhD course in the framework of PON (Programma Operativo Nazionale) project 40 hours of frontal Didactics.
2007-2010 Assistant Professor in the Physics course for bachelor students course Engineering at Politecnico di Torino Physical DISAT department
40 hours Physics I course year 2009-2010;
8 hours Introduction to experiments course year 2009-2010;
16 hours of Physics II course year 2007-2008,

CURRENT MENTORING

- Academic tutor and co-tutor for 6 undergraduate students for their master degree thesis for Politecnico di Torino
- External tutor for 1 undergraduate student for his bachelor degree thesis
- Academic tutor of two PhD students for their PhD thesis

● EDUCATION AND TRAINING

1 JAN 2006 – 31 DEC 2009 – Torino, Italy
PHD DOCTORATE IN "ELECTRONIC DEVICES" – Politecnico di Torino

1 OCT 2003 – 1 OCT 2005 – Torino, Italy
MASTER DEGREE IN BIOMEDICAL ENGINEERING, MARK 110/110 CUM LAUDE – Politecnico di Torino

1 SEP 2000 – 1 SEP 2003 – Torino, Italy
BACHELOR DEGREE IN BIOMEDICAL ENGINEERING, MARK 110/110 CUM LAUDE – Politecnico di Torino

● LANGUAGE SKILLS

Mother tongue(s): ITALIAN

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C1	C2	C2	C1	C2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

● PUBLICATIONS

List of recent publications on scientific international journals

Co-author of more than 70 scientific paper (11 publications as first Author or submitting Author, and 4 as last Author) and patents covering different fields related to Lab on a Chip, micro and nano-technologies, materials, sensors and bio-sensors, engineering, chemistry, physics.

ID: <https://orcid.org/0000-0003-4570-2674>

Scopus ID: Author ID: 18134206500, Hindex=19, > 776 citations (source:Scopus)

Keywords:

- Micro and Nanotechnologies for biomedical applications, Microsensors, MEMS, Lab-On-Chip
- Materials and nanotechnologies for processes, clean room, nano materials, graphene, 2D materials.

An extract of the last 5 years significant publications in the different fields has been reported:

[1] V. Bertana *et al.*, "Rapid prototyping of 3D Organic Electrochemical Transistors by composite photocurable resin," *Sci. Rep.*, vol. 10, no. 1, pp. 1–11, 2020.

[2] G. Massaglia *et al.*, "Electrospun nanofibers: From food to energy by engineered electrodes in microbial fuel cells," *Nanomaterials*, vol. 10, no. 3, 2020.

[3] F. Barbaresco, M. Cocuzza, C. F. Pirri, and S. L. Marasso, "Application of a micro free-flow electrophoresis 3d printed lab-on-a-chip for micro-nanoparticles analysis," *Nanomaterials*, vol. 10, no. 7, pp. 1–15, 2020.

[4] L. Spigarelli *et al.*, "A passive two-way microfluidic device for low volume blood-plasma separation," *Microelectron. Eng.*, vol. 209, no. March, pp. 28–34, 2019.

[5] M. Quaglio *et al.*, "A fluid dynamics perspective on material selection in microbial fuel cell-based biosensors," *Int. J. Hydrogen Energy*, vol. 44, no. 9, 2019.

[6] M. Parmeggiani *et al.*, "P3HT processing study for in-liquid EGOFET biosensors: Effects of the solvent and the surface," *Sensors*, vol. 19, no. 20, p. 4497, Oct. 2019.

[7] M. Parmeggiani *et al.*, "P3HT Processing Study for In-Liquid EGOFET Biosensors: Effects of the Solvent and the Surface," *Proceedings*, 2019.

[8] L. Lunelli *et al.*, "PDMS-based microdevices for the capture of MicroRNA biomarkers," *Appl. Sci.*, vol. 10, no. 11, 2020.

[9] M. Quaglio *et al.*, "Design and characterization of microfluidic devices for water/oil separation," in *Offshore Mediterranean Conference and Exhibition 2019, OMC 2019*, 2019.

[10] C. Potrich, L. Lunelli, M. Cocuzza, S. L. Marasso, C. F. Pirri, and C. Pederzoli, "Simple PDMS microdevice for biomedical applications," *Talanta*, vol. 193, pp. 44–50, Feb. 2019.

[11] P. D'Angelo *et al.*, "Scaling Organic Electrochemical Transistors Down to Nanosized Channels," *Small*, vol. 1902332, p. 1902332, Aug. 2019.

More publications can be found at <https://www.scopus.com/authid/detail.uri?authorId=18134206500>

● CONFERENCES AND SEMINARS

International and National Conferences

Oral presentations to conferences and workshop from 2016:

- Nanomanufacturing Advances in Nanoparticle Production 2019. Invited speaker with the presentation "3D printing for microfluidics prototyping and fabrication".
- Nanoinnovation 2019, National congress. Invited speaker, with the presentation "From micromodels to Microfluidics: technology evolution and leading application overview"
- International conference on Biosensing and Imaging (ICOSBI) 2018. Invited speaker, on Biosensing and Imaging (ICOSBI) 2018, with the presentation "Organic transistor Biosensor for Biomarker detection"
- Nanoinnovation 2016, National congress. Invited speaker with the presentation "3D printed smart objects".
- Graphene and related Materials: properties and applications (GM 2016). International conference. Selected oral presentation on "3D Flexible microsupercapacitor"
- International Micronarc Alpine Meeting 2016 (MAM2016), Selected oral presentation on "3D Flexible microsupercapacitor"

● PROJECTS

List of running and past project and role

- Principal Investigator in the National project FISR 2020 Covid call, with the project VIRAD-C19 for the development on a rapid diagnostic microfluidic chip status Ongoing
- Involved in research activities in EU actions COST MP1106 "Smart and green interfaces—from single bubbles and drops to industrial, environmental, and biomedical applications".
- Involved in research activities in EU COST CM1101 "Colloidal aspects of nanoscience for innovative processes and materials" and COST MP1305 "Flowing Matter".NEWTON (Advanced nanosystems for a new era in molecular oncology) funded by MIUR (Italian Ministry for Education, University and Research) grants – FIRB 2012–2016.
- Manager of the project for Politecnico di Torino and involved in research activities in "LOCFORCELL", POR-FESR 07/13 fund, in collaboration with TST srl, il Politecnico di Torino and University of Torino.
- Involved in research activities in European MANUNET ERA-Net Project "AUDAX - Automation of a Device based on APEX technology" from 01-01-2009 to 30-05-2014.
- Involved in research activities in NEWTON (Advanced nanosystems for a new era in molecular oncology) funded by MIUR (Italian Ministry for Education, University and Research) grants – FIRB 2012–2016
- Involved in research activities in National Project named FIRB Laboratorio Nazionale LATEMAR (FIRB 2003-2004) from 03-11-2005 to 03-11-2008.
- Involved in research activities in Converging Technologies" Progetto numero 48 "PHOENICS" from 30-04-2009 to 31-07-2011.

● ORGANISATIONAL SKILLS

List of organizational skills

- leadership skills, currently responsible for a research team of 5 PhD students and a PhD post doc under my direct supervision for the laboratory activities.
- leadership skills gained in managing project research activities
- Leadership skills gained in personal experiences as president of a not-profit association for the local tourism promotion of the country
- good team-leading skills gained as team leader of the research activities of multidisciplinary researchers group in different projects
- good organizational skills gained during the research activities and also gained as local volunteer a not-profit association for the local tourism promotion of the country

● COMMUNICATION AND INTERPERSONAL SKILLS

Communication and interpersonal skills

- good communication skills gained through my research and didactic activities in order to collaborate with colleagues team and students

● JOB-RELATED SKILLS

List of job-related skills

Clean room facilities

Process and technological experience over 8 years in clean room facilities:

- Microlithography;
- SU-8 and liga like processes
- Dry etching;
- Deep Reactive Ion Etching;
- Electro-deposition;
- Wet etching.

Software

- Os: Windows, Mac OS, Linux.
- programming language: C, MatLab script.
- CAD and finite elements software: Ansys, Rhinoceros, Matlab & Simulink, Hipermesh, COMSOL;
- Microsoft Office: Word, Excel, Power Point, Access;
- Others: Matlab, Origin, photoshop, adobe illustrator.

Characterization facilities

- Microprofilometry;
- optical microscopy;
- FTIR and micro FTIR spectroscopy

● TECHNOLOGY TRANSFER

List of main related activities

- Involved in the development of the patent for Microla SRL WO2014020566 "MEASUREMENT SYSTEM HAVING AN OSCILLATING STRUCTURE"
- Involved in the development of the patent for Ribes SRL s"MICROSWITCH PIEZOELETTRICO, IN PARTICOLARE PER APPLICAZIONI INDUSTRIALI"
- Involved in the development of the patent for Trustech SRL "PORTABLE KIT FOR AUTOMATED IMMUNOENZYMATIC ASSAYS", n. WO2018015931

● EDITORIAL EXPERIENCE

Editorial experience

- Involved in editorial committee for the MPDI Journals (Basel)
- Reviewer for more than 15 scientific journal in the field of micro and nano technologies, materials, physics, chemistry, engineering, biomedical.

● AWARD

Prizes

Special Mention in "**Pedriali Prize XXV edition**" for innovative industrial projects idea

● NETWORKS AND MEMBERSHIPS

CURRENT

Board membership

Board member of the Expert Groups of EuroNanoLab

Board member for the coordination activities of the PIQUET (Piedmont Quantum Enabling Technology) Laboratories

Board member for Politecnico di Torino in work group ""Giovani, Ricerca e Industria"" of the AIRI (Associazione Italiana per la Ricerca Industriale)