

Alessandro Cian

C u r r i c u l u m V i t a e

WORK EXPERIENCE

Researcher

Research and process development
October 2019 – up to now

Fondazione Bruno Kessler
Center for Sensor & Devices
Trento - Italy

Microfabrication: development and optimization of photolithography processes and responsible for lithography technology area.

Nanofabrication: development and optimization of electron beam lithography and ion beam lithography processes and integration of nanofabrication technologies with sensors for plasmonic, photonic and quantum applications.

Characterization: support to micro and nanofabrication processes through characterization (AFM, SEM and FIB/PFIB) and circuit editing (FIB/PFIB) activities.

Nanofabrication engineer

Research and process optimization
September 2015 – October 2019

ThunderNIL s.r.l. c/o Area Science Park
Trieste - Italy

Micro and nanofabrication: supervisor for clean room processes, optimization of processes for lithography, standard and not-standard imprinting, thin film deposition and wet/dry etching, working on research projects for biomedical sensors, micro-structured optical elements and anti-counterfeiting devices.

R&D fellowship

Research and process optimization
September 2015 – August 2016

ThunderNIL s.r.l. & Area Science Park
Trieste - Italy

Project focused on the fabrication of electrochemical nano-sensors for biomedical diagnostic applications, micro-fuel cells and processing development for direct labelling of plastic materials with holograms.

EDUCATION

Master's Degree in Microphysics and the structure of matter

EQF level 7
October 2011 – March 2015
University of Trieste - Italy

Thesis: "Nanofabrication and characterization methods of hybrid perovskite crystals for photovoltaic applications".

Bachelor Degree in Physics

EQF level 6
October 2007 – March 2011
University of Trieste - Italy

Thesis: "Neural networks and information theory: principles of self-organization".

WORK SKILLS

Micro & nanofabrication

- Ability to work in a clean room environment
- Expertise in lithography techniques: EBL, FIB, UV, LIL, T-NIL, P-NIL
- Ability in CAD layout designing
- Expertise in micro and nanofabrication techniques: thermal/ebeam evaporator, plasma/wet etching
- Expertise in characterization techniques: AFM, SEM, FIB

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV

LANGUAGE

Mother tongue(s)

Italian

Other language(s)

English: advanced

(Trinity certificate grade 8: B2 of the C EF level 1 of the NQF in England May 2008)

French: beginner

PERSONAL SKILLS

Soft skills

- Experienced on planning, prioritizing and delegating tasks within the team members
- Attitude for expanding personal and work-related skills
- Predisposition to adapt and to face problems creatively

Digital skills

- Web development (Wordpress) and SEO
- Basic coding skills (HTML/CSS/cc)
- E-communication (social and newsletter)
- Flexibility to adapt to different OS / software

ADDITIONAL INFORMATION

Research products

Imaging of Antiferroelectric Dark Modes in an Inverted Plasmonic Lattice

J. Rodriguez Álvarez, A. Labarta, J. C. Idrobo, R. Dell'Anna, A. Cian, D. Giubertoni, X. Borrís, A. Guerrero, F. Perez-Murano, A. Fraile Rodríguez, X Batlle, (2023), ACS Nano, 17, 9, 8123–8132 [10.1021/acsnano.2c11016]

Near Infrared Efficiency Enhancement of Silicon Photodiodes by Integration of Metal Nanostructures Supporting Surface Plasmon Polaritons

E. Scattolo, A. Cian, L. Petti, P. Lugli, D. Giubertoni, G. Paternoster, (2023), Sensors, 23(2), 856 [10.3390/s23020856]

Ultra low noise readout with traveling wave parametric amplifiers: The DARTWARS project

A. Rettaroli, C. Barone, M. Borghesi, S. Capelli, G. Carapella, A.P. Caricato, I. Carusotto, A. Cian, et al., (2023), Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, Vol. 1046 [10.1016/j.nima.2022.167679]

Characterization of Traveling-Wave Josephson Parametric Amplifiers at $T = 0.3$ K

I. Carusotto, A. Cian, P. Falferi, D. Giubertoni, F. Mantegazzini, B. Margesin, A. Nucciotti, A. Vinante et al., (2023), IEEE Transactions on Applied Superconductivity, vol. 33 – 1 [10.1109/TASC.2022.3214656]

Modeling of Josephson Traveling Wave Parametric Amplifiers

I. Carusotto, A. Cian, P. Falferi, D. Giubertoni, F. Mantegazzini, B. Margesin, A. Nucciotti, A. Vinante et al., (2023) IEEE Transactions on Applied Superconductivity, 33-1 [10.1109/TASC.2022.3214751]

Bimodal Approach for Noise Figures of Merit Evaluation in Quantum-Limited Josephson Traveling Wave Parametric Amplifiers

L. Fasolo, C. Barone, M. Borghesi, G. Carapella, A. P. Caricato, I. Carusotto, W. Chung, A. Cian et al. (2022), IEEE Transactions On Applied Superconductivity, 1-6 [10.1109/TASC.2022.3148692]

Development of quantum limited superconducting amplifiers for advanced detection

S. Pagano, C. Barone, M. Borghesi, W. Chung, G. Carapella, A. P. Caricato, I. Carusotto, A. Cian et al., (2022), IEEE Transactions on Applied Superconductivity, doi.org/10.1109/TASC.2022.3145782

Humidity Responsive Reflection Grating Made by Ultrafast Nanoimprinting of a Hydrogel Thin Film

S. Cesnik, A. Perrotta, A. Cian, M. Tormen, A. Bergmann, A. M. Coclite, (2022) Macromol. Rapid Commun. 2200150. <https://doi.org/10.1002/marc.202200150>

Optimization of Focused Ion Beam Patterning Parameters for Direct Integration of Plasmonic Nanostructures on Silicon Photodiodes

E. Scattolo, A. Cian, D. Giubertoni, G. Paternoster, L. Petti, P. Lugli, (2021), doi.org/10.3390/ecsa-8-11259

Plasmonic Enhanced Photodetectors for Near Infra-red Light Detection,

D. Giubertoni, G. Paternoster, F. Acerbi, X. Borrísé, A. Cian, A. Filippi, A. Gola, A. Guerrero, F. Perez Murano, F. Romanato, E. Scattolo, P. Bellutti, 43rd International Convention on Information, Communication and Electronic Technology (MIPRO), 2020, 1876, doi: 10.23919/MIPRO48935.2020.9245437

Nanoelectrode Arrays Fabricated by Thermal Nanoimprint Lithography for Biosensing Application

A. Zanut, A. Cian, N. Cefarin, A. Pozzato, M. Tormen, Biosensors (2020), 10(8), 90; DOI: 10.3390/bios10080090

Fast optical humidity sensor based on nanostructured hydrogels

S. Cesnik, A. M. Coclite, A. Perrotta, A. Cian, M. Tormen, A. Bergmann, Proceedings Volume 11467, Nanoengineering: Fabrication, Properties, Optics, Thin Films, and Devices XVII; 114672K (2020); DOI: 10.1117/12.2568475

Electrically-assisted nanoimprint of block copolymers.

A. Mayer, W. Ai, J. Rond, J. Staabs, C. Steinberg, M. Papenheim, H.-C. Scheer, M. Tormen, A. Cian, J. Zajadacz, K. Zimmer, Journal of Vacuum Science & Technology B 37, 011601 (2019); DOI: 10.1116/1.5048204

Nanostructuring methylammonium lead iodide perovskite by ultrafast nano imprinting lithography

N. Cefarin, A. Cian, A. Sonato, E. Sovernigo, F. Suran, Z. Teklu, A. Zanut, A. Pozzato, M. Tormen, Microelectronic Engineering 176, 106-110 (2017); DOI: 10.1016/j.mee.2017.02.023

The Thinnest Carpet on the Smallest Staircase: The Growth of Graphene on Rh(533).

B. Casarin, A. Cian, Z. Feng, E. Monachino, F. Randi, G. Zamborlini, M. Zonno, E. Minussi, P. Lacovig, S. Lizzit, A. Baraldo, Journal of Physical chemistry C 118, 12, 6242-6250 (2014); DOI: 10.1021/jp411582a