

Personal information

Name / Surname

Gelmetti, Ilario

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iochesonome@gmail.com, ilario@sindominio.net

Nationality

Italian

Date of birth

March 1988, Verona, Italy

Work experience

May 2023 – present

Project

R&D Engineering Manager. **Vitsolc Technologies**, Castelldefels, Barcelona, Spain.

Technology validation, with design and creation of custom electrical characterization equipment, for outdoor characterization of semitransparent solar cells; project manager.

July 2020 – May 2023

Project

Post-Doc researcher. **Prof. J. R. Galán Mascarós group, Institute of Chemical Research of Catalonia (ICIQ)**, Tarragona, Spain.

Development of electrodes for electrocatalytic ethanol oxidation (<https://decadeproject.eu/>) and mid-scale water splitting; scale-up and automatization of synthesis, deposition and data analysis processes.

Non-academic grants

June 2019 – August 2019

Project

Acquired experience

Google Summer of Code (Freifunk and LibreMesh).

[Load-correlated distributed bandwidth analysis for LibreMesh networks](#)

LibreMesh design and network architecture; OpenWrt administration, configuration and debugging; Lua coding; BASH scripting.

Education

Jan. 2015 – July 2019

PhD Thesis Title

Internship

Pre-Doc researcher. **Prof. Emilio Palomares group, Institute of Chemical Research of Catalonia (ICIQ)** and Department of Electrical Electronic Engineering and Automation of Universitat Rovira i Virgili (DEEEA-URV), Tarragona, Spain. PhD evaluation excellent *cum laude* and international mention.

[Advanced Characterization and Modelling of Charge Transfer in Perovskite Solar Cells.](#)

3 months, Dr. Piers Barnes Group, Dept. of Physics, **Imperial College London**, UK.

Oct. 2007 – Oct. 2013

Diploma of Science Class. Evaluation 70/70. **Scuola Normale Superiore di Pisa**, Italy.

Sept. 2010 – Oct. 2013

Master Thesis Title

Laboratory

Master Degree in Organic Chemistry. Evaluation 110/110 *cum laude*. Dept. of Chemistry and Industrial Chemistry, **University of Pisa**, Italy.

[Synthesis and Characterization of Chiral Polythiophenes.](#)

Institute for Macromolecular Studies, **Consiglio Nazionale delle Ricerche, Milan**, Italy.

Sept. 2007 – July 2010

Bachelor Thesis Title

Bachelor of Science in Chemistry. Evaluation 110/110 *cum laude*. Dept. of Chemistry and Industrial Chemistry, **University of Pisa**, Italy.

[Synthesis of Conjugated Polymers and Quantum Dots for Photovoltaics Applications.](#)

Sept. 2002 – June 2007

Secondary school diploma. Evaluation 100/100. ITIS G. Ferraris, Verona, Italy.

Awards

National Chem. Olympiads

Fourth position in ranking of category C, Italian national selections, 2007.

National Physics Olympiads

Best experimental solution, Italian national selections, 2007.

National Math. Olympiads

Honourable mention, Italian national selections, 2006.

Personal skills

Mother tongue

Self-assessment

European level^(*)

English

Spanish

Catalan

Italian

| Understanding | | | | Speaking | | | | Writing | |
|---------------|-----------------|---------|-----------------|--------------------|-----------------|-------------------|-----------------|---------|-----------------|
| Listening | | Reading | | Spoken interaction | | Spoken production | | | |
| C1 | Proficient user | C2 | Proficient user | C1 | Proficient user | C1 | Proficient user | C2 | Proficient user |
| C2 | Proficient user | C1 | Proficient user | C2 | Proficient user | C1 | Proficient user | C1 | Proficient user |
| C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user | C1 | Proficient user |

^(*) Common European Framework of Reference (CEF) level

Language certificates

Catalan language C1, issued by Universitat Rovira i Virgili, July 2020.
English language C1, issued by Escuela Oficial de Idiomas de Tarragona, February 2022.

Computer skills

Git version control; Debian and Arch Linux system administration; cabled and wireless networks setup and administration using OpenWrt; \LaTeX markup; LibreOffice Writer, Calc and Impress; GIMP and Inkscape drawing; prototyping with Arduino and electronics; assembling and repairing PCs and electronic hardware in general.

Coding skills

BASH scripting (medium); coding in Python (medium, e.g. [PyPV data acquisition software](#) and [data processing for electrochemistry data](#)), coding in R (advanced, e.g. [data processing for photovoltaics](#)), coding in Matlab (medium, e.g. [contributions to Driftfusion](#)), coding in Lua (medium, e.g. [contributions to LibreMesh](#)).

Driving license

Driving license class B.

Volunteering

Operazione Mato Grosso (2004–2007), eigenLab Pisa and eigenNet wireless community network (2009–2013), Manitese (2013), NinuxVerona wireless community network (founder, 2014–2015, [presentation video](#)), LibreMesh.org modular firmware for community networks (developer and community manager, 2013–; real network setup for events [it.hackmeeting.org](#), June 2017; [es.hackmeeting.org](#), September 2019; [Wireless-BattleMesh v15](#), 2023), TGNU Tarragona hacklab (co-founder, 2016–2018), No Board Games (game developer, 2014–), Logout hacklab (2022–).

Hobbies and Interests

Open source software, computer security, wireless community networks, activism, prototyping, electronics, problem solving, board games design, learning languages.

Selected publications

Gelmetti, I.; *et al.* *ACS Appl. Mater. Interfaces* **2017**, 9 (26), 21599–21605.
Moia, D.; Gelmetti, I.; *et al.* *Energy Environ. Sci.* **2019**, 12 (4), 1296–1308.
Gelmetti, I.; Montcada, N.; *et al.* *Energy Environ. Sci.* **2019**, 12 (4), 1309–1316.
Calado, P.; Gelmetti, I.; *et al.* *J. Comput. Electron.* **2022**, 1–32.
Moia, D.; Gelmetti, I.; *et al.* *Phys. Rev. Appl.* **2022**, 18 (4), 044056.

References

Prof. **José Ramón Galán-Mascarós**, *Group leader* at Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain. jrgalan@iciq.es +34 977 920 200 (ext. 221)
Dr. **Piers R. F. Barnes**, *Lecturer* at Dept. of Physics, Imperial College London (ICL), London, UK. piers.barnes@imperial.ac.uk +44 (0)20 7594 7609
Prof. **Emilio Palomares**, *Director* of Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain. epalomares@iciq.es +34 977 920 245