

PERSONAL DETAILS

Family name, First names: **Annese, Valerio Francesco**

Researcher unique identifier: ORCID 0000-0002-7061-2032

• Education and key qualifications

- 2025** **Italian National Qualification** ('Abilitazione Scientifica Nazionale ASN') in Electronics (09/E3 sector), qualifying for Associate Professorship in Italy.
- 2021** **PhD in Electronics and Electrical Engineering.** University of Glasgow, UK.
- 2016** **M.Eng in Electronics** cum Laude, Politecnico di Bari, Italy.
- 2014** **B.Eng in Electronics and Telecommunications,** Politecnico di Bari, Italy.

• Professional Experience

- 2026** **Associate Professor in Electronics** (IINF-01/A). Free University of Bozen, Bozen, Italy.
- 2024 – 2026** **MSCA Research Fellow.** Centre for Nano Science and Technology (CNST), Istituto Italiano di Tecnologia (IIT), Milan, Italy. Principal Investigator of the MSCA Action: "EDISENS. Laboratory manager of the electrical characterisation lab at CNST.
- 2022 – 2023** **Postdoctoral Researcher,** CNST, IIT, Italy.
- 2022 – 2024** **Affiliate Research Staff,** University of Glasgow, UK
- 2021 – 2022** **Postdoctoral Researcher,** University of Glasgow, UK.
- 2019 – 2023** **Spin-off Shareholder,** Multicorder DX (Spin-off of the University), Glasgow, UK.
- 2017 – 2020** **Teaching Assistant,** University of Glasgow, UK.
- 2016 – 2021** **PhD Researcher,** University of Glasgow, UK.
- 2014 – 2016** **Research Assistant,** Politecnico di Bari, Italy.

• Publications

I have authored 62 (89) SCOPUS (Google Scholar) listed publications, and co-inventor of 1 patent. According to SCOPUS (Google Scholar) my H-Index is 23 (23), with a total number of citations of 1052 (1332). Here I present **5 selected research outputs**:

- Annese, V.F., et al. 2026. An Edible H2O2 Biosensor for Gastrointestinal Metabolites and Peroxidase Enzyme Quantification. Advanced Healthcare Materials. DOI: [10.1002/adhm.202503431](https://doi.org/10.1002/adhm.202503431). (IF: 11.0, first and corresponding).
- Annese VF, et al. 2021. A monolithic single-chip point-of-care platform for metabolomic prostate cancer detection. Nature Microsyst. & Nanoeng. DOI: [10.1038/s41378-021-00243-4](https://doi.org/10.1038/s41378-021-00243-4). (IF: 11.1, first and corresponding)
- Annese V.F., et al. 2025. Inkjet Printable Conductive Activated Carbon Ink from Sustainable Sources. ACS Applied Electronic Materials. DOI: [10.1021/acsaelm.4c01509](https://doi.org/10.1021/acsaelm.4c01509). (IF: 4.7, co-first and corresponding).
- Floreano D; (..) Annese VF; et al. 2024. Towards edible robots and robotic food. Nature Reviews Materials. DOI: [10.1038/s41578-024-00688-9](https://doi.org/10.1038/s41578-024-00688-9). (IF: 86.2, co-author).
- Ilic I.K., (..) Annese V.F. et al. 2023. An edible rechargeable battery. Advanced Materials. DOI: [10.1002/adma.202211400](https://doi.org/10.1002/adma.202211400). (IF: 28.2, co-author. Selected as "Best Invention 2023" by TIME).

• Research project (Applications, Leadership and Participation)

- 2026** **Principal Investigator.** ERC Starting Grant (application to be submitted in Oct 2026).
- 2025** **Principal Investigator.** ERC Starting Grant (reached the interview stage, not funded).
- 2024** **Principal Investigator.** Marie Skłodowska-Curie Postdoctoral Fellowship "EDISENS".
- 2022** **Researcher.** Horizon 2020 "ROBOFOOD".
- 2020** **Researcher.** EPSRC programme "Multicorder".
- 2016** **Main researcher.** EPSRC programme "CardioChip".

• Conference (Participation and Organisation)

- **Organiser** of major international conferences, serving as *Special Session Organizer* at IEEE FLEPS 2025 Singapore, *Program Committee Member* for IEEE IWASI 2025, and *Local Organizing Committee Member* for four IEEE IWASI editions (2015–2023).
- **Invited presentations** at leading international events, including MATSUS 2026 Barcelona, EXPO Osaka 2025, IEEE IFETC 2024 Bologna, ELFO Winter School 2023 Bormio, IEEE UKCAS 2021.
- **Oral presentation** at +20 international conferences.

- **Teaching**

- 2022 – current** Periodic training for all users (~35) of the electrical characterization laboratory at *CNST, Istituto Italiano di Tecnologia*, in my informal role of laboratory manager. Invited seminars on edible electronics: 12/05/2025 University of Padova, Italy; 04/04/2025 University of Bozen, Italy; 12/10/2024 Milan HORATES training School; 15/02/2023 GREENELIT virtual training.
- 2017 – 2020** **Teaching Assistant** for the following courses (academic year) at the *University of Glasgow, UK*: Biomedical Skills (2018, 2019); Integrated system design (2017, 2018, 2019), Digital Signal processing (2018). Total teaching hours: 252
- 2014 – 2016** Informal **Lab Demonstrator** as Research Assistant at Politecnico di Bari, Italy, for the course “Fundamentals of electronics” and “Automatic design of electronic circuits”.

- **Supervision**

- 2022-current** Informal co-supervision of 2 PhD students from the Department of Physics, Politecnico di Milano, within the European project ROBOFOOD. Students: Giulia Coco and Valerio Galli.
- 2022 – 2024** Supervision of 3 undergraduate visiting students from the University of South Florida, USA
- 2014 – 2016** Co-supervision of four B.Eng. undergraduate students in Electronic and Telecommunications Engineering on the topic “Automatic Design of Electronic Circuits.” Students: Leonardo Vito Gallo, Santina Colosimo, Giovanni Mezzina, Sabino Loconte.

- **Fellowships and Awards**

- 2024** Awardee of “**The Aspen Institute Junior Fellowship**”, *The Aspen Institute Italia, Italy*.
- 2023** Awardee of the **MSCA European Fellowship** with top score of 99.2%.
- 2023** Nomination as **TIME’s best invention** for the ‘Non-toxic Power’ invention.
- 2021** **1st place “Activate Challenge 2021”** (~5 k€) by *Cancer Research UK and Converge* for the best innovative cancer discovery technology. National Online Competition, Glasgow, UK.
- 2023** **Best paper** award at IEEE CAFE 2023, Torino, Italy and
- 2023** **Best presentation** award at IEEE IWASI 2023, Monopoli, Italy.
- 2019** **Best presentation** award at the Electronics and Nanoscale Eng. Workshop, Glasgow, UK.
- 2016** **Best paper** award at SEMAPRO 2016, Venice, Italy.
- 2015** **Best presentation** award at IEEE IWASI 2015 (~1 k€), Gallipoli, Italy.

- **Third mission**

- 2025** Designed and hosted a research podcast series with WIRED Italia as part of my MSCA action to disseminate science (Italian only, available released on 07/09/2025).
- 2024 – 2025** Dissemination activities with High-school students (“Tito Livio” Milan, 2024, 2025) and elementary school students (“Leonardo da Vinci”, Milan, 2025); Researchers’ night presenter (Milan, 2024); Invited lecture at STEP FuturAbility District (Milan, 2025).

- **Reviewing Activities**

I currently serve as Editorial Board Member of MDPI Micromachines and Topical Advisory Panel Member for MDPI Sensors and MDPI Artificial Intelligence (AI). Since 2017, I have been a reviewer for leading international scientific journals, including IEEE Sensors Journal, Nature Communications, IEEE JFLEX, IEEE Transactions on Neural Systems & Rehabilitation Engineering, IEEE Transactions on Components, Packaging and Manufacturing Technology, and MDPI Sensors. Since 2015, I have also reviewed papers for major international conferences, including IEEE IFETC, IEEE IWASI, IEEE EEEIC, and IEEE IECON. In addition, I reviewed a national research project proposal for the National Science Centre (NCN), Poland, in 2018 and served as a member of the PhD examination committee at the University of Bozen, Italy, in 2024.