CURRICULUM VITAE

PERSONAL INFORMATION

DANIELA GANDOLFI

Position: Researcher (Law 240/10 - fixed-term), Department of Engineering “Enzo Ferrari”
Scientific Sector: ING-INF/06 Electronic and Information Bioengineering
University: University of Modena and Reggio Emilia (UNIMORE)
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- **Ph.D. in Physiology and Neuroscience**, University of Pavia (2010)
- **M.Sc. in Biophysics**, University of Parma, *with honors* (2006)
- **B.Sc. in Physics**, University of Modena and Reggio Emilia, *with honors* (2004)

COURSES

- (2008) “Bioimaging and Cellular Assays”, Alembic-DIBIT, San Raffaele Hospital (Milan)
- (2022) “Newly Hired Faculty Course on University Teaching”, University of Modena and Reggio Emilia

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PROFESSIONAL EXPERIENCE

- **2024–Present:** Tenure-track fixed-term researcher (full-time, Law 240/10), Department of Engineering “Enzo Ferrari”, University of Modena and Reggio Emilia
- **2022–2024:** Fixed-term Researcher Type A (full-time, art. 24 c.3-a Law 240/10), Department of Biomedical, Metabolic and Neurosciences, University of Modena and Reggio Emilia
- **2021:** Research Fellow, Department of Brain and Behavioral Sciences, University of Pavia; project funded by “The Human Brain Project” (HBP-SGA3 WP5 T5.2)
- **2020–2021:** Visiting Researcher, Department of Biomedical, Metabolic and Neurosciences, University of Modena and Reggio Emilia
- **2015–2019:** Freelance Data Scientist specializing in machine learning, computer vision, and AI
- **2010–2014:** Research Fellow, Department of Brain and Behavioral Sciences, University of Pavia; project funded by REALNET – CT – 2009.6 FET-PROACTIVE GA 270434

- **2008:** Guest Researcher, University of Padua (Prof. Vassanelli)
- **2006:** Guest Researcher, LENS - Laboratory for Non-Linear Spectroscopy, Florence (Prof. F.S. Pavone)
- **2004:** Research Fellow, European Synchrotron Radiation Facility (ESRF), Grenoble

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RESEARCH AREAS

- Application of computational models of neural activity to neuromorphic electronic circuits
- Advanced analysis of electrophysiological data
- Computational models of brain circuits
- Development of machine learning and artificial intelligence algorithms for data and image analysis
- Analysis of neural circuit activity
- Nonlinear optical methods for simultaneous recording of multiple single-neuron activities

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RESEARCH PROJECTS

- **PI**: FAR ATENEO 2024 - UNIMORE, Project *EPICURE*: Understanding cellular and molecular bases of drug resistance in epilepsy
- **PI**: FAR 2024 & 2022 - UNIMORE, Project *INES*: Inferential Neuromorphic Energy-efficient Systems
- **Co-PI**: UNIMORE unit in *"Multi-scale brain function India-Italy network of excellence"*, Bilateral Italy-India call, Ministry of Foreign Affairs
- **Participant**:
    - *The Human Brain Project* – Role: Generation of a model of CA1 human hippocampus
    - *SMART-BRAIN* (FLAGERA JTC-2019) – Role: Development of fluorescence image analysis method
    - *REALNET* (GA 270434) – Role: Development of innovative optical methods to analyze neuronal activity
    - *CEREBNET* (Marie Curie ITN 2008) – Role: Application of voltage-sensitive dye imaging to analyze cerebellar circuits
    - *CYBERRAT* – Role: In vivo testing of high-density multielectrode arrays
    - *NEUROIMAGE* (CNISM-INNESCO) – Role: Development of optical methods to analyze neuronal activity

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TEACHING ACTIVITIES

- **2023–Present:** "Computational Models of Neural Activity" (3 ECTS, ING-INF/06), Bachelor's degree in Bioengineering (UNIMORE, UNIVR, UNITN)
- **2021–2024:** "Neurophysiology" (2 ECTS, BIO/09), Bachelor's degrees in Physiotherapy, Psychiatric Rehabilitation Techniques, Occupational Therapy, and Speech Therapy – UNIMORE

- **2022–Present:**
  - “Biomedical Technologies” (2 ECTS, ING-INF/06), Medicine and Surgery program – UNIMORE
  - “Computer Science” (2 ECTS, ING-INF/06), Bachelor's in Health Assistance – UNIMORE
- **2020–2021:** Teaching Assistant in Physiology, Faculty of Medicine – UNIMORE
- **2009–2011:** Seminar lecturer in General Physiology, Faculty of Pharmacy – University of Pavia
- **Since 2010:**
  - Co-supervisor of two Ph.D. students (Physics and Neuroscience)
  - Supervisor/co-supervisor of 6 Master’s theses in Biological Sciences, Pharmacy, Neurobiology, and Physics – Universities of Modena and Reggio Emilia, Pavia, Milan
- **2008:** Teaching Assistant in Physiology, Faculty of Pharmacy – University of Pavia

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SCIENTIFIC EVENTS AND INVITED TALKS

- **2025**
  - Organizing Committee Member, International Neuroscience School (Brandy, Ala Birdi, Sep 4–11)
  - Technical Chair, PHOTOMET Conference, Modena, Sep 1–3
  - Keynote Speaker, Nest Conference: *Full-scale point neuron model of the mouse and human hippocampal CA1 microcircuit*
- **2024** Invited Speaker, Advanced Course in Neuroimaging (LICE): *Integration of Electrical Source Imaging in multimodal scenes*
- **2023**
  - Invited Speaker, SISSA Trieste
  - Organizer, Mirandola Summer Camp (Engineering for Medical Systems)
- **2022**
  - Organizer & Invited Moderator, EBRAINS Brain Simulation School (Mondello)
  - Invited Talks: WP1 Human Brain Project (Paris), India-Italy Brain Workshop (Varenna)
- **2021** Presenter, Society for Neuroscience Meeting (Chicago): Poster & virtual oral presentation
- **2018–2017** Invited Speaker, HERA Academy workshops
- **2015** Invited Speaker, Marie Curie Fellows International School
- **2008**
  - Invited Speaker, REALNET European Project Meeting (Pavia)
  - Invited Speaker, CNISM Annual Meeting

EDITORIAL ACTIVITY

- Associate Editor, *Scientific Reports*
- Reviewing Editor, *Frontiers in Cellular Neuroscience*
- Special Topic Editor, *Frontiers in Cellular Neuroscience*
- Guest Editor, *PLoS Computational Biology*

SCIENTIFIC ASSOCIATIONS

- IEEE Engineering in Medicine and Biology Society (EMBS) – Women in Engineering (WIE)
- National Group of Bioengineering (GNB)

AWARDS AND RECOGNITIONS

- **2022** European Patent No. 102020000014188 – *Tele-auscultation device for clinical bodily sounds*
- **2015** European Patent No. 0001416659 – *Method for generating a fluorescence image*
- **2018** National Scientific Qualification (ASN) as Associate Professor in Physiology (BIO/09)
- **2016** Semi-finalist, SPIE Startup Challenge
- **2015** Winner, UNIMIB Innovation Grant;
  Journal of Neurophotonics cover story (Vol. 2 No. 1)
  Finalist, APPLICO Prize (*HOLOSCOPE* project)
- **2012** Best Poster Award, 63rd SINS National Congress
- **2011** Travel Grant, IBRO Congress (Florence)

SCIENTIFIC OUTPUT

Scopus ID: 25631628900
Total Citations: 812
h-index: 16
Total Publications: 35 (Scopus-indexed)

Date: July 28, 2025

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