

BIOGRAPHICAL SKETCH

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NAME: Eleonora Da Pozzo

eRA COMMONS USER NAME (credential, e.g., agency login): DPZLNR77

POSITION TITLE: Professor of Biochemistry

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Pisa, Medicinal Chemistry and Technology	BS	07/2003	Biochemistry
University of Pisa, Neurobiology and Clinic of affective disorders	PHD	06/2008	Biochemistry
University of Pisa, Specialization School Degree in	Postdoctoral	10/2011	Clinical Biochemistry

A. Personal Statement

I am Full Professor in Biochemistry (GSD: 05BIOS-07, SSD: BIOS-07A), at the Department of Pharmacy, University of Pisa. My research activity is mainly focused to the study of ligand-proteins interactions and transduction mechanisms, both in physiological and pathological conditions, mostly of central nervous system. I have a robust background in biochemistry, clinical and applied, also with specific training and expertise in neurochemistry and cognition thanks to the PhD in neurobiology, carried out in the Department of psychiatry. In the last twenty years, as PI or co-Investigator, I carried out research on numerous university-, ministerial-, and Eu-funded grants; in particular, me and my research group identified and characterized new molecules for the treatment of tumours and neurodegenerative diseases, as documented in our several peer-reviewed publications. During these twenty years, in addition to research and university teaching, I have also held positions in the University as a member of the Academic Senate and member of the Statute Commission. This activity allowed me to learn to participate in the governance of the University, to formulate proposals and opinions on teaching, research, student services, regulations, code of ethics, budget forecast and final balance. I carried out coordination and liaison functions with the university departments. All these activities allowed me to learn how successfully administered the research projects in term, for instance, of research protections, budget, collaboration, staff ecc. In summary, I think to have the training and motivation necessary to successfully carry out the proposed research project.

Recently completed projects that I would like to highlight include:

-SPARK international, Project Proof-of-Concept SPARK Pisa 2020, "FACT - Fret sensor for the Assessment of Coronavirus Titre", Principal Investigator, PI.

- Montepietra D, Germelli L, Marchetti L, Tozzini V, Angeloni E, Giacomelli C, Storti B, Bizzarri R, Barresi E, Taliani S, Brancolini G, Da Pozzo E. An intramolecular FRET biosensor for the detection of SARS-CoV-2 in biological fluids. *Nanoscale*. 2025 Apr 3;17(14):8803-8815. doi: 10.1039/d4nr05040a. PMID: 40091661.
- https://www.lescienze.it/comunicati-stampa/2025/04/11/news/biosensore_rilevazione_rapida_virus-18906888/
- Italian patent application

-UNIPI, PRA2020, "Neurons, Odorants, Maths, Sleep: get insight into the molecular mechanisms of cognitive impairment" ID: PRA_2020_31, sci resp team

- De Felice M, Germelli L, Piccarducci R, Da Pozzo E, Giacomelli C, Baccaglini-Frank A, Martini C. Intermittent hypoxia treatments cause cellular priming in human microglia. *J Cell Mol Med*. 2023

Mar;27(6):819-830. doi: 10.1111/jcmm.17682. Epub 2023 Feb 23. PMID: 36824025; PMCID: PMC10002911.

- Baccaglini-Frank A., Baldacci F., Da Pozzo E., Di Martino P., Martini C., Maestri M., Sonno e matematica: un progetto interdisciplinare. Archimede LXXIV | ottobre - dicembre 2022, n. 4, MONDADORI Education.

B. Positions and Scientific Appointments

- ✓ Nov 2017 – Oct 2024: Associate Professor in Biochemistry (SSD: BIO/10), Department of Pharmacy, University of Pisa (June 2021: National scientific qualification to Full Professor in Biochemistry).
- ✓ Dec 2011 – Oct 2017: Researcher in Biochemistry (SSD: BIO/10) at the Faculty/Department of Pharmacy, University of Pisa.
- ✓ Apr 2009 - Dec 2011: post-doc fellow Researcher (SSD: BIO/10) at the Department of Psychiatry, Neurobiology, Pharmacology and Biotechnologies, University of Pisa.
- ✓ June 2008: Founder of LTD NanoBioTech Nano4Bio, based in Bologna.
- ✓ Apr 2008 - Mar 2009: Postdoctoral Scholarship, Department Cardio Thoracic and Vascular Unit, University of Pisa.
- ✓ Mar 2004 - Oct 2004: Fellowship Department of Psychiatry, Neurobiology, Pharmacology and Biotechnologies, University of Pisa.
- ✓ Feb 2024 – present: Member of the working table for the creation of the Departmental Triennial Strategic plan.
- ✓ Feb 2024 – present: Member of the Quality Commission for the of the PhD Course in Science of Drug and Bioactive Substances, University of Pisa.
- ✓ Jan 2024 – present: associated member of the Istituto Nazionale Fisica Nucleare as part of a project on radiotherapy.
- ✓ Sept 2023 - present: Pisa University corresponding for the National Platform of Structural Biology of Human Technopole.
- ✓ 2020 – present: Research Quality Assessment Procedure Referent (VQR) for the Department of Pharmacy, University of Pisa.
- ✓ 2020 – present: Research Committee for the Department of Pharmacy, University of Pisa.
- ✓ Oct 2020 – present: Member of the Giunta of Interdipartimental Center for the Updating, Training and Educational Research, University of Pisa (CAFRE) and of the Interdipartimental center for “Diritto e Tecnologie di Frontiera” (DETECT), University of Pisa.
- ✓ Nov 2018 – present: Member of the Commissione Paritetica of the Course in Pharmaceutical Chemistry and Technologies, University of Pisa.
- ✓ 2014 – present: Member of the Teaching Committee of the PhD Course in Science of Drug and Bioactive Substances.
- ✓ Nov 2018 – Oct 2023: Member of the Commissione Paritetica of the Course in Peace Sciences (Department of Civiltà e Forme del Sapere, University of Pisa).
- ✓ Nov 2021 – Oct 2024: Member of the Scientific Area 05 Academic Committee.
- ✓ 2017- 2023: Secretary of the Sciences of Drug and bioactive substances PhD from University of Pisa
- ✓ 2017 - 2018: Member of the Statute Committee of University of Pisa
- ✓ 2016 - 2020: Member of the Academic Senate, University of Pisa
- ✓ 2015 – present: Member of the Italian Society of Neuroscience (SIN)
- ✓ 2015 – present: Member of the Federation of European Biochemical Societies (FEBS)
- ✓ 2014 – present: Member of the Italian Society of Biochemistry and Molecular Biology (SIB)

Honors

- June 2014: Poster Award: “Survivin-directed molecular beacon as potential theranostic agent in melanoma cells”, Global Biotechnology Congress 2014 (Boston).
- Nov 2009: "Nanostructured Surfaces for Cell Culture & Tissue Growth", Nanotech Applications Award, Bologna (Italy)
- June 2008: Founder of the nanobiotech Nano4Bio LTD
- Oct 2007: Travel Award: "Panic-agoraphobic spectrum comorbidity and mitochondrial translocator protein in posttraumatic stress disorder", 20th European Neuropsychopharmacology Congress, Wien.
- 2006: Tuscany Region Fellowship to stay at the “Bipolar Clinic and Research Program”, Harvard Medical School.

- Feb 2006: Poster Award "Recettore periferico mitocondriale delle benzodiazepine e livelli di DHEAS in pazienti con disturbo post-traumatico da stress e lutto complicato", XI Congresso Nazionale Società Italiana di Psicopatologia, Roma.

C. Contributions to Science (last five years articles)

My research activity is mainly addressed to the study of ligand-proteins interactions and transduction mechanisms, both in physiological and pathological conditions, mostly of central nervous system.

In particular, during several drug screening projects, I identified and characterized new molecules for the treatment of tumours and neurodegenerative diseases; my studies have been addressed to specific proteins, and their involvement in cellular processes, such as the modulation of apoptosis, proliferation, invasiveness, angiogenesis, receptor recycling and steroidogenesis.

I also investigated cell signaling activated by yet marketed drugs and I contributed to the identification of new biomarkers or therapeutic molecules in medical conditions, assessing the levels of proteins, neurotrophic factors, cytokines, steroids, RNA transcripts, in both in vitro and in vivo samples (lymphocytes, saliva and blood) isolated from healthy and/or pathological subjects.

- Montepietra, D. et al., 2025, *Nanoscale*, 17(14), pp. 8803–8815
- Gambino, G. et al., *Biomolecules*, 2024, 14(9), 1075
- Piragine, E. et al., *Experimental Gerontology*, 2024, 194, 112495
- Nuti, E. et al., *Pharmaceuticals*, 2022, 15(11), 1318
- Puxeddu, M. et al., *European Journal of Medicinal Chemistry*, 2021, 221, 113532
- Puxeddu, M. et al., *European Journal of Medicinal Chemistry*, 2020, 185, 111828

In recent years, my research is addressed to investigation of neuroinflammation using several models of human cells from CNS (glial cells, neurons, astrocytes, oligodendrocytes); a central core is the investigation of the neurosteroidomics during neuroinflammation, and the possibility to identify new therapeutic molecules against pathological conditions or diagnostic target.

- Germelli, L., et al., *Cell. Mol. Life Sci.* 2025, 82, 34
- Angeloni, E. et al., *Neurochemistry International*, 2025, 182, 105916
- Poggetti, V. et al., *ACS Chemical Neuroscience*, 2025, 16(1), pp. 1–15
- Tremolanti, C. et al., *Biochimica et Biophysica Acta - Molecular Basis of Disease*, 2024, 1870(5), 167174
- Angeloni, E. et al., *Biochimica et Biophysica Acta - Molecular Basis of Disease*, 2023, 1869(6), 166751
- De Felice, M. et al., *Journal of Cellular and Molecular Medicine*, 2023, 27(6), pp. 819–830
- Ceccarelli, L. et al., *ACS Omega*, 2022, 7(27), pp. 23127–23137
- Tremolanti, C. et al., *Molecular Neurobiology*, 2022, 59(3), pp. 1744–1765
- Tremolanti, C. et al., *Current Medicinal Chemistry*, 2022, 29(28), pp. 4831–4861
- Germelli, L. et al., *International Journal of Molecular Sciences*, 2021, 22(6), pp. 1–24, 3115
- Barresi, E. et al., *Journal of Enzyme Inhibition and Medicinal Chemistry*, 2021, 36(1), pp. 1783–1797
- Barresi, E. et al., *European Journal of Medicinal Chemistry*, 2021, 209, 112924
- Costa, B. et al., *Biochemical Pharmacology*, 2020, 177, 114015

Recently, I begin also to efficiently use in silico approaches and to address the call of green chemistry, I participated and won PON grants with which I was able to finance a doctoral student, who worked on **aptamers** (with Ulisse Biomed srl), and a doctoral student and an RTD, who worked on waste recovery (Kedrion srl).

- Lossano S et al., *Mach. Learn.: Sci. Technol.*, 2025, 6, 025001
- Di Lena A et al., *Anal. Chem.*, 2025, 97, 8195–8201
- Ziliotto, N. et al., *eBioMedicine*, 2025, 113, 105625
- Cirinciani, M. et al., *Biochemical Pharmacology*, 2024, 228, 116078
- Marchetti, L. et al., *Briefings in Bioinformatics*, 2022, 23(6), pp. 1–15

In the last two years, I have started to deal with the biological phenomena underlying high-energy radiation, in particular electrons, with the aim to improve the radiotherapy protocols.

- Del Debbio, F. et al., *Frontiers in Physics*, 2023, 11, 1201708

Moreover, I carried out dissemination activities, aimed at university students, high school students and also citizens in general, for University of Pisa, Scuola Normale Superiore, Radio3Scienza, Rotaract and Regione Toscana ("Orientamento Unipi", "Orienta il tuo futuro", "Bright", "Fame Lab Italia", "PHD Educational WEEK", "Celebrations of the anniversaries of the battle of Curtatone and Montanara"). I am a member of the CSR (Centro Studi Rotariani: Valori, Cultura, Umanità), vice-director of CRDU (Centro Ricreativo Dipendenti Universitari) with

responsibility for culture dissemination, and member of the Progetto Agata Smeralda ODV, an association for distance child adoption, with responsibility for culture dissemination in Pisa Committee. Last, I am member of the steering committee of the Giuseppe Bonamici music school, a local social promotion association.

PUBLICATIONS

H-index: 35; # publications: 100; Total citations: 3,003 (Source Scopus, 30 May 2025)

For the complete list Scopus: <https://www.scopus.com/authid/detail.uri?authorId=57388454100>