

SCIENTIFIC CURRICULUM

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EDUCATION

- July 2004: PhD in Biochemistry at the Trinity College Dublin (Ireland).
- July 1999: Degree in Molecular biology at the University of Bologna (Italy), score: 110/110.

CURRENT POSITION

Since February 2022: Senior assistant professor (RTDB, 05/E2, SSD BIO/11) at the Dept. of Biology and Biotechnology, University of Pavia (Italy).

PREVIOUS POSITIONS

- Jan 2017-Jan 2022: Assistant professor (RTDA, BIO/11) at the Dept. of Biology and Biotechnology, University of Pavia (Italy).
- May 2014-Jan 2017: Research fellow at the Dept. of Biology and Biotechnology, University of Pavia (Italy) in Andrea Mattevi's lab.
- Jan 2012- Oct 2013: Scientist at Confometrx, Inc (Santa Clara, California USA).
- March 2009-Dec 2011: Postdoctoral fellow at the Dept. of Molecular Biology, University of Aarhus (Denmark). Supervisor: Gregers Rom Andersen.
- Apr 2005-March 2009: Postdoctoral Career and Development Fellowship at the Laboratory of Molecular Biology-MRC (Cambridge, UK). Supervisors: Chris Tate and Richard Henderson.
- July 2004-March 2009: Research assistant at the Conway Institute, University College Dublin. Supervisor: Jana Haase.

PATENTS

- Mutant G-protein coupled receptors and methods for selecting them (WO EP US CN JP AT AU CA DK ES GB HR PL PT AU2008228085B2). Inventors: Richard Henderson, Francesca Magnani, Maria Josefa Serrano-Vega, Yoko Shibata, Christopher Gordon Tate, Antony Johannes Warne, Malcolm Peter Weir. Priority 2007-03-22 • Filed 2008-03-20 • Granted 2011-12-08 • Published 2011-12-08
- Mutant adenosine receptors with improved stability (WO EP US CN JP AT AU CA DK ES GB HR PL PT GB2456237A). Inventors: Antony Johannes Warne, Christopher Gordon Tate, Francesca Magnani, Malcolm Peter Weir, Maria Josefa Serrano-Vega, Richard Henderson, Yoko Shibata. Priority 2007-03-22 • Filed 2008-03-20 • Granted 2009-10-28 • Published 2009-07-15
- Mutant neurotensin receptors with improved stability (GB GB2456904A). Inventors: Antony Johannes Warne, Christopher Gordon Tate, Francesca Magnani, Malcolm Peter Weir, Maria

- Josefa Serrano-Vega, Richard Henderson, Yoko Shibata. Priority 2007-03-22 • Filed 2008-03-20 • Granted 2009-10-28 • Published 2009-08-05
- Methods for screening for binding partners of G-protein coupled receptors (WO EP US JP AU CA GB US10126313B2). Inventors: Malcolm Peter Weir, Richard Henderson, Christopher Gordon Tate, Francesca Magnani, Maria Josefa Serrano-Vega, Yoko Shibata, Antony Johannes Warne. Priority 2007-12-20 • Filed 2016-01-06 • Granted 2018-11-13 • Published 2018-11-13
 - Selective ligands for the angiotensin ii receptors (WO EP US CN JP AU CA WO2013091883A3). Inventors: Andreas Tzakos, Francesca Magnani. Priority 2011-12-23 • Filed 2012-12-21 • Published 2013-10-24
 - Mutated form of NADPH oxidases (WO WO2018014939A1). Inventors: Mattevi Andrea, Nenci Simone, Magnani Francesca. Priority 2016-07-19 • Filed 2016-07-19 • Published 2018-01-25

ACHIEVEMENTS FROM TECH TRANSFER

The postdoctoral work in the laboratory of Chris Tate and Richard Henderson at the LMB (UK) entailed to develop a method to improve the crystallisability of G protein-coupled receptors (GPCRs). In 2007, this work led to the foundation of a spin-off, Heptares Ltd., that developed a platform for designing new drugs targeting GPCRs. In 2015, Heptares (now Nxera Pharma UK) has been acquired by the Japanese pharmaceutical company Sosei Group Corporation.

PUBLICATIONS (for an up to date list see my [Google scholar](#) account)

(* corresponding authors)

1. Bertino F., [...], **Magnani F.**, [...], Chiabrando D. Mitochondrial energetic failure underlies FLVCR1-related sensory neuropathy (submitted).
2. Patil DN, [...], **Magnani F.**, [...], Forneris F*, Martemyanov KA*. (2023) Structure of the photoreceptor synaptic assembly of the extracellular matrix protein pikachurin with the orphan receptor GPR179. *Sci Signal*. Jul 25;16(795):eadd9539. doi: 10.1126/scisignal.add9539.
3. Randzavola LO [...], **Magnani F***, Smith KGC*, Thomas DC*. (2022) EROS is a selective chaperone regulating the phagocyte NADPH oxidase and purinergic signalling. *Elife*. 2022 Nov 24;11:e76387. doi: 10.7554/eLife.76387.
4. “Enzyme Engineering” volume, *Methods in Molecular Biology* series (Springer). **Magnani F**, Marabelli C, Paradisi F. (Eds.)(2021)
5. Reis J., [...], **Magnani F.**, Mattevi A*. (2020). A closer look into NADPH oxidase inhibitors: Validation and insight into their mechanism of action. *REDOX BIOLOGY*, vol. 32, ISSN: 2213-2317, doi: 10.1016/j.redox.2020.101466
6. Vrettos E.I., [...], **Magnani F.**, [...], Tzakos A. G*. (2020). Single Peptide Backbone Surrogate Mutations to Regulate Angiotensin GPCR Subtype Selectivity. *CHEMISTRY-A EUROPEAN JOURNAL*, ISSN: 0947-6539, doi: 10.1002/chem.202000924
7. Chiabrando D, [...], **Magnani F*** (2020). Expression and purification of the heme exporter FLVCR1a. *PROTEIN EXPRESSION AND PURIFICATION*, vol. 172, ISSN: 1046-5928, doi: 10.1016/j.j.pep.2020.105637
8. **Magnani F***, Mattevi A*. Structure and mechanisms of ROS generation by NADPH oxidases. *Curr Opin Struct Biol*. 2019 Apr 30;59:91-97. Review.

9. Ceccon M, [...], **Magnani F***. Engineering stability in NADPH oxidases: a common strategy for enzyme production. *Mol Membr Biol*. 2018 Oct 11:1-28.
10. Iacovino LG, **Magnani F**, Binda C*. The structure of monoamine oxidases: past, present, and future. *J Neural Transm (Vienna)*. 2018 Aug 24.
11. **Magnani F***, [...], Mattevi A*. Crystal structures and atomic model of NADPH oxidase. *PNAS*. 2017 Jun
12. Piano V, [...], **Magnani F**, [...], Mattevi A*. Recombinant human dihydroxyacetonephosphate acyl-transferase characterization as an integral monotopic membrane protein. *Biochem Biophys Res Commun*. 2016 Dec 2;481(1-2):51-58.
13. **Magnani F**, [...], Tate CG*. A mutagenesis and screening strategy to generate optimally thermostabilized membrane proteins for structural studies. *Nat Prot*. 2016 Jul 28; 11: 1554–1571.
14. **Magnani F**, [...], Tzakos A*. Electronic Sculpting of ligand-GPCR subtype selectivity: the case of angiotensin II. *ACS-Chem Biol*. 2014; 9(7):1420-5.
15. Laursen NS, **Magnani F**, [...], Andersen GR*. Structure, function and control of complement C5 and its proteolytic fragments. *Curr Mol Med*. 2012; 12(8):1083-97.
16. Doré AS, [...], **Magnani F**, Tate CG*, Weir M*, Marshall FH*. Structure of the Adenosine A(2A) Receptor in Complex with ZM241385 and the Xanthines XAC and Caffeine. *Structure*. 2011;19(9):1283-93.
17. Shibata Y, [...], **Magnani F**, [...], Tate CG*. Thermostabilization of the neurotensin receptor NTS1. *J Mol Biol*. 2009; 390(2):262-77.
18. **Magnani F**, [...], Tate CG*. Co-evolving stability and conformational homogeneity of the human adenosine A2a receptor. *PNAS* 2008; 105(31):10744-9.
19. Serrano-Vega MJ, **Magnani F**, Shibata Y, Tate CG*. Conformational thermostabilization of the beta1-adrenergic receptor in a detergent-resistant form. *PNAS* 2008; 105(3): 877-82.
20. **Magnani F**, [...], Haase J*. Partitioning of the serotonin transporter into lipid microdomains modulates transport of serotonin. *J Biol Chem*. 2004; 279(37):38770-8.
21. Tate CG, [...], **Magnani F**, Vallis Y, Williams DC*. Comparison of seven different heterologous protein expression systems for the production of the serotonin transporter. *Biochim Biophys Acta*. 2003; 1610(1):141-53.
22. Haase J, [...], **Magnani F**, Williams DC*. Regulation of the serotonin transporter by interacting proteins. *Biochem Soc Trans*. 2001; 29(Pt 6):722-8. Review.
23. Pozza M, [...], **Magnani F**, [...], Calza L*. Is neuronal nitric oxide involved in adjuvant-induced joint inflammation? *Eur J Pharmacol*. 1998; 359(1):87-93.

TEACHING ACTIVITIES

- Since 2022: Basic Molecular Biology course (48 hours) for the Molecular Biology and Genetics master degree
- Since 2017: Molecular Biology II (16 hours) for the Biology bachelor degree
- Since 2022: Teaching laboratory in Molecular Biology for secondary school pupils (PCTO) (12 hours)
- 2021-2022: Molecular Pharmacology (8 hours) for the Molecular Biology and Genetics master degree

- 2016-2018: teaching seminars (4 hours) on “GPCRs’ pharmacology, conformational plasticity and structure based drug discovery” as part of the “Molecular Pharmacology” held by Prof. Federico Forneris for the master students of *Molecular Biology and Genetics*.

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Il sottoscritto è consapevole che il presente documento potrebbe essere oggetto di pubblicazione per finalità di trasparenza sul sito web dell’Università degli Studi di Pavia.

Luogo e data: Pavia, 24 January 2025

