

Rizzi Menico

Curriculum vitae

PERSONAL DATA

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BIO AND EDUCATION

Menico Rizzi graduated in chemistry at the University of Pavia Italy and received a PhD in Molecular Biotechnologies at University Cattolica “Sacro Cuore”. He is an expert in structural biology and enzymology and coordinates a group investigating proteins of medical interest, with a particular focus on poverty-linked diseases. Prof. Rizzi has a successful record as a group leader in European Commission funded projects and received funding also from National Agencies and Private Foundations. Visiting scientist/professor at the University of York (UK), University of Kyoto (JP) and at the Japanese National Institute for infectious disease (Tokyo, JP). Member of the scientific committee of several National and International Congresses including FEBS,FASEB, IUCr and EAC meetings and lecturer in International PhD Schools supported by UNESCO. Past President of the “Protein Chemistry” division of the Italian Society of Biochemistry and expert member for biological sciences of the Italian National Agency for the evaluation of University and research (ANVUR). Prof. Rizzi joined the International nonproprietary names program of the World Health Organization at the beginning of 2016 as an expert member and is a member of the Steering Committee of the WHO School of INN (<https://extranet.who.int/soinn/>). Co-founder of the Academic spin-off iXTAL (www.ixtal.it). Since April 2020, member of the governing board of the Italian National Agency for the Evaluation of Universities and Research Institutes and since 2022 member of the Steering board of the Coalition for Advancing Research Assessment - CoARA - (<https://coara.eu/>).

UNIVERSITY CAREER

2004-	Full Professor, Università del Piemonte Orientale
2000-2004	Associate Professor, Università del Piemonte Orientale
1997-2000	Researcher, Università del Piemonte Orientale
1994-1997	Post-doc Università di Pavia, EMBL Hamburg Germany (EMBO fellowship)

UNIVERSITY POSITIONS

2020-	Member of the Governing Board of ANVUR
2017-2020	President of the Evaluation Board, Università di Genova
2015-2020	President of the Evaluation Board, Università del Piemonte Orientale
2012-2015	Deputy Rector for Scientific Research, Università del Piemonte Orientale
2009-2011	Member of the Academic Senate , Università del Piemonte Orientale

2005-2015	Co-ordinator of the PhD program in Pharmaceutical and Food Biotechnologies, Università del Piemonte Orientale
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SCIENTIFIC POSITIONS

2015 -	Expert for the INN program, World Health Organization, Geneve
2015-2016	Expert member for biological sciences for ANVUR , Italy
2009 -2015	President of the Protein group of the Italian Society of Biochemistry
2009 -	Member of the Italian Society of Biochemistry

MAIN FIELDS OF INTEREST

1. Structural Biology
2. Enzymology
3. NAD(P) and Kynurenines metabolisms
4. Poverty linked infectious diseases
5. Rational drug design
6. Medicines nomenclature

CURRENT ISSUES OF RESEARCH

1. NAD(P) metabolism in human and in bacteria and parasites pathogens

This research line focuses on the biochemical characterization of enzymes involved in maintaining NAD(P) homeostasis in different organisms; particular attention is dedicated to Evolutionary aspects and to the role played by the targeted enzymes in pathological conditions.

2. Kynurenine metabolism in the human brain and in mosquitos

This research line focuses on the biochemical characterization of enzymes involved in tryptophan degradation in the human brain and that are recognised as robust pharmacological targets for the development of novel antipsychotic agents; the same metabolism in *Anopheles gambiae* has value for the development of insecticides with larvicidal activity.

3. DNA repair pathways in *Mycobacterium tuberculosis*

This research line focuses on the biochemical characterization of enzymes involved in different DNA repair mechanisms responsible for the exceptional adaptability shown by the bacterium also in developing drug resistance.

4. Biochemical characterization of targets for the development of anti-tuberculosis, anti-malaria and anti-cancer drugs

This research line focuses on the biochemical characterization of enzymes involved in the central metabolism in human, *M. tuberculosis*, *An. gambiae* and *Plasmodium falciparum*. Amongst others, zinc-dependent proteases, NAD(P) dependent dehydrogenases, PLP-dependent enzymes and enzymes involved in the purine and pyrimidine biosynthesis, are targeted.

5. Enzymes of biotechnological interest

This research line focuses on the biochemical characterization of bacteria or fungal enzymes capable of degrading aromatic compounds.

6. Medicines Nomenclature

This research activity is conducted within the WHO INN expert group framework and aims to provide meaningful nonproprietary name to medicines, as a contribution to patient safety and for educational purposes. A special focus is dedicated to biological medicines.

CURRENT FUNDED PROJECTS

BANDO	TITOLO DEL PROGETTO
Regione Piemonte “Piattaforme Tecnologiche” POR - FESR Piemonte	PRIME (Processi e pRodotti Innovativi di chiMica vErde). The main objective of multidisciplinary project that involves research groups from Academy and Industry) is the development of new green chemistry technologies for the production of innovative biodegradable materials from renewable sources .

TOP FIVE PAPERS

1. Loizides U, Dominici M, Manderson T, Rizzi M, Robertson JS, De Sousa Guimarães Koch S, Timón M, Balocco R. The harmonization of World Health Organization International Nonproprietary Names definitions for cell and cell-based gene therapy substances: when a name is not enough. *Cytotherapy*, 2021 Apr 1;S1465-3249(21)00063-3. doi: 10.1016/j.jcyt.2021.02.114
2. F Rossi, S Garavaglia, GB Giovenzana, B Arcà, J Li and M Rizzi. Crystal structure of the *Anopheles gambiae* 3-hydroxykynurenine transaminase. *Proc. Natl. Acad. Sci. USA.*, 2006, 103, 5711-5716.
3. S Garavaglia, N Raffaelli, L Finaurini, G Magni, M Rizzi. A novel fold revealed by Mycobacterium tuberculosis NAD kinase, a key allosteric enzyme in NADP biosynthesis. *J. Biol. Chem.* 2004, 279, 40980-40986.
4. M. Rizzi, C. Nessi, A. Mattevi, A. Coda, M. Bolognesi, A. Galizzi. Crystal structure of NH₃-dependent NAD⁺ synthetase from *Bacillus subtilis*. *EMBO J.*, 1996, 15, 5125-5133.
5. H. L. Monaco, M. Rizzi, A. Coda. The three dimensional structure of a macromolecular complex formed by two plasma proteins: transthyretin and retinol binding protein. *Science*, 1995, 268, 1039-1041.

AWARDS

Best researcher of the University of Piemonte Orientale, 2018.

FURTHER INFORMATION

- More than 80 invitations as speaker at Universities, Research Centers, Conferences, National and International.
- One-hundred and thirty publications with more the 5000 citations and with an H-index of 41.
- Reviewer for: Human Science Frontier Program; Ministero dell'Università e della Ricerca Scientifica, Italy; International Copper Association; Portuguese Foundation of Science and Technology, Portugal; National Science Centre, Poland; Molecular Research Council, United Kingdom; National Research Foundation, Republic of South Africa.
- Ad hoc reviewer for Scientific Journals: Nature, Nature Structural Molecular Biology, Structure, Journal of Molecular Biology, Protein Science, Trends in Microbiology, Biochemistry, FEBS Letters, FEBS Journal, FEMS Letters, Acta Crystallographica, Protein and Peptide Letters, ACS Medicinal Chemistry Letters, Journal of Medicinal Chemistry, Chemical Reviews, Genes to Cells, PNAS, Journal of Biological Inorganic Chemistry, J. Bacteriology, Biochimica et Biophysica Acta, Medicinal Chemistry Communications, Cellular Molecular Life Sciences, Biochemical Journal, Journal of Structural biology, Blood, Plos one, Frontiers in Biosciences, Proteins, DNA repair.
- Member committees for PhD selection, PhD award and for the selection of associate researcher, associate professor and full professor of Biochemistry at Italian Universities and abroad (University of Bergen, Norway; University of Western Cape Town, Republic of South Africa; The Federal University of Technology, Akure, Nigeria).