MODELLO **B** — versione del modello A

Menico Rizzi

Curriculum vitae

CURRICULUM VITAE ET STUDIORUM

- Master in Chemistry from University of Pavia (1990); PhD in Molecular Biotechnology from Catholic University of "Sacro Cuore", Piacenza branch.
- An internationally recognized expert in structural biology and enzymology, he is involved in the study of proteins of medical and biotechnological interest.
- He has received funding, competive calls, from the European Union (Framework Programs V, VI, VII and Horizon Europe); MIUR (PRIN, FIRB); the Piedmont Region; the Cariplo Foundation; and the Lagrange Foundation.
- Co-ordinator of a MIUR Italy-US project, has worked with pharmaceutical and chemical industries (Dompé farmaceutici, Novartis Vaccines and Diagnostics, Novamont).
- He has participated in numerous scientific and organizational committees for national (Italian Society of Biochemistry and Molecular Biology, Italian Association of Crystallography, Protein), international (Federation of European Biochemical Societies, Federation of American Societies for Experimental Biology, European Crystallographic Association, International Union of Crystallography) congresses and, as lecturer, in international school (under UNESCO patronage).
- He has been a visiting scientist at York and Kyoto Universities and at the National Institute for Infectious Diseases, Tokyo.
- He is co-founder of Academic spin-off iXTAL Srl and co-author of international patent granted for the development of new diagnostic methodology for gliomas.
- He has been a member of MUR working tables for the revision/definition of educational pathways for nursing and Osteopathic degree programs.
- He has been a member of the National Observatory for Health Professions.
- He is a member of international (International Union of Crystallography) and national (Italian Society of Biochemistry and Molecular Biology, Italian Association of Crystallography) scientific societies.
- Since November 1, 2024, he is the Rector of the University of Piemonte Orientale "Amedeo Avogadro".

MODELLO **B** — versione  del modello A

ACADEMIC CAREER

Dal 2004	Full Professor, University of Piemonte Orientale "Amedeo Avogadro"- Min. Area 05 (Biological Sciences), S.D. Group 05/BIOS-07 (Biochemistry), S.S.D. BIOS-07/A (Biochemistry)
2000-2004	Associate professor, Piemonte Orientale "Amedeo Avogadro" Min. Area 05 (Biological Sciences), S.S.D. BIO/10 (Biochemistry)
1997-2000	Researcher, University of Turin, then Piemonte Orientale "Amedeo Avogadro" Min. Area 05 (Biological Sciences), S.S.D. BIO/10 (Biochemistry)
1994-1997	Post-doc University of Pavia, EMBL Hamburg Germany (EMBO fellowship)

ACADEMIC ASSIGNMENTS

2024-	Rector of the University of Piemonte Orientale "Amedeo Avogadro"
2020-2024	Member of the Governing Council of the National Agency for the Evaluation of the University System and Research (ANVUR)
2017-2020	Chairman of the Evaluation Board, University of Genova
2015-2020	Chairman of the Evaluation Board, University of Piemonte Orientale "Amedeo Avogadro"
2012-2015	Deputy Rector for Scientific Research, University of Piemonte Orientale "Amedeo Avogadro"
2009-2011	Member of the Academic Senate, University of Piemonte Orientale "Amedeo Avogadro"
2005-2015	Ph.D. coordinator in pharmaceutical and food biotechnology, University of Piemonte Orientale "Amedeo Avogadro"

SCIENTIFIC ASSIGNMENTS

2024-2025	Member (Panel chair for Chemical Sciences) of the International Assessment Group at the University of Galway, Ireland
2022-2024	Steering board member of the Coalition for Advancing Research Assessment (CoARA).
2022-2024	Member of the Governing board of the Società Italina di Biochimica e Biologia Molecolare - Italian Society of Biochemistry and Molecular Biology -
2022-	Member of the working group for the implementation of the African Union - European Union Innovation Agenda.
2016-	Expert at the World Health Organization (Geneva) for the International Nonproprietary Names (INN) program, vice-chair for "biologicals" (2020-2024) and member of the Steering Committee of the School of INN (2018-2024)
2015-2016	Expert for VQR 2011-14: member of ANVUR's GEV-05 for biological sciences
2009-2019	Representative for the University of Piemonte Orientale "Amedeo Avogadro" in the Governing Council of CIRM-IMN, Interuniversity Center for Malaria Research - Italian Malaria Network
2009-2015	Coordinator of the "Protein" Group of the Società Italina di Biochimica e Biologia Molecolare- Italian Society of Biochemistry and Molecular Biology -

MODELLO **B** — versione del modello A

FIELD OF RESEARCH INVESTIGATION

1. Structural biology
2. Enzymology
3. Metabolism of NAD(P)
4. Poverty-related infectious diseases (tuberculosis-malaria)
5. Rational drug design
6. Drug nomenclature

CURRENT RESEARCH TOPICS

1. Metabolism of NAD(P) in humans, pathogenic bacteria and parasites.
The study is directed toward the characterization of enzymes involved in the synthesis and degradation of NAD(P) in different organisms with attention to evolutionary and disease context aspects.

2. Quinurenine metabolism in human brain and mosquitoes.
The study is directed toward the characterization of enzymes involved in tryptophan degradation in the human brain as pharmacological targets in neurological disorders and particularly for the development of antipsychotics, and in the mosquito Anopheles gambiae for the development of insecticides.

3. DNA repair and replication mechanisms in Mycobacterium tuberculosis.
Study of enzymes involved in various DNA repair mechanisms for understanding the mechanisms underlying the bacterium's exceptional adaptability and development of drug resistance. Enzymes involved in DNA replication as are also investigated in the context of drug discovery.

4. Characterization of molecular targets for antitubercular, antimalarial and antineoplastic drug development and for diagnostic probes in oncology.
Study of enzymes of central metabolism of M. tuberculosis, An. gambiae, Plasmodium falciparum and man that are recognized as robust drug targets. Among others, proteolytic enzymes such as zinc-dependent proteases, NAD(P)-dependent dehydrogenases, PLP-dependent enzymes, and enzymes involved in the synthesis of purines and pyrimidines are studied.

5. Enzymes of biotechnological interest.
The study focuses on bacterial and fungal enzymes that can degrade aromatic molecules even from natural substances of plant origin, be used in the production of biodegradable material (bioplastic), in the food industry and as diagnostic tools.

6. Nomenclature of drugs.

The study is being conducted in the context of the International non-proprietary name (INN) Expert Group at World Health Organization and aims to develop non-proprietary medicine nomenclature to ensure greater patient safety and with attention to aspects of university education. In particular, the activity has a focus on biologic medicines.

THE FIVE MOST SIGNIFICANT PUBLICATIONS OF THE CAREER

1. Izhar Wallach *et al*., AI is a viable alternative to high throughput screening: a 318-target study. *Sci Rep.* 2024 Apr 2;14(1):7526. doi: 10.1038/s41598-024-54655-z.
2. Guimaraes Koch S.S., Thorpe R., Kawasaki N., Lefranc M.P., Malan S., Martin A.C.R., Mignot G., Plückthun A., Rizzi M., Shubat S., Weisser K., 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. *MAbs*, 2022 Jan-Dec;14(1):2075078. doi: 10.1080/19420862.2022.2075078
3. F. Rossi, S. Garavaglia, G.B. 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.
4. M. Rizzi, C. Nessi, A. Mattevi, A. Coda, M. Bolognesi, A. Galizzi. Crystal structure of NH_3-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 AND HONORS

Best researcher of the University of Piemonte Orientale, 2018

FURTHER INFORMATION

- 140 publications with a total of more than 6,500 citations and H-index value 46 (Google Scholar).
- More than 90 invitations as a speaker at universities, research centers and national and international conferences.
- Reviewer for research funding agencies: Human Science Frontier Program; Ministry of University and Scientific Research, Italy; International Copper Association; Portuguese Foundation of Science and Technology, Portugal; National Science Centre, Poland; Molecular Research Council, UK; National Research Foundation, Republic of South Africa.
- Ad hoc reviewer for International peer-review 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, PlosOne, Frontiers in Biosciences, Proteins, DNA repair.

- Member of committees for the selection and award of PhD, for the selection of university researcher, associate professor and full professor positions in Italian and foreign universities (University of Bergen, Norway; University of Western Cape Town, Republic of South Africa; The Federal University of Technology, Akure, Nigeria).