Federico Forneris - Curriculum Vitae

Personal Details:

Born in Asti (Italy), August, 7th 1978.

Home address:

Work address: The Armenise-Harvard Laboratory of Structural Biology

Department of Biology and Biotechnology "L. Spallanzani"

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Languages known: Italian (Mother language)

English (Very good oral and written)
French (Good oral and written)

Websites: http://fornerislab.unipv.it

http://www.unipv.it/biocry/index.php?page=investigators#forneris

Description of Scientific Career:

Since 2023 Full Professor of Molecular and Structural Biology at the University of Pavia.

Since 2022 President of the INF-ACT Foundation (PNRR Extended Partnership Hub involving 25 public and

private entities, 114.5M€ funding).

Since 2021 Vice-rector for Research of the University of Pavia.

Since 2017 Associate Professor (tenured) of Molecular and Structural Biology at the University of Pavia.

2014-2017 Assistant Professor (tenure-track) of Molecular Structural Biology at the University of Pavia.

2009-2013 NIH/ERC funded Postdoc in Structural Biology at the University of Utrecht with P. Gros. Topic:

structural biology of large macromolecular complexes.

2007-2009 AIRC funded Postdoc in Structural Biology at the University of Pavia with A. Mattevi. Topic:

biochemistry and structural biology of protein complexes involved in chromatin regulation.

2003-2006 PhD Student in Structural Biology at the University of Pavia with A. Mattevi (UNIPV-IUSS PhD

program in "Basic and Applied Biomolecular Sciences" – XIX Cycle). Title of PhD Thesis: "Investigating the Structural and Biochemical Properties of Human Lysine-Specific Histone

Demethylase LSD1".

2002 1-year internship in Trieste (Italy) in Structural Biology at CEB (Centre of Excellence in

Biocrystallography) with L. Randaccio and S. Geremia.

1997-2002 Degree in Physical Chemistry at the University of Turin (vote: 110/110 summa cum laude with special

mention and recommendation for publication), thesis title: "Crystallographic investigation of

artificial metalloproteins with 4-Helix Bundle motif".

1992-1997 High School Diploma in Accounting (vote: 60/60).

Honors/Awards/Grants

2023-2024	Italian Ministry of Education, University and Research "PRIN PNRR 2022" Grant (as co-Investigator)
2023-2024	Italian Ministry of Education, University and Research "PRIN 2022" Grant (as co-Investigator)
2022-2023	AIRC Bridge Grant (as Principal Investigator)
2022-2025	Ehlers-Danlos Society Rare EDS Types Grant (as Principal Investigator and Project Coordinator)
2022-2026	National Reprise and Resilience Program (NRRP/PNRR) Extended Partnership on "Emerging Infectious Diseases" – INF-ACT (as Hub President, Partnership Coordinator and Co-Investigator)
2022-2025	Italian Ministry of Health "Piano Operativo Salute" (POS) – Project Immuno-Hub (as Co-Investigator and Coordinator of a research work package)
2022	Erkko Foundation Grant (as Co-Investigator)
2021	Silver Medal of Merit, Orders of Saints Maurice and Lazarus for COVID-19 research
2020 2020-2024	Regione Lombardia Infrastructure Grant 3776 (as Co-investigator) Velux Stiftung Ophthalmology Grant (as Principal Investigator)
2020-2021	Mizutani Foundation for Glycoscience Grant (as Principal Investigator)
2020-2024	NATO Science for Peace and Security (SPS) Program Grant (as Principal Investigator and Project Coordinator)
2019-2020	AtomWise AIMS grant (as Co-Investigator with Dr. Luigi Scietti, postdoc in the lab)
2019-2022	Italian Ministry of Education, University and Research "PRIN" Grant (as Principal Investigator and Project Coordinator)
2018-2022	Italian Ministry of Education, University and Research "Department of Excellence" Award (as Co-Investigator and member of the scientific committee
2018-2019	iNEXT Cryo-EM Bundle Grant (as Co-Investigator with Dr. Luigi Scietti, postdoc in the lab)
2017-2022	My First AIRC Grant (as Principal Investigator)
2017	Invited Honorary Lecture for the Inauguration of the Academic Year of the University of Pavia "Watching Life – One Molecule at a Time" https://t.co/BGhwdjT5h7
2016-2018	Cariplo Grant "Strengthening promising ERC Candidates" (as Principal Investigator)
2015-2018	Cariplo Grant "Programma Ricerca Biomedica Giovani Ricercatori" (as Principal Investigator)
2014-2017	Rita Levi-Montalcini Award for young researchers: 3-year appointment as Assistant Professor (tenure-track) in Italy and financial support for conferences and publications.
2014-2017	Awarded a 3-year appointment as Assistant Professor (tenure-track) at the University of Pavia, Italy
2013-2018	Armenise-Harvard Career Development Award (as Principal Investigator)
2010	Best oral presentation at the 7th Innate Immunity Conference, Rhodes, Greece.
2003-2006	3-year PhD fellowship from Institute of Superior Studies, Pavia (IUSS).

Summary of Research Interests and Plans:

My principal research interest is the characterization of macromolecular complexes, by combining X-ray crystallography with multiple biochemical and biophysical analyses. In my laboratory at the University of Pavia, we focus on the characterization of macromolecules involved in fundamental biological processes of bio-medical relevance. The main projects of the lab center on the ligand-receptor environment at neuromuscular junctions and the molecular mechanisms of collagen maturation and intracellular trafficking.

Teaching activity:

- Since 2023 Coordinator of the PhD in "Biomolecular Sciences and Biotechnologies" of the Institute of Superior Studies (IUSS) and University of Pavia
- Since 2023 Teaching at University of Pavia: Course "Laboratory of Advanced Bioinformatics for Omics Sciences" (Master program in Molecular Biology and Genetics).
- Since 2021 Coordinator of the Master Program in "Molecular Biology and Genetics" of the University of Pavia
- Since 2021 Reference Lecturer ("Docente di Riferimento") in the Master Program in "Neurobiology" of the University of Pavia
- Since 2017 Teaching at University of Pavia: Course "Molecular Neurobiology" (Master program in Neurobiology).
- **Since 2015** Teaching at University of Pavia: Course "Molecular Pharmacology" (Master program in Molecular Biology and Genetics).
- **Since 2014** Teaching at University of Pavia: Course "Structural Biology and Pharmacology" (Master program in Molecular Biology and Genetics).
- Since 2014 Teaching at University of Pavia: Course "Molecular Biology II" and "Laboratory of Molecular Biology" (Bachelor program in Biology).
- Since 2006 Supervision of undergraduate and graduate students during their bachelor, master and/or PhD projects, University of Pavia and Utrecht University.
- 2010-2013 Seminars on molecular recognition at Utrecht University: analysis of protein-protein interactions and large macromolecular complexes using biophysics and structural biology (Master program in Molecular Life Sciences, Utrecht University).
- 2009-2013 Teaching at Utrecht University: interactive sessions for courses "Advanced protein crystallography": molecular replacement and structure refinement (3rd year chemistry and biology students), "gene expression and protein engineering": DNA replication and transcription (2nd year chemistry students), and lectures on protein purification, crystallization and structure analysis for the "Honors programme students" (4th year chemistry students).

Supervision of Undergraduate, Graduate and PhD fellows:

2023-2026	Supervisor of PhD Student Shoruq Naji
2023	Supervisor of M.S. student Giovanni Cremonesi.
2022	Supervisor of M.S. students Marco Lupacchini, Nicolò Gennari; Co-supervisor of M.S. students Mona
	Makkieh, Arian Sadeghi; Supervisor of B.S. student Niccolò Turicci; Co-supervisor of B.S. students
	Ilaria Ricotti.
2022-2025	Supervisor of PhD Student Matteo De Marco
2022	Supervisor of M.S. students Giorgia D'Angelo; Haidar Noureddine, Sristi Raj Rai; Co-supervisor of
	M.S. students Elisa Murari, Elena Causa, Abirla Murugan, Chantal Nardiello, Carlo Sclavi; Co-
	supervisor of B.S. students Larissa Ndaysenga;
2021-2024	Supervisor of PhD Student Stefano Liberi
2021	Supervisor of M.S. students Lisa Negro, Matteo De Marco, Pierantonio Doto, Irene Ferraris, Omar El
	Nammoura; Co-supervisor of M.S. students Manfredi Alberti, Margherita Carnevale Schianca

2021 Supervisor of B.S. students Alex Kevin Tchinche Tadjuidje, Chiara Pratesi

2020-2023 Supervisor of PhD Student Giulia Mancini

2020 Supervisor of M.S. students Lorenzo Rossi, Giulia Mancini; Co-supervisor of M.S. students Roman Shaposnikov, Alice Colavolpe.

2020 Supervisor of B.S. students Omar El Nammoura2019-2022 Supervisor of PhD Student Antonella Di Bello

2019 Supervisor of M.S. students Martina Soffientini, Luca De Benedittis

2018-2021 Supervisor of PhD Student Serena Pantalone

2018 Supervisor of M.S. students Lorenzo Vallino, Lucrezia Vittoria Viti, Giansalvo Barbalinardo, Maria

Chiara Capillo, Paolo De Angelis

2018 Supervisor of B.S. students Marta Zavattieri

2017-2020 Supervisor of PhD Student Francesca De Giorgi, Tiziano Ongaro, Alessandro Sannino

2017 Supervisor of M.S. students Angela Andonaia, Cristina Capitanio

2016-2019 Supervisor of PhD Student Salvatore Rocco Guarino

2016 Supervisor of M.S. students Aamir Iqbal, Francesco Melpignano

2016 Supervisor of B.S. students Cristina Capitanio, Eugenio Franzoso, Francesco Arbasino; Co-supervisor

of B.S. student Alice Perucca

2015-2018 Supervisor of PhD Student Anselmo Canciani2014-2017 Supervisor of PhD Student Martina Palamini

2015 Supervisor of M.S. student Simone Savino; Co-supervisor of M.S. student Stefania Astrologo

2015 Supervisor of B.S. students Francesco Melpignano and Giovanni Tagliasacchi

2014 Supervisor of M.S. students Alfonso Martinisi and Rameez Arshad

Commissions of Trust:

Official opponent for the final evaluation of the University of Ghent PhD candidate Marlies Colman (Clinical Genetics).

Since 2022 Coordinator of all National Reprise and Resilience Program (NextGenerationEU-NRRP, PNRR) initiatives of the University of Pavia (>200 researchers, 75 M€); Chair of the writing committee of the PNRR INF-ACT project, awarded to the University of Pavia.

Since 2022 Founder and Member of the Scientific Committee of the Institute for Transformative Innovation Research (ITIR)

Official opponent for the final evaluation of the EPFL PhD candidate Sven Szilagyi (Advanced Electron Microscopy).

Member of the final evaluation committee for the University of Trento PhD Program in "Biomolecular Sciences"

2021-2023 Appointed member of the workgroup for creation of the new University of Pavia's Sustainable Innovation Park "Gerolamo Cardano"

2021-2023 Selected member of the Research Foundation Flanders (FWO) Review College

2020-2022 Nominated member for the University of Pavia-InROAD Review Committee

Official opponent for the final evaluation of the University of Oulu PhD candidate Shruthi Sridhar (Structural Biology).

Chairman of the final evaluation committee for the University of Trieste PhD Program in "Chemistry"
 Organizer of the Inaugural Symposium for the PassBioMed facilities, http://tinyurl.com/PV-PassBioMed

Since 2020 Appointed reference contact person for European Researcher's Night activities of the University of Pavia (project awarded by the European Union with UniPV as official partner)

Since 2020 Responsible for outreach and dissemination activities ("Terza Missione") for the Department of Biology and Biotechnology, University of Pavia

Member of the final evaluation committee for the University of Milano PhD Program in "Molecular and Cellular Biology"

2019 Chief UniPV reference for installation of new imaging instrumentation (cryo-EM, STED, confocals, single-cell imaging)

Member of the final evaluation committee for the University of Utrecht PhD candidate Xiaoguang Xue (Crystal and Structure Chemistry).

2018 Chairman of a symposium dedicated to cryo-EM at the Conference of the Italian Crystallography

- Association, Rome, May 2018.
- 2017 Chief organizer of the International School "Bridging the Gap Between Cryo-EM and Crystallography", Pavia, 3-6 September 2017.
- Since 2016 Official member of the University of Pavia-IUSS PhD Program in "Bio-molecular Sciences and Biotechnologies"
- 2017-2019 Hosting laboratory of Dr. Antonella Chiapparino (postdoc), awarded a Marie Curie Individual Fellowship for her project "COTETHERS"
- Member of the final evaluation committee for the University of Eastern Piedmont PhD Program in "Pharmaceutical and Food Biotechnology"
- 2014-2016 Member of the Selection committee for the University of Pavia-IUSS PhD Program in "Bio-molecular Sciences and Biotechnologies"
- Since 2014 Member of final evaluation committees (over 50 candidates) for BS and MS programs in Biology and Biotechnology at the University of Pavia
- **Since 2014** Coordinator of an Italian Macromolecular Crystallography Beamtime Allocation Group (MX-BAG), managing access to ESRF and Diamond synchrotron facilities for 7 research groups.
- Since 2010 Anonymous reviewer for several scientific journals including Nature Immunology, PNAS, Cell Mol Life Sci, Structure, JSB, Scientific Reports, JBC, JMB, Biochemistry, IJMS, Proteins, Molecules, Crystals.
- Since 2013 Anonymous Grant Reviewer for various agencies including European Research Council (Consolidator Grants), Cancer Research UK, ANR France, FWO Belgium, Swiss National Science Foundation (SNS), ESCMID, Italian Ministry of Health (Bando Ricerca Finalizzata).
- 2011-2014 Member of the final evaluation committee for the University of Pavia-IUSS PhD Program in "Biomolecular Sciences and Biotechnologies"

SCOPUS Bibliometric Statistics:

- *h*-index: 33
- publications: 72 (15 as first author 11 as senior/corresponding author)
- total number of citations: >3300

List of Publications in international journals:

- 1. Perico, L., Casiraghi, F., Sônego, F., Todeschini, M., Corna, D., Cerullo, D., Pezzotta, A., Isnard-Petit, P., Faravelli, S., <u>Forneris, F.</u>, Thiam, K., Benigni, A., Remuzzi, G. (2024) Bi-specific Autoantigen-T cell Engagers as targeted immunotherapy for autoreactive B cell depletion in autoimmune diseases. *Frontiers in Immunology* (Accepted)
- 2. Bernardotto, S., Frasson, I., Faravelli, S., Morelli, A., Schiavon, Moscatiello G.Y., E., Violatto, M.B., Pinnola, A., Canciani, A., Mattarei, A., Rossi, G., Brini, M., Pasetto, L., Bonetto, V., Bigini, P., Forneris, F., Richter, S.N., Morpurgo, M. (2023) Efficient SARS-CoV-2 infection antagonization by rhACE2 ectodomain multimerized onto the Avidin Nucleic-Acid NanoASsembly. *Biomaterials*, 303, 122394.
- 3. Arnoldi, I., Villa, M., Mancini, G., Varotto-Boccazzi, I., Yacoub, M., Asperti, C., Mascheri, A., Casiraghi, S., Epis, S., Bandi, C., Dagna, L., <u>Forneris, F.</u>, Gabrieli, P. (2023) IgE response to Aed al 13 and Aed al 14 recombinant allergens from *Aedes albopictus* saliva in humans. *World Allergy Organization Journal*, 16, 100836.
- 4. Mangiacotti, M., Fumagalli, M., Casali, C., Biggiogera, M., Forneris, F., Sacchi, R. (2023) Carbonic anhydrase IV in lizard chemical signals. *Scientific Reports*, 13, 14164.
- 5. Mattoteia, D., Chiapparino, A., Fumagalli, M., De Marco, M., De Giorgi, F., Negro, L., Pinnola, A., Faravelli, S., Roscioli, T., Scietti, L., <u>Forneris, F.</u> (2023) Identification of regulatory molecular "hot spots" for LH/PLOD collagen glycosyltransferase activity. *International Journal of Molecular Sciences*, 24, 11213.
- 6. Patil, D.N., Pantalone, S., Cao, Y., Laboute, T., Novick, S.J., Singh, S., Savino, S., Faravelli, S., Magnani, F., Griffin, P.R., Singh, A.K., Forneris, F.*, Martemyanov, K.A.* (2023) Structure of the photoreceptor synaptic assembly of the extracellular matrix protein pikachurin and the orphan receptor GPR179. *Science Signaling* (Accepted) *Corresponding Authors

- 7. Plüss, L., Peissert, F., Giudice, A.M., Ongaro, T., Villa, A., Elsayed, A., Nadal, L., Dakhel Plaza, S., Scietti, L., Puca, E., De Luca, R., <u>Forneris, F.*</u>, Neri, D.* (2022) Selection of PD-1 blocking antibodies from a novel fully human phage display library. *Protein Science*, 31, e4486. *Corresponding Authors
- 8. Canciani, A., Capitanio, C., Mapelli, L. Stanga, S., Faravelli, S., Soda, T., Mapelli, L., D'Angelo, E.U., Kienlen-Campard, P., <u>Forneris, F.</u> (2022) Deconstruction of Neurotrypsin reveals a multi-factorially regulated activity affecting myotube formation and neuronal excitability. *Molecular Neurobiology*, 59, 7466-7485.
- 9. Brasu, N., Elia, I., Russo, V., Montacchiesi, G., Aversano Stabile, S., De Intinis, C., Fesi, F., Gizzi, K., Macagno, M., Montone, M., Mussulin, B., Grifoni, A., Faravelli, S., Marchese, S., Forneris, F., De Francesco, R., Sette, A., Barnaba, V., Sottile, A., Sapino, A., Pace, L. (2022) Memory CD8⁺ T cell diversity and B cell responses correlate with protection against SARS-Cov-2 and variants following mRNA vaccine. *Nature Immunology*, 23, 1445-1456.
- 10. Scietti, L., Moroni, E., Mattoteia, D., Fumagalli, M., De Marco, M., Negro, L., Chiapparino, A., Serapian, S.A., De Giorgi, F., Faravelli, S., Colombo, G., <u>Forneris, F.</u> (2022) A Fe²⁺-dependent self-inhibited state influences the druggability of human collagen lysyl hydroxylase (LH/PLOD) enzymes. *Frontiers in Molecular Biosciences*, 9, 876352.
- 11. de Nola, G., Leclerc, B., Mougel, A., Taront, S., Simonneau, C., <u>Forneris, F.</u>, Adriaenssens, E., Drobecq, H., Iamele, L., Dubuquoy, L., Melnyk, O., Gherardi, E., de Jonge, H., Vicogne, J. (2022) Dimerization of kringle 1 domain from hepatocyte growth factor/scatter factor provides a potent MET receptor agonist. *Life Science Alliance*, 5, e202201424.
- 12. Arnoldi, I., Mancini, G., Fumagalli, M., Gastaldi, D., D'Andrea, L., Bandi, C., Di Venere, M., Iadarola, P., Forneris, F.*, Gabrieli, P.* (2022) A salivary factor binds a labrum cuticular protein and controls biting in mosquitoes. *Current Biology* (Accepted). *Corresponding Authors
- 13. Guarino, S.R., Di Bello, A., Palamini, M., Capillo, M.C., <u>Forneris, F.</u> (2022) Crystal Structure of the Kringle domain of human Receptor Tyrosine Kinase-Like Orphan Receptor 1 (hROR1). *Acta Crystallographica Section F Structural Biology and Crystallization Communications*, F78, 185-192..
- 14. Varotto Boccazzi, I., Manenti, A., Dapporto, F., Gourlay, L., Bisaglia, B., Gabrieli, P., Forneris, F., Faravelli, S., Bollati, V., Zuccotti, G.V., Montomoli, E., Epis, S., Bandi, C. (2021) Epidemic preparedness *Leishmania tarentolae* as an easy-to-handle tool to produce antigens for viral diagnosis: an application to COVID-19. *Frontiers in Microbiology*, 12, 736530.
- 15. Koenig, S.N., Cavus, O., Williams, J., Sucharki, H., Akel, M., Baker, P., Madiai, De Giorgi, F., Scietti, F., Forneris, F., F., Mohler, P.J., Bradley, E.A., (2021) Human Aortic Vascular Smooth Muscle Cell Phenotype Switching in a Loss-of-Function PLOD1 Variant, *Translational Research*, S1931-5244, 00192-00194.
- 16. Pradella, D., Deflorian, G., Di Matteo, A., Belloni, E., Campolungo, D., Paradisi, A., Bugatti, M., Vermi, W., Campioni, M., Chiapparino, A., Scietti, L., <u>Forneris, F.</u>, Giampietro, C., Volf, N., Rehman, M., Zacchigna, S., Paronetto, M., Dejana, E., Eichmann, A., Mehlen, P., Ghigna, C. (2021) A novel splicing isoform of the dependence receptor UNC5B insensitive to Netrin-1 regulates angiogenesis in an apoptosis-dependent manner, *Nature Communications*, 12, 4872.
- 17. Brondino, N., Bertoglio, F., <u>Forneris, F.</u>, Faravelli, S., Borghesi, A., Damiani, S., Provenzani, U., Nola, M., Olivola, M., Caviglia, M., Politi, P., Fusar-Poli, L., Fusar-Poli, P. (2021) A pilot study on COVID-19 and Autism: Transmission, Clinical presentation and Vaccine side effects, *Brain Sciences*, 11, 860.
- 18. De Giorgi, F., Fumagalli, M., Scietti, L., <u>Forneris, F.</u>, (2021) Collagen hydroxylysine glycosylation: non-conventional substrates for atypical glycosyltransferase enzymes, *Biochemical Society Transactions*, 49, 855-866.
- 19. Faravelli, S., Campioni, M., Palamini, M., Canciani, A., Chiapparino, A., <u>Forneris, F.</u> (2021) Optimized recombinant production of secreted proteins using Human Embryonic Kidney (HEK293) cells grown in suspension, *Bio-Protocol*, 11, e3889.
- 20. Ongaro, T., Guarino, S.R., Scietti, L., Palamini, M., Wulhfard, S., Neri, D., Villa, A., <u>Forneris, F.</u> (2021) Inference of molecular structure for characterization and improvement of clinical grade immunocytokines, *Journal of Structural Biology*, 213, 107696.
- 21. Bruni, M., Cecatiello, V., Diaz-Basabe, A., Lattanzi, G., Mileti, E., Monzani, S., Pirovano, L., Rizzelli, F., Visintin, C., Bonizzi, G., Giani, M., Lavitrano, M.L., Faravelli, S., <u>Forneris, F.</u>, Caprioli, Pelicci, P.G., F., Natoli, G., Pasqualato, S., Mapelli, M., Facciotti, F. (2020) Persistence of anti-SARS-Cov-2 antibodies in non-hospitalized COVID-19 convalescent health care workers, *Journal of Clinical Medicine*, 9, 3188.
- 22. Buezo Montero, S., Gabrieli, P., Montarsi, F., Borean, A., Capelli, S., De Silvestro, G., <u>Forneris, F.</u>, Pombi, M., Breda, A., Capelli, G., Arcà, B. (2020) IgG Antibody Responses to the Aedes albopictus 34k2 Salivary Protein as

- Novel Candidate Marker of Human Exposure to the Tiger Mosquito, Frontiers in Cellular and Infection Microbiology, 10, 377.
- 23. Selvanathan, A., Nixon, C.Y., Zhu, Y., Scietti, L., <u>Forneris, F.</u>, Moreno Uribe L.M., Lidral, A.C., Jezewski, P.A., Mulliken, J.B., Murray, J.C., Buckley, M.F., Cox, T.C., Roscioli, T. (2020) CDH1 Mutation Distribution and Type Suggests Genetic Differences Between the Etiology of Orofacial Clefting and Gastric Cancer, *Genes*, 11, 391.
- 24. Guarino, S.R., Canciani, A., <u>Forneris, F.</u> (2020) Molecular architectures, interactions and functions of neuromuscular synapse organizers, *Frontiers in Molecular Biosciences*, 6, 156.
- 25. Marconcini, M., Hernandez, L., Iovino, G., Houé, V., Valerio, F., Palatini, U., Pischedda, E., Crawford, J., Carballar-Lejarazu, R., Ometto, L., <u>Forneris, F.</u>, Failloux, A-B., Bonizzoni, M. (2019) Polymorphism analyses and protein modelling inform on functional specialization of Piwi clade genes in the arboviral vector *Aedes albopictus*, *PLoS Neglected Tropical Diseases*, 13, e0007919.
- 26. Buezo Montero, S., Gabrieli, P., Severini, F., Picci, L., Di Luca, M., Forneris, F., Facchinelli, L., Ponzi, M., Lombardo, F., Arcà, B. (2019) Analysis in a murine model points to the 34k2 salivary proteins from *Aedes albopictus* and *Aedes aegypti* as novel promising markers of host exposure to *Aedes* mosquitoes, *PLoS Neglected Tropical Diseases*, 13, e0007806.
- 27. Ewans, L.J., Colley, A., Gaston-Massuet, C., Gualtieri, A., Cowley, M.J., McCabe, M.J., Anand, D., Lachke, S.A., Scietti, L., Forneris, F., Zhu, Y., Ying, K., Walsh, C., Lee, E., Kirk, E.P., Field, M., Miller, D., Giunta, C., Sillence, D., Dinger, M.E., Buckley, M., Roscioli, T. (2019) Pathogenic variants in *PLOD3* result in a Stickler syndrome-like connective tissue dysplasia with vascular complications, *Journal of Medical Genetics*, 56, 629-638.
- 28. Marabelli, C., Marrocco, B., Pilotto, S., Chittori, S., Picaud, S., Marchese, S., Ciossani, G., <u>Forneris, F.,</u> Filippakopolous, P., Schoehn, G., Rhodes, D., Subramaniam, S., Mattevi, A. (2019) A tail-based mechanism drives nucleosome demethylation by the LSD2/NPAC multimeric complex, *Cell Reports*, 27, 387-399.e7.
- 29. Angiolini, F., Belloni, E., Giordano, M., Campioni, M., Forneris, F., Paronetto, M.P., Lupia, M., Brandas, C., Pradella, D., Di Matteo, A., Giampietro, C., Jodice, G., Luise, C., Bertalot, G., Freddi, S., Malinverno, M., Irimia, M., Moulton, J., Summerton, J., Chiapparino, A., Ghilardi, C., Giavazzi, R., Nyqvist, D., Gabellini, D., Dejana, E., Cavallaro, U., Ghigna, C. (2019) A Novel L1 Isoform with Angiogenic Activity Generated by NOVA2-mediated Alternative Splicing, *eLife*, 8, e44305.
- 30. Canciani, A., Catucci. G., <u>Forneris</u>, <u>F.</u> (2019) Structural characterization of the third scavenger receptor cysteine-rich domain of murine Neurotrypsin, *Protein Science*, 28, 746-755.
- 31. Scietti, L., Campioni, M., <u>Forneris, F.</u> (2019) SiMPLOD, a structure-integrated database of collagen lysyl hydroxylase (LH/PLOD) enzyme variants, *Journal of Bone and Mineral Research*, 34, 1376-1382.
- 32. Falchetto, M., Ciossani, G., Mannucci, B., Scolari, F., Di Cosimo, A., Field, L.M., Mattevi A., Zhou, J., Gasperi, G., <u>Forneris, F.</u> (2019) Structural and biochemical evaluation of *Ceratitis capitata* OBP22 affinity for odorants involved in inter-sex communication, *Insect Molecular Biology*, 28, 431-443.
- 33. Scietti, L., Chiapparino, A., De Giorgi, F., Fumagalli, M., Khoriauli, L., Cucca, L., Profumo, A., Nergadze, S., Basu, S., Olieric, V., Giulotto, E., Gissen, P., <u>Forneris, F.</u> (2018) Molecular architecture of the multifunctional collagen lysyl hydroxylase and glycosyltransferase LH3, *Nature Communications*, 9, 3163.
- 34. Buroni, S., Scoffone, V.C., Fumagalli, M., Makarov, V., Trespidi, G., De Rossi, E., <u>Forneris, F.</u>, Riccardi, G., Chiarelli, L.R. (2018) Investigating the mechanism of action of diketopiperazines inhibitors of the *Burkholderia cenocepacia* quorum sensing synthase CepI: a site directed mutagenesis study, *Frontiers in Pharmacology.*, 8, 836.
- 35. Xue, X., Wu, J., Ricklin, D., Forneris, F., Di Crescenzio, P., Schmidt, C., Granneman, J.C., Sharp, T.H., Lambris, J.D., Gros, P. (2017) Regulator-dependent mechanisms of C3b processing by factor I allow for differentiation of immune responses, *Nature Structural and Molecular Biology.*, 24, 643-651.
- 36. <u>Forneris</u>, F.*, Mattevi, A.* (2017) Expanding the structural biology toolbox with single-molecule holography, *Proceedings of the National Academy of Sciences U.S.A.*, 11, 1448-1450. *Corresponding Authors
- 37. Gruber, R., Rogerson, C., Windpassinger, C., Banushi, B., Straatman-Iwanowska, A., Hanley, J., Forneris, F., Strohal, R., Ulz, P., Crumrine, D., Menon, G.K., Blunder, S., Schmuth, M., Müller, T., Smith, H., Mills, K., Kroisel, P., Janecke, A.R., Gissen, P. (2017) Autosomal recessive Keratoderma-Ichthyosis-Deafness (ARKID) syndrome is caused by VPS33B mutations affecting Rab protein interaction and collagen modification, *Journal of Investigative Dermatology*, S0022-202X, 32800-32807.
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- 41. Palamini, M., Canciani, A., <u>Forneris, F.</u> (2016) Identifying and visualizing macromolecular flexibility in structural biology, *Frontiers in Molecular Biosciences*, 3, 47.
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- 44. Forneris, F., Wu, J., Xue, X., Ricklin, D., Lin, Z., Sfyroera, G., Tzekou, A., Volokhina, E., Granneman, J.C.M., Hauhart, R., Bertram, P., Liszewski, M.K., Atkinson, J.P., Lambris, J.D., Gros, P. (2016) Regulators of complement activity mediate inhibitory mechanisms through a common C3b-binding mode, *The EMBO Journal*, 35, 1133-1149.
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Conference Papers

- 1. Xue, X., Wu, J., <u>Forneris, F.</u>, Ricklin, D., Di Crescenzio, P., Schmidt, C., Granneman, J.G., Lambris, J.D., Gros, P. (2016) Structural insights into cofactor activity, *Immunobiology*, 221, 1193.
- 2. Forneris, F., Canciani, A., Ciossani, G., Palamini, M., Chiapparino, A., Gabrieli, P., Guarino, S.R., Campioni, M., Nenci, S., Magnani, F. (2017) Versatile medium-throughput strategies for recombinant expression screening in structural biology, *Acta Crystallographica A Foundations of Crystallography*, A73, C1276.
- 3. <u>Forneris, F.</u>, Hadders, M.A., Wu, J., Gros, P. (2012) Modularity and conformational changes as key features of the complement system, Acta Crystallographica Section A Foundations of Crystallography, A68, s32.
- 4. Gros, P., <u>Forneris, F.</u>, Hadders, M.A., Wu, J. (2011) Mechanistic insights into the complement system, *Acta Crystallographica Section A Foundations of Crystallography*, A67, C118-C119.
- 5. **Forneris, F.**, Ricklin, D., Wu, J., Tzekou, A., Wallace, R.S., Lambris, J.D., Gros, P. (2011) Complement convertase formation based on the structures of C3b in complex with factors B and D. *Acta Crystallographica Section A Foundations of Crystallography*, A67, C23-C24.
- 6. **Forneris, F.**, Ricklin, D., Wu, J., Tzekou, A., Wallace, R.S., Lambris, J.D., Gros, P. (2010) Crystal structure of C3bB in complex with factor D. *Molecular Immunology*, 47, 2259-2260.

- 7. Baron, R., Ryley, C., Chenprakhon, P., Thotsaporn, K., Winter, R., Alfieri, A., Forneris, F., van Berkel, W., Chaiyen, P., Fraaije, M.W., Mattevi, A., McCammon, J.A. (2009) A combined computational and biochemical analysis of oxygen diffusion and reactivity in a flavoprotein monooxygenase and oxidase. *The 238th ACS National Meeting*, Washington, DC, conference paper BIOL 148.
- 8. Mattevi, A., <u>Forneris, F.</u>, Edmondson, D.E., Binda, C. (2008) Monoamine oxidases and LSD1: similar chemistry for neurotransmitter and chromatin modification, *Acta Crystallographica A Foundations of Crystallography*, A64, C37-C38.

Book chapters

- 1. Mattoteia, D., De Marco, M., Rai, S.R., Faravelli, S., Scietti, L., <u>Forneris, F.</u> (2024) Recombinant production and characterization of human enzymes responsible for collagen lysine post-translational modifications. In "Methods in Molecular Biology" (Springer), (invited chapter, under evaluation).
- 2. Scietti, L., <u>Forneris, F.</u> (2023) Homology modeling of macromolecular complexes. In "Methods in Molecular Biology" (Springer), Vol. 2627, 349-371.
- 3. Scietti, L., <u>Forneris, F.</u> (2020) Full-length human lysyl hydroxylase. Chapter 2739 in "Encyclopedia of Inorganic and Bioinorganic Chemistry" (Wiley).
- 4. Gros, P., <u>Forneris</u>, <u>F.</u> (2013) Proteolysis, Complex Formation and Conformational Changes Drive the Complement Pathways. Chapter 25 in "Advancing Methods for Biomolecular Crystallography", NATO science for peace and security series, sect. A, chemistry and biology (Springer Science&Business).
- 5. **Forneris, F.**, Gros, P. (2011) Complement Factor D. Chapter 662 in "Handbook of Proteolytic Enzymes, 3rd Ed." (Elsevier/ Academic Press).
- 6. <u>Forneris, F.</u>, Binda, C., Vanoni, M.A., Mattevi, A., Battaglioli, E. (2006) Demethylation pathways for histone methyllysine residues. Chapter 8 in "The Enzymes", vol. 26 (Elsevier/ Academic Press).

Participations at Courses and Conferences:

- August 2024: **Invited speaker and Chair of Microsymposium** ECM2024 AIC BMM Special Session (Padova, Italy)
- July 2024: **Organizer and Chair** 19th Giovanni Armenise-Harvard Foundation Symposium "Visualizing Biology: from the nano to the macro scale" (Boston, USA)
- June 2024: **Invited speaker** FEBS2024 Immunohub Special Session (Milano, Italy)
- March 2024: **Invited speaker** Istituto Lombardo Accademia di Scienze e Lettere (Milano, Italy)
- December 2023: **Organizer and Chair** 1NF-ACT Meeting (Rome, Italy)
- July 2023: Invited speaker Collagen Gordon Research Conference (New London, NH, USA)
- June 2023: **Invited speaker** Surfaceome 2023 Meeting, Scanno (L'Aquila, Italy)
- May 2023: Invited speaker BIOPROSYS Meeting, SIB and University of Napoli Vanvitelli, (Napoli, Italy)
- November 2022: **Invited speaker** Bijvoet Seminar, Utrecht University and Hubrecht Institute (Utrecht, The Netherlands)
- November 2022: **Invited speaker** FEBS Seminars (online)
- September 2022: **Invited member of the Scientific Council** Italian Association for Crystallography (AIC) school on "Artificial Intelligence and Molecular Dynamics in Structural Biology" (Trieste, Italy)
- July 2022: Invited speaker International Mosquito Meeting 2022 (Kolymbari, Greece)
- May 2022: **Invited speaker** 5th International Workshop on *Aedes albopictus* (Montpellier, France)
- April 2022: Invited chair Italian Association for Experimental Biology (SIBS) (Torino, Italy)
- September 2021: Invited speaker Italian Association for Crystallography (AIC) Conference (Parma, Italy)
- May 2021: **Invited speaker** Nanotemper User's Meeting (online)
- January 2021: **Invited speaker** Neuroscience Institute Cavalieri-Ottolenghi (NICO) seminars (online@Turin, Italy)
- June 2020: Invited speaker 12th International GlycoT 2020 Conference (online@Boston, MA, USA)
- January 2020: 3-days training at Light Scattering University (Wyatt Europe, Dernbach, DE)
- November 2019: **Invited speaker** 25 years PX@UU (Utrecht University, The Netherlands)
- November 2019: Invited speaker Armenise-Harvard Foundation Meeting @TIGEM (Pozzuoli, Italy)

- October 2019: Conference about electron microscopy in structural biology: paving the way towards precision biomedicine and biotechnology (Rome, Italy)
- July 2019: Collagen Gordon Research Conference (New London, NH, USA) (poster presentation)
- July 2019: **Invited speaker** Armenise Lecture@HMS, Harvard University (Boston, MA, USA)
- June 2019: Invited speaker GAHF Symposium "Quantifying Biology in Space and Time" (Gubbio, Italy)
- April 2019: **Invited speaker** Fourth International Workshop on Dengue and *Aedes albopictus* (Guanzhou, China)
- February 2019: Invited speaker Inaugural symposium of the IDEA Centre (Pavia, Italy)
- June 2018: **Chair of Microsymposium** 3rd Joint AIC-SILC conference, microsymposium on "Contemporary challenges in Structural Biology: Cryo-EM and Integrative Approaches to understand complex molecular architectures" (Rome, Italy) (poster presentation)
- May 2018: **Invited lecturer** Belgian Biophysical Society's School on Biomolecular X-ray and Neutron Diffraction Techniques (Gent, Belgium)
- May 2018: Invited lecturer Collegio Ghislieri School "Progressi in Biologia e Medicina" (Pavia, Italy)
- November 2017: EMBO Conference "Revolutions in Structural Biology Celebrating the 100th Anniversary of John Kendrew" (EMBL Heidelberg, Germany) (poster presentation).
- November 2017: **Invited honorary lecture** Inauguration of the Academic Year, University of Pavia (Pavia, Italy)
- September 2017: **Chief organizer** of the International School "Bridging the Gap Between Cryo-EM and Crystallography", 3-6 September 2017 (Pavia, Italy)
- August 2017: Invited speaker XXIV International Congress IUCr (Hyderabad, India)
- March 2016: **Invited speaker** "Proteine 2016" conference (Bologna, Italy)
- December 2015: **Invited speaker** Award Ceremony "Remembering Rita Levi-Montalcini with young neuroscientists", organized by "Fondazione Giorgio Brunelli" (Brescia, Italy)
- November 2015: **Invited speaker** Armenise-Harvard Meeting "Challenges to Modern Medicine" (Rome, Italy)
- February 2015: DBB-CNR joint meeting (Pavia, Italy) (oral presentation).
- February 2015: **Invited speaker** ESRF User's Meeting (Grenoble, France)
- January 2015: **Invited speaker** EMBL Hamburg Dissemination Meeting (Milan, Italy)
- November 2014: Invited speaker PhD course "Frontiers in Structural Biology" (Milan, Italy)
- August 2012: Invited speaker European Crystallography Meeting (ECM) (Bergen, Norway)
- August 2011: Invited speaker XXII International Congress IUCr (Madrid, Spain)
- December 2010: NWO Protein Meeting (Veldhoven, The Netherlands) (oral presentation + poster).
- August 2010: XXIII International Complement Workshop (New York, USA) (oral presentation).
- July 2010: 7th Innate Immunity Conference (Rhodes, Greece) (oral presentation). **Awarded for best oral presentation**.
- April 2010: Bijvoet Tutorial Symposium in (Soesterberg, The Netherlands) (oral presentation + poster).
- February 2009: IPVGEN-CNR joint meeting (Pavia, Italy) (oral presentation).
- February 2009: 2nd MiChroNET (Milano Chromatin Network for Epigenetics and Transcription) (Milano, Italy) (oral presentation).
- December 2008: Selected participant EMBO Course "Exploring Modular Protein Architecture" (Heidelberg, Germany)
- June 2008: **invited oral presentation** FASEB Conference on Biological Methylation "From DNA to Histones" (Carefree, Arizona, USA)
- September 2007: 52nd SIB Congress (Italian Society for Biochemistry and Molecular Biology) (Rimini, Italy) (oral presentation + poster).
- April 2007: Selected participant MaxInf/CCP4 workshop on Phasing and refinement (York, UK)
- May 2006: **Selected participant** EMBO Course "Structural Characterization of Macromolecular Complexes" (Grenoble, France) (poster)
- July 2005: **Selected participant** EMBO Course "High Throughput Methods for Protein Expression, Purification and Crystallization" (Marseille, France) (poster)
- September 2004: **Selected participant** EMBO YIP PhD Course "Spotlights on Molecular Biology" (Heidelberg, Germany) (poster)

Other Oral presentations/invitations:

- September 2023 Invited speaker at University of Gent (Belgium, invited by Prof. F. Malfait)
- December 2022 Invited speaker at Malnisio Science Festival (Montereale Valcellina, Italy)
- October 2022 Lions Club (Broni, Italy, invited by Dr. M. Gramegna)
- January 2021 University of Pavia, Department of Molecular Medicine (Pavia, Italy, invited by Prof. P. Perin)
- December 2020 University of Pavia Recruiting and Orientation day for prospective students (Pavia, Italy)
- February 2020 Light Scattering University training at Wyatt Technology Europe (Dernbach, Germany)
- October 2019 Invited speaker at Malnisio Science Festival (Montereale Valcellina, Italy)
- November 2018 Invited speaker at Science Days, Fondazione Golinelli, Bologna, Italy
- October 2018 Invited speaker at Malnisio Science Festival (Montereale Valcellina, Italy)
- July 2018 Max Planck Institute (Stuttgart, Germany, invited by Prof. K. Kern)
- November 2017 University of Olomuc (Olomuc, Czech Republic, invited by Prof. I. Frébort)
- July 2016 Philochem AG (Zurich, Switzerland, invited by Prof. D. Neri)
- April 2016 University of Milan (Milano, Italy, invited by Dr. M. Francolini)
- November 2015 Scientific Curator of TEDMED-Call4Brain (Milano, Italy)
- November 2014 University of Milan (Milano, Italy, invited by Prof. M. Bolognesi and Dr. S. Ricagno)
- September 2014 Novartis Vaccines (Siena, Italy, invited by Dr. E. Malito)
- September 2014 University of Siena (Siena, Italy, invited by Dr. I. Ferlenghi and Dr. Prof. A. Santucci)
- October 2013 University of Pavia (Pavia, Italy, invited by Dr. Prof. E. Giulotto and Dr. Prof. A. Albertini)
- December 2011 University of Newcastle (Newcastle, Italy, invited by Dr. Prof. R. Lewis and Dr. Prof. R. Lightowlers)
- May 2011 University of Pavia (Pavia, Italy, invited by Dr. Prof. A. Mattevi)
- November 2008 University of Utrecht (Utrecht, The Netherland, invited by Dr. Prof. P. Gros)
- November 2008 EMBL Grenoble (Grenoble, France, invited by Dr. A. McCarthy)
- July 2008 ETH Zurich (Zurich, Switzerland, invited by Dr. Prof. N. Ban)

Editorial Experience

• 2014-2023 – Editor-in-Chief of AIRInforma (ISSN 2610-928X), the peer-reviewed scientific dissemination journal of the AIRIcerca association (http://informa.airicerca.org).

Memberships

- Since 2017 Member of the Italian Association for Crystallography (AIC).
- Since 2015 Member of the Italian Association for Molecular Biology and Biochemistry (SIBBM).
- Since 2014 Co-Founder and Board member of the AIRIcerca association (http://www.airicerca.org).