CURRICULUM VITAE

NAME: Filippo Favretto

BIRTH: 01/03/1986, Mantova (MN), Italy

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EDUCATION

2014: Ph.D. in Molecular, Industrial and Environmental Biotechnologies (University of Verona, Italy). Supervisor: Prof. Mariapina D'Onofrio. *Thesis title*: "NMR interaction studies of Human Liver Fatty Acid Binding Protein with putative ligands and associated proteins". *Final grade*: "**Excellent**".

2010: Master's degree in Molecular and Industrial Biotechnology (University of Verona, Italy). Supervisor: Prof. Henriette Molinari. *Thesis title*: "NMR studies of UIS, a protein involved in malaria parasites development". *Final grade*: **110/110 *cum laude***.

2008: Bachelor's degree in Agro-industrial Biotechnology (University of Verona, Italy). Supervisor: Prof. Giovanni Vallini. *Thesis title*: "Molecular taxonomy and study of the degradative capacities of PAHs in *Burkholderia* sp. strains". *Final grade*: **110/110 *cum laude***.

ACADEMIC AND WORK EXPERIENCES

ACADEMIC POSITIONS

2025 – present: Temporary Assistant Professor (RTT BIOS/07-A) at the Biochemistry laboratory of the University of Verona (Verona, Italy). Supervisor: Prof. Paola Dominici.

January – February 2026: "*Visiting scientist*" at the "Instituto Química Física Blas Cabrera, dept. protein Crystallography, CSIC" (Madrid, Spain). Supervisor: Prof. Juan A. Hermoso.

2021 – 2025: Temporary Assistant Professor (RTD-A BIO/10) at the Biochemistry laboratory of the University of Verona (Verona, Italy). Supervisor: Prof. Paola Dominici.

2014 – 2021: postdoctoral fellow at the German Center for Neurodegenerative Diseases (DZNE Göttingen, Germany) and guest scientist at the Max Planck Institute for biophysical chemistry (MPI-BPC Göttingen, Germany). Supervisor: of Prof. Dr. Markus Zweckstetter.

January – October 2014: postdoctoral fellow, NMR laboratory of University of Verona (Verona, Italy). Supervisor: Prof. Michael Assfalg.

July – December 2012: "*Visiting scientist*" at the "Fundación Instituto Leloir" (Buenos Aires, Argentina). Supervisor: Prof. Daniel O. Cicero.

2011 – 2013: Ph.D. student in Molecular, Industrial and Environmental Biotechnologies at the NMR laboratory of University of Verona (Verona, Italy). Supervisor: Prof. Mariapina D'Onofrio.

RESPONSIBILITIES

2017-2020: responsible of a PEAQ-ITC automated (Malvern) and an ÄKTA pure system (GE healthcare) (DZNE Göttingen, Germany).

2015-2020: responsible of an AVANCE NEO 800 MHz spectrometer (Bruker) equipped with triple resonance cryo-probe (MPIBPC, Göttingen, Germany).

TEACHING AND MENTORING ACTIVITIES

TEACHING ACTIVITIES

2022: Course "Biophysical Methods for the Analysis of Protein-Ligand interactions" (4 hours), PhD course "Nanoscience and advanced technologies", University of Verona.

2021 – present: Laboratory module of the course **"**Biochemistry and Analytical Biochemistry", (48 hours), Bachelor's degree in Biotechnology (L2), University of Verona.

2021 – present: Course **"**Protein misfolding and human diseases" (8 hours), Master's degree in Molecular and Medical Biotechnology (LM9), University of Verona.

2021: Course **"**Research inspired laboratory" (12 hours), Master's degree in Molecular and Medical Biotechnology (LM9), University of Verona.

MENTORING ACTIVITIES

2024 – present: Dr. Favretto is responsible of a research fellow in the frame of the project PRIN2022 (05/E1, S.S.D. BIO/10). Title of the research: "Protein-protein interactions in Autism Spectrum Disoder";*12 months*.

2021 – present: Dr. Favretto has co-supervised 5 bachelor theses (Bachelor degree in Biotechnology, L2) and 2 master theses (Master's degree in Molecular and Medical Biotechnology, LM9), University of Verona. He is currently supervising 1 master thesis (LM9) and 1 bachelor thesis (L2).

2014 – 2020: Dr. Favretto has supervised an international student during her internship at MPI-BPC (G*ö*ttingen, Germany) and has co-supervised of a PhD student (Ph.D. thesis**: "**Investigation of the role of prolyl isomerase A in protein misfolding associated with neurodegenerative diseases").

FUNDED PROJECTS

2025: ESCMID2025 (*European Society of Clinical Microbiology and Infectious Diseases)* "Repurposing non-immunosuppressive cyclosporin A analogs for targeting Strongyloides stercoralis cyclophilins". € *20000*. Role: **Principal Investigator**; *12 months.*

2023: PRIN2022PNRR "Identification of Isoform-specific Cyclosporin based Inhibitors as Novel Therapeutic Molecules Against Toxoplasmosis*". € 240358*. Role: **Principal Investigator**; *24 months.*

2023: PRIN2022 "Protein-Protein interaction in Autism Spectrum disorders*". € 189880*. Role: **Participant** (Local coordinator: Prof. Alejandro Giorgetti, Principal investigator and national coordinator: Prof. Paolo Ruggerone); *24 months.*

2023: ESCMID2023 (*European Society of Clinical Microbiology and Infectious Diseases)* "Effect of non-immunosuppressive CsA derivatives on parasite Cyclophilins as a potential treatment against toxoplasmosis". € *20000*. Role: **Principal Investigator**; *12 months.*

2012: "COOPERINT 2011"**,** international mobility contest organized by University of Verona. € *4400*.
Project title: "Optimization of advanced NMR tools for the characterization of FABP/ligand complexes". Role: **"Visiting scientist"** at the "*Fundación Instituto Leloir, Buenos Aires*" (Argentina); *2 months*.

QUALIFICATIONS

20 June 2023: National Scientific Qualification (ASN) as Associate Professor of Biochemistry (05/E1, S.S.D. BIO/10).

PUBLICATIONS

The scientific activity of Dr. Favretto is documented by 30 peer-reviewed papers.
https://www.scopus.com/authid/detail.uri?authorId=55600995400
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† *The authors contributed equally.*

1) Massa N, Catalano F, Fruncillo S, Troilo F, Mellini M, **Favretto F**, Leoni L, Rampioni G, Giuffré A, di Matteo A and Astegno A "Distinct contributions of O-acetylserine sulfhydrylases to cysteine biosynthesis in Pseudomonas aeruginosa" *Prot. Sci.,* 2026; **Vol 35(3):**e70498.
2) **Favretto F**†, Fruncillo S†, Jiménez-Faraco E†, Masé N, Dominici P, de José UP, Muñoz IG, Hermoso JA and Astegno A "Redox-dependent activity and thioredoxin interaction of cyclophilin TgCyp21 from Toxoplasma gondii*"* Int. Journ. Biol. Macromol.*, 2025; **Vol.* 330(Pt 1):**148019.
3) **Favretto F**†, Jiménez-Faraco E†, Catucci G, Di Matteo A, Travaglini-Allocatelli C, Sadeghi SJ, Dominici P, Hermoso JA and Astegno A "Repurposing non-immunosuppressive cyclosporin analogs for targeting *Toxoplasma gondii* cyclophilins" *Prot. Sci.*, 2024; **Vol. 33(10):** e5157.

4) Catalano F, Santorelli D, Astegno A, **Favretto F**, D'Abramo M, Del Giudice A, De Sciscio ML, Troilo F, Giardina G, Di Matteo A and Travaglini-Allocatelli C "Conformational and dynamic properties of the KH1 domain of FMRP and its FXS linked G266E variant" ***Biochem. Biophys. Acta, Proteins and Proteomics*** 2024; **Vol. 1872(4):** 141019.

5) Pedretti M†, Fernández-Rodríguez C†, Conter C, **Favretto F**, Di Matteo A, Dominici P, Petrosino M, Martinez-Chantar ML, Majtan T, Astegno A and Martínez-Cruz LA, "Catalytic specificity and crystal structure of cystathionine γ-lyase from *Pseudomonas aeruginosa*"***, Scientific Reports*** 2024; **Vol. 14(1)**: 9364.

6) Pedretti M†, **Favretto F**†, Troilo F, Giovannoni M, Conter C, Mattei B, Dominici P, Travaglini-Allocatelli C, Di Matteo A and Astegno A, "Role of myristoylation in modulating PCaP1 interaction with calmodulin" *Plant Phys. And Biochem.* 2023; ***Vol.* 203**:108003.

7) Conter C, **Favretto F**, Dominici P, Martínez-Cruz LA and Astegno A, "Key substrate recognition residues in the active site of cystathionine beta-synthase from *Toxoplasma gondii*" ***Proteins: Struct., Funct. and Bioinf.*** 2023; ***Vol.* 91(10)**: 1383-1393.

8) Fernández-Rodríguez C†, Conter C†, Oyenarte I, **Favretto F**, Quintana I, Martinez-Chantar ML, Astegno A and Martínez-Cruz LA, "Structural basis of the inhibition of cystathionine γ-lyase from Toxoplasma gondii by propargylglycine and cysteine" *Prot. Sci.* 2023 Apr; ***Vol.* 32(4)**: e4619.

9) **Favretto F†**, Jiménez-Faraco E†,Conter C, Dominici P, Hermoso J. A, and Astegno A* "Structural Basis for Cyclosporin Isoform-Specific Inhibition of Cyclophilins from *Toxoplasma gondii*" *ACS Infectious Diseases* 2023; ***Vol.* 9(2)**: 365-377.

10) Babu M, **Favretto F**, Rankovic M, Zweckstetter M, "Peptidyl Prolyl Isomerase A Modulates the Liquid-Liquid Phase Separation of Proline-Rich IDPs" *JACS* 2022; ***Vol.* 144(35)**: 16157-16163.

11) Bombardi L, **Favretto F**, Pedretti M, Conter C, Dominici P, Astegno A, "Conformational Plasticity of Centrin 1 from Toxoplasma gondii in Binding to the Centrosomal Protein SFI1" *Biomolecules* 2022; ***Vol.* 12(8)**: 1115-1131.

12) Conter C, Fruncillo S, **Favretto F**, Fernàndez-Rodríguez C, Dominici P, Martínez-Cruz L. Alfonso and Astegno A, "Insights into Domain Organization and Regulatory Mechanism of Cystathionine Beta-Synthase from Toxoplasma gondii" *Int. J. Mol. Sci*. 2022; ***Vol.* 23 (15)**:8169-8185.

13) Pedretti M†, Bombardi L†, Conter C, **Favretto F**, Dominici P and Astegno A, "Structural basis for the functional diversity of centrins: A focus on calcium sensing properties and target recognition" *Int. J. Mol. Sci.* 2021; ***Vol.* 22(22)**:1-18

14) Babu M, **Favretto F**, Ibañez de Opakua A, Rankovic M, Becker S and Zweckstetter M, "Proline/arginine dipeptide repeat polymers derail protein folding in amyotrophic lateral sclerosis" *Nat. Commun.* 2021; ***Vol***. **12(1):** 1-7.

15) Conter C†, Bombardi L†, Pedretti M, **Favretto F,** Di Matteo A, Dominici P and Astegno A, "The interplay of self-assembly and target binding in centrin 1 from *Toxoplasma gondii*" *Biochem. J.* 2021; ***Vol.* 478(13):** 2571-2587.

16) Gray Amber LH, Steren CA, Haynes IW, Bermejo GA, **Favretto F**, Zweckstetter M and Do Thanh D, "Structural Flexibility of Cyclosporine A Is Mediated by Amide *Cis-Trans* Isomerization and the Chamaleonic Roles of Calcium" *J. Phys. Chem. B,* 2021; ***Vol.* 125(5):** 1378-1391.

17) Siegert A, Rankovic M, **Favretto F**, Ukmar-Godec T, Strohäker T, Becker S and Zweckstetter M, "Interplay between tau and α-synuclein LLPS" *Prot. Sci.* 2021; ***Vol.* 30(7)**:1326-1336.

18) **Favretto F**, Flores D, Baker DJ, Strohäker T, Andreas BL, Blair LBJ, Becker S and Zweckstetter M "Catalysis of proline isomerization and chaperone activity in tug of war" *Nat. Commun.* 2020; ***Vol.* 11(1):** 6046.

19) Hamann F†, Schmitt A†, **Favretto F†**, Neumann P, Xiang S, Urlaub H, Zweckstetter M and Ficner R "Structural analysis of the intrinsically disordered splicing factor Spp2 and its binding to the DEAH-box ATPase Prp2" *PNAS*, 2020; ***Vol*. 117(6):** 2948-2956.

20) **Favretto F**, Baker J, Strohäker T, Andreas L, Blair L, Becker S and Zweckstetter M "Molecular basis of the interaction of cyclophilin A with alpha-synuclein" *Angewandte,* 2020; ***Vol*. 59(14)**: 5643-5646.

21) Masaracchia C, König A, Valiente-Gabioud AA, Peralta P, **Favretto F**, Strohäker T, Lázaro DF, Zweckstetter M, Fernandez CO and Outeiro TF, "Molecular characterization of an aggregation-prone variant of alpha-synuclein used to model synucleinopathies" *Biochim. Biophys. Acta, Proteins Proteom*. 2020; **Vol. 1868(1):** 140298.

22) Baker JD†, Shelton LB†, Zhen D†, **Favretto F**, Nordhues AN, Darling A, Sullivan LE, Sun Z, Solanki PK, Martin MD, Suntharalingam A, Sabbagh JJ, Becker S, Mandelkow E, Uversky VN, Zweckstetter M, Dickey

CA, Koren J III and Blair L J "Human Cyclophilin 40 Unravels Neurotoxic Amyloids" *PloS Biol.* 2017; **Vol. 15(6):** e2001336.
23) Pérez Santero S, **Favretto F**, Zanzoni S, Chignola R, Assfalg M and D'Onofrio M "Effects of macromolecular crowding on a small lipid binding protein probed at the single-amino acid level" *Arch. Biochem. Biophys.,* 2016; **Vol. 606:** 99-110**.**
24) Tenreiro S, Rosado-Ramos R, Gerhardt E, **Favretto F**, Magelhães F, Popova B, Becker S, Zweckstetter M, Braus G H and Outeiro TF "Yeast reveals similar molecular mechanisms underlying alpha- and beta-synuclein toxicity" *Hum. Mol. Genet.*, 2016; ***Vol.* 25(2):** 275-290.
25) **Favretto F**, Santambrogio C, D'Onofrio M, Molinari H, Grandori R and Assfalg M "Bile salt recognition by human liver fatty acid binding protein" *FEBS Journal*, 2015; ***Vol.* 282(7)**: 1271-1288.
26) **Favretto F**, Ceccon A, Zanzoni S, D'Onofrio M, Ragona L, Molinari H and Assfalg M "The unique ligand binding features of subfamily-II iLBPs with respect to bile salts and related drugs" *PLEFA*, 2015; ***Vol.* 95**: 1-10.
27) Ragona L, Pagano K, Tomaselli S, **Favretto F**, Ceccon A, Zanzoni S, D'Onofrio M, Assfalg M and Molinari H "The role of dynamics in modulating ligand exchange in intracellular lipid binding proteins" *Biochim. Biophys. Acta, Proteins Proteomics*, 2014; ***Vol.* 1844(7):** 1268-1278*.*
28) **Favretto F**, Assfalg M, Gallo M, Cicero D O, D'Onofrio M and Molinari H "Ligand binding promiscuity of human liver fatty acid binding protein: structural and dynamic insights from an interaction study with glycocholate and oleate" *ChemBioChem*, 2013; ***Vol.* 14(14)**: 1807-1819.
29) Santambrogio C, **Favretto F**, D'Onofrio M, Assfalg M, Grandori R and Molinari H "Mass spectrometry and NMR analysis of ligand binding by human liver fatty-acid binding protein" *J. Mass Spectrom.*, 2013; ***Vol.* 48(8)**: 895-903.
30) **Favretto F**, Assfalg M, Molinari H and D'Onofrio M "Evidence from NMR interaction studies challenges the hypothesis of direct lipid transfer from L-FABP to malaria sporozoite protein UIS3" *Prot. Sci.*, 2013; ***Vol.* 22(2)**:133-138.

ORAL PRESENTATIONS AND INVITED LECTURES

2025: "Repurposing of clinically relevant compounds to target Toxoplasma gondii cyclophilins: a structural and functional approach", F.Favretto oral, "*PROTEAN joint meeting – Polymers of life: pROTEins And Nucleic acids"* (Brescia, Italy)*.*
2023: "The Molecular Basis of the Interaction of *Toxoplasma gondii* Cyclophilin and Cyclosporin A Non-Immunosuppressant Analogues", F. Favretto oral, *3rd DISVA-MaSBiC Symposium: "Advances in Protein Science: Exploring Structure, Function, and Beyond"* (Ancona, Italy).
2022: "Functional and Structural Characterization of two Cyclophilins from the parasite *Toxoplasma gondii*", F. Favretto oral, *4th ISFMS-Biochemistry, Molecular Biology and Druggability of Proteins* (Firenze, Italy).
2021: "The role of proline *cis*/*trans* isomerization and chaperon activity in the process of aSyn aggregation" F. Favretto, short oral, *XLIX National Congress on Magnetic Resonance* (*online*).
2018: "Unraveling the role of Cis-Trans Peptidylprolyl Isomerases in Parkinson's Disease" F. Favretto, short oral, *XLVII National Congress on Magnetic Resonance* (*Torino, Italy)*.
2018: "Dynamic protein interactions: TIM23ims and MAP/tubulin" F. Favretto, SFB860 Retreat 2018, *Marburger Haus, Sport-und Studienheim der Universität Marburg (Hirschegg, Austria).*
2017: "The dynamic nature of Tim50 a key component of the tim23 complex" F. Favretto, SFB860 Symposium 2017, *Tagungshaus "Alte Mensa" (Göttingen, Germany).*
2016: "Introduction to nuclear magnetic resonance spectroscopy"**,** Bonn-Aachen International Center for Information Technology (B-IT) (*Bonn, Germany*); Prof. Dr. Jürgen Bajorath. **Guest lecturer**. *Course:* ***International Life Science Informatics (LSI) Program *.***
2016: "Toward structural understanding of the TIM23 complex" F. Favretto, SFB860 Retreat 2016, *Waldhotel Berghof (Luisenthal*, *Germany).*
2015: "Introduction to nuclear magnetic resonance spectroscopy"**,** Bonn-Aachen International Center for Information Technology (B-IT) (*Bonn, Germany*); Prof. Dr. Jürgen Bajorath. **Guest lecturer**. *Course:* ***International Life Science Informatics (LSI) Program *.***
2014: "Characterization of bile salt binding to recombinant human liver fatty acid binding protein" F. Favretto, short oral, *XLIII National Congress on Magnetic Resonance* (*Bari, Italy)*.

2013: "NMR characterization of bile salt binding by the human liver fatty acid binding protein: towards a better understanding of intracellular lipid shuttling" F. Favretto, short oral, *8th International Conference on Lipid Binding Proteins* (*La Plata, Argentina*).
2013: "NMR study of hlfabp in complex with hydrophobic molecules of biological relevance" F. Favretto, short oral, *5th European Conference Chemistry for Life Sciences* (*Barcelona, Spain*).

CONGRESS ORGANIZATION

2026: Member of the organizing committee of the "*Italian Congress of Biotechnology* ***BIOTECH2026***" (Verona, Italy).
2025: Member of the organizing committee of the "*52nd National Congress on Magnetic Resonance*" (Verona, Italy).

PUBLIC ENGAGEMENT

2025: "Inibizione delle ciclofiline di *Toxoplasma gondii*: nuove strategie contro la toxoplasmosi", F.Favretto oral, *Biotech. Week (29 Sept–6 Oct 2025)***.**

CONFERENCE PROCEEDINDS

1) **Favretto F**, Conter C, Masè N, Pedretti M, Dominici P and Astegno A, "EFFECTS OF NON-IMMUNOSUPPRESSANT CYCLOSPORIN A ANALOGUES ON TOXOPLASMA GONDII CTCLOPHILINS", *62° congress SIB (Italian Society of Biochemistry and Molecular Biology*) (*Florence, Italy*) *7-9 September 2023*.

2) **Favretto F**, Conter C, Bombardi L, Pedretti M, Dominici P and Astegno A, "BIOCHEMICAL AND FUNCTIONAL CHARCTERIZATION OF TWO CYCLOPHILINS FROM *TOXOPLASMA GONDII*" *Proteine 2022: Interaction of proteins with small ligands and macromolecules (Pisa, Italy) 18-20 May 2022.*

3) **Favretto F**, D'Onofrio M, Zanzoni S, Ceccon A, Silvia Perez Santero, Molinari H, and Assfalg M, "CHARACTERIZATION OF BILE SALT BINDING TO RECOMBINANT HUMAN LIVER FATTY ACID BINDING PROTEIN" *XLIII National Congress on Magnetic Resonance* (*Bari, Italy) 22-24 September 2014*.

4) **Favretto F**, D'Onofrio M, Zanzoni S, Ceccon A, Assfalg M, and Molinari H, "NMR STUDY OF HLFABP IN COMPLEX WITH HYDROPHOBIC MOLECULES OF BIOLOGICAL RELEVANCE". *5th European Conference Chemistry for Life Sciences* (*Barcelona, Spain*) *10-12 June 2013*.

5) **Favretto F**, D'Onofrio M, Zanzoni S, Ceccon A, Assfalg M, and Molinari H. "CHARACTERIZATION OF HUMAN LIVER FATTY ACID BINDING PROTEIN COMPLEXES WITH VARIOUS MOLECULES OF BIOLOGICAL RELEVANCE" *Instruct Biennial Structural Biology Meeting (Heidelberg, Germany) 22-24 May 2013*.

6) **Favretto F**, D'Onofrio M, Assfalg M, Gallo M, Cicero D.O, and Molinari H, "BACKBONE DYNAMICS OF HUMAN LIVER FATTY ACID BNDING PROTEIN IN COMPLEX WITH OLEATE AND GLYCOCHOLATE" *XLVIII Annual Meeting for Biochemistry and Molecular Biology (Mendoza, Argentine) 29 October-1 November 2012.*

7) **Favretto F**, D'Onofrio M, Zanzoni S, Ceccon A, Assfalg M, and Molinari H, "NMR STUDIES OF THE INTERACTION OF HLFABP WITH UIS, A PROTEIN INVOLVED IN MALARIA PARASITES DEVELOPMENT" *XL National Congress on Magnetic Resonance (Parma, Italy) 29 August-2 September 2011*.

PARTICIPATION IN EDITORIAL COMMITTEES AND REVISION ACTIVITIES

2025: Member of the scientific committee *"G.I.D.R.M. Mobility Grant"*. **Activities:** projects evaluation**.**
2025: Member of the Editorial board of the journal "*Frontiers in chemistry*". IF: 4.2. Q2: CHEMISTRY, MULTIDISCIPLINARY.
2024-present: *Ad hoc* reviewer for: "*International Journal of Molecular Sciences"* and *"Molecules"*.
2023: Editorial Board Member of "Frontiers in Molecular Biosciences" (Review Editor of Protein Biochemistry for Basic and Applied Sciences). IF: 6.113. Q1: BIOCHEMISTRY & MOLECULAR BIOLOGY.
2023: *Ad hoc* reviewer for the journal *"Nature Communications"*.

MEMBERSHIPS

2021 – present: Member of the Italian Society of Biochemistry and Molecular Biology (SIB).

2021 – present: Member of the Italian Group of Discussion on Nuclear Magnetic Resonance (GIDRM).

ATTENDED COURSES

2020: CS1301xIII: Computing in Python III: Data Structures, Georgia Institute for technology.
2020: CS1301xII: Computing in Python II: Control Structures, Georgia Institute for technology.
2020: CS1301xI: Computing in Python I: Fundamentals and Procedural Programming, Georgia Institute for technology.
2020: Python Data Structures, University of Michigan.
2020: Programming for everybody (Getting started with Python), University of Michigan.
2019: Bruker Maintenance course: "Troubleshooting", MPI-BPC (Göttingen, Germany).
2018: Bruker Maintenance course: "Troubleshooting: **cryoprobes**", MPI-BPC (Göttingen, Germany).
2016: Bruker Maintenance course: "Troubleshooting", MPI-BPC (Göttingen, Germany).
2014: G-NMR school, München (Germany).
2014: EMBO practical course "Multidimensional NMR in Structural Biology", Joachimsthal (Berlin) (Germany).
2014: Advanced NMR school, Torino (Italy).
2013: Practical Course "Advanced methods for the integration of other structural data with NMR data" Sesto Fiorentino (Firenze, Italy).
2011: AKTA User Day, Padova (Italy).
2011: Basic NMR school, Villa Gualino, Torino (Italy).

TECHNICAL SKILLS

** The most relevant technical skills for the applied position are underlined:*

- Biotechnology techniques for gene cloning and site-specific mutagenesis. Protein purification techniques: affinity chromatography, ion exchange, gel-filtration (including ÄKTA prime and ÄKTA pure systems).
- Kinetic studies (steady state and pre-steady state kinetics), reaction mechanism studies, structural studies, protein stability (on heating and denaturing agents)
- Biophysical techniques (Isothermal Titration Calorimetry, Fluorescence Spectroscopy, Circular Dichroism, Microscale Thermophoresis and Dynamic Light Scattering).
- Advanced knowledge of solution NMR Spectroscopy techniques for protein backbone assignment and [^{15}N]-backbone NMR relaxation experiments. Protein expression in rich, minimal, deuterated and perdeuterated media (form *E. coli*) and selective methyl labeling. Knowledge of isotope-filtered NMR methods for the study of bio-molecular structure and ligand/protein interactions. Backbone assignment of small molecules using 2D homonuclear [^{1}H-^{1}H] NMR experiments (COSY, TOCSY and NOESY). NMR related software (NMRViewJ, CARA, CcpNMR Analysis, Sparky, NMRPipe)
- Docking and modeling software (HADDOCK).
- CS-Rosetta to perform *de novo* protein structure determination.
- Programming languages and mathematical packages: Python3, MATLAB (basic programming and multiple data fitting), OriginLab and Prism-GraphPad.

LANGUAGES

Italian: mother tongue.
English: fluent oral and written.
Spanish: fluent oral.
German: fluent oral (Level B2, Göttingen University).

Il sottoscritto Filippo Favretto, nato a Mantova (MN, Italy) il 01/03/86, codice fiscale FVRFPP86C01E897O, autorizza il trattamento dei dati personali contenuti nel presente curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e dell'art. 13 GDPR 679/2016. Consapevole che le dichiarazioni false comportano l'applicazione delle sanzioni penali previste dall'art. 46, 47 e 76 del D.P.R. 445/2000, dichiara che le informazioni riportate nel presente *curriculum vitae* sono veritiere.

Luogo e data
Verona, 23/04/2024

SIGNATURE: Filippo Favretto