GIOVANNI BISELLO

Curriculum Vitae et Studiorum

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RESEARCH EXPERIENCE

07/2021 – present	**Department of Neuroscience, Biomedicine and Movement Science, University of Verona, Italy**. Postdoctoral Fellow (SSD BIO/10).
01/2021 – 06/2021	**Department of Neuroscience, Biomedicine and Movement Science, University of Verona, Italy**. Research Fellowship.
03/2019 – 06/2019	**Department of Chemistry, University of Georgia, USA**. Visiting student.
10/2017 – 11/2020	**Department of Neuroscience, Biomedicine and Movement Science, University of Verona, Italy**. PhD programme in Biomolecular Medicine.
11/2016 – 09/2017	**Department of Biomedical Sciences, University of Padova, Italy**. Research fellowship.
09/2014 – 03/2015	**CRIBI Biotechnology Centre, University of Padova, Italy**. Research activity.
04/2014 – 09/2014	**Department of Chemistry-Physics, University of Granada, Spain**. Erasmus Programme internship.
03/2012 – 09/2012	**Department of Biomedical Sciences, University of Padova, Italy**. Research activity.

EDUCATION

11/2020	**PhD in Biomolecular Medicine.** University of Verona, Italy. Dissertation title: "Human Aromatic L-Amino Acid Decarboxylase: when structure and mobility drive efficient catalysis. Implications for AADC deficiency"
03/2015	**Master's degree in Pharmaceutical Biotechnology.** University of Padova, Italy. Dissertation title: "Influence of N-terminal acetylation on alpha-synuclein propensity to aggregate"
09/2012	**Bachelor's degree in Health Biotechnology.** University of Padova, Italy. Dissertation title: "Use of *S. cerevisiae* yeast as model organism in the study of human Arginyl-tRNA Sinthetase mutations"

ORAL COMMUNICATIONS and AWARDS

- **Bisello G.**, Ribeiro RP., Perduca M., Giorgetti A., Belviso BD., Caliandro R., Bertoldi M., *"Structural dynamics of human AADC: new perspectives for severity prediction in AADC deficiency"*. 47th FEBS Congress, 8th-12th July, 2023, Tours, France
- **Bisello G.**, Ribeiro RP., Belviso DB., Magrinelli F., Efthymiou S., Giorgetti A., Caliandro R., Perduca M. and Bertoldi M., *"Preliminary structural characterization of AADC deficiency variants to determine the molecular basis for protein alteration"*. 4th AIC-BMM Meeting, 5th-6th June 2023, Firenze, IT.
- **Bisello G.**, Ribeiro RP., Giorgetti A., Belviso DB., Caliandro R., Polverino De Laureto P., Perduca M., Bertoldi M., Conference on Rare Neurotransmitter Disease, RNTD-R2T, 29th September-01st October 2022, Hotel M, Belgrade, Serbia; Invited Speaker: "*Molecular bases of AADC deficiency: what's hidden behind the asymmetry of an homodimeric enzyme*"
- **Bisello G**., Perduca M., Bertoldi M. Selected oral presentation at the 2nd AIC-BMM Meeting. Online, 7th-9th June 2021. "*Human Aromatic L-Amino Acid Decarboxylase (AADC) in its native and inhibitor bound crystal structure solved at different pH values".*
- **Bisello G**. School of Enzyme Discovery and Engineering for Biotechnological Applications. Naples 3rd-5th December 2019. SIB fellowship grant winner: "*A comprehensive analysis of AADC pathogenic variants provides new insight on the structure-function relationship of AADC*".
- **Bisello G**., Montioli R., Dindo M., Voltattorni C.B., Bertoldi M. Congresso SIB Proteine, Verona, 28th-30th May 2018. Session I · Protein Interactions and Dynamics P01 – Oral selected. "*Pathogenic variants of human Aromatic L-Amino Acid Decarboxylase: evidences of misfolding in functionally active variants*".

GRANTS, PRIZES

- Winner of the *FEBS Open Bio* Speed Talk Prize at the 47th FEBS Congress, Tours, France
- Best oral presentation at the 4th AIC-BMM Meeting, 5th-6th June 2023, Firenze, IT.

- Awarded with FEBS Bursary to assist the participation to the 47th FEBS Congress, 8th-12th July, 2023, Tours, France.
- Awarded with FEBS Bursary to assist the participation to the IUBMB-FEBS-PABMB congress, 9th-14th July, 2022, Lisbon.
- Italian Society of Biochemistry and Molecular Biology (SIB) Fellowship to attend to the "School of Enzyme Discovery and Engineering for Biotechnological Applications" organized by the SIB Biotechnology Group in Naples on 3rd-5th December, 2019.
- Internationalization Programme - PhD School in Health Science and Life, University of Verona, Academic Year 2018/2019.

MEMBERSHIP

2023 – present Member of the 'Associazione Italiana di Cristallografia' (AIC)
2021 – present Member of The Protein Society
2017 – present Member of the Italian Society of Biochemistry and Molecular Biology (SIB)

PUBBLICATIONS

First author

- **Bisello G.**, Rossignoli G., Choi S., S. Phillips R., Bertoldi M., Active site serine-193 modulates activity of human aromatic amino acid decarboxylase, *BBRC*, 2023, ISSN 0006-291X, https://doi.org/10.1016/j.bbrc.2023.08.049
- **Bisello G.**, Ribeiro RP., Perduca M., Belviso BD., Polverino de' Laureto P., Giorgetti A., Caliandro R., Bertoldi M., Human aromatic amino acid decarboxylase is an asymmetric and flexible enzyme: Implication in aromatic amino acid decarboxylase deficiency. *Protein Science*. 2023; 32(8):e4732. https://doi.org/10.1002/pro.4732
- Riva A., Iacomino M., Piccardo C., Franceschetti L., Franchini R., Baroni A., Minetti C., **Bisello G.**, Zara F., Scala M., Striano P., Bertoldi M., Exome sequencing data screening to identify undiagnosed Aromatic l-amino acid decarboxylase deficiency in neurodevelopmental disorders, *BBRC*, 2023, ISSN 0006-291X, https://doi.org/10.1016/j.bbrc.2023.06.065.
- N.Himmelreich, M.Bertoldi, M.Alfadhel, et al., Prevalence of DDC genotypes in patients with aromatic L-amino acid decarboxylase (AADC) deficiency and in silico prediction of structural protein changes, Molecular Genetics and Metabolism (2023), https://doi.org/10.1016/j.ymgme.2023.107624
- **Bisello, G**.; Bertoldi, M. Compound Heterozygosis in AADC Deficiency and Its Complex Phenotype in Terms of AADC Protein Population. Int. J. Mol. Sci. 2022, 23, 11238. https://doi.org/10.3390/ijms231911238
- **Bisello G**, Kusmierska K, Verbeek MM, Sykut-Cegielska J, Willemsen MAAP, Wevers RA, Szymańska K, Poznanski J, Drozak J, Wertheim-Tysarowska K, Rygiel AM, Bertoldi M. The novel P330L pathogenic variant of aromatic amino acid decarboxylase maps on the catalytic flexible loop underlying its crucial role. Cell Mol Life Sci. 2022 May 20;79(6):305. doi: 10.1007/s00018-022-04343-w. PMID: 35593933.
- Longo C, Montioli R, **Bisello G**, Palazzi L, Mastrangelo M, Brennenstuhl H, de Laureto PP, Opladen T, Leuzzi V, Bertoldi M. Compound heterozygosis in AADC deficiency: A complex phenotype dissected through comparison among heterodimeric and homodimeric AADC proteins. Mol Genet Metab. 2021 Aug 28:S1096-7192(21)00775-7. doi: 10.1016/j.ymgme.2021.08.011. Epub ahead of print. PMID: 34479793.
- Rossignoli G, Krämer K, Lugarà E, Alrashidi H, Pope S, De La Fuente Barrigon C, Barwick K, **Bisello G**, Ng J, Counsell J, Lignani G, Heales SJR, Bertoldi M, Barral S, Kurian MA. Aromatic L-amino acid decarboxylase deficiency: a patient-derived neuronal model for precision therapies. Brain. 2021 Mar 17:awab123. doi: 10.1093/brain/awab123. Epub ahead of print. PMID: 33734312.
- Mattè, A.; Federti, E.; Tibaldi, E.; Di Paolo, M.L.; **Bisello, G**.; Bertoldi, M.; Carpentieri, A.; Pucci, P.; Iatchencko, I.; Wilson, A.B.; et al. Tyrosine Phosphorylation Modulates Peroxiredoxin-2 Activity in Normal and Diseased Red Cells. Antioxidants 2021, 10, 206. https://doi.org/10.3390/antiox10020206
- **Bisello G**, Longo C, Rossignoli G, Phillips RS, Bertoldi M. Oxygen reactivity with pyridoxal 5'-phosphate enzymes: biochemical implications and functional relevance. 2020 Aug 25. Amino Acids. 2020;10.1007/s00726-020-02885-6.
- Montioli R, **Bisello G**, Dindo M, Rossignoli G, Voltattorni CB, Bertoldi M. New variants of AADC deficiency expand the knowledge of enzymatic phenotypes. Arch Biochem Biophys. 2020;682:108263.

- Rossignoli G, Grottesi A, **Bisello G**, Montioli R, Borri Voltattorni C, Paiardini A, Bertoldi M. Cysteine 180 is a redox sensor modulating the activity of human pyridoxal 5′-phosphate histidine decarboxylase. Biochemistry (2018) 57 (44), 6336-6348.
- Palazzi L, Buzzene E, **Bisello G**, Leri M, Stefani M, Bucciantini M, Polverino De Laureto P. Oleuropein aglycone stabilizes the monomeric α-synuclein and favours the growth of non-toxic aggregates. Scientific Reports (2018) volume 8, Article number: 8337.
- Ruzafa D, Hernandez-Gomez YS, **Bisello G**, Broersen K, Morel B, Conejero-Lara F. The influence of N-terminal acetylation on micelle-induced conformational changes and aggregation of α-Synuclein. PLoS ONE (2017) 12(5): e0178576.

September, 2023