Elettra Barberis PhD

Curriculum vitae

PERSONAL DATA

Born in Turin (TO), 20/05/1989.

BIO AND EDUCATION

She graduated in Conservation and Restoration of Cultural Heritage (University of Turin) in 2015 and she obtained a PhD in Chemistry and Biology in 2020 at the Department of Science and Technological Innovation of the University of Piemonte Orientale (UPO), Italy. In 2018 she moved to the new Interdisciplinary Center for Translational Research on Autoimmune and Allergic Diseases (CAAD) in Novara (UPO) where she started working at the Biological Mass Spectrometry Laboratory (www.biomass-spec.com). She is author of more than 16 papers/book chapters on national and international scientific journals (H-index=6 from Scopus). She participated to more than 15 National and International Congresses.

UNIVERSITY CAREER

2020 – to date	**Post-doc position at the Department of Translational Medicine (UPO)**
2016 – 2019	**PhD student at the Department of Science and Technological Innovation (UPO)**

MAIN FIELD OF INTEREST

Multi-omics approaches for chemical analysis: proteomics, metabolomics and lipidomics analyses and data integration in biomedical field (cell lines, tissues and biological fluids) and cultural heritage.

Biomarkers and therapeutic targets discovery: Proteomics and metabolomics to discover new biomarkers, biomarker validation (Cancer, Autoimmune diseases, SARS-CoV2) and bioinformatics.

Development of new analytical methods: study, development and optimization of new methods for the non-invasive or minimally invasive analysis of different matrices and surfaces.

Non-invasive and non-destructive investigation in cultural heritage field: study and application of different non-invasive analytical techniques (Infrared Spectroscopy in DRIFT and ATR mode, LED Multispectral Imaging, Reflectance Transformation Imaging, Direct Analysis in Real Time Mass Spectrometry, HRLC-MS, GCXGC-MS) for the investigation of conservation treatments and identification of proteins, lipids and small molecules in cultural heritage objects.

AWARDS

- **Best Spin-off 2013** of University of Piemonte Orientale with the company ISALIT.
- **Top four best Italian spin-off** with ISALIT (industrial sector), PNI 2013, National Innovation Prize, Genova, November 2013.
- **Third classified** with the project: ISALIT, 2013. Start Cup Piemonte e Valle d'Aosta, Business plan competition.
- **First classified** with the spin-off ISALIT. "Premio START UP AL DECOLLO" Camera di Commercio di Novara, February 2015.

RECENT FIVE PAPERS

1) **Barberis E**, Vanella VV, Caneapero V, Cappellano G, Raineri D, Ghirimoldi M, De Giorgis V, Puricelli C, Vaschetto R, Sainaghi PP, Bruno S, Sica A, Dianzani U, Rolla R, Chiocchetti A, Cantaluppi V, Baldanzi GB, Marengo E, Manfredi M. *Circulating Exosomes Are Strongly Involved in SARS-CoV-2 Infection.* Front. Mol. Biosci., 22 February 2021 | https://doi.org/10.3389/fmolb.2021.632290.
2) **Barberis E**, Timo S, Amede E, Vanella VV, Puricelli C, Cappellano G, Raineri D, Cittone MG, Rizzi E, Pedrinelli AR, Vassia V, Casciaro FG, Priora S, Nerici I, Galbiati A, Hayden E, Falasca M, Vaschetto R, Sainaghi PP, Dianzani U, Rolla R, Chiocchetti A, Baldanzi G, Marengo E, Manfredi M. *Large-Scale Plasma Analysis Revealed New Mechanisms and Molecules Associated with the Host Response to SARS-CoV-2.* Int J Mol Sci. 2020 Nov 16;21(22):8623. doi: 10.3390/ijms21228623. PMID: 33207699; PMCID: PMC7696386.
3) **Barberis E**, Manfredi M, Marengo E, Zilberstein G, Zilberstein S, Kossolapov A, Righetti PG. *Leonardo's Donna Nuda unveiled*. J Proteomics. 2019 Sep 15;207:103450. doi: 10.1016/j.jprot.2019.103450. Epub 2019 Jul 16. PMID: 31323423.
4) Manfredi M, Conte E, **Barberis E**, Buzzi A, Robotti E, Caneparo V, Cecconi D, Brandi J, Vanni E, Finocchiaro M, Astegiano M, Gariglio M, Marengo E, De Andrea M. *Integrated serum proteins and fatty acids analysis for putative biomarker discovery in inflammatory bowel disease.* J Proteomics. 2019 Mar 20;195:138-149. doi: 10.1016/j.jprot.2018.10.017. Epub 2018 Nov 2. PMID: 30391485.
5) Manfredi M, **Barberis E**, Gosetti F, Conte E, Gatti G, Mattu C, Robotti E, Zilberstein G, Koman I, Zilberstein S, Marengo E, Righetti PG. *Method for Noninvasive Analysis of Proteins and Small Molecules from Ancient Objects*. Anal Chem. 2017 Mar 21;89(6):3310-3317. doi: 10.1021/acs.analchem.6b03722. Epub 2017 Mar 3. PMID: 28194960.