

Daniela Cecconi

curriculum vitae

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ITALIAN NATIONAL SCIENTIFIC HABILITATION (ASN):

since 2018, 28th March (Bando 2016, DD n. 1532/2016):

- as Full Professor in Analytical Chemistry (scientific sector 03/A1)
- as Full Professor in Biochemistry (scientific sector 05/E1)

ACADEMIC APPOINTMENTS:

2017 – to present

Associate Professor of Analytical Chemistry 03/A1, SSD CHIM/01 (new code CHEM-01/A), at the Department of Biotechnology, University of Verona.

2007 - 2017

Assistant Professor in Analytical Chemistry 03/A1, SSD CHIM/01, at the Faculty of Mathematical, Physical and Natural Sciences, Department of Biotechnology, University of Verona.

1/1/2005 – 28/2/2007

Research Fellow at the Scientific and Technological Department of the University of Verona. Research project title: "Proteomic Analysis of Pancreatic Adenocarcinoma: Potential Epigenetic Events and Antitumor Drugs" (PI: Prof. P.G. Righetti, Prof. M. Chilosi). Research Fellowship funded by AIRC.

1/1/2002 – 31/12/2004

PhD Fellow with a scholarship from the MIUR for the PhD in Industrial-Environmental Biotechnology at the University of Verona, XVII cycle (Supervisor: Prof. P.G. Righetti).

1/9/2001 – 31/12/2001

Research Fellow at the Scientific and Technological Department, University of Verona. Research project title: "Implementation of Miniaturized Prefractionation Methodology in Proteomic Analysis Using Microchips" (PI: Prof. P.G. Righetti). The position was funded by the European Union (EU project "Microproteomics", number QLG2-CT-2001-01903).

EDUCATION:

2002 - 2004

Doctorate in Environmental and Industrial Biotechnologies (University of Verona, Italy). Title of PhD Thesis: "Comparative proteomics analysis: innovative approaches and biomedical applications". Supervisor: Prof. P.G. Righetti; Coordinator: Prof. H. Monaco.

- Grade: *excellent*

1995 - 2001

Master Degree in Biotechnology, 24th July 2001 (University of Verona, Italy). Title of research Thesis: "Comparative analysis of rat-plasma and serum after chronic treatment with nicotine or saline solution". Supervisors: Prof. P.G. Righetti and Dr. E. Domenici (Dept. of Molecular Medicine, GlaxoSmithKline).

- Grade: *110/110 cum laude*

1990 - 1995

Diploma as Technician of chemical-biological laboratory Professional Institute "E. Fermi" (Verona, Italy).

- Grade: *60/60*

RESEARCH ACTIVITY

MANAGEMENT AND COORDINATION OF RESEARCH GROUPS

Since 2007, Prof. Daniela Cecconi (C.D.) has directed and coordinated the research group of the Laboratory of Proteomics and Mass Spectrometry, at the Department of Biotechnology, University of Verona. Currently, the research group is composed of a researcher rtdA CHIM/01 (Dr. J. Brandi), a PhD student in Biotechnology, a research fellow, and students of the CdLM in Molecular and Medical Biotechnologies and the CdL in Biotechnology of Univr.

The research activity is carried out in the field of analytical chemistry, and is characterized by the development and application of techniques and methodologies for the qualitative and quantitative determination of protein/peptide extracts (and to a lesser extent of metabolites) in samples of biological and biotechnological interest.

The reference analytical techniques are electrophoretic (e.g. 2D-PAGE, IEF), chromatographic (e.g. UPLC, HPLC, nanoHPLC, nanoHPLC on Chip) and mass spectrometry (e.g. Ion trap, Orbitrap MS). The statistical tools applied, and in some cases developed through collaborations, in relation to the treatment and interpretation of data obtained with LC-MS/MS and 2D-PAGE analysis, are those of chemometrics.

Funding for research activities

Scientific Coordinator or Unit Leader of Research Projects in Competitive Calls and Funding

- 16/10/2023-15/10/2025 Bando PRIN 2022 “iSonitriles: innovative pHarmacOphoric GroUps as aNtibacterial agents against multidrug resistance pathogenic bacteria (SHOGUN)” (€41.272,00). Role: Unit Leader, Substitute Principal Investigator.
- 2022-2025 "Heal Italia" (Hub founder UniPA). Progetto triennale di Partenariato Esteso di Diagnostica e Medicina di Precisione nell'ambito del PNRR, Missione 4 “Istruzione e ricerca”, Componente 2 “Dalla ricerca all'impresa”, finanziato dall'Unione Europea, NextGenerationEU. Role: Unit Leader for Biotechnology Department (spoke6- Univr).
- 6/11/2017-30/06/2020, POR-FESR 2014-2020 Fondo Europeo di Sviluppo Regionale “Nuovo piano industriale del lattiero-caseario Veneto” (€51.000,00). Role: Head of research unit of Univr.
- 1/12/2017-30/11/2019 Joint Project con Sintal Dietetics s.r.l., Bando di Ateneo per progetti congiunti con Imprese ed Enti “Medicated bioactive spray for skin healing” (€44.665,00). Role: Principal Investigator.
- 23/10/2014-22/10/2016 Joint Project con Sintal Dietetics s.r.l., Bando di Ateneo per progetti congiunti con Imprese ed Enti “Probiotic-containing chewing-gum production: purification and characterization of bacteriocins of *Lactobacillus salivarius*” (€46.750,00). Role: Principal Investigator.
- 2010 FIRB programma "Futuro in ricerca" “Next generation technologies for the investigation of B-cell lymphoma”. (valutato positivamente ma non finanziato). Role: Principal Investigator.
- 1/12/2009-1/12/2011, Joint Project con Caseificio Elda s.r.l., Bando di Ateneo per progetti congiunti con Imprese ed Enti “Identificazione e caratterizzazione di proteine e peptidi bioattivi poco abbondanti del siero di latte” (€41.000,00). Role: Principal Investigator.

Research Group Leader or External Collaborator in Research Projects

- 2020 EPIC-XS project "Analysis of histone modifications in progressively de-differentiated cancer stem cells derived from pancreatic ductal adenocarcinoma cell lines" funded by the European Union's Horizon 2020 programme H2020-EU.1.4 (ID progetto 823839). Role: External collaborator.
- 2012-2017, COST Action (BM1204) EU Pancreas "An integrated European platform for pancreas cancer research: from basic science to clinical and public health interventions for a rare disease". Role: Expert member for Italy of working group 3, WG3: Translational research.
- 2011-2014 "Verona Nanomedicine Initiative" progetto triennale finanziato da Fondazione Cariverona. Role: Head of the WP2 research group for the analysis of "Biomarkers for the diagnosis of cardiovascular diseases through proteomic approach"
- 2009-2010, REGIONE VENETO, Patto di sviluppo del metadistretto alimentare Veneto mis.2B "Prototipi molecolari per la trasparenza e qualità alimentare". Role: Head of research group dealing with two-dimensional electrophoresis, mass spectrometry, western blotting.
- 2008 AIRC "An integrated approach to the study of mantle cell lymphoma". Role: External collaborator.

Scientific Supervisor for Research or Consultancy Contracts

- 2023 Two commissioned research contracts signed with Lunella Biotech, Inc. (Ottawa, Canada), for "Proteomic analysis of breast cancer cell lines and fibroblast cell lines" (€4.700 and €1.543).
- 2019 Technical-scientific assistance contract stipulated with Zeta Farmaceutici s.p.a. for "Development of a method for precipitation of proteins from syrup and their quantification" (€12.580,00).
- 2014 Technical-scientific consultancy contract with Caseificio Elda s.r.l. for the "Study of proteins and their modifications (oxidation and/or glycosylation) during the shelf-life of ricotta" (€3.660,00).
- 2013 Commissioned research contract signed with Sintal Dietetics s.r.l. for the "Qualitative identification and isolation of small peptides from bacterial culture broths having presumed concentration-dependent bacteriostatic and/or bactericidal activity by proteomic analytical techniques" (€14.000,00).
- 2010 Commissioned research contract signed with the Department of Public Health, Comparative Pathology and Veterinary Hygiene of the University of Padua for the "Study of post-mortem proteolysis products of muscle tissue of beef cattle raised in Veneto" (€10.000,00).

Scientific Supervisor for Funding Obtained for PhD Scholarships, Research Fellowships, and Research Grants:

- 2024 Ministerial PhD Scholarship, XL cycle.
- 2023 Doctoral Scholarship by the European Union – NextGenerationEU, PNRR, XXXVIII cycle.
- 2020 Ministerial PhD Scholarship, XXXVI cycle.
- 2020 Research Grant funded by POR-FESR 2014-2020 European Regional Development Fund.
- 2020 Annual Research Fellowship funded by the Department (FUR), ssd CHIM/01.
- 2019 Annual Research Fellowship financed by a donation from Eucare s.r.l., ssd CHIM/01.
- 2018 Annual Research Grant funded by the Joint Project 2017 call.
- 2017 Ministerial PhD Scholarship, XXXIII cycle.

- 2017 Annual Research Grant funded by the Department (FUR), ssd CHIM/01.
- 2016 Six-month Research Grant funded by the Joint Project 2014 call.
- 2016 Annual Research Fellowship financed by Sintal Dietetics s.r.l., ssd CHIM/01.
- 2015 Ministerial PhD Scholarship, XXX cycle.
- 2015 Annual Research Fellowship funded by the Department (FUR), ssd CHIM/01.
- 2015 Annual Research Fellowship funded by the Joint Project 2014 call, ssd CHIM/01.
- 2014 Annual Research Fellowship financed by the company MD'E s.r.l., ssd CHIM/01.
- 2013 Annual Research Fellowship funded by the Vr Nanomedicina Initiative call, ssd CHIM/01.
- 2012 Ministerial PhD Scholarship, XXVII cycle.
- 2011 Annual Research Fellowship funded by the Department (FUR), ssd CHIM/01.

Responsibility for third party activities

C.D. has conducted third-party work for qualitative analysis of proteins by nanoLC-MS/MS mass spectrometry performed (price list approved by the Dept. of Biotechnology, Univr) for:

- 2017: CIBIO Centre for Integrative Biology, Trento. Client: Dr. Sonia Garritano (Offer dated 19/09/2017) € 1220
- 2015: EURAC Research research centre in Bolzano. Client: Dr. Mattia Volta (Offer dated 4/11/2015) € 1000.40
- 2012: Edmund Mach Foundation of San Michele all'Adige, Trento. Client: Dr. Claudio Moser; (Offer dated 23-03-2012) € 453.75
- 2011: Dept. of Medicine Sec. of Rheumatology, Univr. Client: Prof. Lisa Bambara (Offer dated 03/03/2011) € 800.00
- 2010: Dept. of Neurological, Neuropsychological, Morphological and Motor Sciences Section of Anatomy and Histology, Univr. Client: Dr. Mirco Galiè (Offer dated 11-10-2010) € 1000.00

PARTICIPATION IN EDITORIAL COMMITTEES

Editorial boards of scientific journals

- 2022-present: **Member of the Editorial Board** for the Analytical Chemistry area for “Scientific Reports”, publisher Nature portfolio, IF: 4,997.
- 2021: **Guest Editor** for the book “Proteomics Data Analysis” In Methods in Molecular Biology Volume 2361. Humana Press, New York, NY. ISSN: 10643745.
- 2017-present: **Member of the Editorial Board** for “Journal of Proteomics”, publisher Elsevier, IF: 3,855.
- 2012-present: **Associated Editor** for “Journal of Integrated OMICS – a methodological journal”, publisher Proteomass Scientific Society, ISSN 2182-0287, journal indexed on Scopus.

PARTICIPATION IN PATENT DEVELOPMENT

- EP-3547851-B1; WO2018100035, Priority date: 2016-11-30. Grant date: 2021-04-21. Owner: Sintal Dietetics s.r.l. "*L. salivarius* SGL03: probiotic activities and production of antimicrobial proteins".

Link to Espacenet: <https://bit.ly/3Souw6H>

Link to WIPO Patentscope: <https://bit.ly/3ILr16Q>

- CN101111762B; WO2006056861, Priority date: 26/11/2004. Grant date: 12/01/2012. Owner: ELETTOFOR s.a.s. "Method and apparatus for the simultaneous separation of biological molecules by bidimensional electrophoresis"

Link to Espacenet: <https://bit.ly/3XRXUmW>

Link to WIPO Patentscope: <https://bit.ly/3EuhQVU>

AWARDS AND RECOGNITIONS

- **First Poster Award**, "Analysis of rat serum proteome after chronic nicotine treatment" Cecconi, D., Carboni, L., Domenici, E., Righetti, P.G., al *Congresso ICES International Council of Electrophoresis Societies 2001: An Electrophoretic Odyssey* (GlaxoSmithKline, Verona, 10-13 giugno 2001).

EVALUATION AND REVIEWER ACTIVITIES

Evaluator activity for national and international funding programs

- 2021: 8 postdoctoral fellowships funded by the Fondazione CRT Cassa di Risparmio di Torino.
- 2020: one postdoctoral fellowship funded by the Research Foundation Flanders, Belgium.
- 2019: 5 research projects funded by the Fundació La Marató de TV3, Spain.
- 2018: one research project funded by the French National Research Agency (ANR), France.
- 2016: one senior research fellowship funded by university funds from the University of Insubria.
- 2013: 2 three-year research projects funded by the MIUR, FIRB 2013 "Futuro in Ricerca" call.

Reviewer activity for scientific journals

He has worked and works as a reviewer for scientific journals with IF (es. *Nature Communications*, *Food Chemistry*, *Scientific Reports*, *PLoS ONE*, *Journal of Proteomics*, *Journal of Proteome Research*, *Expert Review of Proteomics*, *Proteomics and Clinical Applications*, *Proteomics*, *Biochemical Pharmacology*, *Food Microbiology*, *Functional & Integrative Genomics*, *International Journal of Cancer*, *International Journal of Experimental Pathology*, *Journal of Integrative Plant Biology*, *Molecular Biology Reports*, *Molecular Biotechnology*, *Oncology Reports*, *Seminars in Cancer Biology*).

ORGANIZATION AND/OR PARTICIPATION IN CONGRESSES AND CONVENTIONS

Organization through Committee Participation and Co-Chairing Activities

- **Scientific Committee and Organizing Committee and Co-chair** of the "3rd International Proteomics and Metabolomics Conference and Advanced Proteomic School" of the Mass Spectrometry Division of the SCI Italian Chemical Society NOVARA 2 3 October 2023).
- **Scientific Committee and Organizing Committee** of the conference "MASSA 2020VIP" of the Mass Spectrometry Division of the SCI Italian Chemical Society (online, 1 October 2020).

- **Co-chair** of the 7th Annual Conference of AnalytiX-2019 (Berlin, Germany, 13-15 November 2019).
- **Scientific Committee and Organizing Committee and Co-chair** of the “2nd International Proteomics and Metabolomics Conference and Advanced Proteomic School” of the Mass Spectrometry Division of the SCI Italian Chemical Society (University of Verona, 1-2 July 2019).
- **Scientific Committee and Organizing Committee and Co-chair** of the “1st International Proteomics and Metabolomics Conference and Advanced Proteomic School” of the Mass Spectrometry Division of the SCI Italian Chemical Society (University of Novara, June 25-26, 2018).
- **Scientific Committee** of “Organoid models and applications in biomedical research” of the Italian Cell Culture Association (University of Verona, March 8, 2018).
- **Organizing Committee** of 1st Congress of the Italian Proteome Society (Verona, May 27-29, 2004).

Participation as a Speaker at Congresses and Conventions

- "Super SILAC-based epiproteomic and label-free Quantitative SWATH-MS analysis of pancreatic cancer stem cells" *XXX Congresso della Divisione di Chimica Analitica della SCI Società Chimica Italiana* (Palazzo D'Avalos, Vasto, 17-21 settembre 2023).
- "The histone code of pancreatic cancer stem cells by nanoLC-MS/MS based epiproteomics" *Congresso della Divisione di Chimica Analitica della EuChemS Società Europea di Chimica, Euroanalysis XXI* (Geneva, Switzerland 27-31 agosto 2023).
- "Analysis of histone PTMs in pancreatic cancer stem cells by super-SILAC strategy using an EASY SprayTM-nLC-MS/MS", *Convegno "MSomics" della Divisione di Spettrometria di Massa della SCI Società Chimica Italiana* (Università degli studi di Bologna, 6 dicembre 2022).
- "Integrated lipidomics and proteomics reveal cardiolipin remodelling, upregulation of HADHA and long chain fatty acids in pancreatic cancer stem cells", *XXVII Congresso Nazionale della SCI Società Chimica Italiana* (online, 14-23 settembre 2021).
- "Investigating the proteomic profile of HT-29 colon cancer cells after *Lactobacillus kefir* SGL 13 exposure using the SWATH method", *7th International Caparica Conference on Analytical Proteomics* (collegata da remoto Caparica-Portugal, 12-15 luglio 2021). Invited speaker.
- "Investigating the Proteomic Profile of HT-29 Colon Cancer Cells after *Lactobacillus kefir* SGL 13 Exposure Using the SWATH Method", *7th Annual Conference of AnalytiX-2019 Europe* (Berlino, Germania, 13-15 novembre 2019). Invited speaker.
- "Investigating the Proteomic Profile of HT-29 Colon Cancer Cells after *Lactobacillus kefir* SGL 13 Exposure Using the SWATH Method", *XXVIII Congresso della Divisione di Chimica Analitica della SCI Società Chimica Italiana* (Università degli studi di Bari, 22-26 settembre 2019).
- "Evaluation and comparison of gel-based and gel-free approaches for the in-depth exploration of milk rice proteome", *XXVI Congresso Nazionale della SCI Società Chimica Italiana* (Paestum, Salerno, 10-14 settembre 2017).
- "Elettroforesi bidimensionale e spettrometria di massa per analisi proteomiche di batteri lattici enologici e per lo studio dei meccanismi molecolari nelle interazioni pianta-patogeno" *Associazione Nazionale Biotecnologi Italiani ANBI Conference* (Università degli Studi di Bologna, 9 novembre 2011). Invited speaker.
- "Proteomic strategies to analyze mantle cell lymphoma", *XXII Congresso della Divisione di Chimica Analitica della SCI Società Chimica Italiana* (Università degli Studi dell'Insubria, Como, 12-16 settembre 2010).

- “Analisi di campioni di interesse biomedico tramite approccio proteomico 2D-PAGE”, *Ricerca Genomica e Proteomica: Sinergie tra Tecnologie* (Bio-Rad Laboratories Srl, Segrate, Milano, 20 novembre 2008).
- “Analisi proteomica di linfoma a cellule del mantello: dalla patogenesi alla proposta di una terapia innovativa”, *Nuove tecnologie e sviluppi nell'analisi del Proteoma, VI edizione* (Università degli studi di Verona, 18 novembre 2008).
- “Analisi di campioni di interesse biomedico tramite approccio proteomico 2D-PAGE”, *Ricerca Genomica e Proteomica: Sinergie tra Tecnologie* (Bio-Rad Laboratories Srl, Segrate, Milano, 7 giugno 2007; 15 novembre 2007).
- “Serum proteomic analysis during nicotine self-administration, withdrawal, extinction and relapse in rats”, *XI Convegno della Società Italiana di Farmacologia (SIF), Neurofarmacologia e Neurobiologia delle Dipendenze* (Università degli Studi di Bologna, 9 settembre 2005).
- “Proteomic analysis of pancreatic ductal carcinoma cells after a combined treatment with Gemcitabine and Trichostatin-A”, *Seconda edizione Tour Europeo di seminari, Proteomics Alliance* (Università degli Studi di Verona, 6 luglio 2005).
- “Proteomic analysis of pancreatic ductal carcinoma cells after a combined treatment with Gemcitabine and Trichostatin-A”, *II° Congresso dell'Italian Proteome Society (IPSo)* (Università degli Studi della Tuscia, Viterbo, 31 maggio 2005).
- “Carcinoma Pancreatico: Analisi Proteomica degli eventi epigenetici e trattamento con farmaci antitumorali”, *Giornate di Scienza delle Separazioni in collaborazione con SCI Società Chimica Italiana* (CNR, Roma, 15 dicembre 2003).

OTHER TITLES

Membership in Scientific Societies

- Member of the Italian Chemical Society (SCI).
- Full Member of the Division of Analytical Chemistry of the Italian Chemical Society (SCI).
- Associate Member of the Division of Mass Spectrometry of the Italian Chemical Society (SCI).
- From 2002 to 2013 she was a member for some years (not continuously) of: Italian Society of Proteomics (Itpa), European Proteomics Association (EuPA), and Human Proteome Organization (HUPO).

SCIENTIFIC PRODUCTION

Scopus Author h-index: 33

Scientific publications in Scopus and/or ISI indexed journals with Impact Factor

- 1) "Analysis of veterinary drugs and pesticides in food using liquid chromatography-mass spectrometry" Brandi, J., Siragusa, G., Robotti, E., Marengo, E., Cecconi D. *Trends in Analytical Chemistry TrAC* 2024 179,117888
- 2) "Triphenylphosphonium-Conjugated Palmitic Acid for Mitochondrial Targeting of Pancreatic Cancer Cells: Proteomic and Molecular Evidence" Siragusa G, Brandi J, Rawling T, Murray M, Cecconi D. *Int J Mol Sci.* 2024;25(12):6790
- 3) "Multi-Omics Approaches for Freshness Estimation and Detection of Illicit Conservation Treatments in Sea Bass (*Dicentrarchus Labrax*): Data Fusion Applications" Benedetto A, Robotti E, Belay MH, Ghignone A, Fabbris A, Goggi E, Cerruti S, Manfredi M, Barberis E, Peletto S, Arillo A, Giaccio N, Masini MA, Brandi J, Cecconi D. Marengo E, Brizio P. *Int J Mol Sci.* 2024; 25(3):1509.
- 4) "Fecal Proteome Profile in Dogs Suffering from Different Hepatobiliary Disorders and Comparison with Controls" Cerquetella M, Mangiaterra S, Pinnella F, Rossi G, Marchegiani A, Gavazza A, Serri E, Di Cerbo A, Marini C, Cecconi D. Sorio D, Marchetti V, Vincenzetti S. *Animals (Basel).* 2023; 13:2343.
- 5) "Advances in enrichment methods for mass spectrometry-based proteomics analysis of post-translational modifications" Brandi J, Noberini R, Bonaldi T, Cecconi D. *J Chromatogr A.* 2022; 1678:463352.
- 6) "Plant Signals Anticipate the Induction of the Type III Secretion System in *Pseudomonas syringae* pv. *actinidiae*, Facilitating Efficient Temperature-Dependent Effector Translocation" Puttilli MR, Danzi D, Correia C, Brandi J, Cecconi D. Manfredi M, Marengo E, Santos C, Spinelli F, Polverari A, Vandelle E. *Microbiol Spectr.* 2022;10(6):e0207322.
- 7) "Glucose/Ribitol Dehydrogenase and 16.9 kDa Class I Heat Shock Protein 1 as Novel Wheat Allergens in Baker's Respiratory Allergy" Olivieri M, Spiteri G, Brandi J, Cecconi D. Fusi M, Zanoni G, Rizzi C. *Molecules* 2022;27(4):1212.
- 8) "Tumor Suppressor Role of Wild-Type P53-Dependent Secretome and Its Proteomic Identification in PDAC" Butera G, Manfredi M, Fiore A, Brandi J, Pacchiana R, De Giorgis V, Barberis E, Vanella V, Galasso M, Scupoli MT, Marengo E, Cecconi D. Donadelli M. *Biomolecules* 2022;12(2):305.
- 9) "Kohonen Artificial Neural Network and Multivariate Analysis in the Identification of Proteome Changes during Early and Long Aging of Bovine Longissimus dorsi Muscle Using SWATH Mass Spectrometry" Brandi J, Robotti E, Manfredi M, Barberis E, Marengo E, Novelli E, Cecconi D. *J Agric Food Chem.* 2021; 69(38):11512-11522.
- 10) "Integrated lipidomics and proteomics reveal cardiolipin alterations, upregulation of HADHA and long chain fatty acids in pancreatic cancer stem cells" Di Carlo C, Sousa BC, Manfredi M, Brandi J, Dalla Pozza E, Marengo E, Palmieri M, Dando I, Wakelam MJO, Lopez-Clavijo AF, Cecconi D. *Scientific Reports* 2021; 11(1): 13297.
- 11) "Exploring the wound healing, anti-inflammatory, anti-pathogenic and proteomic effects of lactic acid bacteria on keratinocytes" Brandi J, Cheri S, Manfredi M, Di Carlo C, Vita Vanella V, Federici F, Bombiero E, Bazaj A, Rizzi E, Manna L, Cornaglia G, Marini U, Valenti MT, Marengo E, Cecconi D. *Scientific Reports* 2020, 10(1): 11572.
- 12) "The Positive Association between Plasma Myristic Acid and ApoCIII Concentrations in Cardiovascular Disease Patients Is Supported by the Effects of Myristic Acid in HepG2 Cells" Olivieri O, Speziali G, Castagna A, Pattini P, Udali S, Pizzolo F, Liesinger L, Gindlhuber J, Tomin T, Schittmayer M, Birner-Gruenberger R, Cecconi D. Girelli D, Friso S, Martinelli N. *J Nutr.* 2020 150(10):2707-2715.
- 13) "Progressively De-Differentiated Pancreatic Cancer Cells Shift from Glycolysis to Oxidative Metabolism and Gain a Quiescent Stem State" Ambrosini G, Dalla Pozza E, Fanelli G, Di Carlo C, Vettori A, Cannino G, Cavallini C, Carmona-Carmona CA, Brandi J, Rinalducci S, Scupoli MT, Rasola A, Cecconi D. Palmieri M, Dando I. *Cells.* 2020; 9(7):1572.
- 14) "The mutant P53-driven secretome has oncogenic functions in pancreatic ductal adenocarcinoma cells" Butera G, Brandi J, Cavallini C, Scarpa A, Lawlor RT, Scupoli MT, Marengo E, Cecconi D. Manfredi M, Donadelli M. *Biomolecules* 2020, 10(6), 884: 1-21.
- 15) "Proteomic and ultrastructural analysis of cellulite, new findings on an old topic" Conti G, Zingaretti N, Amuso D, Dai Prè E, Brandi J, Cecconi D. Manfredi M, Marengo E, Boschi F, Riccio M, Amore R, Iorio EL, Busato A, De Francesco F, Riccio V, Parodi PC, Vaienti L, Sbarbati A. *International Journal of Molecular Sciences* 2020, 21(6): 2077.
- 16) "Runx2 stimulates neoangiogenesis through the Runt domain in melanoma" Cecconi D. Brandi J, Manfredi M, Serena M, Carbonare LD, Deiana M, Cheri S, Parolini F, Gandini A, Marchetto G, Innamorati G, Avanzi F, Antoniazzi F, Marengo E, Tiso N, Mottes M, Zipeto D, Valenti MT., *Scientific Reports* 2019 May 29;9(1):8052.
- 17) "Investigating the Proteomic Profile of HT-29 Colon Cancer Cells After *Lactobacillus kefir* SGL 13 Exposure Using the SWATH Method" Brandi J, Di Carlo C, Manfredi M, Federici F, Bazaj A, Rizzi E, Cornaglia G, Manna L, Marengo E, Cecconi D. *J Am Soc Mass Spectrom.* 2019 30(9): 1690-1699.
- 18) "The Anti-Apoptotic Effect of ASC-Exosomes in an In Vitro ALS Model and Their Proteomic Analysis" Bonafede R, Brandi J, Manfredi M, Scambi I, Schiaffino L, Merigo F, Turano E, Bonetti B, Marengo E, Cecconi D. Mariotti R. *Cells.* 2019 Sep 14;8(9):1087. doi: 10.3390/cells8091087.
- 19) "Plasma Proteome Profiles of Stable CAD Patients Stratified According to Total Apo CIII Levels" Manfredi, M., Chiariello, C., Conte, E., Castagna, A., Robotti, E., Gosetti, F., Patrone, M., Martinelli, N., Bassi, A., Cecconi, D. Marengo, E., Olivieri, O., *Proteomics Clin Appl.* 2019: e1800023.

- 20) "Integrated serum proteins and fatty acids analysis for putative biomarker discovery in inflammatory bowel disease" 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., *J Proteomics* 2019 Mar 20; 195: 138-149.
- 21) "Mining cancer biology through bioinformatic analysis of proteomic data" Manfredi M, Brandi J, Di Carlo C, Vita Vanella V, Barberis E, Marengo E, Patrone M, Cecconi D. *Expert Review of Proteomics* 16(9): 733-747
- 22) "Extracellular Vesicles Mediate Mesenchymal Stromal Cell-Dependent Regulation of B Cell PI3K-AKT Signaling Pathway and Actin Cytoskeleton" Adamo A, Brandi J, Caligola S, Delfino P, Bazzoni R, Carusone R, Cecconi D., Giugno R, Manfredi M, Robotti E, Marengo E, Bassi G, Takam Kamga P, Dal Collo G, Gatti A, Mercuri A, Arigoni M, Olivero M, Calogero RA, Krampera M., *Front Immunol.* 2019; 10: 446.
- 23) "Pancreatic cancer stem cells: Perspectives on potential therapeutic approaches of pancreatic ductal adenocarcinoma" Di Carlo, C., Brandi, J., Cecconi, D., *World Journal of Stem Cells* 2018; 10: 172-182.
- 24) "Acute Sarcomeric M-Line Disease Associated with ATP Synthase Subunit α Autoantibodies in Ankylosing Spondylitis" Guglielmi, V., Vattemi, G., Cecconi, D., Fracasso, G., Marini, M., Tomelleri, G., *J Neuropathol Exp Neurol.* 2018 Nov 1;77(11):987-992.
- 25) "Sialylated isoforms of apolipoprotein C-III and plasma lipids in subjects with coronary artery disease" Olivieri O, Chiariello C, Martinelli N, Castagna A, Speziali G, Girelli D, Pizzolo F, Bassi A, Cecconi, D., Robotti, E., Manfredi, M., Conte, E., Marengo, E., *Clin Chem Lab Med.* 2018; 56:1542-1550.
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TEACHING ACTIVITIES

LECTURE-BASED TEACHING ACTIVITIES

Professor of Courses for Bachelor's (CdL) and Master's (CdLM) degree programs

Since 2006, C.D. has been teaching at the University of Verona, initially as a "Cultore della materia" (post-doc), then as a University Researcher (RTI) starting in 2007, and as an Associate Professor since 2017.

Since becoming an Associate Professor, C.D. has taught the following annual hours, including front-line teaching for doctoral programs (according to the annual register): 148 hours (AA 2017/18), 136 hours (AA 2018/19), 101 hours (reduced load due to laboratories carried out online due to the pandemic, AA 2019/20), 120 hours (AA 2020/21), 120 hours (AA 2021/22).

The teaching commitment for the current academic year (see link <https://bit.ly/3K2CXCc>) is 120 hours annually (116 hours for bachelor's/master's programs and 4 hours for doctoral programs).

Lecture-based Teaching in the Last 5 Academic Years::

from AY 2020/21 – to AY 2024/25 (present):

- "Tecniche analitiche di chimica clinica" CdL in Biotechnologie: 6 CFU (5 CFU theory equal to 40 hours + 1 CFU laboratory equal to 12 hours), total 52 h, ssd CHIM/01.
- "Clinical Proteomics" CdLM in Molecular and Medical Biotechnology: 6 CFU (5 CFU theory equal to 40 hours + 1 CFU laboratory for two shifts equal to 24 hours), total 64 h, ssd CHIM/01.

Teaching for Advanced training courses

AY 2015/16 – AY 2016/17:

Coordinator for the "Chemistry" course in the Advanced Training and Professional Development Program for Orthopedic Technicians, organized by the Department of Medicine, University of Verona. The course was worth 2 CFU of theory, total 16 hours, ssd CHIM/01.

Teaching for MUR accredited doctoral courses

Since 2007, C.D. has been a continuous member of the teaching board for ministry-accredited PhD programs. Specifically, since 2007, C.D. has been part of the PhD program in "Industrial and Environmental Molecular Biotechnology" at the University of Verona, which was renamed "Biotechnology" in 2013.

C.D. has regularly conducted front-line teaching activities for this PhD program as a member of the teaching board, organizing lectures on advanced analytical methodologies (electrophoretic, chromatographic, and mass spectrometry) for qualitative and quantitative analysis of protein extracts from complex biomedical matrices.

Detailed teaching hours, as per the annual records, are: 4 hours total (from the academic year 2019/20 to present) and 3 hours total (academic year 2016/17).

SUPPLEMENTARY EDUCATIONAL ACTIVITIES

Supervisor of PhD thesis

- **Since AY 2024/25:** Supervisor of the PhD thesis of Dr. Gloria Gatto. Thesis topics: pancreatic cancer, proteomics, ferroptosis, cuproptosis, mutated p53. PhD in Biotechnology (XL cycle).
- **AY 2020/21-2023/24:** "Identification of Therapeutical Targets and Novel Drug Candidates for Pancreatic Ductal Adenocarcinoma" Dr. Giuliana Siragusa, PhD in Biotechnology (XXXVI cycle), ssd CHIM/01.
- **AY 2017/18-2019/20:** "A multi-omics approach identifies the pivotal role of cardiolipin remodelling, alpha subunit of the mitochondrial trifunctional protein and long chain fatty acids in stem cells of pancreatic cancer" Dr. Claudia Di Carlo, PhD in Biotechnology (XXXIII cycle), ssd CHIM/01.
- **AY 2015/16-2017/18:** "Myristic acid: in vivo evaluation of connection with cardiovascular risk factors and in vitro proteomic investigations of its biochemical effects" Dr. Giulia Speziali, PhD in Biotechnology (XXX cycle), ssd CHIM/01.
- **AY 2012/13-2014/15:** "In-depth characterization of the secretome of pancreatic cancer stem cells by iTRAQ-based shotgun proteomics and identification of potential markers for early diagnosis of pancreatic cancer" Dr. Jessica Brandi, PhD in Industrial and Environmental Molecular Biotechnology (XXVII cycle), ssd CHIM/01.
- **AY 2009/10-2011/12:** "Discovery and quantification of proteins of biological relevance through differential proteomics and biosensing" Dr. Francesco Lonardoni, PhD in Industrial and Environmental Molecular Biotechnology (XXIV cycle), ssd BIO/10.
- **AY 2006/07-2008/09:** "2D-PAGE coupled to mass spectrometry for proteomic analysis of human, microbial and plant samples" Dr. Alberto Milli, PhD in Industrial and Environmental Molecular Biotechnology (XXI cycle), ssd BIO/10.

Supervisor of Bachelor's or Master's degree thesis:

Since the AY 2006/07 to present, CD has been the supervisor of many (>40) theses for the Master's degree courses in Molecular and Medical Biotechnology, Bioinformatics and Medical biotechnology, Industrial and molecular biotechnology, and in Agro-food biotechnology; as well as for the Bachelor's degree in Biotechnology.

PARTICIPATION IN COMMITTEES

Profit exam and degree exam committees

- Since 2006, C.D. has served as Chair of the Committees for examinations in the courses she teaches for both the Bachelor's and Master's degree Courses of Univr (reported in the frontal teaching section).
- Since 2007 C.D. has participated as a member of the committees for final examinations for undergraduate and master's degrees at UniVr, where she coordinates lecture-based teaching activities.
- Currently she is Chair of the profit exam Committee for "Clinical Proteomics" and "Analytical techniques of clinical chemistry" at UniVr, both ssd CHIM/01.

Doctoral Committees

Committees for PhD Admissions at University of Verona

- AY 2024/25: Chair of the Examination Committee for admissions to the PhD program in "Biotechnology" (XL cycle).
- AY 2022/23: Chair of the Examination Committee for admissions to the PhD program in "Biotechnology" (XXXVIII cycle).
- AY 2020/21: Secretary of the Examination Committee for admissions to the PhD in "Biotechnology" (XXXVI cycle).
- AY 2017/18: Member of the Examination Committee for admissions to the PhD in "Biotechnology" (XXXIII cycle).
- AY 2012/13: Member of the Examination Committee for admissions to the PhD in "Industrial and environmental molecular biotechnology" (XXVII cycle).

Evaluation committees for PhD

- Since 2007 she is an internal member of the Commissions for the annual evaluation of PhD theses in Biotechnology at the University of Verona.
- C.D. has also been an evaluator of PhD theses from other universities (e.g. PhD in Chemistry and Biology Uni. Piemonte Orientale).

Committees for competitive procedures (SSD CHIM/01)

- **2023**: Member and Secretary of the Selection Committee for the recruitment of 1 RTD a) in Analytical Chemistry (sector 03/A1, ssd CHIM/01) at the Department of Environmental and Earth Sciences, University of Milan-Bicocca (Code 2022-RTDAPNRR-084/01).
- **2021**: Chair of the Selection Committee for the recruitment of 1 RTD a) in Analytical Chemistry (sector 03/A1, ssd CHIM/01) at the Department of Biotechnology, University of Verona. Action IV.6 "Research Contracts on Green Topics" (Code 2021rtdaPON22).
- **2021**: Chair of the Selection Committee for the recruitment of 1 RTD a) in Analytical Chemistry (sector 03/A1, ssd CHIM/01) at the Department of Biotechnology, University of Verona. Action IV.6 "Research Contracts on Green Topics" (Code 2021rtdaPON07).

EDUCATIONAL ACTIVITIES FOR PUBLIC OUTREACH AND DISSEMINATION OF SCIENTIFIC KNOWLEDGE IN SOCIETY (THIRD MISSION)

- Management of social media channels for communication and scientific dissemination at the Biotechnology Department (Univr):
 - since June 2020 - present: management of the Facebook page (<https://www.facebook.com/dbt.univr>)
 - since February 2022 - present: management of the Twitter profile (<https://twitter.com/dbtunivr>)
- from 2012 to 2015: Participation to the "European Researchers' Night" a Europe-wide public event with the initiative "Venetonight: open laboratories", through the organization of guided visits for school groups and citizens to the Laboratory of Proteomics and Mass Spectrometry, coordinated by C.D.

INSTITUTIONAL ACTIVITIES

From 2018 - to 2024

Member of the Academic Senate as Representative of Associate Professors of the "Science and Engineering" macro-area.

From 2024 - present

Vicar Coordinator of the Doctorate in Molecular, Industrial and Environmental Biotechnology.

From 2021 - present

Member of the Board of Directors of the "Technological Platform Center".

Member of the Communication Commission of the Biotechnology Department.

From 2015 - present

Expert evaluator of the "REPRISE" Register, digital register of independent scientific experts of the MUR, for the scientific evaluation of Italian research.

From 2007 - present

Member of the Department of Biotechnology Council.

Member of the Teaching Board of the PhD in Biotechnology.

Member of Teaching Boards (BD in Biotechnology, MD in Molecular and Medical Biotechnology).

2013 - 2017

Member of the "Joint Teacher-Student Commission" of the Department of Biotechnology (BD in Biotechnology, BD in Viticultural and Enological Sciences and Technologies, MD in Agri-Food Biotechnology, MD in Bioinformatics and Medical Biotechnology).

2009 - 2012

Member of the "Department of Biotechnology Board (Giunta)" as a Researcher Representative.

2008 - 2010

Member of the "Student Practices Teaching Commission" (BD in Biotechnology, MD in Agri-Food Biotechnology).

2004 - 2017

Referent of the "University Technology Platforms Center" for the nanoHPLC-Chip/ion trap MS Mass Spectrometer.

Verona, August 2024



Daniela Cecconi