

## PERSONAL INFORMATION



## RAFFAELLA COLOMBO

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Sex Female | Date of birth 17/07/1979 | Nationality Italian

## WORK EXPERIENCE

- |                                    |   |
|------------------------------------|---|
| December 2010-current              | <b>Researcher</b> , Univ. of Pavia, DDS<br>Laboratory of Nutraceutical and Food Chemical Toxicological Analysis   |
| 2011/2012-current                  | <b>Assistant Professor</b> , Univ. of Pavia, DDS  |
| February 2023<br>2023/2024-current | <b>National scientific habilitation (ASN)</b> for Associate Professor position<br><b>Teaching</b> to Compounds with healthy and toxic action in food (Pharmacy)<br>Univ. of Pavia, School of Pharmacy |
| 2020/2021-current                  | <b>Teaching</b> to Dietetic Products (Galeno and Ippocrate groups)<br>Univ. of Pavia, School of Pharmacy  |
| 2014/2015-current                  | <b>Teaching</b> to Quantitative Drug Analysis, Pharmaceutical Analysis 2 (Galeno group)<br>Univ. of Pavia, School of Pharmacy   |
| 2011/2012-2021/2022                | <b>Teaching</b> to Practical training in Pharmaceutical Analysis 2 (Galeno group)<br>Univ. of Pavia, School of Pharmacy   |
| 2013/2014                          | <b>Teaching</b> to Advanced Technologies in Drug Analysis<br>Univ. of Pavia, School of Medical and Pharmaceutical Biotechnologies   |
| 2011/2012-2013/2014                | <b>Teaching</b> to Practical training in Pharmaceutical Analysis<br>Univ. of Pavia, School of Medical and Pharmaceutical Biotechnologies  |

## EDUCATION AND TRAINING

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|-------------------------|---|
| 2009-2010               | <b>Post-doctoral fellow</b> , Univ. of Pavia, DDS and CNR (Institute of Chemistry of Molecular Recognition-ICRM), Milan<br>Project: "Affinity Screening drug-receptor by microcantilevers"    |
| 2008-2009               | <b>Post-doctoral fellow</b> , Univ. of Pavia, DDS<br>Project: "Small molecules and amyloidogenic proteins: interaction studies by using separative analytical techniques"                     |
| 2009                    | <b>Expert</b> (CHIM/08) in exams of Schools of: Pharmaceutical Chemistry and Technology, Pharmacy and Biotechnology   |
| 2005-2008               | <b>PhD student</b> in Pharmaceutical Chemistry and Technology, Univ. of Pavia, DDS<br>Project: "Amyloidogenic proteins and Capillary Electrophoresis: from folding to small molecule binding" |
| 2005                    | <b>Qualified Pharmacist</b>   |
| February-September 2005 | <b>Scholarship</b> , Univ. of Pavia, DDS<br>Project: "Amyloidogenic proteins and potential pharmaceutical ligands"  |
| 1998-2004               | <b>Master degree</b> in Pharmaceutical Chemistry and Technology, Univ. of Pavia, DDS.<br>Final grade: 110/110 cum laude   |

1993-1998 **High School** B. Cairoli, Vigevano (Pavia). Classical education.  
Final grade: 60/60

## PERSONAL SKILLS

Mother tongue Italian

Other language	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Intermediate	Intermediate	Good	Good	Intermediate

### Work-related skills (research topics and activities)

- Analytical techniques: Liquid Chromatography (LC)-UV/Mass Spectrometry (MS) in the characterization of compounds obtained from natural products, food, food supplements and food by-products;
- advanced in vitro technologies: cell-based millifluidic systems as platforms for screening and testing the bioaccessibility/bioactivity of different molecules (food components/molecules/toxins/by-products, and drugs).
- analytical techniques: Capillary Electrophoresis (CE)-UV/MS, LC-UV/MS) to study amyloidogenic proteins (protein conformers and oligomeric species) in different diseases (as for example Dialysis Related Amyloidosis and Alzheimer's Disease);
- analytical techniques in affinity studies: Affinity-CE (ACE), Ultrafiltration-CE (UF-CE), MS, Surface Plasmon Resonance (SPR), Microcantilevers (MCs) to identify small molecules able to interfere in protein/peptide misfolding and aggregation processes;
- CE-UV for clinical monitoring;
- CE-UV and LC-UV/MS in the quality control of biotechnological products

### Organisational/managerial skills

- June 2019: **member** of the Organizing Committees of the Global Conference on Nursing & Nutrition, Roma, Italy
- September 2011: **member** of the Organizing Committees of the 16th Summer School on Pharmaceutical Analysis (SSPA 2011) and of the 14th International Meeting on Recent Developments in Pharmaceutical Analysis (RDPA 2011), Pavia, Italy

### Other skills

Team working ability, team coordination ability, crowdfunding organization

### Editorial activity

- 2017-current: **Reviewer** for Foods, Food Research International, Antioxidants, Molecules, Chirality
- January 2021-May 2022: **Guest editor** of Molecules (ISSN 1420-3049), peer-reviewed open access review. Special issue: "Advanced Methodologies to Test Bioactive Compounds in Drug Discovery and in Food/Natural Products-Natural Products Chemistry".

## Publications

- Number of works in peer-review journals and books: **56**  
H-index: **18**; Number of citations: **833**  
<https://www.scopus.com/authid/detail.uri?authorId=26632925700>

Author ID: 26632925700;

ORCID: <https://orcid.org/0000-0001-9675-6598>

## Patents

- Number of patent: 1 (Italian patent n. 1387037, Milan, Italy, 25th March 2011)  
Colombo R., De Lorenzi E., Carotti A., Catto M., Racchi M., Lanni C., Verga L., Caccialanza G., "Derivati antracenedionici e aza-antracenedionici come agenti capaci di inibire l'aggregazione di peptidi beta amiloidi"

Presentations and  
Conferences  
(last years)

- September 2023: oral: "A new millifluidic-based gastrointestinal model to study bioaccessibility and cytotoxicity of bioactive compounds". RDP A 2023, Novara, Italy;
- May 2023: oral: A new millifluidic-based gastrointestinal platform to study antiglycative agents against toxic molecules. CHIMALI 2023, Marsala, Italy;
- May 2023: oral: "Scarti della filiera agro-alimentare come fonte di antiaging (antiossidanti e antiglicanti)". SIME 2023, Roma, Italy;
- January 2022 and 2023: oral: "Importanza dei controlli di qualità sulla sicurezza degli integratori alimentari". Convegno Satellite SINut, Argomenti di Nutraceutica, Pavia, Italy;
- December 2019: oral: "Advanced methodologies in the bioaccessibility and bioavailability of food bioactives". 11th Workshop on 3D advanced in-vitro Models, Pisa, Italy;
- June 2019: oral: "Organs in a box: a cure for us, a life for him": A project of the crowdfunding platform of the University of Pavia, Italy". Global Conference on Nursing & Nutrition, Roma, Italy;
- June 2019: oral: "A new in vitro gastrointestinal system to evaluate the effect of exogenous molecules". Convegno 2nd Centro 3Rs annual meeting, Genova, Italy

## Projects

- 2019-2023: Cariplo Project n. 2019-2152: "Gaining health and energy from Lombard agrifood waste (GHELF);
- December 2020-December 2022: Project: "Nuovi approcci metodologici nella ricerca dei metaboliti del glifosato in matrici di origine vegetale e a basso contenuto di acqua e lipidi (cereali e derivati)", IZS SI 15/20 RC. Istituto Zooprofilattico Sperimentale della Sicilia, Palermo and Università degli studi di Modena e Reggio Emilia, Italy;
- March 2019-February 2021: Project: "Sviluppo di un sistema di bioreattori per lo studio del metabolismo dell'etanolo", LAV Onlus, Italy;
- 2018-2020: Crowdfunding Project: "Organs in a box, a cure for us, a life for him", Univ. of Pavia;
- 2015-2016: Interlaboratory Project U.K. government, Department for Business, Energy & Industrial Strategy-BEIS; Grant BB/P024092 U.K. Biotechnology and Biological Sciences, Research Council to B. A. Wallace;
- 2011: Regione Lombardia Project: "Dalla scienza dei materiali allo sviluppo di nuovi dispositivi per la diagnosi e la cura di patologie associate all'invecchiamento";
- 2009: Regione Lombardia Project: "Dalla scienza dei materiali alla biomedicina molecolare";
- 2009: European Grant NASPE (Research for SMEs, Grant 222023);
- 2009: PRIN area 03 project 2009Z8YTYC\_001, "Advanced analytical methodologies in drug and health care product discovery";
- 2007: PRIN area 03 project 20079SLZMC\_001, "Advanced analytical methodologies in drug discovery"

## Memberships

- 2021-current: **member** of Teaching board of Master Course “Nutraceutici e integratori alimentari: dalla materia prima al marketing e loro impiego in clinica-NUTRIALIA”, Univ. of Pavia;
- 2019-current: **member** of Research Commission, Univ. of Pavia;
- 2018-current: **member** of Teaching board of Master Course “Esperto in Chimica Analitica per l’Industria Farmaceutica-ECAIF”, Univ. of Pavia;
- 2013-current: **member** of COR (Orientamento Universitario), Univ. of Pavia;
- 2017-2020: **member** of Parithetic Commission for the student’s tutoring service, Univ. of Pavia

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Pavia, 14<sup>th</sup> May 2024

Raffaella Colombo