

## **CURRICULUM VITAE Andrea Speltini**

### **PERSONAL INFORMATION**



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| <i>Name</i>        | Andrea  |
| <i>Surname</i>     | Speltini  |
| <i>Affiliation</i> | Department of Chemistry, University of Pavia                  |
| <i>Address</i>     | via Taramelli 12 – 27100 Pavia (Italy)                        |
| <i>Telephone</i>   | +39 0382 987350   |
| <i>E-mail</i>      | andrea.speltini@unipv.it                                      |
| <i>Web site</i>    | <a href="https://traces.unipv.it">https://traces.unipv.it</a> |

### **EDUCATION and RESEARCH & PROFESSIONAL EXPERIENCE**

#### **1998 - 2003**

High school: Liceo Scientifico – Tecnologico  
Maserati Institute, Voghera, Italy

#### **2003 - 2006**

Bachelor's Degree: Tecnologie Chimiche per l'Ambiente e le Risorse  
*Title of the thesis:* Validazione interna di un metodo analitico HPLC di anestetici: Bupivacaina e Ropivacaina  
*Supervisor:* Prof. Antonella Profumo  
*Laboratory:* Clinical Pharmacokinetics and Therapeutic Monitoring – Department of Pharmacology (IRCCS Policlinico "San Matteo" of Pavia, Italy)

#### **2006 - 2008**

Master's Degree: Chemistry  
*Title of the thesis:* Sviluppo di un metodo per la determinazione di fluorochinoloni di uso veterinario in acque naturali e studio della loro fotodegradazione  
*Supervisor:* Prof. Antonella Profumo  
*Final mark:* 110/110  
*Laboratory:* Analytical Chemistry – Department of General Chemistry (University of Pavia, Italy)

#### **2008 - 2011**

Doctorate (Ph.D.): Scienze Chimiche  
*Title of the thesis:* Multi-walled carbon nanotubes: purification, functionalization and analytical application as stationary phases for chromatographic separations  
*Supervisor:* Prof. Antonella Profumo  
*Laboratory:* Analytical Chemistry – Department of Chemistry (University of Pavia, Italy)

#### **2011 - 2018**

Post-doc Research Fellow  
*Supervisor:* Prof. Antonella Profumo  
*Laboratory:* Analytical Chemistry – Department of Chemistry (University of Pavia, Italy)

#### **01/07/2018 - 31/12/2021**

Assistant Professor (RTD A)  
Department of Drug Sciences and Department of Chemistry (University of Pavia, Italy)

#### **01/01/2022 - present**

Associate Professor – CHEM-01/A - Chimica analitica  
Department of Chemistry (University of Pavia, Italy)

## FOREIGN LANGUAGES

- English: Trinity certification – Grade 10 (Spoken English for Speakers of Other Languages) Trinity College Institute, London (UK), **2003**
- French: basic knowledge

## INFORMATIC SKILLS

ECDL (European Computer Driving Licence), **2002**

## ATTENDED SCHOOLS

National School of Analytical Chemistry for Ph.D students (organized by SCI)  
Rome (Italy), 27 September-1 October **2010**

## ANALYTICAL TECHNICAL SKILLS

- Solid-phase extraction (SPE), Dispersive and Magnetic solid-phase extraction (d-SPE, MSPE), Thin-film microextraction (TF-ME), Microwave-assisted extraction (MAE)
- Chromatography: HPLC-FD, HPLC-UV, HPLC-ESI-MS, GC-FID, GC-ECD, GC-TCD

## DIDACTIC ASSIGNMENTS

Didactic seminars and assistance in the frame of the following courses:

- Chimica Analitica degli Inquinanti, **2009**
- Metodologie Analitiche per Matrici Complesse, **2010**
- Chimica dell'Ambiente, **2011**
- Lab. Chimica Analitica III, **2011, 2014-16**
- Chimica Analitica Ambientale, **2012**

Tutoring/teaching:

- Lab. Chimica Analitica Ambientale, **2010**
- Progetto Lauree Scientifiche (PLS), **2009-19**
- International Chemistry Olympiad (IChO), **since 2015**
- Lab. integrato B (Chimica Fisica II), **2018-19**
- Lab. Chimica Analitica III, **2008-22**
- Lab. Chimica dei Materiali, **2020**

Thesis Correlator (31), since **2010**

Thesis Supervisor (5), since **2021**

Ph.D. thesis Supervisor (2), since **2022**

Thesis outside examiner (12), since **2019**

**2018-present**, Professor in charge of the course "Fondamenti di Chimica Analitica", Pharmacy Master's degree, University of Pavia

## OFFICIAL ASSIGNMENTS

- Member of the Tutoring Commission ("Commissione Tutorato") of the Department of Drug Sciences, University of Pavia (since **2021**)
- Member of the Chemistry Commission of Almo Collegio Borromeo, Pavia (since **2021**)

## RESEARCH PROFILE

- Preparation of GC and HPLC stationary phases based on multi-walled carbon nanotubes and evaluation of their functionalization for selectivity tuning and resolution improvement
- Preparation of sorbent phases based on carbon nanotubes, graphene, graphitic carbon nitride, pyrolyzed biomasses, waste-derived carbon dots and molecularly imprinted polymers for extraction, preconcentration and clean-up in environmental, food and biological samples
- Development of analytical methods for trace determination of emerging pollutants such as perfluoroalkyl compounds, benzenesulfonamides, benzo-triazoles/thiazoles, algal and cyano- toxins, fluoroquinolones, steroid hormones, and antihypertensive drugs in environmental matrices
- Development and validation of analytical methods based on chromatographic techniques for trace determination of organic compounds in complex matrices
- Photocatalysis for green hydrogen gas production by water splitting and photoreforming in presence of sacrificial biomasses with traditional and innovative catalysts, e.g. titanium dioxide, graphitic carbon nitride, perovskites, carbon dots, and their composites

## SCIENTIFIC COLLABORATIONS

- Prof. Calleri, Department of Drug Sciences, University of Pavia (Italy)
- Prof. Ferretti, Department of Chemistry and Industrial Chemistry, University of Genoa (Italy)
- Prof. Anticò, Department of Chemistry, Universitat de Girona (Spain)

## GRANTS

- CE4WE (Circular Economy for Water and Energy), ID 1139857, Call "Hub Ricerca e Innovazione" (2020) – Permanent staff member
- PRIN 2022 Prot. 2022HXZ3BK "Waste biomass valorisation for green H<sub>2</sub> production by application of new TiO<sub>2</sub>-Carbon Dots photocatalysts supported on magnetic zeolites obtained from industrial wastes" – Principal investigator
- PRIN 2022 PNRR Prot. P20223HSWX "A bio-inspired chemical approach for agro-industrial waste valorization (BEAGLE)" – Permanent staff member

## SCIENTIFIC PRODUCTION and BIBLIOMETRIC INDICATORS

- Scientific publications: 85 (38 papers co-authored as corresponding author)
  - Contributions in congresses: 97 (14 oral communications as the presenting author)
  - Orcid ID: 0000-0002-6924-7170
  - Scopus Author ID: 35737944000
  - Total citations (Scopus source): 2938
  - H-index (Scopus source): 32
- National scientific qualification as Associate Professor: "**Abilitazione Scientifica Nazionale (ASN) - II fascia**, BANDO D.D. 1532/2016, settore concorsuale 03/A1, **SSD CHIM/01**" (12-04-2017)

## AWARDS

EUROANALYSIS XVI: Poster Prize awarded for excellent presentation of particularly significant innovative analytical research (2011)

## **EDITORIAL ACTIVITY**

- Guest Editor for *International Journal of Photoenergy*, Special issue: Heterogeneous Photochemistry: Solar Energy Conversion and Environmental Remediation (**2016**)
- Guest Editor for *Catalysts*, Special issue: Towards Green, Enhanced Photocatalysts for Hydrogen Evolution (**2020**)
- Guest Editor for *Catalysts*, Special issue: Photocatalysis and Renewable Materials (**2021-24**)
- Guest Editor for *Frontiers in Environmental Chemistry*, Special issue: New Smart Analytical Methods for Monitoring Organic Contaminants in the Environment (**2022**)
- Editorial Board Member of *International Journal of Environmental Research and Public Health*, section "Environmental Sciences" (since **2020**)
- Editorial Board Member of *Catalysts*, section "Photocatalysis" (since **2020**)
- Associate editor of *Frontiers in Environmental Chemistry* (since **2022**)

## **REVIEW ACTIVITY**

Referee for international scientific journals:

Analytical and Bioanalytical Chemistry,  
Analytica Chimica Acta,  
Arabian Journal of Chemistry,  
Analytical Methods,  
Analytical Chemistry,  
Applied Catalysis B: Environmental,  
ACS Applied Materials & Interfaces,  
Applied and Environmental Soil Science,  
Bioanalysis,  
Chemical Engineering Journal,  
Chemosphere,  
Chemical Physics Letters,  
Chirality,  
Chromatographia,  
Desalination and water treatment,  
Ecotoxicology and Environmental Safety,  
Environmental Technology,  
Environmental Science and Technology,  
Environments,  
Food Chemistry,  
Fuel,  
International Journal of Environmental Analytical Chemistry,  
International Journal of Environmental Research and Public Health,  
International Journal of Hydrogen Energy,  
Industrial Engineering Chemistry Research,  
International Journal of Analytical Chemistry,  
Journal of Physics and Chemistry of Solids,  
Journal of Chromatographic Science,  
Journal of Chromatography A,  
Journal of Food Composition and Analysis,  
Journal of Chemistry, Journal of Pharmaceutical and Biomedical Analysis,  
Microchimica Acta,  
Nano,  
Photochemical & Photobiological Sciences,  
Journal of Separation Science,  
Sensors & Actuators: B. Chemical,  
Separation Science Plus,

Science of the Total Environment,  
Talanta,  
Trends in Environmental Analytical Chemistry,  
Water Research.

### **PROJECT EVALUATOR**

- Rational design and preparation of thermo-sensitive hydrogels for the capture and preconcentration of pesticides from aqueous matrices, project N° 1240126, 2024 Regular Fondecyt National Projects Competition (Chile)

### **MEMBERSHIP OF SCIENTIFIC SOCIETIES**

- Italian Chemistry Society (SCI), Analytical Chemistry division, and interdivisional group of Separation Science
- European Chemistry Society-Analytical Chemistry division (EuChemS-DAC), Sample Preparation network/Green Sample Preparation working group

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

Pavia, 23-5-2024  
*Andrea Speltini*