

**EUROPEAN
CURRICULUM VITAE
FORMAT**



PERSONAL INFORMATION

Name	ALESSANDRO ULRICI
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E-mail	alessandro.ulrici@unimore.it
Nationality	Italian
Date of Birth	September 6th, 1971
Gender	Male

ACADEMIC POSITION

December 2023 - now	Full Professor of Analytical Chemistry, SSD CHIM/01
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PROFESSIONAL EXPERIENCE

November 2010- December 2023	Associate Professor, SSD CHIM/01 - Analytical Chemistry Dipartimento Scienze della Vita, Università degli Studi di Modena e Reggio Emilia
December 2017	National Scientific Qualification as Full Professor, SC 03/A1 Analytical Chemistry
August 2001- October 2010	University Researcher, SSD CHIM/01 - Analytical Chemistry Dipartimento di Scienze Agrarie e degli Alimenti - Facoltà di Agraria, Università degli Studi di Modena e Reggio Emilia

EDUCATION AND TRAINING

January 2001	PhD in Chemical Science, University of Modena and Reggio Emilia
July 1997	Master Degree in Chemistry with full marks (110/110), University of Modena and Reggio Emilia

**ORGANIZATIONAL SKILLS AND
COMPETENCES**

November 2021 – now	Vice-Director of the Department of Life Sciences – UNIMORE
November 2017 – October 2023	Coordinator of the PhD Course in Food and agricultural science, technology and biotechnology - UNIMORE
February 2020 - now	Member of the Commission for Student Services - UNIMORE
March 2022 – now	Member of the Research Commission and of the Safety Commission - Department of Life Sciences - UNIMORE
November 2014 – November 2021	Supervisor of website and communication – Department of Life Sciences - UNIMORE
November 2014 – November 2021	Member of the Quality Assurance Management Group – M.Sc. Program in Food Safety and Control - Department of Life Sciences - UNIMORE
May 2005 – October 2010	Member of the Board of Governors of the University of Modena and Reggio Emilia as representative of University Researchers

RESEARCH ACTIVITY

Summary	<p>The research activity, mainly devoted to Chemometrics and Analytical Chemistry for the study of complex matrices, spans different research areas, which can be summarised as follows:</p> <ol style="list-style-type: none">1. development and application of fast and non-destructive analytical techniques based on chemometric approaches for control, characterisation and visualisation of raw materials and of finite products;2. elaboration of original algorithms for analysis of signals and images, feature selection, and visualisation of complex systems;3. product optimization by means of Design of Experiments (DoE)
Bibliometric indicators (last updated: January 15, 2024)	<p>Scopus (Author ID 57214706643): h-index 35, Documents 123, citations 2887 Google Scholar: h-index 40, Documents 228, citations 3805</p>

TEACHING ACTIVITY

Summary	<p>The teaching activity has been carried out continuously from the academic year 2001-2002, mainly for courses of the SSD CHIM/01 - Analytical Chemistry, for the degree courses in Food control and safety, Agricultural and food sciences and technologies, Transformation and enhancement of products of animal origin, Viticulture and enology, Agricultural sciences and technologies. Since 2009 he is also involved in the teaching activities of the PhD program in Food and agricultural science, technology and biotechnology. Supervisor / co-supervisor of more than 50 B.Sc. and M.Sc. theses, of 8 PhD Theses, of 5 post-doc researchers, and scientific manager of one fixed-term researcher (RTDa SSD CHIM/01 – Analytical Chemistry, DM 1062 of 10.08.2021 - Action IV.6 - Research contracts on Green topics). Member of the Teaching Board of the PhD program in Food and agricultural science, technology and biotechnology since January 2003.</p>
Current teaching activities (academic year 2023-2024)	<ul style="list-style-type: none">• Fundamentals of Analytical Chemistry- B.Sc. program “Food and agricultural science and technology”• Elaboration of Experimental Data- B.Sc. program “Food and agricultural science and technology”• Chemometrics for Food Control – M.Sc. program “Food safety and control”• Applications of Multivariate Analysis in the Agri-Food Context – PhD program “Food and agricultural science, technology and biotechnology”

RESEARCH GROUP LEADERSHIP

Principal Investigator of the CHIMSLAB research group (CHemometrics, IMaging and Spectroscopy LAB, www.chimslab.unimore.it), active at the Department of Life Sciences (UNIMORE) and at the Interdepartmental Center BIOGEST-SITEIA (UNIMORE). The CHIMSLAB group actively collaborates with various research groups and public and private institutions at national and international level, as evidenced by the scientific publications, the scientific responsibility of various research projects, as well as the many collaborations in other projects.

RESPONSIBILITY FOR COMPETITIVE FUNDING PROJECTS

October 2019 – April 2023	Scientific Representative of the research project "Technological innovation for an efficient harvest forecast - VITEVEN" funded by the Emilia-Romagna Region as part of the Rural Development Program 2014-2020 - Focus Area 3A - Call 2019
January 2018 - December 2019	UNIMORE FAR 2017 DSV departmental projects "Development and application of a stand-alone software with graphic interface for the evaluation of the colour of food by means of multivariate analysis of RGB images"
November 2007 – May 2010	Coordinator of the competitive project n. 1160 funded as part of the 2007-2009 Agricultural Research Program - Lombardia Region (Legislative Decree no. 5214 of 02/08/2007). Project entitled "Development of rapid and AUTOMatized methods of differentiated STORAGE for the enhancement of the technological quality of Lombard production of soft wheat - AUTOSTOC"
January 2006 – March 2008	PRIN 2005 - Scientific Responsible of UniMORE RU for the project: "Study of protein-protein and protein-polysaccharide interactions in unconventional doughs". Specific title of the RU program:

- January 2002 – October 2003 "Application of innovative chemometric methods of experimental design and multivariate analysis of signals and images for the characterization and optimization of unconventional mixtures"
MURST "Young Researchers Project 2001", project title: "Development of algorithms based on the Wavelet Transform for the creation of calibration models".
- November 1999 – October 2001 MURST "Young Researchers Project 1999", project title: "Signal analysis. Development of new blind analysis algorithms for the classification of complex food matrices"

PARTICIPATION TO COMPETITIVE FUNDING PROJECTS

- November 2022 – April 2025 NextGenerationEU Project - DD. 3264/2021, PNRR Mission 4, "Istruzione e Ricerca" – Component 2, "Dalla ricerca all'impresa" – Investment line 3.1, "Fondo per la realizzazione di un sistema integrato di infrastrutture di ricerca e innovazione", title "Strengthening the MIRRI Italian Research Infrastructure for Sustainable Bioscience and Bioeconomy - SUS-MIRRI.IT".
- February 2021 - January 2024 European Project ERA-NET COFUND ICT-AGRI-FOOD "HALYomorpha halys IDentification: Innovative ICT tools for targeted monitoring and sustainable management of the brown marmorated stink bug and other pests - HALY.ID"
- October 2020 - December 2023 MISE project "REDuce REUse Ceramic Tiles - REDIRECT"
- January 2020 - December 2023 MISE project "Internet of Enterprise Sustainable MANufacturing - IESMAN"
- August 2019 - March 2022 UNIMORE FAR 2019 Interdisciplinary projects "Luminescence for neoplastic alteration fast detection in skin (Lumina)"
- June 2016 – May 2018 POR-FESR 2014-2020 Emilia Romagna Region, project "Regional microbial collections: biodiversity at the service of the agri-food industry - MICROEMIRO" (<http://www.microemiro.it/>)
- April 2016 – May 2018 POR-FESR 2014-2020 Emilia Romagna Region, project "Valorization of organic waste by means of insects to obtain biomaterials for agricultural uses - VALORIBIO" (<http://www.valoribio.eu/>)
- April 2016 – May 2018 POR-FESR 2014-2020 Emilia Romagna Region, project "Sustainability and innovation in the wine industry - SOSTINNOVI" (<http://www.sostinnovi.eu>)
- October 2015 – March 2017 POR-FESR 2014-2020 Emilia Romagna Region, project "New spectrometric system for the identification of objects with multiple selection for the recycling of plastic waste - RICIELA"
- February 2012 – December 2013 Research project funded by the Pietro Manodori Foundation "Relations between the chemical-physical characteristics of fat deposits in pig carcasses and development of innovative methods for evaluating PDO hams using NIR spectroscopy"
- June 2010 – November 2013 European VII Framework Program - Collaborative Project "Drugs And PreCURsor Sensing By ComplemenTing Low COst Multiple Techniques - CUSTOM" Project ID: 242387
- November 2005 – April 2007 Industrial Research Project funded by Fondazione Cassa di Risparmio di Modena "Development of methods for diagnosing the behaviour of Italian flours in the production of industrial bread"
- September 2005 – October 2007 Agricultural research program 2004-2006 - Lombardia Region "Enhancement of the technological and fodder-zootechnical quality of the Lombard production of straw cereals, through varietal innovation, the improvement of cultivation systems and the differentiated storage of grain - CEREALOMB"
- November 2004 – December 2006 PRIN 2004 MIUR "Design, characterization and analytical applications of innovative electrochemical sensors"
- November 2004 – October 2007 Emilia Romagna Region, project "Research on defects in Parma ham"
- January 2003 – December 2005 CILEA-Italy-Spain joint project "Development of new electrochemical sensors and application of new chemometric algorithms to the treatment of analytical signals"
- December 2002 – January 2005 PRIN 2002 MIUR "Study of the effects of low and very low oxygen partial pressures on the sensory and microbiological quality of food"
- October 2002 – March 2004 Industrial Research Project funded by Fondazione Cassa di Risparmio di Modena "Use of combined factors in the stabilization of products with controlled water activity: hygienic-sanitary aspects and product shelf life"

SCIENTIFIC REPRESENTATIVE OF RESEARCH CONTRACTS

- March 2022 – now Contract between UNIMORE and Chocoladefabriken Lindt & Sprüngli AG (Switzerland) for consulting on the application of experimental design techniques and multivariate data analysis for the optimization of industrial processes
- January 2023 – March 2023 Contract between UNIMORE and Nutristar S.p.A. to train employees in order to the main chemometric methods for data analysis

October 2022 – April 2023	Contract between UNIMORE and Acetyca S.r.l. for carrying research on "Evaluation of the possibility of monitoring alcoholic and acetic fermentation in red wine vinegars by near-infrared (NIR) spectroscopy"
September 2018 – December 2019	Three contracts between UNIMORE and Parmigiano Reggiano Cheese Consortium for carrying out research on "Quantification of the percentage of rind in grated Parmigiano Reggiano by analysing hyperspectral images in the near infrared range"
September 2016 – March 2017	Contract between UNIMORE and MUSA S.r.l. for carrying out research on "Study and development of image processing algorithms for the recycling of plastic waste"
April 2015 – March 2016	Contract between UNIMORE and the companies Freeray S.r.l and Fornasier Tiziano & C. S.a.s. entitled "Development of algorithms for the detection of corn defects through automated analysis of digital images"
April 2014 – September 2014	Contract between UNIMORE and MUSA S.r.l. for carrying out research on the "Determination of characteristic wavelengths for the discrimination of recycled plastic materials"
June 2013 – December 2013	Contract between UNIMORE and Buhler AG (Switzerland), for carrying out the research on "Study of the dependence of rheological properties of flour on the composition of wheat mixtures"
May 2005 – May 2012	Seven annual research contracts (2005-2012) between UNIMORE and the East Balt Italia S.r.l. and Molino Quaglia S.p.A. for research on "Study of methods for monitoring the quality of flour and derived bakery products, and analysis of the relationships between chemical and technological variables of Italian wheat flour mixtures and properties of the obtained products"
July 2002 – March 2003	Contract between UNIMORE and AIMAG S.p.A. for carrying out research on "Optimization of test methods suitable for the chemical determination of the heavy metal content of soil improvers obtained from the composting process of organic waste from separate collection"

PATENTS

Italian patent n. 102018000004498 granted on 30/04/2020; application filed on 13/4/2018 entitled "Apparatus and method for determining physical and chemical parameters of an inhomogeneous sample through the acquisition and processing of colour images of the sample"

SCIENTIFIC AWARDS

May 2022	Supervisor of the master's thesis winner of the AgrolInnovation Award 2021 given by Image Line in collaboration with the Accademia dei Georgofili for the best thesis in the category "Sustainability of agroecosystems and environmental protection"; title of Dr. Veronica Ferrari's thesis: "Preliminary study of the use of techniques based on near-infrared hyperspectral imaging for field monitoring of <i>Halyomorpha halys</i> ."
October 2021	Best Poster Award: 20th International Conference on Near Infrared Spectroscopy, online event; title "Monitoring of insect pests in crop fields using spectral imaging".
December 2016	Highly cited paper award - Chemometrics and Intelligent Laboratory Systems. Article: A. Ulrici, S. Serranti, C. Ferrari, D. Cesare, G. Foca, G. Bonifazi, Efficient chemometric strategies for PET – PLA discrimination in recycling plants using hyperspectral imaging, Chemometrics and Intelligent Laboratory Systems, 2013, 122, 31-39, DOI: 10.1016 / j.chemolab.2013.01.001
October 2016	Award for best oral presentation, NIR Italia 2016 - 7th Italian Symposium of NIR Spectroscopy, Milan. Title of the oral communication: "From hyperspectral imaging to multispectral imaging: identification of the spectral channels useful for the construction of high performance NIR multispectral systems"
June 2016	Invited contribution, Topical Collection "Chemical Sensing Systems": R. Calvini, G. Foca, A. Ulrici*, Data dimensionality reduction and data fusion for fast characterization of green coffee samples using hyperspectral sensors, Analytical and Bioanalytical Chemistry, 2016, 408 (26), 7351-7366, DOI: 10.1007 / s00216-016-9713-7 (the cover image of the issue was taken from the article)
May 2014	Best Poster Award: 6° Simposio Italiano di Spettroscopia nel Vicino Infrarosso, Modena, title "Application of the FT-NIR spectroscopy for fatty acids and iodine value determination on pig fat samples extracted from different subcutaneous layers"
June 2009	Best Poster Award: 11 th Scandinavian Symposium on Chemometrics - SSC11, Loen (Norway), title "Wheat Flour formulation by Mixture Design and study of its properties and performance".
June 2004	Best Poster Award: NIRS-Italia 04 – Simposio Italiano di Spettroscopia nel Vicino Infrarosso, title "Application of NIR spectroscopy multivariate calibration to the quantification of durum wheat semolina adulteration with bread wheat flour".

BOARD OF SCIENTIFIC SOCIETIES

May 2018 – June 2022 Member of the Board of the Italian Society of Near Infrared Spectroscopy (www.sisnir.org)

ORGANISATION OF SCIENTIFIC MEETINGS AND SCHOOLS

June 2022 Member of the Scientific Committee of the National Symposium of NIR Spectroscopy NIR Italia 2022, Izola (Slovenia)

February 2021 Member of the Scientific Committee of the National Symposium of NIR Spectroscopy NIR Italia online

January 2019 Member of the Organizing Committee of the Winter School - Combining NIR Spectroscopy and Chemometrics, organized by the Italian Society of NIR Spectroscopy, Milan

September 2017 Member of the Scientific Committee and of the Organizing Committee of the Summer School on Image Analysis and Hyperspectral Imaging, organized by the Italian Society of NIR Spectroscopy, Rome

May 2014 Member of the Organizing Committee of the 6th Italian Symposium of Near Infrared Spectroscopy NIR Italia 2014, Modena

March 2009 Organization as Scientific Coordinator of the presentation day of the AUTOSTOC project at the Associazione Granaria di Milano, Milan

December 2005 Member of the Organizing Committee of the III AISSA annual conference entitled "The water planet in the agricultural continent", Reggio Emilia

INVITED ORAL COMMUNICATIONS

December 2019 A smartphone-based device for pigments detection by image analysis, Workshop "From Molecules to Devices" organized by the Department of Chemistry, Life Sciences and Environmental Sustainability, University of Parma

May 2019 "Device for detecting phenolic ripening of grapes based on smartphone and image analysis," InnovAgorà, Leonardo Da Vinci National Museum of Science and Technology, Milan

November 2018 Evaluating the phenolic ripeness of grapes using a smartphone, Symposium "Lambrusco and Parmigiano Reggiano: 4.0 Technologies for the digital innovation of products and processes", Reggio Emilia Chamber of Commerce

June 2018 Food characterization by multivariate image analysis, Workshop "Microscopy and Imaging in food and nutraceuticals", University of Urbino

October 2013 Advanced RGB and hyperspectral image processing systems for food quality control, Symposium "mcT Alimentare Verona - Traceability, efficiency and quality in the food supply chain", Verona

May 2013 Effective management of large datasets of hyperspectral images: how to analyse many samples without losing useful information, "Hyperspectral Imaging Workshop" ITIA CNR, Milan

September 2012 A feature selection strategy for the analysis of spectra from a photoacoustic sensing system, SPIE - Security + Defense 2012, Edinburgh, UK

May 2012 Multivariate Techniques for Elaboration of Signals and Images, invited Seminar, ISOF-CNR, Bologna

October 2011 Fast and non-destructive techniques for the online control of food products, Conference "Industrial research and technology transfer to support food businesses to improve quality and reduce costs" organized by the Agri-food Platform of the Emilia-Romagna High Technology Network, Parma

September 2009 Multivariate image analysis and image feature selection in WT domain considering both cases where spatial location of relevant features matters or not, "International Workshop on Multivariate Image Analysis", Valencia, Spain

EVALUATION COMMITTEES, REVIEWS AND EDITORIAL BOARDS

Member of examining commissions for public selection procedures aimed at recruiting fixed-term research assistants, Academic Discipline CHIM/01 – Analytical Chemistry

Referee of national projects on behalf of Italian Ministry of University and Research

Reviewer of research projects for national universities

Reviewer and external commissioner for the evaluation of Doctoral Theses of national and foreign Universities

Referee for the following international scientific journals: : Analytica Chimica Acta, Analytical and Bioanalytical Chemistry, Acta Chimica Slovenica, Biosystems Engineering, Chemical Industry & Chemical Engineering Quarterly, Chemometrics and Intelligent Laboratory Systems, Chemosensors, Electrochimica Acta, Euphytica, Frontiers in Chemistry – Analytical Chemistry, Innovative Food Science and Emerging Technologies, Italian Journal of Animal Science, Journal of Agricultural and Food Chemistry, Journal of Biological Systems, Journal of Chemometrics, Journal of Food Engineering, Journal of Near Infrared Spectroscopy, Polymer Testing, Spectroscopy Letters, Talanta

Member of the Editorial Boards of Chemosensors and of Frontiers in Chemistry

WEB LINKS

<http://personale.unimore.it/rubrica/dettaglio/ulrici>

<http://www.chimslab.unimore.it/>

<http://orcid.org/0000-0002-6010-6400>

<https://www.scopus.com/authid/detail.uri?authorId=57214706643>

<https://scholar.google.com/citations?user=mwe9eVgAAAAJ&hl=it>

https://www.researchgate.net/profile/Alessandro_Ulrici

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

Reggio Emilia, January 15, 2024

Alessandro Ulrici