

Cristina Malegori

Assistant Professor

EDUCATION AND TRAINING

Dates [01/10/2007 – 30/09/2010](#)

Bachelor's Degree in Food Science and Technology

Degree thesis: "Application of Vis-NIR spectroscopy for the non-destructive evaluation of ripening in two apple cultivars" (within the Valorvi Project: Development and optimization of fruit supply chains in Valtellina, through innovative systems in post-harvest and high-quality processing)

Score: 110/110.

Institution: University of Milan – Via Celoria, 2, Milan.

Dates [01/10/2010 – 28/09/2012](#)

Master's Degree in Food Science and Technology

Thesis project: "LED technology to evaluate the degree of ripeness of grapes" (within the SOQUIC project: Optical systems for the quality of Italian and Chilean grapes)

Grade: 110/110 laude.

Institution: University of Milan – Via Celoria, 2, Milan.

Dates [01/11/12 – 17/12/15](#)

PhD student in "Technological innovation for agri-food and environmental sciences" – Curriculum Food Technology.

Research project: "Spectroscopy, image analysis and hyperspectral imaging for food safety and quality: a chemometric approach".

Institution: University of Milan – Via Celoria, 2, Milan

PROFESSIONAL HISTORY

[from 2016-01-01 to 2016-12-31](#)

Post-doc Research Fellow at the Department of Food, Nutrition and Environmental Sciences (DeFENS), University of Milan – Via Celoria, 2, 20133 Milan (SSD AGR/15), Food Technology Group with a research project entitled: "Developing of analytical techniques and sensing for the assessment of food quality, chemometric approaches for data processing, experimental design and process modelling".

[from 2017-02-01 to 2018-07-31](#)

Post-doc research fellow at the Department of Pharmacy (DIFAR), University of Genoa – Via Balbi, 5, 16126 Genoa, Analytical Chemistry and Chemometrics Group (SSD CHIM/01) with a research project entitled: "How to improve food safety and authentication: new analytical strategies in near infrared spectroscopy and hyperspectral imaging".

[from 2018-08-01 to 2020-07-31](#)

Post-doc research fellow at the Department of Pharmacy (DIFAR), University of Genoa – Via Balbi, 5, 16126 Genoa, Analytical Chemistry and Chemometrics Group (SSD CHIM/01) with a research project entitled: "Innovative analytical strategies based on near-infrared spectroscopy and hyperspectral imaging: from data acquisition to extraction of information by means of advanced chemometric techniques".

[from 2020-08-01 to 2023-07-31](#)

RTDA Researcher (art. 24 c.3-a L. 240/10) at the Department of Pharmacy (DIFAR), University degli Studi di Genova – Via Balbi, 5, 16126 Genova, Gruppo di Chimica Analitica e Chemometria

(SSD CHIM/01).

[from 2023-10-01 to today](#)

RTDB Researcher (art. 24 c.3-a L. 240/10) at the Department of Pharmacy (DIFAR), University degli Studi di Genova – Via Balbi, 5, 16126 Genova, Gruppo di Chimica Analitica e Chemometria (SSD CHIM/01).

ACADEMIC APPOINTMENTS

[from 2021-04-27 to 2023-03-14](#)

Referent of the Department of Pharmacy (DIFAR) of the University of Genoa within the UNI/CT003/GL25 group "Sustainable analytical techniques for the agri-food sector", organized by UNI (Italian Standardization Body).

[from 01-01-2022 to today](#)

Member of the Department QA Teaching Committee (DIFAR)

[from 01-01-2025 to today](#)

Member of the Departmental Third Mission Commission (DIFAR)

EXPERIENCE

ORGANIZATION OR PARTICIPATION AS A SPEAKER (BY INVITATION) IN SCIENTIFIC CONFERENCES IN ITALY OR ABROAD

[from 2017-10-12 to 2017-10-13](#)

Invited oral report: II° National Seminar of the Breeders System: The enhancement of data – 12/13 October 2017, Cagliari (Italy), with a communication entitled: "Chemometrics to extract useful information from spectroscopic data - case study: hyperspectral imaging for cheese maturation".

[from 2018-03-07 to 2018-03-07](#)

Invited oral report: National MicroNIR Workshop: PAT and Quality by Design solutions – 7 March 2018, Pomezia (Italy): "Multivariate analysis at the service of NIR spectra". This workshop allowed the meeting between academia, manufacturers of scientific instrumentation and companies interested in the world of vibrational spectroscopy and chemometrics.

[from 2018-03-21 to 2018-03-22](#)

Invited oral report: II° National Agri-food Workshop: Innovation, research, legislation at the service of food companies and professionals in the sector – 21/22 March 2018, Albenga (Italy), with a communication entitled: "From RGB to hyperspectral: the potential of image analysis for quality and safety controls in the food sector".

[from 2018-10-23 to 2018-10-24](#)

Invited oral report: International Symposium PAT and QbD in the solid dosage manufacturing: NIR integration from an engineering perspective – 23/24 October 2018, Bologna (Italy), with a paper entitled: "Multivariate analysis of data for process monitoring – an introduction" and "Qualitative and Quantitative Analysis".

[from 2018-11-29 to 2018-11-30](#)

Invited oral report: Workshop Biomedical signal analysis and processing for diagnostics – 29/30 November 2018, Prague (Czech Republic) with a communication entitled: "The aquaphotomic approach: understanding water structures by a non-destructive perspective".

[from 2018-12-02 to 2018-12-06](#)

Invited oral talk: The 3rd Aquaphotomics International Symposium – 2/6 December 2018, Awaji (Japan), with a paper entitled: "Water molecular structure behind water activity: investigating on chemical modifications of rice germ during storage".

[from 2018-12-12 to 2018-12-14](#)

Member of the scientific committee and organizer of the international conference "FDT2018: Food and Drug Testing" Genoa, 12/14 December 2018. The topics covered focused on innovative analytical strategies for the authentication of drugs and food.

[from 2019-01-10 to 2019-01-10](#)

Invited oral report: National Workshop Chemometric in Forensic Sciences – 10 January 2019, Turin (Italy), with a paper entitled: "NIR hyperspectral imaging at the service of forensic sciences".

[from 2019-09-15 to 2019-09-20](#)

Member of the scientific committee of the international conference "NIR2019: 19th biennial meeting of the International Council for NIR Spectroscopy (ICNIRS)" Gold Coast, Queensland (Australia), 15/20 September 2019. This is the reference conference by the scientific community regarding the development of analytical strategies based on near-infrared spectroscopy.

[from 2019-12-02 to 2019-12-03](#)

Member of the scientific committee of the International Conference "Second Aquaphotomics European Conference", Budapest (Hungary), 2/3 December 2019. This conference deals with a new omics discipline that combines the application of NIR spectroscopy to the study of water.

[from 2020-12-03 to 2020-12-03](#)

Invited oral report: XI Brazilian Workshop de Quimiometria – 3 December 2020, Campina Grande, Paraíba (Brazil) with a communication entitled: "Imagens digitais e hiperespectrais: abordagem avançado com aplicações". The event was held entirely online due to the restrictions for the Covid19 pandemic.

[from 2021-01-15 to 2021-01-15](#)

Member of the scientific committee of the international symposium "SWIIMS – short wave infrared imaging and spectroscopy" for the 2019 – 25 September 2019, Amsterdam (Netherlands) – and 2020 editions, postponed to 15 January 2021 due to the Covid-19 health emergency. This conference was held in the context of SpectroExpo, an international exhibition of spectroscopic instrumentation and a meeting point between manufacturers and users of this technology.

[from 2021-03-02 to 2021-03-02](#)

Invited oral report: Conexão FEA - Visão Computacional Aplicada na Indústria de Alimentos – 2 March 2021, Campinas, São Paulo (Brazil) with a communication entitled: "Aplicação de imagens espectrais em indústria de laticínios". The event was held entirely online due to the restrictions for the Covid19 pandemic.

[from 2021-11-08 to 2021-11-09](#)

Invited oral report: XII Brazilian Workshop de Quimiometria – 8/9 November 2021, Feira De Santana, Bahia (Brazil) with a communication entitled: "Quimiometria e autenticação de alimentos". The event was held entirely online due to the restrictions for the Covid19 pandemic.

[from 2022-09-13 to 2022-09-14](#)

Chairperson of the international conference "SWIIMS 2022 - Third Symposium on the Short Wave Infrared Imaging and Spectroscopy", Rome (Italy), 13/14 September 2022. This conference was held in the context of SpectroExpo, an international exhibition of spectroscopic instrumentation and a meeting point between manufacturers and users of this technology.

[from 2022-09-14 to 2022-09-23](#)

Invited Oral Lecture (Keynote Lecture): XXVII National Congress of the Chemical Society Italiana, 14/23 September 2022, Milan (Italy) with a communication entitled: "Near infrared hyperspectral imaging combined with multivariate image analysis: potential and limitations for the identification of microplastics in aquatic samples". The event was held entirely online due to the restrictions for the Covid19 pandemic.

[from 2023-03-18 to 2023-03-22](#)

Invited oral talk: Pittcon 2023 – Conference and Exposition, 18/22 March 2023, Philadelphia (USA) with a communication entitled: "The contribution of spatial information in empowering near infrared spectroscopy for the characterization of inhomogeneous samples".

[from 2023-09-02 to 2023-09-04](#)

Chairperson of the international conference "3rd European Aquaphotomics Conference", Rome (Italy), 2-4 September 2023. This conference deals with a new omics discipline that combines the application of NIR spectroscopy to the study of water.

[from 2024-09-09 to 2024-09-12](#)

Invited Oral Report (Keynote Speaker): CAC2024 – XIX Chemometrics in Analytical Chemistry meeting, 9/12 September 2024, Santa Fe (Argentina) with a communication entitled: "The Deal between Hyperspectral Imaging and Chemometrics".

[from 2025-06-08 to 2025-06-12](#)

Conference secretariat of the International Conference "NIR2025: 22nd biennial meeting of the International Council for NIR Spectroscopy (ICNIRS)" Rome (Italy), 8-12 June 2025. This is the reference conference by the scientific community regarding the development of analytical strategies based on near-infrared spectroscopy.

SCIENTIFIC RESPONSIBILITY FOR RESEARCH PROJECTS ACCEPTED FOR FUNDING ON THE BASIS OF COMPETITIVE CALLS INVOLVING PEER REVIEW

[from 2017-12-15 to 2019-12-15](#)

Scientific coordinator of the research unit of the University of Genoa in the PNRC 2017 research project "Food Authenticity: innovative analytical methods for consumer protection" (IZS PLV 10/17 RC - 17C10 - CUP J19I17000150001). PI: Experimental Zooprophyllactic Institute of Piedmont, Liguria and Valle d'Aosta. Project duration: 24 months, from 15/12/17.

RESPONSIBILITY FOR SCIENTIFIC STUDIES AND RESEARCH ENTRUSTED BY QUALIFIED PUBLIC OR PRIVATE INSTITUTIONS

[from 2020-12-04 to 2021-03-03](#)

Scientific coordinator of the research project funded by ARAL – Lombardy Regional Breeders Association, entitled "Optimization and transfer of calibration models based on near-infrared spectroscopy, for the chemical-physical characterization of products intended for cattle feed". Project duration: 3 months from 04/12/20.

[from 2020-12-18 to 2021-01-17](#)

Scientific coordinator of the research project funded by Agras Delic Spa, entitled "Characterization of pet food by near-infrared spectroscopy". Project duration: 1 month from 18/12/20.

[from 2022-03-31 to 2023-03-30](#)

Scientific manager of the research project funded by Soremartec Italia S.r.l. – Ferrero Group, entitled "Chemometric approaches for the extraction of information from sensory data". Project duration: 12 months from 31/03/22.

[from 2025-07-01 to 2025-12-31](#)

Scientific manager of the research project funded by NIRLAB AG, entitled "Development and validation of advanced chemometric models for analytical applications". Project duration: 6 months from 01/07/25.

TEACHING OR RESEARCH POSITIONS (FELLOWSHIPS) AT FOREIGN UNIVERSITIES AND RESEARCH INSTITUTES

[from 2019-10-18 to 2019-11-08](#)

Assignment of teaching assignment at EMBRAPA, Empresa Brasileira de Pesquisa Agropecuária, and SENAI, Institute of Biomass Innovation, for advanced training activities with a course entitled "Chemometrics as a tool for extracting useful information from spectroscopic data".

[from 2023-05-04 to 2023-05-05](#)

Assignment of teaching assignment at the Slovak University of Technology (STU): in addition to scientific meetings and co-tutoring of doctoral students, a seminar for doctoral students

was carried out entitled: "Map the invisible by means of hyperspectral NIR imaging: food applications".

[from 2024-09-02 to 2024-09-06](#)

Assignment of teaching assignment at the Federal University of Rio Grande do Sul: in addition to scientific meetings and co-tutoring of doctoral students, a seminar for doctoral students entitled: "Map of the Invisible" was carried out.

[from 2025-07-29 to 2025-08-01](#)

Assignment of teaching position at the Federal University of Minas Gerais through participation as a lecturer at the 7th Escola de Inverno de Quimiometria with a mini-course entitled "Spectral imaging: revealing the hidden".

EDITORSHIP OR PARTICIPATION IN EDITORIAL BOARDS OF JOURNALS, PUBLISHING SERIES, ENCYCLOPAEDIAS AND TREATISES

[from 2018-01-01 to 2018-01-01](#)

Participation as second author (Oliveri, P., Malegori, C., Casale, M.) in the editing of the entry "Multivariate Classification Techniques" (pages 481-486) of the encyclopedia entitled Encyclopedia of Analytical Science - Reference Module in Chemistry, Molecular Sciences and Chemical Engineering, third edition, published by Elsevier in 2018 DOI: 10.1016/B978-0-12-409547-2.14239-8. Scopus Code: 2-s2.0-85178980838

[from 2020-05-26 to 2020-05-26](#)

Participation as second author (Oliveri, P., Malegori, C., Mustorgi, E., Casale, M.) in the drafting of the chapter "Application of Chemometrics in the Food Sciences" (chapter 4.05, pages 99-111) of the highly recognized treatise entitled "Comprehensive Chemometrics, 2nd edition: Chemical and Biochemical Data Analysis", Ed: Steven D. Brown, Romá Tauler and Beata Walczak. Elsevier Ltd. Date of Issue: May 26, 2020. DOI: 10.1016/B978-0-12-409547-2.14748-1

[from 2021-04-27 to 2023-03-14](#)

Participation as a member in the standardization work of the technical body Working Group "Sustainable analytical techniques for the agri-food sector" (UNI/CT 003/GL 25) for the drafting of the "Guidelines for the use of spectroscopic techniques in the visible and near-infrared region in the agri-food sector: quantitative calibration" (UNI/TS 11892:2022).

[from 2025-01-01 to 2025-01-01](#)

Participation as author (Oliveri, P., Casale, M., Forina, M., Malegori, C.) in the drafting of chapter "1. Elements of statistics for analytical chemistry" in the text entitled "Analytical Chemistry" and edited by L. Sabbatini, C. Malitesta, P. Pastore. Format: paperback; Edition: EdiSES (I/2025); N. Pages: 820; ISBN: 9788836231942

PRIZES AND ACCOLADES FOR SCIENTIFIC ACTIVITY, INCLUDING MEMBERSHIP OF ACADEMIES

[from 01-01-2013 to today](#)

Member of the International Council of NIR Spectroscopy (ICNIRS), since 2013. Active role in the participation and organization of congresses and training activities sponsored by the company.

[from 01-01-2013 to today](#)

Member of the Italian Society of NIR Spectroscopy - SISNIR - since 2013. Active role in the participation and organization of congresses (NIRITALIA) and training activities organized and sponsored by the company (Winter and Summer Schools).

[from 2016-11-01 to today](#)

Elected member of the Board of Directors of SISNIR – Italian Society of NIR Spectroscopy with the

Secretary responsibilities for the two-year period 2016-2018.

Elected member of the Board of Directors of SISNIR – Italian Society of NIR Spectroscopy with the

responsibilities of secretary and treasurer for the four-year period 2018-2022.

Elected member of the Board of Directors of SISNIR – Italian Society of NIR Spectroscopy with the treasurer responsibilities for the four-year period 2022-2026.

[from 2017-02-20 to today](#)

Member of the Italian Chemical Society since 2017 - Card number: 21206. Membership of the Division of Analytical Chemistry and the Divisional Working Groups of Chemometrics, Forensic Analytical Chemistry and Analytical Spectroscopy. Active role in participation in the congresses of the company and the division as well as in the activities of the groups.

[from 2020-09-01 to 2020-09-01](#)

The article entitled "Comparing the analytical performances of Micro-NIR and FT-NIR spectrometers in the evaluation of acerola fruit quality, using PLS and SVM regression algorithms", Malegori, C., Marques, E. J. N., de Freitas, S. T., Pimentel, M. F., Pasquini, C., & Casiraghi, E. (2017), Talanta, 165, 112-116, has been certified by Elsevier Publisher as one of the **most cited Talanta articles in SCOPUS**.

[from 2023-06-29 to 2023-06-29](#)

"Young Researcher Award", 2023 edition, awarded by the Chemometrics divisional group of the Italian Chemical Society for the particular aptitude demonstrated and for the research that has significantly distinguished itself in the field of chemometrics.

[from 2024-01-09 to 2024-01-09](#)

Inclusion in the "2023 Editors' Highlights Collection" of the article Malegori, C., Sciutto, G., Oliveri, P., Prati, S., Gatti, L., Catelli, E., Benazzi, S., Cercatillo, S., Paleček, D., Mazzeo, R., Talamo, S., titled "Near-infrared hyperspectral imaging to map collagen content in prehistoric bones for radiocarbon dating". Communications Chemistry (Nature) 6 (2023) 54.

[from 10-06-2025 to today](#)

Elected member of the Council Management Committee (CMC) of ICNIRS – International Council of NIR Spectroscopy from 2025 to 2031; ICNIRS is the international scientific society of near-infrared spectroscopy. The CMC is responsible for the administration of all the activities of the Council, except when the General Assembly is in session.

[from 15-11-2025 to 15-11-2025](#)

The article entitled "Modeling Power-Based Variable Selection for Rigorous One-Class Classification with SIMCA" has been selected to be **featured on the cover** of the journal ACA – Analytica Chimica Acta (Volume 1375), a journal of the publisher Elsevier, placed in the first quartile (Q1) of the Subject Category "Analytical Chemistry". doi: 10.1016/S0003-2670(25)01108-0.