

PERSONAL INFORMATION

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Nationality **ITALIAN**

WORK EXPERIENCE

Period **NOVEMBER 2019 - PRESENT**
Name of employer **National Research Council of Italy, Institute of Food Sciences (CNR-ISA)**
Type of business or sector **Public Research Institution**
Occupation or position held **Senior scientist**

Period **JULY 1998-NOVEMBER 2019**
Name of employer **National Research Council of Italy, Institute of Food Sciences (CNR-ISA)**
Type of business or sector **Public Research Institution**
Occupation or position held **Research scientist**

Period **DECEMBER 1994- JULY 1998**
Name of employer **National Research Council of Italy, Institute of Food Sciences (CNR-ISA)**
Type of business or sector **Public Research Institution**
Occupation or position held **Tenure-track investigator**

EDUCATION

Period **7th December 1988**
Name and type of organization **University of Naples "Federico II"**
providing education
Title of qualification awarded **Degree in Chemistry Full marks with honours (110/110 e lode)**

AWARDS

Date **March 2017**
Name of the Institution **Ministry of University and Research**
Title of qualification awarded **National Scientific Qualification as Full Professor in Biochemistry**

Period **June 2014**
Name of the Institution **Ministry of University and Research**
Title of qualification awarded **National Scientific Qualification as Associate Professor in Biochemistry**

Period **1989**
Name of the Institution **University of Naples "Federico II".**
Title of qualification awarded **Qualifying examination as Chemist**

PROFESSIONAL EXPERIENCE

ABROAD

Period	October 2003
Name of the Institution	Hungarian Academy of Science - Chemical Research Center, Budapest, Hungary
Role	Visiting Scientist in the frame of an Italy-Hungary Bilateral Program CNR/MTA, titled "Problem solving in Genomics and Proteomics using Advanced Mass Spectrometric Techniques".
Period	January – June 2000
Name of the Institution	Department of Physical and Structural Chemistry, SmithKline Beecham Pharmaceuticals, Philadelphia, USA
Role	Visiting scientist in the frame of the "Short Term Mobility Program" of CNR.
Date	1992
Name of the Institution	Imperial College of Science, Technology and Medicine - Biochemistry Department, London UK
Role	Wellcome Trust funded research assistant at the Biological Mass Spectrometry Laboratory
Date	1991
Name of the Institution	Imperial College of Science, Technology and Medicine - Biochemistry Department, London UK
Role	CNR Research Fellow at the Biological Mass Spectrometry Laboratory

Research Activities/Projects (main)

The research activity of Dr. Siciliano is centered on the development and application of analytical methodologies based on mass spectrometry and proteomics for studying matrices and biological systems of relevant interest in food and life sciences

In particular, studies were carried out on the following topics:

- Functional and comparative proteomics to investigate: i) molecular mechanisms underlying functional features of probiotic bacteria; ii) stress response processes in microorganisms of technological interest for food production or in pathogens; iii) mechanisms of adaptation to biotic or abiotic stress conditions in plants.
- Development and application of innovative molecular profiling methodologies based on MALDI-TOF mass spectrometry for the identification of foodborne bacteria and evaluation of the authenticity of fresh and processed food products (in particular seafood products). This method has been successfully applied to rapidly discriminate fraudulent substitutions of different fish species.
- Structural characterization of proteins of interest in the field of food sciences and their post-biosynthetic modifications (also originating from technological processes). Mass spectrometric approaches have been also successfully applied to assess milk quality and to monitor technological processes aimed to abolish gluten toxicity for celiac patients

Project	METROFOOD-RI - Infrastructure for promoting Metrology in Food and Nutrition (Preparatory Phase) - H2020 INFRADEV-02-2019 CSA METROFOOD-PP project (Period: 2019-2022)
Role	Responsible for CNR-ISA
Project	BIO-MEMORY - Infrastructural Empowerment: strategic research project – DISBA - CNR Project n. SAC.AD002.173.008 (Period: 2021-2022)
Role	Participant
Project	ECONUTRAPREVENTION - New formulations of nutraceutical products for the primary prevention of oncological diseases associated with environmental pollutants in the "Land of Fires" – PO FESR 2014-2020 – OBIETTIVO SPECIFICO 1.1 – Projects of Technology transfer and first industrialization for innovative companies with high potential for the fight against oncological pathologies - Campania Land of Good (Period: 2018-2019)
Role	Participant
Project	PRO-METROFOOD - Progressing towards the construction of METROFOOD-RI, Horizon 2020 Research and Innovation Programme, H2020 INFRADEV-02-2016 (Period: 2017)
Role	Responsible for CNR-ISA
Project	NUTRAGE – Nutrition & Active Aging, FOE-2019, DSB.AD004.271 (Period: 2020-2021)
Role	Participant

Project	CISIA - Integrated Knowledge for Sustainability and Innovation of the Agri-food "Made in Italy" - Mass Spectrometry Methodologies for Monitoring the Quality of Agri-food Products in Southern Italy (OR2.1.3) - MIUR – Law 191 art.2 comma 44 del 23/12/2009 (Period: 2011-2016)
Role	Responsible for CNR-ISA
Project	INTEROMICS - Development of an integrated platform for the application of "omics" sciences to the definition of biomarkers and predictive and theranostic diagnostic profiles. Omics technologies for the valorisation of durum wheat germplasm - Progetti Bandiera (Bando CNR, prot. 0092174 del 16/12/2014) (Period: 2015-2018)
Role	Participant

SCIENTIFIC ASSIGNMENTS

Period	Luglio 2021 - present
Name of the Institution	Department of Bio-Agri-Food Sciences of CNR
Role	Member of the panel of representatives of the Department of Bio-Agri-Food Sciences of the CNR (DISBA-CNR) for the European Food Safety Authority (EFSA) in the Area "Human nutrition, dietetic products, allergens and/or novel foods"
Period	May 2019 – July 2021
Name of the Institution	Department of Bio-Agri-Food Sciences of CNR
Role	Member of the panel of representatives of the Department of Bio-Agri-Food Sciences of the CNR (DISBA-CNR) for the European Food Safety Authority (EFSA) in the Area "Chemical contaminants in the food chain"
Period	2016 - 2021
Name of the Institution	Institute of Food Sciences (CNR-ISA)
Role	Member of the Scientific Council of CNR-ISA
Period	2008 - 2015
Name of the Institution	Institute of Food Sciences (CNR-ISA)
Role	Responsible for the CNR Research Unit "AG.P05.003 "Methodologies of Mass Spectrometry, Proteomics, Metabolomics and Bioinformatics in Food Science"
Period	2007 - 2012
Name of the Institution	Association of Industrial Pharmaceutics
Role	Member of the National Study Group for writing the Guide Lines for the implementation of Rapid Microbiological Methods (RMM) sponsored by AIFA (Italian Agency of Drugs).

TEACHING ACTIVITIES

Period	Accademic Year 2019-2020
Name of the Institution	University of Sannio, Benevento, Italy – Master's Degree in "Genetic and Biomolecular Biotechnology"
Role	Professor on contract of Proteomics and Metabolomics (Proteomics Module)
Period	Accademic Years 2017-2018, 2016-2017, 2015-2016
Name of the Institution	University of Sannio, Benevento, Italy – Master's Degree in "Genetic Sciences and Technologies
Role	Professor on contract of OMICS Science and Technology – Proteomics and Metabolomics (Proteomics Module).
Period	Accademic Years 2014-2015
Name of the Institution	University of Sannio, Benevento, Italy – Master's Degree in "Genetic Sciences and Technologies
Role	Professor on contract of Proteomics and Metabolomics (Proteomics Module).

OTHER INFORMATION AND ACTIVITIES

- supervisor of several degree and doctoral theses;
- member of the editorial board of international scientific journals (Frontiers in Nutrition, Food Research International, Biology (MDPI), Current Chemical Biology) and reviewer for numerous scientific journals in the following fields: food sciences, proteomics, mass spectrometry, analytical chemistry, biochemistry, microbiology;
- member of numerous examining commissions for the awarding of research grants, scholarships or TD contracts;
- reviewer for research proposals presented in the context of COST (European Cooperation in the Field of Science and Technology) projects.
- Participant to scientific dissemination activities for several national and international events

Publications

77 articles in International Scientific Journals (ISI WoS)

9 Chapters in international books

1 international patent

1 international patent

H index 29 (Scopus)

Date, 15 December 2021

Main publications

- Siciliano R.A.**, Reale A., Mazzeo M.F., Morandi S., Silveti T., Brasca M. Paraprobiotics: A New Perspective for Functional Foods and Nutraceuticals. *Nutrients*. (2021) **13**, 1225.
- Mazzeo M.F., Luongo D., Sashihara T., Rossi M., **Siciliano R.A.** Secretome Analysis of Mouse Dendritic Cells Interacting with a Probiotic Strain of *Lactobacillus gasseri*. *Nutrients* (2020) **12**, 555.
- Siciliano R.A.**, Pannella G., Lippolis R., Ricciardi A., Mazzeo M.F., Zotta T. Impact of aerobic and respirative life-style on *Lactobacillus casei* N87 proteome. *Int. J. Food Microbiol.* (2019) **298**, 51-62.
- Siciliano R.A.**, Lippolis R., Mazzeo M.F. Proteomics for the Investigation of Surface-Exposed Proteins in Probiotics. *Front. Nutr.* (2019) **6**, 52.
- Siciliano R.A.**, Uzzau S., Mazzeo M.F. Proteomics for Studying Foodborne Microorganisms and Their Impact on Food Quality and Human Health (Editorial). *Front Nutr.* (2019) **6**, 104.
- Mazzeo M.F., Cacace G., Iovieno P., Massarelli I., Grillo S., **Siciliano R.A.** Response mechanisms induced by exposure to high temperature in anthers from thermo-tolerant and thermo-sensitive tomato plants: A proteomic perspective. *PLoS One* (2018) **13**, e0201027.
- Mazzeo M.F., Di Stasio L., D'Ambrosio C., Arena S., Scaloni A., Corneti S., Ceriotti A., Tuberosa R., **Siciliano R.A.**, Picariello G., Mamone G. Identification of Early Represented Gluten Proteins during Durum Wheat Grain Development. *J. Agric. Food Chem.* (2017) **65**, 3242-3250.
- Mazzeo M.F., **Siciliano R.A.** Proteomics for the authentication of fish species. *J. Proteomics* (2016) **147**, 119-124.
- Mazzeo M.F., Lippolis R., Sorrentino A., Liberti S., Fragnito F., **Siciliano R.A.** *Lactobacillus acidophilus*-Rutin Interplay Investigated by Proteomics. *PLoS One* (2015), 10:e0142376.
- Ciarmiello L.F., Mazzeo M.F., Minasi P., Peluso A., De Luca A., Piccirillo P., **Siciliano R.A.**, Carbone V. Analysis of different European hazelnut (*Corylus avellana* L.) cultivars: authentication, phenotypic features, and phenolic profiles. *J. Agric. Food Chem.* (2014) **62**, 6236-6246.
- Mazzeo M.F., Bonavita R., Maurano F., Bergamo P., **Siciliano R.A.**, Rossi M. Biochemical modifications of gliadins induced by microbial transglutaminase on wheat flour. *Biochim. Biophys. Acta.* (2013) **1830**, 5166-5174.
- Mazzeo M.F., Cacace G., Ferriello F., Puopolo G., Zoina A., Ercolano M.R., **Siciliano R.A.** Proteomic investigation of response to FORL infection in tomato roots. *Plant Physiol. Biochem.* (2014) **74**, 42-49.
- Siciliano R.A.**, Mazzeo M.F., Arena S., Renzone G., Scaloni A. Mass spectrometry for the analysis of protein lactosylation in milk products. *Food Res. International* (2013) **54**, 988-1000.
- Siciliano R.A.**, Mazzeo M.F. Molecular mechanisms of probiotic action: a proteomic perspective. *Curr. Opin. Microbiol.* (2012) **106**, 12-19. *Invited review*
- Mazzeo M.F., Cacace G., Peluso A., Zotta T., Muscariello L., Vastano V., Parente E., **Siciliano R.A.** Effect of inactivation of CcpA and aerobic growth in *Lactobacillus plantarum*: a proteomic perspective. *J. Proteomics* (2012) **75**, 4050-4061.
- Cacace G., Mazzeo M.F., Sorrentino A., Spada V., Malorni A., **Siciliano R.A.** Proteomics for the elucidation of cold adaptation mechanisms in *Listeria monocytogenes*. *J. Proteomics* (2010) **73**, 2021-2030.
- Mazzeo M.F., De Giulio B., Guerriero G., Ciancia G., Malorni A., Russo G.L., **Siciliano R.A.** Fish authentication by MALDI-TOF mass spectrometry. *J. Agric. Food Chem.* (2008) **56**, 11071-11076.
- Siciliano R.A.**, Cacace G., Mazzeo M., Morelli L., Elli M., Rossi M., Malorni A. Proteomic investigation of the aggregation phenomenon in *Lactobacillus crispatus*. *Biochim. Biophys. Acta – PROTEINS PROTEOM* (2008) **1784**, 335-342.
- Gianfrani C., **Siciliano R.A.**, Facchiano A.M., Camarca A., Mazzeo M.F., Costantini S., Salvati V.M., Maurano F., Mozzarella G., Iaquinto G., Bergamo P., Rossi M. Transamidation of wheat flour inhibits the response to gliadin of intestinal T cells in celiac disease. *Gastroenterology* (2007) **133**, 780-789.
- Mazzeo M.F., Sorrentino A., Gaita M., Cacace G., Di Stasio M., Facchiano A., Comi G., Malorni A., **Siciliano R.A.** MALDI-TOF mass spectrometry for the discrimination of foodborne microorganisms. *Appl. Environ. Microbiol.* (2006) **72**, 1180-1189.
- Tosco A., **Siciliano R.A.**, Cacace G., Mazzeo M.F., Caponea R., Malorni A., Leone A., Marzullo L. Dietary effects of copper and iron deficiency on rat intestine: a differential display proteome analysis. *J. Proteome Res.* (2005) **4**, 1781-1788.
- Siciliano R.A.**, Rega B., Amoresano A., Pucci P. Modern mass spectrometric methodologies in monitoring milk quality. *Anal. Chem.* (2000) **72**, 408-415.
- Siciliano R.A.**, Rega B., Marchetti M., Seganti L., Rossi P., Antonini G., Valenti P. Bovine lactoferrin peptidic fragment involved in inhibition of herpes simplex virus type 1 infection. *Biochem. Biophys. Res. Commun.* (1999) **263**, 19-23.
- Siciliano R.A.**, Morris H.R., Bennett H.P.J., Dell A. O-glycosylation mimics N-glycosylation in the 16K fragment of bovine pro-opiomelanocortin. *J. Biol. Chem.* (1994) **269**, 910-920.
- Siciliano R.A.**, Morris H.R., McDowell R.A., Azadi P., Rogers M.E., Bennett H.P.J., Dell A. The Lewis x epitope is a major non-reducing structure in the sulphated N-glycans attached to Asn-65 of bovine pro-opiomelanocortin. *Glycobiol.* (1993) **3**, 225-239.