PERSONAL INFORMATION

Prospero Di Pierro

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Enterprise	University	EPR
☐ Management Level	☐ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist
☐ Mid-Management Level	☒ Associate Professor	☐ Level III Researcher and Technologist
☐ Employee / worker level	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	☐ Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

WORK EXPERIENCE

From 05-2017 to now	**Member of the Academic Board of the PhD School in Food Science at the Department of Agricultural Sciences, University of Naples Federico II.**
From 01-2019 to now	**Members of the Administrative Committee of the Centre of Food Innovation and Development in the Food Industry (CAISIAL) – University of Naples Federico II**
From 09-2021 to now	**Associate Professor of Biochemistry (sector E1/05 –Biochemistry - Bio/10) at the Department of Agricultural Sciences, University of Naples Federico II.**
From 12-2016 to 08-2021	**Associate Professor of Biochemistry (sector E1/05 – Biochemistry – BIO/10) at the Department of Chemical Sciences, University of Naples Federico II.**
From 01-2013 to 12 2016	**Researcher of Biochemistry (sector E1/05 – Biochemistry – Bio/10) at the Department of Chemical Sciences, University of Naples Federico II.**
From 01-2004 to 12-2012	**Researcher of Biochemistry (sector E1/05 – Biochemistry – Bio/10) at the Department of Food Sciences (active from April 01, 1988, to December 31, 2012), University of Naples Federico II**
From 11-1998 to 07- 2002	**Technical assistant for Biochemistry lab exercises at the Faculty of Biotechnological Sciences (active from 2001 to 2012), University of Naples Federico II**

EDUCATION AND TRAINING

From 10-2003 to 12-2003	**Research Fellowship working on "Evaluation of the toxic effects of peptides extract from cheeses treated with transglutaminase by using cellular models" at the Department of Food Sciences (active from April 01, 1988 to December 31, 2012), University of Naples Federico II**
From 01-2003 to 08-2003	**Research Fellowship working on "HPLC characterization of dairy products enriched in whey proteins by using the enzyme transglutaminase," at the Department of Food Sciences (active from April 01, 1988, to December 31, 2012), University of Naples Federico II.**
From 07-2002 to 12-2002	**Research Fellowship working on "the application of edible films on fresh-cut and ready-to-eat foods" at the Department of Food Sciences (active from April 01, 1988 to December 31, 2012), University of Naples Federico II.**
2000	**Postgraduate school in Food Science Second University of Naples (since 2016 named University of Campania Luigi Vanvitelli)**
1999	**Ph.D. in Pharmacology and Toxicology (Chemotherapy), Second University of Naples (since 2016 named University of Campania Luigi Vanvitelli)**

From 01-1994 to 12-1995	**Fellowship of the C.N.R. Project RAISA "Characteristics of raw materials and innovative transformation and conservation processes" working on "The use of high pressures as a tool for the deactivation of enzymes of food interest.**
1992	**Bachelor in Biological Sciences, University of Naples "Federico II"**

PERSONAL SKILLS

Mother tongue(s) ITALIAN

Other language(s) ENGLISH (FIRST CERTIFICATE)

Job-related skills The main research interest of Prof Prospero Di Pierro is the use of enzymes as biotechnological tools in the improvement of food processes and in the recovery of agri-food waste. In the last period his research activity has focused on the application of enzymes both to extract biopolymers from agri-food wastes and to modify their structure to improve their chemical-physical and technological properties to obtain compounds that can be used both for development of biodegradable materials and as ingredients or functional compounds in foods. More recently, his involvement in the PNRR-funded AGRITECH project has prompted his interest in using enzymes to produce and stabilize protein-polysaccharide nanocomplexes that can be useful both in the stabilization of emulsions or foams and in the protection and controlled release of active biomolecules.

Digital skills Excellent knowledge of Web Server, Microsoft Office software, Data analysis and visualisation software (SigmaPlot) and Statistical software (JMP)

ADDITIONAL INFORMATION

Publications

1) **Di Pierro P.**, Rossi Marquez G., Mariniello L., Sorrentino A., & Porta R. (2013) Effect of transglutaminase on the mechanical and barrier properties of whey protein/pectin films prepared at complexation pH (pHc) J. Agric. Food Chem., 61, 4593-4598.

2) Rossi Marquez G., **Di Pierro P.**, Esposito M., Mariniello L., & Porta R. (2014) Application of transglutaminase-crosslinked whey protein/pectin films as water barrier coatings in fried and baked foods. Food Bioprocess Technol., 7, 447.

3) Esposito M., **Di Pierro P.,** Dejonghe W., Mariniello L., & Porta R. (2016) Enzymatic milk clotting activity in artichoke (Cynara scolymus) leaves and alpine thistle (*Carduus defloratus*) flowers. Food Chem., 204, 115.

4) Fernandez-Bats, I., **Di Pierro, P.**, Villalonga-Santana, R., Garcia-Almendarez, B., & Porta, R. (2018) Bioactive mesoporous silica nanocomposite films obtained from native and transglutaminase-crosslinked bitter vetch proteins. Food Hydrocolloids, 82, 106-115.

5) Dávalos-Saucedo, C., Rossi-Márquez, G., Regalado-González, C., Alonzo-Macías, M., & **Di Pierro, P.** (2018) Application of Transglutaminase Crosslinked Whey Protein–Pectin Coating Improves Egg Quality and Minimizes the Breakage and Porosity of Eggshells. Coatings, 8(12), 438.

6) Escamilla-García, M., Delgado-Sánchez, L. F., Ríos-Romo, R. A., García-Almendárez, B. E., Calderón-Domínguez, G., Méndez-Méndez, J. V., Amaro-Reyes A., **Di Pierro P.**, & Regalado-González, C. (2019) Effect of transglutaminase cross-linking in protein isolates from a mixture of two quinoa varieties with chitosan on the physicochemical properties of edible films. Coatings, 9(11), 736.

7) Covino C, Sorrentino A, **Di Pierro P**, Roscigno G, PiaVece A, and Masi P (2020) Lignocellulosic fibres from enzyme-treated tomato plants: Characterisation and application in paperboard manufacturing. International Journal of Biological Macromolecules, 1.

8) Rossi-Márquez, G., Helguera, M., Briones, M., Dávalos-Saucedo, C. A., & **Di Pierro, P.** (2021) Edible Coating from Enzymatically Reticulated Whey Protein-Pectin to Improve Shelf Life on Roasted Peanuts. Coatings, 11(3), 329.

9) Falciano, A., Sorrentino, A., Masi, P., & **Di Pierro, P.** (2022) Development of Functional Pizza Base Enriched with Jujube (*Ziziphus jujuba*) Powder. Foods, 11(10), 1458.

10) Rossi-Márquez, G., Dávalos-Saucedo, C. A., Mayek-Pérez, N., & **Di Pierro, P.** (2023). Multilayered Edible Coatings to Enhance Some Quality Attributes of Ready-to-Eat Cherimoya (*Annona cherimola*). Coatings, 13(1), 41.

Projects (2013-2023)

2022 - 2025 - MUR -PNRR - "AGRITECH", National Research Centre for Agricultural Technologies -. - Spoke 8 - Circular economy in agriculture through waste valorisation and recycling - WP 8.1. - Producing new products to upgrade waste value - Task 8.1.2 - Biosystems for producing biochemicals from lignocellulosic biomass and agro-industrial by-products. 36 months, - 381,000 euros – TASK Component

01/01/2022 - Research agreement for the development of "Hydroponic farming techniques and enhancement of processing by-products through the implementation of green technologies and circular economy principles" with the company Rago Group, at the Centro of the University for Innovation and Development in the Food Industry. 12 months, 65,000 euros, Scientific Responsible.

2018-2020 - Researcher mobility program within the IV executive program of scientific and technological cooperation between the Italian Republic and the United States of Mexico for the Agriculture and agri-food research area.
Title "Nano-reinforced edible films for the preparation of new materials for the food packaging".
36 months, - 140.00 euros - Scientific manager

2014-2016 - Researcher mobility program within the IV executive program of scientific and technological cooperation between the Italian Republic and the United States of Mexico for the Agriculture and agri-food research area.
Title "Effect of transglutaminase on the chemical-physical, barrier and antimicrobial properties of edible films based on different proteins extracted from legumes mixed with starch or chitosan and their possible application on foods".
36 months, 80.000 euros - Scientific manager

2014 - Research agreement for the "Preparation of a coating based on dried Cilento figs to be used on own cheeses". Client: Company Casa Madaio srl - Castelcivita (SA). Duration 1 month, 3000 euro - Scientific director

NOP "Research and Competitiveness 2013"
EnerbioChem - "Integrated agro-industrial supply chains with high energy efficiency for the development of Eco-compatible Production processes of Energy and Bio-chemicals from renewable sources and for the enhancement of the territory", 36 months - Component.
POR Campania ESF 2007-2013
NICE. - SAFETY, SUSTAINABILITY AND COMPETITIVENESS OF AGRI-FOOD PRODUCTIONS IN CAMPANIA (Public Notice for the development of networks of excellence between Universities - Research Centres - Companies - Ob.Op. Axis IV - Specific Ob. I) - Ob.Op. Axis V (Transnationality and Interregionality) - specific ob. m. duration: 36 months Component

PON "Research and Competitiveness 2007-2013.
BIP - Bio-Industrial Processes. 36 months - Component

PON "Research and Competitiveness 2007-2013".
(BioPoliS) - "Development of green technologies for the production of BIOchemicals for the synthesis and industrial application of POLYMER materials starting from biomass obtained from sustainable cropping systems in the Campania Region" 36 months - Member.

PSR (Campania Region) Measure 124 - 2013
OPTIMILK - Optimization and diversification of bovine dairy products: Development of dairy products based on semi-skimmed milk and adoption of mechanical filtration techniques (nanofiltration, microfiltration, reverse osmosis) for the recovery of whey by-products and the reduction of the environmental impact of processing waste, 36 months - Component.