Patrizia Casella

PERSONAL INFORMATION

ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development)
Department for Sustainability (SSPT)
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patrizia.casella@enea.it

https://www.researchgate.net/profile/Patrizia-Casella

Sex Female | *Date of birth* 01/01/1985 | *Nationality* Italian

Enterprise	University	EPR
☐ Management Level	☐ Full professor	☐ Research Director and 1st level Technologist / First Researcher and 2nd level Technologist / Principal Investigator
☐ 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 10/05/2021 – to present)

Researcher

ENEA, Department for Sustainability (SSPT),Division Biotechnologies and Agronidustry, Laboratory Bio-products and Bio-processes, https://bioagro.sostenibilita.enea.it/en/structure/probio, Piazzale Enrico Fermi, 1, 80055, Portici (NA)

- *Study of fermentation process for succinic acid production from lignocellulosic biomasses (hydrolysed wheat straw), optimization of process parameters, quantification of sugars and organic acids (succinate, formate, lactate, acetate) by uHPLC-DAD-ELSD within Agritech (PNNR project);*
- *Curator of UO11 microalgae collection within SUS-MIRRI.it (PNRR project)*
- *Contact person of VALUEPRODUCT project board within ONFOODS (PNRR project) whose activities are aimed at assessing the acceptability to consumers of new prototypes of food products made from agro-industrial waste;*
- ▪ *Optimization of methodology for the detection and quantification of high value compounds (vitamins, phenolic compounds, sugars) contained in agroindustrial by-products (milk whey, concentrate and permeate from nano- and ultrafiltration membrane system, brewer's spent grain) by ultra-high performance liquid chromatography (uHPLC-DAD-ELESD). The activity is carried out within the European project PROVIDE (Protein and biomolecules sources for nutritional security and biodiversity of bakery products in a circular food system)*
- ▪ *Study and evaluation of the composition of residual matrices of the agro-food and agricultural sector, and microalgae for the production of biofuels (biomass to liquid BTL). Project BAIAS "Biofuels, Integrated Environmental Authorization and Sustainable Industrial Areas, collaboration agreement between MiTE and ENEA;*
- ▪ *Collaboration in the drafting of project proposals under various European research programs such as Horizon Europe, PRIMA research program, and under the PNRR.*

Business or sector Research

(from 16/09/2015 – to 31/03/2021)

Research post-doc fellow

ENEA, Department for Sustainability (SSPT),Division Biotechnologies and Agronidustry, Laboratory Bio-products and Bio-processes, https://bioagro.sostenibilita.enea.it/en/structure/probio, Piazzale Enrico Fermi, 1, 80055, Portici (NA)

- *Research activities on microalgae cultivation of the species Scenedesmus almeriensis and Haematococcus pluvialis in an indoor photobioreactor facility, optimization of growth parameters, in order to evaluate CO_2 sequestration and the effect of water and nutrient reuse on the production of carotenoids and polyunsaturated fatty acids (omega-3) for application as food additive, ingredients in nutraceuticals and cosmetic products;*
- *Research activities and optimization of Generally Recognized As Safe (GRAS) technologies (pressurized fluid extraction) for the extraction of high value bio-based products*
- *Characterization of chemical composition (proteins, aminoacids, carbohydrates, sugars, Total dietary fibers, lipids, fatty acids methyl ethers, organic acids) of biomasses, fermented broths, extracts from pressurized and supercritical CO_2 extraction CO_2-SFE.*

Business or sector Research

(from 26/09/2012 – to 30/06/2015)

Research post-doc fellow

ENEA, Department for Sustainability (SSPT), Via Martiri di Monte Sole, 4, 40129, Bologna

- *Evaluation of the Biochemical Methanation Potential (BMP) of sludge from a UASB reactor for the treatment of wastewater from potato processing, and fed with different test substances (corn silage);*
- *Technical support and collaboration within the Methan Tube project, held at the Biological Care company (www.biologicalcare.it). Current patent Methan Tube ®, ENEA owner and Biological Care co-owner for 80%.*

Business or sector Research

EDUCATION AND TRAINING

from 01/01/2019 – to 31/12/2011

PhD in Ecology and Management of Biological Resources — *EQF level 8*

University of Tuscia, Faculty of Science MM. FF. NN., Department of Ecological and Biological Sciences (DEB), Largo dell'Università, 01100 Viterbo

- Methodology to study the functionality of microbial community in sediments river and marine water

from 01/09/2006 – to 28/07/2008

Master degree in Biology and Ecology of the Coastal Marine Environment — *EQF level 7*

University of Messina, Faculty of Science MM. FF. NN., Viale Ferdinando Stagno d'Alcontres 31, 98166 Messina

- Ecology, microbiology, molecular biology, ecotoxicology

from 01/09/2003 – to 26/07/2006

Bachelor degree in Marine Biology and Ecology — *EQF level 6*

University of Messina, Faculty of Science MM. FF. NN., Viale Ferdinando Stagno d'Alcontres 31, 98166 Messina

- botany, zoology, physiology, inorganic and organic chemistry, mathematics and physics

from 01/09/1998 – to 09/07/2003

Upper secondary education — *EQF level 4*

Scientific High School "Archimede", V.le Reg. Margherita, 3, 98121 Messina

- math, physics, Latin, Italian, English, French, Spanish, biology, physics, chemistry, history, philosophy

WORK ACTIVITIES

Editorial activity

Reviewer of international journal articles

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s) English Level B2

ADDITIONAL INFORMATION

Publications

total number of publications in peer-review journals 47
total Impact Factor (IF) 147,575 (average IF/paper) 5,68
total number of citations 1323
H index 19

Replace with **relevant** publications
1) **Casella P.**, Iovine A., Mehariya S., Marino T., Musmarra D., Molino A. Smart method for carotenoids characterization in *Haematococcus pluvialis* red phase and evaluation of astaxanthin thermal stability. Antioxidants 9, 5 (2020): 422.
2) Mehariya, S., Sharma, N., Iovine, A., **Casella, P**., Marino, T., Larocca, V., ... & Musmarra, D.. An integrated strategy for nutraceuticals from Haematoccus pluvialis: From cultivation to extraction. Antioxidants, 9(9), (2020) 825.
3) Molino A., Larocca V., Di Sanzo G., Martino M., **Casella P**., Marino T., Karatza D., Musmarra D. Extraction of bioactive compounds using supercritical carbon dioxide. Molecules 24, 4 (2019): 782.
4) Molino A., Iovine A., **Casella P.**, Mehariya S., Chianese S., Cerbone A., Rimauro J., D. Musmarra. Microalgae characterization for consolidated and new application in human food, animal feed and nutraceuticals. International journal of environmental research and public health 15, 11 (2018): 2436.
5) **Casella, P**., Marino, T., Iovine, A., Larocca, V., Balducchi, R., Musmarra, D., & Molino, A. (2021). Optimization of lutein extraction from scenedesmus almeriensis using pressurized liquid extraction. Chemical Engineering Transactions, 87, 475-480.

Projects

VALUEMAG (Valuable Products from Algae Using New Magnetic Cultivation And Extraction Techniques) project; ID Grant: 745695, Funding: Bio-Based Industries Joint Undertaking (BBI-JU); Call: BIO BASED INDUSTRIES PPP (H2020-BBI-JTI-2016) Exploiting algae and other aquatic biomass for production of molecules for pharma, nutraceuticals, food additives and cosmetic applications, budget: 813750 €.