

Nunzia Gabriella Fasolino, Ph.D.

Researcher |Italy |

Work experience

Post-Doc Researcher

Apr'25- Present

Euro-Mediterranean center on climate change (CMCC), REHMI Division, Caserta

- Climatic Analysis and Risk Assessment in the Tourism Sector: The Case of Monte Rosa in the framework of LIQUIDICE research project: LinkIng and QUantifying the Impacts of climate change on inland ICE, snow cover, and permafrost on water resources and society in vulnerable regions (Horizon - Proposal Number: 101184962).

Research fellow

Nov '24-Apr'25

University of Bologna, Department of Agricultural and Food Science

Main research Focus: water/environmental economics, with a particular emphasis on:

- Economic assessment of droughts and floods aligned with the European Water Framework Directive in the context of the Circular Bioeconomy.
- Economic optimization of water use in agriculture through simulation models
- Cost-effectiveness analysis of nutrient reduction policy measures in the Po River Basin District
- Technical reports and scientific articles writing

Ph.D. Researcher - Agricultural and Food Economics

Nov '21- Oct '24

University of Bologna, Department of Agricultural and Food Science

- Thesis: "Closing the loops: water - energy - bioeconomy nexus in a systemic framework"
- Main research topics: drought assessment, economic analysis, bioeconomy and water in agriculture
- Main methodologies applied:
 - (i) Qualitative: Prisma (Systematic Literature Review), Content Analysis, System Dynamics - Participatory Approaches, Interviews
 - (ii) Quantitative: Multi Attribute Decision Analysis, Cost Analysis (GAMS - programming)
- Collaboration with the Po River Basin Authority – funded by Ministero dell'Ambiente e della Sicurezza Energetica within the PIANO OPERATIVO AMBIENTE FSC 2014–2020:
 - (i) Economic evaluation of drought (2022) in the Emilia Romagna Region;
 - (ii) Cost-effectiveness analysis of nutrient reduction measures.
- Research activities in the context of H2020 COOPID project (grant agreement ID 101000519): policy recommendations for the engagement of farmers in the European bioeconomy
- Organization and facilitation of events and workshops to engage stakeholders and promote active participation through co-creation approaches
- Report and deliverable writing
- Participation interdepartmental research group "Distal GTI – Acqua e cambiamento climatico"

Research consultant

Mar '23 – Oct '23

CREA - Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria

Italian research organization dedicated to the agri-food supply chains supervised by the Ministry of Agriculture, Food Sovereignty and Forests (Masaf) - Italy

- Unit: Policies and Bioeconomy
- Main research topics:
 - (i) Evaluation of the impacts of implementing water tariffs at both farm and district levels
 - (ii) Internalization of costs and assessment of environmental benefits linked to irrigation practice

Research consultant

Ago '22 – Dec '22

Instituto Interamericano de Cooperación para la Agricultura (IICA), San Jose, Costa Rica
Unit Bioeconomy and Rural Development

- Support to public policies for the development of the bioeconomy in America Latina
- Reviews of policy documents, literature and reports

Research fellow

Sept '20 – Nov '21

University of Bologna, Department of Agricultural and Food Science

Research activities related to the analysis and evaluation of policies within two H2020 European projects:

- *LegValue*: Fostering sustainable legume-based farming systems and agri-feed and food chains in the EU (Grant agreement ID: 727672; start date 1st June 2017, end date 31st May 2021).
- *Coopid*: COOPeration of bioeconomy clusters for bio-based knowledge transfer via Innovative Dissemination techniques in the primary production sector
(Grant agreement ID: 101000519, start date 1st January 2021, end date 30th June 2023).

Policy recommendations: (1) to improve the economic viability of legume-based systems and (2) to encourage the adoption of sustainable bio-based business models

Project specialist - International Civil Service

Jan '20 – Jun '20

FEPP- Fondo Ecuatoriano Populorum Progressio, Lago Agrio, Ecuador

Cooperation and rural development in favor of smallholders through their involvement in organizational and financial structures (support in the elaboration of business plans and business models).

EU funding project: “Construcción de paz y fortalecimiento de las estructuras organizativas y de la economía popular y solidaria”

Duration: 6 months | The project was supposed to last one year but it was interrupted because of covid-19. I spent the first 3 months of the project in the Ecuadorian Amazon while in the following months I worked remotely.

Education

Doctor of Philosophy in Agricultural And Food Economics, XXXVII Cicle

March 2025

University of Bologna, Department of Agricultural and Food Science

Curriculum: Agricultural and Food Economics and Policy

Agricultural and Food Economics

2017-2019

Master Degree (in English), Università Cattolica del Sacro Cuore, Cremona

- Key courses: Microeconomics, Econometrics, Markets, Agricultural and Food Policies, Mathematics
- Title of the thesis: “Quantitative analysis of Italian household expenditure focused on purchase and consumption places”
Keywords: Data Analysis, Food Consumption | Subject: Econometrics and Quantitative methods
- Final degree: **110/110 cum laude**

Economics, markets and institution

2014-2017

Bachelor degree, University of Bologna “Alma Mater Studiorum”, Bologna

- Key courses: Microeconomics, Macroeconomics; Political Science, Economic History, Mathematics applied to Economics

International experience

Exchange period during Ph.D. studies

Feb '24 -May '24

Universitat Politècnica de Valencia, Valencia, Spain

- Research group: IIAMA - GIMHE
- Quantitative methods: Multi Criteria Decision Analysis - Mathematical programming through GAMS

Erasmus Studio (Scholarship *Erasmus+*)*Spring 2019*

SLU- Swedish Agricultural University, Uppsala, Sweden

- Key courses: Value chain and networks in the bioeconomy, Global food system and food security

Exchange program*Spring 2017*

University of Bologna, Buenos Aires Campus, Argentina

- Core study area: Business and Economics
- Courses: International Economics, Business Strategy, International Marketing. All the courses were in Spanish

Honours and Awards**Scholarships Marco Polo***Feb '24 -May '24*

Marco Polo Programme aims at distributing mobility scholarships to promote research activities abroad for young UNIBO researchers.

Scholarship*Sept '22*

Summer School “Thinking and modelling Systems-Oriented Solutions for Sustainability”. Approaches to dynamical systems at Lake Como School of Advanced Studies. Scholarship awarded by the “System Dynamics Society -Italian Chapter”.

Scholarship “AFS/Intercultura”*2012/2013*

One-year exchange program in Sweden as a high school student hosted by a local family

Publications**Articles in scientific journals:**

- **Fasolino, N. G.**, Pellegrini, E., Raggi, M., & Viaggi, D. (2025). Dynamics in action: Exploring economic impacts of drought through a systemic approach. *Journal of Environmental Management*, 380, 125111. <https://doi.org/10.1016/j.jenvman.2025.125111>
- Zucaro, R., Baralla, S., Arzeni, A., Bodini, A., Ciaravino, R., Salato, N., Chinnici, P., **Fasolino, N. G.**, Pellegrini, E., Sarzotti, E., Ascione, E., Coppola, A., & Ruberto, M. (2025). Integrating Irrigation Decision Support Systems for Efficient Water Use: A Case Study on Mediterranean Agriculture. *Land*, 14(1), 5. <https://doi.org/10.3390/land14010005>
- Pellegrini, E., Dalmazzone, S., **Fasolino, N. G.**, Frontuto, V., Gizzi, P., Luppi, F., Moroni, F., Raggi, M., Zanni, G., & Viaggi, D. (2023). Economic Analysis under the Water Framework Directive: The State of the Art and Way forward. *Water*, 15(23), 4128. <https://doi.org/10.3390/w15234128>
- Rusciano, V., Ruberto, M., Baralla, S., **Fasolino, N. G.**, Pellegrini, E., & Zucaro, R. (2023). Assessing the Touristic Activities of Wetlands through the Travel Cost Method: A Case Study. *Water*, 15(23), 4146. <https://doi.org/10.3390/w15234146>

Contributions in books:

- **Fasolino N.G.**, Zavalloni M., Viaggi D. (2025). Chapter 11— Circularity and Bioeconomy: towards a circular bioeconomy. In D. Viaggi (Ed.), *Handbook on the Bioeconomy*. Edward Elgar Publishing. [10.4337/9781800373495.00018](https://doi.org/10.4337/9781800373495.00018)

- **Fasolino N.G.**, Rinaldi G.M., Viaggi D. (2025), Chapter 14— Modelling the Bioeconomy using system dynamics approaches. In D.Viaggi (Ed.), *Handbook on the Bioeconomy*. Edward Elgar Publishing. [10.4337/9781800373495.00021](https://doi.org/10.4337/9781800373495.00021)
- **Fasolino, N. G.**, Zavalloni, M., & Viaggi, D. (2023). Chapter 12—The role of collaboration and entrepreneurship in strengthening the participation of primary producers in the bioeconomy. In C. Keswani, C. Possas, E. Koukios, & D. Viaggi (Eds.), *Agricultural Bioeconomy* (pp. 231–244). Academic Press. <https://doi.org/10.1016/B978-0-323-90569-5.00013-5>

Deliverables and reports:

- “Report siccità: analisi economica degli impatti della siccità e possibili soluzioni tecniche e di governance” (2023), in collaboration with the University of Bologna, University of Torino, University of Ferrara and the Po River Basin Authority.
- **Fasolino, N.G.**, Folkesson C., Viaggi D., Deliverable 4.4 “Recommendations for policy-makers for the development of the bioeconomy” in the framework of H2020 Coopid project (2023) <https://coopid.eu/download/d4-4-recommendations-for-policy-makers>
- Chatzinikolaou, P., **Fasolino, N.G.**, Zavalloni, M., Lika, A., Raggi, M., Viaggi, D., Deliverable 4.3 “Quantitative analysis of selected policy measures” Work Package Leader UNIBO in the framework of H2020 LegValue project (2021)
- Chatzinikolaou, P., **Fasolino, N.G.**, Lewis-Reddy, L., Elliott, J., Zavalloni, M., Lika, A., Raggi, M., Viaggi, D., Deliverable 4.4 “Policy guidelines and good practices to boost legume cultivation in the EU” in the framework H2020 LegValue project (2021)

Knowledge transfer activities

Presentations at scientific conferences (verified by attendance certificates):

- **Fasolino N.G.**, Pellegrini E., Viaggi D. Assessing the impact of innovative water policy measures at farm level using farm-level simulation models, in V Congress AISSA #under40 Associazione Italiana Società Scientifiche Agrarie, 26-27 June 2024, Firenze, Italy [*Oral presentation*]
- **Fasolino, N.G.**, Pellegrini, E., Raggi M., Viaggi, D., Assessment of the interrelations of drought impacts: a case study, in XVII EAAE Congress, Rennes, 29 Agosto – 1 Settembre 2023 [*Poster*]
- **Fasolino, N.G.**, Pellegrini, E., Raggi M., Viaggi, D., Assessment of the interrelations of different drought impacts through a Causal Loop Diagram: a case study, in 27th Annual ICABR Conference (ICABR), Buenos Aires, 4-8 July 2023 [*Oral presentation*]
- **Fasolino, N.G.**, Zavalloni M., Viaggi, D., How to engage farmers in the bioeconomy in 12th Conference of the Italian Association of Agricultural and Applied Economics (AIEAA), 22-23 June 2023, Milano, Italy [*Poster*]
- **Fasolino, N.G.**, Pellegrini, E., Raggi M., Viaggi, D., Assessment of the interrelations of different drought impacts through a Causal Loop Diagram: a case study, in 12th Conference of the Italian Association of Agricultural and Applied Economics (AIEAA), 22-23 June 2023, Milano, Italy [*Oral presentation*]

- **Fasolino, N.G.**, Zavalloni, M., Viaggi, D., The role of policies in strengthening the participation of primary producers in the bioeconomy through boosting their collaboration, in 26th Annual Conference of the The International Consortium on Applied Bioeconomy Research (ICABR), 5-8 July 2022, Bologna, Italy [*Oral presentation*]
- **Fasolino, N.G.**, Viaggi, D., Social and Economic implication in flexible value webs in the bioeconomy, in 9th PhD Workshop organized by the European Association Agricultural Economist (EAAE), 22-24 June 2022, Parma, Italy [*Oral presentation*]
- **Fasolino, N.G.**, Zavalloni, M., Viaggi, D., The role of policies in strengthening the participation of primary producers in the bioeconomy through boosting their collaboration, in 11th Conference of the Italian Association of Agricultural and Applied Economics (AIEAA), 15-17 June 2022, Viterbo, Italy [*Oral presentation*]
- **Fasolino N.G**, Zavalloni M., Viaggi D., O Dwyer B., Gaffey J., Marsh E. ,Entrepreneurial orientation as a factor influencing collaboration within bioeconomy clusters, in European Bioeconomy Scientific Forum (EBU), 22-23 September 2021, Online [*Oral presentation*]

Other dissemination activities:

- Speaker at “Bioeconomy Day”, Bologna. 25th May 2023. Title of the contribution: “Presenting the results of the Coopid Project: Cooperation in bioeconomy clusters for bio-based knowledge transfer via Innovative Dissemination techniques in the primary production sector”
- Speaker at the Seminar “Parliamone al distal”, 22nd Aprile 2023. Title of the contribution: “Siccità 2022 nel Distretto Idrografico del Po: impatti, interazioni tra settori e possibili soluzioni” (in Italian)
- Moderator and speaker at four Coopid Webinars, online in March 2022. Title: “The European Bioeconomy through the presentation of successful cases within the European bioeconomy sector”. The webinars attracted in total over 350 agronomists.
- Speaker at a local congress named “L’innovazione sostenibile” organized by “Donne in campo” (Women in the agriculture), 9th March 2023, Fidenza. Title of the contribution: “Modelli di business inclusivi e sostenibili per gli agricoltori” (in Italian)
- Speaker at the workshop “Cambiamenti Climatici e Siccità - La ricerca” jointly organized with Consorzio di Bonifica della Romagna, 20 February, Bologna. Title of the contribution “Valutazione degli impatti della siccità 2022” (in Italian)

Review of theses and articles

- Co-supervisor of five master theses in Agricultural Science, University of Bologna:
Titles in Italian
 - i. Analisi degli impatti causati dalla siccità 2022 per settore economico in Emilia-Romagna; 2023
 - ii. I possibili scenari sui pagamenti diretti derivanti dall’applicazione della nuova politica agricola europea 2023-2027; 2022
 - iii. Indagine sugli impatti della siccità 2022 in Emilia-Romagna; 2022
 - iv. Analisi dell’effetto della siccità 2022 sul rendimento agricolo di un’azienda agricola veronese; 2022
 - v. Conoscenza, percezione e prospettive future sulla bioeconomia: indagine con stakeholders; 2021
- Anonymous reviewer for scientific journals (Bio-based and Applied Economics, Agricultural and Food Economics)

Teaching experience

- Teacher assistant of the course (in italian) “Laboratorio 4 - 85871”; Academic Year 2023/2024; Second cycle degree programme in Agricultural Sciences and Technologies (cod. 9235), University of Bologna. The course focuses on group work aimed at writing the business model and business plan of an innovative business idea.
- Lecture titled (in english) “Biobased business models in the bioeconomy: cases study from Europe (4h)”, part of the course “Food Economics & Policy - 94471”; April 2023; Second cycle degree programme in Food safety and Risk management (cod. 9140), University of Bologna.
- Lecture titled (in italian) “Il ruolo dell’agricoltura nella bioeconomia (4h)”, part of the course “Principles of economics”; April 2022; Professional Master programme in Bioeconomy in the circular economy (BIOCIRCE code- 0000), University of Bologna.

Other professional training activities:

- Course: “Privacy and processing of personal data” held online by the University of Bologna
- Course: “compulsory safety and health training” held online by University of Bologna (2021)

Language skills

- Italian – Native Language
- English – Advanced
- Spanish – Intermediate
- Swedish - Intermediate

IT skills

- Analysis Software: GAMS, Stata
- Bibliographic Reference Management: Zotero, Mendeley
- Internet Browsing and Communication: Internet Explorer, Google Chrome, Skype, Teams
- Others: Office 365, Vensim