

Gülşah Yılan

A. Personal Information

Researcher

UnitelmaSapienza University of Rome

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B. Experience

- January 2022 – present Postdoc Researcher, Assegna di Ricerca in Economic Policy (SECS-P/02), UnitelmaSapienza University of Rome, Italy
- November 2022 – present Project Manager, SUSTRACK (HE Project 101081823)
- June 2020 – December 2021 Postdoc Researcher, Borsa di Studio on the topic of Socio-economic Aspects of Sustainability Assessment, UnitelmaSapienza University of Rome, Italy
- October 2022 – February 2011 Research Assistant, Marmara University, Turkey

C. Educational Background

- 2018 – 2011 PhD, Department of Chemical Engineering, Institute of Pure and Applied Sciences, Marmara University. Grade: 100 / 100. Dissertation: Comparison of Life Cycle Assessment of Electricity Production Mix in Turkey with Future Electricity Production Scenarios (in English).
- 2016 – 2017 Pedagogical Formation Certificate Program, Atatürk Faculty of Education, Marmara University. Grade: 84/100 (in Turkish).
- 2011 – 2008 MSc, Department of Bioengineering, Institute of Pure and Applied Sciences, Marmara University. Grade: 93.75/100. Dissertation: Microbial Adaptation to Stress Conditions Using an Integrative Modelling and Experimental Approach (in English).
- 2008 – 2004 BSc, Department of Chemical Engineering, Faculty of Engineering, Marmara University. Grade: 84.4/100. Dissertation: Acclimating a Business Centre with Solar-Assisted Cooling (in Turkish).

D. Research Interests

Circular Bioeconomy (CBE), Sustainability Transition, Waste Management Strategies, Renewable Energy Technologies, Environmental Life Cycle Assessment (E-LCA), Social Life Cycle Assessment (S-LCA), Life Cycle Sustainability Analysis (LCSA), Multi-Criteria Decision Making (MCDM), Fuzzy Cognitive Mapping (FCM), Mathematical Modelling.

E. Scientific Activities

Paper Publications:

Class A Scientific Journals

- [1] Morone, P., Yilan, G., Imbert, E., Becchetti, L. (2022). Reconciling human health with the environment while struggling against the COVID-19 pandemic through improved face mask eco-design. *Scientific Reports*, 12, 2445. (*Rivista scientifica di Fascia A*, IF: 4,996)
- [2] Morone, P., Yilan, G., Imbert, E. (2021). Using fuzzy cognitive maps to identify better policy strategies to valorize organic waste flows: An Italian case study. *Journal of Cleaner Production*, 319, 128722. (*Rivista scientifica di Fascia A*, IF: 11,1)
- [3] Yıldız-Geyhan, E., Yilan, G., Altun-Çiftçioğlu, G. A., Kadirgan, M. A. N. (2019). Environmental and social life cycle sustainability assessment of different packaging waste collection systems. *Resources, Conservation and Recycling*, 143, 119-132. (*Rivista scientifica di Fascia A*, IF: 13,2)
- [4] Yıldız-Geyhan, E., Yilan-Çiftçi, G., Altun-Çiftçioğlu, G. A., Kadirgan, M. A. N. (2016). Environmental analysis of different packaging waste collection systems for Istanbul–Turkey case study. *Resources, Conservation and Recycling*, 107, 27-37. (*Rivista scientifica di Fascia A*, IF: 13,2)

Scientific Journals

- [1] Morone, P., D'Adamo, I., Yilan, G. (2023) Editorial overview: The fashion industry wears the circular economy and sustainability, *Current Opinion in Green and Sustainable Chemistry*, 42, 100815. (*Rivista scientifica*, IF: 9,3)
- [2] Yilan, G., Cordella, M., Morone, P. (2022) Evaluating and managing the sustainability of investments in green chemistry: analysis of approaches and metrics. *Current Opinion in Green and Sustainable Chemistry*, 100635. (*Rivista scientifica*, IF: 9,3)
- [3] Yilan, G., Kadirgan, M. N., Çiftçioğlu, G. A. (2020). Analysis of electricity generation options for sustainable energy decision making: The case of Turkey. *Renewable Energy*, 146, 519-529. (*Rivista scientifica*, IF: 8,7)

Other Journals

- [1] Yilan, G., Cordella, M., Morone, P. (2023) Evaluating and managing the sustainability performance of investments in green and sustainable chemistry: Development and application of an approach to assess bio-based and biodegradable plastics. *Current Research in Green and Sustainable Chemistry*, 6, 100353. (*Online ISSN: 2666-0865*)
- [2] Abdelgadir, M. , Yilan, G. & Çiftçioğlu, G. (2022). A Comparative Life Cycle Assessment of Two Different Crude Oil Types for a Refinery in Sudan. *Bayburt University Journal of Science*, 5(1), 1-7. (*Online ISSN: 2667-579X*)
- [3] Morone, P., Yilan, G., Encino-Muñoz, A.G. (2021). Transition to a Circular, Sustainable, and Equitable Fashion Industry in a Global North/South Perspective. *Africa e Mediterraneo*, 94 (1), 7-15. (*ISSN: 1121-8495*)

- [4] Morone, P., Yilan, G. (2020). A paradigm shift in sustainability: from lines to circles. *Acta Innovations*, 36, 5-16. (ISSN: 2300-5599)
- [5] Ceylan, S., Yilan, G., Akbulut, B. S., Poli, A., Kazan, D. (2012). Interplay of adaptive capabilities of *Halomonas* sp. AAD12 under salt stress. *Journal of Bioscience and Bioengineering*, 114 (1), 45-52.

Books:

- [1] Morone, P., D’Amato, D., Befort, N., Yilan, G. (*in press*). *The Circular Bioeconomy: Theories and Tools for Economists and Sustainability Scientists*. Cambridge University Press. (Online ISBN: 9781009232586).

Book Chapters:

- [1] Schipfer, F., Yilan, G., Morone, P., Govoni, F. (2022). Strategies for brand owners and retailers in the circular bioeconomy transition. In “The Role of Business in Global Sustainability Transformations”. Eds: D’Amato, D., Toppinen, A., Kozak, R. 79-95, Routledge.
- [2] Falcone, P.M., Yilan, G., Morone, P. (2022) Transitioning towards circularity in the fashion industry: Some answers from science and future implications. In “Circular Economy and Waste Valorisation: Theory and Practice from an International Perspective”. Ed: Ren, J. 81-101, Springer, Cham.

International Research Projects:

- [1] *Project Manager & Researcher*. SUSTRACK – Supporting the identification of policy priorities and recommendations for designing a sustainable track towards circular bio-based systems. HE CSA Project funded under HORIZON-CL6-2022-CIRCBIO-01-03 with the identifier number 101081823, coordinated by UnitelmaSapienza University of Rome (Italy), 2022 – 2025.
- [2] *Researcher*. BIORECER – Biological Resources Certifications Schemes. HE IA Project funded under HORIZON-CL6-2021-ZEROPOLLUTION-01-05 with the identifier number 101060684, coordinated by Fundacion Centro Gallego de Investigaciones del Agua (Spain), 2022 – 2025.
- [3] *Researcher*. Assessing the Italian Sustainability Transition Towards a Circular Bioeconomy, Universita Degli Studi di Roma Unitelma Sapienza and Universität Bremen (as the beneficiary of the German Federal Ministry of Education and Research), within the framework of the concept *Bioeconomy as social change*, with the identifier number 031B0781A, supervised by Prof. Dr. Piergiuseppe Morone, UnitelmaSapienza University of Rome (Italy), 2020 – 2022.

Project Reports:

- [1] D1.1 Report on the literature gaps and trade-offs. SUSTRACK – Supporting the identification of policy priorities and recommendations for designing a sustainable track towards circular bio-based systems.
- [2] D4.1 Report on the whole development of the BioResources Stakeholders Platform. BIORECER – Biological Resources Certifications Schemes.

National Research Projects:

- [1] *Researcher.* NOW LET's GO – NO Waste from LEather GOods (Nuova vita agli scarti dall'industria della moda in pelle). Project funded by the Italian Ministry of the Environment and the Protection of the Territory and the Sea, coordinated by the Italian Leather Research Institute (Italy) and UnitelmaSapienza University of Rome (Italy), 2022 – 2024.
- [2] *Researcher.* Socio-economic impacts of circular leather processing, funded by UnitelmaSapienza University of Rome, supervised by Dr. Enrica Imbert, UnitelmaSapienza University of Rome (Italy), 2022-2023.
- [3] *Researcher.* Life Cycle Assessment of Turkey Electricity Mix in Comparison with Future Generation Scenarios, funded by Marmara University Scientific Research Project Commission with the identifier number BAPKO FEN-C-DRP-150513-0175, supervised by Prof. Dr. Gökçen A. Çiftçioğlu, Marmara University (Turkey), 2016 – 2013.
- [4] *Researcher.* Investigation of Microbial Adaptation to Stress Conditions via Integrated Modeling and Experimental Approach, funded by Marmara University Scientific Research Project Commission with the identifier number BAPKO FEN-C-YLP-171209-0342, supervised by Prof. Dr. Berna Sariyar-Akbulut, Marmara University (Turkey), 2011 – 2009.
- [5] *Scholar.* Extremophiles as the Natural Sources in Biotechnological Applications: Investigation of Osmoregulation Strategies via Engineering Principles, funded by The Scientific and Technological Research Council of Turkey (TÜBİTAK) with the identifier number MAG 110T174, supervised by Prof. Dr. Berna Sariyar-Akbulut, Marmara University (Turkey), 2011 – 2010.
- [6] *Scholar.* Investigation of Metabolic Capacities in Stress Conditions via Biosystems Engineering Principles, funded by The Scientific and Technological Research Council of Turkey (TÜBİTAK) with the identifier number MAG 108M597, supervised by Prof. Dr. Berna Sariyar-Akbulut, Marmara University (Turkey), 2010 – 2009.

Oral Presentations:

- [1] Yilan, G., Encino-Munoz, A.G., Morone, P. Addressing the Gaps in the Circular Fashion Model from a Global North/Global South perspective. SCORAI-ERSCP-WUR Conference, Transforming Consumption-Production Systems Toward Just and Sustainable Futures, Wageningen, Netherlands, 5-8 July 2023.
- [2] Yilan, G., Cordella, M., Morone, P. The impact of investments in green and sustainable chemicals on three areas of protection: human health, ecosystem quality, and resource scarcity. 7th Green and Sustainable Chemistry Conference, Dresden, Germany, 22-24 May 2023.
- [3] Cascavilla, A. , Yilan, G., Colasante, A., Morone, P. The green and social peer effects on the willingness to pay for increasing sustainability: experimental evidence in the fashion industry. Sustainability Environmental Economics and Dynamics Studies (SEEDS), Ferrara, Italy, 5 May 2023.
- [4] Yilan, G., Encino-Munoz, A.G., Morone, P. Recycling Waste Plastic: An implementation of the Circular Economy Principles or Just Pollution Shift. 6th EurAsia Waste Management Symposium, İstanbul, Turkey, 24-26 October 2022.

- [5] Morone, P., Yilan, G., Encino-Munoz, A.G. Tracing Waste to Assess Circular Economy Gaps from a Global Perspective. Sustainable Solutions at Times of Transition (SuST), Nisyros, Greece, 14-17 July 2022.
- [6] Morone, P., Yilan, G., Imbert, E. The pursuit of an ethical, circular, and sustainable fashion sector: the Cartiera case study. 9th International Conference on Sustainable Solid Waste Management, Corfu, Greece, 15-18 June 2022.
- [7] Abdelgadir, M., Yilan, G., Çiftçioğlu, G.A. A Comparative Life Cycle Assessment of Two Different Crude Oil Types for a Refinery in Sudan. International Online Engineering and Natural Sciences Conference (IOCENS'21), Gümüşhane, Turkey, 5-6 July 2021.
- [8] Abdelgadir, M., Yilan, G., Çiftçioğlu, G.A. The Assessment of Environmental Impacts: A Case Study of a Crude Oil Refinery in Sudan. International Online Engineering and Natural Sciences Conference (IOCENS'21), Gümüşhane, Turkey, 5-6 July 2021.
- [9] Yilan, G., Özcan, A., Çağlar, T. Sustainable cardboard label production. International Symposium on Graphic Engineering and Design (GRID 2020), Novi-Sad, Serbia, 12-14 November 2020.
- [10] Morone, P., Yilan, G., Imbert, E. Discourse Analysis of the Sustainability Transition for the Organic Fraction of Italian Municipal Waste. Workshop on Accelerating Green Innovations, Bremen, Germany, 1-2 October 2020.
- [11] Yilan, G., Yıldız-Geyhan, E., Çiftçioğlu, G.A., Kadirgan, M.A.N. Environmental Impact Assessment of Electricity Generation in Turkey. 4th International Conference on Viable Energy Trends (InVenT-2019), İstanbul, Turkey, 26-28 April 2019.
- [12] Yilan, G., Çiftçioğlu, G.A., Kadirgan, M.A.N. Electricity Sector Investments in Turkey with the Comparison of Environmental Burdens Generated. The 2nd International Conference on Applications in Chemistry and Chemical Engineering (ICACChE), Belgrade, Serbia, 10-14 October 2018.
- [13] Yilan, G., Çiftçioğlu, G.A., Kadirgan, M.A.N. A Country-based Comparison of Global Warming Potential of National Electricity Generation. The 2nd International Conference on Applications in Chemistry and Chemical Engineering (ICACChE), Belgrade, Serbia, 10-14 October 2018.
- [14] Yilan, G., Çiftçioğlu, G.A., Kadirgan, M.A.N. Comparison of Electricity Generation Technologies Using Life Cycle Assessment. 3rd International Conference on Engineering and Natural Sciences (ICENS 2017), Budapest, Hungary, 3-7 May 2017.
- [15] Yilan, G., Kadirgan, M.A.N., Çiftçioğlu, G.A. Multi-Criteria Decision Analysis MCDA of Electricity Generation Options for Sustainable Energy Decision Making (DM): The Turkey Case. 10th Conference on Sustainable Development of Energy, Water and Environment Systems (SDEWES), Dubrovnik, Croatia, 27 September-2 October 2015.
- [16] Sariyar-Akbulut B., Ceylan S., Yilan G., Kazan D. Analysis of the Osmolyte Strategy of the Moderately Halophilic *Halomonas sp. AAD12*. The 12th International Conference on Systems Biology (ICSB 2011), Heidelberg, Germany, 28 August-1 September 2011.

F. Teaching Activities

Lectures:

- [1] Challenges and tools for sustainability assessment (ECTS 6). Department of Law and Economics, UnitelmaSapienza University of Rome, Rome, Italy 2023 – 2024 (online).
- [2] Calculus I (ECTS 6). Department of Chemical Engineering, Faculty of Engineering, Marmara University, İstanbul, Turkey, 2019 Summer School (in class).
- [3] Calculus I (ECTS 6). Department of Chemical Engineering, Faculty of Engineering, Marmara University, İstanbul, Turkey, 2019 – 2020 Fall (in class).
- [4] Calculus II (ECTS 6). Department of Chemical Engineering, Faculty of Engineering, Marmara University, İstanbul, Turkey, 2019 – 2020 Spring (in class and online).
- [5] Calculus II (ECTS 6). Department of Chemical Engineering, Faculty of Engineering, Marmara University, İstanbul, Turkey, 2020 Summer School (online).

Teaching Assistance:

- [1] Chemistry Laboratories: General Chemistry, Physical Chemistry, Analytical Chemistry, Organic Chemistry, Instrumental Analysis, Chemical Kinetics. Department of Chemical Engineering, Faculty of Engineering, Marmara University, İstanbul, Turkey, 2011 – 2020.
- [2] Engineering Laboratories: Heat Transfer, Unit Operations, Separation Processes, Control Systems, Process Design. Department of Chemical Engineering, Faculty of Engineering, Marmara University, İstanbul, Turkey, 2011 – 2020.

Supervised Theses:

- [1] Ethical Luxury: A New Sustainable Reality (in English), MSc Thesis by Alessandra Preziosi; Supervisor: Prof. Piergiuseppe Morone; Co-Supervisor: Dr. Gülşah Yılan. Thesis in Economics of Innovation, Department of Law and Economics, UnitelmaSapienza University of Rome, Italy, 2023.
- [2] Life Cycle Assessment of Crude Oil Processing Plant in Sudan (in English), MSc Thesis by Mohammed Abdelgadir; Supervisor: Prof. Dr. Gökçen A. Çiftçioğlu; Co-Supervisor: Dr. Gülşah Yılan. Department of Chemical Engineering, Institute of Pure and Applied Sciences, Marmara University, Turkey, 2021.
- [3] Sustainability in Printing Industry: A Study on Cardboard Label Production (in Turkish), MSc Thesis by Tanju Çağlar; Supervisor: Prof. Dr. Arif Özcan; Co-Supervisor: Dr. Gülşah Yılan. Department of Printing Technologies, Institute of Pure and Applied Sciences, Marmara University, Turkey, 2021.
- [4] Sustainability Analysis of the Energy Sector (in Turkish), BSc Thesis by Kaan Batuman and Onur Oğur, Supervisor: Dr. Gülşah Yılan. Department of Chemical Engineering, Faculty of Engineering, Marmara University, Turkey, 2020.

Guest Lectures:

- [1] One module of “Sustainability Assessment” (20 hours) as a part of the course Environmental Economics by Prof. Morone, Faculty of Engineering, Sapienza University of Rome, Rome, Italy, 2021-2022.

- [2] Industrial, communicative and symbolic choices of the big fashion brands in relation to sustainability in “Training course in new challenges for the fashion industry: sustainability, circular economy and corporate responsibility”, UnitelmaSapienza University of Rome, Rome, Italy, 2022.
- [3] Sustainability Assessment Tools Applied to the Bioeconomy, European Master in Biological and Chemical Engineering for a Sustainable Bioeconomy, Neoma Business School, Paris, France, 2022.
- [4] Introduction of the Basics of Life Cycle Assessment and its Application to a Case Study, Ege University, İzmir, Turkey, 2021.
- [5] A Combined Application of LCA and MCDA Methodologies on Sustainability Assessment Studies, UnitelmaSapienza University of Rome, Rome, Italy, 2020.
- [6] Introduction of the Basics of Life Cycle Assessment and its Application to a Case Study, Istanbul Technical University, Istanbul, Turkey, 2018 – 2022.

G. Editing and Reviewing Activities

Societal Impacts, Elsevier, 2023, Editorial Board Member

Societal Impacts, Elsevier, 2023, Reviewer

Environment, Development and Sustainability, Springer Nature, 2023, Reviewer

Current Opinion in Green and Sustainable Chemistry, Elsevier, 2022, Reviewer

Current Opinion in Green and Sustainable Chemistry, Elsevier, 2021, Co-Editor

Energy Exploration & Exploitation, SAGE, 2021, Reviewer

Journal of Cleaner Production, Elsevier, 2021, Reviewer

Global Journal of Flexible Systems Management, Springer Nature, 2021, Reviewer

Applied Energy, Elsevier, 2020, Reviewer

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Signature


