PERSONAL INFORMATION

Francesca Pagnanelli

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 2022 – to today

Full Professor

Department of Chemistry, La Sapienza University

Coordination of research activities in process development for the recycling of technological wastes (batteries and accumulators) and the production of new electrodic materials

Sector: Theory of the development of chemical processes

From 2012 – to 2022

Associate Professor

Department of Chemistry, La Sapienza University

Coordination of research activities in process development for the recycling of technological wastes (batteries and accumulators) and the production of new electrodic materials

Sector: Theory of the development of chemical processes

From 2004 – to 2012

Researcher

Department of Chemistry, La Sapienza University

Research activities in hydro- and biotechnological applications (bioleaching, biosorption, bioprecipitation)

Sector: Theory of the development of chemical processes

From 2016 – to today

Director of the High-Tech Recycling Interuniversity Research Centre

Department of Chemistry, La Sapienza University

Web-site: https://www.chem.uniroma1.it/strutture/centri-di-ricerca/htr

Coordination of research activities in process development for valorisation of technological wastes and agro-industrial by-products

From 2008 – to today

Co-owner of the company Eco Recycling

spin off company of Sapienza University

Web-site: http://ecorecycling.eu/

- Technology transfer of innovative recycling processes

EDUCATION AND TRAINING

From 2000 – to 2003

PhD in Industrial Chemical Processes

Department of Chemistry, La Sapienza University

- Biosorbent material development; biosorption equilibrium modelling; dynamic modelling of reactors

From 1992 – to 1999

Master Degree in Industrial Chemistry

Department of Chemistry, La Sapienza University

PERSONAL SKILLS

Mother tongue	Italian
Other language(s)	English
Job-related skills	Technical managing of EU financed projects
Digital skills	Data analysis, process simulations

ADDITIONAL INFORMATION

Bibliographic indices

H index = 40 (Scopus)
Total Citations = 5056 (Scopus)

Selected Publications

1. Di Caprio, F., Pellini, A., Zanoni, R., Astolfi, M.L., Altimari, P., Pagnanelli, F., Two-phase synthesis of Fe-loaded hydrochar for As removal: The distinct effects of initial pH, reaction time and Fe/hydrochar ratio (2022) Journal of Environmental Management, 302, art. no. 114058, DOI: 10.1016/j.jenvman.2021.114058
2. Di Caprio, F., Tayou Nguemna, L., Stoller, M., Giona, M., Pagnanelli, F., Microalgae cultivation by uncoupled nutrient supply in sequencing batch reactor (SBR) integrated with olive mill wastewater treatment (2021) Chemical Engineering Journal, 410, art. no. 128417, DOI: 10.1016/j.cej.2021.128417
3. Capobianco, L., Di Caprio, F., Altimari, P., Astolfi, M.L., Pagnanelli, F., Production of an iron-coated adsorbent for arsenic removal by hydrothermal carbonization of olive pomace: Effect of the feedwater pH (2020) Journal of Environmental Management, 273, art. no. 111164, DOI: 10.1016/j.jenvman.2020.111164
4. Di Caprio, F., Altimari, P., Pagnanelli, F., Sequential extraction of lutein and β-carotene from wet microalgal biomass (2020) Journal of Chemical Technology and Biotechnology, 95 (11), pp. 3024-3033, DOI: 10.1002/jctb.6464
5. Di Caprio, F., Scarponi, P., Altimari, P., Iaquaniello, G., Pagnanelli, F., The influence of phenols extracted from olive mill wastewater on the heterotrophic and mixotrophic growth of Scenedesmus sp. (2018) Journal of Chemical Technology and Biotechnology, 93 (12), pp. 3619-3626, DOI: 10.1002/jctb.5743
6. Schiavi, P.G., Zanoni, R., Branchi, M., Marcucci, C., Zamparelli, C., Altimari, P., Navarra, M.A., Pagnanelli, F., Upcycling Real Waste Mixed Lithium-Ion Batteries by Simultaneous Production of rGO and Lithium-Manganese-Rich Cathode Material (2021) ACS Sustainable Chemistry and Engineering, 9 (39), pp. 13303-13311, DOI: 10.1021/acssuschemeng.1c04690
7. Schiavi, P.G., Altimari, P., Branchi, M., Zanoni, R., Simonetti, G., Navarra, M.A., Pagnanelli, F., Selective recovery of cobalt from mixed lithium ion battery wastes using deep eutectic solvent (2021) Chemical Engineering Journal, 417, art. no. 129249, DOI: 10.1016/j.cej.2021.129249
8. Schiavi, P.G., Altimari, P., Zanoni, R., Pagnanelli, F., Full recycling of spent lithium ion batteries with production of core-shell nanowires//exfoliated graphite asymmetric supercapacitor (2021) Journal of Energy Chemistry, 58, pp. 336-344, DOI: 10.1016/j.jechem.2020.10.025
9. Schiavi, P.G., Baldassari, L., Altimari, P., Moscardini, E., Toro, L., Pagnanelli, F., Process simulation for Li-MnO2 primary battery recycling: Cryo-mechanical and hydrometallurgical treatments at pilot scale (2020) Energies, 13 (17), art. no. en13174546, DOI: 10.3390/en13174546
10. Schiavi, P.G., Farina, L., Zanoni, R., Altimari, P., Cojocariu, I., Rubino, A., Navarra, M.A., Panero, S., Pagnanelli, F., Electrochemical synthesis of nanowire anodes from spent lithium ion batteries (2019) Electrochimica Acta, 319, pp. 481-489, DOI: 10.1016/j.electacta.2019.07.024

Financed Projects

- Responsible of Operating Unit in the EU project DRONE: Direct pROduction of New Electrode materials from battery recycling (Website: https://www.lifedrone.eu/)
- Project Manager in the EU project LIFE-LIBAT: Recycling of primary LIthium BATtery by

mechanical and hydrometallurgical operations (Website: http://www.lifelibat.eu/it)

- Responsible of Operating Unit in the EU project Hydroweee DEMO: Innovative Hydrometallurgical Processes to recover Metals from WEEE including lamps and batteries: Demonstration (Website: https://cordis.europa.eu/project/id/308549/reporting/it)
- Responsible of Unit in the EU project: MEWLIFE: MicroalgaE biomass from phototrophic-heterotrophic cultivation using olive oil Wastewaters (https://www.mewlife.eu/)
- Responsible of the EU project BIOAs: Removal of As from water using innovative BIO-adsorbents produced from by-products of the agro-industrial sector(https://www.lifebioas.eu/)
- Responsible of the national project Alghe Energetiche co-found by Ministero dell'Ambiente e della Tutela del Territorio e del Mare

Patents

- Co-inventor of the EU patent Process for the cultivation of microalgae for the production of starch (2018) 18211136.9
- Co-inventor of the EU patent: Plant and process for the treatment of exhausted accumulators and batteries (2012) EP 2450991
- Co-inventor of the EU patent: Process and plant for the treatment of run-down batteries (2006) EP1684369

Rome, 07/11/2022