

ANTHI KARNAOURI

Assistant Professor, Agricultural University of Athens

Laboratory of General and Agricultural Microbiology, Faculty of Crop Science,
School of Plant Sciences

Iera Odos 75, Athens, Greece, 11855, tel. +30 210 53294346,
akarnaouri@aua.gr



RESEARCH INTERESTS

- Cloning, heterologous expression, production and characterization of novel biocatalysts involved in the degradation of lignocellulosic biomass.
- Development of enzyme-mediated biocatalytic processes for the production of added value compounds from industrial by-products and pollutants, including different streams obtained from biomass pretreatment, furans, synthetic polymers and other xenobiotic compounds.
- Development of microbial fermentation processes both in small-scale cultures and bioreactors for the production of useful products, including proteins, mycelial biomass, lactic acid, ω -3 fatty acids and nanocellulose.

EDUCATION

- **01/2015:** Ph.D. in Biotechnology, School of Chemical Engineering, National Technical University of Athens, Athens, Greece. Thesis title: "Construction of microbial platform for the production of thermophilic enzymes implicated in lignocellulose degradation", Advisor Prof. Paul Christakopoulos
- **07/2010:** MSc. in Microbial Biotechnology, University of Athens, Athens, Greece
- **04/2008:** BSc., Biology, National Kapodistrian University of Athens (UoA), Athens, Greece

WORK EXPERIENCE

- **05/2022 – current:** Assistant Professor in Microbial Biotechnology, Agricultural University of Athens, Greece
- **2017 – 2022:** Senior Researcher, Laboratory of Biotechnology, School of Chemical Engineering, National Technical University of Athens, Greece
- **2015 – 2017:** Postdoctoral Researcher, Laboratory of Biotechnology, Department of Civil, Environmental & Natural Resources Engineering, Luleå University of Technology, Sweden
- **2016:** Postdoctoral Researcher, Short Term Scientific Mission (4 months), Department of Chemical Sciences and Technologies, University of Rome 'Tor Vergata', Italy
- **2014:** Postdoctoral Researcher, Short Term Scientific Mission (7 months), Laboratory of Biotechnology, Department of Civil, Environmental & Natural Resources Engineering, Luleå University of Technology, Sweden

SELECTED PUBLICATIONS IN PEER-REVIEWED JOURNALS (43 PUBLICATIONS IN TOTAL, SCOPUS H-INDEX 20)

- Chorozian, K., **Karnaouri, A.**, Karantonis A., Souli, M., Topakas, E. (2022) Characterization of a dual cellulolytic/xylanolytic AA9 lytic polysaccharide monoxygenase from *Thermothelomyces thermophilus* and its utilization toward nanocellulose production in a multi-step bioprocess. *ACS Sustainable Chem. Eng.* 10, 27, 8919–8929
- Karnaouri, A.**, Asimakopoulou, G., Kalogiannis, K.G., Lappas, A.A., Topakas, E. (2021) Efficient production of nutraceuticals and lactic acid from lignocellulosic biomass by combining organosolv fractionation with enzymatic/fermentative routes. *Bioresour. Technol.* 341, 125846
- Karnaouri, A.**, Jalvo, B., Moritz, P., Matsakas, L., Rova, U., Höfft, O., Sourkouni, G., Maus-Friedrichs, W., Mathew, A.P., Christakopoulos, P. (2021) Lytic polysaccharide monoxygenase-assisted preparation of oxidized-cellulose nanocrystals with a high carboxyl content from the tunic of marine invertebrate *Ciona intestinalis*. *ACS Sustainable Chem. Eng.* 2020, 8(50), 18400
- Karnaouri A.**, Matsakas L, Krikigianni E, Christakopoulos P, Rova U. (2020) Valorization of waste forest biomass towards the production of cello-oligosaccharides with prebiotic potential by utilizing customized enzyme cocktails. *Biotechnol Biofuels* 12, 285.
- Karnaouri A.**, Muraleedharan MN, Dimarogona M, Topakas E, Rova U, Sandgren M, Christakopoulos P. (2017) Recombinant expression of thermostable processive *MtEG5* endoglucanase and its synergism with *MtLPMO* from *Myceliophthora thermophila* during the hydrolysis of lignocellulosic substrates, *Biotechnol Biofuels* 10:126.
- Karnaouri A.**, Topakas E, Christakopoulos P. (2014) Cloning, expression, and characterization of a thermostable GH7 endoglucanase from *Myceliophthora thermophila* capable of high-consistency enzymatic liquefaction. *Appl. Microbiol. Biotechnol.* 98(1):231-42.