

**Anastasia Zerva, Assistant Professor, AUA**

My expertise lies in the field of Enzymology and Enzyme Biotechnology, specializing in the discovery and characterization of novel enzymes from microbial sources and their biotechnological application, with emphasis on the elucidation of the synergistic relationships of various enzymes on lignocellulosic biomass saccharification. I have extensive experience in exploiting bioinformatics tools for the discovery of novel enzymes with superior properties, with a strong background in heterologous expression of proteins in eukaryotic and prokaryotic systems. My activity is documented in 34 refereed publications in International Scientific Journals and Book Chapters, while according to Scopus and Google Scholar analysis (May 2024), my publications were cited 705 (h-index 16) and 809 (h-index 16) times, respectively. As a PostDoc Researcher, I gained a scholarship for young researchers from the Embassy of France in Greece ('Sejours scientifiques de haut niveau'). Since my appointment to the position of Assistant Professor in AUA, I have participated to the supervision of one PhD candidate, as member of the Advisory board, and to the examination committee of two more PhD candidates. Moreover, I have participated in 6 National and European Research Projects related to the biotechnological exploitation of biomass and biocatalysts for the production of high-added value compounds, and I have been the PI in a HFRI-funded project for the support of Post-Doctoral Researchers, related to the exploitation of synergistic relationships among different lignocellulolytic enzymes on biomass degradation. Also, I have strong background in the biochemistry of accessory enzymes for the degradation of lignocellulose, working with ligninolytic peroxidases and laccases during my PhD thesis, but also with esterases, xylanases and lytic polysaccharide monoxygenases in my various postdoctoral positions.

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**Representative publications:**

1. Pentari, C., **Zerva, A.**, Kosinas, C., Karampa, P., Puchart, V., Dimarogona, M., Topakas, E., 2024. The role of CE16 exo-deacetylases in hemicellulolytic enzyme mixtures revealed by the biochemical and structural study of the novel TtCE16B esterase. *Carbohydr. Polym.* 327, 121667. <https://doi.org/10.1016/j.carbpol.2023.121667>
2. **Zerva, A.**, Siaperas, R., Taxeidis, G., Kyriakidi, M., Vouyiouka, S., Zervakis, G.I., Topakas, E., 2023. Investigation of Abortiporus biennis lignocellulolytic toolbox, and the role of laccases in polystyrene degradation. *Chemosphere* 312, 137338. <https://doi.org/10.1016/j.chemosphere.2022.137338>
3. Pentari, C., **Zerva, A.**, Dimarogona, M., Topakas, E., 2023. The xylobiohydrolase activity of a GH30 xylanase on natively acetylated xylan may hold the key for the degradation of recalcitrant xylan. *Carbohydr. Polym.* 305, 120527. <https://doi.org/10.1016/j.carbpol.2022.120527>
4. **Zerva, A.**, Pentari, C., Ferousi, C., Nikolaivits, E., Karnaouri, A., Topakas, E., 2021. Recent advances on key enzymatic activities for the utilisation of lignocellulosic biomass. *Bioresour. Technol.* 342, 126058. <https://doi.org/10.1016/j.BIORTECH.2021.126058>
5. Labourel, A., Frandsen, K.E.H., Zhang, F., Brouilly, N., Grisel, S., Haon, M., Ciano, L., Ropartz, D., Fanuel, M., Martin, F., Navarro, D., Rosso, M.-N., Tandrup, T., Bissaro, B., Johansen, K.S., **Zerva, A.**, Walton, P.H., Henrissat, B., Leggio, L.L., Berrin, J.-G., 2020. A fungal family of lytic polysaccharide monoxygenase-like copper proteins. *Nat. Chem. Biol.* 16. <https://doi.org/10.1038/s41589-019-0438-8>
6. **Zerva, A.**, Pentari, C., Grisel, S., Berrin, J.-G., Topakas, E., 2020. A new synergistic relationship between xylan-active LPMO and xylobiohydrolase to tackle recalcitrant xylan. *Biotechnol. Biofuels* 13. <https://doi.org/10.1186/s13068-020-01777-x>