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EDUCATION

2007: PhD in Biotechnology, National Technical University of Athens, Greece. PhD thesis: "Study of biologically active molecules immobilized in non-aqueous media: Microemulsions – Organogels", in Greek.

1999: Diploma in Chemical Engineering, National Technical University of Athens, Greece

APPOINTMENTS

2008 – 2013: Associate Research Scientist

2013 – Today: Senior Research Scientist

SCIENTIFIC INTERESTS – ACTIVITIES

Enzymatic Bioconversions in non-conventional systems (microemulsions–organogels)

- ✓ Production of high added value products e.g. phenolic acid esters, fatty acid esters or production of other products of industrial interest e.g. flavors, emulsifiers, using low water content systems such as microemulsions and related organogels

Enzyme Immobilization (matrices based on natural polymers, mesoporous silica materials, colloids based on block copolymers)

- ✓ Study of the activity of enzymes entrapped in microemulsions based on surfactant e.g. lecithin, AOT or surfactantless microemulsions
- ✓ Enzymes immobilized in organogels and hydrogels
- ✓ Development of novel immobilization matrices

Structural studies of microemulsions and enzymes

- ✓ Structural studies of microemulsions and enzyme-containing microemulsions using the fluorescence energy transfer technique, fluorescence spectroscopy, EPR spectroscopy
- ✓ Structural studies of the organogels

RESEARCH MANAGEMENT

- Principal Investigator of 2 Research Projects founded by Program National Strategic Reference Framework, with total budget 215.000 €.
- Participation in 13 Research Projects including Bilateral Cooperation projects (Greece-Spain, Greece-Germany, Greece-France)
- (co)supervising of 1 post-doc, 5 PhD thesis, 3 MSc thesis and 15 interns
- Member of the Evaluation Committee for Scientific Proposals
- Member of the editorial Board for SCIOB BIOTECHNOLOGY
- Reviewer in journals: Applied Biochemistry and Biotechnology, World Journal of Microbiology and Biotechnology, Process Biochemistry, European Journal of Lipid Science and Technology, Molecular Catalysis B: Enzymatic
- Member of the Organizing Committee for the several conferences
- Oral and poster presentations in over 50 International and Greek conferences

RECENT ACTIVITIES

Principal Investigator to the project funded by Program National Strategic Reference Framework, Action "Research-Innovation-Creation" 2017-2020 "CO₂ Biotransformation to high value bioproducts via sustainable microalgae cultures (CO₂-BioProducts)" Ind.Partners: Public Power Corporation (ΔΕΗ); Algae SA. Budget NHRF: 150.000 €

Principal Investigator to the project funded by Program National Strategic Reference Framework, Action "RIS3-AGROFOOD" "Study and exploitation of olive oil as innovative raw material for special industrial applications to baby food products (ELAION)" Ind. Partner: JOTIS S.A. Budget NHRF: 65.000 €.

PUBLICATIONS

20 publications in international peer reviewed journals
398 times cited (ISI-WOS, SCOPUS, Google Scholar)
h-index: 10

Announcements in Conferences: Total number of abstracts: 56

OTHER SCIENTIFIC ACTIVITIES

Ekinisi Lab 2014: (NanoBio Team: V. Papadimitriou, M. Zoumpantioti, A. Xenakis)

The NanoBio team has participated in the "EkinisiLab" New Business Development Incubator that provides 6-month coaching and consulting training programs for startups and spin-off companies. The EkinisiLAB environment offers opportunities for development and networking, using the expertise of high-ranking executives from SEV member-businesses. It also offers market research services and data on export markets.

Patent

Filippou C., Xenakis A, Zoumpantioti M. (2013) "Immobilized catalyst in a continuous flow system for the synthesis of high added value products". OBI, 20130100305

Prizes

3 rd Poster presentation award for the work "Chemo-enzymatic epoxidation of Oleic acid catalyzed by *C. antarctica* lipase encapsulated in microemulsion-based organogels", I. Zampakidi, M. Zoumpantioti, A. Xenakis, 2nd Food Chemistry and Biotechnology ERA Workshop (FCUB), Belgrade, Serbia, October 2011

Mobility

1 month at the Laboratory of Organic and Pharmaceutical Chemistry, Pharmaceutical Department, Complutence University, Madrid, Spain. Supervisor: Prof. Jose Vicente Sinisterra Gago.

2 months at the Laboratory of Organic Chemistry, Institute of Physical and Theoretical Chemistry, University of Regensburg, Germany. Supervisor: Prof. Werner Kunz.

1 month at the Laboratory of Colloids, Department of Physical Chemistry, University of Nancy, France. Supervisor: Prof. Marie Joe Stébé.

LIST OF PUBLICATIONS

1. E. Mitsou, E.P. Kalogianni, D. Georgiou, H. Stamatis, A. Xenakis, **M. Zoumpantioti** "Formulation and structural study of a biocompatible water-in-oil microemulsion as an appropriate enzyme carrier: The model case of Horseradish peroxidase", **2019**, *Langmuir*, DOI:10.1021acs.langmuir.8b03124

2. P.C. Ioannou, C. Arbez-Gindre, **M. Zoumpanioti**, C.P. Raptopoulou, V. Psycharis, I.D. Kostas, P. Kyritsis, "Catalytic reactivity of the complexes [Pd{(Ph₂P)₂N(tBu)-P,P'}X₂], X = Cl, Br, I, in the Suzuki-Miyaura C-C coupling reaction: Probing effects of the halogeno ligand X- and the ligand's tBu group", **2019**, *J Organometallic Chem*, **879**, 40-46
3. E. Vassiliadi, A. Xenakis, **M. Zoumpanioti** "Chitosan hydrogels: A new and simple matrix for lipase catalysed biosynthesis", **2018**, *Mol Catal*, **45**, 206-212
4. E. Mitsou, A. Xenakis, **M. Zoumpanioti**, "Oxidation Catalysis by Enzymes in Microemulsions", **2017**, *Catalysts*, **7**, 52
5. K.M. Gonçalves, I.I. Junior, V. Papadimitriou, **M. Zoumpanioti**, I.C.R. Leal, R.O.M.A. de Souza, Y. Cordeiro, A. Xenakis, "Nanoencapsulated Lecitase Ultra and *Thermomyces lanuginosus* lipase, a comparative structural study", **2016**, *Langmuir*, **32**, 6746-6756
6. A. Xenakis, **M. Zoumpanioti**, H. Stamatis, Review "Enzymatic reactions in structured surfactant-free microemulsions", **2016**, *Curr Opinion Colloid Interf Sc*, **22**, 41-45
7. V. Sereti, **M. Zoumpanioti**, V. Papadimitriou, S. Pispas, A. Xenakis, "Biocolloids Based On Amphiphilic Block Copolymers as a Medium for Enzyme Encapsulation", **2014**, *J Phys Chem B*, **118**, 9808-9816
8. I. Itabaiana-Jr, K.M. Gonçalves, **M. Zoumpanioti**, I.C.R. Leal, L.S.M. de Miranda, A. Xenakis, R.O. M.A de Souza, "Microemulsion-Based Organogels as an Efficient Support for Lipase Catalyzed Reactions Under Continuous Flow Conditions", **2014**, *J Org Process Res Dev*, **18**, 1372-1376
9. A.F. Zanette, I. Zampakidi, G.T. Sotiroudis, **M. Zoumpanioti**, I.C.R. Leal, R.O.M.A. de Souza, L. Cardozo-Filho, A. Xenakis, "Chemo-enzymatic epoxidation catalyzed by *C. antarctica* lipase immobilized in microemulsion-based organogels", **2014**, *J Mol Catal B: Enzymatic*, **107**, 89-94
10. I. Itabaiana-Jr, K.M. Gonçalves, Y.M.L. Cordeiro, **M. Zoumpanioti**, I.C.R. Leal, L.S.M. de Miranda, R.O.M.A de Souza, A. Xenakis, "Kinetics and mechanism of lipase catalyzed monoacylglycerols synthesis", *J Mol Catal B: Enzymatic*, **2013**, **96**, 34-39
11. **M. Zoumpanioti**, H. Stamatis, A. Xenakis, Review "Microemulsion-based organogels as matrices for lipase immobilization", *Biotechnology Advances*, **2010**, **28**, 395-406
12. F. Michaux, **M. Zoumpanioti**, M. Papamentzelopoulou, M.J. Stébé, J.L. Blin, A. Xenakis, "Immobilization and activity of *Rhizomucor miehei* lipase. Effect of the matrix properties prepared from nonionic fluorinated surfactants", *Process Biochemistry*, **2010**, **45**, 39-46

13. **M. Zoumpanioti**, E. Merianou, T. Karandreas, H. Stamatis, A. Xenakis, "Esterification of phenolic acids catalyzed by lipases immobilized in organogels", *Biotechnol Lett*, **2010**, *32*, 1457-1462
14. V. Papadimitriou, S. Pispas, S. Syriou, A. Pournara, **M. Zoumpanioti**, T.G. Sotiroudis, A. Xenakis, "Biocompatible microemulsions based on limonene: Formulation, structure and applications", *Langmuir*, **2008**, *24*, 3380-3386
15. **M. Zoumpanioti**, P. Parmaklis, P. Domínguez de María, H. Stamatis, J.V. Sinisterra, A. Xenakis, "Esterification reactions catalyzed by lipases immobilized in organogels. Effect of temperature and substrate diffusion", *Biotechnol Lett*, **2008**, *30*, 1627-1631
16. C. Blattner, **M. Zoumpanioti**, J. Kröner, G. Schmeer, A. Xenakis, W. Kunz, "Biocatalysis using lipase encapsulated in microemulsion-based organogels in supercritical carbon dioxide", *J Supercritical Fluids*, **2006**, *36(3)*, 182- 193
17. **M. Zoumpanioti**, H. Stamatis, V. Papadimitriou, A. Xenakis, "Spectroscopic and catalytic studies of lipases in ternary hexane – 1-propanol – water microemulsion-like systems", *Colloids and Surfaces B: Biointerfaces*, **2006**, *47*, 1-9
18. **M. Zoumpanioti**, M. Karali, H. Stamatis, A. Xenakis, "Lipase biocatalytic processes in surfactantless microemulsion-like ternary systems and related organogels", *Enzym Microb Technol*, **2006**, *39*, 531-539
19. **M. Zoumpanioti**, E. Karavas, C. Skopelitis, H. Stamatis, A. Xenakis, "Lecithin organogels as model carriers of pharmaceuticals", *Prog Colloid Polymer Sci*, **2004**, *123*, 199-202
20. Ch. Delimitsou, **M. Zoumpanioti**, A. Xenakis, H. Stamatis, "Activity and stability studies of *Mucor miehei* lipase immobilized in novel microemulsion-based organogels", *Biocatal Biotransform*, **2002**, *20(5)*, 319-327