

CURICULUM VITAE Assistant Prof. Petros Katapodis

Department of Biological Applications and Technologies (BAT)

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Personal data

Date of birth: April 25, 1968, Place of birth: Peristeri Attikis, Greece,

Military service: May 1992- April 1993, Marital status: Married, with two children.

Dr. Petros Katapodis, is Assistant Professor of Biochemical Engineering in the Department of Biological Applications and Technologies, University of Ioannina (BAT-UoI).

Career milestones

1994 BSc in Chemical Engineering, School of Chemical Engineering, National Technical University of Athens.

2001-Researcher, Lab. of Food Technology and Lab. of Biotechnology, NTUA

2007 PhD in Enzyme Biotechnology School of Chemical Engineering, National Technical University of Athens.

(Title: "Production of thermostable Hemicellulases)

2010-Lecturer, Biochemical Engineering, BAT-UoI

2013-Assistant Professor, Biochemical Engineering, BAT-UoI

Research

Dr. Katapodis lab focuses on:

- Production of high value products by fungi in solid state and submerged Bioreactors
- Purification and biochemical characterization of industrial enzymes
- Production of high value products by microalgae
- Biodegradation/biotransformation of aromatic compounds

Funding

P. Katapodis research has been supported from 12 competitive European and National grants since 2010.

Awards and Fellowships

1999-2003: Fellowship from Greek National Scholarship Foundation for PhD studies at NTUA

2013-2014: Research Fellowship from the Empeirikeion Foundation

Supervision of postgraduate students

Supervision of 3 PhD and 2 MSc students

Current Undergraduate Teaching at BAT

- Biochemical Engineering
- Bioprocess Engineering
- Biotechnology

Current postgraduate Teaching

- Production and of high value products by microbial cultures
- Advanced Bioprocess Engineering
- Food Biotechnology

Other activities

-Expert Evaluator in National Research Projects

-Referee in 10 international journals

-Member of the Organizing Committees of National and International Conferences

Bibliometrics

50 peer-reviewed publications (1500 citations; *h-index* = 24 – Scopus),

120 presentations in International (60) or National (60) Conferences.

Publications in International peer reviewed Journals

1. Bennett, N. A., Ryan, J., Biely, P., Vrsanska, M., Kremnicky, L., & Macris, B. J. et al. (1998). Biochemical and catalytic properties of an endoxylanase purified from the culture filtrate of *Thermomyces lanuginosus* ATCC 46882. *Carbohydrate Research*, 306(3), 445-455.
2. Puchart, V., Katapodis, P., Biely, P., Kremnický, L., Christakopoulos, P., & Vršanská, M. et al. (1999). Production of xylanases, mannanases, and pectinases by the thermophilic fungus *Thermomyces lanuginosus*. *Enzyme and Microbial Technology*, 24(5-6), 355-361.
3. Cheilas, T., Stoupis, T., Christakopoulos, P., Katapodis, P., Mamma, D., & Hatzinikolaou, D. G. et al. (2000). Hemicellulolytic activity of *Fusarium oxysporum* grown on sugar beet pulp production of extracellular arabinanase. *Process Biochemistry*, 35(6), 557-561.
4. Christakopoulos, P., Katapodis, P., Hatzinikolaou, D. G., Kekos, D., & Macris, B. J. (2000). Purification and characterization of an extracellular α -L- arabinofuranosidase from *Fusarium oxysporum*. *Applied Biochemistry and Biotechnology - Part A Enzyme Engineering and Biotechnology*, 87(2), 127-133.

5. Katapodis, P., Kavarnou, A., Kintzios, S., Pistola, E., Kekos, D., & Macris, B. J. et al. (2002). Production of acidic xylo-oligosaccharides by a family 10 endoxylanase from *Thermoascus aurantiacus* and use as plant growth regulators. *Biotechnology Letters*, 24(17), 1413-1416.
6. Katapodis, P., Kintzios, S., Konstas, J., Kekos, D., Macris, B. J., & Christakopoulos, P. (2003). Enzymic production of aldopentauronic acid and use as a bioregulator in plant airlift bioreactors. *Journal of Bioscience and Bioengineering*, 95(6), 630-632.
7. Christakopoulos, P., Katapodis, P., Kalogeris, E., Kekos, D., Macris, B. J., & Stamatis, H. et al. (2003). Antimicrobial activity of acidic xylo-oligosaccharides produced by family 10 and 11 endoxylanases. *International Journal of Biological Macromolecules*, 31(4-5), 171-175.
8. Kalogeris, E., Christakopoulos, P., Katapodis, P., Alexiou, A., Vlachou, S., & Kekos, D. et al. (2003). Production and characterization of cellulolytic enzymes from the thermophilic fungus *Thermoascus aurantiacus* under solid state cultivation of agricultural wastes. *Process Biochemistry*, 38(7), 1099-1104.
9. Katapodis, P., Vardakou, M., Kalogeris, E., Kekos, D., Macris, B. J., & Christakopoulos, P. (2003). Enzymic production of a feruloylated oligosaccharide with antioxidant activity from wheat flour arabinoxylan. *European Journal of Nutrition*, 42(1), 55-60.
10. Katapodis, P., Vršanská, M., Kekos, D., Nerinckx, W., Biely, P., & Claeysens, M. et al. (2003). Biochemical and catalytic properties of an endoxylanase purified from the culture filtrate of *Sporotrichum thermophile*. *Carbohydrate Research*, 338(18), 1881-1890.
11. Katapodis, P., Kalogeris, E., Kekos, D., Macris, B. J., & Christakopoulos, P. (2003). Production of β -fructofuranosidase from *Sporotrichum thermophile* and its application in the synthesis of fructooligosaccharides. *Food Biotechnology*, 17(1), 1-14.
12. Topakas, E., Katapodis, P., Kekos, D., Macris, B. J., & Christakopoulos, P. (2003). Production and partial characterization of xylanase by *Sporotrichum thermophile* under solid-state fermentation. *World Journal of Microbiology and Biotechnology*, 19(2), 195-198.
13. Vardakou, M., Katapodis, P., Samiotaki, M., Kekos, D., Panayotou, G., & Christakopoulos, P. (2003). Mode of action of family 10 and 11 endoxylanases on water-unextractable arabinoxylan. *International Journal of Biological Macromolecules*, 33(1-3), 129-134.
14. Katapodis, P., Kalogeris, E., Kekos, D., Macris, B. J., & Christakopoulos, P. (2004). Biosynthesis of fructooligosaccharides by *Sporotrichum thermophile* during submerged batch cultivation in high sucrose media. *Applied Microbiology and Biotechnology*, 63(4), 378-382.
15. Vardakou, M., Katapodis, P., Topakas, E., Kekos, D., Macris, B. J., & Christakopoulos, P. (2004). Synergy between enzymes involved in the degradation of insoluble wheat flour arabinoxylan. *Innovative Food Science and Emerging Technologies*, 5(1), 107-112.
16. Katapodis, P., Christakopoulos, P. (2004). Induction and partial characterization of intracellular β -fructofuranosidase from *Thermoascus aurantiacus* and its application in the synthesis of 6-kestose. *World Journal of Microbiology and Biotechnology* 20 (7), 667-672.
17. Katapodis P., & Christakopoulos P. (2005). Xylanases as a tool for the production of novel phytopharmaceuticals. *Nutracos* 2, 1.7-21.
18. Katapodis, P., Christakopoulou, V., & Christakopoulos, P. (2006). Optimization of xylanase production by *Sporotrichum thermophile* using corn cobs and response surface methodology. *Engineering in Life Sciences*, 6(4), 410-415.
19. Katapodis, P., Christakopoulou, V., & Christakopoulos, P. (2006). Optimization of xylanase production by *Thermomyces lanuginosus* in tomato seed meal using response surface methodology. *World Journal of Microbiology and Biotechnology*, 22(5), 501-506.
20. Katapodis, P., Nerinckx, W., Claeysens, M., & Christakopoulos, P. (2006). Purification and characterization of a thermostable intracellular β -xylosidase from the thermophilic fungus *Sporotrichum thermophile*. *Process Biochemistry*, 41(12), 2402-2409.
21. Nacos, M. K., Katapodis, P., Pappas, C., Daferera, D., Tarantilis, P. A., & Christakopoulos, P. et al. (2006). Kenaf xylan - A source of biologically active acidic oligosaccharides. *Carbohydrate Polymers*, 66(1), 126-134.
22. Katapodis, P., Christakopoulou, V., Kekos, D., & Christakopoulos, P. (2007). Optimization of xylanase production by *Chaetomium thermophilum* in wheat straw using response surface methodology. *Biochemical Engineering Journal*, 35(2), 136-141.
23. Katsoura, M. H., Polydera, A. C., Katapodis, P., Kolisis, F. N., & Stamatis, H. (2007). Effect of different reaction parameters on the lipase-catalyzed selective acylation of polyhydroxylated natural compounds in ionic liquids. *Process Biochemistry*, 42(9), 1326-1334.
24. Petroustos, D., Katapodis, P., Christakopoulos, P., & Kekos, D. (2007). Removal of p-chlorophenol by the marine microalga *Tetraselmis marina*. *Journal of Applied Phycology*, 19(5), 485-490.

25. Petroustos, D., Wang, J., Katapodis, P., Kekos, D., Sommerfeld, M., & Hu, Q. (2007). Toxicity and metabolism of p-chlorophenol in the marine microalga *Tetraselmis marina*. *Aquatic Toxicology*, 85(3), 192-201.
26. Katapodis P., Moukouli M., Christakopoulos P. (2007). Biodegradation of indole at high concentration by persolvent fermentation with the thermophilic fungus *Sporotrichum thermophile*. *International Biodeterioration and Biodegradation* 60 (4), 267-272.
27. Petroustos, D., Katapodis, P., Samiotaki, M., Panayotou G., & Kekos D. (2008) Detoxification of 2,4-dichlorophenol by the marine microalga *Tetraselmis marina*. *Phytochemistry* 69(3), 707-714.
28. Xiros C., Topakas, E., Katapodis, P. & Christakopoulos, P. (2008). Hydrolysis and fermentation of brewer's spent grain by *Neurospora crassa*. *Bioresource Technology*. *Bioresource Technology* 99(13), 5427-5435.
29. Katapodis P., & Christakopoulos P., (2008). Enzymic production of feruloyl xylooligosaccharides from corn cobs by a family 10 xylanase from *Thermoascus aurantiacus*. *LWT - Food Science and Technology*, 41(7), 1239-1243.
30. Xiros C., Topakas, E., Katapodis, P. & Christakopoulos, P. (2008). Evaluation of *Fusarium oxysporum* as an enzyme factory for the hydrolysis of brewer's spent grain with improved biodegradability for ethanol production. *Industrial Crops and Products* 28(2), 213-224.
31. Katsaros G.I., Katapodis P., Taoukis P.S. (2009). High hydrostatic pressure inactivation kinetics of the plant proteases ficin and papain. *Journal of Food Engineering*, 91(1), 42-48.
32. Katsaros G.I., Katapodis P., Taoukis P.S. (2009). Modeling the Effect of Temperature and High Hydrostatic Pressure on the Proteolytic Activity of kiwi fruit juice. *Journal of Food Engineering* 94(1), 40-45.
33. Xiros, C., Katapodis, P., Christakopoulos, P. (2009). Evaluation of *Fusarium oxysporum* cellulolytic system for an efficient hydrolysis of hydrothermally treated wheat straw. *Bioresource Technology* 100(21), 5362-5365.
34. Gogou, E., Katapodis, P., Christakopoulos, P., Taoukis, P.S. (2010). Effect of water activity on the thermal stability of *Thermomyces lanuginosus* xylanases for process time-temperature integration. *Journal of Food Engineering* 100 (4), 649-655.
35. Papaspyridi, L.-M., Katapodis, P., Gonou-Zagou, Z., Kapsanaki-Gotsi, E., Christakopoulos, P. (2010). Optimization of biomass production with enhanced glucan and dietary fibres content by *Pleurotus ostreatus* ATHUM 4438 under submerged culture. *Biochemical Engineering Journal* 50 (3), 131-138.
36. Gogou, E., Katapodis, P., Taoukis, P.S. (2010). High pressure inactivation kinetics of a *Thermomyces lanuginosus* xylanase evaluated as a process indicator. *Journal of Food Science* 75 (6), E379-E386.
37. Xiros, C., Katapodis, P., Christakopoulos, P. (2011). Factors affecting cellulose and hemicellulose hydrolysis of alkali treated brewers spent grain by *Fusarium oxysporum* enzyme extract. *Bioresource Technology* 102 (2), 1688-1696.
38. Papaspyridi, L.-M., Katapodis, P., Gonou-Zagou, Z., Kapsanaki-Gotsi, E., Christakopoulos, P. (2011). Growth and biomass production with enhanced β -glucan and dietary fibre contents of *Ganoderma australe* ATHUM 4345 in a batch-stirred tank bioreactor. *Engineering in Life Sciences* 11 (1), 65-74.
39. Papaspyridi L. -M., Sinanoglou V. J., Strati I. F., 3, Katapodis P., Christakopoulos P. (2013). Fatty acid profile of *Pleurotus ostreatus* and *Ganoderma australe* grown naturally and in a batch bioreactor. *Acta Alimentaria* 42 (3), pp. 328-337.
40. Patila M., Pavlidis I.V., Diamanti E.K., Katapodis P., Gournis D., Stamatis H. (2013). Enhancement of cytochrome c catalytic behaviour by affecting the heme environment using functionalized carbon-based nanomaterials. *Process Biochemistry* 48 (7), pp 1010–1017.
41. Alexandrakis Z., Katsaros G., Stavros P., Katapodis P., Nounesis G., Taoukis P. (2014). Comparative Structural Changes and Inactivation Kinetics of Pectin Methylsterases from Different Orange Cultivars Processed by High Pressure. *Food and Bioprocess Technology* 7 (3), pp. 853-867.
42. Patila M., Pavlidis I. V., Kouloumpis A., Dimos K., Spyrou K., Katapodis P., Gournis D., Stamatis H. (2016). Graphene oxide derivatives with variable alkyl chain length and terminal functional groups as supports for stabilization of cytochrome c. *International Journal of Biological Macromolecules* 84, pp 227–235.
43. Giannakas A., Vlachas M., Salmas C., Leontiou A., Katapodis P., Stamatis H., Barkoula N.M., Ladavos A. (2016). Preparation, characterization, mechanical, barrier and antimicrobial properties of chitosan/PVOH/clay nanocomposites. *Carbohydrate Polymers* 140 (20), pp 408–415.
44. Vlachas M., Giannakas A., Katapodis P., Stamatis H., Ladavos A., Barkoula N.M. (2016). On the efficiency of oleic acid as plasticizer of chitosan/clay nanocomposites and its role on thermo-mechanical, barrier and antimicrobial properties - Comparison with glycerol. *Food Hydrocolloids* 57, pp10–19.
45. Giannoglou M., Alexandrakis Z. Stavros P., Katsaros, G., Katapodis P., Nounesis G., Taoukis, P. (2018). Effect of high pressure on structural modifications and enzymatic activity of a purified X-prolyl dipeptidyl aminopeptidase from *Streptococcus thermophilus*. *Food Chemistry* 248, 304-311.

46. Papadopoulou A.A., Tzani A., Polydera A.C., Katapodis P., Voutsas E., Detsi A., Stamatis H. (2018). Green biotransformations catalysed by enzyme-inorganic hybrid nanoflowers in environmentally friendly ionic solvents. *Environmental Science and Pollution Research* 25(27):26707-26714.
47. Karageorgou D., Thomou E., Vourvou N.T., Lyra K.-M., Chalmpes N., Enotiadis A., Spyrou K., Katapodis P., Gournis D., Stamatis, H. (2019). Antibacterial and Algicidal Effects of Porous Carbon Cuboid Nanoparticles. *ACS Omega* 4(3):4991-5001.
48. Boura-Theodoridou O., Giannakas A., Katapodis P., Stamatis H., Ladavos A., Barkoula, N.-M. (2020). Performance of ZnO/chitosan nanocomposite films for antimicrobial packaging applications as a function of NaOH treatment and glycerol/PVOH blending. *Food Packaging and Shelf Life* 23, a.n. 100456.
49. Patel A., Karageorgou, D., Rova E., Katapodis P., Rova U., Christakopoulos, P., Matsakas L. (2020). An overview of potential oleaginous microorganisms and their role in biodiesel and omega-3 fatty acid-based industries. *Microorganisms* 8 (3) a.n. 434.
50. Salmas C., Giannakas A., Katapodis P., Leontiou A., Moschovas D., Karydis-Messinis A. (2020). Development of zno/na-montmorillonite hybrid nanostructures used for pvoh/zno/na-montmorillonite active packaging films preparation via a melt-extrusion process. *Nanomaterials* 10(6), a.n. 1079.