

Stelios Fakas

e-mail: stfakas@aesop.rutgers.edu



Education

Five-year degree in Agricultural Biotechnology, Agricultural University of Athens, Greece. Dept. of Agricultural Biotechnology (1992-98)

M.Sc. in Pharmacognosy of Bioactive Natural Products, National and Kapodistrian University, Greece. School of Pharmacy, Division of Pharmacognosy and Natural Products Chemistry (2001-03)

Ph.D. in Food Biotechnology, Agricultural University of Athens, Greece. Dept. of Food Science and Technology, Laboratory of Microbiology and Food Biotechnology (2003-08)

Postdoctoral Researcher in Microbiology, University of Patras, Greece. Dept. of Biology, Division of Genetics, Cell Biology and Development (2008)

Postdoctoral Researcher in Biochemistry and Molecular Microbiology, Rutgers University, USA. Dept. of Food Science

Publications

1. AGGELIS G., FAKAS S., KLONIS I., MELISSIS S., Growth of *Candida boidinii* in a methanol-limited continuous culture and the formation of methanol degrading enzymes, *Journal of Biotechnology*, 1999, 71: 127-139.
2. FAKAS S., PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., KOMAITIS M., AGGELIS G., Lipids of *Cunninghamella echinulata* with emphasis to γ -linolenic acid distribution among lipid classes, *Applied Microbiology and Biotechnology*, 2006, 73: 676-683.
3. FAKAS S., GALIOTOU-PANAYOTOU M., PAPANIKOLAOU S., KOMAITIS M., AGGELIS G., Compositional shifts in lipid fractions during lipid turnover in *Cunninghamella echinulata*, *Enzyme and Microbial Technology*, 2007, 40: 1321-1327.
4. PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., FAKAS S., KOMAITIS M., AGGELIS G., Lipid production by oleaginous Mucorales cultivated on renewable

carbon sources, *European Journal of Lipid Science and Technology*, 2007, 109:1060-1070.

5. FAKAS S., CERTIK M., PAPANIKOLAOU S., AGGELIS G., KOMAITIS M., GALIOTOU-PANAYOTOU M., γ -linolenic acid production by *Cunninghamella echinulata* growing on complex organic nitrogen sources, *Bioresource Technology*, 2008, 99: 5986-5990.

6. PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., FAKAS S., KOMAITIS M., AGGELIS G., Citric acid production by *Yarrowia lipolytica* cultivated on olive-mill waste water based media, *Bioresource Technology*, 2007, 99:2419-2428.

7. PAPANIKOLAOU S., FAKAS S., FICK M., CHEVALOT I., GALIOTOU-PANAYOTOU M., KOMAITIS M., MARC I., AGGELIS G., Biotechnological valorization of raw glycerol discharged after bio-diesel (fatty acid methyl-esters) manufacturing process: production of 1,3-propanediol, citric acid and single cell oil, *Biomass and Bioenergy*, 2008, 32:60-71.

8. FAKAS S., PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., KOMAITIS M., AGGELIS G., Organic nitrogen of tomato waste hydrolysate enhances glucose uptake and lipid accumulation in *Cunninghamella echinulata*. *Journal of Applied Microbiology*, 2008, 105: 1062-1070.

9. FAKAS S., PAPAPOSTOULOU I., PAPANIKOLAOU S., GEORGIU C.D., AGGELIS G., Susceptibility to peroxidation of the major mycelial lipids of *Cunninghamella echinulata*, *European Journal of Lipid Science and Technology*, 2008, 110:1062-1067.

10. FAKAS S., PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., BATSOS A., MALLOUCHOS A., AGGELIS G., Evaluating renewable carbon sources as substrates for single cell oil production by *Cunninghamella echinulata* and *Mortierella isabellina*, *Biomass and Bioenergy*, 2009, 33:573-580.

11. S. FAKAS, A. MAKRI, M. MAVROMATI, M. TSELEPI, G. AGGELIS (2009) Fatty acid composition in lipid fractions lengthwise the mycelium of *Mortierella isabellina* and lipid production by solid state fermentation. *Bioresource Technology*, 100:6118-6120.

12. A. MAKRI, S. FAKAS & G. AGGELIS (2010) Metabolic activities of biotechnological interest in *Yarrowia lipolytica* grown on glycerol in repeated batch cultures. *Biores. Technol.*, in press.

Book chapters

1. S. Fakas, S. Bellou, A. Makri & G. Aggelis: "Single cell oil and gamma-linolenic acid production by *Thamnidium elegans* grown on raw glycerol" in "Microbial conversions of raw glycerol" G. Aggelis, Ed, Nova Science Publishers, Inc., NY, 2009, 85-99.

2. S. Fakas, A. Makri, S. Bellou & G. Aggelis: "Pathways to aerobic glycerol catabolism and their regulation" in "Microbial conversions of raw glycerol" G. Aggelis, Ed, Nova Science Publishers, Inc., NY, 2009, 9-18.

3. S. FAKAS, S. PAPANIKOLAOU, M. GALIOTOU-PANAYOTOU, M. KOMAITIS & G. AGGELIS: "Biochemistry and Biotechnology of Single Cell Oil" in "New Horizons in Biotechnology", A. Pandey, C. Larroche, Eds, Asiatech Publishers, Inc., ND, 2009, 53-75.

Participation in international conferences

1. HALABALAKI M., ALIGIANNIS N., FOKIALAKIS N., FAKAS S., BOUGOULIA E., ALEXIS M., PRATSINIS X., MITAKOY S., SKALTSOUNIS A.-L., (2004). Plants of the Leguminosae family: a rich source of phytoestrogens. 1st Greek Symposium: Organic synthesis: From Chemistry to Biology, Medicine and Materials Science. University of Athens, Greece. 4-6 November 2004.

2. FAKAS S., METSOVITI M., PAPANIKOLAOU S., GALIOTOU M. (2004) Screening of yeasts for food enzyme production. In the workshop COST D25: The future of Biocatalysis in the European Union. Athens 29/9-2/10 /2004, Greece. Book of Abstracts p. 102.

3. PAPANIKOLAOU S., FAKAS S., GALIOTOU M., AGGELIS G. (2004) Production of reserve lipid and enzymes by oleaginous Zygomycetes cultivated on renewable resources. In the workshop COST D25: The future of Biocatalysis in the European Union. Athens 29/9-2/10 /2004, Greece. Book of Abstracts p. 101.

4. FAKAS S., HALABALAKI M., ALIGIANNIS N., SKALTSOUNIS A. L., (2005) Phytochemical investigation of *Trifolium uniflorum*. 53rd Annual Congress of the Society for Medicinal Plant Research. 21-25/08/2005, Florence, Italy.

5. PAPANTONI A., FAKAS S., GALIOTOY M., PAPANIKOLAOU S., (2005) Biotechnological valorization of olive mill wastewaters using the yeasts *Candida oleophila* and *Yarrowia lipolytica*. 1st National Conference "Modern trends in the fields of oils and lipids"- Greek Lipid Forum, 08-09/06/2005, National Research Foundation, Athens, Greece. Book of Abstracts: p. 46.

6. FAKAS S., PAPANIKOLAOU S., AGGELIS G., KOMAITIS M., M. GALIOTOU-PANAYOTOU (2006) Bioconversion of tomato wastes hydrolysate into single-cell oil. International Congress on Bioprocesses in Food Industries, Patras, Greece. Book of Abstracts p. 140.

7. KEFALOGIANNI I., GIANOULI A., TSAGOU V., FAKAS S., PAPANIKOLAOU S., GALIOTOU M., KOMAITIS M., AGGELIS G. (2006) The microflora of olive fruit stored under industrial conditions prior to oil extraction. International Congress on Bioprocesses in Food Industries, Patras, Greece. Book of Abstracts p. 134.

8. FAKAS S., PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., MAZIOTI TH., KOMAITIS M., AGGELIS G. (2007) Biochemistry and biotechnology of single

cell oil. International conference on new horizons in biotechnology, Trivandrum, India. Book of Abstracts pp. 9-10.

9. FAKAS S., PAPANIKOLAOU S., GALIOTOU-PANAYOTOU M., KOMAITIS M., AGGELIS G., (2007) Kinetics of biosynthesis and physiological role of lipids of *Cunninghamella echinulata*. 2nd Conference of Biosciences, University of Patras, Greece. Book of Abstracts: p. 70.

10. BELLOU S., MAKRI A., FAKAS S., G. AGGELIS (2008) Bioconversion of raw glycerol into triacylglycerols rich in γ - linolenic acid. 1st National MikroBioKosmos Society Conference. MikroBioKosmos: Our Unexplored National Wealth, NCSR "Demokritos", Athens, Greece.

11. MAKRI A., BELLOU S., FAKAS S., AGGELIS G. (2008) Biotechnology of Single Cell Oils. 1st National MikroBioKosmos Society Conference. MikroBioKosmos: Our Unexplored National Wealth, NCSR "Demokritos", Athens, Greece.

12. G. Tsubeli, G. Rouni, A. Makri, I. Kefalogianni, A. Gardeli, S. Fakas, S. Papanikolaou, G. Aggelis (2009) 3rd Olive Oil & Olive Festival. 10-12 April 2009, Peace & Friendship Stadium, Athens.

13. A. MAKRI, S. FAKAS & G. AGGELIS (2009) The biotechnological potential of *Yarrowia lipolytica* cultivated on glycerol. 2nd Annual Conference of the Greek National Initiative "Mikrobiokosmos": Mikrobiokosmos 2009. 11-13 December 2009, Caravel Hotel, Athens, Greece.

14. A. MAKRI, M. MAVROMATI, M. TSELEPI, S. FAKAS & G. AGGELIS (2009) GLA synthesis in *Mortierella isabellina* in solid state fermentation - POSTER. 2nd Annual Conference of the Greek National Initiative "Mikrobiokosmos": Mikrobiokosmos 2009. 11-13 December 2009, Caravel Hotel, Athens, Greece.

15. A. MAKRI, S. FAKAS & G. AGGELIS (2010) Metabolic activities in *Yarrowia lipolytica* grown on glycerol. FEBS Workshop "Microbial Lipids From Genomics to Lipidomics" 13-15 May 2010, Vienna, Austria.

Articles in Greek journals

ΦΑΚΑΣ Σ. (2004) Το ελαιόλαδο: ένας πολύτιμος σύμμαχος στην προστασία της υγείας του ανθρώπου. *Ελιά & Ελαιόλαδο*, 42, 42-44. Η εργασία βραβεύτηκε από την εταιρεία Μινέρβα στα πλαίσια του εορτασμού των 100 χρόνων της.