MARIANNA DOUROU

Curriculum vitae

DATE OF BIRTH: 18/03/1992
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MOTHER TONGUE: GREEK

EDUCATION:

- **2017-PRESENT DAY:** PhD Student in Microbiology, Department of Biology, University of Patras, Patra (Greece)
- **2015-2017:** Postgraduate Student in Biology/Biological Technology, Department of Biology, University of Patras, Patra (Greece). Grade: 9.67/10.00
- **2010-2015:** Undergraduate Student, Department of Biology, University of Patras, Patra (Greece). Grade: 7.13/10.00

ACADEMIC WORK:

- **PHD THESIS:** "Studies on biomass and polyunsaturated fatty acids production by marine microalgae strains cultivated on fish farm effluents". Supervising Professor: Mr. George Aggelis (Laboratory of Microbiology, Unit of Genetics, Cell Biology & Developmental Biology, Department of Biology, University of Patras).
- **MASTER THESIS:** "Studies on lipid accumulation and degradation in the fungus *Mortierella isabellina*", Grade: 10/10. Supervising Professor: Mr. George Aggelis (Laboratory of Microbiology, Unit of Genetics, Cell Biology & Developmental Biology, Department of Biology, University of Patras).
- **DIPLOMA THESIS (BACHELOR):** "Growth study of oleaginous yeasts when cultivated on various agro-industrial by-products", Grade: 10/10. Supervising Professor: Mr. George Aggelis (Laboratory of Microbiology, Unit of Genetics, Cell Biology & Developmental Biology, Department of Biology, University of Patras).

FOREIGN LANGUAGE(S):

- English

Certificate of Proficiency in English (Proficiency), University of Michigan
Certificate of London Examinations (Lower), University of Westminster

- German

Staatszertifikat Uber Sprachkenntnisse (B2), Republik Griechenland
Zertifikat Deutsch (B1), Goethe-Institut

COMPUTER SKILLS:

- Microsoft office Specialist Master, Origin lab, SPSS

RESEARCH SKILLS (MICROBIOLOGY LABORATORY SKILLS):

- Microbial cultures:

Preparation of liquid and solid media for microorganism cultivation (yeasts, bacteria, fungi, microalgae).
Preparation of microorganisms cultivations in both flasks and bioreactors/photobioreactors.

- Classical Microbiology Techniques:

Gram (+) and Gram (-) staining, malachite green staining.
Nile red staining for microbial lipids.
Observation of microorganism morphology by optic microscope.
Observation of microorganism intracellular lipids by fluorescence microscope.
Photometric analysis .

- Specialized Microbiology Techniques:

Biomass determination .
Extraction of intracellular and extracellular total lipids from microbial cultures (FOLSH, Soxhlet).
Purification and fractionation of total lipids into neutral lipids, sphingolipids, phospholipids and glycolipids.
Acyl-esterification of lipids.
Total nitrogen determination.
Enzymatic activity determination.
Proteins and polysaccharide determination.

- Analytical Techniques:

High Performance Liquid Chromatography (HPLC).
Gas Chromatography (GC).

PARTICIPATION IN EU/NATIONAL PROJECTS:

1. **GSRT-EU:** Project title: "Microbial conversions of agro-industrial residues into new biofuels and other biotechnological products". 2012-2014.
2. **ERA-NET "COFASP":** Project title: "MARINALGAE4aqua - Marine algae as sustainable feed ingredients - improving their bio-utilization to increase efficiency and quality of aquaculture production". 2016-2019.
3. **INVALOR:** Project title: "Research infrastructure for waste valorization and sustainable management". 2017-2020.
4. **ASSEMBLE PLUS:** Project title: "Incorporation of microalgae mass into the feed of sea bass fish". European Union's Horizon 2020 research and innovation programme under grant agreement No 730984. Transnational Access to Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR), Matosinhos, Portugal, February 2019.
5. **Pomegranate:** Project title: "Optimization of pomegranate tree cultivation in Achaia and development of innovative products". 2019-2021.

SCHOLARSHIPS:

Foundation from the "Hellenic Foundation for Research and Innovation" Organization during the "2nd Call for H.F.R.I. Scholarships to PhD Candidates". 2019-2021.

HANDBOOK/BOOK CHAPTERS:

1. Aggelis, G., **Dourou, M.** & Dritsas, P. **(2019)**. "BACFRESH" company. https://kainotomia.bacfresh.gr.

PUBLICATIONS IN INTERNATIONAL JOURNALS:

1. **Dourou, M**., Kancelista, A., Juszczyk, P., Sarris, D., Bellou, S., Triantaphyllidou, I., Rywinska, A., Papanikolaou, S. & Aggelis, G. **(2016)**. Bioconversion of olive mill wastewater into high-added value products. J Clean Prod 139, 957–969.
2. **Dourou, M**., Mizerakis, P., Papanikolaou, S. & Aggelis, G. **(2017)**. Storage lipid and polysaccharide metabolism in *Yarrowia lipolytica* and *Umbelopsis isabellina*. Appl Microbiol Biotechnol 101, 7213-7226.
3. **Dourou, M**., Aggeli, D., Papanikolaou, S. & Aggelis, G. **(2018)**. Critical steps in carbon metabolism affecting lipid accumulation and their regulation in oleaginous microorganisms. Appl Microbiol Biotechnol, 102, 2509–2523.
4. Malibari, R., Sayegh, F., Elazzazy, A.M., Baeshen, M.N., **Dourou, M.** & Aggelis, G. **(2018)**. Reuse of shrimp farm wastewater as growth medium for marine microalgae isolated from Red Sea – Jeddah. J Clean Prod, 198, 160-169.
5. **Dourou, M.**, Tsolcha, O.N., Tekerlekopoulou, A.G., Bokas, D. & Aggelis, G. **(2018)**. Fish farm effluents are suitable growth media for *Nannochloropsis gaditana*, a polyunsaturated fatty acid producing microalga. Eng Life Sci, 18, 851-860.
6. Llamas, M., **Dourou, M.**, Gonzalez-Fernandez, C., Aggelis, G. & Tomás-Pejó, E. **(2020)**. Screening of oleaginous yeasts for lipid production using volatile fatty acids as substrate. Biomass Bioenergy, 138, 105553.
7. **Dourou, M.**, Dritsas, P., Baeshen, M.N., Elazzazy, A.M., Alfergah, A. & Aggelis, G. **(2020)**. High-added value products from microalgae and prospects of aquaculture wastewaters as microalgae growth media. FEMS Microbiology Letters.
8. Kieliszek, M. & **Dourou, M. (2020)**. Effect of selenium on the growth and lipid accumulation of *Yarrowia lipolytica* yeast. Under review.
9. Patrinou, V., Tsolcha, O., Tatoulis, T., Stefanidou, N., **Dourou, M.**, Moustaka-Gouni, M., Aggelis, G. & Tekerlekopoulou, A. **(2020)**. Biotreatment of poultry waste coupled with biodiesel production using suspended and attached growth microalgal-based systems. Under review.

CONFERENCES/MEETINGS:

1. Dourou, M., Bellou, S. & Aggelis, G. **(2015)**: "The olive oil mill wastewaters as substrate for oleaginous yeasts". 6th Annual Conference of the Greek National Initiative "Mikrobiokosmos": Mikrobiokosmos 2015. 3-5 April, Athens, Greece (poster).

2. Dourou, M. & Aggelis, G. **(2015)**: "Studies on lipid accumulation and degradation in *Mortierella isabellina*". 3rd Workshop Microbiology and Biotechnological Applications: Challenges and Opportunities III. 24 July, Patra, Greece (oral).

3. Dourou, M. & Aggelis, G. **(2016)**: "Biosynthesis of storage materials in the oleaginous fungus *Mortierella isabellina*". 11th Meeting of Master Student, Department of Biology. 7 April, Patra, Greece (oral).

4. Dourou, M., Papanikolaou, S. & Aggelis, G. **(2016)**: "Studies on metabolic activities of high biotechnological interest in the oleaginous fungus *Mortierella isabellina*". 38th Annual Conference, Hellenic Society for Biological Sciences. 26-28 May, Kavala, Greece (poster & oral).

5. Dourou, M., Dritsas, P., Papanikolaou, S. & Aggelis, G. **(2017)**: "Glycerol and glucose used as co-substrates negatively affect growth of *Umbelopsis isabellina*". 44th Annual Conference on Yeast, 2-5 May, Smolenice, Slovakia (poster).

6. Dourou, M., Mizerakis, P., Papanikolaou, S. & Aggelis, G. **(2017)**: "Studies on lipid and polysaccharide metabolism in *Umbelopsis isabellina* and *Yarrowia lipolytica*". 44th Annual Conference on Yeast, 2-5 May, Smolenice, Slovakia (oral).

7. Dourou, M., Bokas, D. & Aggelis, G. **(2017)**: "Biomass and polyunsaturated fatty acids production by *Nannochloropsis* strains cultivated on fish farm effluents". 13th International Conference on Renewable Resources and Biorefineries, 6-9 June, Wroclaw, Poland (oral).

8. Dourou, M., Kancelista, A., Juszczyk, P., Sarris, D., Bellou, S., Triantaphyllidou, I-E, Rywinska, A., Papanikolaou, S. & Aggelis, G. **(2017)**: "Microbial products from olive mill wastewater based media". 7th Greek lipid forum, 5 October, Thessaloniki, Greece (oral).

9. Patrinou, V., Tsolcha, O., Nikolaou, X., **Dourou, M.**, Akratos, C., Tekerlekopoulou, A., Aggelis, G. & Vayenas, D. **(2017)**: "Microalgae biomass for bioethanol production". 5th Panhellenic Conference on Green Chemistry & Sustainable Development, 20-22 October, Patra, Greece (poster).

10. Dourou, M., Bokas, D. & Aggelis, G. **(2018)**: «Μελέτη της αύξησης μικροφυκών σε ανακυκλώσιμα νερά ιχθυοτροφείων και παραγωγή βιομάζας υψηλής διατροφικής αξίας». 13th Meeting of Master Student, Department of Biology. 7 April, Patra, Greece (oral).

11. Dourou, M., Bokas, D. & Aggelis, G. **(2018)**: "Cultivation of the marine microalga *Nannochloropsis gaditana* on fish farm effluents". 3rd training school of the EUALGAE Action "Microalgal bioeconomy in modern society". 24-25 September, Florence, Italy (poster). The participation to the specific training school was funded by the COST Action ES1408.

12. Dourou, M. (2019): "Evaluation of the ability of European seabass to use algae biomass". Transnational Access Seminar. 1 March, Matoshinos, Portugal (oral). The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 730984, Assemble Plus project.

13. Patrinou, V., Tsolcha, O., Tekerlekopoulou, A., Akratos, X., Aggelis, G., **Dourou, M.**, Moustaka-Gouni, M., Genitsaris, S. & Vagenas, D. V. (2019): "Agroindustrial wastewater treatment with simultaneous biodiesel production in attached growth systems using a mixed microbial culture". 8th Congress of the Scientific Society 'MikroBioKosmos', 18-20 April, Rio- Patras, Greece (poster)**.**

14. Dourou, M., Aggeli, L., Vayenas, D. V. & Aggelis, G. **(2019)**: "Biodiesel and bioethanol production by yeasts cultivated on agro-industrial residues". 46th Annual Conference on Yeast, 7-10 May, Smolenice, Slovakia (oral).

15. Dourou, M., Ribeiro, C. B., Valente, L. M. P. & Aggelis, G. **(2019)**: "Biomass production by marine microalgae and bio-utilization of algae as sustainable feed ingredients for European seabass". 14th Meeting of Master Student, Department of Biology. 16 May, Patra, Greece (poster).

16. Patrinou, V., Tsolcha, O., Tekerlekopoulou, A., Aggelis, G., **Dourou, M.**, Genitsaris, S., Moustaka-Gouni, M. & Vagenas, D. V. **(2019)**: «Επεξεργασία αγροτοβιομηχανικών αποβλήτων και ταυτόχρονη παραγωγή βιοντίζελ με χρήση μικτής καλλιέργειας μικροφυκών/κυανοβακτηρίων σε συστήματα προσκολλημένης ανάπτυξης». 12ο Πανελλήνιο Επιστημονικό Συνέδριο Χημικής Μηχανικής. 29-31 May, Athens, Greece (poster).

17. Llamas, M., **Dourou, M.**, Tomás-Pejó, E., Aggelis, G. & González-Fernández, C. **(2019)**: "Screening of oleaginous yeasts for lipid production using volatile fatty acids as novel substrate". 27th European Biomass Conference & Exhibition. 27-30 May, Lisbon, Portugal (oral).

18. Janak, M., **Dourou, M.**, Certik, M. & Aggelis, G. **(2019)**: "Valorisation of pomegranate residue by solid-state fermentation with *Cunninghamella echinulate"*. XXVIII Tomasek Days of young microbiologists, Conference. 6-7 June, Brno, Czech Republic (oral).

19. Despotidi, A., **Dourou, M.** & Aggelis, G. **(2019)**: "Effects of zinc on the physiology and fatty acid composition of the oleaginous fungi *Umbelopsis isabellina* and *Umbelopsis ramanniana*". 8th Greek lipid forum, 21 June, Athens, Greece.

20. Dritsas, P.**, Dourou, M.** & Aggelis, G. **(2019)**: "Co-metabolism of glucose and glycerol in the fungus *Umbelopsis isabellina*". 8th Greek lipid forum, 21 June, Athens, Greece.