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Dr Dimitrios Tsimogiannis (B.Sc. in Chemistry, Dept. of Chemistry, Faculty of Sciences, Aristotle university of Thessaloniki, 2000) is a member of the Laboratory Teaching Staff at the Laboratory of Food Chemistry and Technology (National technical University of Athens, NTUA). His PhD thesis is entitled *ANTIOXIDANT ACTIVITY*

*OF FLAVONOID COMPOUNDS AND EXTRACTS FROM AROMATIC PLANTS: Free Radical Reduction and Protection of vegetable oils*. He defended his PhD thesis successfully in December 2008 and was officially proclaimed Doctor of Philosophy by the general assembly of the School of Chemical Engineering (NTUA) in January 2009.

He has substantial experience in the scientific field of natural antioxidants, including isolation, identification and study of the antioxidant components from aromatic plants, and the incorporation of natural antioxidants in food matrices such as edible oils, emulsions and snacks for increased stability. Also he is qualified for the development of recovery and analytical protocols concerning essential oils and phenolic compounds from natural sources. During his Academic career, up to now, Dr Tsimogiannis has published 24 research papers in refereed journals (1 paper as corresponding author) (citations: 700, Mendeley-Scopus *h*-index: 12), 2 two chapters in the specialized book on plant phenolic compounds “Polyphenols in Plants” (2<sup>nd</sup> edition, 2018) (1 chapter as corresponding author) and several proceedings at national and international scientific conferences. He has been a reviewer of scientific articles since 2007 in peer-reviewed journals of major publishers such as Elsevier, John Wiley & Sons and others. Finally he has participated in research programs of European Union and in partnerships with the food industry for the application of scientific research in the industrial practice.



Dr. Tsimogiannis entered the team of NFA (Natural Food Additives) Startup Company in 2017. He is responsible for the scientific issues of NFA in relation to the development of industrial protocols for the selective recovery of bioactive substances from aromatic plants and the development of natural additives for foods and cosmetics. Under the scientific supervision of Dr. Tsimogiannis NFA has developed the following commercial products: 1) odorless, oil-soluble extract of rosemary, 2) water-soluble extract of rosemary in the form of ready-to-use powder, 3) oil-soluble extract of St John's wort free of hypericin (a known allergen of the plant), 4) a liquified form of a famous Greek natural solid resin, known as Chios mastic, 5) water-soluble extract of Sideritis (mountain tea) in the form of ready-to-use powder for foods, cosmetics, and supplements.

His scientific interests include the study of Natural Bioactive Compounds (NBCs), belonging to the plant secondary metabolites, as far as the extraction or selective extraction, fractionation of components and identification of structures is concerned. Also Dr Tsimogiannis investigates the antiradical and antioxidant activities of model compounds and extracts. However his current major scientific and industrial interest is the concept of valorization of agrofood side streams and by-products. The first case of valorization that he introduced to NFA is the waste biomass derived from herb distilleries. Herb distilleries are producing essential oils via steam distillation; after distillation the residual herbal biomass is considered as waste and is usually discarded in waste landfills. However, for our company the specific biomass is a valuable source of bioactive ingredients such as antioxidants, flavonoids and phenolic compounds in general. Thus, we are starting a collaborative scheme with herb distilleries. Herb distilleries will be providing us with their by-products, NFA will produce extracts, and after extraction the residual biomass will be dried and returned to herb distilleries for use as a fuel to replace diesel or LPG.

### Book chapters

1. **Tsimogiannis, D. (Corresponding author)**, & Oreopoulou, V., Classification of Phenolic Compounds in Plants. In: Watson, Ronald (ed.) Polyphenols in Plants, 2nd edition, 2019. pp. 263 - 284. UK: Academic Press. ISBN: 978-0-12-813768-0
2. Oreopoulou, A., **Tsimogiannis, D.**, & Oreopoulou, V., Extraction of Polyphenols from Aromatic and Medicinal Plants: An Overview of the Methods and the Effect of Extraction Parameters. In: Watson, Ronald (ed.) Polyphenols in Plants, 2nd edition, 2019. pp. 243 - 260. UK: Academic Press. ISBN: 978-0-12-813768-0

### Papers in international peer-reviewed journals

1. Psarrou, I., Oreopoulou, A., **Tsimogiannis, D.**, & Oreopoulou, V. (2020). Extraction Kinetics of Phenolic Antioxidants from the Hydro Distillation Residues of Rosemary and Effect of Pretreatment and Extraction Parameters. *Molecules*, 25(19), 4520.

2. Oreopoulou, A., Goussias, G., **Tsimogiannis, D.**, & Oreopoulou, V. (2020). Hydro-alcoholic extraction kinetics of phenolics from oregano: Optimization of the extraction parameters. *Food and Bioproducts Processing*, 123, 378-389.
3. Andreou, V., Psarianos, M., Dimopoulos, G., **Tsimogiannis, D.**, & Taoukis, P. (2020). Effect of pulsed electric fields and high pressure on improved recovery of high-added-value compounds from olive pomace. *Journal of Food Science*, 85(5), 1500-1512.
4. Choulitoudi, E., Velliopoulou, A., **Tsimogiannis, D.**, & Oreopoulou, V. (2020). Effect of active packaging with Satureja thymbra extracts on the oxidative stability of fried potato chips. *Food Packaging and Shelf Life*, 23, 100455.
5. Giannakas, A., Salmas, C., Leontiou, A., **Tsimogiannis, D.**, Oreopoulou, A., & Braouhli, J. (2019). Novel LDPE/chitosan rosemary and Melissa extract nanostructured active packaging films. *Nanomaterials*, 9(8), 1105.
6. **Tsimogiannis, D. (Corresponding author)**, & Oreopoulou, V. (2018). A kinetic study of essential oil components distillation for the recovery of carvacrol rich fractions. *Journal of applied research on medicinal and aromatic plants*, 9, 117-123.
7. **Tsimogiannis, D.**, Bimpilas, A., & Oreopoulou, V. (2017). DPPH radical scavenging and mixture effects of plant o-diphenols and essential oil constituents. *European Journal of Lipid Science and Technology*. 118, 16003473.
8. Choulitoudi, E., Ganiari, S., Tsironi, T., Ntzimani, A., **Tsimogiannis, D.**, Taoukis, P., & Oreopoulou, V. (2017). Edible coating enriched with rosemary extracts to enhance oxidative and microbial stability of smoked eel fillets. *Food Packaging and Shelf Life*, 12, 107-113.
9. Choulitoudi, E., Bravou, K., Bimpilas, A., Tsironi, T., **Tsimogiannis, D.**, Taoukis, P., & Oreopoulou, V. (2016). Antimicrobial and antioxidant activity of Satureja thymbra in gilthead seabream fillets edible coating. *Food and Bioproducts Processing*. 100(B), 570-577.
10. Banou, P., Alexopoulou, A., Chranioti, C., **Tsimogiannis, D.**, Terlixi, A. V., Zervos, S., & Singer, B. W. (2016). The effect of oil binders on paper supports via VOC analysis. *Journal of Cultural Heritage*, 20, 589-598.
11. Bimpilas, A., Panagopoulou, M., **Tsimogiannis, D.**, & Oreopoulou, V. (2016). Anthocyanin copigmentation and color of wine: The effect of naturally obtained hydroxycinnamic acids as cofactors. *Food chemistry*, 197, 39-46.
12. **Tsimogiannis, D.**, Choulitoudi, E., Bimpilas, A., Mitropoulou, G., Kourkoutas, Y., & Oreopoulou, V. (2016). Exploitation of the biological potential of Satureja thymbra essential oil and distillation by-products. *Journal of Applied Research on Medicinal and Aromatic Plants*.
13. Drosou, C., Kyriakopoulou, K., Bimpilas, A., **Tsimogiannis, D.** Krokida, M. (2015). Effect of extraction conditions on total phenolic content and antioxidant capacity of pretreated Greek red grape pomace. *Industrial Crops and Products*, 75, 141-149.
14. Bimpilas, A., **Tsimogiannis, D.**, Balta-Brouma, K., Lympelopoulou, T., & Oreopoulou, V. (2015). Evolution of phenolic compounds and metal content of wine during alcoholic fermentation and storage. *Food Chemistry*, 178, 164-171.
15. Lemonis, I., **Tsimogiannis, D.**, Louli, V., Voutsas, E., Oreopoulou, V., & Magoulas, K. (2013). Extraction of Dittany (*Origanum dictamnus*) using supercritical CO<sub>2</sub> and liquid solvent. *The Journal of Supercritical Fluids*, 76, 48-53.
16. Mylona, A. E., Bimpilas, A., **Tsimogiannis, D.**, & Oreopoulou, V. (2013). Characteristic phenolic composition of the Greek variety Mavrokountoura grape and wine. *Food Science and Biotechnology*, 22(6), 1515-1522.
17. Makri, E., **Tsimogiannis, D.**, Dermesonluoglu, E. K., & Taoukis, P. S. (2011). Modeling of Greek coffee aroma loss during storage at different temperatures and water activities. *Procedia Food Science*, 1, 1111-1117.
18. Oreopoulou, V., Psimouli, V., **Tsimogiannis, D.**, Anh, T. K., Tu, N. M., Uygun, U., ... & El-Nawawy, M. (2009). Assessing food additives: the good, the bad and the ugly. *Quality Assurance and Safety of Crops & Foods*, 1(2), 101-110.
19. **Tsimogiannis, D.**, Samiotaki, M., Panayotou, G., & Oreopoulou, V. (2007). Characterization of flavonoid subgroups and hydroxy substitution by HPLC-MS/MS. *Molecules*, 12(3), 593-606.
20. **Tsimogiannis, D.**, & Oreopoulou, V. (2007). Defining the role of flavonoid structure on cottonseed oil stabilization: Study of A-and C-ring substitution. *Journal of the American Oil Chemists' Society*, 84(2), 129-136.

21. Kouri, G., **Tsimogiannis, D.**, Bardouki, H., & Oreopoulou, V. (2007). Extraction and analysis of antioxidant components from *Origanum dictamnus*. *Innovative Food Science & Emerging Technologies*, 8(2), 155-162.
22. **Tsimogiannis, D. I.**, & Oreopoulou, V. (2006). The contribution of flavonoid C-ring on the DPPH free radical scavenging efficiency. A kinetic approach for the 3', 4'-hydroxy substituted members. *Innovative Food Science & Emerging Technologies*, 7(1), 140-146.
23. **Tsimogiannis, D.**, Stavrakaki, M., & Oreopoulou, V. (2006). Isolation and characterisation of antioxidant components from oregano (*Origanum heracleoticum*). *International journal of food science & technology*, 41(s1), 39-48.
24. **Tsimogiannis, D. I.**, & Oreopoulou, V. (2004). Free radical scavenging and antioxidant activity of 5, 7, 3', 4'-hydroxy-substituted flavonoids. *Innovative Food Science & Emerging Technologies*, 5(4), 523-528.

### **Papers currently under review in international peer-reviewed journals**

1. Dimopoulos, G., Katsimichas, A., **Tsimogiannis, D.**, Oreopoulou, V., Taoukis, P. (2020) Effect of cell permeabilization processes on the improved encapsulation of oregano essential oil in yeast cells. Under review in the *Journal of Food Engineering*
2. Choulitoudi, E., Velliopoulou, A., **Tsimogiannis, D.**, & Oreopoulou, V. (2020). The effect of temperature on the phenolic content and oxidative stability of o/w emulsions enriched with natural extracts from *Satureja thymbra*. Under review in the *Journal Food Chemistry*.