



Ioannis Partheniadis | Pharmacist, PhD(c) AUTH

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Profile

Ioannis was born on 18th September 1995.

He is currently a researcher at the department of Pharmaceutical Technology, School of Pharmacy (AUTH).

He has served as a representative of the PhD candidates in the Assembly of the Department of Pharmacy.

He has served as a community pharmacist and as a hospital pharmacist for a year.

Ioannis has published by 03/2024 twenty-five (25) research papers and one (1) book chapter and has 315 citations (h-index = 10) according to [Scopus Database](#) or 419 citations (h-index = 12) according to [Google Scholar](#).

Education

- **Aristotle University of Thessaloniki (AUTH)** – February 2019 until February 2021
 - **School of Pharmacy** – Grade: “Excellent, 9.95/10.0”
Thesis: “Preparation of enteric release essential oil powders by spray drying and modified starches: technological, physicochemical and biological evaluation.”
Master’s degree in “Pharmaceutical Technology”

- **Aristotle University of Thessaloniki (AUTH)** – September 2013 until July 2018
 - **School of Pharmacy** – Grade: “Very good, 8.04/10.0”
Bachelor’s degree in Pharmacy (very good 8.04/10.00)

- **Licensed Pharmacist** – 20th June 2019
 - Hellenic Republic, Region of Central Macedonia, General Directorate for Public Health and Welfare

- **Languages**
 - **Greek** – Native speaker
 - **English** – Level C2, LanguageCert
Level B2, University of Cambridge, First Certificate in English
 - **German** – Level C1, Goethe Institut, Goethe-Zertifikat C1
 - **Spanish** – Level C1, LanguageCert

Honors and Awards

- **Award of Excellence** – awarded on 17th May 2019
 - **Deanship of Faculty of Health Sciences**
Award of excellence in research for the overall impact factor of the publications in year 2018
- **Greek Representative at the EUFEPS Annual Meeting 2023** – awarded on May 2023
 - **Hellenic Pharmacists Association (PFS)**
Chosen by the PFS board as the Greek representative at the EUFEPS Annual Meeting (2023), from among the entirety of the country's PhD students specializing in the pharmaceutical field.
- **Best Oral Presentation** – awarded on December 2023
 - **20th Panhellenic Pharmaceutical Congress**
Awarded with a prize for my talk entitled “A modified solvent processed feed HME process for the preparation of drug/amino acid CAMS”.

Research Projects (representative list)

February 2017 – March 2017: “**Formulation of oregano essential oil enteric-coated multi-dosage forms and release studies**” sponsored by the company Vis-Naturalis (contract number 481702).

March 2018 – May 2018: “**Development of prolonged release solid pharmaceutical dosage forms of hygroscopic drugs**” sponsored by the pharmaceutical company VIANEX (contract number 504408).

June 2018 – August 2018: “**Developing a method for determining the dissolution rate of cellulose pharmaceutical formulations**”, sponsored by the pharmaceutical company Rontis (contract number 509630).

November 2018 – January 2019: “**Composition, recovery and in-vitro release studies for enteric release oregano essential oil dosage forms**”, sponsored by the company Vis-Naturalis (contract number 519691).

September 2019 – October 2019: “**Development of prolonged release solid pharmaceutical dosage forms of hygroscopic drugs**” sponsored by the pharmaceutical company VIANEX (contract number 543388).

February 2019 – April 2019: “**Study of tableting conditions of tapentadol hot-melt extrudates in the form of oblong tablets of high mechanical strength for protection against breach**” sponsored by the pharmaceutical company Pharmathen (contract number 529027).

August 2022 – September 2022: “**Development and Validation of an IVRT method with Franz cells for the permeation study of dimethindene maleate from a gel product**” sponsored by EMIX Ltd. (contract number 626227).

September 2022 – October 2022: “**Development and Validation of an IVRT method with Franz cells for the permeation study of dimethindene maleate from a gel product**” sponsored by EMIX Ltd. (contract number 627870).

January 2023 – August 2023: “**Development of orodispersable tablets of famotidine hydrochloride**” sponsored by VIANEX Sa. (contract number 632352).

January 2023: “**Mineralogical, mineralochemical and geochemical measurements – evaluation of natural materials**” sponsored by Ellaktor Ltd. (contract number 633523).

January 2023 – June 2023: “**Development of a specialized pharmaceutical pilocarpine toothpaste for the treatment of xerostomia**” sponsored by EPAnEK 2014-2020 (contract number 637420).

International Conferences and Seminars (representative list)

- **6th IAPC Meeting, Zagreb Croatia** – September, 4-7 2017
Participation in “6th IAPC Meeting: 6th World Conference on Physicochemical Methods in Drug Discovery & 3rd World Conference on ADMET and DMPK Joint Meeting” with poster presentation entitled “Evaluation by PXRD and vibrational spectroscopy of spirinolactone solid dispersions prepared by co-spray drying with polymers”.
- **9th International GI-Targeting Seminar, Darmstadt Germany** – June 6-7, 2018
Participation in “9th International GI-Targeting Seminar” and hands-on practical session in the Evonik laboratories in formulation development, scale-up, production or product and process development with specific interest in gastro-intestinal targeting and delayed release formulations with EUDRAGIT® polymers.
- **12th Hellenic Polymer Society International Conference, Ioannina, Greece** – September/October 30-3, 2018
Participation in “12th Hellenic Polymer Society International Conference” with an oral presentation entitled “Prediction of tablet strength of hot-melt-extruded powders”.
- **9th International Granulation Workshop, Lausanne, Switzerland** – June 26-28, 2019
Participation in “Granulation Conference” with two poster presentations entitled a) “Influence Of Compression Conditions On The Compactibility Of Thermally Processed Polymers” and b) “Study Of The Microhardness And Compression Of Hydrophobic Starch Ester Powders”.
- **12th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Vienna, Austria** – March 23-26, 2020
Participation in “12th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology” with two poster presentation entitled a) “Development of a spray dried enteric release form of essential oil prepared by co-spray drying polysaccharides and methacrylate” and b) “Effects of spray drying on solid state changes of naproxen and its sodium salt related to compaction”.
- **EUFEPS Annual Meeting 2023, Lisbon, Portugal** – May 31 – June 2, 2023
Participation in “EUFEPS Annual Meeting 2023: Lisbon 2023, at the edge of Europe and Science” with an oral presentation entitled “Hot-melt extrusion using preprocessed feed for the preparation of co-amorphous griseofulvin/amino acid systems”.
- **10th International Granulation Workshop, Sheffield, UK** – June 21-23, 2023
Participation in “Granulation Conference” with one poster presentation entitled “Static and Dynamic Vapor Sorption of Hydrophobic Starch Ester Powders and Corresponding Tablets” and an oral presentation entitled “Lactobacillus Loaded Porous Hydroxyapatite (Hap) Pellets Using Different HAP Grades and Pore Formers”.
- **14th Hellenic Polymer Society International Conference, Thessaloniki, Greece** – November 22-25, 2018
Accepted to participate in “14th Hellenic Polymer Society International Conference” with an oral presentation entitled “Tablets of Enteric Microencapsulated Oregano Essential Oil Powders - Evaluation and Release” and a poster presentation entitled “Peppermint Oil Spray Dried Powders - Encapsulating Wall Composition, Particulate Characteristics and Powder Cohesiveness”.
- **14th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Vienna, Austria** – March 18-21, 2024
Participation in “14th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology” with a poster presentation entitled “A modified solvent processed feed HME process for the preparation of drug/amino acid CAMS”.

Scholarships

- ❖ Full scholarship (320 teaching hours) for the Spring Semester 2020-2021 under the EDBM143 project "Supporting the educational activities of the Aristotle University of Thessaloniki by integrating remedial teaching in addition to the main lectures for the academic year 2020-2021" with OPS Code 5093225 in the Operational Program "Human Resource Development, Education and Lifelong Learning 2014-2020".
- ❖ Full scholarship (160 teaching hours) for the Spring Semester 2021-2022 under the EDBM184 project "Supporting the educational activities of the Aristotle University of Thessaloniki by integrating remedial teaching in addition to the main lectures for the academic year 2020-2021" with OPS Code 5162176 in the Operational Program "Human Resource Development, Education and Lifelong Learning 2014-2020".
- ❖ March 2022 – March 2023 awarded with the "Scholarship of Excellence" of the Research Committee of the Aristotle University of Thessaloniki (contract number: 614153).
- ❖ March 2023 – May 2025 awarded with the "H.F.R.I. Scholarship to PhD Candidates" of the Hellenic Foundation of Research and Innovation for my PhD thesis "Development, characterization and stability of poorly water-soluble drugs with modern technologies". My proposal was awarded with the 2nd best grade in the field of the Engineering and Technology.

ERASMUS Mobility

- ❖ Spring 2020: Participation in the Erasmus+ Traineeship Program Student Mobility (Tartu, Estonia, Supervisor: Dr Jyrki Heinämäki). My work in the Institute of Pharmacy (Tartu, Estonia) led to two (2) publications (Publication No 12 and No 18).

Research interests

- ❖ Co-amorphous systems, Amorphous solid dispersions, Bioavailability enhancement, Taxonomy of multifunctional excipients, Natural products, Nutraceuticals, Static and dynamic vapor sorption, Mechanical strength, Finite element analysis, Tableting, Granulation, Hot melt extrusion, Spray drying, Extrusion/spheronization, Experimental design and process optimization, Data analytics, Machine learning.

List of Publications

1. **Partheniadis I**, Karakasidou P, Vergkizi S, Nikolakakis I. Spectroscopic examination and release of microencapsulated oregano essential oil. *ADMET & DMPK* (2017) 5(4): 224-233.
2. Nikolakakis I and **Partheniadis I**. Self-Emulsifying Granules and Pellets: Composition and Formation Mechanisms for Instant or Controlled Release. *Pharmaceutics* (2017) 9(50).
3. Al-Zoubi N, Odah F, Obeidat W, Al-Jaberi A, **Partheniadis I**, Nikolakakis I. Evaluation of Spironolactone Solid Dispersions Prepared by Co-Spray Drying with Soluplus® and Polyvinylpyrrolidone and Influence of Tableting on Drug Release. *J Pharm Sci* (2018) 107(9): 2385-2398.
4. **Partheniadis I**, Vergkizi S, Lazari D, Reppas C, Nikolakakis I. Formulation, characterization and antimicrobial activity of tablets of essential oil prepared by compression of spray-dried powder. *J Drug Deliv Sci Technol* (2019) 50: 226-236.
5. **Partheniadis I**, Gkogkou P, Kantiranis N, Nikolakakis I. Modulation of the release of a non-interacting low solubility drug from chitosan pellets using different pellet size, composition and numerical optimization. *Pharmaceutics* (2019) 11(4): 175.
6. **Partheniadis I**, Papanikolaou T, Noisternig MF, Griesser UJ, Kantiranis N, Nikolakakis I. Structure reinforcement of porous hydroxyapatite pellets using sodium carbonate as sintering aid: Microstructure, secondary phases and mechanical properties. *Adv Powder Technol* (2019) 30: 1642-1654.
7. Barmpalexis P, **Partheniadis I**, Mitra KS, Toskas M, Papadopoulou L, Nikolakakis I. Application of Multiple Linear Regression and Artificial Neural Networks for the Prediction of the Packing and Capsule Filling Performance of Coated and Plain Pellets Differing in Density and Size. *Pharmaceutics* (2020) 12: 244.
8. **Partheniadis I**, Karantzalis AE, Shah RR, Al-Zoubi N, Nikolakakis I. Influence of compression at elevated temperature on the compactibility of thermo-mechanically processed polymers. *Chem Eng Res Des* (2020) 156: 64-75.
9. Chen X, **Partheniadis I**, Nikolakakis I, Al-Obaidi H. Solubility improvement of progesterone from solid dispersions prepared by solvent evaporation and co-milling. *Polymers* (2020) 12(4): 854.
10. Al-Zoubi N, Ardakani A, Odeh F, Sakhnini F, **Partheniadis I**, Nikolakakis I. Mechanical properties of starch esters at particle and compact level - Comparisons and exploration of the applicability of Hiestand's equation to predict tablet strength. *Eur J Pharm Sci* (2020) 147: 105292.
11. **Partheniadis I**, Zarafidou E, Litinas KE, Nikolakakis I. Enteric release essential oil prepared by co-spray drying methacrylate/polysaccharides—influence of starch type. *Pharmaceutics* (2020) 12(6): 1–24, 571.
12. **Partheniadis I**, Nikolakakis I, Laidmäe I, Heinämäki J. A mini-review: Needleless electrospinning of nanofibers for pharmaceutical and biomedical applications. *Processes* (2020) 8(6): 673.
13. **Partheniadis I**, Toskas M, Stavras FM, Menexes G, Nikolakakis I. Impact of hot-melt-extrusion on solid-state properties of pharmaceutical polymers and classification using hierarchical cluster analysis. *Processes* (2020) 8(10): 1208.
14. Al-Zoubi N, Odeh F, **Partheniadis I**, Gharaibeh S, Nikolakakis I. Spray drying of naproxen and naproxen sodium for improved tableting and dissolution—physicochemical characterization and compression performance. *Pharm Dev Technol* (2021) 26(2): 193-208.
15. **Partheniadis I**, Shah RR, Nikolakakis I. Application of ultrasonics for nanosizing drugs and drug formulations. *J Disp Sci Technol* (2021), DOI: 10.1080/01932691.2021.1878035.
16. **Partheniadis I**, Nikolakakis I, Zacharis CK, Kachrimanis K, Al-Zoubi N. Co-Spray Drying of Paracetamol and Propyphenazone with Polymeric Binders for Enabling Compaction and Stability Improvement in a Combination Tablet. *Pharmaceutics* (2021) 13(8): 1259.

17. **Partheniadis I**, Kopanelou D, Gamlen M, Nikolakakis I. Monitoring the weight and dimensional expansion of pyridostigmine bromide tablets under dynamic vapor sorption and impact of deliquescence on tablet strength and drug release. *Int J Pharm* (2021) 609: 121150.
18. **Partheniadis I**, Athanasiou K, Laidmäe I, Heinämäki J, Nikolakakis I. Physicomechanical characterization and tablet compression of theophylline nanofibrous mats prepared by conventional and ultrasound enhanced electrospinning. *Int J Pharm* (2022) 616: 121558.
19. **Partheniadis I**, Terzi V, Nikolakakis I. Finite Element Analysis and Modeling in Pharmaceutical Tableting. *Pharmaceutics* (2022) 14(3): 673.
20. Al-Zoubi N, **Partheniadis I**, Aljaberi A, Nikolakakis I. Co-spray Drying Drugs with Aqueous Polymer Dispersions (APDs)—a Systematic Review. *AAPS PharmSciTech* (2022) 23(5): 1-19.
21. **Partheniadis I**, Stathakis G, Tsalavouti D, Heinämäki J, Nikolakakis I. Essential Oil—Loaded Nanofibers for Pharmaceutical and Biomedical Applications: A Systematic Mini-Review. *Pharmaceutics* (2022) 14(9): 1799.
22. **Partheniadis I**, Koukourikou M, Tsalavouti D, Nikolakakis I. Preparation, characterization, and in vitro release of microencapsulated essential oil hydroxyapatite pellets filled into multifunctional capsules. *J Drug Deliv Sci Technol* (2023) 80: 104114.
23. Stavras FM, **Partheniadis I**, Nikolakakis I. Formulation of taste-masked orodispersible famotidine tablets by sequential spray drying and direct compression—Bitterness evaluation. *J Drug Deliv Sci Technol*, (2023) 104290.
24. **Partheniadis I**, Al-Zoubi N, Nikolakakis I. Pharmaceutical Spray Drying. In: Lamprou, D. (eds) Nano- and Microfabrication Techniques in Drug Delivery. Advanced Clinical Pharmacy - Research, Development and Practical Applications, vol 2. Springer, Cham (2023).
25. Vergkizi S, **Partheniadis I**, Sipaki A, Papanikolaou T, Fatouros D, Nikolakakis I. Hydroxyapatite and pore former effects on the microstructure and mechanical strength of porous pellets loaded with *Lactobacillus*. *Powder Technol* (2024) 435, 119433.
26. **Partheniadis I**, Nikolakakis I. Development and characterization of co-amorphous griseofulvin/L-leucin by modified solvent processing hot-melt extrusion. *Int J Pharm* (2024) 652, 123824.