CURRICULUM VITAE OF PANAGIOTIS BARMPALEXIS

PERSONAL DETAILS

Name: Panagiotis Barmpalexis

Email: pbarmp@pharm.auth.gr

Tel: 2310 997629

STUDIES - SCIENTIFIC ACTIVITIES – WORKING EXPERIENCE

I. Education

2006-2010 PhD in Pharmaceutical Technology School of Pharmacy, Aristotle University of Thessaloniki. Title: "Design and Development of Immediate and Controlled Release Pharmaceutical Formulations with the Aid of Solid Dispersions".

2004-2007 BSc in Economics and Management, London School of Economics external program, University of London.

1999-2004 Degree in Chemical Engineering, Aristotle University of Thessaloniki

II. Working Experience

01/02/2018-until now

Assistant professor in Pharmaceutics, Pharmaceutical Technology Department, Aristotle University of Thessaloniki.

13/05/2014 – 31/01/2018

Working for RONTIS HELLAS S.A in the R&D Department as a principal formulation scientist. Responsibilities: 1) Design and supervise pre-formulation, formulation development, process development, process optimization, scale-up and clinical manufacturing on assigned projects with the scope to achieve a patent-non - infringing, robust and commercially viable formulation. 2) Design and implement strategies for formulation development, 3) Support on project transfer from development to commercial scale (scale-up), 4) Coordination and support during manufacturing of validation batches, 5) Design/Evaluation/Support on contract development activities, 6) Assessment of API evaluation, 7) Assessment on data collection, evaluation & dossier compilation, 8) Response to deficiency letters received by authorities or clients relative to the formulation activities, 9) Preparation of Development Pharmaceutics Reports, Master Formulas, Batch Records, Manufacturing and Packaging Instructions, Stability protocols, and any other necessary reports/documents associated with the formulation activities, 10) Coordination and evaluation of stability studies along with analytical development team to evaluate trends and identify improvements, 11) Supervise of lab and pilot scale plant infrastructure, 12) Participation on R&D's related audits, 13) Supervise

training of new formulation members, 14) Patent reviewing, evaluation and writing, 15) Implementation of QbD experimental approach.

17/01/2013 – 12/05/2014

Working for GENEPHARM S.A in the R&D Department as a formulation scientist. Main repsonsibilities: 1) Developing new solid and/or liquid (sterile or non-sterile) drug delivery systems, 2) Optimizing and/or improving existing products, analytical procedures and production processes using QbD approaches, 3) Data evaluation of formulation trials and process validation activities, 4) Planning and executing scale-up trials, 5) Participate in technology transfer activities and validation batches, 5) Patent reviewing, evaluation and writing, 6) Planning stability studies monitoring results and preparing stability protocols and reports

01/07/2008 – 14/01/2013

Working for PHARMATHEN S.A. in the R&D Department as a senior formulation scientist. Main responsibilities: 1) developing new solid and/or liquid (sterile or non-sterile) drug delivery systems (NDDS), 2) optimizing and/or improving existing products, analytical procedures and production processes, 3) data evaluation of formulation trials and process validation activities, 4) planning and executing scale-up trials, 5) participate in technology transfer activities and validation batches, 6) patent reviewing, evaluation and writing, 7) planning stability studies monitoring results and preparing stability protocols and reports

01/10/2006 - 31/01/2008

Working as a pharmaceutical scientist in a PAVET research project titled: "Development of new materials and methods for optimizing Nimodipine and Lecarnidipine therapeutic activity: time-targeting and bioavailability optimization by converting conventional drug formulations to floating drug delivery systems".

01/06/2003 - 31/08/2003

Training as a process engineer in a fresh frozen vegetable food industry (GENERAL FOOD S.A.) based on EPEAEK II student's practice exercise for chemical engineers.

III. Computer Skills

- Knowledge of several operating systems including Microsoft Windows (XP, Vista, Windows 7), Mac OS, Linux (Ubuntu)
- Excellent knowledge of MS and Open Office
- Excellent knowledge of several scientific based software programs

IV. Language Qualifications

- English - excellent oral and written communication skills (proficiency level).

V. Attendance in Conferences/Seminars

- Coating – Fine particles, granules, pellets, tablets. Huettlin Bosch Seminars, 05th to

07th May (2015), Schopfheim, Germany

- Pharmaceutical Co-Crystal Summit 2012. IQPC International Quality & Productivity Centre, 25th – 26th September (2012), Amsterdam, Kingdom of the Netherlands

RESEARCH INTERESTS

- Enhance of solubility and bioavailability of active pharmaceutical ingredients with the aid of drug delivery systems (solid dispersion, solution etc.) or crystal and particulate modification (co-crystals, nano-suspensions etc.).
- Pharmaceutical nanoparticulate systems and applications.
- Study of physicochemical/thermodynamic properties and solid state properties of active pharmaceutical ingredients and excipients
- Application of multivariate analysis methods, statistical experimental design, artificial neural networks (ANNs) and genetic programming (GP).
- In-line monitoring of pharmaceutical processes by Process Analytical Technologies (PAT)
- Study of several formulation and process techniques during research and development of new pharmaceutical products

PATENTS and SCIENTIFIC PUBLICATIONS

I. Patents

1. WO2014037022A1: *Pharmaceutical composition comprising an atypical antipsychotic agent and method for the preparation thereof*
2. WO2014005606A1: *Stable injectable pharmaceutical composition of neurokinin 1 receptor antagonist and process for preparation thereof*
3. WO2013185789A1: *Pharmaceutical composition containing phosphate binding polymer*
4. WO2015022703A1: *A stable pharmaceutical composition of fesoterodine hydrochloride*
5. WO2016086950A1: *Pharmaceutical composition containing non-lipophilic hydrophobic drug and process for the preparation thereof*
6. PCT-Filled (PCT/EP2015/001966): *Pharmaceutical composition containing agomelatine and process for preparation thereof*
7. PCT-Filled (PCT/EP2015/002291): *Pharmaceutical composition containing a non-steroidal antinfammatory drug and a proton pump inhibitor*
8. PCT-Filled (PCT/EP2015/002239): *Stable analgesic pharmaceutical composition and process for the preparation thereof*

II Scientific Publications

1. **Barmpalexis P.**, Kanaze F.I., Georgarakis E., Developing and optimizing a validated

isocratic reversed-phase high-performance liquid chromatography separation of nimodipine and impurities in tablets using experimental design methodology. J Pharm Biomed Anal, 49 (2009) 1192-1202.

2. **Barmpalexis P.**, Kanaze F.I., Kachrimanis K., Georgarakis E. Artificial neural networks in the optimization of a nimodipine controlled release tablet formulation. Eur J Pharm Biopharm. 74 (2010), 316-323.
3. Kanaze F.I., Kokkalou E., Niopas I., **Barmpalexis P.**, Georgarakis E., Bikiaris D. Dissolution rate and stability study of flavanone aglycones, naringenin and hesperetin, by drug delivery systems based on polyvinylpyrrolidone (PVP) nanodispersions. Drug Dev Ind Pharm, 36(3) (2010) 292-301.
4. **Barmpalexis P.**, Kachrimanis K., Georgarakis E., Solid dispersions in the development of nimodipine effervescent floating tablet formulations and optimization by genetic programming. Eur J Pharm Biopharm. 77(1) (2011) 122-131.
5. **Barmpalexis P.**, Kachrimanis K., Tsakonas A., Georgarakis E. Symbolic regression via genetic programming in the optimization of a controlled release pharmaceutical formulation. Chemometrics and Intelligent Laboratory Systems, 107(1) (2011) 75-82.
6. Papadimitriou S.A, **Barmpalexis P.**, Karavas E., Bikiaris D. Optimizing the ability of PVP/PEG mixtures to be used as appropriate carriers for the preparation of drug solid dispersions by melt mixing technique using artificial neural networks:I. Eur J Pharm Biopharm. 82(1) (2012) 175-86.
7. Matsaridou I., **Barmpalexis P.**, Salis A., Nikolakakis I. Influence of Surfactant HLB and Oil/Surfactant Ratio on the Formation and Properties of Self-emulsifying Pellets and Microemulsion Reconstitution. AAPS PharmSciTech. 13(4) (2012) 1319-30.
8. **Barmpalexis P.**, Koutsidis I., Karavas E., Louka D., Papadimitriou S., Bikiaris D., Development of PVP/PEG mixtures as appropriate carriers for the preparation of drug solid dispersions by melt mixing technique and optimization of dissolution using artificial neural networks. Eur J Pharm Biopharm. 85(3B) (2013) 1219-31.
9. **Barmpalexis P.**, Kachrimanis K., Georgarakis E. Physicochemical characterization of nimodipine-polyethylene glycol solid dispersion systems. Drug Dev Ind Pharm. 40(7) (2014) 886-95.
10. Siafaka P., **Barmpalexis P**., Lazaridou M., Papageorgiou G., Koutris E., Karavas E., Kostoglou M., Bikiaris D. Controlled release formulations of risperidone antipsychotic drug in novel aliphatic polyester carriers: Data analysis and modelling" Eur J Pharm Biopharm, (2015) 94, 473-84.
11. Siafaka P.I., **Barmbalexis P**., Bikiaris D.N.* Novel electrospun nanofibrous matrices prepared from poly(lactic acid)/poly(butylene adipate) blends for controlled release formulations of an anti-rheumatoid agent. Eur J Pharm Sci. (2016) 10(88): 12-25.
12. **Barmpalexis P.***, Syllignaki P., Kachrimanis K. A study of water uptake by selected superdisintegrants from the sub-molecular to the particulate level. Pharm Dev Tech:

accepted for publication.

13. **Barmpalexis P.***,* Grypioti A., Eleftheriadis G.K., Fatouros D.G. Development of a new aprepitant liquisolid formulation with the aid of artificial neural networks and genetic programming. AAPS PharmSciTech, (2018) 19(2):741-752.
14. **Barmpalexis P.***,* Grypioti A., Vardaka E., Karagianni A., Kachrimanis K. Development of a novel amorphous agomelatine formulation with improved storage stability and enhanced bioavailability, J Pharm Sci., (2018) 107(1): 257-266.
15. **Barmpalexis P.***,* Grypioti A., Development of a new esomeprazole delayed release gastro-resistant pellet formulation with improved storage stability. Drug Dev Ind Pharm. (2018(44(6): 942-952.
16. Palazi E., Karavas E., **Barmpalexis P.,** Kostoglou M., Nanaki S., Christodoulou E., Bikiaris D.N. Melt extrusion process for adjusting drug release of poorly water soluble drug felodipine using different polymer matrices. Eur J Pharm Sci. (2018) 114: 332-345.
17. **Barmpalexis P.***,* Kachrimanis K., Malamataris S. Statistical moments in modelling of swelling, erosion and drug release of hydrophilic matrix-tablets. Int J Pharm. (2018) 540(1-2): 1-10.
18. Toziou P.M., **Barmpalexis P.**, Boukouvala P., Verghese S., Nikolakakis I. Quantification of live Lactobacillus acidophilus in mixed populations of live and killed by application of attenuated reflection Fourier transform infrared spectroscopy combined with chemometrics. J Pharm Biomed Anal (2018) 154: 16-22.
19. **Barmpalexis P.***,* Karagianni A., Kachrimanis K. Molecular simulations for amorphous drug formulation: Polymeric matrix properties relevant to hot-melt extrusion. Eur J Pharm Sci (2018) 119: 259-267.
20. **Barmpalexis P***, Karagianni A., Nikolakakis I., Kachrimanis K. Artificial neural networks (ANNs) and partial least squares (PLS) regression in the quantitative analysis of cocrystal formulations by Raman and ATR-FTIR spectroscopy. J Pharm Biomed Anal (2018) 158: 214-224.
21. **Barmpalexis P***, Karagianni A, Nikolakakis I, Kachrimanis K. Preparation of pharmaceutical cocrystal formulations via melt mixing technique: A thermodynamic perspective. Eur J Pharm Biopharm. 2018 Oct;131:130-140.
22. Nanaki S, **Barmpalexis P**, Papakonstantinou Z, Christodoulou E, Kostoglou M, Bikiaris DN. Preparation of New Risperidone Depot Microspheres Based on Novel Biocompatible Poly(Alkylene Adipate) Polyesters as Long-Acting Injectable Formulations. J Pharm Sci. 2018 Nov;107(11):2891-2901.
23. Nanaki S, **Barmpalexis P**, Iatrou A, Christodoulou E, Kostoglou M, Bikiaris DN. Risperidone Controlled Release Microspheres Based on Poly(Lactic Acid)-Poly(Propylene Adipate) Novel Polymer Blends Appropriate for Long Acting Injectable Formulations. Pharmaceutics. 2018 Aug 13;10(3). pii: E130.

24. Ntohogian S, Gavriliadou V, Christodoulou E, Nanaki S, Lykidou S, Naidis P, Mischopoulou L, **Barmpalexis P**, Nikolaidis N, Bikiaris DN. Chitosan Nanoparticles with Encapsulated Natural and UF-Purified Annatto and Saffron for the Preparation of UV Protective Cosmetic Emulsions. Molecules. 2018 Aug 22;23(9). pii: E2107.
25. **Barmpalexis P***, Karagianni A, Karasavvaides G, Kachrimanis K. Comparison of multi-linear regression, particle swarm optimization artificial neural networks and genetic programming in the development of mini-tablets. Int J Pharm. 2018 Nov 15;551(1-2):166-176.
26. Michailidou G, Christodoulou E, Nanaki S, **Barmpalexis P**, Karavas E, Vergkizi-Nikolakaki S, Bikiaris DN. Super-hydrophilic and high strength polymeric foam dressings of modified chitosan blends for topical wound delivery of chloramphenicol. Carbohydr Polym. 2019 Mar 15;208:1-13.
27. **Barmpalexis P**, Karagianni A, Katopodis K, Vardaka E, Kachrimanis K. Molecular modelling and simulation of fusion-based amorphous drug dispersions in polymer/plasticizer blends. Eur J Pharm Sci. 2019 Mar 15;130:260-268.
28. **Barmpalexis P**, Vardaka E, Moutafidis IM, Kachrimanis K. Amorphous agomelatine stabilization in the presence of pyrogenic silica: Molecular mobility and intermolecular interaction studies. Eur J Pharm Biopharm. 2019 Jun;139:291-300.
29. Christodoulou E, Nerantzaki M, Nanaki S, **Barmpalexis P**, Giannousi K, Dendrinou-Samara C, Angelakeris M, Gounari E, Anastasiou AD, Bikiaris DN. Paclitaxel Magnetic Core-Shell Nanoparticles Based on Poly(lactic acid) Semitelechelic Novel Block Copolymers for Combined Hyperthermia and Chemotherapy Treatment of Cancer. Pharmaceutics. 2019 May 3;11(5). pii: E213.
30. Koulouktsi C, Nanaki S, **Barmpalexis P**, Kostoglou M, Bikiaris D. Preparation and characterization of Alendronate depot microspheres based on novel poly(-ε-caprolactone)/Vitamin E TPGS copolymers. Int J Pharm X. 2019 Dec; 1. 100014.

III. Scientific Conferences (published in conference abstracts)

International Conference Contributions

1. **Barmpalexis P*.**, Kachrimanis K., Bikiaris D., Georgarakis E., "Artificial neural networks modeling swelling of nimodipine controlled release tablet formulations". 7th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Malta (Valletta), 2010. Poster presentation.
2. Papadimitriou S.A, Karavas E., Scopelitis K., **Barmpalexis P*.**, Georgarakis E., Bikiaris D. "Optimizing the ability of PVP/PEG mixtures to be used as appropriate carriers for the preparation of drug solid dispersions my melt mixing technique by

artificial neural networks" 8th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Turkey (Istanbul), 2012. Poster presentation.

3. **Barmpalexis P**., Karagianni I., Nikolakakis I., Kachrimanis K, Construction of cocrystals-soluplus® thermodynamic phase diagrams. 11th Central European Symposium on Pharmaceutical Technology, Belgrade September 22 - 24 2016.

Creek Conference Contributions

1. Asimopoulou A.N., Sikalides K., **Barmpalexis P*.**, Maurides G., Papageorgiou V.P.: "Hydroxyapatite-Shikonin drug delivery systems", 5th Panhellenic Scientific Conference of Chemical Engineering, Greece (Thessaloniki), 2005. Oral presentation.
2. **Barmpalexis P*.**, Kachrimanis K., Georgarakis E., "Optimization of Nimodipine sustained release formulations with the aid of experimental design and artificial neural networks", 14th Panhellenic Pharmaceutical Conference, Greece (Athens), 2009. Oral presentation.
3. **Barmpalexis P*.**, Kachrimanis K., Georgarakis E., "Phase-diagrams of Nimodipine-PEG binary systems using differential scanning calorimetry (DSC) and hot stage optical microscopy" 15th Panhellenic Pharmaceutical Conference, Greece (Athens), 2011. Poster presentation.
4. Konstanti L., Papanikolaou G., **Barmpalexis P*.**, Koutris E., Karavas E., "Non isothermal crystallization kinetics of PEG-4000 using differential scanning calorimetry (DSC)". Therma 2012, Greece (Thessaloniki), 2012. Poster presentation.
5. **Barmpalexis P*.**, Sillignaki P., Kachrimanis K., "Studying the hydration process of super-disintegrants with the aid of polarized light microscopy and ATR-FTIR", 16th Panhellenic Pharmaceutical Conference, Greece (Athens), 2013. Poster presentation.

TEACHING EXPERIENCE

- Physical pharmacy (5th semester in undergraduate studies)
- Pharmaceutical Technology Unit Operations (4th semester in undergraduate studies)
- Drug Quality Control I and II (8th semester in undergraduate studies)

Invited lectures:

2015 - "The role of pharmacist in generic's research and development in Greece". Department of Pharmacy, Aristotle University of Thessaloniki.

COMMUNITY INVOLVEMENT

Referee service in peer-review journals

1. International Journal of Pharmaceutics
2. AAPS PharmSciTech
3. European Journal of Pharmaceutical Sciences
4. Journal of Drug Delivery Science and Technology
5. Journal of Pharmacy and Nutrition Sciences
6. Pharmaceutics
7. Swarm and Evolutionary Computation