

Marios G. Spanakis

Pharmacist, PhD

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Date of birth: 26/09/1983

Research interests:

- Pharmacokinetics:
 - Pharmacokinetic parameter estimation from quantification of compounds in biological matrixes.
- Clinical & Molecular Pharmacology
- Drug metabolism
 - Drug metabolism and interaction studies with the use of recombinant Cytochromes P450
- Drug interactions
- Development and validation of bioanalytical methods:
 - GC/MS and HPLC chromatographic techniques and application in biological matrixes
- Cell culture assays:
 - Permeability assays involving Caco-2 cell culture models.
- *In silico* tools for the evaluation of the pharmacokinetic and pharmacodynamic properties of drugs:
 - Licensed user of Simcyp® platform towards the modeling and simulation of pharmacokinetic and pharmacodynamic clinical studies.
- Computational Medicine
 - Tools and models for the clinical evaluation of *in vitro/in vivo* and observational studies.
- Personalized/Stratified medicine
- Medical Image analysis
- Computational oncology

Curriculum Vitae

Research Experience

2013-present	Post-doctoral collaborative researcher in Computational Medicine Laboratory (CML) of the Institute of Computer Science, Foundation for Research and Technology - Hellas (FORTH-ICS).
2012-2013	Post-doctoral research fellow in laboratory of Pharmacology (Pharmacokinetics), School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, Greece
2006-2012	PhD student in laboratory of Pharmacology, School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, Greece
2005-2006	Under-graduate trainee in laboratory of Pharmacology (Pharmacokinetics) School of Pharmacy, Aristotle University of Thessaloniki, Thessaloniki, Greece

Working experience

2009-2012	Teaching Assistant for <u>post-graduate course</u> of “Drug-interactions” and <u>under-graduate</u> courses “Toxicology”, “Clinical Pharmacokinetics”, “Applied Pharmacology and Therapeutics” and <u>seminar sessions</u> in undergraduate students for “Application of Simcyp® simulator in drug interaction studies with clinical significance”
2008-2011	Teaching Associate Fellow at the Institutes of Vocational Training “AKMI” and “DELTA”.

Teaching courses: “Biochemistry”, “Molecular Biology and genetics”, “Organic Chemistry” “Chemical Technology”, “Physical and Chemical Processes” and “Drug quality control” for students educated as Assistant Pharmacists

10/2005-7/2006 Traineeship Pharmacist in community Pharmacy

7/2005-9/2005 Traineeship Pharmacist in Hospital Pharmacy of University General Hospital of Heraklion, Crete

Education

June 2012 **PhD in Pharmacy**, School of Pharmacy, Aristotle University of Thessaloniki, Greece
Thesis Title: **“Pharmacokinetic drug-herb interactions”**

December 2006 **BSc in Pharmacy**, School of Pharmacy, Aristotle University of Thessaloniki Degree 6.3/10

Peer reviewed Journal Papers

- 1) **Spanakis M**, Bouropoulos N, Theodoropoulos D, Siggelou C, Ewart S, Moschovi MA, Siokou E, Niopas I, Kachrimanis K, Nikolakis V, Cox AP, Vizirianakis SI, Fatouros DG. (2013) "Controlled release of 5-flourouracil from microporous zeolites" *Nanomedicine* 2014, 10(1):197-205
- 2) **Spanakis M**, Vizirianakis IS, Batzias G, Niopas I. (2013) “Pharmacokinetic interaction between losartan and *Rhodiola rosea* in rabbits” *Pharmacology* 91(1-2):112-116.
- 3) **Spanakis M**, Niopas I. (2013) “Determination of Atenolol in Human Plasma by HPLC with Fluorescence Detection: Validation and Application in a Pharmacokinetic Study”, *J Chromatogr Sci*, 51(2):128-132.
- 4) Bakirtzi C, Tsatalas P, **Spanakis M**, Kokkalou E. (2012) "GC-MS Analysis of Volatile Constituents of Cornus mas Fruits and Pulp" *JEOBP*, in press
- 5) Chatsisvili A, Sapounidis I, Pavlidou G, Zoumpouridou E, Karakousis VA, **Spanakis M**, Teperikidis L, Niopas I. (2010) “Potential drug-drug interactions in prescriptions dispensed in community pharmacies in Greece”, *Pharm World Sci*, 32: 187-193
- 6) **Spanakis M**, Niopas I. (2010) “GC–MS Simultaneous Determination of Enalapril and Enalaprilat in Human Plasma: Application to a Clinical Pharmacokinetic Study”, *Chromatographia*, 72: 957-962
- 7) **Spanakis M**, Vizirianakis IS, Mironidou-Tzouveleki M, Niopas I. (2009) “A validated SIM GC/MS method for the simultaneous determination of dextromethorphan and its metabolites dextrorphan, 3-methoxymorphinan and 3-hydroxymorphinan in biological matrices and its application to *in vitro* CYP2D6 and CYP3A4 inhibition study”, *Biomed Chromatogr*, 23: 1131-1137
- 8) **Spanakis M**, Kasmis S, Niopas I. (2009) “Simultaneous determination of the flavonoid aglycones diosmetin and hesperetin in human plasma and urine by a validated GC/MS method: *in vivo* metabolic reduction of diosmetin to hesperetin”, *Biomed Chromatogr*, 23: 124-131
- 9) Kimiskidis V, **Spanakis M**, Niopas I, Kazis D, Gabrieli C, Kanaze FI, Divanoglou D. (2007) “Development and validation of a high performance liquid chromatographic method for the determination of oxcarbazepine and its main metabolites in human plasma and cerebrospinal fluid and its application to pharmacokinetic study”, *J Pharm Biomed Anal*, 43: 763-768.

Book chapters in scientific books

- 1) Vizirianakis SI, **Spanakis M**, Termentzi A, Niopas I, Kokkalou E. (2010) "Clinical and pharmacogenomic assessment of herb-drug interactions to improve drug delivery and pharmacovigilance". *Plants in Traditional and Modern Medicine: Chemistry and Activity*. Kokkalou E, Transworld Research Network.

Conferences proceedings

- 1) **Spanakis M**, Papadaki E, Kafetzopoulos D, Karantanas A, Maris TG, Sakkalis V, Marias K: "Exploitation of patient avatars towards stratified medicine through the development of *in silico* clinical trials approaches." BIBE 2013 13th IEEE International Conference on BioInformatics and BioEngineering, Chania, Greece; 11/2013
- 2) Maniadi, E., Kondylakis, H., Spanakis, E.G., **Spanakis, M.**, Tsiknakis, M.N., Marias, K., Dong, F. (2013). "Designing a digital patient avatar in the context of the MyHealthAvatar project initiative" BIBE 2013 13th IEEE International Conference on BioInformatics and BioEngineering, Chania, Greece; 11/2013
- 3) **Spanakis M**. Vizirianakis SI. Niopas I, (2013) "Application of the Simcyp® simulator in the pharmacokinetic drug-herb interaction study of losartan with *rhodiola rosea*". 5th International BBBB conference / Abstract book European Journal of Pharmaceutical Sciences, Athens; Greece 09/2013
- 4) **Spanakis M**. (2013) "Physical and mental disorders: pharmacological approaches to enhance effectiveness and safety of concomitant medications from the side of pharmacologist (invited speech)" 7th panhellenic conference of psychiatry in the general hospital, Thessaloniki; Greece 02/2013
- 5) **Spanakis M**, Niopas I, Vizirianakis SI. (2012) Pharmacological assessment of horse chestnut seed extracts and its major constituent aescin in Caco-2 cell monolayer cultures 63th congress of the Hellenic Society for Biochemistry and Molecular Biology, FORTH, Heraklion Crete, 2012
- 6) **Spanakis M**, Vizirianakis SI, Niopas I. (2012) "Impact of herbal extracts in efflux activity of P-glycoprotein" 1st Conference of Pharmaceutical Sciences Athens, 2012
- 7) **Spanakis M**. "Pharmacokinetic drug-herb interactions. Development and validation of bioanalytical methods for *in vitro* studies" (Oral Presentation). 1st National Meeting of Graduate Students from Pharmacy Schools. Athens 2011
- 8) **Spanakis M**, Mironidou-Tzouveleki M, Niopas I. (2011) "Development, validation and application of a SIM-GC/MS method for the study of the *in vitro* metabolism of S-warfarin in the presence of hawthorn extract (*Crataegus oxyacantha*) Resouk 3rd Emuni Student Research Multi-conference, Thessaloniki, Greece
- 9) **Spanakis M**, Mironidou-Tzouveleki M, Niopas I. (2010) "*In vitro* inhibition of CYP3A4 and CYP2D6 activity by the horse chestnut constituents' aescin and aesculetin" XeMeT 2010 8th Southeast European Congress Thessaloniki Greece
- 10) **Spanakis M**, Vizirianakis IS, Niopas I. (2010) "Modulation of P-glycoprotein mediated drug transport in Caco-2 cells by aloe vera phytotherapeutic products: A methodology to evaluate drug-herb interactions in clinical practice" Review of Clinical Pharmacology and Pharmacokinetics, International Edition (conference paper 6GSP Crete 2010)
- 11) Tsatalas P, **Spanakis M**, Kokkalou E. (2008) "Analysis of the volatile constituents of *Cornus mas* (Cornaceae) fruits" *Planta Medica* (Conference paper Athens 2008 7th Joint Meeting of GA, AFERP, ASP, PSE & SIF)

Scientific Conferences & Workshops

- 1) Simcyp focused Workshop at 5th International BBBB conference Athens, 09/2013
- 2) 63th Congress of the Hellenic Society for Biochemistry and Molecular Biology, FORTH, Heraklion Crete, 2012
- 3) 1st Conference on Pharmaceutical Sciences, April 2012, Athens
- 4) 1st National Meeting of Post-graduate Students in Pharmacy, April 2011, Athens

- 5) 20th Annual Meeting of the Population Approach Group in Europe (P.A.G.E.) , June 2011, Athens
- 6) Simcyp Workshop at PAGE: Hands-on Experience with Systems Pharmacology: Combining Top-Down and Bottom-Up Modelling
- 7) ReSouk 3rd EMUNI, Aristotle University of Thessaloniki, Thessaloniki, Greece
- 8) 2nd Annual Simcyp Virtual Seminar on the Applications of Automated Population-based IVIVE & PBPK 13th October 2011
- 9) 'Cell Imaging and Analysis' workshop, Department of Molecular Biology and Genetics (MBG), Democritus University of Thrace (DUTH) October 2011 Alexandroupolis, Greece
- 10) 1st Simcyp Annual Virtual Seminar on Application of Automated Population-based IVIVE & PBPK, 7th October 2010
- 11) 8th Southeast European Congress on Xenobiotic Metabolism and Toxicity (XEMET 2010), October 2010, Thessaloniki
- 12) 6th Annual Meeting of the Greek Society of Pharmacology, June 2010, Heracklion Crete, Greece
- 13) 10th Simcyp Consortium Meeting & Associated Workshops, September 2009, Sheffield UK

Awards

Post-doctoral Research Scholarship for 2012 from Research Committee of Aristotle University of Thessaloniki

Scientific partnerships

2013-present Licensed user of Simcyp simulator platform on the project of "Application of the Simcyp platform for the development of PB/PK models for tracers used in bio-imaging for the investigation of cancer evolution and response to therapy". Project supervisor K. Marias (Principal Researcher & Head of Computational Medicine Laboratory)

2006-2013 Member of scientific group from Laboratory of Pharmacology of School of Pharmacy AUTH licensed of using Simcyp® simulator for the research project: "Assessment of herb-drug interactions *in vitro* and *in vivo* at the molecular and clinical level" and for teaching in courses of "Clinical Pharmacokinetics" and "Drug interactions" according to the Simcyp Simulator License Agreement.

Languages

English First Certificate in English, University of Cambridge (Degree B)

Speaking

Reading

Writing

Very good

Very Good

Very Good

Computer Knowledge

- Excellent knowledge and experience with pharmacokinetic software (EquivTest/PK®, Simcyp®)
- Very good knowledge of biological and statistical softwares (ChemBio Draw®, GraphPad Prism®, SigmaPlot®) as well as bioanalytical software GC/MS (GC/MS solutions®) and HPLC (Clarity DataApex®)
- Very good knowledge and experience in Windows environment of Microsoft applications (Word, Power Point, Excel). Good knowledge and experience of Adobe applications.