ELIŠKA ZMEŠKALOVÁ (Skořepová)

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EDUCATION

2012-2016 Research doctorate
University of Chemistry and Technology Prague, Czech Republic
Faculty of Chemical Technology, Solid State Chemistry Department
Field of study: Synthesis and Production of Pharmaceuticals
Doctoral thesis: *„Preparation and structural characterization of solid forms of pharmaceutical compounds trospium chloride and agomelatine"*

2010-2012 Master's degree
University of Chemistry and Technology Prague, Czech Republic
Faculty of Chemical Technology
Field of study: Production of Pharmaceuticals
Master's thesis: *„Co-crystals and other phases of trospium chloride"*

WORK EXPERIENCE

2019- Department of Structure Analysis – Head of the Laboratory of Single-Crystal Diffraction, Institute of Physics of the Czech Academy of Sciences, Czech Republic

2017-2018 Analytical & Biological Chemistry Research Facility – Postdoc
University College Cork, Ireland

2016-2019 Bioengineering and advanced functional materials laboratory – Postdoc
Department of Chemical Engineering, University of Chemistry and Technology Prague, Czech Republic

2013-2016 Solid state development – PhD student/Development chemist
Zentiva k.s., Prague, Czech Republic

2009-2016 Laboratory of x-ray structure analysis – Bc/MSc/PhD student
Solid State Chemistry Department, University of Chemistry and Technology Prague, Czech Republic

07/2010 Internship in Development department, Teva Czech Industries, Opava, Czech Republic

AWARDS

04/2017 Internal grant of University of Chemistry and Technology Prague for young excellent researchers (one per faculty)

06/2015 Poster award from PolyCrystalLine
The 8th Bologna Convention on Crystal Forms

05/2015 Paper (Skorepova, Crystal Growth and Design, 2013, 13(12), 5193-5203) selected as one of UCT Prague excellent publications of 2014

09/2014 Poster award from the International Union of Crystallography
The 1st European School of Crystallography

08/2013 Poster award from Cambridge Crystallographic Data Center
The 28th European Crystallography Meeting

INTERNATIONAL POSTDOCTORAL INTERNSHIP

2. 10. 2017 - 30. 9. 2018	University College Cork, Ireland Analytical & Biological Chemistry Research Facility (group of Simon Lawrence) Project: *"Structural Aspects of Ionic Salts and Cocrystals of Di- and Tripeptides"*

RESEARCH RESPONSIBILITIES IN THE LAST FIVE YEARS

- Preparation of polymorphs, hydrates, solvates, salts, cocrystals and ionic cocrystals
- Phase transformations; structure – property relationships
- Analytical methods:
    - X-ray diffraction (single-crystal X-ray diffraction and structure analysis; powder diffraction and quantitative, qualitative and Rietveld analysis)
    - Spectroscopic (solution NMR, solid state NMR, IR and Raman)
    - Thermal (TGA, DSC, temperature resolved XRPD)
- Computational methods
    - CCDC tools – hydrogen bonding propensity, packing similarity, crystal shape, etc.
    - Molecular and quantum mechanics – geometry optimization
    - Periodic potential DFT – crystal lattice energy
    - Modelling of the solid-state transformation kinetics
- Publication write-up (was the corresponding author of several papers)
- Student supervision (was/is the co-supervisor of 15 BSc/MSc/PhD students; is involved as a supervisor in the Pharmaceutical Applied Research Centre, the Parc, with four PhD students under joint supervision with the pharmaceutical company Zentiva)
- Project co-ordination (was significantly involved in the management of several projects, including with industry, PI of a TAČR project)

OTHER SKILLS

Computer programs

- Crystallographic programs: Crystals, Mercury, X'Pert HighScore Plus, CrysAlisPro, Discovery Studio, Jana2006, CrystalExplorer
- Molecular and quantum mechanics: Material Studio (DMol^3, VAMP, CASTEP), HyperChem

Language skills

- Czech – native
- English– advanced (C1), FCE (2006), daily use
- German – basics

STATS

Based on Google Scholar, 06-03-2023

- H-index: 15
- No. citations: 483
- No. publications: 45 (+ 3 international patents, 2 utility models and 7 conference papers in impacted journals)