Mgr. Peter Urbanovský

Personal Details

Contact address: Eliášova 5, 160 00 Prague 6, Czech Republic
University address: Charles University, Hlavova 8/2030, 128 43 Prague 2, Czech Republic
E-mail: peter.urbanovsky@centrum.sk, urbanop@natur.cuni.cz
Sex: Male
Citizenship: Slovak
Birth: April 15, 1991, Bratislava, Slovak Republic

Education

Highest earned: EuroMaster in Inorganic Chemistry (2015)

2015 – Present (Ph.D. Studies)
Charles University, Prague, Czech Republic
Specialization: Inorganic chemistry
Doctoral Thesis: Complexes of cyclen-based macrocyclic ligands with a phosphinate pendant arm

2013 – 2015 (M.Sc. Studies)
Charles University, Prague, Czech Republic
Specialization: Inorganic chemistry
Master's Thesis: MRI contrast agents for angiography

2010 – 2013 (B.Sc. Studies)
Charles University, Prague, Czech Republic
Specialization: Chemistry in Natural Sciences
Bachelor's Thesis: New ligands for magnetic resonance imaging – pH-responsive contrast agents

Additional education

2016 – 2019
Additional pedagogic studies – chemistry, Charles University, Prague, Czech Republic

March 2017
Certificate FCE (level B2, grade B) and CAE (level C1, grade C)

Employment

2020 – Present
Full-time as laboratory assistant at Charles University, Prague, Czech Republic

2012 – 2019
Part-time as laboratory assistant at Charles University, Prague, Czech Republic

Date: Signature:

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Results presentation

- Gd^{3+}-Complex of Dibenzylamino-phosphinate DOTA Analogue as Albumin-Binding MRI Contrast Agent, Poster, Annual Meeting of **COST TD1004** (Theragnostics Imaging and Therapy group), September 1-3, 2013, Athens, GR.
- MRI Contrast Agent Binding to Serum Albumin with High Relaxivity and Fast Clearance, Poster, Annual Meeting of **COST CM1006** (EUFEN3 – European f-Element Network), April 14-15, 2014, Nuremburg, DE.
- "MRI kontrastná látka viažuca sa na sérový albumín s rýchlou renálnou exkréciou" (= MRI Contrast Agent Binding to Serum Albumin with Fast Renal Excretion), Lecture, **1st PAnCh** ("Pokroky anorganické chemie" (= Advances of Inorganic Chemistry)), June 22-26, 2014, Třešť, CZ.
- Bifuntional and pH-sensitive 31P-MRS Contrast Agents and Their NMR and Single-Crystal Structure Analysis, Poster, Annual Meeting of **ISABC13** (International Symposium of Applied Bioinorganic Chemistry), June 12-15, 2015, Galway, IR.
- pH-sensitive Angiographic Contrast Agents for MRI, Poster, Annual Meeting of **ICCC** (42nd, International Conference on Coordination Chemistry), July 3-7, 2016, Brest, FR.
- pH-responsive contrast agents for angioMRI, Lecture, **68. Conference of Czechoslovakia Chemists**, September 4-7, 2016, Prague, CZ.
- An Investigation of the Versatile MRI Contrast Agents with Free Amino Group, Lecture, **PhD17** (17. international seminary of PhD students about organometallic and coordination chemistry), April 2-6, 2017, Kraskov, CZ.
- Searching for PARACEST Effect in DOTA-like Complexes with Free Pendant Amine/Amide, Poster, Annual Meeting of **ISABC14**, June 7-10, 2017, Toulouse, FR.
- pH-dependency: Improved angioMRI contrast agents and a brief insight on 31P-MRS, Lecture, Conference on NMR Relaxometry and Related Methods (Annual Meeting of **COST CA15209**), January 29-31, 2018, Turin, IT.
- "Ditopické komplexy s motívom M—O–P=O—M" (= Ditopic Complexes with M—O–P=O—M Moiety), Lecture, **3rd PAnCh** ("Pokroky anorganické chemie" (= Advances of Inorganic Chemistry)), June 17-21, 2018, Levoča, SK.
- Two lanthanides in two closely connected DO3AP cavities, Poster, Annual Meeting of **ICCC** (43rd, International Conference on Coordination Chemistry), 30-4 August, Sendai, JP.
- NMR properties of lanthanide complexes of two interconnected DO3AP, Lecture, Conference on NMR Relaxometry and Related Methods (Annual Meeting of **COST CA15209**), February 4-6, 2019, Prague, CZ.
- The influence of the aminomethylphosphinic pendant arm of $DO3AP^R$ on properties of its lanthanide(III) complexes, Lecture, **Symposium** on Contrast-Enhanced Biomedical Imaging, 16th Meeting, May 9-10, 2019, Mons, BE.
- Rigid binuclear DOTA-like ditopical lanthanide complexes: isomerism, luminescence and relaxometric properties, Lecture, Annual Meeting of **ICHAC** (19th, International Conference on Heteroatom Chemistry), June 30-July 5, 2019, Prague, CZ.

Publications

- Urbanovsky, P.; Kotek, J.; Cisarova, I.; Hermann, P. Selective and clean synthesis of aminoalkyl-*H*-phosphinic acids from hypophosphorous acid by phospha-Mannich reaction. *RSC Adv.*, 2020, 10, 21329–21349. DOI: *10.1039/D0RA03075A*
- Urbanovsky, P.; Kotek, J.; Cisarova, I.; Hermann, P. The Solid-State Structures and Ligand Cavity Evaluation of Lanthanide(III) Complexes of DOTA Analogue with a (Dibenzylamino)methylphosphinate Pendant Arm. *Dalton Trans.*, 2020, 49, 1555–1569. DOI: *10.1039/C9DT04056K*
- Urbanovsky, P.; Kotek, J.; Carniato, F.; Botta, M.; Hermann, P. Lanthanide Complexes of DO3A–(Dibenzylamino)methylphosphinate: Effect of Protonation of the Dibenzylamino Group of the Water-Exchange Rate and the Binding of Human Serum Albumin. *Inorg. Chem.*, 2019, 58, 8, 5196–5210. DOI: *10.1021/acs.inorgchem.9b00267*

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- Zeisek, V.; Kirschner, J.; van Dijk, P. J. *et al*. Analysis of wild *Taraxacum bicorne* Dahlst. (Compositae–Crepidinae) as a potential alternative natural rubber crop. *Genet. Resour. Crop Evol.*, 2019, 66, 1341–1361. DOI: *10.1007/s10722-019-00788-4*

Awards

- Scholarship of Bohuslav Brauner for outstanding grades and Bachelor thesis, Faculty of Sciences, Charles University, February 17, 2014, Prague, CZ.
- Competition for the best (diploma) thesis of young authors in spectroscopy, Ioannes Marcus Marci Spectroscopic Society, 1st prize, 2015, Prague, CZ.
- Competition for a best speaker of students under 35 years old – an award from dean of Pardubice University (from 68th Conference of Czechoslovakia Chemists), 1st prize, 2016, Prague, CZ.
- A lecture award from competition for young researchers, 3rd prize, 3rd PAnCh Conference, 2018, Levoča, SK.
- A poster award "to recognize an excellent poster presentation", 43rd ICCC, Sendai, JP.

Scientific stays

- 2 weeks (February 2014), 2 days (June 2014), and 2 weeks (November 2018) in Alessandria, Italy (with Prof. M. Botta) – variable-temperature (VT) proton nuclear magnetic relaxation dispersion (^{1}H NMRD) measurements, VT ^{17}O NMR, proton relaxometric titration with serum albumin, proton relaxometric titration with presence of competitive inhibitor, evaluation of acquired data.
- 1 month (November 2017) in Oxford, Great Britain (with Prof. S. Faulkner) – luminescence measurements, up-conversion.

Referees

- **Name:** Assoc. Prof. RNDr. Jan Kotek, Ph.D. (Bachelor and Diploma Theses supervisor)
  Affiliation: Dept. of Inorganic Chemistry, Faculty of Science, Charles University, Prague, Czech Republic
  Mail: jan.kotek@natur.cuni.cz
  Phone: (+420) 22195 **1261**
- **Name:** Prof. RNDr. Petr Hermann, Dr. (Doctorate Thesis supervisor)
  Affiliation: Dept. of Inorganic Chemistry, Faculty of Science, Charles University, Prague, Czech Republic
  Mail: petrh@natur.cuni.cz
  Phone: (+420) 22195 **1263**
- **Name:** Prof. Stephen Faulkner
  Affiliation: Head of the Inorganic Chemistry Laboratory, University of Oxford, Oxford, Great Britain
  Mail: stephen.faulkner@keble.ox.ac.uk
  Phone: (+44) 0186 527 2640

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