

**Curriculum vitae
&
List of publications**

Barbora Hudcová

Born: September 5, 1989, Prague (Czech Republic)

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Education

- 2014 – present: Czech University of Life Sciences Prague - Faculty of Environmental Sciences
Ph.D. Environmental Modeling
Ph.D. topic “The use of layered double hydroxides and mixed oxides for stabilization of metals and metalloids in contaminated soils”
- 2012 – 2014: University of Pardubice - Faculty of Chemical Technology
MSc. Technical Physical Chemistry
MSc. topic “Structure and activity analysis of Mg/Al and Zn/Al mixed oxides in aldolization and transesterification”
- 2009 – 2012: University of Pardubice - Faculty of Chemical Technology
BSc. Environment Protection Management
BSc. topic “Treatment of energy crops to value-added chemicals”

Fellowships

- Fulbright-Masaryk Visiting Scholar at University of Notre Dame, Indiana, USA (2018)

Awards

- Rector's Prize for Ph.D. Research and Publication (2018)
- Early Career Scientist's Travel Support at the General Assembly of the European

- Geosciences Union (2018)
- Travel award at the International Conference on the Biogeochemistry of Trace Elements conference (2017)
 - Prize of Technical University of Liberec at Innovative remediation technologies – research and experience (2015)
 - Prize of the Knauf Praha Company for excellent BSc. thesis (2012)

Publications

- Hudcová, B.**, Veselská, V., Filip, J., Číhalová, S., Komárek, M., 2017. Sorption mechanisms of arsenate on Mg-Fe layered double hydroxides: A combination of adsorption modeling and solid-state analysis. *Chemosphere* 168, 539-548.
- Hudcová, B.**, Veselská, V., Filip, J., Číhalová, S., Komárek, M., 2018. Highly effective Zn(II) and Pb(II) removal from aqueous solutions using Mg-Fe layered double hydroxides: Comprehensive adsorption modeling coupled with solid state analyses. *Journal of Cleaner Production* 171, 944-953.
- Hudcová, B.**, Vítková, M., Ouředníček, P., Komárek, M., 2019. Stability and stabilizing efficiency of Mg-Fe layered double hydroxides and mixed oxides in aqueous solutions and soils with elevated As(V), Pb(II) and Zn(II) contents. *Science of The Total Environment* 648:1511-1519.
- Trakal, L., Vítková, M., **Hudcová, B.**, Beesley, L., Komárek, M., 2018. Biochar and its Composites for Metal (loid) Removal From Aqueous Solutions, In: Ok, Y., Tsang, D., Bolan, N., Novak J. (eds.), *Biochar from Biomass and Waste*, Elsevier, United Kingdom, pp. 113-141.

Submitted articles and manuscripts in preparation

- Hudcová, B.**, Erben, M., Vítková, M., Komárek, M., 2019. Antimonate (ad)sorption onto Mg-Fe layered double hydroxides in aqueous solutions at different pH values: Investigation of the mechanism supported by surface complexation modeling and solid-state analyses. Submitted to *Applied Surface Science*.

Grants and projects

- Co-worker on grant: Innovative use of nanoiron-modified biochar: advanced geochemical testing for metal(loid) stabilisation in soils
Project no. 18-24782Y (Czech Science Foundation)
- Co-worker on grant: Application of modified waste biomaterials for mine water remediation
Project no. TJ01000015 (2018-2019; Technology Agency of the Czech Republic)
- Principal investigator on grant: Synthesis and use of innovative adsorbents for stabilization of metals and metalloids in contaminated soils
CIGA no. 20154202 (2015-2016; Czech University of Life Sciences Prague)
- Principal investigator on grant: Simulation of Zn sorption processes in soil using geochemical modelling
IGA no. 4240013123159 (2015-2017; Internal Grant Agency of the Faculty of Environmental Sciences, Czech University of Life Sciences Prague)
- Co-investigator on grant: Development and production of innovative materials from waste products for stabilization of metals and metalloids: A comprehensive experimental and model approach
CIGA no. 20174204 (2017-2018; Czech University of Life Sciences Prague)
- Co-investigator on grant: Interactions of arbuscular mycorrhiza with nano zero-valent iron and their influence on metal(loid) behavior in plant - soil system
CIGA no. 20174205 (2017-2018; Czech University of Life Sciences Prague)

Teaching activities

- Environmental Soil Chemistry – Practical Course
- Field Practice for Environmental Geosciences
- Supervisor of 8 defended bachelor theses

• Voluntary activities

- Laboratory work with grammar school students in the frame of Science to Schools program
- Summer school for students