ALENA KUBÁTOVÁ
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Research Experience

Environmental and toxicological analytical chemistry employing extraction techniques such as hot pressurized water extraction and supercritical extraction with carbon dioxide, gas chromatography, high-performance liquid chromatography (HPLC) using various types of detectors with main interest in a mass spectrometric detection (MS). Research focused on environmental issues using "green solvents" to extract, characterize, evaluate toxicity, and degrade pollutants. Interest in studies focused on understanding atmospheric chemistry processes, employing chemical and toxicogical characterization of the organic fraction of atmospheric aerosols using *in vitro* toxicity assays and chromatographic/mass spectrometric methods.

Education and qualifications

1997	Ph. D. in Analytical Chemistry, Charles University, Prague, Czech Republic.
1994	M.S. in Analytical Chemistry, Charles University, Prague, Czech Republic.

Professional experience

2005 – present	Assistant Professor, University of North Dakota, Grand Forks, Chemistry Department.
2006 – 2007	Director of the COBRE Mass Spectrometry Core facility, School of Medicine and Health Sciences, University of North Dakota, Grand Forks.
2003 – 2005	Research Scientist, University of North Dakota, Grand Forks, Energy and Environmental Research Center; Adjunct Professor University of North Dakota, Grand Forks, Chemistry Department.
2000 – 2002	Postdoctoral Researcher, University of North Dakota, Grand Forks, Energy and Environmental Research Center
1999	Independent Researcher, Institute of Microbiology, Czech Academy of Sciences, Czech Republic.
1998 – 1999	Postdoctoral Researcher, University of Antwerp, Belgium.

Awards

2001	Award for outstanding presentation, AOCS 2001 Minneapolis, Minnesota.
1999	Best poster award at the Session Atmospheric Aerosols of the 6th Scientific Conference of the International Global Atmospheric Chemistry Project, Bologna, Italy.

1996 Award from Czech Ministry of Education and Sport, "Talent 1996," for work carried out during participation on the project "Biodegradation of PCBs by white rot fungi."

Peer-Reviewed Research Publications

1. Kubátová, A.; Murphy, T.C.; Combs, C.; Picklo, M.J. Sr. Astrocytic biotransformation of *trans*-4-hydroxynonenal is dose-dependent. *Chem. Res. Toxicol.* **2006**, *19*, 844–851. (work performed in Chemistry/PPT departments)
2. Braun, A.; Wirick, S.; Kubátová, A.; Huggins, F.E.; Huffman, G.P. Photochemically induced decarboxylation in diesel soot extract and sodium alginate *Atmos. Environ.* **2006**, *40*, 5837-5844.
3. Kubátová, A.; Dronen, L. C.; Hawthorne, S.B. Genotoxicity of polar fractions from a herbicide-contaminated soil does not correspond to parent contaminants. *Environ. Tox. Chem.* **2005**, *26*, 1742–1745.
4. Kubátová, A.; Dronen, L. C.; Picklo, M. J.; Hawthorne, S. B. Midpolarity and Nonpolar Wood Smoke Particulate Matter Fractions Deplete Glutathione in RAW 264.7 Macrophages. *Chem. Res. Toxicol.* **2005**, *19*, 255–261.
5. Honzatko, A.; Brichac, J.; Murphy, T.C.; Reberg, A.; Kubátová, A.; Smoliakova, I.; Picklo, M.J. Enantioselective metabolism of trans-4-hydroxy-2-nonenal by brain mitochondria. *Free Rad. Biol. Med.* **2005**, *39*, 913–924.
6. Hawthorne, S.B.; Kubátová, A.; Gallagher, J.R.; Sorensen, J.A.; Miller, D.J. Persistence and Transformation of the Alkanolamines MEA and IPA at an Abandoned Industrial Site. *Environ. Sci. Technol.* **2005**, *39*, 3639–3645.
7. Kubátová, A.; Steckler, T.S.; Gallagher, J.R.; Hawthorne, S.B.; Picklo, M.J.,Sr. Toxicity of wide-range polarity fractions from wood smoke and diesel exhaust particulate obtained using hot pressurized water. *Environ. Toxicol. Chem.* **2004**, *23*, 2243–2250.
8. Ibañez, E.; Kubátová, A.; Señoráns, F. J.; Cavero, S.; Reglero, G.; Hawthorne, S.B. Subcritical water extraction of antioxidant compounds from rosemary plants. *J. Agric. Food Chem.* **2003**, *51*, 375–382.
9. Kubátová, A.; Herman, J.; Steckler, T.; de Veij, M.; Miller, D.J.; Wai, C.W.; Hawthorne, S. B. Subcritical (Hot/Liquid) Water Dechlorination of PCBs (Aroclor 1254) with Metal Additives and in Waste Paint. *Environ. Sci. Technol.* **2003**, *37*, 5757–5762.
10. Kubátová, A.; Vermeylen, R.; Clayes, M.; Cafmeyer, J.; Maenhaut, W. Organic compounds in urban aerosols from Gent, Belgium: Characterization, sources, and seasonal differences. *J. Geophys. Res.* **2002**, *107*, ICC5/1–ICC5/12.
11. Kubátová, A.; Hawthorne, S.B. Thermodynamic and kinetic models for the extraction of essential oils from savory and PAHs from soil with subcritical water (hot water) and supercritical CO_2. *J. Chromatogr. A* **2002**, *975*, 175–188.
12. Kubátová, A.; Miller, D.J.; Hawthorne, S.B. Degradation of organochlorine pollutants with subcritical water. *Environ. Sci. Technol.* **2002**, *36*, 1337–1343.
13. Marshall, W.D.; Kubátová, A.; Lagadec, A.J.M.; Miller, D.J.; Hawthorne, S.B. Zero-valent metal accelerators for the dechlorination of pentachlorophenol (PCP) in subcritical water. *Green Chem.* **2002**, *4*, 17–23.

14. Kubátová, A.; Vermeylen, R.; Clayes, M.; Cafmeyer, J.; Maenhaut, W.; Roberts, G.; Artaxo, P. Carbonaceous aerosol characterization in the Amazon basin, Brazil: Novel dicarboxylic acids and related compounds. *Atmos. Environ*. **2000**, *34*, 5037–5051.
15. Kubátová, A.; Lagadec, A.J.M.; Miller, D.J.; Hawthorne, S.B. Selective extraction of oxygenates from savory and peppermint using subcritical water. *Flavour Fragr. J.* **2000**, *16*, 64–73.
16. Kubátová, A.; Miller, D.J.; Hawthorne, S.B. Comparison of subcritical water and organic solvents for extracting kava lactones from kava root. *J. Chromatogr. A* **2001**, *923*, 187–194.
17. Kubátová, A.; Erbanová, P.; Eichlerová, I.; Homolka, L.; _a_ek, V. PCB congener selective biodegradation by the White Rot fungus Pleurotus ostreatus in contaminated soils. *Chemosphere* **2001**, *43*, 207–215.
18. Kr_má_, P.; Kubátová, A.; Votruba, J.; Erbanová, P.; Novotn_, C.; _a_ek, V. Degradation of polychlorinated biphenyls by ligninolytic enzymes of Phanerochaete chrysosporium produced in perforated plate bioreactor. *J. Microbiol. Biotechnol*. **1999**, *15*, 237–242.
19. Matucha, M.; Bubner, M.; Kubátová, A.; Erbanová, P.; Uhli_ová, V.; Novotn_, C.; _a_ek, V. Some application of isotopic labelling in ecological research. *Acta Univer. Carol. Environ.* **1998**, *12*, 49–60.
20. Kubátová, A.; Matucha, M.; Erbanová, P.; Novotn_, C.; Vlasáková, V.; _a_ek, V. Investigation into PCB biodegradation using uniformly ^{14}C-labelled dichlorobiphenyl. *Isotopes Environ. Health Studies* **1998,** *34*, 325–334.
21. Novotn_, C.; Vyas, B.R.M.; Erbanová, P.; Kubátová, A.; _a_ek, V. Removal of PCBs by various white rot fungi in liquid cultures. *Folia Microbiol*. **1997**, *42*, 136–140.
22. Zacha_, P.; Novotn_, _.; Vozňáková, Z.; Matucha, M.; Tesa_ová, E.; S_kora, D.; Kubátová, A.; Popl, M.; _a_ek, V. Physical factors negatively affecting evaluation of long-term biodegradation experiments of polychlorinated biphenyls. *Chemosphere* **1996**, *33*, 2411–2421.
23. Kubátová, A.; Matucha, M.; _ev_ík, J.G. Application of correlation analysis for identification of polychlorinated biphenyls. *J. Chromatogr. A* **1996**, *A 752*, 197–207.
24. Kubátová, A.; Matucha, M.; Bubner, M. Application of ^{13}C-labelled polychlorinated biphenyl congener 153 as internal standard in the gas chromatographic-mass spectrometric analysis of polychlorinated biphenyls. *J. Chromatogr. A* **1996**, *750*, 245–251.

Invited Research Publication (Book Chapter):

25. Kubátová, A.; Hawthorne, S.B. Hot (Subcritical) Water Extraction in *Sample Preparation in Field and Laboratory.* 1st ed. J. Pawliszyn Ed. Elsevier 2002, New York, Wilson&Wilson's Comprehensive Analytical Chemistry Vol. 37, Ch.18, 587–608.
26. Kubátová, A.; Erbanová, P. Factors affecting evaluation of long-term PCB biodegradation experiments in soil by White rot fungi. Bioavailability of organic xenobiotics in the environment - practical consequences for the environment, eds. Baveye, Ph.; Block, J.-C.; Choncharuk, V.V. NATO ASI Series - Kluwer publishers, 1999, 141–146.