Jana Voříšková

Climate & Ecosystem Sciences
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EDUCATION

Ph.D., Faculty of Science, Charles University, Prague, Czech Republic **2009-2013**
Specialization: Molecular and cell biology, genetics and virology
Ph.D. thesis: Molecular biology of soil fungi participating in litter decomposition in forest ecosystems (supervisor Dr. Petr Baldrian)

M.Sc., Faculty of Science, Charles University, Prague, Czech Republic **2007-2009**
Specialization: Molecular biology and genetics of eukaryotes
Master´s thesis: The role of saprotrophic basidiomycetes in soil fungal community (supervisor Dr. Petr Baldrian)

B.Sc., Faculty of Science, Charles University, Prague, Czech Republic **2004-2007**
Specialization: Molecular biology and biochemistry of organisms

RESEARCH EXPERIENCE

Lawrence Berkeley National Lab (LBNL) **2016-present**
Climate and Ecosystem Sciences
Postdoctoral Fellow
Research advisor: Dr. Neslihan Tas Baas

Geological Survey of Denmark and Greenland/ **2013-2015**
Center for Permafrost (CENPERM), University of Copenhagen, Denmark
Postdoctoral Fellow
Research advisor: Prof. Anders Priemé**,** Prof. Carsten Suhr Jacobsen, Prof. Bo Elberling

University of Greifswald, Germany **June-July 2012**
Institute of Microbiology, Physiological Proteomics/Bioinformatics Group
Guest Researcher
Research advisor: Prof. Katharina Riedel

Helmholtz-Centre for Infection Research, Braunschweig, Germany **June 2011**
Laboratory "Microbial Proteomics"
Guest Researcher
Research advisor: Prof. Katharina Riedel

Academy of Sciences of the Czech Republic (ASCR), Prague **2007-2013**
Institute of Microbiology, Laboratory of Environmental Microbiology
Ph.D. Candidate
Undergraduate Researcher
Research advisor: Dr. Petr Baldrian

TECHNICAL SKILLS

- isolation, identification and culturing of bacteria and fungi
- enzyme assays
- analysis of fungal biomarkers
- measuring fluxes of greenhouse gases from soils
- field work (soil sample collection in arctic and temperate forest ecosystems)
- DNA, RNA and protein extraction from soil
- PCR, quantitative PCR, primer design
- DGGE (denaturing gradient gel electrophoresis), TRFLP (terminal restriction fragment length polymorphism), cloning
- 454 amplicon and shotgun pyrosequencing (sample preparation, operation with GS Junior)
- sample preparation for Illumina MiSeq sequencing
- sequence data analysis, multivariate analysis, construction of phylogenetic trees, statistical analysis

SCIENTIFIC INTERESTS

Molecular microbial ecology with focus on soil and aquatic microorganisms. Structure and function of fungal communities in arctic soils and temperate forest ecosystem. Climate change and the response of microbes to predicted environmental shifts. Microbial control over organic matter transformation and nutrient cycling. Analysis of microbial communities using molecular biology tools; next generation sequencing (with emphasis on metagenomics and metatranscriptomics) and metaproteomics.

REFEREE FOR JOURNALS

Environmental Microbiology, Molecular Ecology, Fungal Diversity, Microbial Ecology, Fungal Ecology, PLOS ONE, Plant and Soil, Canadian Journal of Microbiology, MethodsX

AWARDS, FELLOWSHIPS AND GRANTS

Award for the best publication in Institute of Microbiology, ASCR, Prague **2013**

Award for the best Ph.D. thesis in Institute of Microbiology, ASCR, Prague **2013**

Grant from the Grant Agency of the Charles University, Prague **2011-2013**
Fungal community in hardwood forest soil - identification of active decomposers and expression of extracellular enzymes

FEMS Congress Grant for Young Scientists **2013**
5th Congress of European Microbiologists (FEMS 2013)
Leipzig, Germany

FEMS Research Fellowship **2012**
Characterization of soil microbial communities engaged in lignocellulose decomposition using the combination of stable isotope probing with metaproteomics and metagenomics
University of Greifswald, Germany
Institute of Microbiology, Physiological Proteomics/Bioinformatics Group
Research advisor: Prof. Dr. Katharina Riedel

FEMS Congress Grant for Young Scientists **2011**
4th Congress of European Microbiologists (FEMS 2011)
Geneva, Swiss

FEMS Young Scientist Meeting Grant **2010**
9th International Mycological Congress (IMC9: The Biology of Fungi)
Edinburgh, United Kingdom

RELEVANT COURSES

5. NENUN (Nordic Environmental Nucleotide Network) Workshop **2014**
Helsinki, Finland

Microbial Genomics and Metagenomics Workshop **2012**
DOE JGI, Walnut Creek, California

Real-Time qPCR methods **2012**
Prague, Czech Republic

Constraints on organic matter decomposition - from molecules to models **2010**
Uppsala University, Sweden

EMBO Young Scientists Forum **2010**
Prague, Czech Republic

PlutoF: Web-based management and analyses of the biodiversity data **2010**
University of Tartu, Estonia

Workshop on Molecular Evolution **2010**
Český Krumlov, Czech Republic

TEACHING

Microbial ecology, **teaching assistant** **2015**
Undergraduate program, University of Copenhagen, Denmark

OTHER SKILLS

Language: English - fluent (FCE)
French - basic
Danish - basic
Czech - native language

Computing: MS Office, CorelDraw, EndNote, Bionumerics, Bioedit, MEGA, FigTree, STATISTICA, SAS, SIMCA, CANOCO
Driving license

PUBLICATIONS

Covino, S., Fabianová, T., Křesinová, Z., Čvančarová, M., Burianová, E., Filipová, A., **Voříšková, J.**, Baldrian, P., Cajthaml, T. (2016) Polycyclic aromatic hydrocarbons degradation and microbial community shifts during co-composting of creosote-treated wood. Journal of hazardous materials 301:17-26.

Stella, T., Covino, S., Burianová, E., Filipová, A., Křesinová Hrsinová, Z., **Voříšková, J.**, Větrovský, T., Baldrian, P., Cajthaml, T. (2015) Chemical and metagenomic characterization of an aged PCB-contaminated soil. Science of the Total Environment 533:177-186.

López-Mondéjar, R., **Voříšková, J.**, Větrovský, T. and Baldrian, P. (2015) The bacterial community inhabiting temperate deciduous forests is vertically stratified and undergoes seasonal dynamics. Soil Biology and Biochemistry 87: 43-50.

Kohout, P., Doubková, P., Bahram, M., Suda, J., Tedersoo, L., **Voříšková, J.**, Sudová, R. (2015) Niche partitioning in arbuscular mycorrhizal communities in temperate grasslands: a lesson from adjacent serpentine and non-serpentine habitats. Molecular Ecology 24: 1831-1843.

Voříšková, J., Brabcová, V., Cajthaml, T., Baldrian, P. (2014) Seasonal dynamics of fungal communities in a temperate oak forest soil. New Phytologist 201: 269-278.

Crowther, T.W., Stanton, D.W.G., Thomas, S.M., A´Bear, A.D., Hiscox, J., Jones, T.H., **Voříšková, J.**, Baldrian, P., Boddy, L. (2013) Top-down control of soil fungal community composition by a globally distributed keystone consumer. Ecology 94: 2518-2528.

Kotík, M., Davidová, A., **Voříšková, J.**, Baldrian, P. (2013) Bacterial communities in tetrachloroethene-polluted groundwaters: a case study. Science of the Total Environment 454-455: 517-527.

Voříšková, J., Baldrian, P. (2013) Fungal community on decomposing leaf litter undergoes rapid successional changes. ISME Journal 7: 477-486.

Baldrian, P., Kolařík, M., Štursová, M., Kopecký, J., Valášková, V., Větrovský, T., Žifčáková, L., Šnajdr, J., Rídl, J., Vlček, Č., **Voříšková, J**. (2012) Active and total microbial communities in forest soil are largely different and highly stratified during decomposition. ISME Journal 6: 248-258.

Voříšková, J., Dobiášová, P., Šnajdr, J., Vaněk, D., Cajthaml, T., Šantrůčková, H., Baldrian, P. (2011) Chemical composition of litter affects the growth and enzyme production by the saprotrophic basidiomycete *Hypholoma fasciculare*. Fungal Ecology 4: 417-426.

Větrovský, T., **Voříšková, J.**, Šnajdr, J., Gabriel, J., Baldrian, P. (2011) Ecology of coarse wood decomposition by the saprotrophic fungus *Fomes fomentarius*. Biodegradation 22: 709-

718.

Baldrian, P., **Voříšková, J.**, Dobiášová, P., Merhautová, V., Lisá, L., Valášková, V. (2011) Production of extracellular enzymes and degradation of biopolymers by saprotrophic microfungi from the upper layers of forest soil. Plant and Soil 338: 111-125.

Tláskal, V., **Voříšková, J.**, Baldrian, P. Bacterial succession on decomposing leaf litter exhibits a specific occurrence pattern of cellulolytic taxa and decomposers of fungal mycelia. FEMS Microbiology Ecology. *Minor revision*

Voříšková, J., Elberling, B., Jacobsen, C.S., Priemé, A. Fast response of fungal community in arctic tundra soil to increased winter precipitation. *Manuscript in preparation.*

SELECTED CONFERENCE PRESENTATIONS

Voříšková J., Brabcová V., Šnajdr J., Cajthaml T., Baldrian P.: Structure and functioning of fungal communities in the soil of temperate deciduous forest. 5th conference of the Czech Society for Ecology, Ceske Budejovice, October 23-25, 2015. ***invited oral***

Voříšková J., Michelsen A., Elberling B., Priemé A., Jacobsen C. S.: Microbial community responses to future climate change and seasonal variation in arctic tundra soils. 6th International Conference on Polar and Alpine Microbiology (PAM 2015), Ceske Budejovice, September 6-9, 2015. ***poster***

Voříšková J., Gilman F., Blok D., Michelsen A., Elberling B., Priemé A., William E. H., Jacobsen C. S.: Effects of experimental warming on bacterial and fungal community in active layer of permafrost in Western Greenland, 15th International Symposium on Microbial Ecology, Seoul, August 24-29, 2014. ***poster***

Voříšková J., Brabcová V., Šnajdr J., Cajthaml T., Baldrian P.: Structure and dynamics of fungal communities in forest soils, 10th International Mycological Congress (IMC10), Bangkok, August 3-8, 2014. ***invited oral***

Voříšková J., Brabcová V., Cajthaml T., Baldrian P.: Seasonal dynamics of fungal communities in a temperate forest soil, 5th Congress of European Microbiologists (FEMS 2013), Leipzig, July 21-25, 2013. ***poster***

Voříšková J., Brabcová V., Cajthaml T., Baldrian P.: Seasonal dynamics of fungal communities in a temperate forest soil, 26th Congress of the Czechoslovak Society for Microbiology, Brno, June 24-26, 2013. ***oral***

Voříšková J., Valášková V., Cajthaml T., Baldrian P.: Seasonal changes in fungal community structure and function in deciduous forest soil, 14th International Symposium on Microbial Ecology, Copenhagen, August 19-24, 2012. ***oral***

Voříšková J., Štursová M., Baldrian P.: Expression of fungal genes encoding for decomposition-related enzymes in forest soil, 4th Congress of European Microbiologists (FEMS 2011), Geneva, June 26-30, 2011. ***poster***

Voříšková J., Štursová M., Baldrian P.: Diversity of fungal genes encoding enzymes catalysing decomposition processes in forest topsoil, Ecology of Soil Microorganisms, Prague, April 27 - May 1, 2011. ***poster***

Voříšková J., Šnajdr J., Valášková V., Baldrian P.: Characterization of fungal communities and cellobiohydrolase genes succesion during litter degradation using parallel tag-encoded 454 sequencing, Soil metagenomics, Braunschweig, December 8-10, 2010. ***poster***

Voříšková J., Šnajdr J., Valášková V., Baldrian P.: 454 sequencing approach for the characterization of fungal communities and cellobiohydrolase genes succesion on decaying hardwood forest litter, 25th Congress of the Czechoslovak Society for Microbiology, Stará Lesná, September 15-18, 2010. ***oral***

Voříšková J., Šnajdr J., Valášková V., Baldrian P.: Succesion of fungal communities and cellobiohydrolase genes on decaying hardwood forest litter using parallel tag-encoded 454 sequencing, 13th International Symposium on Microbial Ecology, Seattle, August 22-27, 2010. ***poster***

Voříšková J., Dobiášová P., Šnajdr J., Cajthaml T., Vaněk D., Šantrůčková H., Baldrian P.: Effect of litter composition on the growth and enzyme production by the saprotrophic basidiomycete *Hypholoma fasciculare*, 9th International Mycological Congress, Edinburgh, August 1-6, 2010. ***poster***

Voříšková J.: The activity and structure of fungal community in deciduous forest soil, XIX. Conference of Young Microbiologists, Brno, June 3-4, 2010. ***oral***

Voříšková J.: The activity and structure of fungal community in deciduous forest soil, Czech-Slovak Scientific Mycological Conference, Brno, August 27-29, 2009. ***oral***

Voříšková J., Popelářová P., Merhautová V., Valášková V., Baldrian P.: Soil Organic Matter Transformation by Saprotrophic Microfungi from the Upper Layers of Forest Soil. International Symposium on Soil Organic Matter Dynamics: Land Use, Management and Global Change, Colorado Springs, July 6-9, 2009. ***poster***

Voříšková J., Valášková V., Cajthaml T., Baldrian P.: Structure and activity of fungal community with emphasis on basidiomycetes in a soil profile of hardwood forest. 10th International Symposium on Bacterial Genetics and Ecology, Uppsala, June 15-19, 2009. ***poster***

REFERENCES

Dr. Petr Baldrian
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