Prof. Ing. Mgr. Jan Frouz, CSc.

Academic Degree – Field – Institution -Year

Prof. (professor) – Environmental sciences – Charles University in Prague - 2013
Doc. (Assoc. Prof.) Ecology South bohemian University 2007
CSc. – (Ph.D.) - Entomology - Academy of Sciences - 1995
Mgr. – (M. Sc.) - Systematic biology - Charles University - 1992
Ing. – (M. Sc.) - Agronomy - Agriculture University in Prague - 1990

Areas of research

Zoology, soil science, sanitary biology,ecosystem restoration after mining and other disturbances with particular attention on restoration of soil part of ecosystem recovery soil processes and functions. Role of soil organisms in modification of their environment, nutrient cycling and soil formation. Invertebrate microbial interactions. Carbon storage in soil and SOM transformation in soil. Soil and soil biota in heavy disturbed ecosystems such as arable filed, post mining sites, etc. Above belowground interactions and their role for ecosystem development. Ecology of Diptera larvae paricularly chironomids, both terrestrial and aquatic. Population biology temporal changes of population and communities with special attention to succession changes. Ecology of ants. Soil as part of human environment. Soil affect on human health. Soil sanitary and pollution.

Expertise

During his training and academic carrier he gain broad expertise in many fields of ecology, pedology and environmental sciences. In ecology he have expertise with terrestrial and aquatic system, doing research on autecology as well as on ecosystem ecology. Recently he is engaged in exploring complex interaction between human society and environment. He have excellent expertise in presentation research for scientific community (by publication as well as by conference presentation) but also for industry and general public. He have extensive skills and knowledge in management of scientific work being leader of many research team as well as director of institute.

Employer-Position-Date

Charles University, since 2014 Director of for Environmental Centre.
Director of Institute for Environmental studies 2008-2014, .
University of Florida - Postdoc associated 2003
Institute of soil biology Biology Centre ASCR - Research scientist 1995- till now (2003-2008 chairman of scientific council)
University of Florida - Postdoc associated 2000- 2001
Institute of soil biology ASCR - Research assistant - 1992-1995
Institute of soil biology ASCR - Ph.D. student -1990-1995

Fellowships

Fulbrait fellowship - University of Florida 2006
NATO CNR fellowship – 3 months stay at University of Padova Italy dealing with using of soil dwelling Diptera a bioindicatores 1996
DAAF fellowship one moth stay at UFZ Leipzig Germany – mathematical simulation of using source and sink habitats by insect populations 1999

Short term research stay

France, CNRS Paimpont 1991; Russia, Severtzov Institute Zoology Moscow 1994; Hungary Etwos Lorand Univ, Budapest 1995; Poland Institute of Ekology, Mikolajky, 1996; Germany Brandenburg technical University, 1997; 1998, 1999; Finland, University of Helsinky, Helsinky 1999, 2004; Kevo 2004, UK Research Centre for Population Biology, Silwood park, 2002; Germany, University of Konstance, Konstance 2003; Finland Forest Research Institute Joensu, 2005; Germany University of Wurzburg, 2005.

Teaching

Teching several courses at Charles university including Introduction to ecology, Applied ecology Soil ecology, Restoration ecology. He also have several short term courses on other universities abroad and other teaching aktivity. Co-orgaizator Summer PhD course, Restoration of post mining sites, Sokolov 2004

Grants

Principal or co-principal investigator of more than ten grants supportaed by Czech science foundation, Science foundation of Academy of Sciences the Czech Republic, European commission and other bodies

Selected grants

GAP504/12/1288 The role of leaf functional traits in soil organic matter accumulation during primary sucession Provider: GA0 - Czech Science Foundation (CSF), Main contractor: Univerzita Karlova v Praze / Přírodovědecká fakulta, Research years: 2012-2016.

GA206/09/1642 Pattern of occurrence and community composition of deep subsurface microflora in Miocene clay and claystones of the Sokolov coal mining district and t
Provider: GA0 - Czech Science Foundation (CSF), Main contractor: Biologické centrum AV ČR, v. v. i., Research years: 2009-2012.

GA526/01/1055 Interactions between soil biota and soil environment during spontaneous primary succession on colliery spoil Caps Provider: GA0 - Czech Science Foundation (CSF), Main contractor: Ústav půdní biologie AV ČR, Research years: 2001-2003.

GA526/06/0728 Interactions between soil macrofauna and vegetation during spontaneous succession and forest reclamation in post mining sites Provider: GA0 - Czech Science Foundation (CSF), Main contractor: Biologické centrum AV ČR, v. v. i., Research years: 2006-2008.

ME 076 Soil biota in coal mining areas Provider: MSM - Ministry of Education, Youth and Sports (MEYS), Main contractor: Ústav půdní biologie AV ČR, Research years: 1997-1999.

ME08019 Soil biota in areas affected by coal mining in USA and Europe: role in bioindication and soil formation. Provider: MSM - Ministry of Education, Youth and Sports (MEYS), Main contractor: Biologické centrum AV ČR, v. v. i., Research years: 2008-2012.

1QS600660505 Technical support of pedogenetic activity of soil biota in post mining landscape Provider: AV0 - Academy of Sciences of the Czech Republic (AV ČR), Main contractor: Biologické centrum AV ČR, v. v. i., Research years: 2005-2008.

7E08081 Conflicting demands of land use, soil biodiversity and the suistainable delivery of ecosystem goods and services in Europe
Provider: MSM - Ministry of Education, Youth and Sports (MEYS), Main contractor: Biologické centrum AV ČR, v. v. i., Research years: 2008-2012.

Publications

In total published 129 papers in journal registered in Web of Science and more than fifty scientific papers in other journals, two book charter, editor two books, H index 23.
He have more than fifty oral presentation in international scientific meetings.

Selected papaers

Frouz J. 2008. Soil Biota Development in Areas in Affected by Open Coast Coal Mining in Europe and its Role in Soil Formation in: Gerald B. Fosdyke (eds) Coal Mining: Research, Technology and Safety. NovaScience

Frouz, J., Santruckova, H., Elhottova. D., 1999: The effect of bibionid larvae feeding on microbial community in litter and reconsumed excrements. Pedobiologia 43:221-230.

Frouz, J., 1999: Use of soil dwelling Diptera (Insecta, Diptear) as bioindicators: a review of ecologigal requirements and response to disturbance. Agriculture, Ecosystems and Environment 74:167-186

Frouz J., 2000 The effect of nest moisture on daily temperature regime in the nest of *Formica polyctena* wood ants. Insectes Sociaux 47:229-235

Frouz, J., Keplin B., Pižl V., Tajovský K., Starý J., Lukešová A., Nováková A., Balík V., Háněl L., Materna J., Düker C., Chalupský J., Rusek J. and Heinkele T. 2001 Soil biota and upper soil layers development in two contrasting post-mining chronosequences, Ecological Engeneering 17: 275-284

Frouz, J., Kindlman P., 2001 The role of sink to source re-colonisation in the population dynamics of insects living in unstable habitats: an example of terrestrial chironomids, Oikos 93:50-58

Frouz, J., Novakova, A., Jones, T.H. 2002 The potential effect of high atmospheric CO2 on soil fungi-invertebrate interactions Global change biology 8: (4) 339-344

Frouz J, Novakova A. 2005. Development of soil microbial properties in topsoil layer during spontaneous succession in heaps after brown coal mining in relation to humus microstructure development Geoderma 129: 54-64

Frouz J, Kristufek V, Bastl J, Kalcik J, Vankova H, 2005. Determination of toxicity of spoil substrates after brown coal mining using a laboratory reproduction test with Enchytraeus crypticus (Oligochaeta) Water Air and Soil Pollution 162: 37-47

Frouz J, Elhottova D, Kuraz V, et al., 2006. Effects of soil macrofauna on other soil biota and soil formation in reclaimed and unreclaimed post mining sites: Results of a field microcosm experiment. APPLIED SOIL ECOLOGY 33(3): 308-320

Frouz J, Prach K, Pizl V, et al., 2008. Interactions between soil development, vegetation and soil fauna during spontaneous succession in post mining sites EUROPEAN JOURNAL OF SOIL BIOLOGY 44(1): 109-121

Frouz J, Rybnicek M, Cudlin P, et al., 2008. Influence of the wood ant, Formica polyctena, on soil nutrient and the spruce tree growth JOURNAL OF APPLIED ENTOMOLOGY 132(4): 281-284

Frouz J, Pizl V, Cienciala E, et al., 2009. Carbon storage in post-mining forest soil, the role of tree biomass and soil bioturbation BIOGEOCHEMISTRY 94(2): 111-121

Frouz J, Cajthaml T, Mudrák O 2011The effect of lignin photodegradation on decomposability of Calamagrostis epigeios grass litter Biodegradation 22: 1247-1254

Abakumov EV, Cajthaml T, Brus J, Jan Frouz 2013 Humus accumulation, humification, and humic acid composition in soils of two post-mining chronosequences after coal mining. Journal of Soils and Sediments 13, 491-500

Toyota A, Hynšt J, Cajthaml T, Frouz J, 2013. Soil fauna increase nitrogen loss in tilled soil with legume but reduce nitrogen loss in non-tilled soil without legume Soil Biology and Biochemistry 60, 105–112