Curriculum vitae

Dr. Bjarni Diðrik Sigurðsson

Professor of forest science / prófessor í skógfræði

- Coordinator of Graduate Studies / Umsjónarmaður framhaldsnáms

Address:
The Agricultural University of Iceland (AUI)
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Higher education

Jan 1990 – Jun 1993

University of Iceland
Dept. of biology
I attained a B.Sc. degree in biology in spring 1993. My speciality was botany and plant-ecology.

Jan 1996 – Feb 2001

Swedish University of Agricultural Sciences
Dept. for Production Ecology, Faculty of Forestry
I attained a Ph.D. degree in Forest Ecology / Ecophysiology in February 2001.

Post-graduate work experience

Jan 2017 – …

Coordinator of Graduate Studies at AUI
In January 2017 I became the Co-ordinator of Graduate and Post-Graduate studies at AUI (Umsjónarmaður framhaldsnáms við LbhÍ)

Jul 2005 – …

Professor of forest science at AUI.
I started as the first ever appointed professor in forest science in Iceland. My position is both research and education related.

Feb 2001 – Jul 2005

Senior Researcher at the Icelandic Forest Research, Mógilsá, Iceland
My field of expertise was studies on carbon fluxes and carbon sequestration in woody ecosystems.

Research interests

Forest ecology, silviculture, ecosystem ecology, biogeochemistry. Carbon, water and nutrient cycles of both managed and natural ecosystems; especially forest ecosystems in the subarctic or the N-Boreal zone. Effects of climate change and land-use change on ecosystem processes and ecosystem structure in northern regions. Environmental constraints on ecosystem processes and structure during primary succession.

Past research experience and leadership

I have coordinated three large collaborative research projects in Iceland: ICEWOODS (2003-2008), ForSTREAMS (2009-2011), FORHOT (2012…), each with >10 senior researchers from >5 institutes/universities, as well as many smaller research projects. I am an executive board member for the H2020 ITN project "*A glimpse into the Arctic future: equipping a unique natural experiment for next-generation ecosystem research (FutureArctic)*, where 15

PhD students working at seven different European universities are using my ForHot project for their thesis work.

I sat in the steering group of the Nordic Center of Excellence NECC "*The Nordic Center for Studies of Ecosystem Carbon Exchange and its Interactions with the Climate System*" (2003-2008) and the following Center of Excellence "NORDFLUX" (2008-2012), as well as in the *CAR-ES - Centre of Advanced Research on Environmental Services* (2005-2009, 2010-2014, 2015-2021) I was the Grant Holder for a European COST Action (ES1308 *CLIMMANI - Climate Change Manipulation Experiments in Terrestrial Ecosystems - Networking and Outreach*; 2014-2018) where ca. 160 scientists and PhD students from 24 European countries took part.

I have been appointed as an opponent or evaluation committee memeber at 11 PhD defences in Iceland, Scandinavia and New Zealand. I have two times been a guest editor for a special issue in the ISI journal *Biogeosciences* and I am a co-editor for the ISI journal *Icelandic Agricultural Sciences* and have a chair in the editorial board of the ISI journal *Scandinavian Journal of Forest Research*.

Publications of Bjarni D. Sigurðsson

In total Bjarni D. Sigurdsson (2020) has 94 publications in peer-reviewed scientific journals books and book chapters – 17 other scientific publications in English/Swedish - 145 scientific publications in Icelandic, books, theses', proceedings and reports. Total: 252 scientific publ. since 1998 (11 per year). ISI-Citations (2020): 2320. Most cited paper (2020): 479. H-index: 22, Rg score: 32. Supervision history (graduated): 2 PhD students and 24 MSc students; Ongoing: 4 PhD students and 6 MSc students.

In international journals (primary publications) – past 2.5 years:

2021

1. Verbrigghe, N., N. Leblans , **B.D. Sigurdsson,** … T. Walker, H. Wallander, I. Janssens (2021). Soil carbon loss in warmed subarctic grasslands is rapid and restricted to topsoil. PNAS (accepted 15.5.2021)
2. Gargallo-Garriga, A., J. Sardans, M. Ayala-Roque, **B.D. Sigurdsson**, … I. Janssens, J. Penuelas (2020). Effects of warming on the soil metabolome of Icelandic grasslands. *European Journal of Soil Biology* 105: 103317. https://doi.org/10.1016/j.ejsobi.2021.103317
3. Clarke, N.. L.P. Kiær, O.J Kjønaas, .T.G. Bárcena, …, **Bjarni D. Sigurdsson** (2021). Effects of intensive biomass harvesting on forest soils in the Nordic countries and the UK: A meta-analysis. *Forest Ecology and Management* 482, 118877. https://doi.org/10.1016/j.foreco.2020.118877
4. Bjarnadottir, B., G.A. Sungur, **B.D. Sigurdsson**, … A. Black (2021). Carbon and water balance of an afforested shallow drained peatland in Iceland. *Forest Ecology and Management* 482, 118861. https://doi.org/10.1016/j.foreco.2020.118861

2020

5. Poeplau, C., P. Sigurdsson, **B.D. Sigurdsson** (2020). Strong warming of a subarctic Andosol depleted soil carbon and aggregation under forest and grassland cover. *Soil* 6, 115–129. https://doi.org/10.5194/soil-6-115-2020
6. Heiðarsson, L. **B.D. Sigurdsson,** … G. Halldórsson (2020). The effect of the pine woolly aphid (*Pineus pini*) on survival, growth and natural selection in Scots pine (*Pinus sylvestris*) in Iceland. *Agricultural and Forest Entomology* (available on-line). https://doi.org/10.1111/afe.12369
7. Hrafnkelsdottir B., **B.D. Sigurdsson,** … G.Halldorsson (2020). The effect of herbivory on seed production of Nootka lupin (Lupinus nootkatensis), an introduced species in

Iceland. *Agricultural and Forest Entomology* (available on-line) https://doi.org/10.1111/afe.12368

8. Kutcherov, D., S.Slotsbo, **B.D. Sigurdsson,** … M. Holmstrup (2020). Temperature responses in a subarctic springtail from two geothermally warmed habitats. *Pedobiologia - Journal of Soil Ecology* 78: 150606. https://doi.org/10.1016/j.pedobi.2019.150606
9. De Gruyter, J., J. Weedon, S. Bazot, … **B.D. Sigurdsson,** G. Vincent, E. Verbruggen, (2020) Patterns of local, intercontinental and inter-seasonal variation of soil bacterial and eukaryotic microbial communities. *FEMS Microbiology Ecology* 96, fiaa018. https://doi.org/10.1093/femsec/fiaa018
10. Walker, T.W.N., I.A. Janssens, **B.D. Sigurdsson**, A. Richter, J. Peñuelas, … E. Verbruggen (2019). A systemic decadal-scale overreaction to soil warming in a grassland ecosystem. *Nature Ecology and Evolution* 4: 101-108. doi:10.1038/s41559-019-1055-3 --- download: https://rdcu.be/bZ07X

2019

11. De Jonge,C., D. Radujković, **B.D. Sigurdsson,** J.T. Weedon, I. Janssens, F.Peterse (2019) Lipid biomarker temperature proxy responds to abrupt shift in the bacterial community composition in geothermally heated soils. *Organic Geochemistry*, 137, 103897. doi:https://doi.org/10.1016/j.orggeochem.2019.07.006
12. De Boeck, H.J., J. Bloor, R. Aerts, …, **B.D. Sigurdsson,** … I. Nijs, A. Knapp (2019). Understanding ecosystems of the future will require more than realistic climate change experiments – a response to Korell et al. *Global Change Biology* 00:1-2. https://doi.org/10.1111/gcb.14854
13. Jauhiainen, J. J. Alm, B. Bjarnadottir, …, **B.D. Sigurdsson**, … L. Vesterdal, R. Laiho (2019). Reviews and syntheses: Greenhouse gas exchange data from drained organic forest soils – a review of current approaches and recommendations for future research. *Biogeosciences,* 16 (23), 4687-4703. https://doi.org/10.5194/bg-16-4687-2019
14. Hrafnkelsdottir, B., **B.D. Sigurdsson,** … G. Halldorsson (2019). Winter survival of *Ceramica pisi* (Lepidoptera: Noctuidae) in Iceland. *Agricultural and Forest Entomology* 21(2): 219-226. (https://onlinelibrary.wiley.com/doi/epdf/10.1111/afe.12323).
15. Marañón-Jiménez, S., J. Peñuelas, A. Richter, **B.D. Sigurdsson**, …, I.A. Janssens (2019). Coupled carbon and nitrogen losses in response to seven years of chronic warming in subarctic soils. *Soil Biology and Biochemistry* 134: 152-161. (https://doi.org/10.1016/j.soilbio.2019.03.028).
16. Poeplau, C., P. Barre, L. Cecillion, F. Baudin, **B.D. Sigurdsson** (2019). Changes in the Rock-Eval signature of soil organic carbon upon extreme soil warming and chemical oxidation - A comparison. *Geoderma* 337: 181-190. https://doi.org/10.1016/j.geoderma.2018.09.025
17. Rosenstock, N., M. Ellström, E. Oddsdottir, **B.D. Sigurdsson** & H. Wallander (2019). Carbon sequestration and community composition of ectomycorrhizal fungi across a geothermal warming gradient in an Icelandic spruce forest. *Fungal Ecology* 40: 32-42. https://doi.org/10.1016/j.funeco.2018.05.010
18. Parts, K., L. Tedersoo, A. Schindlbacher, **B.D. Sigurdsson**, …, I. Ostonen (2019) Acclimation of fine root systems to soil warming: comparison of an experimental setup and a natural soil temperature gradient. *Ecosystsems* 22(3): 457-472. https://doi.org/10.1007/s10021-018-0280-y