

Frank Ashwood BSc (Hons), MSc, PhD, M.I. Soil Sci., MRSB

PERSONAL STATEMENT

A soil ecologist with an applied research background in the invertebrate ecology of forests and restored land. Seeking to continue developing my academic career, building on skills gained at a leading UK scientific research agency and recent university postdoctoral fellowship. Through my previous academic and professional research roles, I have developed excellent skills in communication, research design, and scientific writing. Adaptable, resilient and a natural problem solver, my ambition is to be a successful lecturer with a rewarding research career.

CAREER HISTORY

Casual Lab Demonstrator, Lincoln University, New Zealand (Sep 2023 - Present)

- Creating new teaching content and providing specialist soil ecological expertise on ECOL 103 (New Zealand Ecology and Conservation) Otamahua / Quail Island field trip.
- Providing general support and entomological expertise on weekend field trip for ECOL 239 (Field Ecology Methods) and guiding undergraduate students with planning their SCIE 393 (Advanced Field Research) projects.

Post-Doctoral Fellow (Soil Ecology), University of Canterbury, New Zealand (Sep 2023 - Present)

- Supporting the School's taught components through lab demonstrating, and coursework and exam marking.
- Creating soil ecology and entomology teaching material for undergraduate field trip on FORE 218 (Forest Biology).
- Designing and leading on research projects investigating the soil animal diversity of plantation versus native forests, and the invertebrate biodiversity of 'suspended soils' in canopies of old-growth native forests.
- Developed and advertised a Summer Scholarship project and supervised the successful undergraduate student.

Casual Associate Tutor for the Field Studies Council, UK (2017 – 2023)

- Delivering courses and producing teaching resources regarding the ecology of European earthworm species.
- Running weekend-long (residential) earthworm identification workshops for participants of all experience levels.

Scientist - Soil Ecology, Forest Research, UK (Jan 2016 – Aug 2023)

- Providing specialist expertise on soil sustainability and soil ecology to support Forest Research's interdisciplinary research programmes.
- Analysing soil biological and physical/chemical data, writing reports to stakeholders and manuscripts for peer-reviewed publication. Writing and editing Forest Research web pages.
- Established a Soil Ecology Laboratory: writing successful funding bids for procuring equipment, completing H&S processes, hiring research staff, designing the laboratory space, and managing supplies.
- Line management of three staff members, and industry supervisor for one MSc and two PhD students.
- Guest lecturer at the University of Stirling, Harper-Adams University and SRUC, delivering lectures on soil ecology and leading laboratory practicals for undergraduate and postgraduate students.
- Leading on multiple national research projects investigating the impact of agricultural afforestation, forest age and land restoration on soil ecology and carbon and nutrient balances.
- Producing research funding bids, both internally and externally with national and international research partners.
- UK national co-ordinator for the global 'SoilBON' long-term soil biodiversity monitoring programme.
- Co-ordinating and participating in national and international workshops and meetings for Forest Research.

Regulatory Environmental Toxicologist, Exponent Ltd, UK (Nov 2007 – Oct 2010)

- Production of environmental risk assessments, managing and conducting international data collection projects, corporate presentations to in-house audiences, liaising with national and international stakeholders.

EDUCATION

PhD in Environmental Management, University of Central Lancashire, UK (Jan 2013 – Jan 2016)

An applied soil ecology research project entitled 'Woodland Restoration on Landfill Sites: Earthworm Activity and Ecosystem Service Provision'. Based full-time within Forest Research, UK.

- Project management, designing and conducting large-scale field and laboratory-based ecological experiments.
- Performing statistical analyses on multivariate ecological, plant and soil biogeochemical data using the programmes R, Genstat and Microsoft Excel.
- Substantial oral and written knowledge transfer experience (e.g., writing best-practice guidance and peer-reviewed scientific publications, delivering oral presentations at national and international conferences to land restoration professionals, research scientists and varied non-scientific audiences).

M.Sc. Corporate Environmental Management (Distinction), University of Surrey, UK (Oct 2010 – Sep 2011)

An intensive 12-month course teaching a multidisciplinary application of a wide range of natural and social sciences to problems of resource use and environmental management.

- **Modules:** Research Design and Statistical Analysis, Ecological Economics, Environmental Law, Environmental Science and Society, Life Cycle Assessment, Sustainable Development, Corporate, Social and Environmental Responsibility. Elected as student representative.
- **Research Internship at Forest Research, UK:** Conducted research into soil quality and the use of organic wastes during brownfield regeneration to woodland, Research project management, Study design, Literature review, Research interview technique, Qualitative data analysis, Production of research summary report, Presentation at research seminar held by Forest Research, Coordinated and chaired meetings between University of Surrey and Forest Research staff.

B.Sc. (Hons) Biology (2:1), University of Portsmouth, UK (Oct 2004 – Jul 2007)

- **Modules:** Biodiversity, Biological Chemistry, Microbiology (including lab-based research), Plant Biology, Applied Ecology and Evolution, Marine and Terrestrial Ecology, Evolutionary and Physiological Ecology.
- **Research Project:** Ecological study of the influence of altitudinal gradients on epigeal spider community composition, and comparison of two forms of pitfall trap for sampling ground-living spiders.
- **Post-graduate voluntary ecological research, La Mancha, Mexico:** Five weeks of remote fieldwork as part of a small team of postgraduates. Key skills involved: Teamwork, Ecological data collection and fieldwork, Spanish language.

SKILLS, INTERESTS AND EXTRACURRICULAR ACTIVITIES

- **Languages:** Fluent English; Basic Spanish and German.
- **IT Skills:** Confident IT user. Experienced in Microsoft Word, Excel, PowerPoint and OneNote, and statistical software R and Genstat. Web editor experience. Knowledge of Arc GIS and of LaTeX word processing software.
- **Interests/Hobbies:** Macrophotography of soil biodiversity, Science communication, Woodcraft.
- **Personal website:** www.frankashwood.com
- **Memberships/Volunteering:** Associate editor for the CSIRO journal *Soil Research*, member of the New Zealand Ecological Society, member of the Entomological Society of New Zealand, member of the Soil Ecology Society, member of the Royal Society of Biology, member of the British Society of Soil Science. Committee member (Research Officer) of the Earthworm Society of Britain. Voluntary participant in multiple 'BioBlitz' events.
- **Professional/Technical Training:** Graduate of the Forestry Commission's Professional Management Programme, soil sample collection and processing, soil and epigeic macro/mesofauna species identification to species or genus level (Taxa: Earthworms, Collembola, Acari, Carabidae, Oniscidae).
- **Driving:** I possess a full and clean UK driver's licence, under application for conversion to a New Zealand licence.

SELECTED PUBLICATIONS

Potapov, A.M... **Ashwood, F.**, *et al.*, (Accepted - minor revision). Global fine-resolution data on springtail abundance and community structure. *Scientific Data*.

Ashwood, F., Lejoly, J., Keith, A. & Schmidt, O. (In review). Earthworm Ecology in Northern European Forests. In Kooch, Y. & Kuzyakov, Y. (Eds.), *Earthworms and Ecological Processes*. Springer.

Ashwood, F., Brown, K.D., Sherlock, E., Keith, A., Forster, J. & Butt, K.R. (In review). An analysis of earthworm records and habitat associations in the British Isles. *European Journal of Soil Biology* (Special Issue).

Ashwood, F., Barreto, C, Butt, K.R., Doick, K., Lampert, M. & Vanguelova, E.I. (2023). Earthworms and soil mesofauna as early bioindicators for landfill restoration. *Soil Research*. 61 (4), 311-328.

Potapov, A.M... **Ashwood, F.**, *et al.* (2022). Global monitoring of soil animal communities using a common methodology. *Soil Organisms*, 94 (1). pp. 55–68.

Azevedo, O. & **Ashwood, F.** (2022). Ectomycorrhizal fungi and forest soils: variety is the spice of life. *Front. Young Minds*. 10:652660. doi: 10.3389/frym.2022.652660

Ashwood, F. & Gregory, S.J. (2021). *Metatrichoniscoides celticus* Oliver & Trew, 1981 new for England (Isopoda: Oniscidea: Trichoniscidae). *Bulletin of the British Myriapod & Isopod Group*, 33: 46-51.

Ashwood, F. & Gregory, S.J. (2021). Observations of *Trichoniscoides sarsi* Patience, 1908 (Isopoda: Oniscidea: Trichoniscidae) on the west coast of Britain. *Bulletin of the British Myriapod & Isopod Group*, 33: 72-78.

Ashwood F., Vanguelova E, Benham S and Butt K (2020). Looking for Earthworms in Deadwood. *Front. Young Minds*. 8:547465. doi: 10.3389/frym.2020.547465.

Błomska E., Lasota J., Vasconcelos da Silva G.R., Vanguelova E., **Ashwood F.**, Tibbett M., Watts K., Lukac M., (2020). Soil organic matter stabilization and carbon-cycling enzyme activity are affected by land management. *Ann. For. Res.* 63(1).

Ashwood, F., Watts, K., Park, K., Fuentes-Montemayor, E., Benham, S. and Vanguelova, E.I. (2019). Woodland restoration on agricultural land: long-term impacts on soil quality. *Restoration Ecology*. 27 (6): 1381-1392.

Ashwood, F., Vanguelova, E.I., Benham, S. and Butt, K.R. (2019). Developing a systematic sampling method for earthworms in and around deadwood. *Forest Ecosystems*. 6:33.

Bakker, M.R., Brunner, I., **Ashwood, F.**, *et al.* (2019). Belowground biodiversity relates positively to ecosystem services of European forests. *Frontiers in Forests and Global Change*. 2, 6.

Ashwood, F., Butt, K.R., Doick, K.J. and Vanguelova, E.I. (2018). Effects of composted green waste on soil quality and tree growth on a reclaimed landfill site. *European Journal of Soil Biology*. 87: 46–52.

Ashwood, F., Butt, K.R., Doick, K.J. and Vanguelova, E.I. (2017). Interactive effects of composted green waste and earthworm activity on tree growth and reclaimed soil quality: A mesocosm experiment. *Applied Soil Ecology*. 119: 226–233.

Ashwood, F., Butt, K.R., Doick, K.J. and Vanguelova, E.I. (2017). Investigating tree foliar preference by the earthworms *Aporrectodea longa* and *Allolobophora chlorotica* in reclaimed and loam soil, *Applied Soil Ecology*. 110: 109–117.

Barsoum, N., Fuller, L, **Ashwood, F.**, Reed, K., Bonnet-Lebrun, A.-S. and Leung, F (2014) Ground-dwelling spider (Araneae) and carabid beetle (Coleoptera: Carabidae) community assemblages in mixed and monoculture stands of oak (*Quercus robur* L./*Quercus petraea* (Matt.) Liebl.) and Scots pine (*Pinus sylvestris* L.). *Forest Ecology and Management*. 321: 29–41.

Ashwood, F., Doick, K.J., Atkinson, G.E. & Chenoweth, J. (2014). Under-utilisation of organic wastes during brownfield regeneration to community woodland: Tackling the barriers. *Waste Management & Research*. 32,49–55.