

**Le Jeudi 14 février 2019  
De 9h à 12h  
Amphithéâtre de sciences naturelles  
Campus Centre**

**Cinq conférences en écologie fonctionnelle/changement global**

**Dans le cadre du projet du NERC (Natural Environment Research Council) intitulé  
« Mécanismes de découplage de la co-adaptation entre les arbres et les réseaux  
trophiques du sol en réponse aux perturbations »**

**In the context of the NERC (Natural Environment Research Council) project entitled  
« Disentangling mechanisms of co-adaptation between trees and soil food webs in  
response to environmental perturbations »**

9h-9h30: Richard Bardgett - Plant-microorganisms interactions, soil processes and global changes - Interactions plantes-microorganismes, processus pédologiques et changements globaux.

*Prof. Richard Bardgett is Professor of Ecology at University of Manchester. His research has led to major advances in understanding of plant impacts on soil microbial communities and feedbacks to plant growth and nutrient cycling. Richard has published several books, >280 papers (ISI h-index 79; >21,000 citations), with several in Nature and Science, and is routinely recognized as a Highly Cited Scientist since 2006. He has >25 years of continuous funding from BBSRC and NERC, and currently leads several BBSRC and NERC projects on plant-soil-microbial interactions (see cv), including a large NERC Soil Security consortium grant exploring controls on the stability of soil food webs and their functioning in response to drought.*

9h30-10h: Rob Mackenzie Presentation of the BiFOR FACE facility - Présentation de l'installation BiFOR FACE.

*Prof. Rob MacKenzie is inaugural director of BiFoR since 2013, leads the 20-PhD Forest Edge Doctoral Scholarship Programme of the Leverhulme Trust (2018-2023). He has 25 years' research experience in biosphere-atmosphere interactions, over 90 peer-reviewed publications, a Web of Science (WoS) h-index of 25, and has graduated 12 PhD students (with a further 9 currently studying). BiFoR involves over 50 permanent academic staff leading research groups in a wide range of life and social sciences across the UoB. BiFoR is a recipient of a £1.05M Doctoral Scholarship Programme award from the Leverhulme Trust. The award, with co-funding from the University, will support 20 PhDs: 6-7 studentships per year for a three-year period starting in October 2018.*

10h-10h30: David Johnson - Fonction et diversité des champignons ectomycorhiziens - The function and diversity of ectomycorrhizal fungi.

*Prof. David Johnson recently moved to University of Manchester as the N8 Chair in Microbial Ecology, which is part funded by the N8 AgriFood programme. His ~80 papers span the role of plants and their*

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*mycorrhizal associates in biogeochemical cycles, fluxes of photosynthate-carbon between plants and soil organisms, interactions between mycorrhizal fungi and other organisms and impacts of environmental drivers, such as drought, eCO<sub>2</sub> and nitrogen deposition, on these processes. Prof Johnson is an authority on the use of stable (<sup>13</sup>C, <sup>15</sup>N) and radio isotope (<sup>14</sup>C, <sup>33</sup>P, <sup>32</sup>P) tracers, which have been used both in the field and in the laboratory to test key ecological processes. For example, Johnson et al. (2002) provided the first quantification of carbon allocation from plant communities to mycorrhizal fungi under field conditions in grassland. Subsequent work using <sup>13</sup>CO<sub>2</sub> tested how soil invertebrates can significantly disrupt carbon allocation to mycorrhizal mycelium in the field (Johnson et al. 2005, Science 309), and how drought affects below ground carbon fluxes in montane grasslands (Johnson et al. 2011 New Phytologist 190). More recent work has focused on the role of common mycorrhizal networks in facilitating plant to plant signalling (Babikova et al 2013 Ecology Letters), and testing how both species and genotypic diversity of ectomycorrhizal fungi affect ecosystem processes (Hazard et al. 2017 New Phytologist). Current NERC Discovery funding (NE/M015653/1) has demonstrated that trees perform better on their own soil compared to soil from beneath other species, possibly due to association with particular mycorrhizal fungal taxa. Prof Johnson is Associate editor of Ecology and Evolution, and has been on the board of advisors for New Phytologist since 2007.*

**10h30-11h: Mathilde Chomel - Contrôles de la stabilité des sols et de leur fonctionnement dans le contexte des changements d'usage des terres et climatique - Controls on the stability of soils and their functioning under land use and climate change.**

*Dr Mathilde Chomel is a NERC Post-Doctoral Research Fellow in the School of Earth and Environmental Sciences, University of Manchester. Her main research interest is the study of plant-soil organism interactions and their impact on litter decomposition process and ecosystem functioning. Specifically she has experience in nutrient cycling, secondary metabolites, mesofauna, microbial communities and ecology of mycorrhizal fungi. She discovered that secondary metabolites have a key role in regulating the activity soil organisms and the dynamics of litter decomposition (Chomel et al, 2014; 2016). Her work also demonstrated that the 'home field advantage' of litter decomposition is more pronounced with more recalcitrant litter (Chomel et al 2015). She is currently working on a NERC SSP program funding (NE/M01701X/1) that has demonstrated that the resistance and resilience of an ecosystem is strongly related to the structure of soil food webs.*

**11h-11h30: Virginie Baldy - Ecologie chimique et changement global - Chemical ecology and global change.**

*Virginie Baldy is Professor at Aix-Marseille University, and she is part of the Mediterranean Institute of Biodiversity and Marine and Continental Ecology (IMBE). Functional ecologist, her research currently focuses on the relationship between biodiversity and functioning in the Mediterranean terrestrial ecosystems subjected to climate change, after having studied the functioning of continental aquatic ecosystems for about ten years. She has expertise on litter decomposition process, with a particular focus on the link between plant chemical diversity and diversity of soil organisms. She is co-leader of the BioDivMex trans-Mediterranean program, involving around sixty researchers from around twenty laboratories from 11 different countries, and who addresses questions about the biodiversity of the Mediterranean region, its specificities and its vulnerability to recent changes.*