

# Call for Papers Geotechnical aspects of peatland restoration and management

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## Environmental Geotechnics THEMED ISSUE

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A themed issue of *Environmental Geotechnics* on the geotechnical aspects of peatland restoration and management is planned for 2018.

Peatlands are dynamic eco-hydrological wetland systems, increasingly under threat worldwide, due to natural and anthropogenic effects, especially over the last century. As a result, many peatlands are experiencing degradation due to the effects of large-scale drainage and oxidation, causing subsidence. The requirements for conservation, restoration and long-term sustainability of degraded active bog have been accentuated by more stringent environmental policy and legislation in Europe, partly following the Habitats and Water Framework EU Directives. This work requires understanding and careful management of the bog hydrology and biodiversity to rebuild the fragile remnants of the original ecosystems, with the objectives of developing and sustaining the characteristic functions required for the transition to a pristine fully functional wetland. Geotechnical issues range from the need for a fundamental understanding of the behaviour of peat as an organic soil at low effective stress levels, to its use and development as a hydrological barrier in drain blocking or retaining embankments. Since the organic fabric can absorb as well as transmit water (and nutrients), peat arguably does not behave as a conventional Darcian medium; hence, predicting its behaviour under drainage or rewetting is key to wetland management. There is a dearth of reported work on the link between the geotechnical properties and the botanical constituents of peat. Furthermore, subsidence and/or restoration of peatland may occur over protracted time periods, making monitoring a challenge.

### This issue will concentrate on the following topics

- geotechnical aspects of peat embankments and dykes
- field monitoring of the stability and hydrology of peatland
- understanding the link between geotechnical properties and botanical constituents of peat
- numerical modelling of geotechnical and hydrological behaviour of peat
- improving predictions of the behaviour of peat as hydrogeological medium under drainage or rewetting
- field case studies.

Engineering practitioners and researchers engaged in any of these general topics are invited to submit abstracts by 30 June 2017. The deadline for submissions is 30 September 2017. Relevant papers outside the main themes outlined above will also be considered.

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