

BGA Evening Meeting

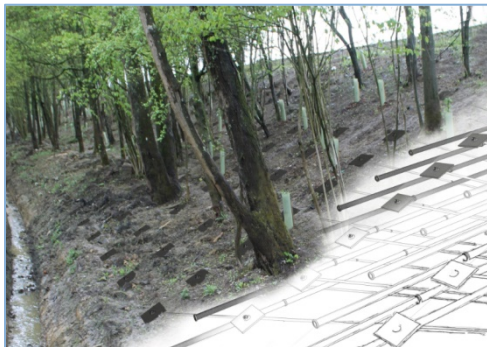
Wednesday 7th March 2018 at 18:00

TELFORD THEATRE, INSTITUTION OF CIVIL ENGINEERS,
ONE GREAT GEORGE STREET, WESTMINSTER, LONDON SW1P 3AA

**Electrokinetic treatment of soils to aid dewatering,
accelerate consolidation, enhance soil strength and control
pore water pressure – theory and recent practice**

**Prof C J F P Jones and David Alder
Electrokinetic Ltd**

Summary:



Electrokinetic phenomena were identified in 1809 but, with a few notable exceptions, little use has been made of the technique. The development of new delivery and control systems, particularly in the UK and China have removed past technical issues and reduced the cost of the method. In the last decade the economic, environmental and technical benefits, which can be achieved by electrokinetic treatment of soils have been demonstrated.

The current application areas include: control of pore water pressure; in-situ increase in shear strength; accelerated consolidation of weak soils and marine deposits and dewatering of difficult soils. The presentation will describe the physics of the electrokinetic suite of phenomena and use historic and recent examples to illustrate design and construction with different combinations of electrokinetic effects.

Please join us afterwards in the ICE Café Bar for drinks sponsored by

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Advance Registration required at
<https://www.ice.org.uk/events/electrokinetic-treatment-of-soils-london>

Biographies of Colin Jones and David Alder overleaf

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Electrokinetic treatment of soils

Professor C J F P Jones



Colin Jones is Emeritus Professor of Geotechnical Engineering at Newcastle University and a founder Director of the University spin out company Electokinetic Limited. He is a past Chairman of the UK Bridge Design Committee and a Past President of the International Geosynthetics Society.

Before joining the University in 1986 Professor Jones was in public service working primarily on bridge design and maintenance. He was the author of Hong Kong Geoguide 6 covering Reinforced Fill. He introduced the concept of electrokinetic geosynthetic materials in 1996, which was exhibited in the Science Museum in 2002.

David Alder

David Alder joined Electrokinetic Limited in 2011 after graduating from Newcastle University with a 1st Class Honours degree. Since then he has worked on the design and implementation of electrokinetic solutions covering slope stabilisation, the use of electrokinetic chemical treatment of soils and the use of electro-osmosis to control pore-water pressures.



As well as working on active projects David Alder has been responsible for the development of the electrokinetic shear box, which is now in commercial use. The electrokinetic shear box provides a means of testing the effects of electrokinetic treatment on the rate of improvement in shear strength and soil/nail or soil/pile bond.

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