Cite this article
(2019)
Award-winning paper in 2017.
Environmental Geotechnics **6(1)**: 62,
https://doi.org/10.1680/jenge.2019.6.1.62

Announcement

Environmental Geotechnics

ice Publishing

Award-winning paper in 2017

Papers published in *Environmental Geotechnics* are eligible for awards from the Institution of Civil Engineers. Papers from any of the ICE journals can be nominated for several awards. In addition, each journal has awards dedicated to their specific subject area.

On Monday 8 October 2018, ICE president Professor Lord Robert Mair presented an award to the following paper published in *Environmental Geotechnics* in 2017.

The editorial panel nominated their best papers and an awards committee chaired by Nigel Wright allocated the awards.

Environmental Geotechnics Prize

Instituted by ICE Publishing to recognise excellence in technical writing within the journal's field of geo-environmental geo-technical engineering.

The Environmental Geotechnics Prize was awarded to Jan C. Herzberg, Marinos Stylianou, Anahita Pourjabbar and Konstantinos Kostarelos (2017) A chemical sensor for alternative barriers using NIR spectroscopy.

Winners of the Environmental Geotechnics Prize, with ICE President Professor Lord Robert Mair

Abstract

Remediation of contaminated sites often includes the use of alternative barriers as a passive treatment method for a variety of contaminants and sites. Alternative barriers, in turn, require a means for monitoring their performance directly, without the need for costly sampling. It is ideal that the monitoring system provide the data in real time and remotely. When combined with optical fibres, near-infrared (NIR) spectroscopy is a promising chemical sensor for in situ, on-site detection of contaminants. This technology has important advantages over other sensors: it can be used to identify hydrocarbons – capable of distinguishing between chemical groups such as alkanes and chlorinated, aromatic and polyaromatic hydrocarbons, as well as distinguishing compounds within the same homologous series of hydrocarbons. Furthermore, with the combined use of lipophilic polymer coatings and tip sensors, the waveguide can be turned into a localised chemical sensor. Coupled with the fact that the new generation of spectrometers are lower in cost and smaller in size than their predecessors, such a sensor can be installed in the field where communications technologies can transmit data from a remote location – ideally suited for alternative barriers as a means of monitoring the subsurface environment and the performance of the barrier.

REFERENCE

Herzberg JC, Stylianou M, Pourjabbar A and Kostarelos K (2017)
A chemical sensor for alternative barriers using NIR spectroscopy.
Environmental Geotechnics **4(4)**: 308–319, https://doi.org/10.1680/jenge.14.00037.