

Announcement: Award-winning papers in 2008

Papers published in *Geotechnical Engineering* 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 Friday 23 October 2009, ICE president Jean Venables presented awards to the following papers published in *Geotechnical Engineering* in 2008. The editorial panel nominated their best papers and an awards committee chaired by Adrian Long allocated the awards.

The Crampton Prize was awarded to: Poulos H (2008) A practical design approach for piles with negative friction. *Proceedings of the Institution of Civil Engineers, Geotechnical Engineering* 161(1): 19–27 [doi: 10.1680/geng.2008.161.1.19].

ABSTRACT

Misconceptions remain in the minds of some pile designers when negative friction effects have to be taken into account. This paper outlines some of these misconceptions, and then describes a relatively straightforward approach for designing



ICE President Jean Venables presents the Crampton Prize to Harry Poulos



ICE President Jean Venables with Telford Premium winners Yu Sheng Hsu, Matouš Hilar and Benoît Jones

piles subjected to negative friction. This approach relies on the consideration of the portion of the pile that is located in the 'stable' zone—that is, that part of the ground profile that is not subjected to ground settlements. By designing this portion of the pile to have adequate length and strength, the key design requirements in relation to geotechnical capacity, structural capacity and pile head settlement can be satisfied. The case where the ground settlements extend to a large depth is also described briefly, and it is shown that it may then be prudent to design the piles to settle with the ground, rather than attempt to restrain them from settlement. Some other issues that can affect the response of piles to ground settlements are examined, including the presence of residual stresses in the pile, live load application and group effects. It is demonstrated that preloading a pile has the potential to reduce the axial force induced in the pile by the ground settlements.

The Telford Premium was awarded to: Jones B, Thomas A, Hsu YS and Hilar M (2008) Evaluation of innovative sprayed-concrete-lined tunnelling. *Proceedings of the Institution of Civil*

Engineers, Geotechnical Engineering 161(3): 137–149 [doi: 10.1680/geng.2008.161.3.137].

ABSTRACT

The front-shunt tunnel was the first tunnel of the Terminal 5 project at Heathrow to be constructed, and was the first section of sprayed-concrete-lined (SCL) tunnel to be constructed using the method known as LaserShell. This innovation represented a significant deviation from the methods previously used in SCL construction. Therefore it was subjected to a careful examination before and during construction using sophisticated 3D numerical modelling and monitoring during construction. The paper presents typical results from surface settlement levelling, inclinometers and extensometers, pressure cells and tunnel lining displacement measurements, and comments on the performance of the methods and instruments used. The paper then presents the methodology and typical results of the numerical modelling, and shows that the predictions of displacements and stresses compared well with the field measurements. In terms of the control of ground deformations and structural safety the tunnel performed well.