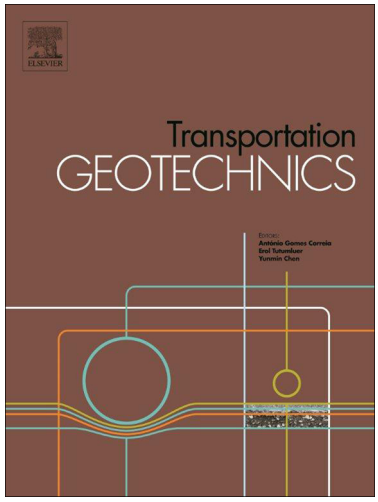

Introduction for the inaugural Proctor Lecture 5 September 2016

António Gomes Correia

PII: S2214-3912(16)30017-4
DOI: http://dx.doi.org/10.1016/j.trgeo.2016.05.004
Reference: TRGEO 85

To appear in: *Transportation Geotechnics*

Please cite this article as: A.G. Correia, Introduction for the inaugural Proctor Lecture 5 September 2016, *Transportation Geotechnics* (2016), doi: http://dx.doi.org/10.1016/j.trgeo.2016.05.004

Introduction for the inaugural Proctor Lecture 5 September 2016

by Professor António Gomes Correia, University of Minho, Portugal

The Proctor Lecture was first established under the proposal of ISSMGE-TC 202 "Transportation Geotechnics", coordinated by Professor António Gomes Correia (2001-2013) and approved at the ISSMGE Board meeting in Paris, September 2013, to commemorate the significant contributions of late Ralph Roscoe Proctor, and to be delivered by the world's most distinguished achievers in Transportation Geotechnics.

Ralph Roscoe Proctor was a famous army engineer in USA during the 1st world war who invented the Soil Compaction. As a veteran of World War, he was primarily involved in railroad construction work in France. Afterwards, he worked at the California Water Authority of Los Angeles (BWWS - Bureau of Water Works and Supply), where he remained during the rest of his career, mostly involved in construction, design and maintenance. Much of his field experience was diverse in water resources, geo-hydraulics and in-situ foundation works. During the construction of Bouquet Canyon Dam (1932 to 1934), he developed what we now call the "Proctor-test", to determine the optimum water content of the compacted earthfill used for the dam core construction, ensuring both stability and the desired permeability of the compacted fill. He established quantitatively, that for a fixed compression energy imparted to a given soil sample at a known water content, the achievable density would be unique, such that the maximum dry density was attained at the optimum water content. He published these results in 1933 which helped to revolutionise the construction of highways, railroads and airport runways, apart from dams (adapted from Wikipedia and ASCE Transactions, Vol. 128, 1963).

The nomination for the inaugural Proctor Lecture took place during the 2013-2017 term of TC202 under chairmanship of Prof. Erol Tutumluer and the choice was the distinguished Professor Buddhima Indraratna (FTSE, FIEAust, FASCE, FGS, FAusIMM, DIC, CEng, CPEng) of University of Wollongong, Australia. The Lecture was decided to be delivered at the 3rd International Conference on Transportation Geotechnics at Guimarães, Portugal, on 5 September 2016.

Professor Buddhima Indraratna was born in the beautiful island of Sri Lanka, where his father was a Professor in Economics and his mother a medical doctor. For his excellent academic performance in school, he was awarded the Lord Mountbatten scholarship through the Royal family to attend a famous international high school in Wales, the United World College of the Atlantic. After completing the International Baccalaureate examination, he entered the Imperial College of Science and Technology to become a Civil Engineer, a passion he had from his childhood. After graduation in 1982, he worked for a joint partnership between Sir William Halcrow and Partners (UK) and Central Engineering consultancy Bureau (Sri Lanka) in a hydropower dam engineering project in Sri Lanka where he became increasingly interested in geotechnical engineering, even though his real strength was in structural engineering. Buddhima collected data from this project having been part of the design team of the dam spillway and foundation grouting. He returned to Imperial College for a combined Master degree in Soil Mechanics and Engineering Seismology, and worked with Prof Peter Vaughan during his dissertation, inspired by the field experience and data he has acquired.