

Proceedings of the International Seminar on Geotechnics in Pavement and Railway
Design and Construction, Athens, Greece, 16 - 17 December 2004

GEOTECHNICS IN PAVEMENT AND RAILWAY DESIGN AND CONSTRUCTION

EDITED BY

A. GOMES CORREIA

*Department of Civil Engineering, University of Minho,
Guimarães, Portugal*

&

A. LOIZOS

*Department of Transportation, Planning and Engineering,
National Technical University of Athens, Greece*



MILLPRESS ROTTERDAM NETHERLANDS 2004

Table of contents

Preface	IX
<i>KEYNOTE LECTURES</i>	
Innovative methods and technologies in earthworks <i>H. Brandl</i>	3
Evaluation of mechanical properties of unbound granular materials for pavements and rail tracks <i>A. Gomes Correia</i>	35
Design considerations for pavement and rail track foundations <i>S.F. Brown</i>	61
<i>INVITED LECTURES</i>	
Subgrade and unbound materials in highway and airport pavement engineering <i>A. Loizos</i>	75
Computational issues for geotechnical aspects of pavements and rail beds <i>C.W. Schwartz</i>	85
Operational devices for compaction optimization and quality control (Continuous Compaction Control & Light Falling Weight Device) <i>D. Adam & F. Kopf</i>	97
Large motorway projects in Greece: the management of geotechnics in the Egnatia Odos project <i>S. Lambropoulos</i>	107
Geotechnical aspects for high-speed railways <i>H. Brandl</i>	117
<i>ACCEPTED LECTURES</i>	
Dynamic stiffness and damping ratio of compacted soils <i>Th. Tika, P. Kallioglou, G. Koninis & K. Pitilakis</i>	135
Correlations for soil bearing capacity parameters <i>A. Mouratidis</i>	143

Influence of capping layer on stress and strain condition of the road pavement system <i>C. Capitanu, G. Fodor & C. Damian</i>	149
Practical developments for pavement foundation specification <i>P. Gilbert</i>	157
Sub-base reinforcement for the foundation of pavements: performance evaluation and design procedures <i>C.D. Hall</i>	167
Opportunities for pavement design through performance-based end-product specifications for foundations <i>B. Chaddock, D. Merrill & M. Nunn</i>	175
Piled embankments for railroads: short overview of methods and significant case studies <i>D. Alexiew</i>	181
Landslide in Malakassa area: encountering works and rehabilitation of P.A.T.H.E.-Motorway <i>A. Polakis & E. Alevra</i>	193
A laboratory investigation into the effectiveness of a geocomposite as sand blanket replacement <i>G. Ghataora, M. Burrow & N. Matson</i>	201
Analytical track substructure design <i>M. Burrow, G. Ghataora & D. Bowness</i>	209
Design, construction and maintenance or organization of a modern railway track <i>K.S. Giannakos</i>	217
The quality of the railway track in relation to the bedding module <i>K. Liberis</i>	225
Rail track foundations in mining site areas <i>K. Kłosek</i>	233

INDICES

Keyword index	241
Author index	243