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PROCEEDINGS
OF THE INTERNATIONAL GEOTECHNICAL CONFERENCE
DEDICATED TO THE TERCENTENARY OF SAINT PETERSBURG

**RECONSTRUCTION OF HISTORICAL CITIES
AND GEOTECHNICAL ENGINEERING**

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PREFACE

The tercentenary of St. Petersburg has fallen on the period of change in Russian history. This fact is symbolic as the founding of the Northern Capital was in similar manner associated with the period of most profound reforms, one might indeed say revolutionary transformation effected by Peter the Great. The first hardhanded Emperor of Russia made the country face up to the West, establishing it on the European way of development. Also directly associated with the city was a major upheaval in Russian history which left its imprint on all subsequent run of the history of mankind – the socialist coup of 1917. Until recently the political life of the entire planet has been dominated by the rivalry between the idea of universal equality declared by the proletarian revolutionaries and the idea of value of an individual asserted by western democracy.

New epoch of Russian Reformation for the first time in history is relatively free of violence. It is also symbolic that as the reforms are gaining more and more success with Russia and Europe becoming ever more proximate, the pole of Russian political life is shifting again towards St. Petersburg.

Peter the First chose to found the city on low banks of the delta of the River Neva. The reformer's choice of this location predetermined buoyant development of geotechnical scholarship in the city in the early 20th century. The matter is that the city is underlain by meters-thick strata of soft quaternary clays. From the very outset of the new capital construction large scope of geotechnical work had to be carried out. That included putting up embankments, provision of dewatering, slope strengthening, timber piling underneath buildings, as well as installation of timber foundation beams into the subsoil of masonry foundations.

St. Petersburg scholarly milieu nourished the forefathers of Russian soil mechanics: N.M. Gersevanov, N.A. Tsytovich, N.N. Maslov, V.A. Florin. Many years St. Petersburg geotechnical school was headed by a constellation of bright names: B.D. Vasiliev, B.I. Dalmatov, P.L. Ivanov. Currently St. Petersburg continues to be home for one of the leading Russian geotechnical schools whose soft soil specialists and blue-chip computation experts have been taking part in all major international congresses thus maintaining high standards of Russian “soil scholarship”.

One of the most acute current problems we are concerned with is preservation and reconstruction of historic cities. This problem is quite topical also for St. Petersburg. The city constructed as a new capital of the empire had remarkably wide streets (for those days). However, in late 20th century the city got both strangled and suffocated with intensive flow of traffic. Solution of this problem is only foreseeable in terms of exploration of subterranean space. Houses in historical centre of St. Petersburg are seldom older than 200 years and until recently the majority of steadfastly constructed buildings required no strengthening. It was because of sharp increase of technically generated impact on historical city areas that deformation levels of valuable buildings have soared.

Probably the most considerable technical factor conducive to appearance of deformations is buoyant construction in the historical centre: buildings are being constructed in vacant areas, subterranean space is being explored, congested city quarters are undergoing reconstruction whose specificity is intensified and contributed to by the peculiar ground conditions.

We hope that the conference convened with participation of TC 19 'Preservation of historic Sites' to commemorate the tercentenary of St. Petersburg will encourage fruitful sharing of expertise in historic monuments preservation, will be conducive to effective exchange of ideas concerning reconstruction of world cities, and finally, will facilitate dialogue and contact among experts who have arrived from various countries of the world and many Russian cities.

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