# Associazione Geotecnica Italiana AGI

# THE CONTRIBUTION OF GEOTECHNICAL ENGINEERING TO THE PRESERVATION OF ITALIAN HISTORIC SITES

## INTRODUCTORY VOLUME

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## CASE HISTORIES

AGRIGENTO, Temples

AQUILEIA, Bell Tower

CACCAMO, Castle

CETARA, Tower

CIVITA DI BAGNOREGIO, Historical Town

FIORENZUOLA DI FOCARA, Castle

FRASCATI, Historical Town

LAURENZANA, Castle

MARETTIMO, Minor Remains

MATERA, Hypogea

MATERA, Tramontano Castle

MILANO, Cathedral

NAPOLI, Dell'Ovo Castle

ORVIETO, Historical Town

PAVIA, Towers

PIENZA, Cathedral

PIOVÀ MASSAIA, Church

PISA, Bell Tower

RAVENNA, San Vitale Basilica

ROMA, Cestia Pyramid

ROMA, Domus Tiberii

ROMA, Vigna Barberini

SAN LEO, Slope

SELINUNTE, Archaeological Site

SIRACUSA, Quarries

VENEZIA, Historical Town

VENEZIA, San Marco Bell Tower

VOLTERRA, Slope

# **Foreword**

The Italian Geotechnical Society (AGI) and its members have always favoured the initiatives promoted by the International Society of Soil Mechanics and Foundation Engineering (ISSMFE) and have contributed with enthusiasm to the activity of its Technical Committees.

In particular, when the creation of a Technical Committee on Preservation of Historic Sites, (TC 19) was proposed in 1981, the interest of AGI was unusually suscitated, in view of Italy's enormous historical patrimony and the ever-increasing need to restore and protect it. The purposes of TC 19 can be summarized as follows: investigate geotechnical factors affecting historic sites, monuments and cities; report specific geotechnical techniques adopted to preserve ancient constructions; search for geotechnical criteria and methods employed by our ancestors.

In fact, AGI had effectively contributed to the development of the field by promoting in Italy a number of initiatives, culminating in the October 1980 Fourteenth National Congress of Geotechnics held in Florence, dedicated to 'the role of Geotechnics in the restoration of historic city centres, monumental complexes and single monuments', with significant contributions from the fields of Geotechnical and Structural Engineering, Engineering Geology, History of Architecture and Archaeology.

A few years later, a broad review on the subject edited by prof. Arrigo Croce was included in the AGI commemorative volume, published on the occasion of the ISSMFE Golden Jubilee (1985), and distributed among the Members Societies.

The TC 19 started its activity during the quadriennium 1981-1985, under the chairmanship of prof. Jean Kerisel, with the sponsorship of the French National Society and with active partecipation of Prof. Arrigo Croce as ISSMFE vice-president for Europe. In those years, attention was focused on the Mediterranean Countries, since the territory which surrounds the Mediterranean Sea presented favorable conditions for beginning the Committee's program. In 1984 a first international meeting was organized in Pompei on the occasion of the International Symposium held at the University of Naples, on Humanities and Physical Sciences.

During the quadriennium 1985-1989 both the French and the Italian National Societies kept the sponsorship of the Committee, while prof. Croce was appointed Chairman and Dott. Isnard, Secretary.

The Committee's work was then developed in Europe, North Africa, Central and South America, South-East Asia. A particular co-operation was established with the