FOREWORD

Special issue on intelligent sensing and monitoring of underground pipelines

Xin Feng[1] · Hongyuan Fang[2] · Qunfang Hu[3]

Underground pipelines are an important infrastructure and lifeline to guarantee the safe operation of cities. With the increase in service age, underground pipelines cause various damages, such as rupture, corrosion, leakage, cavities, etc. These damages cause urban flooding, road collapse, and water pollution. Therefore, the sensing and monitoring of underground pipelines' long-term performance in the life-cycle service has become a significant concern. Structural health monitoring (SHM) can facilitate understanding of real structural behavior and provide vital information for assessing structural safety. Recently, Artificial Intelligence (AI) and big data have been widely used in traffic, bridges, tunnels, buildings, pipelines, etc., and greatly contribute to performance evaluation. Many researchers have studied intelligent sensing and monitoring of underground pipelines based on deep learning and machine vision. This Special Issue aims to collect the latest advances and trends in the field of intelligent sensing and monitoring of underground pipelines.

This special issue aimed to collect the latest advances and trends in intelligent and automatic sensing and monitoring of underground pipelines. We succeeded in this attempt based on the high quality of the papers included. We are grateful to all authors and co-authors for their enthusiasm and willingness to share it with readers. Thus, we are pleased to dedicate this Special Issue of JCSHM to "Intelligent Sensing and Monitoring of Underground Pipelines," and we hope that readers will find it beneficial for their research, training, and applications to pipeline engineering.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

✉ Xin Feng
fengxin@dlut.edu.cn

1 School of Infrastructure Engineering, Dalian University of Technology, Dalian 116024, China

2 Yellow River Laboratory, Zhengzhou University, Zhengzhou 450001, China

3 Shanghai Institute of Disaster Prevention and Relief, Tongji University, Shanghai 200092, China