We would like to invite you participate for a Workshop on “Deep Underground Engineering and Data Mining” to be held at the University of Porto, School of Civil Engineering, on September 28, after 14.00h, at Civil Engineering Department.

The Workshop refers to applications of Data Mining (DM) and Uncertainty Modeling (UM) techniques to deep underground engineering. In order to provide a comprehensive and up-to-date information, we offer the possibility to discuss recent developments in a number of the corresponding areas of research and applications. The topics include, but are not limited to:

- DM concepts and techniques, with a focus on the underground data
- UM concepts and techniques, including Bayesian Networks
- DM/UM approaches to monitoring active faults
- Decision support systems for coal mines processes
- Deformability and strength prediction in large underground hydroelectric systems
- Prediction of methane concentration, endogenous fire and seismic events
- Rockburst laboratory tests and development of rockburst indexes
- Predicting rockburst based on an in situ database
- Development of new geomechanical constitutive models

This event is intended to be a high-quality and single-track event focusing on the promotion, dissemination and exchange of knowledge and ideas through discussions.

No registration fees are considered.

Workshop Organizers:

Prof. Luis Ribeiro e Sousa, Tongji University, China
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Prof. Dominik Ślęzak, University of Warsaw, Poland
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Prof. Tiago Filipe Miranda, University of Minho, Portugal
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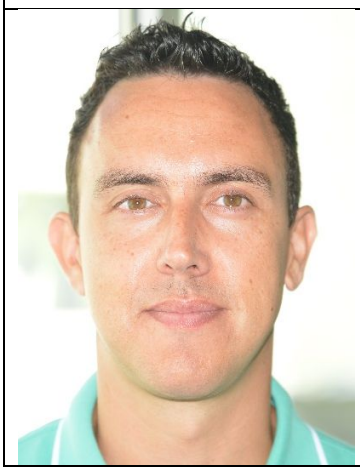
	Luis Ribeiro e Sousa has more than 45 years of engineering experience. He has extensive international experience on a large range of several projects, including concrete dams and their foundations; tunneling for subways, roads, railways and hydraulic projects; underground storage; mining; petroleum engineering; rock mechanics tests; and modeling. He was Professor at the Universities of Porto and Minho in Portugal, conducting research on risk management for geotechnical systems. He was very active in a number of professional societies and has served as President of the Portuguese Geotechnical Society and Vice-President for the ISRM. He was also the Chairman of the 2007 ISRM Congress in Lisbon, Portugal and he was President of SKEC Engineering Consulting. He is now consultant for Laboratory of Deep Underground Engineering, Beijing; and he was awarded by the Chinese Foreign Experts Bureau as a renowned foreign expert for several years. He is also Professor at Tongji University, Shanghai and member of the Council of the International United Laboratory for Energy and Environment. In China, he worked mainly in the domain of deep underground engineering with focus in mining activities. He developed activities on applications of Data Mining techniques to deep underground hydroelectric schemes, to an underground laboratory and also to rockburst risk assessment based on databases, regarding rockburst laboratory experiments and related to in situ cases of rockburst occurred during construction.
	Dominik received M.Sc. degree in Mathematics (1996) and Ph.D. degree in Computer Science (2002) from University of Warsaw. In his early academic career, he worked as Teaching Assistant at Polish-Japanese Institute of Information Technology. In 2003-2006, he worked as Assistant Professor at University of Regina in Canada. He also cooperated as Adjunct Professor with McMaster and York University. In 2008, he moved back to Poland and he re-joined University of Warsaw, where he currently holds professorship position at Institute of Informatics. In 2011, he received D.Sc. degree from Institute of Computer Science of Polish Academy of Sciences. Dominik is continually engaged in both academic and commercial R&D initiatives, in the fields of Artificial Intelligence, Machine Learning and Big Data. In 1999, he co-founded QED Software with a goal of developing new, easily interpretable Data Exploration methods. In 2005, he co-founded Infobright - a database company, whose Granular Approximate Query technology was acquired by Security On-Demand in 2017. Currently, apart from University of Warsaw and QED Software, he serves as Chief Scientist at Security On-Demand and he is an expert in several EU-funded projects in the areas including Online Game Analytics and Advisory Systems. Dominik co-authored over 200 scientific articles. He is also inventor in six US patents. He organized over 20 conferences in Europe, Asia and both Americas. He delivered plenary talks at over 20 international congresses including keynote at IEEE/WIC/ACM Conference on Web Intelligence in 2015. He is Associate Editor for several scientific journals. He was one of Founding Editors of Springer's CCIS Series. In 2012-2014, he served as President of International Rough Set Society. Currently, he serves as Vice-President of Polish Artificial Intelligence Society and Vice-President of IEEE CS Technical Committee on Intelligent Informatics.
	Tiago Miranda is an Assistant Professor at the Civil Engineering Department of the University of Minho in Portugal since 2001. He is the Executive-Director of the Institute for Science and Innovation in Bio-Sustainability (IB-S), researcher of the Institute for Sustainability and Innovation in Structural Engineering (ISISE) and Associate Researcher at the University of Newcastle in England. His main research interests are numerical modelling in Geotechnics, soil improvement using innovative binders based on wastes, Geostatistics and Data Mining applied to Geotechnics. He worked as a consultant in several case studies related with slope stability, foundations, soil improvement and geotechnical survey. He was involved in 12 research projects and is author of more than 100 papers published in reference international journals, conferences, books and book chapters.