

## Preface

The International Conference on Structural and Mechanical Engineering for Security and Prevention 2017 is a conference intended to be a forum for researchers in all related fields connected with the security, safety and prevention because of the security threats. Actually it's became of great attention due to the worsening of the global security situation and increasing in terrorist acts using explosives as a means of terrorist fight. With the increase in terrorist attacks in recent years, the conference topics are highly current. The fact is that the terrorist attacks have moved from the world's battlefields such as Syria, Iraq or Afghanistan, into city centres (e.g. Oklahoma City, Madrid, Moscow, Bologna, London, Ottawa, New York, Boston, Paris, Nice and recently Manchester). But security treats occurs in the another area too. It is not only about terrorist attack, but the influence of extreme weather condition leads to crisis situation which have to be solved. Grave industrial accidents and security treats connected with the transport. The presented conference wanted to join the best researches whose work involve the area of safety, security and bring a new, stronger ideas for resolving problem.

This conference provides a forum for the presentation and discussion of the latest research advances and engineering-practice innovations with a focus on the new technologies and current practice related to the blast protection, mechanical and security engineering which brings together professionals from the engineering and scientific fields. The conference will also give you an opportunity to update and expand your technical knowledge with keynote and technical sessions, panel discussions, and short courses. The topics of conference include new materials for safety and security engineering; diagnosing and testing of materials; modelling and experiments; security technology of explosives; critical infrastructure protection; construction safety and security; underground structures and tunnels; risk analysis, assessment and management; emergency and crisis management; new standards on security engineering; rock and mining engineering; blast protection; seismity and geomechanics; fire engineering.

This issue contains selected papers from the ICSMESP 2017, which took place in Prague, the capital of Czech Republic, from June 14 to June 16, 2017.

Finally, as guest editors, we would like to express our sincere appreciation to the members of the editorial committee and the advisory board for giving an opportunity to work with us. We are grateful to all the authors and reviewers of the manuscripts and especially to Michael Gaul, for his valuable advice and his support from NATO Emerging Security Challenges Division.

We thank the generous support by Czech Technical University in Prague, Department of Building technologies under lead of the Prof. Ing. Pavel Svoboda, CSc., to Faculty of Security Engineering in Žilina, Slovakia, to Willenberg Foundation for their enthusiasm and help with the organisation of the conference and we thank the office of the Trans Tech Publications Inc. for assistance with editorial matters.

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Lieskovec 575/25

018 41 Dubnica nad Váhom

Slovak Republic

Tel.: 00421 42 285 2232

Fax.: 00421 42 285 2203

E - mail: [kotadef@kotadef.sk](mailto:kotadef@kotadef.sk)

Web: <http://www.kotadef.sk>



## THE NATO SCIENCE FOR PEACE AND SECURITY PROGRAMME



The Science for Peace and Security Programme (SPS) is a partnership tool which benefits both Allies and Partners by addressing shared security concerns. The Programme aims to enhance Euro-Atlantic and international security, peace, and stability by fostering cooperation and dialogue with all partners on security-related civil science, innovation, and the sharing of expertise. The SPS Programme seeks to promote large-scale and more strategic activities with a high political impact and public diplomacy value as outlined in the SPS Overarching Guidelines agreed by the North Atlantic Council in 2013. The reorientation of the SPS Programme beyond scientific cooperation clearly demonstrates its flexibility and adaptability to new political guidance provided by Allies.

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Building on NATO's 2010 Strategic Concept and the Berlin Partnership Policy of 2011, the SPS Programme will respond to the Alliance's main goals as clearly stated during the 2014 Wales Summit. The successful implementation of the SPS Programme in the future is assured by its alignment to the political guidance provided by Allies; enhanced coordination between relevant NATO bodies; efficient, transparent, and accountable management.



A handwritten signature in black ink, appearing to read "Sorin Ducaru".

**Ambassador Sorin Ducaru**

Assistant Secretary General

NATO Emerging Security  
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**SWIETELSKY**  
**Baugesellschaft m.b.H.**  
Edlbacherstraße 10  
A-4020 Linz  
Phone: +43 (732) 6971-0  
Telefax: +43 (732) 6971-7410  
E-Mail: [homepage@swietelsky.at](mailto:homepage@swietelsky.at)  
[www.swietelsky.com](http://www.swietelsky.com)



**SWIETELSKY – Slovakia**  
**spol. s r.o.**  
Mokráň záhon 4,  
821 04 Bratislava, SLOVAKIA  
Phone: +421 (0)2 5710 1710,  
Telefax: +421 (0)2 5710 1720  
E-mail:  
[office.slovakia@swietelsky.sk](mailto:office.slovakia@swietelsky.sk)  
[www.swietelsky.sk](http://www.swietelsky.sk)

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