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## International Conference on Applied Sciences

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## International Conference on Applied Sciences ICAS2018



**Banja Luka, Bosnia and Herzegovina, May 9-11, 2018**

### Organizers:



**University Politehnica Timisoara**



**University of Banja Luka  
Republic of Srpska**

**and**

**University of Banja Luka**

in cooperation with

**Ministry of Science and Technology of the Republic of Srpska, Bosnia and Herzegovina  
Ministry of Trade and Tourism of the Republic of Srpska, Bosnia and Herzegovina  
Academy of Romanian Scientists  
Academy of Sciences of the Republic of Srpska, Bosnia and Herzegovina  
Academy of Technical Sciences of Romania - Timisoara Branch  
and  
General Association of Romanian Engineers - Hunedoara Branch**

### Event sponsored by:



The **International Conference on Applied Sciences ICAS2018** took place in Banja Luka, Republic of Srpska, Bosnia and Herzegovina, in the period May 9–11, 2018, at the University of Banja Luka, with the aims to serve as a platform for exchange of information between various areas of applied sciences, and to promote the communication between the scientists of different nations, countries and continents.

The conference has been focused on several fields of application, operation and influence of the applied sciences and technologies on industry.

**Topics of the conference** covers a comprehensive spectrum of issues from:

- 1. Materials Science:** Metallic Materials, Composite Materials, Metal Alloys, Metallurgy, Heat Transfer, and others...
- 2. Mechatronics:** Mechanical Engineering, Robotic Systems Engineering, Control Engineering, Reliability, and others...
- 3. Electrical Engineering:** Circuits and Systems, Signal Processing, Electric Motors, and others...
- 4. Computers Engineering:** Modeling and Simulation, Computational Methods in Engineering, Software Engineering, Data Bases, and others...
- 5. Fundamental Sciences:** Numerical approximation and analysis, Interdisciplinary applications of mathematics and physics, Chemistry, and others...

The conference gathered qualified researchers whose expertise can be used to develop new engineering knowledge that has applicability potential in Industry. The number of participants was 312 from 21 countries (Algeria, Austria, Bosnia and Herzegovina, Brazil, France, Germany, Croatia, Iran, Italy, Macedonia, Hungary, Malaysia, Morocco, Moldova, Norway, Poland, Romania, Serbia, Slovenia, Turkey, U.S.A.).

During the three days of the conference, 6 invited speakers and 144 oral talks were delivered. Based on the works presented at the conference, 60 papers have been selected to be included in this volume of *IOP Conference Series: Materials Science and Engineering*.

#### **Invited speakers**

Mohsen Razzaghi, Mississippi State University  
Gabor Szeibig, UiT Arctic University of Norway  
Branislav Borovac, University of Novi Sad  
Ioan Ilca, Academy of Technical Sciences of Romania  
Zora Konjevic, University of Novi Sad, University Singidunum  
Nataša Trišović, University of Belgrade

#### **Honorary Committee**

Dana Manuela Constantinescu, Ambassador of Romania in Bosnia and Herzegovina  
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Predrag Damjanović, Director of the Pedagogical Institute of the Republic of Srpska, B&H  
Igor Radojičić, Mayor of Banja Luka  
Doru Ion Petrescu, CEO Arcelor Mittal SA, Romania  
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*Ludovic Dan LEMLE*

Editor of the Proceedings of ICAS2018