

# International Conference on Applied Sciences ICAS2019



**Hunedoara, Romania, May 9-11, 2019**

**Organizers:**



**University Politehnica Timisoara**



**University of Banja Luka  
Republic of Srpska**

**University of Banja Luka**

**and**

in cooperation with

**Ministry for Scientific and Technological Development, Higher Education  
and Information Society of the Republic of Srpska  
Academy of Romanian Scientists  
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Academy of Technical Sciences of Romania - Timisoara Branch  
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**Event sponsored by:**



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**International Conference on Applied Sciences ICAS2019** took place in Hunedoara, Romania, in the period May 9–11, 2019, at the Engineering Faculty of Hunedoara, 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. Mechanical Engineering:** Mechanics, Production Engineering, Constructions, Automotive and Traffic Engineering, Safety Engineering, Reliability, and others...
- 3. Mechatronics:** Robotic Systems Engineering, Control Engineering, and others...
- 4. Computers Engineering:** Modeling and Simulation, Computational Methods in Engineering, Software Engineering, Data Bases, and others...
- 5. Electrical Engineering:** Circuits and Systems, Signal Processing, Electric Motors, and others...
- 6. Fundamental Sciences:** Numerical approximation and analysis, Interdisciplinary applications of mathematics and physics, Chemistry, and others...

During the three days of the conference, 5 plenary speakers and 105 oral talks were delivered. Based on the works presented at the conference, 56 papers have been selected to be included in this volume of *Journal of Physics: Conference Series*.

#### **Plenary speakers**

Mohsen Razzaghi, Mississippi State University  
Mircea Octavian Popoviciu, Academy of Romanian Scientists  
Snežana Ćirić Kostić, University of Kragujevac  
Branislav Borovac, University of Novi Sad  
Ilca Ioan, Academy of Technical Sciences of Romania

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Dragoljub Mirjanic, Academy of Sciences and Arts of the Republic of Srpska  
Ilca Ioan, Academy of Technical Sciences of Romania  
Predrag Damjanovic, Director of Pedagogical Institute of the Republic of Srpska  
Borko Durić, President of the Chamber of Commerce, Republic of Srpska  
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Bobouțanu Dan, Mayor of Hunedoara  
Pawar Dayanada Rao, C.E.O. Arcelor Mittal S.A.  
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*Plenary Speakers Session*

Bordeasu Ilare, University Politehnica Timisoara  
Golubovic Bugarski Valentina, University of Banja Luka

*Materials Science Session*

Ardelean Erika, University Politehnica Timisoara  
Dobras Dragoslav, University of Banja Luka

*Mechanical Engineering Session*

Ratiu Sorin, University Politehnica Timisoara  
Todic Mladen, University of Banja Luka

*Mechatronics Session*

Tirian Ovidiu, University Politehnica Timisoara  
Latinovic Tihomir, University of Banja Luka

*Electrical Engineering Session*

Deaconu Sorin, University Politehnica Timisoara  
Blanusa Branko, University of Banja Luka

*Fundamental Sciences and IT Session*

Panoiu Manuela, University Politehnica Timisoara  
Vojvodic Biljana, University of Banja Luka

*Video-conference Session*

Muscalagiu Ionel, University Politehnica Timisoara  
Knezevic Bojan, University of Banja Luka

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*Ludovic Dan LEMLE*

Editor of the Proceedings of ICAS2019