



Under the aegis of the

ROMANIAN MINISTRY OF EDUCATION

ROMANIAN MINISTRY OF RESEARCH AND INNOVATION

ROTRIB'19

The 14th International Conference on Tribology
September 19-21, 2019 – Cluj Napoca, ROMANIA

organized by



TECHNICAL UNIVERSITY
OF CLUJ-NAPOCA



Romanian Tribology
Association



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FOREWORD ROTRIB'19

ROTRIB'19 is the 14th Conference organized in Romania in a series of international scientific events on the subject of TRIBOLOGY. The general objective of this conference was to bring contributions to the fundamental applications and experiments in the field of Tribology and Nanotribology. The conference provided an interdisciplinary forum for discussions and networking as well as the aim to initiate collaborations among specialists regarding materials in Tribology and their application in product design and reliability at macro/ micro and nano-scale. The exchange of ideas, theories, developments, innovations, improved research methods and future trends was a key scope of this conference. This goal was achieved by bringing together specialists from the industry and the academic environment as well as leading and young researchers from various scientific fields.

Papers presented at ROTRIB 2019 are included in the following topics:

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| 1. Friction and Wear | 8. Tribology of machine elements |
| 2. Contact Mechanics | 9. Tribology in manufacturing processes |
| 3. Biotribology, tribology in medicine | 10. Surface metrology, surface engineering and coatings |
| 4. Micro and nanotribology | 11. Emerging technologies and industrial tribology |
| 5. Lubricants | 12. Condition monitoring |
| 6. Lubrication | |
| 7. Tribochemistry and tribocorrosion | |

These topics were discussed in the different technical sessions. The official language of the ROTRIB'19 Conference was English. The conference received an excellent number of submissions from which, after a thorough peer reviewing process, 64 scientific contributions were accepted for presentation. The authors of the accepted papers were invited to present their work at the Conference, and so, we were pleased to welcome 87 participants from different countries.

The Conference program was enriched significantly by plenary presentations of renowned experts in their respective domains: Distinguished Professor Dr. Aurelio Somà (Italy) and Distinguished Professor Dr. Spiridon Cretu (Romania). The ROTRIB'19 Conference was organized by the Technical University of Cluj-Napoca and the Romanian Tribology Association, under the aegis of the Romanian Ministry for Research and Innovation. The Conference was held in Cluj-Napoca, ROMANIA at the Technical University of Cluj-Napoca.

The Conference was financially supported by the Technical University of Cluj-Napoca, the Romanian Tribology Association, and sponsors which participated at ROTRIB'19 with company profile presentations or product displays. We would like to express our gratitude to the authors for submitting their work. We would like to thank all those who have contributed, in one way or another, to the success of the Conference. We are grateful to the Scientific Committee members, as well as to the external reviewers for their volunteer hard work of reading and discussing the submissions. We would also like to express our thanks to the members of the Organizing Committee for their support.

It was a great pleasure for us to organize this Conference and we hope that the ROTRIB'19 Conference will stimulate future developments and innovations in the field of tribology.

We hope all participants had a successful conference and a pleasant time in Cluj-Napoca.

**Organizing Committee
October 2019, Cluj-Napoca, Romania**

ROTRIB'19



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