

REPORT ON THE INTERNATIONAL MULTIDISCIPLINARY SYMPOSIUM "UNIVERSITARIA SIMPRO 2022" - 10TH EDITION UNIVERSITY OF PETROSANI

Between 27 and 29 October 2022, the 10th edition of the international multidisciplinary symposium UNIVERSITARIA SIMPRO took place at the University of Petroșani, under the motto: "QUALITY AND INNOVATION IN EDUCATION, RESEARCH AND INDUSTRY - THE SUCCESS TRIANGLE FOR A SUSTAINABLE ECONOMIC, SOCIAL AND ENVIRONMENTAL DEVELOPMENT" (Figs. 1 and 2).



Fig. 1. Symposium logo

The 2022 edition was meant to restore the traditional cadence of the symposium, organized every two years, a cadence that was modified as a result of the COVID pandemic, and took place in a hybrid system. The 2022 edition brought together researchers from several countries (Greece, Germany, Hungary, Georgia, Poland and Romania), presenting, plenary and in parallel sessions, a number of 84 papers elaborated by 210 authors.



Fig. 2. University of Petroșani Library

Co-organized with our partners from The National Institute for Research and Development for Mine Safety and Anti-Explosive Protection (INSEMEX), the symposium was held under the auspices of the Ministry of Education, the Romanian Academy of Scientists, the Romanian Academy of Technical Sciences and the General Association of Romanian Engineers, in partnership with the National Authority for Scientific Research, Hunedoara County Council, Labor Inspectorate, Petroșani University Alumni Association, CDPM Union and Salrom - National Salt Society. Among the partners who contributed financially this year to the smooth running of the symposium are: TOTAL BUSINESS LAND, EUROELECTRIC, S.C. SUPERCOM S.A., COMEXIM S.R.L. Lupeni, TOPOGEOMED S.R.L., S.C. TERMO GAZ CONSULTING S.R.L. This year's media partners of the symposium were MATEC Web of Conferences - open access proceedings journal by EDP Sciences, Sustainability and Merits - open access journals by MDPI.

The International Scientific Committee of the symposium was composed by famous personalities in the fields in which the topics were organized, among which we mention:

- Tatiana ANTIPOVA, Institute of Certified Specialists, Perm, RUSSIA
- Adam BAJCAR, POLTEGOR-Instytut, POLAND
- Lia Alexandra BALTADOR, "Lucian Blaga", University of Sibiu, ROMANIA
- Daniel BREAZ, "1 Decembrie 1918", University of Alba-Iulia, ROMANIA
- Serhii CHUKHAREV - National University of Water and Environmental Engineering, UKRAINE
- Lucian-Ionel CIOCA, "Lucian Blaga" University of Sibiu, ROMANIA
- Doru Costin DARABONT, NIRD-INCDPM Bucharest, ROMANIA
- Predrag DASIC, High Technical Mechanical School of Professional Studies Trstenik, SERBIA
- György DEÁK, National Institute for Research and Development in Environmental Protection Bucharest, ROMANIA
- Anca DRAGHICI, Politehnica University of Timișoara, ROMANIA
- Carsten DREBENSTEDT, TU Bergakademie, Freiberg, GERMANY
- Mihalis GALETAKIS, Technical University of Crete, GREECE
- Emilian GHICIOI, NIRD INSEMEX Petroșani, ROMANIA
- Janusz GRABARA, Czestochowa University of Technology, POLAND
- Claudiu KIFOR, "Lucian Blaga" University of Sibiu, ROMANIA
- Karoly (Charles) KOCSIS, University of Utah, USA
- Valerii KORNIYENKO, National University of Water and Environmental Engineering, UKRAINE
- Krzysztof KOTWICA, AGH University of Science and Technology, POLAND
- Gábor LADÁNYI, University of Miskolc, HUNGARY
- Omar LANCHAVA, Georgian Technical University, GEORGIA
- Lazăr AVRAM, University of Oil and Gases, Ploiești, ROMANIA
- Zinovii MALANCHUK, National University of Water and Environmental Engineering, UKRAINE
- Theodoros N MICHALAKOPOULOS, National Technical University of Athens, GREECE
- Peter MOSER, Montanuniversität Leoben, AUSTRIA
- Viktor MOSHYNSKYI, National University of Water and Environmental Engineering, UKRAINE
- Mariana NAGY, „Aurel Vlaicu” University of Arad, ROMANIA
- Marek PAWEŁCZYK - Silesian University of Technology, POLAND
- Ion PANĂ, University of Oil and Gases, Ploiești, ROMANIA
- Daniel PUPĂZAN, NIRD INSEMEX Petroșani, ROMANIA
- Elena Cristina RADA, Insubria University, ITALY
- Maria FERNANDEZ RAGA – University of Leon, SPAIN

- Marco RAGAZZI, Università degli Studi di Trento, ITALY
- Valentin RĂILEANU, IMI-NOVA, MOLDOVA
- Christos ROUMPOS, Public Power Corporation of Greece S.A., GREECE
- Krysztyna SKIBNIEWSKA, University of Warmia and Mazury in Olsztyn, POLAND
- Zoltan VIRAG, University of Miskolc, HUNGARY
- Dumitru ȚUCU, Politehnica University of Timișoara, ROMANIA
- Jean-Jacques WAGNER, IUT de Belfort-Montbéliard, FRANCE
- Janusz WIELKI, Opole University of Technology, POLAND

Of the 210 authors, 125 university teaching staff and researchers actually participated (in person and online) in the activities organized by SIMPRO 2022 (from Romania: University of Petroșani; INSEMEX Petroșani; Politehnica University of Timișoara; Politehnica University of Bucharest; INCDPM „Alexandru Darabont” Bucharest; „Lucian Blaga” University of Sibiu; University of Oil and Gases, Ploiești; ASE Bucharest, etc. and from abroad: TU Bergakademie, Freiberg, Germany; Georgian Technical University, Georgia; University of Western Macedonia, Greece, University of Miskolc, Hungary, Poltegor Instytut, Poland).

In the Library hall, where the reception of the participants took place, two exhibitions were set up, one of books and one of robots built in the automation laboratories of the university, both registering great interest among the participants (Fig. 3).



Fig. 3. Welcoming the participants and the two exhibitions stands

The symposium started in the Conference Hall of the Library on 27.10.2022 at 10 AM (local time) and was opened by the Executive Chairman, Maria Lazăr - vice-rector of the University of Petroșani, followed by greeting addressed by the General Chairman, Sorin Mihai Radu - the rector of the University of Petroșani and of the Co-chair Artur George Găman - the general director of INSEMEX Petroșani (Figs. 4 and 5).



Fig. 4. The Opening Ceremony



Fig. 5. The greeting message of Prof. Dr. Eng. Sorin Mihai Radu (Rector of the University of Petrosani and General Chairman of the Symposium)

The opening ceremony was followed by a session of plenary lectures, presented by personalities from the country and abroad:

- Carsten DREBENSTEDT, Bergakademie Technische Universität Freiberg, Germany – *Contributions of mining sciences for space exploration.*
- Adam BAJCAR, Poltegor Instytut, Poland – *Development of post-mining areas.*
- Iuliu WINKLER, Member of the European Parliament, Romania – *The role of critical raw materials in the energy transition of the European Union.*
- Zoltan Istvan VIRÁG, University of Miskolc, Hungary – *Finite element analysis of a cutting and hauling mining adapter.*
- Anca DRĂGHICI, University “Politehnica” of Timișoara, Romania – *Exploiting multimedia technologies in education, research, and university-community projects.*

The rector's recorded message and the online presentation of two plenary papers contributed to the hybrid character of the symposium.

The plenary papers (Fig. 6) addressed topics that aroused the interest of the participants, so that during the break that followed the plenary session, there were exchanges of ideas and even discussions regarding opportunities for future collaborations.



Fig. 6. Prof. Dr. Eng. Carsten Drebenstedt (TU Freiberg) giving a plenary lecture

The scientific event continued with the presentation of the papers by topic (parallel sessions) (Fig. 7) and the interactive debates within the Q&A sessions. The 10 main topics of the event were:

1. *Advances in safety science and occupational risk management*
2. *Challenges in geology, mining and mineral processing*
3. *Surveying and civil engineering*
4. *Sustainable environmental engineering and protection*
5. *Innovational challenges in electrical engineering and energetic technology*
6. *Developments in systems control, information technology and cyber security*
7. *Industrial, mechanical and transportation engineering*
8. *Recent trends in business, economics, law and public administration*
9. *Contemporary approaches in quality assurance, management and marketing*
10. *Sustainable development in humanities, social sciences, education research and interdisciplinary studies*



Fig. 7. Presentations by topics (parallel sessions)

Obviously, such a diversity of topics made it possible to present some valuable, interesting papers by and for the participants, occasioning a series of discussions and comments, exchange of ideas and experience, but also the establishment of future collaborative relationships.

The second day of the symposium was dedicated to the round table with the theme: “RESPONSIBLE PRODUCTION AND CONSUMPTION, ENERGY, GREEN AND DIGITAL TRANSITION IN CONTEXT OF AGENDA 2030”, a theme that falls within SDG12, on which the EURECA-PRO university alliance is built, of which the University of Petroșani is part. The round table was designed as an open science event of EURECA-PRO, which was attended by 21 people, 5 of them online. An introduction to the topic was made at the opening of the event by Dan Codruț Petrilean, vice-rector of the University of Petroșani, after which debates followed for more than two hours (Fig. 8).



Fig. 8. The round table from 28.10.2022

In conclusion, it can be said that:

- the symposium took place in the established period, all the objectives in the program being achieved;
- the number of participants for this edition was smaller than usual, but this happened as a result of several national and international scientific events taking place at the same time, their schedule being disrupted by the COVID pandemic;

- the papers presented in the symposium represent an important scientific contribution and were the starting point for discussions and premises for the development of joint projects;
- this edition restored the traditional cadence of organizing the UNIVERSITARIA SIMPRO symposium, once every two years, in even years. Thus, the next SIMPRO edition will take place in 2024.
- the visibility and promotion of the conference was achieved in several ways: the conference website <https://www.upet.ro/simpro/2022/> (also available for more information), the promotional materials (posters, banners, newspaper articles, promotional stick content), social networks (LinkedIn, Facebook, Instagram, etc.), international media partners (MATEC, MDPI). Also, the local media was present at this event, which was publicized in all specific forms.

Considering all this, it can be said that the 10th edition of the international Multidisciplinary Symposium “UNIVERSITARIA SIMPRO 2022” was a success on all levels and that the trajectory of this scientific event will be an upward one.

Executive Chairman,
Prof. Dr. Eng. Maria LAZAR