


## THE CENTER FOR RESEARCH IN ENGINEERING AND TECHNOLOGY MANAGEMENT

### Contact details

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### Areas of expertise

**Applied research in industrial engineering:** a) development of applications in manufacturing processes; b) development of applications in mechanical systems; c) development of applications in technology management;  
**Competitive and pre-competitive research:** a) technological equipment; b) machinery and equipment manufacturing technology; c) special technological processes; d) optimization of the manufacturing technological system; e) monitoring technological systems and equipment; f) information technology integration into production systems (PDM, PLM etc.)  
**Product innovation and technological innovation in engineering and their impact on technology management**  
**Research knowledge capitalization and dissemination**

### Team

**Prof. Dr. Habil. Eng. Nicolae Ungureanu (Director)**, Assoc. Prof. Dr. Eng. Sandor Ravai Nagy (Vice – director), Prof. Dr. Eng. Vasile Năsui, Prof. Dr. Habil. Eng. Miorita Ungureanu, Assoc. Prof. Dr. Eng. Mihai Bănică, Assoc. Prof. Dr. Ing. Dinu Daraba, Assoc. Prof. Dr. Eng. Lucian Butnar, Assist. Prof. Dr. Eng. Marius Cosma, Assoc. Prof. Dr. Eng. Ec. Gabriela Lobonțiu, Lecturer. Dr. Eng. Vlad Diciuc, Lecturer dr. Eng. Nicolae Medan, Lecturer dr. Ing. Pop Bianca, Lecturer dr. Ing. Raul Drenta, Lecturer dr. Ing. Ioana Craciun, Ph.D. student Diana Pop-Suarasan, Ph.D. student Catalin Daraba

### Representative projects

**“Energy Recovery from Municipal Solid Waste by Thermal Conversion Technologies in Cross-border Region ”- EnyMSW, HUSKROUA/1702/6.1/0015**  
**Product Development Research Activities - Technological production lines with CAD site”, contract with industry,**  
**“Increasing the capacity of institutional management for the work of CD&I in engineering and technological management”, ANCS**  
**„Study and solutions regarding the hydraulic calculations made for the treatment plants of the Fierbinți objective”, SC ADISS S.A. Baia Mare,**  
**Studiul la solicitări compuse a lantului dublu de întindere, ESTO-LDI-FL (FM) 1106 / 12.01.2022.**  
**Studiul la solicitări compuse a Clemei ESTO 8488 /-22.03.2022**  
**Studiul la solicitări compuse al izolatorului de susținere tip CAPA 2559161 / 30.03.2022**  
**Studiul la solicitări a reperelor: „Clema de tracțiune lanț ENEL” 2103 / 22.01.2024.**

### Significant results

#### The most representative publications of the past 5 years:

1. Ungureanu, M.; Ungureanu, NS. ; Cosma, M., THERMAL ANALYSIS OF THE INDUSTRIAL SHOE BRAKES TO REDUCE THE RISK OF FAILURE DURING BRAKING, ARCHIVES OF MINING SCIENCES, Volume 65, Issue 1, Page 35-46, DOI 10.24425/ams.2020.132704,
2. Ungureanu, Nicolae Stelian; Petrovan, Adrian; Ungureanu, Miorita, Contributions to the Development of an Ontology in Logistics of Manufacturing International Conference on Manufacturing Engineering and Materials

(ICMEM) Location: Novy Smokovec, SLOVAKIA Date: JUN 18-22, 2020 Book Series: Lecture Notes in Mechanical Engineering Pages: 299-306 Published: 2020

3. Raval-Nagy, Sandor ; Pasca, Ioan; Diciuc, Vlad; EXPERIMENTAL RESEARCH ON MILLING OF THE POLYETHERETHERKETONES (TECAPEEK NATURAL)-WHIT BALL- NOSE END MILL, ACTA TECHNICA NAPOCENSIS SERIES-APPLIED MATHEMATICS MECHANICS AND ENGINEERING 2023
4. Ruggiero, Alessandro; D'Amato, Roberto; Calvo, Roque; Ungureanu Nicolae et al., Measurements of the Friction Coefficient: Discussion on the Results in the Framework of the Time Series Analysis ADVANCES IN MANUFACTURING ENGINEERING AND MATERIALS, ICMEM 2020 Book Series: Lecture Notes in Mechanical Engineering Pages: 443-455 Published: 2020
5. Ruggiero, Alessandro; D'Amato, Roberto; Ungureanu, Nicolae , Fluid Film Pressure Description in Finite Turbulent Lubricated Journal Bearings by Using the Warner's Theory ADVANCES IN MANUFACTURING ENGINEERING AND MATERIALS, ICMEM 2020 Book Series: Lecture Notes in Mechanical Engineering Pages: 465-475 Published: 2020
6. Nadolny, Krzysztof; Kaplonek, Wojciech; Krolczyk, Grzegorz; Ungureanu Nicolae et al., The effect of active surface morphology of grinding wheel with zone-diversified structure on the form of chips in traverse internal cylindrical grinding of 100Cr6 steel PROCEEDINGS OF THE INSTITUTION OF MECHANICAL ENGINEERS PART B- JOURNAL OF ENGINEERING MANUFACTURE Volume: 232 Issue: 6 Pages: 965-978 Published: MAY 2018
7. Medan, Nicolae; Lobontiu, Mircea; Banica, Mihai, Full factorial DOE to determine the influence of the process parameters in cleaning water jets used in sewer cleaning, 4th International Conference on Computing and Solutions in Manufacturing Engineering (CoSME) Location: Brasov, ROMANIA Date: NOV 03-04, 2016 Book Series: MATEC Web of Conferences Volume: 94 Article Number: UNSP 07005 Published: 2017
8. V. Ilic, N. Jorgovanovic, A. Antic, S. Moraca, and N. Ungureanu, "A NOVEL FULLY FAST RECOVERY EMG AMPLIFIER FOR THE CONTROL OF NEURAL PROSTHESIS", *Tehnicki Vjesnik-Technical Gazette*, vol. 23, pp. 1131-1137, Jul-Aug 2016.
9. V. Diciuc, "A Comparison between the Wear of the Ball Nose End Mill generated in 4 Axes Milling and in 5 Axes Milling" in *Applied Mechanics and Materials*, vol. 371, 2013, pp. 106-110

**Products and technologies:**

1. The water treatment plants;
2. Multifunctional truck product for sewage cleaning;  
Technologies for manufacturing of the asymmetric tooth gear.

**The offer addressed to the economic environment**

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|------------------------|--|
| Research & development | Development of products and equipment needed in the field of wastewater treatment;<br>Product development in the field of wastewater disposal and transport: multifunctional trucks, cesspool emptiers;<br>The study of cutting tools durability for real technological conditions;<br>The study of the machined surfaces' quality depending on the process parameters and on the cutting conditions;<br>Studies and research activities on the mechanical parameters of the components of the industrial systems;<br>Studies and research activities in logistics, maintenance and reliability. |
| Consulting             | Consulting in manufacturing technologies, product development, Technology Management, human resources issue in Engineering, logistics, maintenance and reliability, Tribology.   |
| Training               | Training in Work Safety<br>Training courses for NCMT operators, usage, programmers;<br>Training in CAD.  |

Last update on January 2025