



“VASILE ALECSANDRI” UNIVERSITY OF BACAU, FACULTY OF ENGINEERING, ROMANIA
“GHEORGHE ASACHI” UNIVERSITY OF IAȘI, ROMANIA
POLITEHNICA UNIVERSITY OF BUCHAREST, ROMANIA
ROMANIAN ACADEMY OF AGRICULTURAL AND FORESTRY SCIENCES “GHEORGHE IONESCU – ȘIȘEȘTI”
POLITECNICO UNIVERSITY OF TORINO, ITALY
“ANGEL KANCHEV” UNIVERSITY OF RUSE, BULGARIA
WARSAW UNIVERSITY OF TECHNOLOGY, POLAND
UNIVERSITY OF CADIZ, SPAIN
ROMANIAN ASSOCIATION OF MANAGERS AND ECONOMIC ENGINEERS
THE ROMANIAN ENVIRONMENT ASSOCIATION – 1998 (ARM)
ASOCIAȚIA „De Sprijin Academica”

The 20th International Conference of Constructive Design and Technological Optimization in Machine Building Field

OPROTEH 2025

PROGRAM

BACAU
MAY 21-23, 2024



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K. Jamrozak - Wroclaw University of Science and Technology, Poland	V. Zichil - "Vasile Alecsandri" University of Bacau, Romania



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Lect. Ph.D. Ioana PLEȘCĂU





CONFERENCE PROGRAM

WEDNESDAY 21 MAY 2025		
18 ⁰⁰ -20 ⁰⁰	Welcome & Registration	Building D Central hall, first floor
20 ⁰⁰	Dinner	"Vasile Alecsandri" University of Bacau Restaurant
THURSDAY 22 MAY 2025		
08 ⁰⁰ -10 ⁰⁰	Welcome & Registration	Building D Central hall, first floor
10 ⁰⁰ -10 ³⁰	Conference's official opening Welcome messages of the organizing committee	"Vasile Alecsandri" University of Bacau AULA
10 ³⁰ -12 ⁰⁰	Plenary lectures Goals and expectations for University and Industry	"Vasile Alecsandri" University of Bacau AULA
12 ⁰⁰ -12 ³⁰	Coffee break	Central hall, first floor
12 ³⁰ -13 ³⁰	Plenary lectures Goals and expectations for University and Industry	"Vasile Alecsandri" University of Bacau AULA
13 ³⁰ -15 ⁰⁰	Lunch	"Vasile Alecsandri" University of Bacau Restaurant
15 ⁰⁰ -18 ⁰⁰	Section lectures and Poster sessions	Buildings B/D and Central hall
15 ⁰⁰ -17 ⁰⁰	The XXVI th National Symposium of Fracture Mechanics	Building D Hall D131
15 ⁰⁰ -18 ⁰⁰	Leap-Step Cities Going Ahead: Together for Reliable Energy - photo exhibition	Building D Central hall, first floor
20 ⁰⁰	Gala Diner	"Podu cu lanturi" Restaurant
FRIDAY 23 MAY 2025		
09 ⁰⁰ – 11 ³⁰	Section lectures and Poster sessions	Buildings D Central hall
09 ⁰⁰ – 12 ⁰⁰	Workshop: Local initiatives and best practices to alleviate energy poverty	Buildings D Hall D131
09 ⁰⁰ – 14 ⁰⁰	Leap-Step Cities Going Ahead: Together for Reliable Energy - photo exhibition	Building D Central hall, first floor
11 ⁰⁰ – 11 ³⁰	Coffee break	Buildings B/D and Central hall
11 ³⁰ – 12 ⁰⁰	Final discussion and future perspective	Buildings B/D
11 ³⁰ – 12 ⁰⁰	Faculty research laboratories visit	Buildings B/D
14 ⁰⁰	Departure of participants	



Welcome to the 20th International Conference of Constructive Design and Technological Optimization in Machine Building Field

***“VASILE ALECSANDRI” UNIVERSITY OF BACĂU
FACULTY OF ENGINEERING***

PLENARY LECTURES

GOALS AND EXPECTATION FOR UNIVERSITY AND INDUSTRY

THURSDAY 22 MAY 2025 10³⁰ – 13³⁰

**CHAIRPERSONS: PROF. PH.D. VALENTIN NEDEFF
PROF. PH.D. CAROL SCHNAKOVSKY
PROF. PH.D. MIRELA PANAINTE-LEHĂDUS**

- 1. PRIORITY RESEARCH DIRECTIONS IN FOOD SCIENCES**
RODICA STURZA – TECHNICAL UNIVERSITY OF MOLDOVA
- 2. ENERGY EFFICIENCY & SUSTAINABLE UTILIZATION OF RESOURCES IN GREEN TRANSITION**
LUCIAN MIHET POPA - HØGSKOLEN I ØSTFOLD – STUDIESTED, FREDRIKSTAD, NORWAY
- 3. ENGINEERS AND DEVELOPMENT OF ROMANIAN INDUSTRY**
VALERIU V. JINESCU – TECHNICAL SCIENCES ACADEMY OF ROMANIA
- 4. MODELING-SIMULATION-MONITORING TRIAD IN RESEARCH ACTIVITY: CASE STUDY FOR DIESEL HYDRODESULFURIZATION**
TANASE DOBRE - NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY POLITEHNICA BUCHAREST, ROMANIA, TECHNICAL SCIENCES ACADEMY OF ROMANIA
- 5. LASER SURFACE TEXTURING OF BIOPOLYMERS**
TEODOR DANIEL MINDRU - GHEORGHE ASACHI TECHNICAL UNIVERSITY OF IASI, ROMANIA
- 6. LEAP-STEP CITIES GOING AHEAD: TOGETHER FOR RELIABLE ENERGY - PHOTO EXHIBITION OPENING**
BACAU CONTY COUNCIL



The 20th International Conference of Constructive Design and Technological Optimization in Machine Building Field

Welcome to the 20th International Conference of Constructive Design and Technological Optimization in Machine Building Field

OPROTEH 2025



CONFERENCE SECTIONS

- A. Optimization of Manufacturing Processes and Systems & Computer Aided Design and Manufacturing
- B. Optimization of Technologies and Equipment from Process Industries
- C. Optimization in Environmental Engineering and Environmental Protection
- D. Mechatronics & Robotics
- E. Economic Engineering
- F. Chemical & Food Engineering
- G. Industrial Power Engineering & Computer Science
- H. Fracture Mechanics

In the case of all Conference Sections, the POSTERS can be visited in the period 22-23 MAY on the Central Hall (Building D).



A. OPTIMIZATION OF MANUFACTURING PROCESSES AND SYSTEMS & COMPUTER AIDED DESIGN AND MANUFACTURING

BUILDING B HALL BI29

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

**CHAIRPERSONS: PROF. PH.D. DUMITRU NEDELCU
PROF. PH.D. ABDERRAHIM BELLOUFI
PROF. PH.D. VIOREL PAUNOIU**

A.1. OPTIMIZATION OF THE IMPACTS OF MANUFACTURING FACTORS IN ELECTRODEPOSITION ON THE TRIBOLOGICAL PROPERTIES OF NICKEL-BASED COMPOSITE COATINGS

YASSINE ABDESSELAM, ABDERRAHIM BELLOUFI, IMANE REZGUI, MOURAD ABDELKRIM

A.2. ANALYSIS OF SOME MATERIALS FROM THE CLASS OF 3D PRINTED POLYMERIC MATERIALS USED AS BIOLOGICAL FILTER MEDIA

VASILE BAŞLIU, ALINA CEOROMILA, MIRELA CREȚU, MARIAN COADĂ, CIPRIAN CUZMIN, GINA IOAN, SILVIU BACALUM

A.3. OPTIMIZATION OF PROCESS PARAMETERS FOR ELECTRICAL DISCHARGE MACHINING OF C120 MATERIAL

EUGEN HERGHELEGIU, OANA GEORGETA GHIORGHE, MARIA CRINA RADU, CAROL SCHNAKOVSKY, PETRICA RADU, NICOLAE CATALIN TAMPU, BOGDAN ALEXANDRU CHIRITA, BOGDAN NITA

A.4. OPTIMIZATION OF WC-CO EDM MACHINING PARAMETERS: EFFECT OF PARAMETERS ON PROCESS PERFORMANCE

ABDERRAHIM BELLOUFI, MOURAD ABDELKRIM, MOURAD MEZOUDJ, IMANE REZGUI, YASSINE ABDESSELAM

A.5. PREDICTIVE MODELING OF BURNISHING: OPTIMIZING PARAMETER INTERACTIONS FOR ENHANCED PERFORMANCE

MOURAD ABDELKRIM, ABDERRAHIM BELLOUFI, MOURAD MEZOUDJ, IMANE REZGUI, YASSINE ABDESSELAM

A.6. GENERATIVE DESIGN AND NEW DESIGNERS' ROLE IN THE MANUFACTURING INDUSTRY - BIBLIOMETRIC STUDY

IONEL CRINEL RAVEICA

A.7. STUDY ON DETERMINING THE FUNCTIONAL CHARACTERISTICS OF THE MAIN PUMP FROM A HYDRAULIC DRIVE

IONEL OLARU, IONEL CRINEL RAVEICA

A.8. RESEARCHES CONCERNING THE GREEN MACHINING OF MAGNESIUM ALLOYS

BOGDAN ALEXANDRU CHIRITA, COSMIN CONSTANTIN GRIGORAS, NICOLAE CATALIN TAMPU, EUGEN HERGHELEGIU

A.9. ADVANCED TECHNIQUES FOR ENHANCING DIMENSIONAL ACCURACY AND SURFACE QUALITY IN SPLINE MACHINING

CIPRIAN CIOFU, TEODOR DANIEL MINDRU, CONSTANTIN CARAUSU, DUMITRU NEDELCU

A.10. INFLUENCE OF RIVET LAYOUT AND VENTILATION ON AXIAL DEFORMATION IN FLOATING BRAKE DISCS

TEODOR DANIEL MINDRU, CIPRIAN CIOFU, CONSTANTIN CARAUSU, DUMITRU NEDELCU



A.11. RESIDUAL STRESSES GENERATED BY MILLING IN SURFACE LAYERS

NICOLAE CATALIN TAMPU, RALUCA IOANA TAMPU, EUGEN HERGHELEGIU, CAROL SCHNAKOVSKY, MARIA CRINA RADU, BOGDAN ALEXANDRU CHIRITA, BOGDAN NITA

A.12. ANALYSIS OF MACHINING PARAMETER EFFECTS ON SURFACE QUALITY IN DRY MACHINING OF Ti-6Al-4V ALLOY

NICOLAE CATALIN TAMPU, RALUCA IOANA TAMPU, EUGEN HERGHELEGIU, IONEL CRINEL RAVEICA, IONEL OLARU, BOGDAN ALEXANDRU CHIRITA, BOGDAN NITA

A.13. SHAPING TECHNICAL THINKING IN PRIMARY SCHOOL: A STUDY ON EARLY EDUCATIONAL INFLUENCE

RALUCA IOANA TAMPU, NICOLAE CATALIN TAMPU, ELENA RODICA MARIN, CRISTINA NEDELCU, MADALINA NICOLETA GRIGORAS

A.14. CONSTRUCTIVE-FUNCTIONAL AND FEM ANALYSIS OF AN OIL UOP 12 C1 PUMP

CAMELIA GEORGIANA ADĂMACHE, GEORGIANA ALEXANDRA MOROȘANU, NICUȘOR BAROIU

A.15. INFLUENCE OF PROCESS PARAMETERS ON THE PERFORMANCE OF DIE-SINKING EDM OF LOW STIFFNESS PARTS MADE BY GAMMA TITANIUM ALUMINIDE

PETRICĂ RADU, CAROL SCHNAKOVSKY, EUGEN HERGHELEGIU, NICOLAE CATALIN TAMPU, MARIA CRINA RADU, BOGDAN ALEXANDRU CHIRITA

A.16. THE INFLUENCE OF WORKING REGIME ON THE PERFORMANCE OF MILLING PROCESS OF PARTS WITH LOW RIGIDITY

PETRICĂ RADU, CAROL SCHNAKOVSKY, BOGDAN ALEXANDRU CHIRITA, NICOLAE CATALIN TAMPU, EUGEN HERGHELEGIU, MARIA CRINA RADU

A.17. INFLUENCE OF CUTTING PARAMETERS ON SURFACE QUALITY OF AL6061 ALLOY UNDER DRY AND LN2 COOLING CONDITIONS

BOGDAN NITA, NICOLAE CATALIN TAMPU, RALUCA IOANA TAMPU, EUGEN HERGHELEGIU, CAROL SCHNAKOVSKY, BOGDAN ALEXANDRU CHIRITA

A.18. LASER SURFACE TEXTURING OF BIOPOLYMERS

PETRONELA DANIELA RUSU (OSTAHIE), OKTAWIAN BIALAS, ANNA WOZNAK, MARCIN ADAMIAK, AUGUSTINE APPIAH, NICOLAE CATALIN TAMPU, SIMONA NICOLETA MAZURCHEVICI, PANAGIOTIS KYRATIS, ANASTASIOS TZOTZIS, ALEXANDRA NEDELCU, TEODOR DANIEL MINDRU, CONSTANTIN CARAUSU, DUMITRU NEDELCU

A.19. AN OVERVIEW OF MATERIAL JOINING METHODS BY PLASTIC DEFORMATION

VIOREL PAUNOIU, NICUSOR BAROIU

A.20. THE EVIDENTIARY VALUE OF AUTOMOTIVE TECHNICAL EXPERTISE IN JUDICIAL PROCEEDINGS

NICOLAE NAVODARIU

A.21. RESEARCH ON SINGLE POINT INCREMENTAL FORMING OF METAL SHEETS: A REVIEW

LIDIA DIANA COPOT, DANIELA MONICA IORDACHE, SIMONA NICOLETA MAZURCHEVICI, MARIA CRINA RADU, RALUCA IOANA TAMPU, EUGEN HERGHELEGIU

A.22. STUDY ON THE INFLUENCE OF MACHINING PARAMETERS ON ELECTRODE WEAR AND QUALITY OF SURFACES MACHINED BY EDM

OANA GEORGETA GHIORGHE, CAROL SCHNAKOVSKY, MARIA CRINA RADU, BOGDAN ALEXANDRU CHIRITA, EUGEN HERGHELEGIU, CRINEL IONEL RAVEICA, PETRICĂ RADU, NICOLAE CATALIN TAMPU, BOGDAN NITA, IONEL OLARU

A.23. OPTIMIZATION OF AWJ MACHINING PARAMETERS OF ARMOR STEELS

CAROL SCHNAKOVSKY, BOGDAN ALEXANDRU CHIRITA, MARIA CRINA RADU, CRINEL IONEL RAVEICA, IONEL OLARU, NICOLAE CATALIN TAMPU, BOGDAN NITA, EUGEN HERGHELEGIU



A.24. THE INFLUENCE OF ELECTRODE AND PROCESS PARAMETERS ON THE ELECTRICAL DISCHARGE MACHINING OF ALUMINUM ALLOYS WITH VEGETABLE DIELECTRICS

MARIA CRINA RADU, CAROL SCHNAKOVSKY, EUGEN HERGHELEGIU, PETRICA RADU, NICOLAE CATALIN TAMPU, BOGDAN ALEXANDRU CHIRITA, BOGDAN NITA, CRINEL IONEL RAVEICA

A.25. OPTIMIZATION OF ABRASIVE WATER JET MACHINING PARAMETERS OF ALUMINUM ALLOYS

EUGEN HERGHELEGIU, CAROL SCHNAKOVSKY, BOGDAN ALEXANDRU CHIRITA, MARIA CRINA RADU, CRINEL IONEL RAVEICA, IONEL OLARU, NICOLAE CATALIN TAMPU, BOGDAN NITA

A.26. OPTIMIZATION OF AWJ MACHINING PARAMETERS OF SJ 235 STRUCTURAL STEELS

BOGDAN ALEXANDRU CHIRITA, CAROL SCHNAKOVSKY, MARIA CRINA RADU, EUGEN HERGHELEGIU, CRINEL IONEL RAVEICA, IONEL OLARU, NICOLAE CATALIN TAMPU, BOGDAN NITA

A.27. STEELS RESEARCH ON THE INFLUENCE OF CUTTING REGIMES ON THE QUALITY OF PARTS MADE FROM TITANIUM ALLOYS

ELENA MIHAELA COT, BOGDAN ALEXANDRU CHIRITA, EUGEN HERGHELEGIU, MARIA CRINA RADU, NICOLAE CATALIN TAMPU, BOGDAN NITA

A.28. ASPECTS REGARDING THE GRINDING OF RUBBER MANTLE WITH CAMBER USED ON PAPER MACHINE ROLLERS IN THE PAPER AND CARDBOARD MANUFACTURING INDUSTRY

PETRE VALEA



B. OPTIMIZATION OF TECHNOLOGIES AND EQUIPMENT FROM PROCESS INDUSTRIES

BUILDING D HALL DP12

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

**CHAIRPERSONS: PROF. PH.D. JOHN KECHAGIAS
ASSOC. PROF. PH.D. NICOLETA SPOREA
ASSOC. PROF. PH.D. GELU IANUS**

B.1. STUDY OF A FLOW EXTRACTOR FOR MEDICINAL SUBSTANCES

JĘDRZEJ MAĆZAK, DMYTRO SAMOILENKO, MICHAŁ MAKOWSKI, EMILIAN MOSNEGUTU1

B.2. THE INFLUENCE OF THE ACTUATION SYSTEM ON THE MOTION OF THE MOVABLE JAW IN A DOUBLE-JOINTED CRUSHER

EMILIAN MOSNEGUTU, NARCIS BARSAN, DANA CHITIMUS, VLAD CIUBORATIU, LUMINITA BIBIRE, MARCIN JASIŃSKI, NICOLETA SPOREA, IVONA CAMELIA PETRE, RĂZVAN-IONUȚ CANBEI

B.3. MODERN MECHANICAL TRANSMISSION SYSTEMS IN CNC MACHINE TOOLS

OVIDIU TOMA

B.4. TWO-COMPONENT INJECTION MOLDING USING BIODEGRADABLE MATERIALS - A REVIEW

FLORIN LUNCANU, NONA IRIMIA CRISALINDA, MIHAELA ILIE, CRISTINA BELECCIU

B.5. EXTERNAL SURFACE BURNISHING AND ITS IMPACT ON METALWORKING - A REVIEW

NONA IRIMIA CRISALINDA, FLORIN LUNCANU, MIHAELA ILIE, CRISTINA BELECCIU

B.6. SURFACE INTEGRITY OF COPPER-COATED ADDITIVE MANUFACTURED SPECIMENS- A REVIEW

MIHAELA ILIE, NONA IRIMIA CRISALINDA, FLORIN LUNCANU, CRISTINA BELECCIU

B.7. IMPACT OF 3D PRINTING PARAMETERS ON THE MECHANICAL PROPERTIES OF REINFORCED PLA - A REVIEW

CRISTINA BELECCIU, NONA IRIMIA CRISALINDA, FLORIN LUNCANU, MIHAELA ILIE

B.8. STRUCTURAL DEGRADATION OF PORT CRANES UNDER ENVIRONMENTAL STRESS

LUMINIȚA BIBIRE, OLIMPIU ȘTEFAN PAȘALĂU, CONSTANTIN CIUCHE

B.9. THE INFLUENCE OF VIBRATIONS CAUSED BY SURFACE IRREGULARITIES ON FORKLIFT FORKS

LUMINIȚA BIBIRE, OLIMPIU ȘTEFAN PAȘALĂU, CONSTANTIN CIUCHE

B.10. SUSTAINABLE EXPLOITATION OF TECHNOLOGICAL EQUIPMENT IN FOOD SERVICE AND HOTEL INDUSTRY

ANCA ANDREEA COȚA, DANIELA PAULA GUTUNOI, CORNELIA VOICU

B.11. THE EVOLUTION OF AGRICULTURAL MACHINERY AND EQUIPMENT BASED ON THE SMART FARMING CONCEPT

IOAN BĂISAN



B.12. CONSTRUCTIVE SOLUTIONS AND CALCULATION ELEMENTS FOR HIGH-PERFORMANCE SYSTEMS FOR SEPARATING LIQUID-SOLID HETEROGENEOUS MIXTURES FROM WASTEWATER THROUGH FILTRATION

ION DURBACĂ, NICOLETA SPOREA, ANCA MĂDĂLINA DUMITRESCU, RAMONA MARE, MIHAELA LUMINIȚA DOBRESCU (NIȚĂ)

B.13. NEW APPROACHES REGARDING SPECIFIC CALCULATION ELEMENTS FOR THERMAL INSULATION SYSTEMS OF INDUSTRIAL TECHNOLOGICAL PIPES

ION DURBACĂ, NICOLETA SPOREA, ȘTEFAN CASTRAVETE, GEORGIANA-DANIELA FLINTAȘU (OPREA), ANA MARIA POPA,

B.14. SOME CONSIDERATIONS REGARDING THE RELIABILITY AND DURABILITY OF SEALING GASKETS SPECIFIC TO CONTACT SEALS

ION DURBACĂ, NICOLETA SPOREA, ELENA CĂTĂLINA CATANĂ, IONUȚ CHERCIU

B.15. ESEARCH ON DETERMINING THE LONGITUDINAL ELASTICITY MODULUS OF SEALING GASKETS MADE OF COMPOSITE MATERIALS

GHEORGHE-COSMIN CIOCOIU, GEORGIANA-LUMINIȚA ENĂCHESCU, NICOLETA SPOREA, ION DURBACĂ

B.16. HIGH-PERFORMANCE COATINGS OBTAINED BY COMBINED THERMAL SPRAYING METHODS – FOR INDUSTRIAL USE

GABRIELA TOMA, DUMITRU-CODRIN CÎRLAN, EDMUND LEVĂRDĂ, DANIELA-LUCIA CHICET, ȘTEFAN-LUCIAN TOMA

B.17. EFFECTS OF CORROSIVE CHEMICAL SOLUTIONS ON PITTING CORROSION OF AL ALLOY

OLGA CHIRCIU, ANA-MARIA ROSU, COSMIN-CONSTANTIN GRIGORAS, VLAD-ANDREI CIUBOTARIU, VALENTIN ZICHIL

B.18. APPLICATION OF SEPARATION PROCESSES IN WASTEWATER TREATMENT

NARCIS BARSAN, VALENTIN NEDEFF, KRZYSZTOF JAMROZIAK, DANA CHITIMUS, MIRELA PANAINTE-LEHADUS, EMILIAN MOSNEGUTU, CLAUDIA TOMOZEI, PAULA GRETA VRINCEANU

B.19. CLASSIC AND NOVEL DOMESTIC HOT WATER SYSTEMS - A COMPREHENSIVE REVIEW

ANA-GEORGIANA LUPU, GABRIEL-DUMITRU TCACIUC, ARISTOTEL POPESCU

B.20. AGRIVOLTAICS – PERFORMANCE ENHANCING CHARACTERISTICS – A REVIEW WITH EMPHASIS ON INCLINATION ANGLE

ANA-GEORGIANA LUPU, GABRIEL-DUMITRU TCACIUC, CRISTINA BELECCIU, ARISTOTEL POPESCU

B.21. MAINTENANCE MANAGEMENT PRACTICES FOR A BEER BOTTLING LINE

LUMINITA BIBIRE, PAULA GRETA VRINCEANU, ALINA MARIA MOROI

B.22. COMPUTER-AIDED TOOLS FOR COLUMN APPARATUS DESIGN

LUMINITA BIBIRE, PAULA GRETA VRINCEANU, ALINA MARIA MOROI

B.23. ENERGY RECUPERATION FROM WHEELED VEHICLE MOTION

ALEKSANDER SKURJAT, MARIUSZ KOSOBUDZK, DAMIAN STEFANOW, ROBERT CZABANOWSKI

B.24. DESIGN OF A PROTOTYPE SYSTEM FOR MONITORING OF LOADS ACTING ON THE FRAME OF A HIGH-MOBILITY OFF-ROAD VEHICLE

DAMIAN STEFANOW, MARIUSZ KOSOBUDZKI, ALEKSANDER SKURJAT, ROBERT CZABANOWSKI

B.25. DESIGN AND LABORATORY TESTS OF A TRANSDUCER FOR CONTINUOUS MEASUREMENT OF A HIGH MOBILITY WHEELED VEHICLE FRAME DEFORMATION

MARIUSZ KOSOBUDZKI, DAMIAN STEFANOW, ROBERT CZABANOWSKI, ALEKSANDER SKURJAT



B.26. MINIATURISATION OF ELECTRICAL SYSTEMS OF MULTIDIMENSIONAL STRAIN GAUGE TRANSDUCERS

ROBERT CZABANOWSKI, DAMIAN STEFANOW, MARIUSZ KOSOBUDZKI, ALEKSANDER SKURJAT

B.27. GARDEN TILLERS PRESENTATION OF A TECHNICAL SOLUTION TO INCREASE THE WORKING CAPACITY OF MOTORCULTIVATORS EQUIPPED FOR MOWING OPERATIONS ON SLOPES

IULIAN DRENEA, SORIN-STEFAN BIRIS

B.28. PLASMA JET THERMAL DEPOSITIONS ON AGRICULTURAL EQUIPMENT

CORNELIU MUNTEANU, GELU IANUȘ, FABIAN CEZAR LUPU, BOGDAN ISTRATE

B.29. BIHARMONIC MAPS AND THEIR POTENTIAL IN ENGINEERING OPTIMIZATION PROBLEM

VALER NIMINET, RAREȘ AMBROSIE

B.30. DATA-DRIVEN OPTIMISATION OF FFF PROCESS PARAMETERS FOR ENHANCED MECHANICAL PERFORMANCE

JOHN KECHAGIAS

B.31. THE STUDY OF SHOES SOLES BEHAVIOR UNDER STRESS CONDITIONS

SPOREA NICOLETA, DURBACĂ ION, BĂRBULESCU VLAD, IGNAT MĂDĂLINA, RADU SORIN-ANDREI

B.32. SOME ASPECTS REGARDING THE PERFORMANCE OF PNEUMATIC PRESSURE TESTS OF PRESSURE EQUIPMENT

COSTEL-DORINEL ULERIU, LUMINITA BIBIRE

B.33. OBTAINING COMPOSITE MATERIALS REINFORCED WITH CARBON FIBERS WITH ENHANCED PHYSICAL-MECHANICAL AND TRIBOLOGICAL PROPERTIES

CĂLIMAN RADU, OLARU IONEL

B.34. STUDY ON THE USE OF THERMAL TUBES TO IMPROVE THE THERMAL EFFICIENCY OF BUILDINGS

CĂLIMAN RADU, OLARU IONEL

B.35. STUDY OF HOT AIR HEATING INSTALLATIONS

CĂLIMAN RADU, OLARU IONEL



C. OPTIMIZATION IN ENVIRONMENTAL ENGINEERING AND ENVIRONMENTAL PROTECTION

BUILDING D HALL DP12

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

**CHAIRPERSONS: PROF. PH.D. LUCIAN MIHET POPA
PROF. PH.D. GRZEGORZ PRZYDATEK
PROF. PH.D. GABRIEL MURARIU**

C.1. MONITORING THE PHYSICAL-CHEMICAL CHARACTERISTICS OF SOILS AROUND AN OIL REFINERY

ANAMARIA (ILIE) NICULESCU, OANA PARVULESCU, TANASE DOBRE, CHIS TIMUR, SIMONA DOBRINAS, SEMAGHIUL BIRGHILA, NICOLETA MATEI

C.2 THE USE OF BIODEGRADABLE MATERIALS FOR MITIGATING ACOUSTIC POLLUTION

MARA-CRISTINA PANAINTE, DIANA-CARMEN MIRILA, FLORIN-MARIAN NEDEFF

C.3. TOWARDS INDUSTRIAL APPLICATION: SELECTIVE RECOVERY OF ZN(II), CD(II), AND NI(II) BY D2EHPA IN A SEMI-PILOT LIQUID-LIQUID EXTRACTION SYSTEM

AHMED ELHABIRI SID, KENICHEM ASSIA, ANA MARIA ROSU, DIANA CARMEN MIRILA

C.4 INNOVATIVE WATER PURIFICATION: REMOVING MALACHITE GREEN WITH DENDRIMER CLAY

AHMED ELHABIRI SID, DENISA-ILEANA NISTOR, DIANA CARMEN MIRILA

C.5. MULTI-OBJECTIVE OPTIMIZATION OF A TEXTILE WASTEWATER TREATMENT IN A SPINNING DISC SYSTEM

EUGENIA IACOB-TUDOSE, MARCELA POPA

C.6. COVER CROPS A SUSTAINABLE STRATEGY IN VITICULTURE

DANIELA IONELA FERȚU, GABI TOPOR, ANCA DANIELA RAICIU, GABRIEL TABARANU, MIHAI TUDOR

C.7. CIRCULAR STRATEGIES AND INNOVATIVE TECHNOLOGIES FOR FOOD WASTE MANAGEMENT: A REVIEW OF SUSTAINABLE SOLUTIONS FOR NUTRIENT RECOVERY

ELENA-DIANA UNGUREANU-COMĂNIȚĂ, RALUCA MARIA ȚĂBULEAC, PAULA SÂNZIANA OPREA, ERSILIA DANIELA COȘBUC, MARIA GAVRILESCU

C.8. THE ECONOMIC IMPACT OF ARTIFICIAL INTELLIGENCE IN ENVIRONMENTAL ENGINEERING AND PROTECTION

ADRIAN MIRCEA BELDUGAN, TUDOR CAMIL, TRAIAN DORDEA, SORIN LUCIAN IONASCU, LUCIAN STANIA

C.9. BIODIVERSITY CONSERVATION IN PROTECTED AREAS IN THE CONTEXT OF ECOTOURISM: A REVIEW OF POLICY STRATEGIES AND MANAGEMENT APPROACHES

RALUCA MARIA ȚĂBULEAC, ELENA-DIANA UNGUREANU-COMĂNIȚĂ, ISABELA MARIA SIMION, MARIA GAVRILESCU



C.10. SPECIATION, MOBILITY, BIOAVAILABILITY AND ECOLOGICAL RISK OF TRACE ELEMENTS IN THE AGRICULTURAL SOILS AROUND THE PHOSPHORITE PLANT IN KPEME (SOUTH TOGO)

KAMILOU OURO-SAMA, HODABALO DHEOULABA SOLITOKÉ, GNON TANOUAYI, NARCIS BARSAN, EMILIAN MOSNEGUTU, FÉGBAWÉ BADANARO, SADIKOU AGBERE, VALENTIN NEDEFF, KISSAO GNANDI

C.11. THE ISO 59000 FAMILY OF STANDARDS - A GLOBAL FRAMEWORK FOR THE TRANSITION TO A CIRCULAR ECONOMY

TZVETELIN GUEORGUIEV, OANA IRIMIA

C.12. APPLICATION OF MICROBIOLOGICAL PREPARATIONS TO REDUCE ENVIRONMENTAL IMPACTS

AURELIA STINGACI, TATIANA SCERBACOVA

C.13. INFLUENCE OF CROP ROTATION AND SOIL FERTILIZATION SYSTEMS ON PRIMARY MACRONUTRIENTS IN AN EXPERIMENTAL FIELD

ALEXANDRA-DANA CHITIMUS, VALENTIN NEDEFF, OANA MUSCALU, ALINA-MIHAELA MOROI, EMILIAN MOSNEGUTU, NARCIS BARSAN, PETRUT AMARIEI

C.14. AIR POLLUTION IN 2 CITIES ALONG THE DANUBE: COMPARATIVE STUDY

SIMONA CONDURACHE-BOTA, ROMANA-MARIA DRASOVEAN, GABRIEL MURARIU, ROMICĂ CREȚU, GICU CONDURACHE-BOTA

C.15. SOME ENVIRONMENTAL STRESS ON PLANTS

ROMANA-MARIA DRASOVEAN, SIMONA CONDURACHE-BOTA, GABRIEL MURARIU, ROMICĂ CREȚU, GEORGE SORIN FRASINA, LUCIAN DINCA

C.16. ADAPTIVE FILTER OPTIMIZATION FOR GROUND OZONE CONCENTRATION FOR DIURNAL VARIATION' INVESTIGATION IN THE SOUTH EASTERN PART OF ROMANIA

GABRIEL MURARIU, ROMANA-MARIA DRASOVEAN, SIMONA CONDURACHE-BOTA, ROMICĂ CREȚU, GEORGE SORIN FRASINA

C.17. INVESTIGATION ON THE INFLUENCE OF ENVIRONMENTAL FACTORS ON CATALASE ACTIVITY IN VARIOUS SOILS

ROMICĂ CREȚU, ROMANA-MARIA DRASOVEAN, SIMONA CONDURACHE-BOTA, GABRIEL MURARIU, VIOREL CALINESCU

C.18. METHODS FOR OPTIMIZING HOUSEHOLD WASTE COLLECTION FROM ECOLOGICAL ISLANDS WITHIN THE MUNICIPALITY OF GALATI

GABRIEL MURARIU, ROMANA-MARIA DRASOVEAN, SIMONA CONDURACHE-BOTA, ROMICĂ CREȚU, VIOREL CALINESCU

C.19. ENVIRONMENTAL STUDY ON TUNNEL EXCAVATION USING A ROADHEADER MACHINE – CASE STUDY: RASS EL MA – AZZABA RAILWAY TUNNEL, ALGERIA

FELLOUH NACEREDDINE, KETFI NOR EL ISLEM, HAFSAOUI, ABDALLAH

C.20. PRELIMINARY MODELING AND OPTIMIZATION STUDY OF A TEXTILE DYE CONTAINING EFFLUENT ADSORPTION STEP ONTO AN ALGAL BIOCHAR-BASED ADSORBENT

CRINUTA-LARISA ORTOVAN, MARIUS-ALEXANDRU AFRASINEI, CARMEN ZAHARIA

C.21. IDENTIFICATION OF THE RESIDUAL WASTE COMPOSITION IN BACAU COUNTY FOR THE YEAR 2023

EMILIAN MOSNEGUTU, CLAUDIA TOMOZEI, GRZEGORZ PRZYDATEK, MIRELA PANAINTE-LEHADUS, FLORIN NEDEFF, DIANA MIRILA, OANA IRIMIA, MĂDĂLINA ROȘU



C.22. PRELIMINARY MODELING AND OPTIMIZATION STUDY OF THE COAGULATION-FLOCCULATION TREATMENT STEP APPLIED FOR TEXTILE EFFLUENTS USING COMMERCIAL HYBRID COMPOSITE MATERIALS

MARIUS-ALEXANDRU AFRASINEI, CARMEN ZAHARIA

C.23. THE INFLUENCE OF THE PARENTAL FACTOR ON THE VALUABLE TRANSGRESSIONS MANIFESTATION IN SEGREGATING TOMATO POPULATIONS

MIHNEA NADEJDA, GALINA LUPASCU

C.24. METHODS TO REDUCE ACRYLAMIDE LEVELS IN BAKERY PRODUCTS

CRISTINA VALENTINA SARION

C.25. TOWARDS A SUSTAINABLE FUTURE: CHALLENGES, STRATEGIES AND GLOBAL PERSPECTIVES

CLAUDIA TOMOZEI, CĂTĂLIN MARIAN PLĂCINTĂ, MIRELA PANAINTE-LEHADUS, OANA IRIMIA, EMILIAN MOȘNEGUTU, VALENTIN NEDEFF, DANA CHITIMUS, NARCIS BARSAN

C.26. EVALUATION OF THE ANTIBACTERIAL EFFECT OF SOME SUBSTANCE USED IN AVICULTURE SECTOR

ANDREI ZAHARIA, VALENTIN NEDEFF, RADU GHIMPU, DUMITRA RADUCANU, ANA-MARIA GEORGESCU, NARCIS BARSAN

C.27. STUDY ON ECO-LABELS FOR TOURISM SERVICES

ANCUTA PAVAL, MIRELA PANAINTE-LEHADUS, CLAUDIA TOMOZEI, OANA IRIMIA, NARCIS BARSAN

C.28. PERFORMANCE OF THE ROADHEADER MACHINE IN UNDERGROUNDS STRUCTURES AND IT'S INFLUENCE ON THE STABILITY OF A ROCK MASS MODELED USING PHASE 02 SOFTWARE, CASE OF STUDY: RAILWAY RASSE-EL-MA, AZZABA, ALGERIA

HAFAOUI ABDALLAH, FELLOUH NACEREDDINE

C.29. PRACTICAL APPROACHES FOR MUNICIPAL SLUDGE DEWATERING USING LABORATORY TECHNIQUES

NARCIS BARSAN, MARIANA TURCU, VALENTIN NEDEFF, GRZEGORZ PRZYDATEK, DANA CHITIMUS, MIRELA PANAINTE-LEHADUS, EMILIAN MOSNEGUTU, CLAUDIA TOMOZEI, DUMITRU-EUGEN LICHE

C.30. EARLY WARNING SYSTEMS AND THE RAPID SHIFT FROM ATMOSPHERIC INSTABILITY TO ARCTIC SURGE: AN APPLIED ANALYSIS OF THE APRIL 2025 COLD WAVE

ADRIAN TIMOFTE, DIANA-CORINA BOSTAN, SORIN BOSTAN, MARIUS-MIHAI CAZACU, FLORIN MARIAN NEDEFF, VALENTIN NEDEFF, MIRELA PANAINTE-LEHADUS, DIANA-CARMEN MIRIL4

C.31. IMPLEMENTATION OF CIRCULAR ECONOMY PRINCIPLES IN THE FIELD OF BUILDING CONSTRUCTION. COMPARATIVE STUDY ROMANIA - NORWAY

OANA IRIMIA, LUCIAN MIHET-POPA, MIRELA PANAINTE-LEHADUS, EMILIAN MOȘNEGUTU, CLAUDIA TOMOZEI

C.32. THE IMPACT OF THE NATIONAL "GREEN WEEK" PROGRAM ON EDUCATION FOR A SUSTAINABLE ENVIRONMENT

DOINA CAPSA

C.33. STUDIES ON THE POSSIBILITY OF USING HYPERSPECTRAL CAMERAS ON DRONES FOR ENVIRONMENTAL MONITORING

IOSIF IOJA, VALENTIN NEDEFF, MARICEL AGOP, FLORIN-MARIAN, NEDEFF

C.34. RESEARCH ON REDUCING WASTEWATER POLLUTION IN RURAL TREATMENT PLANTS THROUGH SUSTAINABLE CHEMICAL SOLUTIONS

ENIKO GASPAR, OANA IRIMIA, BIANCA-ANDREEA CRETU, EMILIAN MOSNEGUTU, NARCIS BARSAN, ALEXANDRA-DANA CHITIMUS, MIRELA STANCIU



C.35. CLAAIR® PHOTOCATALYTIC ASPHALT INNOVATION IN REDUCING THE ECOLOGICAL IMPACT OF ROAD INFRASTRUCTURE

ENIKO GASPAR, OANA IRIMIA, MAGDA-IOANA COMAN, CLAUDIA TOMOZEI, MIRELA PANAINTE-LEHADUȘ, EMILIAN MOSNEGUTU, MIRELA STANCIU¹

C.36. DIVERSITY AND SOCIO-ECONOMIC IMPORTANCE OF EDIBLE INSECTS IN TOGO

FÈGBAWÈ BADANARO, MANAMBOBA MITÉLAMA BALAKA, NARCIS BARSAN, VALENTIN NEDEFF

C.37. ANALYSIS OF 2024 HEAT WAVES IN THE EASTERN PART OF ROMANIA

ALINA-MARIA BUSUIOC, COSMINA APETROAIE

C.38. STUDIES AND RESEARCH ON THE IMPACT OF CLIMATIC FACTORS ON THE QUALITY OF WHEAT IN LONG-TERM STORAGE: ANALYSIS AND PERSPECTIVES

DIANA PETRONELA POETEALEA, EMILIAN MOSNEGUTU, CLAUDIA TOMOZEI, NARCIS BARSAN

C.39. IDENTIFICATION OF THE COMPOSITION OF GROUNDWATER IN THE AREA OF A CLOSED MUNICIPAL WASTE LANDFILL SITE TWO DECADES AFTER ITS CLOSURE TAKING INTO ACCOUNT SELECTED PHYSICO-CHEMICAL AND MICROPLASTICS INDICATORS – A CASE STUDY

GRZEGORZ PRZYDATEK, JÓZEF CIUŁA, NARCIS BARSAN, EMILIAN MOSNEGUTU

C.40. IMPLEMENTATION OF A LOW-COST AIR QUALITY MONITORING SYSTEM USING NEURAL NETWORK FORECASTING MODEL

ELECHI PROMISE

C.41. ASSESSING GEOLOGICAL VS. PURPOSE-BUILT STORAGE SOLUTIONS FOR SAFE RADIOACTIVE WASTE MANAGEMENT

RĂZVAN BOGDAN ITU, ALEXANDRA ȘOICA, ILIE IUCAL, BOGDAN IOAN MARC

C.42. THE ROLE OF ECO-LABELING IN THE CIRCULAR ECONOMY

MIRELA PANAINTE-LEHADUȘ, CLAUDIA TOMOZEI, OANA IRIMIA, ANCUȚA PAVAL, FLORIN MARIAN NEDEFF, DIANA -CARMEN MIRILA

C.43. VR TRAINING FOR ENVIRONMENTAL ENGINEERING: UV WATER DISINFECTION

PETRU-IULIAN GRIGORE, ANDREI ZAHARIA, CORNELIU OCTAVIAN TURCU, NEDEFF, VALENTIN

C.44. ENERGY EFFICIENCY & SUSTAINABLE UTILIZATION OF RESOURCES IN GREEN TRANSITION

LUCIAN MIHET-POPA

C.45. ENERGY PERFORMANCE ANALYSIS OF A PASSIVE SOLAR CHIMNEY VENTILATION SYSTEM IN EASTERN ALGERIA

BELFEGAS BILLAL, TRIRAT TABET, SAIDANI LYAMINE, CHOUAFA MOHAMED, BENABBAS KHALED

C.46. THEORETICAL AND PHYSICAL STUDIES OF A RECTANGULAR COIL ROTATING IN A VARIABLE MAGNETIC FIELD IN SPACE

JEANNOT VELONTSOA, LIVA FALISOA RAFANOTSIMIVA, REMI SARAY RAHARINAIVO, ULRICH MICHAËL MAHAVELONA, ABDALLAH ATTOUMANI, BRIAND KALL

C.47. QUALITY ASSESSMENT OF TREATED WASTEWATER IN A LOCALITY OF PRAHOVA COUNTY

NICOLETA SPOREA, ION DURBACĂ, IULIANA-PETRUȚA TEREKOASĂ, SORIN-ANDREI RADU

C.48. RESEARCH ON THE SOUND-ABSORBING CHARACTERISTICS OF LIGNOCELLULOSIC LAYERED BIO-COMPOSITE STRUCTURES

SORIN ANDREI RADU, ION DURBACĂ, NICOLETA SPOREA, MIHAI ALIN PETRE, IULIANA PETRUȚA TEREKOASA



C.49. ESTIMATING GROUNDWATER LEVEL IN ROMAN CITY AND NORTHERN COUNTIES USING GEOSTATISTICAL METHODS: ORDINARY KRIGING AND SEMIVARIOGRAMS

PETRUT-LIVIU BOGDAN, VALENTIN NEDEFF, NARCIS BARSAN, MIRELA PANAINTE-LEHADUS, DANA CHITIMUS, FLORIN MARIAN NEDEFF, DIANA CARMEN MIRILA, EMILIAN MOSNEGUTU, CLAUDIA TOMOZEI



D. MECHATRONICS & ROBOTICS

BUILDING D HALL BI1

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

CHAIRPERSONS: ASSOC. PROF. PH.D. VLAD-ANDREI CIUBOTARIU
LECTURER PH.D. COSMIN GRIGORAS
LECTURER PH.D. DRAGOS ANDRIOAIA

D.1. BEHAVIORAL SIMULATIONS WITH DIGITAL TWINS AND POSITIONAL LOCATION ERRORS

GABRIEL-ION MANESCU, ANDREI-COSTIN TRASCULESCU, FLORIN-ALEXANDRU DITA, DANIELA COMAN, NICU-GEORGE BIZDOACA

D.2. DEVELOPMENT OF A VERSATILE EDUCATIONAL ROBOT WITH MECANUM LOCOMOTION, ANDROID CONTROL, AND SCRATCH-BUILT LIDAR

HORATIU ROIBU, LIDIA-CRISTINA BAZAVAN, ANDREI ROIBU, NICU-GEORGE BIZDOACA

D.3. INTEGRATING THE NAO ROBOT INTO INTELLIGENT INDUSTRIAL INFRASTRUCTURE _X000B_ FOR REAL-TIME OPERATIONAL ASSISTANCE

OLESEA BOROZAN, VICTOR ABABII, VIORICA SUDACEVSCHI, VIOREL CARBUNE, SILVIA MUNTEANU, ANDREI CLIMA, NICU DRUMEA

D.4. PHOTOLUMINESCENCE AND OPTICAL PROPERTIES OF POLYCRYSTALLINE ZINC OXIDE THIN FILMS

DRAGOS-IOAN RUSU

D.5. DEVELOPMENT OF A COST-EFFICIENT AUTONOMOUS ELECTRIC VEHICLE FOR URBAN ENVIRONMENTS USING SENSOR FUSION AND EDGE AI

ADRIAN-MIRCEA BELDUGAN, CAMIL TUDOR, TRAIAN DORDEA, SORIN-LUCIAN IONASCU, LUCIAN STAINA

D.6. THEORETICAL AND EXPERIMENTAL RESEARCH ON MINIMIZING DEFECTS IN WELDED JOINTS

DANA NECULA, VALENTIN ZICHIL, GRIGORAȘ COSMIN CONSTANTIN, ADRIAN PASCU

D.7. GRIPPER OPTIMIZATION VIA OPTICAL SENSORS AND MACHINE LEARNING

COSMIN-CONSTANTIN GRIGORAS, VLAD-ANDREI CIUBOTARIU, VALENTIN ZICHIL, NICOLAE-CATALIN TAMPU

D.8. MECHANICAL OPTIMIZATION OF REPRAP HELIOS ARM

VLAD-ANDREI CIUBOTARIU, COSMIN CONSTANTIN GRIGORAS, ZICHIL VALENTIN, NICOLAE-CATALIN TAMPU

D.9. 2R1T ROBOTS FOR METAL MACHINING QUALITY ASSESSMENT

NICOLAE-CATALIN TAMPU, VLAD-ANDREI CIUBOTARIU, COSMIN-CONSTANTIN GRIGORAS, VALENTIN ZICHIL

D.10. 1T2R ROBOTIC ARM VIBRATION AND FATIGUE: STRUCTURAL OPTIMIZATION

VALENTIN ZICHIL, COSMIN-CONSTANTIN GRIGORAS, VLAD-ANDREI CIUBOTARIU, NICOLAE-CATALIN TAMPU

D.11. MECHANICAL APPLICATIONS IN MECHATRONICS: A SYNERGISTIC APPROACH TO MODERN ENGINEERING

VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU, COSMIN CONSTANTIN GRIGORAS



D.12. DESIGN AND IMPLEMENTATION OF A HAND GESTURE CONTROLLED HYDRAULIC ACTUATION SYSTEM USING CLOUD REAL-TIME DATABASE FOR REMOTE OPERATION

COSMIN CONSTANTIN GRIGORAS, VALENTIN ZICHIL, MALUREANU CRISTIAN-ROBERT

D.13. TRAJECTORY MAPPING AND KINEMATIC MODELING OF A BI-AXIAL DUAL-HYDRAULIC GRIPPING SYSTEM

COSMIN-CONSTANTIN GRIGORAS, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

D.14. APPLICATION OF CAVE SYSTEMS FOR ROBOTIC MOTION ASSESSMENT IN IMMERSIVE VIRTUAL ENVIRONMENTS

COSMIN-CONSTANTIN GRIGORAȘ, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

D.15. IMAGE-BASED CLASSIFICATION OF STRESS-STRAIN SAMPLES FOR ADAPTIVE CONTROL OF HYDRAULIC SYSTEMS

COSMIN-CONSTANTIN GRIGORAȘ, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

D.16. HEATMAP VISUALIZATION FROM SCRATCH DETECTION MODELS FOR FAILURE PREVENTION IN INDUSTRIAL EQUIPMENT

COSMIN-CONSTANTIN GRIGORAȘ, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

D.17. KINEMATIC MODELING OF A FOUR-PISTON ACTUATION SYSTEM WITH DUAL TRANSLATION AND INDUCED ROTATION

COSMIN-CONSTANTIN GRIGORAȘ, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

D.18. CONTROL METHODOLOGY IN DIRECT DINEMATICS FOR THE MOVEMENT OF THE SAWYER ROBOTIC ARM BY MEANS OF G-CODE INSTRUCTIONS

ANDREI-COSTIN TRASCULESCU, HORATIU ROIBU, STEFAN-IRINEL CISMARU, IONUT-CRISTIAN RESCEANU, FLORINA-LUMINITA PETCU, NICU-GEORGE BIZDOACA

D.19. CHALLENGES AND IMPLICATIONS OF INTEGRATING POST-QUANTUM CRYPTOGRAPHY INTO VEHICULAR SYSTEMS: IMPACT ON MICROCONTROLLER PERFORMANCE AND COSTS

FLORIN-ALEXANDRU DITA, NICU-GEORGE BIZDOACA

D.20. INTEGRATION OF MECHATRONIC SYSTEMS IN VIRTUAL AND AUGMENTED REALITY APPLICATIONS

NICOLAE-CATALIN TAMPU, RALUCA-IOANA TAMPU, COSMIN CONSTANTIN GRIGORAS, VLAD-ANDREI CIUBOTARIU, VALENTIN ZICHIL

D.21. DEEP LEARNING-BASED IMAGE ANALYSIS FOR DETECTION AND CLASSIFICATION OF CORROSION PATTERNS IN ALUMINUM SAMPLES

COSMIN-CONSTANTIN GRIGORAȘ, VALENTIN ZICHIL, ANA-MARIA ROȘU, VLAD-ANDREI CIUBOTARIU

D.22. DESIGN AND IMPLEMENTATION OF AN AUTOMATED PLATFORM FOR LONG-TERM CORROSION MONITORING IN ALUMINUM ALLOYS

COSMIN-CONSTANTIN GRIGORAȘ, ANA-MARIA ROȘU, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU



E. ECONOMIC ENGINEERING

BUILDING D HALL BI1

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

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**CHAIRPERSONS: ASSOC. PROF. PH.D. CATALIN DROB
ASSOC. PROF. PH.D. LAURA CATALINA TIMIRAS
LECTURER PH.D. IOAN PLEȘCĂU**

E.1. HUMAN RESOURCES AND PERFORMANCE MANAGEMENT IN ROMANIAN SMES

DUMITRU RADU STANCIU

E.2. DIGITIZATION AND THE IMPACT OF ARTIFICIAL INTELLIGENCE ON THE IT FIELD IN CLUJ-NAPOCA

FLORIN LUNGU, NARCISA OLTEAN

E.3. STUDY ON THE ANALYSIS OF THE PRODUCTIVITY AND ENERGY CONSUMPTION OF A HOT-ROLLED PIPE PRODUCTION SECTION IN A MULTINATIONAL COMPANY

FLORIN LUNGU, RAZVAN TAMASAN

E.4. THE ECONOMIC IMPACT OF ARTIFICIAL INTELLIGENCE INTEGRATION IN ROMANIA'S MECHANICAL INDUSTRY: PRODUCTIVITY GAINS, JOB DISPLACEMENT, AND WORKFORCE RESKILLING

COSMIN GRIGORAS, VALENTIN ZICHIL, IOANA PLESCAU, CATALIN DROB

E.5. THE INFLUENCE OF ICT ADOPTION ON THE FIRMS' PERFORMANCE: EVIDENCE FROM ROMANIA

IOANA PLESCAU, CATALIN DROB, VALENTIN ZICHIL, COSMIN GRIGORAS, GABRIELA MIHALACHIOAE

E.6. USING THE NET CORRECTED ASSET (NCA) METHOD IN SUSTAINABILITY AND GROWTH POTENTIAL PREDICTION FOR COMPANIES

VALENTIN ZICHIL, GABRIELA MIHALACHIOAE, COSMIN GRIGORAS, IOANA PLESCAU, CATALIN DROB

E.7. THE EFFECT OF CONSUMPTION AND INVESTMENT ON ECONOMIC GROWTH IN ROMANIA

CATALIN DROB, VALENTIN ZICHIL, IOANA PLESCAU

E.8. TRENDS IN THE MARKETING RESEARCH MARKET IN THE DIGITAL ERA

LAURA CATALIN TIMIRAS, LUMIŢA IULIA ZAIȚ, BOGDAN VASILE NICHIFOR

E.9. ENERGY TRANSITION INVESTMENTS AND INDUSTRIAL COMPETITIVENESS IN CENTRAL AND EASTERN EUROPE: IMPLICATIONS FOR ECONOMIC ENGINEERING

BOGDAN VASILE NICHIFOR, LUMIŢA IULIA ZAIȚ, LAURA CATALINA TIMIRAS

E.10. BRIDGING BUSINESS ADMINISTRATION AND IP LAW IN DIGITAL TRANSFORMATION: A COMPARATIVE EU STUDY ON INNOVATION AND SUSTAINABILITY

LIVIANA ANDREEA NIMINEȚ, ANDREEA FERARU PREPELIȚĂ

E.11. ETHICS AND CORPORATE SOCIAL RESPONSIBILITY IN EUROPEAN SUSTAINABLE BUSINESSES

ANDREEA FERARU PREPELIȚĂ, LIVIANA ANDREEA NIMINEȚ



E.12. THE IMPACT OF STOCK EXCHANGE DEVELOPMENT ON ECONOMIC GROWTH IN ROMANIA

CATALIN DROB, VALENTIN ZICHIL, IOANA PLESCAU

E.13. AI-DRIVEN ECONOMIC INSIGHTS INTO ENERGY RESOURCE CONSUMPTION: A REVIEW STUDY

CATALIN TAMPU, RALUCA IOANA TAMPU, CATALIN DROB, IOANA PLESCAU

E.14. LIFESPAN EVALUATION UNDER CYCLIC LOADING: AN ECONOMIC PERSPECTIVE

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E.15. RESILIENCE THROUGH ENGINEERING AND MANAGEMENT: SUSTAINABLE INNOVATION FOR A CHANGING WORLD

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E.16. LOGISTICS IN OIL WELL DRILLING

CLAUDIA NICULAE

E.17. THE EFFICIENCY OF MANAGEMENT IN EU-FUNDED PROJECTS: CHALLENGES AND LESSONS IN THE CONTEXT OF FUND ABSORPTION IN ROMANIA

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E.18. THE ADAPTABILITY OF ROMANIAN SMES TO ECONOMIC VOLATILITY: MANAGERIAL APPROACHES AND SUSTAINABLE PERSPECTIVES

GABRIELA OPREA, CATALIN POPESCU



F. CHEMICAL & FOOD ENGINEERING

BUILDING D HALL DP18

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

**CHAIRPERSONS: PROF. PH.D. ALIONA GHENDOV-MOSANU
PROF. PH.D. CONSTANTIN APETREI
PROF. PH.D. MARIA TURTOI**

F.1. EFFECTS OF FERTILIZERS/BIOSTIMULANTS DERIVED FROM MARINE RESIDUES ON PLANT GROWTH AND DEVELOPMENT

ANDREEA ALINA NICHITOI, OANA CRISTINA PÂRVULESCU, VIOLETA ALEXANDRA ION, TĂNASE DOBRE, ANNE-KRISTIN LØES, JOSHUA CABELL, ATHANASIOS SALIFOLOU, CARLOS OCTAVIO LETELIER-GORDO

F.2. EFFECTS OF BIOCHAR DERIVED FROM VINE RESIDUES ON PLANT GROWTH

SUZANA IOANA CALCAN, OANA CRISTINA PÂRVULESCU, VIOLETA ALEXANDRA ION, TĂNASE DOBRE

F.3. THE EFFECT OF INORGANIC SALTS ON THE PERTRACTION OF ASPARTAME THROUGH BULK LIQUID MEMBRANES

ROXANA SÂNZIANA JIDVEIAN, IOANA DIACONU, OANA CRISTINA PÂRVULESCU

F.4. ADVANCED SYNTHESIS OF SULFONYL-SUBSTITUTED PYRROLEFUSED (ISO) QUINOLINE DERIVATIVES

FLORENTINA GABRIELA LAZĂR, ASHRAF AL-MATARNEH, CRISTINA M. AL-MATARNEH

F.5. CHEMICAL CROSSROADS: DOEBNER REACTION AND ITS DIVERGING PATHS

CRISTINA M. AL-MATARNEH, ALINA NICOLESCU, MIHAELA SILION

F.6. NEW PYRROLO-1,10-PHENANTHROLINE DERIVATIVES: SYNTHESIS, REARRANGEMENTS AND STRUCTURAL CHARACTERIZATION

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F.7. VALORIZATION OF AGRO-WASTE FROM APRICOT AND PLUM KERNELS: FATTY ACID PROFILE AND THERMAL BEHAVIOR OF COLD-PRESSED OILS

MIHAELA SILION, DANIELA IONIȚĂ, CONSTANTIN GĂINĂ, MARIANA CRISTEA

F.8. RESEARCH ON THE USE OF DEPROTEINISED WHEY IN BEER PRODUCTION

ELENA RAMONA HUBER, ADRIANA DABIJA

F.9. APPLICATIONS OF UNCONVENTIONAL STARTER CULTURES OF MICROORGANISMS IN THE BAKERY PRODUCTS

CRISTIAN MITITIUC, IONUȚ AVRĂMIA, ADRIANA DABIJA

F.10. PLUMS AS FUNCTIONAL INGREDIENTS IN BAKERY PRODUCTS: NUTRITIONAL AND TECHNOLOGICAL STUDIES

MARIANA SLAVIC, AMELIA BUCULEI, ADRIANA DABIJA

F.11. DETECTION OF IBUPROFEN FROM PHARMACEUTICALS USING A SENSOR BASED ON SINGLE WALLED CARBON NANOTUBES

RALUCA-ANA MĂGHINICI, CONSTANTIN APETREI



F.12. SENSITIVE DETECTION OF DOPAMINE IN PHARMACEUTICAL PRODUCTS USING ELECTROCHEMICAL SENSORS BASED ON GRAPHENE DERIVATIVES

ANDREEA-LOREDANA COMĂNESCU, CONSTANTIN APETREI

F.13. ELECTROANALYSIS OF GINKGO BILOBA BASED PRODUCTS AND CORRELATION OF THE ELECTROCHEMICAL DATA WITH THE ANTIOXIDANT PROPERTIES

ANDREI-DANIEL GEMAN, CONSTANTIN APETREI

F.14. DETECTION AND QUANTIFICATION OF FE(II) IN FOOD SUPPLEMENTS BY USING A SCREEN-PRINTED GOLD ELECTRODE

ANDRA-GEORGIANA TRIFAN, CONSTANTIN APETREI

F.15. GLASSY CARBON ELECTRODE MODIFIED WITH COBALT(II) PHTHALOCYANINE FOR THE DETECTION OF ANTIOXIDANTS

IRINA-MIRELA APETREI, CONSTANTIN APETREI

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ANA-RALUCA MĂGHINICI, ALEXANDRA-VIRGINIA BOUNEGRU, CONSTANTIN APETREI

F.17. PALLADIUM PARTICLES BASED ELECTROCHEMICAL SENSORS FOR THE SENSITIVE DETECTION OF PHENYLBUTAZONE

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F.19. THE MILLERANDAGE - ONE OF THE GRAPEVINE CULTIVATION CHALLENGES IN THE CLIMATE CHANGE CONTEXT

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ALEXANDRA TOMA

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ANNA BUSUIOC, BIANCA FURDUI1, ANDREEA VERONICA BOTEZATU, RODICA MIHAELA DINICĂ, GETA CÂRÂC, MARIANA LUPOAE

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ANA-MARIA MOCANU, ANDREEA VERONICA BOTEZATU-DEDIU, ALEXANDRA MARIANA IONESCU, MARIA DANIELA IONICA (MIHAILA), COSTEL VANATORU, BIANCA FURDUI, RODICA MIHAELA DINICA

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NICOLETA PLATON, VASILICA-ALISA ARUȘ, ILEANA-DENISA NISTOR

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RALUCA-FLORENTA DIACONESCU (DOROFTEI), DIANA-CARMEN MIRILA, ANA-MARIA ROSU, ANA-MARIA GEORGESCU, ILEANA-DENISA NISTOR

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ELENA-MIRELA SUCEVEANU, LĂCRĂMIOARA RUSU

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ELENA-MIRELA SUCEVEANU, IRINA-LOREDANA IFRIM

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ANDREEA HORTOLOMEU (LUNCANU), ANA-MARIA ROSU, ANA-MARIA GEORGESCU, GABRIELA MUNTIANU, ILEANA-DENISA NISTOR, DIANA-CARMEN MIRILA

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ANDREEA GEORGIANA ROȘCAN, IRINA-LOREDANA IFRIM, OANA-IRINA PATRICIU, ADRIANA-LUMINIȚA FÎNARU

F.97. QUANTIFICATION OF ASCORBIC ACID IN PHYTOPREPARATIONS AND PHARMACEUTICAL PRODUCTS USING VOLUMETRIC AND SPECTROPHOTO-METRIC METHODS

ANCUȚA IACOB, MARIA CIOROI

F.98. RESEARCH ON THE DEVELOPMENT OF FUNCTIONAL MEAT-BASED PRODUCTS

ROXANA-GEORGIANA BOBEICA

F.99. DEVELOPMENT OF FUNCTIONAL MEAT PRODUCTS BY REPLACING PORK FAT WITH OLEOGEL AND BUCKWHEAT FLOUR

ROXANA-GEORGIANA BOBEICA

F.100. MEASUREMENT OF THE LIQUID DIFFUSION COEFFICIENT IN FINE-GRAINED MATERIALS

EUGENIA IACOB-TUDOSE, MARCELA POPA

F.101. RETENTION AND CATALYTIC DEGRADATION OF 2,4,6-TRINITROTOLUENE USING SYNTHESIZED ORGANOCCLAYS

RALUCA-FLORENTA DIACONESCU (DOROFTEI), DIANA CARMEN MIRILĂ, ANA-MARIA ROSU, ANA-MARIA GEORGESCU, GABRIELA MUNTIANU, ILEANA-DENISA NISTOR

F.102. SINGLE AND CO-EXPOSURE TOXIC EFFECTS OF TWO TYPES OF PHARMACEUTICALS ON DANIO RERIO EMBRYOS, USING ENVIRONMENTAL RELEVANT CONCENTRATIONS

IONUȚ-ALEXANDRU CHELARU, DOREL URECHE, RAMONA-ALEXANDRA CIAUSU, ANDREI GABRIEL ANDRONIC, ALIN STELIAN CIOBICA, MIRCEA NICUSOR NICOARA

F.103. CAN VITAMIN C MITIGATE THE TOXICITY CAUSED BY LEAD ACETATE? CASE STUDY USING THE MODEL ORGANISM DANIO RERIO

IONUȚ-ALEXANDRU CHELARU, DOREL URECHE, RAMONA-ALEXANDRA CIAUSU, ANDREI GABRIEL ANDRONIC, ALIN STELIAN CIOBICA, MIRCEA NICUSOR NICOARA

F.104. DEVELOPMENT OF A FLUORESCENCE ANISOTROPY ASSAY TO MONITOR TAU PROTEIN FIBRILLATION

DUPONT CÉCILE, BOUCHERLE BENJAMIN, PEUCHMAUR MARINE, CHIERICI SABINE

F.105. NEW ELECTROCHEMICAL DEVICES FOR DETECTION OF PESTICIDES IN SURFACE WATER

ANCUȚA IACOB, ALEXANDRA VIRGINIA BOUNEGRU

F.106. SOUTH-EASTERN ROMANIA'S RED WINES A POTENTIAL VALUABLE ENOTHERAPY RESOURCES

DANIELA IONELA FERȚU, GABI TOPOR, ANCA DANIELA RAICIU, NECULAI-LIVIU PONOR, MIHAI TUDOR

F.107. QUALITY EVALUATION OF A FUNCTIONAL YOGURT ENRICHED WITH GRAPE POMACE POWDER

VASILICA-ALISA ARUȘ, NICOLETA PLATON, NICOLETA VARTOLOMEI, GHEORGHÎȚA JINESCU, ILEANA-DENISA NISTOR

F.108. THE INFLUENCE OF THE EXTRACTION CONDITIONS ON THE ACTIVE COMPONENTS FROM SOME BY-PRODUCTS OF BLACK CHOKEBERRY (ARONIA MELANOCARPA)

IONUȚ AVĂTĂMĂNIȚEI, OANA-IRINA PATRICIU, IRINA-LOREDANA IFRIM, CRISTINA-GABRIELA GRIGORAȘ, ADRIANA-LUMINIȚA FÎNARU

F.109. LOCAL AND GLOBAL HYDRODYNAMICS IN A COUNTER-CURRENT BUBBLE COLUMN

ADIB ESSID, JEAN-PIERRE FONTAINE, ALINA-VIOLETA URSU, CHRISTOPHE VIAL



F.110. DRIVING INNOVATION IN ENERGY AND CHEMICAL ENGINEERING: FROM ELECTROCHEMICAL SYSTEMS TO ADVANCED PHOTOREACTORS

FABRICE GROS

F.111. OPTIMIZING SOLID-LIQUID SEPARATION AND ELECTROCOAGULATION FOR EFFICIENT TREATMENT OF DIGESTATE EFFLUENTS FROM BIOGAS PLANT

ALEXANDRE LE MEVEL, ALINA-VIOLETA URSU, CHRISTOPHE VIAL, YANN FASCHINETTI, PIERRE FONTANILLE

F.112. AN INVESTIGATION INTO THE APPLICATIONS OF PHASE CHANGE MATERIALS

MARIUS VASILE BÂRDAN, FAVIER LIDIA, LACRAMIOARA RUSU, EUGENIA TEODORA IACOB-TUDOSE, MARIA HARJA

F.113. HIGH-TEMPERATURE PLASMA & HYDROGEN-POWERED GASIFICATION EQUIPMENT FOR RENEWABLES PRODUCTION

MARIA-OANA AGAVRILOAIE, IULIAN CUCOȘ, LACRAMIOARA RUSU, MARIA HARJA



G. INDUSTRIAL POWER ENGINEERING & COMPUTER SCIENCE

BUILDING D HALL DP17

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

**CHAIRPERSONS: PROF. PH.D. RÓBERT ISTÓK
PROF. PH.D. GRIGOR MIHAYLOV
ASSOC. PROF. PH.D. VEACESLAV SPRINCEAN**

G.1. CORRELATIONS BETWEEN OPTICAL, STRUCTURAL AND MORPHOLOGICAL PROPERTIES OF ZNO THIN FILMS OBTAINED BY THERMALLY OXIDIZED METALLIC ZINC FILMS

DRAGOS-IOAN RUSU

G.2. TECHNICAL AND ERGONOMIC ASPECTS REGARDING THE IMPLEMENTATION OF A COMPUTER NETWORK IN NON-FORMAL EDUCATION LABORATORIES

TATIANA VALEA, PETRE VALEA

G.3. INCREASING THE ENERGY EFFICIENCY OF A POWER TRANSFORMATION AND DISTRIBUTION STATION

SORIN-GABRIEL VERNICA, ROXANA-MARGARETA GRIGORE, IOAN-VIOREL BANU, IOANA-MĂDĂLINA BARBU

G.4. 5G MOBILE NETWORKS: ESSENCE AND SECURITY

GRIGOR MIHAYLOV

G.5. COMPARATIVE EVALUATION OF THE EFFICIENCY AND ENERGY CONSUMPTION OF DOMESTIC CONVENTIONAL AND CONDENSING WALL-MOUNTED BOILERS

ROXANA MARGARETA GRIGORE, SORIN GABRIEL VERNICA, IOAN VIOREL BANU, SORIN EUGEN POPA, IOANA MADALINA BARBU, CATALIN PALADIE

G.6. STUDIES ON THE RISKS THAT ARTIFICIAL INTELLIGENCE MAY NOT ALWAYS GIVE HONEST ANSWERS OR USE LEGAL METHODS

GEORGE CULEA, DRAGOȘ ALEXANDRU ANDRIOAIA, ANDREI ENACHI, VASILE-VALENTIN TICU

G.7. AN ARTIFICIAL NEURAL NETWORK OPTIMAL PREDICTION MODEL FOR HAND STRENGTH

CĂTĂLINA MIHAELA CULEA

G.8. SMART CONTROL SYSTEM OF PAID PARKING PLACES

GEORGE CULEA, DRAGOȘ-ALEXANDRU ANDRIOAIA, ANDREI ENACHI, ALEXANDRA CALARA

G.9. LEARNING ERGONOMIC PRELIMINARY STUDY: THE IMPACT OF DIGITAL DEVICE CONFIGURATION ON STUDENT'S PERFORMANCE

CĂTĂLINA MIHAELA CULEA

G.10. ANALYSIS OF ROBOTS THAT CAN BE USED IN EDUCATION

ANDRIOAIA DRAGOS-ALEXANDRU, ANTAL ALEXANDRA-VERONICA, CALARA ALEXANDRA, PETRARU MIHAI-ALEXANDRU

G.11. OPTIMAL OPERATION CONTROL STRATEGY OF A HYDROELECTRIC DAM TO MAXIMIZE THE REVENUE GENERATED

IOAN VIOREL BANU, FADILA BARKAT, JOSEP M. GUERRERO, ROXANA GRIGORE, SORIN-GABRIEL VERNICA



G.12. REAL-TIME SIGN LANGUAGE INTERPRETATION: INTEGRATING GESTURE RECOGNITION WITH SYNTACTIC ANALYSIS

ANDREI ENACHI, CORNELIU TURCU, GEORGE CULEA, BOGDAN-CONSTANTIN SGHERA, ANDREI-GABRIEL UNGUREANU

G.13. ANALYSIS OF A RANKINE CYCLE UTILIZING HEAT RESULTING FROM THE COMBUSTION OF RESIDUAL HYDROGEN

VALENTIN-COSTEL RIZEA, MADALINA BARBU

G.14. DESIGN AND MANUFACTURING OF THE POWER QUALITY MEASURING SYSTEM ARDUVIEW

NECULAI NANU, GEORGE PANAIT, MADALINA BARBU

G.15. APRIORI AND PHYSTECH: NEW SOLUTIONS FOR RESILIENCE ASSESSMENT AND MODELING

VEACESLAV SPRINCEAN, MARIANNA SAVVA, FLORENTIN PALADI

G.16. COMPARATIVE ANALYSIS OF CLASSIFICATION ALGORITHMS FOR ROMANIAN TEXT PROCESSING: SVM, RANDOM FOREST, AND BERT

ANDREI-GABRIEL UNGUREANU, BOGDAN-CONSTANTIN SGHERA, GEORGE CULEA, ANDREI ENACHI

G.17. EVOLUTION OF HUMAN ACTIVITY RECOGNITION ALGORITHMS: TRANSFORMER MODELS, GRAPH NETWORKS, AND SELF-SUPERVISED TECHNIQUES

BOGDAN-CONSTANTIN SGHERA, ANDREI-GABRIEL UNGUREANU, GEORGE CULEA, ANDREI ENACHI

G.18. EFFECT OF INTELLIGENT LIGHTING ON CIRCADIAN RHYTHM

RÓBERT ISTÓK

G.19. DESIGN, SIMULATION AND CONSTRUCTION OF A MOBILE WITH A PNEUMATIC PROPULSION SYSTEM CONTROLLED BY A PROGRAMMABLE CONTROLLER

PETRU GABRIEL PUIU, DRAGOS ALEXANDRU ANDRIOAIA, IOAN VIOREL BANU

G.20. DEVELOPMENT OF A INTERACTIVE PLATFORM TO STUDYING AND EVALUATING THE PERFORMANCE OF PHOTOVOLTAIC PANELS

SORIN EUGEN POPA

G.21. ESTIMATION OF THE POWER CONVERSION CAPACITY OF A SMALL WIND TURBINE SITTING AS A DISTRIBUTED GENERATOR

CRISTIAN NICHITA, EZZEDINE TOUTI, GEORGE CULEA

G.22. INTELLIGENT SYSTEMS FOR PRECISION AGRICULTURE: A COMPARATIVE STUDY OF MACHINE LEARNING APPROACHES

MIHAI-BOGDAN STAN

G.23. A PEFT-OPTIMIZED LANGUAGE MODEL FOR CURRICULUM ALIGNMENT AND EDUCATIONAL COHERENCE

MAXIM KAPUSTEANSKI, NICU DRUMEA

G.24. AUTOMATIC VOLTAGE REGULATION OF AN AUTONOMOUS THREE-PHASE SYNCHRONOUS GENERATOR

PETRU LIVINTI, IOAN VIOREL BANU, IONEL PETRICA ROȘU

G.25. STUDIES ON THE ANALYSIS OF THE PERFORMANCE OF SMALL PHOTOVOLTAIC PANELS

SORIN EUGEN POPA, ROXANA MARGARETA GRIGORE

G.26. PERFORMANCE EVALUATION OF A HYBRID SOLAR ENERGY SYSTEM IMPLEMENTED IN A KINDERGARTEN

MADALINA BARBU, DIANA BAN, MONICA SIROUX



G.27. RESEARCH ON ELECTRIC VEHICLES CHARGING STATIONS ANOMALIES

FADILA BARKAT, JOSEP M. GUERRERO, IOAN VIOREL BANU

G.28. INNOVATIVE RESEARCH ON TRANSPORTATION USING TRUCKS AND DRONES

SORIN CONEA, VALER NIMINET

G.29. USING MIXED REALITY TO GUIDE STUDENTS IN LEARNING AUTOMOTIVE ENGINEERING

COSMIN TOMOZEI, IULIAN FURDU

G.30. IMPLEMENTING MACHINE LEARNING TECHNOLOGIES FOR LEVEL 3 AUTONOMOUS VEHICLES

IULIAN FURDU, COSMIN TOMOZEI

G.31. ENGINEERING OPTIMIZATION OF PARAMETRIC DIGITAL ASSESSMENT IN MATHEMATICS USING STACK AND SYMBOLIC COMPUTATION

GABRIELA CRISTINA BRĂNOAEA

G.32. IMPROVING THE OWN TECHNOLOGICAL CONSUMPTION OF A POWER STATION

VASILE BERNEVIC, PAULA GRETA VRINCEANU, IOAN VIOREL BANU¹

G.33. MODELING AND TESTING WIND TURBINES IN MATLAB/SIMULINK

EDUARD NICOLAE NECHITA, IOAN VIOREL BANU

G.34. FEASIBILITY STUDY AND RISK ANALYSIS FOR A 50 MW WIND POWER PLANT IN CONSTANTA VS. BACĂU

NICOLETA-GEORGIANA PETREA, CATALIN-MIHAI DINU, IOAN VIOREL BANU

G.35. RESEARCH ON GRID-CONNECTED PHOTOVOLTAIC SYSTEMS

GABOR, FLORIN-VINCENTIU, PAULA GRETA VRINCEANU, IOAN VIOREL BANU

G.36. STUDY ON THE PARALLEL OPERATION OF GDTM TYPE ELECTRIC TRACTION MOTORS ON DIESEL-ELECTRIC LOCOMOTIVES USED ON THE RAILWAY NETWORK IN ROMANIA

DANIEL APOSTOL

G.37. SMART HOME SECURE ACCESS

CORNEL POPESCU

G.38 THERMODYNAMIC AND ENVIRONMENTAL ASSESSMENT OF HYDROGEN-NATURAL GAS BLENDS IN INDUSTRIAL GAS TURBINE COGENERATION SYSTEMS

ROXANA MARGARETA GRIGORE, SORIN GABRIEL VERNICA, ION RAGALIE, PAULA GRETA VRÂNCEANU, ȘTEFANA ARSENI

G.39. BEHAVIOR OF WIND POWER PLANTS WITH TYPE 4 WIND TURBINES DURING GRID FAULTS

IOAN VIOREL BANU, RAZVAN BENIUGA

G.40. MULTI-OBJECTIVE VRP WITH TIME-CONSTRAINED OPTIMIZATION

CEZAR-MARIAN PAPARĂ

G.41. TEMPORAL FAIRNESS IN ADAPTIVE ALGORITHMS CONTEXT

CLAUDIU-CRISTIAN BUTNARU

G.42. 2->A2, A HACK FOR ARDUINO EXAMPLES (WHEN HW-262 IS USED)¹

DAN POPA

¹ Last minute paper



H. FRACTURE MECHANICS

BUILDING D HALL D131

THURSDAY 22 MAY 2025 15⁰⁰ – 18⁰⁰

FRIDAY 23 MAY 2025 09⁰⁰ – 11⁰⁰

**CHAIRPERSONS: PROF. PH.D. ADRIAN-MARIUS PASCU
PROF. PH.D. DANIEL-MIREL DUMITRESCU
ASSOC. PROF. PH.D. ALIN DINITA**

H.1. STUDY ON THE INFLUENCE OF CONSTRUCTION PLAN ON THE COMPRESSION BEHAVIOR OF ADDITIVELY MANUFACTURED ASA SPECIMENS

DRAGOS-GABRIEL ZISOPOL, MIHAIL MINESCU, DRAGOȘ-VALENTIN IACOB

H.2. ELEMENTS ON THE ELASTIC VIBRATION BEHAVIOUR OF A TRAMPOLINE IN GYMNASTICS

DANIEL-MIREL DUMITRESCU, GHEORGHE VOICU, NICOLAIE ORASANU, IRINA-AURA ISTRATE, GABRIEL-ALEXANDRU CONSTANTIN

H.3. GRAPHIC SIMULATION AND DETERMINATION OF THE FRACTURE STRENGTH OF STEEL PIPES USED IN NATURAL GAS DISTRIBUTION UNDER THE INFLUENCE OF RIGID BODIES INVOLUNTARILY EXISTING IN THE TRENCHES

STEFAN-MIHAI FILIP, VALENTIN OLESIK, EUGEN AVRIGEAN

H.4. FATIGUE OPTIMIZATION OF AMBULANCE HINGES: MATERIALS AND GEOMETRY

VLAD-ANDREI-CIUBOTARIU, VALENTIN ZICHIL, COSMIN-CONSTANTIN GRIGORAS

H.5. EXPERIMENTAL AND NUMERICAL STUDY OF THE TENSILE BEHAVIOR OF PA6-GF30 UNDER VARIOUS ENVIRONMENTAL CONDITIONS

OLIVIA-LAURA PETRASCU, NICOLAE STEFANOAEA, ADRIAN-MARIUS PASCU

H.6. POSSIBILITIES TO IDENTIFY CRACKS IN STEEL PLATES USING VIBRATION ANALYSIS

VALENTIN ZICHIL, COSMIN-CONSTANTIN GRIGORAS, VLAD-ANDREI CIUBOTARIU

H.7. COMPARATIVE ANALYSIS OF MECHANICAL RESPONSE IN ALUMINUM ALLOYS UNDER TENSILE LOADING: EFFECTS OF SCRATCHES AND FATIGUE PRECONDITIONING

COSMIN-CONSTANTIN GRIGORAS, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

H.8. THE INFLUENCE OF TRIAXIALITY AND LODE ANGLE ON DEFORMATION IN FRACTURE

VALENTIN ZICHIL, COSMIN-CONSTANTIN GRIGORAS, VLAD-ANDREI CIUBOTARIU

H.9. IMPACT ANALYSIS OF THE 20X102 MM FRANGIBLE ARMOUR PIERCING PROJECTILE WITH MULTILAYER ARMOR PLATES

MIHAELA BADEA, DRAGOS-GABRIEL ZISOPOL, VASILE NASTASESCU, ANTON HADAR

H.10. IMPACT OF MULTIDIRECTIONAL SCRATCHES AND INDUCED FATIGUE ON THE MECHANICAL RESPONSE OF AEROSPACE-GRADE ALUMINUM ALLOYS

COSMIN-CONSTANTIN GRIGORAS, VALENTIN ZICHIL, VLAD-ANDREI CIUBOTARIU

H.11. ANALYTICAL, NUMERICAL AND EXPERIMENTAL OF COMPOSITE MATERIALS USED TO REPAIR PIPELINE

ALIN DINITA, IBRAHIM RAMADAN, MIHAIL MINESCU

H.12. APPLICATION OF CRACK INITIATION AND PROPAGATION MODELS USING THE FINITE ELEMENT METHOD TO EVALUATE THE FRACTURE TOUGHNESS OF THE CANDU PRESSURE TUBE

VASILE RADU, ALEXANDRA JINGA, LIVIA STOICA, ALEXANDRU NITU



H.13. EVALUATION OF THE IMPACT OF DEFECTS ON THE FAILURE OF PE100 POLYETHYLENE PIPES

IOANA-DANIELA MANU, MARIUS-GABRIEL PETRESCU

H.14. EVALUATION OF THE EFFECT OF ACCIDENTAL DEFECTS ON THE MECHANICAL CHARACTERISTICS OF PE100 POLYETHYLENE PIPES

IOANA-DANIELA MANU, MARIUS-GABRIEL PETRESCU

H.15. EFFECTS OF CORROSION ON THE TENSILE PROPERTIES OF ALUMINUM ALLOYS 6061-T4 AND 7075-T0

VALENTIN ZICHIL, COSMIN-CONSTANTIN GRIGORAS, ANA-MARIA ROSU, VLAD-ANDREI CIUBOTARIU



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