



# TEHNONAV

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**THE 7<sup>TH</sup> INTERNATIONAL  
SCIENTIFIC CONFERENCE  
ON NAVAL, MECHANICAL, INDUSTRIAL  
AND POWER ENGINEERING**

ORGANIZED BY

**MECHANICAL, INDUSTRIAL AND MARITIME  
ENGINEERING FACULTY**

*“OVIDIUS” UNIVERSITY OF CONSTANTA*

## PROGRAMME

CONSTANTA,  
20-22 MAY 2010



## TEHNONAV 2010

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- **Lecturer Constantin Ilie**

Mechanical, Industrial and Maritime Faculty, Romania

# Conference Programme

## Thursday, 20 May

Participants Welcome

19:00        Cocktail at the Ovidius University of Constanta

## Friday, 21 May

8:30-9:30    Participants Registration

9:30-10:00 **Official opening** of the Conference - Room Conference Hall

10:00-10:30 **Plenary Presentations**\*)

*MONSSON ALMA* – “Realizari si perspective in domeniul energiilor regenerabile in Dobrogea”- Director ing. Radu Munteanu

10:30-11:00 Coffee Break

11:00-15:00 **Sections Presentations**\*)

Section 1: Room P7

Section 2: Room Conference Hall

Section 3: Room S32

Section 4: Room Amphitheatre

15:00-16:00 Lunch Break

17:30        Constanta Tour

19:30        Dinner

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\*) The oral presentations should not exceed 12 minutes (10 minutes for each presentation + 2 minutes for discussions). Please report to the section chairman with at least 10 minutes before.

**Saturday, 22 May**

9:30-10:00 Coffee

10:00-12:00

**TEHNONAV JUNIOR**

Students presentation



The conference is organized with the generous contribution of:

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**ECONOMICA**



**SECTION I**  
**MECHANICAL AND INDUSTRIAL ENGINEERING**  
Room P-7

**SECTION COMMITTEE:**

Prof. Elena SCUTELNICU, PhD, “Dunarea de Jos” University of Galati  
Prof. Ionel NICOLAE, PhD, “Ovidius” University of Constanta  
Prof. Emil CONSTANTIN, PhD, “Ovidius” University of Constanta  
Assoc.Prof. Melat BORMAMBET, PhD, “Ovidius” University of Constanta  
Assoc.Prof. Erol CARJALI, PhD, “Ovidius” University of Constanta  
Lecturer Daniel VISAN, PhD, “Dunarea de Jos” University of Galati  
*Secretary:* Lecturer Angela BOGACIOV, “Ovidius” University of Constanta

**SECTION II**  
**SHIP AND OFFSHORE ENGINEERING**  
Room Conference Hall

**SECTION COMMITTEE:**

Prof. Leonard DOMNIȘORU, PhD, “Dunarea de Jos” University of Galati  
Prof. Vergil CHIȚAC, PhD, “Mircea cel Batran” Naval Academy of Constanta  
Assoc.Prof. Mihaela-Greti CHIȚU, PhD, “Ovidius” University of Constanta  
Lecturer Bogdan Viorel RĂDOIU, PhD “Ovidius” University of Constanta  
*Secretary:* Lecturer Alexandru PINTILIE, PhD, “Ovidius” University of Constanta

**SECTION III**  
**POWER ENGINEERING**  
Room S-32

**SECTION COMMITTEE:**

Prof. Bordea Nicolae, PhD, Maritime University of Constanta  
Prof. Panait Tănase, PhD, “Dunarea de Jos” University of Galati  
Lecturer Cosmin BUCUR, PhD, “Ovidius” University of Constanta  
Eng. Alexa MIHAI, PhD, Science Research Center for Tehnical Marine of Constanta  
*Secretary:* Assist. Liviu Mateescu, “Ovidius” University of Constanta

**SECTION IV**  
**MANAGEMENT AND QUALITY MANAGEMENT**  
Room Amphitheatre

SECTION COMMITTEE:

Prof. Corneliu NEAGU, PhD, Politehnica University, Bucharest

Prof. Mihael CHIRCOR, PhD, “Ovidius” University of Constanta

Assoc.Prof. Lucia-Violeta MELNIC, PhD, “Ovidius” University of Constanta

*Secretary*: Lecturer Constantin ILIE “Ovidius” University of Constanta

## SECTION I MECHANICAL AND INDUSTRIAL ENGINEERING

Room P-7

**Hour 11:00-15:00**

**Chairman: Prof Ph. D. Eng Elena SCUTELNICU**

**Chairman: Lecturer Ph. D. Eng. Daniel VISAN**

1.1.	<b>RESEARCHES UPON THE CAVITATION PHENOMENON OF THE AXIAL PUMPS</b> Beazit ALI, Vedat COSKUN, Ionel POPA
1.2.	<b>ROOT-PASS WELD QUALITY AT MAG MECHANIZED WELDING IN VERTICAL UP POSITION PF IN NAVAL FIELD</b> Octavian FRINCU, Danut MIHAILESCU, Iuliana M. ZBURLEA
1.3.	<b>EXPERIMENTAL INVESTIGATION COMBINED WITH ANALYTICAL CALCULUS FOR ORTHOTROPIC MATERIALS MECHANICAL BEHAVIOURS EVALUATION</b> Botond GÁLFI, Ioan SZÁVA, András KAKUCS, Katalin HARANGUS
1.4.	<b>VIDEO IMAGE CORRELATION-ONE USEFUL TOOL IN THE ORTHOTROPIC MATERIALS' DISPLACEMENT FIELD EVALUATION</b> Botond GÁLFI, András KAKUCS, Lajos BORBÁS, József SZALAI Katalin HARANGUS
1.5.	<b>MATHEMATICAL MODELLING OF AN ANISOTROPIC ELASTIC BODY CONTAINING TWO ELLIPTICAL HOLES</b> Eduard-Marius CRACIUN
1.6.	<b>EXPERIMENTAL INVESTIGATION OF THE ROLLING FRICTION COEFFICIENT EVALUATION</b> Holger HOȚA, Șerban BOBANCU, Ioan SZÁVA
1.7.	<b>C-SN LOW FRICTION COATINGS FOR TRIBOLOGICAL APLICATIONS</b> Viorel IONESCU, Cristian P. LUNGU, Mariana OSIAC, Victor CIUPINA
1.8.	<b>HARDNESS VICKERS HV 10 MODIFICATIONS AT HYPERBARIC PF-POSITION DRY WELDING</b> Danut MIHAILESCU, Emil CONSTANTIN, Bogdan GEORGESCU, Victor BELCIN
1.9.	<b>RESIDUAL STRESSES AND DEFORMATIONS IN BUTT WELDED JOINTS</b> Octavian Mircea, Elena Scutelnicu, Dan Catalin Birsan, Carmen Catalina Rusu
1.10.	<b>STUDY TO OBTAIN THE OPTIMAL STRUCTURE OF CAST STEEL PARTS RECONDITIONED BY WELDING</b> Gheorghe NOVAC, Mariana Neli NOVAC, Adriana ZARA
1.11.	<b>THE DEGREE OF CRUSH INFLUENCE ON THE SPECIFIC SURFACE AND THE PRODUCTIVITYOF CRUSH OPERATIONS</b> Gheorghe NOVAC, Mariana Neli NOVAC, Adriana ZARA
1.12.	<b>THE INFLUENCE OF GRANULOMETRIC COMPOSITION AND OF CRITICAL GRANULATION ON VOLUMETRIC EFFICIENCY CLASSING</b> Mariana Neli NOVAC, Gheorghe NOVAC, Emilian ENE
1.13.	<b>DESIGN AND OPTIMIZATION OF A PHOTOVOLTAIC SYSTEM WITH TRACKING MECHANISM</b> Nicoleta-Irina TATU, Cătălin ALEXANDRU
1.14.	<b>THE INFLUENCE OF ELECTROMAGNETIC AGITATION ON ELECTROSLAG WELDING</b> Daniel VIȘAN, Gabriel NENIȚĂ, Luigi MISTODIE, Melat BORMAMBET
1.15.	<b>WIG MANUAL WELDING FOR PIPES OF HEAT RESISTANT STEEL TYPE 15MO3 MARK</b> Iuliana M. ZBURLEA, Danut MIHAILESCU, Octavian FRINCU
1.16.	<b>WIG MANUAL AND MECHANIZED WELDING OF HEAT RESISTANT STEEL PIPES 10CRM09-10 MARK</b> Iuliana M. ZBURLEA, Danut MIHAILESCU, Octavian FRINCU

1.17.	<b><i>STUDIES AND EXPERIMENTAL RESEARCH ON CORRELATION LINEAR ENERGY AND COOLING TIME <math>t_{8/5}</math> WITH HARDNESS IN HAZ OF WELDED JOINTS OF AUSTENITIC STAINLESS STEELS</i></b> Melat BORMAMBET
1.18.	<b><i>CONSIDERATIONS REGARDING THE DURABILITY OF THE GROOVED WHEELS TOOTH FLANKS FROM CYLINDRICAL GEARINGS</i></b> Erol CĂRJALI
1.19.	<b><i>CONTRIBUTIONS ON HYDRAULIC EFFICIENCY ENHANCEMENT OF PELTON TURBINES</i></b> Ion GRAMA, Angela BOGACIOV, Elena-Rita AVRAM
1.20.	<b><i>AUTOMATIC HYDRAULIC SYSTEM SUPPLIED BY VARIABLE DISPLACEMENT PUMPS</i></b> Ionel NICOLAE

**SECTION II**  
**SHIP AND OFFSHORE ENGINEERING**  
Room Conference Hall

**Hour 11:00-15:00**

**Chairman: Prof.PhD.Eng. Leonard DOMNIŞORU**

2.1	<b>NUMERICAL ANALYSIS OF SHEET CAVITATION FOR TWO DIMENSIONAL HYDROFOILS</b> Serkan EKİNCİ, Yasemin ARIKAN, Fahri ÇELİK
2.2	<b>ASSESSMENT OF THE RESPONSE TO WHOLE BODY VIBRATION ON THE MECHANICS OF ENGINE ROOM IN A PUSH/TUG BOAT</b> Mihaela PICU, Silviu NASTAC
2.3	<b>A CONCEPT FERRY DESIGN FOR ISTANBUL SEAWAY TRANSPORT</b> Bekir ŞENER, Tamer YILMAZ
2.4	<b>A BULK CARRIER HATCH BLOCK ANALYSIS WITH FINITE ELEMENT METHOD</b> Serdar Turgut INCE, Ozgur DEMIR, Seyfettin BAYRAKTAR, Tamer YILMAZ
2.5	<b>CONSIDERATIONS ON THE INFLUENCE OF VARIABLE COMPRESSION RATIO ON THE PROCESSES OF NAVAL ENGINES</b> Vergil CHITAC, Marian RISTEA, Adrian POPA
2.6	<b>A SHORT ANALYSIS ABOUT THE SLAMMING IMPACT OVER A BULBOUS BOW</b> Vergil CHITAC, Adrian POPA , Marian RISTEA
2.7	<b>STRENGTH ANALYSIS OF A SUBMERGED VEHICLE WITH DOUBLE-SHELL STRUCTURE</b> Leonard DOMNIŞORU
2.8	<b>RESISTANCE PREDICTION OF A HIGH SPEED CRAFT BY USING CFD</b> Sadık ÖZÜM, Bekir ŞENER, Kaan ÜNLÜGENÇOĞLU
2.9	<b>WATER RESISTANCE FORCE – PIVOT POINT</b> Paul D. BUTUŞINĂ, Dumitru DINU
2.10	<b>ORIGINAL METHOD TO ESTABLISH THE CHARACTERISTICS OF SMALL SPAN WINGS, USED ON HYDROFOIL</b> Beazit ALLI, Ionel POPA
2.11	<b>FUEL CONSUMPTION REDUCTION METHODS IN MARITIME NAVIGATION</b> <i>Mar.Off. Mircea Maracineanu</i>
2.12	<b>SELECTION OF SHIP'S SYSTEMS FOR WASTE HEAT UTILIZATION</b> Vladimir A. YORDANOV
2.13	<b>VACUUM SHIP'S SYSTEM WITH JETS UNIT FOR SEWAGE COLLECTION</b> Vladimir A. YORDANOV- Nikola I. PETROV
2.14	<b>ANALYSIS OF A CONTAINER TERMINAL PERFORMANCE PARAMETERS USING COMPUTER SIMULATION</b> Ionuţ-Dumitru GUMENI
2.15	<b>INSTRUMENTAL AIR COOLING DRYING INSTALLATION FOR SHIPS</b> Valeriu DAMIAN, Cristian IOSIFESCU, Gelu COMAN
2.16	<b>ANALYSIS OF ACTIVE COMPENSATION OPPORTUNITIES OF THE LOAD'S BALANCE IN THE HOOK CAUSED BY SHIP ROLLING, USING THE TILTING ARMS SYSTEM OF THE SHIP CRANES</b> Mircea ALĂMOREANU, Mirela COTRUMBA
2.17	<b>THE PRESSURE SURGE – AN UNCONTROLLED PIPE SYSTEMS RISK</b> Teodor POPA, Mihaela-Greti CHIŢU
2.18	<b>RATIONAL DESIGN OF BULK CARRIER</b> Alexandru A. PINTILIE
2.19	<b>THE OPPORTUNITY TO DEVELOP FLOATING TERMINALS</b> Violeta POPESCU, Hazel MENADIL

**SECTION III  
POWER ENGINEERING**

Room S-32

**Hour 11:00-13:00**

**Chairman: Prof. Ph. D. Eng. Nicolae BORDEA**

3.1	<b><i>CONTRIBUTIONS TO THE HYDRODYNAMIC PROCESSES CONTROL SYSTEM FOR MULTI-PHASE FLUID</i></b> Marian DORDESCU, Alin Romeo TRIFAN
3.2	<b><i>GEOMETRY AND NUMERICAL MODELING OF 3D TURBINE STAGE. PART I. MODELING FEATURES</i></b> ILIEVA Ilieva Galina
3.3	<b><i>GEOMETRY AND NUMERICAL MODELING OF 3D TURBINE STAGE. PART II. RESULTS</i></b> ILIEVA Ilieva Galina
3.4	<b><i>DETERMINING THE OVERALL COEFFICIENT OF THERMAL INSULATION – AN IMPORTANT PART IN INCREASING THE ENERGY PERFORMANCE OF BUILDINGS</i></b> Lucian GHEORGHE, Carmen GHEORGHE
3.5	<b><i>ENERGY ANALYSIS OF THE PROCESSES OF COMBUSTION CHAMBERS</i></b> Tănase PANAIT, Krisztina UZUNEAN, Marcel DRĂGAN, Gheorghe CIOCEA, Elena STRATULAT
3.6	<b><i>IMPLEMENTATION OF SENSORS ONLINE MONITORING SYSTEM ON A NUCLEAR POWER PLANT</i></b> Cosmin M. BUCUR
3.7	<b><i>THE EXPRESSION OF UNCERTAINTY AND CONFIDENCE ESTIMATION IN MEASUREMENTS APPLIED IN THE FIELD OF SENSOR MONITORING</i></b> Liviu MATEESCU, Cosmin BUCUR

**SECTION IV**  
**MANAGEMENT AND QUALITY MANAGEMENT**  
 Room - Amphitheatre

**Hour 11:00-15:00**

**Chairman: Prof.PhD.Eng. Corneliu NEAGU**

4.1.	<b>MANAGEMENT OF RISK FACTORS IN UNCONTROLLED BURNING</b> Barbu Nicolae, Police County Inspectorate of Constanta
4.2.	<b>ISO/IEC 27001:2005 STANDARD REQUIREMENTS FOR INFORMATION SYSTEMS OUTSOURCING</b> Constantin MILITARU, Drd.ing. Daniel COSTIN
4.3.	<b>BUSINESS CONTINUITY MANAGEMENT TOWARDS ISO/IEC 27001:2005 ACCREDITATION OF AN INFORMATION SECURITY MANAGEMENT SYSTEM</b> Constantin MILITARU, Drd.ing. Daniel COSTIN
4.4.	<b>KNOWLEDGE AND QUALITY MANAGEMENT IN UNIVERSITIES</b> Alexandra Nita, Gabriel Raicu
4.5.	<b>INTERNATIONAL CODE OF SAFETY MANAGEMENT – AN INTEGRAL PART OF THE SHIPPING INDUSTRY</b> Corina Popescu, Anastasia Varsami
4.6.	<b>SOME CLARIFICATION CONCURING THE CERTIFICATION OF ENERGETICAL AUDITORS FOR BUILDINGS AND INSTALLATIONS</b> Gheorghe Lucian
4.7.	<b>AN OVERVIEW ON THE BASIC PRINCIPLES OF INDUSTRIAL DESIGN OPTIMIZATION GUIDED BY FUNCTIONAL ANALYSIS</b> Mihaela LUPEANU, Corneliu NEAGU, Alina NEACȘU, Lucia MELNIC.
4.8.	<b>MODERN METHODS USED IN PRODUCT DEVELOPMENT</b> Alina NEACȘU, Corneliu NEAGU, Mihaela LUPEANU, Lucia MELNIC.
4.9.	<b>QUALITY MANAGEMENT IN THE SHIPBUILDING SECTOR</b> Kaan UNLUGENCOGLU, Sadik OZUM, S. Hakan GOKSOY
4.10.	<b>THE USE OF FUNCTIONAL ANALYSIS OF PRODUCTS IN CONCEPTION THE FIXTURES</b> Ion UNGUREANU, Vasile Bogdan UNGUREANU
4.11.	<b>WIND FLOW ANALYSIS AROUND A CHEMICAL FACTORY BY USING CFD</b> Bekir SENER, Yavuz H. OZDEMIR, Gulay Z. GEDIK, Tamer YILMAZ
4.12.	<b>PREVISION RESEARCH OF USA RETAIL AND FOOD SERVICES SALES USING ARTIFICIAL NEURAL NETWORK TECHNIQUES</b> Constantin ILIE, Margareta ILIE
4.13.	<b>NEW ELEMENTS REGARDING THE EVALUATION AND THE QUALITY CONTROL MANAGEMENT OF THE PUBLIC SECTOR</b> Ing. Ciolac C. Ruxandra
4.14.	<b>THE LEVEL OF INVESTMENT AND ITS IMPACT ON BUSINESS</b> Ana-Maria TOPALU, Emil MILITARU, Alin ABDEL-RAHIM
4.15.	<b>STATISTICAL ASPECTS OF SUSTAINABILITY OF INDUSTRIAL PRODUCTS</b> Ana-Maria TOPALU, Emil MILITARU, Alin ABDEL-RAHIM

## AUTHOR LIST – TEHNONAV 2010

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### Radu MUNTEANU, Plenary Presentation

ABDEL-RAHIM Ali, IV	ENE Emilian , I	NOVAC Gheorghe, I.
ALĂMOREANU Mircea , II	FRINCU Octavian, I	NOVAC Mariana Neli, I.
ALEXANDRU Cătălin, I	GÁLFI Botond, I	OSIAC Mariana, I
ALI Beazit, I, II	GEDIK Gulay, IV	OZDEMIR Yavuz, IV
ARIKAN Yasemin , II	GEORGESCU Bogdan, I	OZUM Sadık, IV, II
AVRAM Elena-Rita, I	GHEORGHE Carmen, III	PANAIT Tanase, III
BARBU Nicolae, IV	GHEORGHE Lucian, III, IV	PETROV Nikola, II
BAYRAKTAR Seyfettin , II	GOKSOY Hakan, IV	PICU Mihaela, II
BELCIN Victor, I	GRAMA Ion, I	PINTILIE Alexandru, II
BÎRSAN Dan Catalin, I	GUMENI Ionuț Dumitru, II	POPA Adrian, II
BOBANCU Șerban, I	HARANGUS Katalin, I	POPA Ionel, II, I
BOGACIOV Angela, I	HOȚA Holger, I	POPA Teodor, II
BORBÁS Lajos, I	ILIE Constantin, IV	POPESCU Corina, IV
BORMAMBET Melat, I	ILIE Margareta, IV	POPESCU Violeta, II
BUCUR Cosmin, III	ILIEVA Galina , III	RAICU Gabriel, IV
BUTUȘINĂ Paul, II	INCE Serdar Turgut, II	RISTEA Marian, II
CÂRJALI Erol, I	IONESCU Viorel , I	RUSU Carmen Catalina, I
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CHITAC Vergil, II	KAKUCS András, I	STRATULAT Elena, III
CHIȚU Mihaela Greti, II	LUNGU Cristian, I	SZALAI József, I
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CIUPINA Victor, I	MĂRĂCINEANU Mircea, II	ȘINDILĂ Gheorghe, IV
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DINU Dumitru, II	NEACȘU Alina, IV	VIȘAN Daniel, I
DOMINIȘORU Leonard, II	NEAGU Corneliu, IV	YILMAZ Tamer, II
DORDESCU Marian, III	NENIȚĂ Gabriel, I	YORDANOV Vladimir, II
DRAGAN Marcel, III	NICOLAE Ionel, I	ZARA Adriana, I.
EKİNCİ Serkan , II	NIȚĂ Alexandra, IV	ZBURLEA Iuliana, I

# NOTES

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