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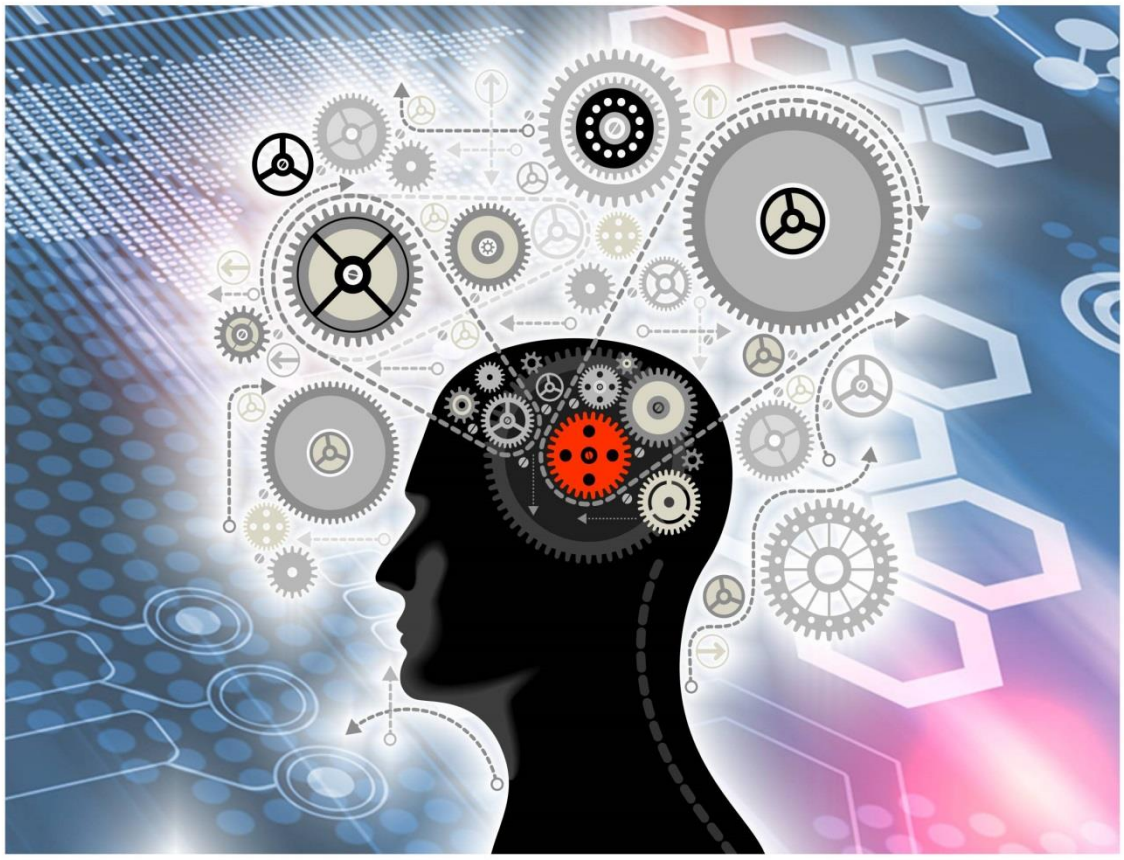

RESEARCH AND INNOVATION EXHIBITION

Second Edition

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UGAL INVENT

7 – 9 October 2015

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CONCEPT SI PRODUCTIE PUBLICITARA

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INVENTION CATEGORY
Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy

Invention Registration FORM

Company Name/ Institution:	Technical University of Moldova
Address:	168, Stefan cel Mare Blvd., MD-2004, Chisinau, Republic of Moldova
Phone:	+(373)69155312
Fax:	+(373)22509940
Invention title:	**FRUITS AND VEGETABLES DRYER USING ENERGY SOURCE BASED ON AGRICULTURAL WASTES.**
Authors:	Mircea Bernic, Vasile Cartofeanu, Mihai Balan, Vitalie Vişanu
Patent no.:	MD 935 Y 2015.07.31
Contact person	Mircea Bernic
E-mail:	mirceabernic@gmail.com
Description of the invention:	The project provides the development and implementation of a fruit and vegetables tunnel dryer that will use as a source of heat, the energy obtained from burning pellets and agricultural wastes. After implementation expected results: • Export extension by obtaining a high quality product, competitive on European market; • Fossil energy sources import reduction as well as energetic security and environment protection assurance; • Dryers maintenance and reparation costs reduction; • New working places creation for the country.
Image/photo:	

Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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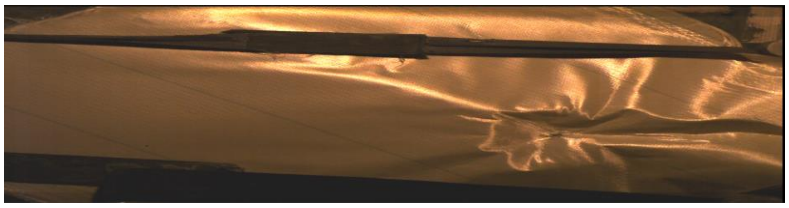
Invention Registration FORM

Company Name/ Institution:	"JOB" ASOCIATION
Address:	Galati, str. Domneasca, nr.60
Phone:	0768 021 628
Fax:	
Invention title:	**PROPELLING GROUP FOR BOATS AND VEHICLES**
Authors:	Romeo Frigioiu
Patent no.:	121844
Contact person	Danut Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention consists in achieving a modular propelling system for moving on water and on land, which is simple, robust, reliable, efficient and adaptable to any vehicle.
Image/photo:	
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galati National Institute for Aerospace Research Elie Carafoli INCAS Bucharest Scientific Research Center for CBRN Defense and Ecology, Bucharest, Stimpex SA Bucharest
Address:	47 Domnească, Galați, 800008, România
Phone:	0040 336 130 262
Fax:	0040 236 461 353
Invention title:	**STRATIFIED FLEXIBLE BALLISTIC PLATE**
Authors:	Cătălin Pîrvu, Lorena Deleanu, Corneliu Stanciu, Simona Badea, Claudiu Lăzăroaie, Marcel Istrate
Patent no.:	-
Contact person	Cătălin Pîrvu, Lorena Deleanu
E-mail:	catalin.pirvu@ugal.ro, lorena.deleanu@ugal.ro
Description of the invention:	The ballistic package is meant for individual protection (II & IIa). The initial testing carried out after the presented procedure in Ballistic Resistance of Personal Body Armor NIJ Standard – 0101.04 had good results for a certain number of SB1 layers (Tejin Company). Statistically, the depth of the mark left in the support-ballistic clay is smaller than the one imposed for this type of individual protection
Image/photo:	
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Institute of Microbiology and Biotechnology of Academy of Sciences of Moldova Institute of Genetics, Physiology and Plant Protection of Academy of Sciences of Moldova
Address:	str. Academiei 1, MD 2028, Chisinau, Republic of Moldova
Phone:	tel: +373-22-739824, +373-22- 725754
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Invention title:	**STRAIN OF MICELIAL FUNGUS *FUSARIUM GIBBOSUM* CNMN FD 12 – SOURCE OF HYDROLYTIC ENZYMES**
Authors:	Alexandra Deseatnic-Ciloci, Janetta Tiurin, Steliana Clapco, Galina Lupaşcu, Svetlana Labliuc, Maria Stratan, Elena Dvornina, Elena Saşco
Patent no.:	MD 4186, 2012
Contact person	CILOCI Alexandra, PhD, associate professor, 1, Academiei Street, Chisinau MD 2028, Republic of Moldova;(373 22)73 98 24
E-mail:	alexandra.ciloci@gmail.com
Description of the invention:	Invention refers to development of new fungal strain *Fusarium gibbosum* CNMN FD 12, characterized by the ability to synthesize increased amount of multi-enzyme complex of hydrolases: acid and neutral proteases, xylanases and β-glucosidases, which determines high synergistic action of different profile enzymes and substrates, thus contributes to extension of application fields and provides technological efficiency of strain enzyme preparations. The technical result is the obtaining of hydrolytic enzyme complex with large spectrum of action, able to perform simultaneous hydrolysis of protein molecules and structural polysaccharides from vegetable matter.
Image/photo:	
Invention category:	1 Industrial procedures

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Institute of Microbiology and Biotechnology of Academy of Sciences of Moldova Institute of Chemistry of Academy of Sciences of Moldova
Address:	1, Academiei Street, Chisinau MD 2028, Republic of Moldova 3, Academiei Street, Chisinau MD 2028, Republic of Moldova
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Fax:	
Invention title:	**NUTRIENT MEDIUM FOR CULTIVATION OF FUNGAL STRAIN *FUSARIUM GIBBOSUM* CNMN FD 12 – PRODUCER OF PROTEASES, XYLANASES AND B-GLUCOSIDASES**
Authors:	Alexandra Deseatnic-Ciloci, Janetta Tiurin, Olga Bologa, Eduard Coropceanu, Steliana Clapco, Maria Stratan, Svetlana Labliuc, Elena Dvornina, Cezara Bivol, Valeriu Rudic, Ion Bulhac
Patent no.:	Patent MD 4234, 2013
Contact person	CILOCI Alexandra, PhD, associate professor, 1, Academiei Street, Chisinau MD 2028, Republic of Moldova;(373 22)73 98 24
E-mail:	alexandra.ciloci@gmail.com
Description of the invention:	The essence of invention is elaboration of new nutrient medium for submerged cultivation of fungal strain *Fusarium gibbosum* CNMN FD 12 – producer of proteases, xylanases and β-glucosidases, which in addition to proximate components of the medium contains as stimulator coordination compound of Co (III) with dioxime and fluorinated anions $[Co(DH)_2 \cdot (Thio)_2]F[PF_6] \cdot nH_2O$*. The technical result of invention consists in reduction of producer *Fusarium gibbosum* CNMN FD 12 growing term with 24 hours and in increase of neutral proteases biosynthesis with 56.36-58.92%, with the maintenance of enzymatic activity of other components (acid proteases, xylanases, β-glucosidases) synthesized by strain.
Image/photo:	
Invention category:	Industrial procedures

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	str. Academiei 1, MD 2028, Chisinau, Republic of Moldova
Phone:	+373-22-739824, +373-22- 725754
Fax:	
Invention title:	**STRAIN OF *TRICHODERMA KONINGII* OUDEMANS FUNGI - PRODUCER OF ACID, NEUTRAL AND ALKALINE PROTEASES**
Authors:	A. Deseatnic-Ciloci, J. Tiurina, C. Bivol, S. Clapco, S. Labliuc, E. Dvornina, M. Stratan,
Patent no.:	MD 4285. 2014-
Contact person	Alexandra CILOCI, PhD, associate professor, 1, Academiei Street, Chisinau MD 2028, Republic of Moldova;(373 22)73 98 24
E-mail:	alexandra.ciloci@gmail.com
Description of the invention:	Invention refers to development of new mycelial fungal strain *Trichoderma koningii* Oudemans CNMN FD 15 that in submerged culture synthesizes a complex of acid (pH-3,6), neutral (pH 7,4) and alkaline (pH 9,0) proteases with high enzymatic activity and, in considerable amounts, acid-labile (pH 4,7) and acid-stable (pH 2,5) α-amylase Unique fungal enzyme complex ensures effective hydrolysis of protein and polysaccharides from vegetable and animal matter.
Image/photo:	
Invention category:	**Industrial procedures**

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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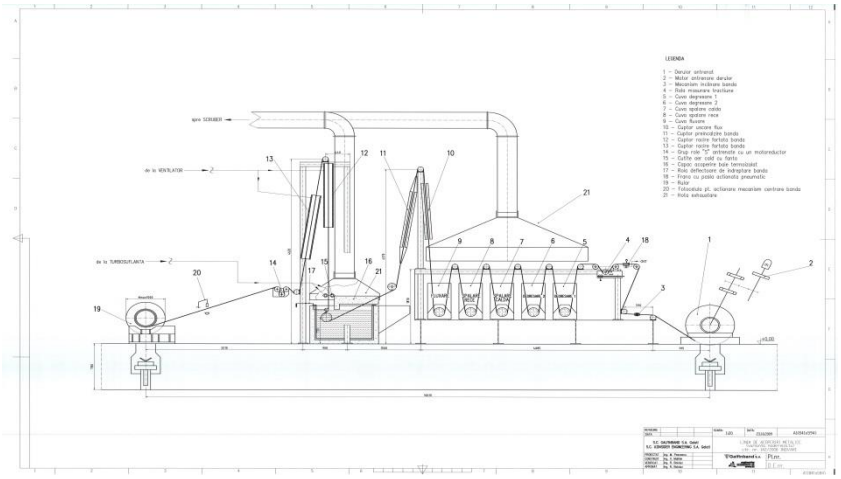
Company Name/ Institution:	Institute of Microbiology and Biotechnology of Academy of Sciences of Moldova
Address:	str. Academiei 1, MD 2028, Chisinau, Republic of Moldova
Phone:	+373-22-739824, +373-22- 725754
Fax:	
Invention title:	**THE METHOD OF OBTAINING AN ENZYME PREPARATION OF B-GLUCOSIDASE WITH THE USE OF THE MICROMYCETE STRAIN *ASPERGILLUS NIGER***
Authors:	Alexandra Deseatnic-Ciloci, Janetta Tiurina, Steliana Clapco, Svetlana Labliuc, Cezara Bivol, Elena Dvornina, Maria Grumeza
Patent no.:	No. of the application: a 2014 0079; Filing date of the application: 2014.08.01, Patent: MD 4072, 2010
Contact person	CILOCI Alexandra, PhD, associate professor, 1, Academiei Street, Chisinau MD 2028, Republic of Moldova;(373 22)73 98 24
E-mail:	alexandra.ciloci@gmail.com
Description of the invention:	The invention relates to a process of obtaining a hydrolytic enzymatic preparation with high β-glucosidasic activity that increase with 5.6-6.3 times the prototype level and consists in: - submerged cultivation of *Aspergillus niger* CNMN FD 10 micromycete strain; - acidification of the filtrate of cultural liquid to pH value 3.0; - cold sedimentation (at 4-5°C) of the enzyme complex from cultural liquid with rectified ethanol; the ratio of the cultural liquid and ethanol is 1:2.
Image/photo:	
Invention category:	Industrial procedures

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Galfinband SA
Address:	2A Calea Smârdan Street
Phone:	0236 833 101
Fax:	0236 449 777
Invention title:	**THERMAL GALVANIZING PROCEDURE OF THIN COLD ROLLED STEEL TAPES**
Authors:	Cristinel Eni, Tamara Radu, Maria Vlad, Florentina Potecașu, Ștefan Ciuta, Mitu Mihăiță Coman
Patent no.:	127103
Contact person	General Director: Mihai Branză
E-mail:	office@galfinband.ro
Description of the invention:	The invention refers to an efficient covering procedure by thermally galvanizing very thin cold rolled steel tapes, with a composite type material with a zinc matrix, obtained by micro-alloying with tin, bismuth and nickel, in view of increasing resistance to corrosion. The technical characteristics of the proposed procedure, as compared to the ones already known are the following: • Obtaining a composite structure in situ, consisting of a zinc matrix with uniform distribution of globular particles of intermetallic composites formed between Ni and the other micro-alloy elements, which determines the increase of the layer's deformation capacity, resistance to increased wear, continuity and compactness of the protection layer; • Increased resistance to corrosion associated with a special appearance; • Obtaining a very thin layer of very fine Fe-Zn inter-metallic composites, which ensures a high adherence; • Increase of the melt fluidity which allows adjusting layer thickness.

Image/photo:	
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	University „Dunărea de Jos" of Galați
Address:	47, Domnească Str., 800008, Galati, România
Phone:	-
Fax:	Fax: (+40) 236 46.13.53
Invention title:	**MULTIFUNCTION ELEMENT WITH SELF-ADAPTIVE AXIAL MOVEMENT MADE OF A SHAPE MEMORY FE-MN-SI-CR ALLOY**
Authors:	L. G. Bujoreanu, G. Gurau, I. Dan, C. Stirbu, R. I. Comaneci, N. M. Lohan, B. Pricop, A. L. Paraschiv, M. G. Suru, C. Gurau
Patent no.:	RO129876-A2
Contact person	Conf.dr.ing. Gheorghe Gurău
E-mail:	gheorghe.gurau@ugal.ro
Description of the invention:	The invention relates to a multifunctional element of superelastic type with restrained recovery, obtained from a shape memory alloy based on Fe-Mn-Si, which may be used for the control, movement compensation and axial loading in mechanical assemblies subjected to wear, such as the axles or supporting shafts with radial-axial bearings. According to the invention, the multifunctional element is made of an alloy with Fe - 28, Mn - 6, Si - 5 and Cr, expressed as mass percentage, obtained by severe plastic deformation of the high pressure torsion type, it has the shape of a frustum of a cone with a height (h0), a thickness (g), a small diameter (d), a large diameter (D), a conicity = 5 degrees , a hardness gradient on the exterior conical surface which increases from the area of the small diameter (d) towards the area of the large diameter (D), the multifunctional element also presenting, besides the effect of shape memory with restrained recovery, a behaviour of superelastic type
Image/photo:	-
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	University „Dunărea de Jos" of Galați
Address:	47, Domnească Str. 800008, Galati, România
Phone:	0722383282
Fax:	-
Research theme:	**DAMPING CHARACTERISTICS ESTIMATION OF THE MAGNETORHEOLOGICAL ELASTOMERS**
Authors:	Prof.dr.ing. Ionel Chirică, PhD. student Petrică-Eduard Chirilă, Conf.dr.ing. Doina Boazu, Conf.dr.ing. Elena-Felicia Beznea
Contact person:	Prof.dr.ing. Ionel Chirică
E-mail:	ionel.chirica@ugal.ro
Description of the research:	The research work addresses the study of the damping characteristics estimation and behaviour of the magnetorheological elastomers (MREs). This type of material actively changes his size, structure, or visco-elastic properties as a response to the external actions. The particular composite materials whose modulus of elasticity can vary in magnetic fields are known as smart materials. The driving force causing the variation of elastic modulus in magnetic fields is explained by a qualitative model based upon polarized particles which change form by energy absorbing. Damping is a special characteristic that influences the vibratory systems and has the effect of reducing, restricting or preventing its amplitudes by dissipating the energy stored in the vibration. In the mechanical vibrations this property is named viscous drag. The main characteristic that is based on the determination of the damping coefficient is the energy loss, which is the subject of the present paper. The MRE specimen has been manufactured and tested under the light conditions (non magnetic field). The experimental test rig was built to investigate the response of the MRE specimens under the charging force. The experimental results show that the loss energy of the MRE specimen can be determined from the charging-discharging curves versus displacement. The results of the one case of MRE specimen are presented in this paper: MRE with feromagnetic particles not exposed in magnetic field during fabrication. The viscoelastic parameter (Loss factor) determined after testing, 0.18, is a promising value.

Image/photo:

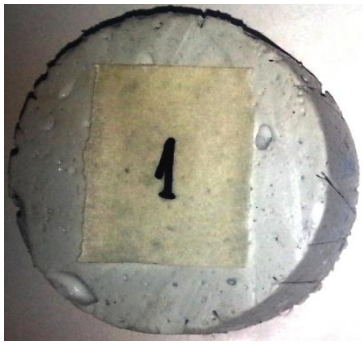


Figure 1: MRE Specimen

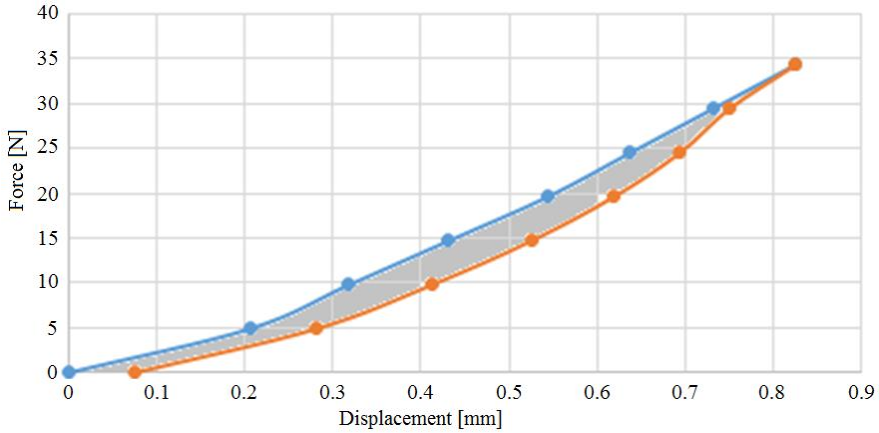


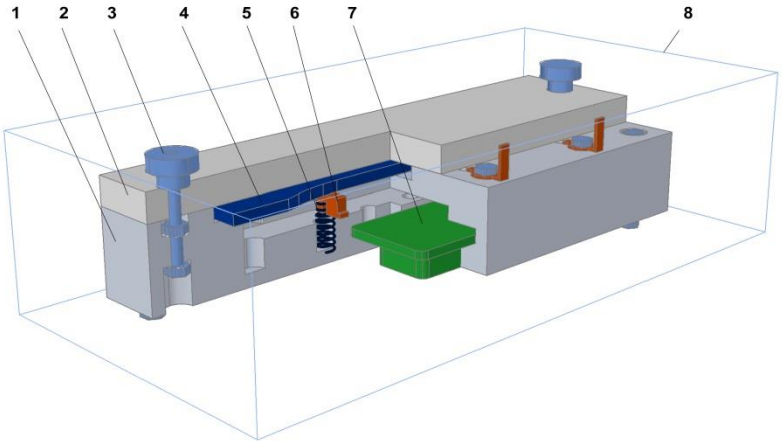
Figure 2: Curves of MRE specimen charging-discharging

Research category: 1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galați,
Address:	47. Domnească, Galați 800008
Phone:	0724241004
Fax:	-
Invention title:	**ACTIVE CELL FOR MEASURING THE ELECTRIC RESISTANCE OF NANOSTRUCTURED POLYMERIC COMPOSITES**
Authors:	Răzvan–Tudor Roșculeț, Cătălin Fetecău, Felicia Stan, Ionuț–Laurențiu Sandu, Radu Belea
Patent no.:	Nr. CBI la OSIM: A/00674/21.09.2015
Contact person	Răzvan–Tudor Roșculeț
E-mail:	razvan.rosculet@ugal.ro
Description of the invention:	The invention consists in a device presented as an active cell which allows the measurement of the electric volume resistivity and conductivity of polymeric composites reinforced with carbon nano-tubes. The invention is destined both for checking the quality of industrially produced polymeric nano-composites and for research in the field of materials sciences. The technical problem solved by the invention consists in proposing a constructive active cell solution which allows measurement throughout the electrical resistivity field of the nano-structured polymeric composites, with tensions lower than 10V applied on samples, without the measurement being affected by the electric and electromagnetic disturbances of the environment. Moreover, the invention allows the use of the same samples in traction, bending, extrusion or fatigue mechanical testing. The active cell for electric resistivity measurement ensures the installation of the material sample (4) inside and contains a measurement amplifier module (7) to allow the measurement of tensions for femtoampere electric currents. The electronic ensemble of the active cell in which the material sample is included is protected, by means of the protective shell (8), from the influence of the electric and electromagnetic disturbances of the environment, also having an integrated power source.

Image/photo:	
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	"Vasile Alecsandri" University of Bacău
Address:	157 Calea Mărăşeşti str., Bacău, Bacău county, postal code 600115, România
Phone:	+40 745 389 921
Fax:	+40 234 545 753
Invention title:	**ELECTROFILTER FOR DIELECTRIC LIQUIDS**
Authors:	Tudor Sajin, Sorin-Gabriel Vernica, Dragoş Iulian Nedelcu, Cătălin Bîrsan, Constantin Narcis Ostahie, Florin Aniţei, Marius Gheorghe Mărian
Patent no.:	RO 125825 (B1)
Contact person	Tudor Sajin
E-mail:	sajin_tudor@yahoo.com
Description of the invention:	The present invention relates to an electrofilters for dielectric liquids. *In order to increase the retaining efficiency of mechanical impurities and water droplets*, according to the invention, the electrofilter for dielectric liquids (Fig.1-3) comprising a cylindrical body (1) made of metal, with connections (4) and (5) for the liquid intake and discharge. The metal wall of cylindrical body (1) is used as an electrode (7), connected to the ground. A high potential electrode (8), concentric with the electrode (7), is positioned in the shape of a cylindrical rod (9) with dielectric coating (10), with transverse slots (11). The intermediary electrodes (13) with floating potentials made as disks with central circular windows (14), positioned concentrically with the electrodes (7) and (8), with inner and peripheral surfaces insulated by layers (15) and (16) of dielectric material secured with some insulating and spacing elements (17). The transverse slots (11) are positioned symmetrically between the intermediary electrodes (13).

Image/photo:

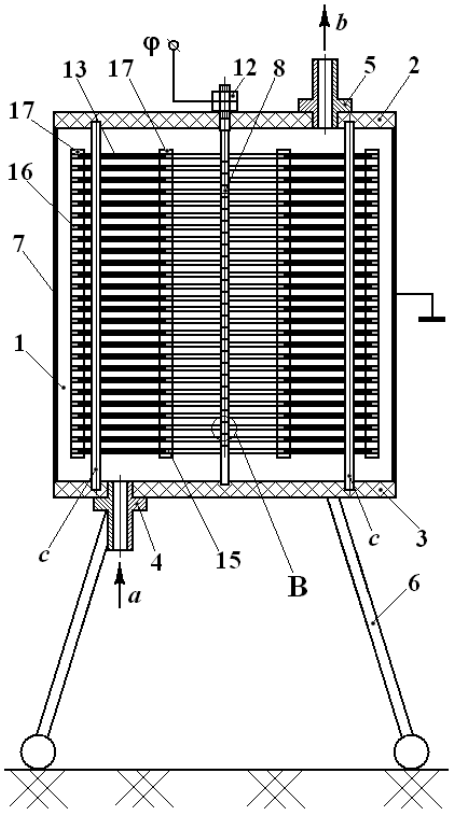


Fig. 1

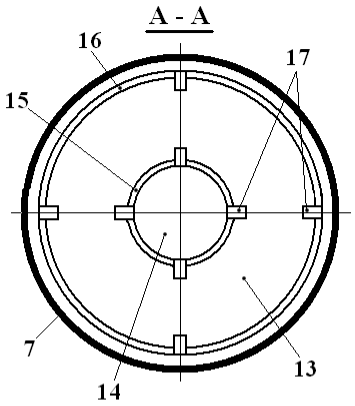


Fig. 2

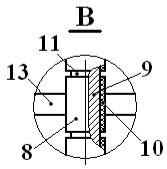


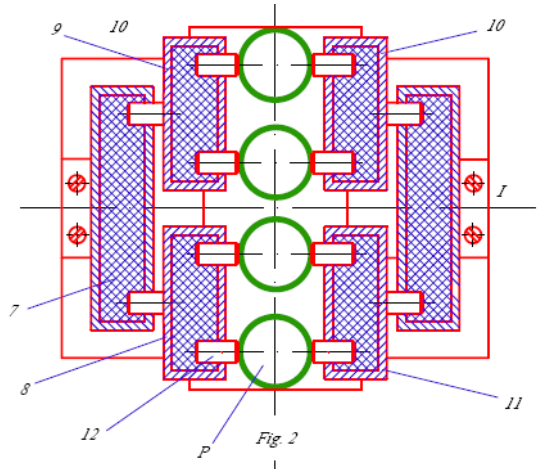
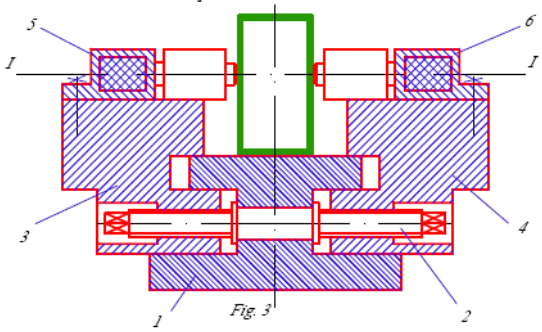
Fig. 3

Invention category: 1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	„Gheorghe Asachi" Technic University of Iaşi
Address:	67 Dimitrie Mangeron Str., 700050 Iaşi, România,
Phone:	0755.101.092
Fax:	-
Invention title:	**SELF-CENTERING VICE WITH PLUNGERS AND HYDROPLAST**
Authors:	Neculai Seghedin
Patent no.:	Brevet nr. 125371/ 30.03.2011
Contact person	Prof. Dr.Ing. Neculai Seghedin
E-mail:	nseghed2003@yahoo.com
Description of the invention:	The technical issue solved by this invention is the creation of a self-centering vice which allows the centering and tightening of many pieces. The device, according to the invention, is composed of a body, in which a screw is being inserted from left to right, and when it rotates it produces a simultaneous movement of two sliding jaws, on which are being placed, with the help of some screws, two hydroplast shells, in which are inserted the cylindrical parts of some hydroplast shells, which can execute a translational motion, in which are inserted some plungers which produce the centering and tightening of four pieces following the same symmetry plan. The invention can be industrially exploited for a simultaneous centering and tightening following the same symmetry plan of four pieces when processing them on machine-tools. The auto-centering vice, according to the invention, is composed of a body *1*, in which a screw is being inserted from left to right *2*, which is prevented to move axially because of the two elastic rings *a* and *b*. The screw *1* can be actioned on both sides, where it has two portions with a square section, *c* and *d*. when turning the screw *1* it produces a simultaneous movement, in opposite directions, of two sliding jaws *3* and *4*. On the *3* and *4* jaws are placed, with the help of some screws e, two shells *5* and *6*, in which the hydroplast *7* is being inserted. In *5* and *6* shells are being inserted the cylindrical portions f, of some shells with hydroplast *8, 9, 10* and *11*. The *8, 9, 10* and *11* shells can execute a translational motion. In *8, 9, 10* and *11* shells are being inserted *12* plungers, which achieve the centering and tightening of four pieces *P*. The pieces *P* are centred and tightened

Image/photo:	simultaneously on the same symmetry plan *III-III*.  Fig. 2  Fig. 3
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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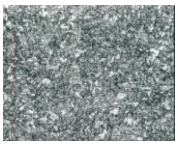
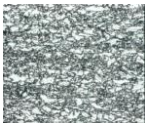
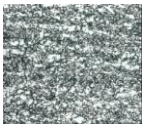
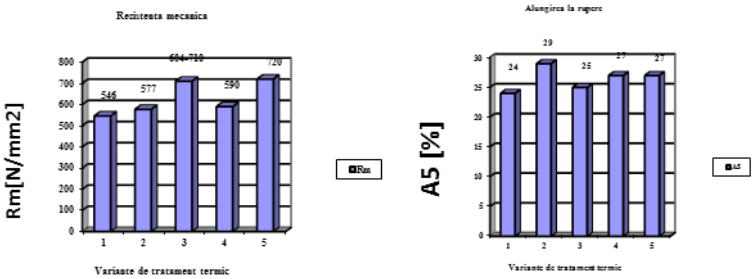
Research Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galați
Address:	47 Domnească Str., 800008, Galați, România
Phone:	+40336130109
Fax:	+40236461353
Research theme:	**THERMOMECHANICAL TREATMENTS APPLIED MICROALLOYED STEEL FLAT PRODUCTS**
Authors:	Elisabeta Vasilescu
Contact person:	Elisabeta Vasilescu
E-mail:	Elisabeta.vasilescu@ugal.ro;elisabeta.vasilescu@yahoo.com
Description of the research:	Conditions quality of the flat products for the naval field in the delivered state are stipulated by European standards or rules of the society and naval registers. Under the current rules flat products supplied in normalized state or in an equivalent state obtained by normalized rolling (thermomechanical rolled steels, according to EN 10113-3, steel strong elements required for construction of welded structures such as bridges, locks, etc., working at ambient or low temperature). The work presents the results of the laboratory experiments on aspects of microstructural and mechanical properties of steel samples subjected to different thermomecanical treatment regimens. The research was conducted on fine grain steels for naval welded structures and large diameter longitudinally welded pipes.

Image/photo:	   **Microscopic Aspects (X500)**  The influence of the thermomecanic treatment regimes on the mechanical properties
Research category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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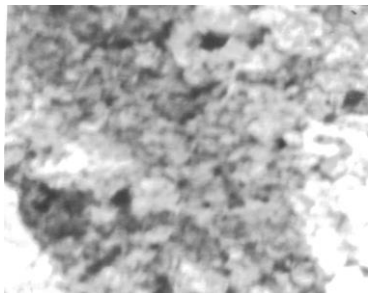
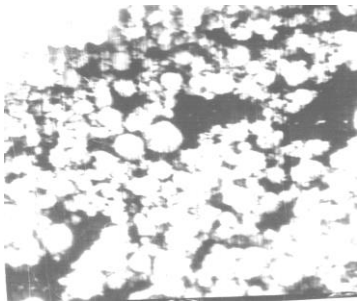
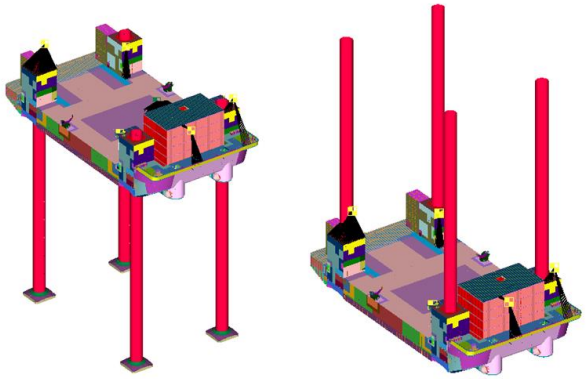
Research Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galați
Address:	47 Domnească Str., 800008, Galați, România
Phone:	+40336130109
Fax:	+40236461353
Research theme:	**CONTRIBUTIONS TO THE MICRONIC METALLIC POWDERS GETTING BY H_2 REDUCTION OF THE OXIDES**
Authors:	Elisabeta Vasilescu
Contact person:	Elisabeta Vasilescu
E-mail:	elisabeta.vasilescu@ugal.ro; elisabeta.vasilescu@yahoo.com
Description of the research:	Kinetic study of the nickel oxides reducing process on the experimental installation led to the establishing of the optimum technological conditions for nickel powders getting with physical–chemical characteristics required for its use in the manufacture of porous permeable materials (min. 75% porosity). This paper work shows the most important aspects regarding the mechanism and kinetics of the reduction process, controlling the residual oxygen content of the powder, oxygen content correlation with sintering shrinkage and the effects of atmospheric dewpoint reduction on the main kinetic parameters of the process to reduce oxides of nickel with hydrogen. They also present experimental facilities for studying the kinetics of the hydrogen reduction of nickel oxides and specific equipment for assessing of the nickel powder technological characteristics.
Image/photo:	  Microscopic appearance Nickel Oxide (x1000) Nickel Powder (x1000)

Research category: 1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	„Dunărea de Jos" University of Galaţi Icepronav Engineering SRL
Address:	47 Domnească Street, Galaţi, România 19A Portului Street, Galaţi, România
Phone:	+40 336 130 262
Fax:	-
Research theme:	**SELF ELEVATING UNIT STRUCTURE GLOBAL FE ANALYSIS**
Authors:	Dan Cătălin Bîrsan
Contact person:	Dan Cătălin Bîrsan
E-mail:	dbirsan@ugal.ro
Description of the research:	This document describes the global hull structure analysis for a Windmill Carrier. The scope of this document is to present the structural verification for the leg, leg to hull interface as well as the critical area in the hull. The report describes the strength verification of the jack-house structure, leg well structure and the leg within the guides. Two global finite element models have been analyzed: transit condition with the legs in upper position and for jacking condition with the legs in lower position; The stresses determined using Femap software have been compared with the allowable values and the scantlings of the structure have been modified so that the yielding acceptance criteria to be satisfied.
Image/photo:	

Research category: 1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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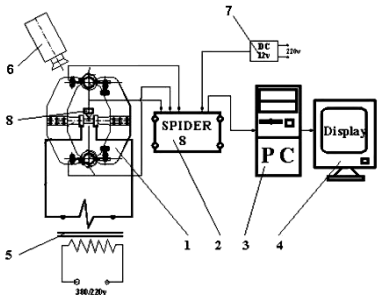
Research Registration FORM

Company Name/ Institution:	„Dunărea de Jos" University of Galați
Address:	No. 111 Domnească Str., Galaţi, România, Cod 800201
Phone:	-
Fax:	-
Research theme:	**STAND FOR SIMULATION OF CYCLES TERMOMECHANICAL BY WELDED JOINTS**
Authors:	Mircea Octavian
Contact person:	Mircea Octavian
E-mail:	moctav@ugal.ro
Description of the research:	The work shows a stand for simulating the thermos-mechanical cycles which are produced at welded joints by melting. Using test flat standard tubes and heating them by resistance on stand, it is punctually simulated a ZIT temperature and by subsequent mechanical tests the welding behaviour of a material can be determined without carrying out the actual joint. .
Image/photo:	
Research category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

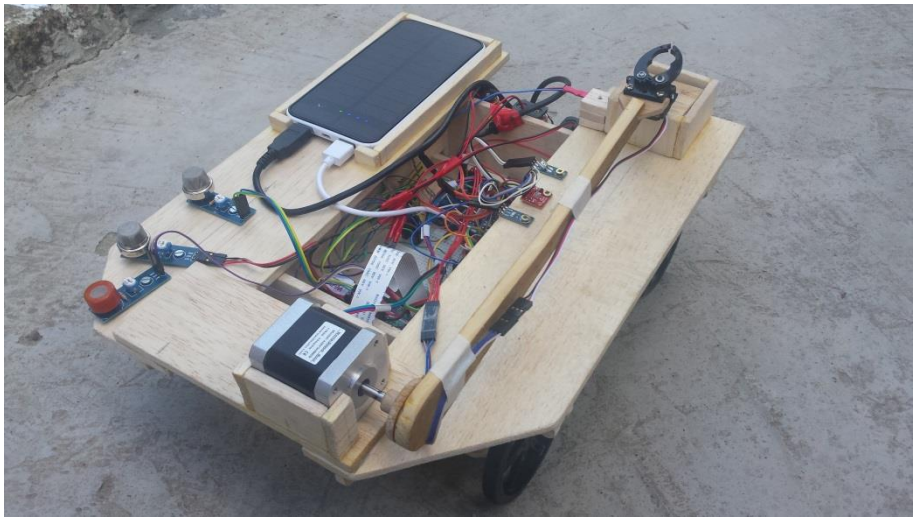
Invention Registration FORM

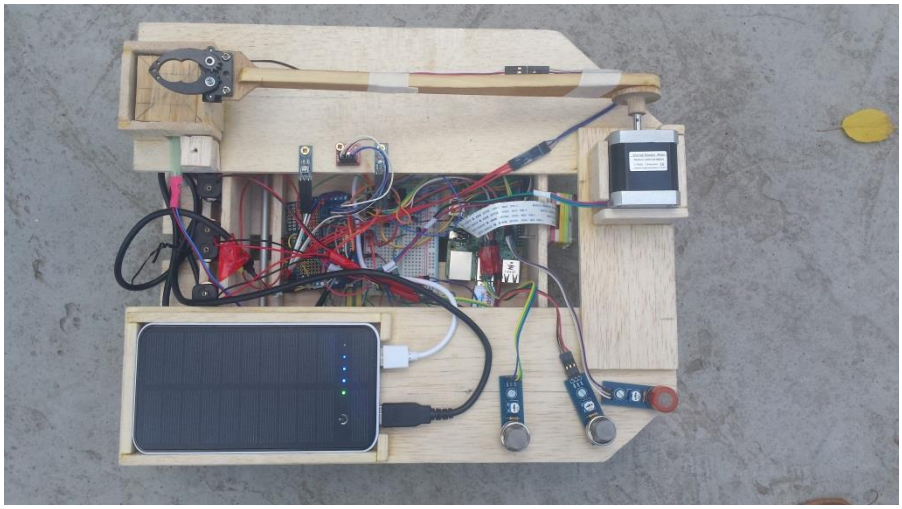
Company Name/ Institution:	"Dunărea de Jos" University of Galați
Address:	Str. Domnească nr. 47
Phone:	-
Fax:	-
Invention title:	**1."TRANSVERSAL MAGNETIZATION SYSTEM WITH EXTERIOR COILS** **2.„LONGITDINAL MAGNETIZATION SYSTEM WITH EXTERIOR COILS"**
Authors:	Dr. Ing. Bogdan Georgescu
Patent no.:	nr. A/00267 din 07.04.2014 nr. A/01434 din 22.12.2011
Contact person	Dr. Ing. Bogdan Georgescu
E-mail:	bogdan.georgescu@ugal.ro
Description of the invention:	The classical longitudinal magnetizing system with coaxial coils is the simplified solution, the only obvious disadvantage of this system being concerned with the ties of insertion pull out of the pipes into the system, possible only along the axial direction. The suggested original system with the independent coils arranged parallel to the axis of the pipes on the outside has small dimensions as well as an easier way to insert / pull out the welded pipes, developing a uniform magnetic field having values in the necessary range. The new suggested system may be very useful due to the fact that it is made up two semi-shells for the local magnetizing and demagnetizing of some pipelines or tubes when they are magnetically controlled.
Image/photo:	-
Invention category:	1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	"Dunărea de Jos" University of Galaţi, Engineering and Agronomy Faculty of Brăila
Address:	Calea Călăraşilor St. No. 29, Brăila
Phone:	0239612572
Fax:	0239612572
Invention title:	**ATLANTIS - AUTONOMOUS MINI-ROVER FOR EXPLORATION AND TRANSMISSION OF ENVIRONMENTAL INFORMATION**
Authors:	Conf. dr. ing. Petru Dumitrache, Răzvan Neacşu, Adrian Dinu
Patent no.:	-
Contact person	Petru Dumitrache, Răzvan Neacşu, Adrian Dinu
E-mail:	pdumitrache@ugal.ro; razvan.neacsu5@gmail.com; adicrisdinu@yahoo.com
Description of the invention:	ATLANTIS is an autonomous mini-rover for exploration and transmission of environmental information. The main technical and functional characteristics: 1. - Dimensions: approx. 300x400x150 mm; - Total mass of fully equipped mini-rover 1.5 kg - Strength structure mass: 0.1 kg - Speed: approx 0.1 m / s; - Gas sensors (CH4, CO, H2); - Temperature sensor; - Light sensor; - Humidity sensor; - Atmospheric pressure sensor; - Force sensor; - Micro-camera 5MP; - Arm with two degrees of freedom driven by stepper; - Solar battery 12 Ah. ATLANTIS is WIFI controlled using a laptop or a smartphone. The distance at which it can control the mini-rover is dependent on the performance of the control equipment. With a proper antenna, ATLANTIS can be operated at distances that can exceed 1 km. All information gathered by the sensors above listed and images taken by

Image/photo:	the micro-camera from explored environment are available in real time on the control equipment (i.e. laptop).  

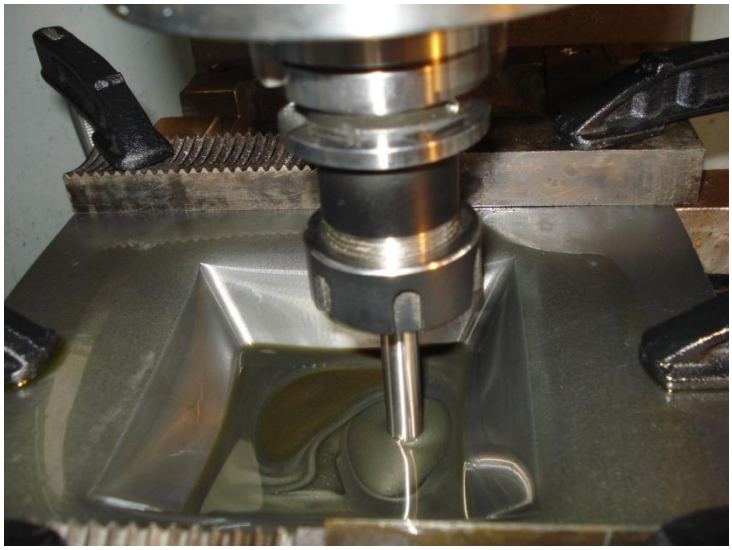


Invention category: 1

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	"Vasile Alecsandri" University of Bacau
Address:	157 Marasesti str., Bacau
Phone:	0745395191
Fax:	0234580170
Research theme:	**INCREMENTAL PROCESSING METHOD FOR THICK METAL SHEETS**
Authors:	Carol SCHNAKOVSZKY
Contact person:	Carol Schnakovszky
E-mail:	scarol@ub.ro
Description of the research:	The paper proposes the development and the enlargement of existing researches for providing a know-how methodology on the use of green technologies for processing by incremental cold plastic deformation for armor metal sheet. These materials have mechanical properties suitable for the intended application and not to facilitate processing. The innovation lies in the development of technologies, equipment and mathematical models to assist the design of processing technologies and related tools. As originality, the plastic working tool with incremental shock waves instead of punctual local compression can be highlighted, that requires a high friction between the tool and the blank. Using these micro shocks an important friction reduction is obtained, increasing the deformability of the blank, of the quality of the surface from mechanical point of view, due to the cold hardening process (the hardness of the surface and the mechanical strength of superficial batch).

Image/photo:	
Research category:	**Industrial procedures**

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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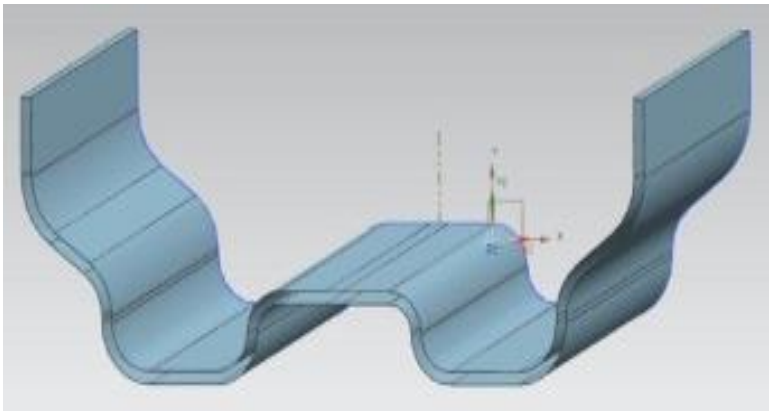
Research Registration FORM

Company Name/ Institution:	"Vasile Alecsandri" University of Bacau
Address:	157 Marasesti str., Bacau
Phone:	0744662332
Fax:	0234580170
Research theme:	**ECOLOGICAL AND ECONOMICAL METAL SHEETS PROCESSING TECHNOLOGIES USED FOR ARMOR MANUFACTURING**
Authors:	Valentin ZICHIL
Contact person:	Valentin ZICHIL
E-mail:	valentinz@ub.ro
Description of the research:	The paper proposes the development and expansion of existing researches in order to provide the know-how methodology on ecological and economical manufacturing technologies for metal sheet armor. These materials have mechanical properties suitable for the intended application and not to facilitate processing. The innovation lies in the development of technologies, equipments and mathematical models that assists the concept of processing technologies and related tools. The results were materialized in studies, optimization, implementation and development of environmental technologies and economic processing of metal sheets for armor, using abrasive water jet for cutting and incremental plastic deformation. Also, as complementary results of the research, a methodology for the implementation of these technologies that will propose various optimal production parameters or design for related tools devices and controllers by creating computer applications, using specific software for finite element method, will be provided.

Image/photo:	
Research category:	**Industrial procedures**

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Informatics – Computers – Electronics – Electricity – Communication devices

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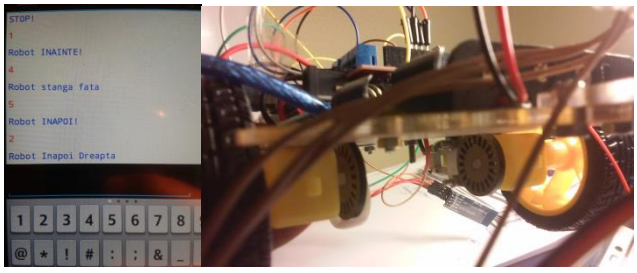
Research Registration FORM

Company Name/ Institution:	Mihail Kogalniceanu College, Galați, România
Address:	161 B, Brăilei str. , Galați, România
Phone:	40236430704
Fax:	40236430704
Research theme:	**SCIENTIFIC Help SciSOS**
Authors:	Theodora Găiceanu
Contact person:	Theodora Găiceanu
E-mail:	theodoragaiceanu@yahoo.com
Description of the research:	In order to explore the medium in a toxic athmosphere or incompatible with human life, or to detect the survivors into an risk exposion area an independent robotic platform has been performed. The mobile robot is equipeed with two traction motors controlled by one servo driver board connected to a digital platform. The autonomy is conferred by 4 battery filled box. By using an adequate bluetooth module the distance control of the mobile platform is assured through an Android based mobile phone. In order to avoid the obstacles an ultrasonic sensor is used. The mobility of 180º rotational system of the ultrasonic sensor is obtained by using a pan and tilt servomotor system. The videocamera is fixed to the rotational searching system and the transmitted images could be shown to any particular laptop, tablet or notebook over the IP network. In this way, the precious informations for personnel saving could be obtained in the dangerously accessing areas.
Image/photo:	

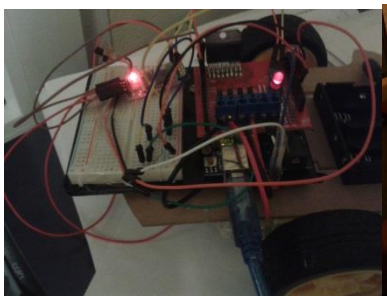
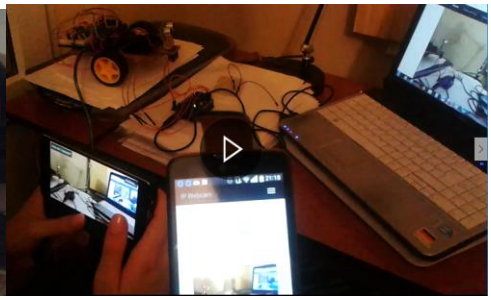



Fig.1-4 (from left top to right down): mobile phone control; the autonoumous robot, the bluetooth and the traction motors, the entire SciSOS system

Research category: 2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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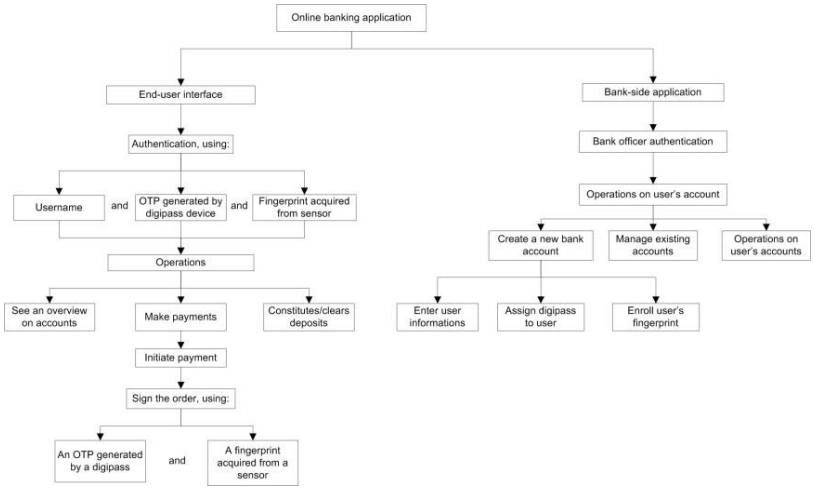
Research Registration FORM

Company Name/ Institution:	„Ştefan cel Mare" University of Suceava
Address:	13, Universității Street, 720229, Suceava, România
Phone:	+40 230 216 147
Fax:	+40 230 520 080
Research theme:	**FINGERPRINTS USED FOR SECURITY ENHANCEMENT IN ONLINE BANKING SERVICES**
Authors:	Cătălin Lupu
Contact person:	Cătălin Lupu
E-mail:	lupucata@yahoo.com
Description of the research:	Online banking services are used by all of us in order to check the account balance, do payments or currency exchanges. Authentication methods include passwords, PINs, tokens or digipasses and other devices or ways. But these methods can be easily stolen, lost or forgotten and can be used by criminals in order to access the account and to steal the money from it. That's why I propose a system that uses fingerprints for security enhancement of the authentication process, together with a username and a dynamically generated PIN using a algorithm-based digipass. Fingerprints have to be used both on bank-side application and in the end-user's web interface in order to complete the registration or the authentication process.
Image/photo:	
Research category:	2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	„Ștefan cel Mare" University of Suceava
Address:	13, Universității Street, 720229, Suceava, România
Phone:	+40 230 216 147
Fax:	+40 230 520 080
Invention title:	**REPLACING KEYS AND REMOTE CONTROL FOR INTELLIGENT CAR ACCESS CONTROL AND ENGINE START WITH OWNER'S BIOMETRIC FEATURES**
Authors:	Cătălin Lupu
Patent no.:	Cătălin Lupu
Contact person	lupucata@yahoo.com
E-mail:	Keys or remote control are classical methods for access in a car. But these can be stolen or lost very easily. If a theft is stealing the key, then he can use the car without the permission of the owner. That's why I propose a multimodal biometric system that uses fingerprints, irises and voice recognition in order to grant access to a car only to the authorized users. Also, the system can be used for starting the car's engine. Multimodal systems are really adaptive, because about 2% of the population has unreadable fingerprints or 27% of the patients with dermatitis will fail fingerprint verification tests. Also, there exists the possibility that the user to have problems with the voice and then the system has to adapt to the reliable characteristics that the owner of the car possesses. Using multimodal biometrics can increase the safety of the car, which will be driven only by authorized users.
Description of the invention:	-
Image/photo:	2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	Faculty of Engineering, "Dunărea de Jos" University of Galați
Address:	Domnească St., no.111, Galați, România
Phone:	0763617799
Fax:	-
Invention title:	**METHOD AND EQUIPMENT FOR AUTOMATED ARRESTING SYSTEM OF LANDING GEAR OF RESCUE HELICOPTERS**
Authors:	Florin Bogdan Marin, Mădălin Deacu
Patent no.:	-
Contact person	Florin Bogdan Marin
E-mail:	florin.marin@ugal.ro
Description of the invention:	This invention relates to helicopters and more specifically to a method and mechanical system for arresting helicopter landing gear in order to allow landings on ships in rough seas or in case of high wind. In rescue helicopter operation it is often necessary to make landings on ship decks on rough seas which translate in variable position of heliport. It is an object of this invention to increase the versatility of helicopters to allow operation in case landing on the ship decks of rough seas. It is another object of this invention to provide a mechanical arresting mechanism for the helicopter wheels whereby in making landings on a heliport in high winds the mechanism is controlled by an automated system and can be retracted or deployed to arrest the wheels of the helicopter in order not to allow movement of the helicopter after arresting operation. A further object of this invention is to provide a the automated system consisting of a camera transmitting online film with high rate to a computer running a computer vision software that is able to detect the position of the helicopter relative to the arresting mechanism. When suitable position is detected the arresting mechanism will deploy and no further allow the helicopter to freely move.
Image/photo:	-
Invention category:	2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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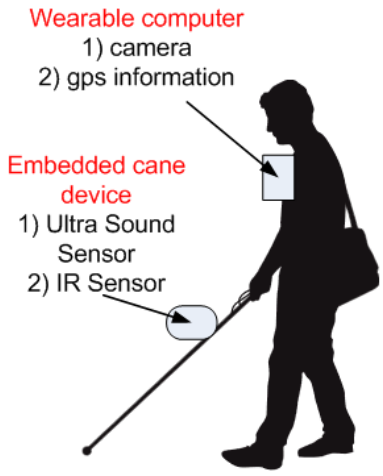
Invention Registration FORM

Company Name/ Institution:	Faculty of Engineering, "Dunărea de Jos" University of Galați
Address:	Domnească St., no.111, Galați, România
Phone:	0763617799
Fax:	-
Invention title:	**METHOD AND DEVICE FOR OBSTACLE DETECTION AIDING VISUALLY IMPAIRED PEOPLE**
Authors:	Florin Bogdan Marin, Mădălin Deacu
Patent no.:	-
Contact person	Florin Bogdan Marin
E-mail:	florin.marin@ugal.ro
Description of the invention:	This invention relates to the visually impaired person walking inconvenience caused by the obstacle on the road. Currently auxiliary systems are widely used in the guide cane and a several wearable guide blind auxiliary systems. Most used way of helping visually impaired persons is the traditional guide cane which is an ordinary stick with the function to tap ground by the person constantly in order to detect an obstacle. There is also electronic guide cane by adding electronics means of detection of obstacle and issue hazard warnings. The device for obstacle detection aiding visually impaired people, according to the present invention, includes a wearable computer which main functions are to detect using a camera several objects such as moving cars, people, as well as crossings, traffic lights. The wearable computer also uses GPS information with an offline map stored in the computer memory and consequently no internet connection is needed. The cane embedded device is consisting of an processing unit able to use ultrasound sensors and infrared detection. While the information used by wearable computer is a global view of the road ahead, the can embedded device allows particular area to be scanned by the visually impaired people. Several levels of warning are delivered depending on the importance of the scenario detected. The audio warning are delivered as well as vocal warnings.

Image/photo:	
Invention category:	2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	Technic University of Moldova
Address:	Chișinău, no.78, 31 August 1989 str.,
Phone:	+373 22237619
Fax:	+373 22237619
Research theme:	**ASYNCHRONOUS SUBMERSIBLE ENGINES FILLED WITH DIELECTRIC LIQUIDS FOR UNDERWATER ROBOTS PROPULSION**
Authors:	Petru Todos, Ion Sobor, Ilie Nucă
Contact person:	Petru Todos
E-mail:	todospetru@yahoo.fr
Description of the research:	The purpose of the study consists in researching, elaborating and producing submersible asynchronous engines filled with dielectric liquids (MASUD type engines) with a work depth of 1,000-6,000m, which are meant for the propulsion of underwater robots. MASUD engines (depending on each case) can be charged by cable from the surface (boat) or the underwater robot can have autonomous power. MASUD engines with a power comprised between 1-10 kW, 2p=2, with 3, 6 or 12 phases, with a frequency of 50 or 100 Hz, were elaborated. The necessity of the underwater robot MASUD engine functioning in salt water and at high depths requires filling the internal cavity of the engine with dielectric liquid. This causes the necessity of elaborating special constructive structures for the engine, deciding on the sealing, powering and command mode, and choosing the dielectric liquid. Experimental attempts were carried out, not only for electro-technical materials and dielectric liquid (transformer oil, diesel fuel, etc.), but also for submersible engines assembled for pressures of up to 90 MPa. The methodology for designing asynchronous submersible engines filled with dielectric liquid, with 3, 6 and 12 phases, also charged at static convertors, was elaborated. Through mathematical modelling, the dynamic properties of the thermal regimes of the MASUD engines were studied. The asynchronous submersible engines filled with dielectric liquid, elaborated at the Department of Electro Mechanics, were implemented on a number of underwater robots, to harvest marine minerals or to serve underwater objects.
Image/photo:	-

Research category: 2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	Technic University of Moldova
Address:	Chișinău, 168 Ștefan cel Mare str. MD2004
Phone:	037322237619
Fax:	037322235459
Research theme:	**ELABORATING A SERIES OF LOW POWER TRANSFORMERS PRODUCED IN THE REPUBLIC OF MOLDOVA**
Authors:	Prof. univ. dr. hab. Tudor Ambros, l.s. Marcel Burduniuc
Contact person:	Tudor Ambros
E-mail:	tudorambros@gmail.com
Description of the research:	The research looks into the necessity of producing transformers out of reconditioned materials: electro-technical-steel, copper, aluminium, etc. A more advantageous solution to this problem, from an economic and technological point of view, was advanced by the Department of Electro-mechanics. The reconditioned materials obtained from disassembling high power transformers, out of order because of failures or because of the expiry of their life cycle (therefore not up for repair), can be used in producing low power transformers. The series production of low power and welding transformers based on using reconditioned materials is carried out by the Red-Nord Company, Balți, with the participation of the Department of Electro-mechanics at UTM for elaborating, designing and certifying these electro-mechanical products. Elaborating the technical documentation and producing the transformers advances construction optimization issues, from a technical point of view as well as from an economic one. Due to the issue in question, low power transformers were elaborated and produced in series within the organisations mentioned above.
Image/photo:	-
Research category:	2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	Technic University of Moldova
Address:	Chişinău, str. 31 August 1989, 78
Phone:	+373 22237619
Fax:	+373 22237619
Research theme:	**EFFICIENT SYSTEMS FOR TROLLEYBUS TRACTION**
Authors:	dr.conf.Ilie Nuca, Universitatea Tehnică a Moldovei, Chişinău drd Vitalie Eşanu, ÎTŞ Informbusiness, Chişinău
Contact person:	Ilie Nuca
E-mail:	nuca_ilie@yahoo.com
Description of the research:	The purpose of the research consists in elaborating topological structures, optimal control algorithms and research on the functioning regime of the traction systems to reduce electric energy consumption, increase reliability and comfort, decrease the maintenance costs of trolley buses running on continuous electric current, as well as of those with asynchronous engines. Based on the mathematical modelling and on the experimental research, the commutation frequency of the IGBT transistors found in the traction convertors was raised to 8-10 kHz, which allowed the double reduction of the overall dimensions and of the mass, as compared to other products. The traction system of the trolleybuses with asynchronous engines and vectorial control, as well as the optimal control algorithms for reduced energy consumption, were elaborated and implemented. Traction systems of SDMC-103 continuous current and InBus-103 alternative current were implemented and function successfully for approximately 800 trolleybuses in the Republic of Moldova, Ukraine and Russia.
Image/photo:	-
Research category:	2

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Sanitation facilities – Ventilation facilities – Heating and cooling installations

Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**GROOVE RESISTANT TO SNOW AND CLOGGING WITH FOREIGN MATERIALS**
Authors:	Romeo Frigioiu
Patent no.:	123147
Contact person	Dănuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention refers to a Coandă shutter type groove which, due to its specific form, has the property to deviate the water flowing as a result of the Coandă effect.
Image/photo:	-
Invention category:	3

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Iulian Hornet
Address:	București, 7, Gheorghe Popescu Str.,
Phone:	0745050050
Fax:	-
Invention title:	**INSTALLATION AND A SIMULTANEOUS DISTRIBUTION PROCEDURE OF THE THERMAL ENERGY FROM A PELLETS BURNER BY THREE DIFFERENT SOURCES TO MULTIPLE DESTINATIONS**.
Authors:	Iulian Hornet
Patent no.:	A/00443/29.06.2015
Contact person	Iulian Hornet
E-mail:	president@ecohornet.ro
Description of the invention:	The invention refers to a installation and a distribution procedure of the thermal energy from a pellets burner by three different sources; by radiation *(with the help of burning gases and being meant for large spaces)*, by hot air *(obtained by cooling the focal tubes and the burner being meant for adjacent spaces)* and hot water *(obtained by a heat changer, meant for the consumption or heating of interior spaces)* for multiple destinations. The installation and the procedure, it is used in the industrial, agricultural fields, expositions, hangars, showrooms, cinemas, churches, tents and greenhouses, etc. The installation uses a pellets burner "patent No. 128229/2014" which generates burning temperatures of over 1250˚C. 1. Heating by radiation The burning gases when they enter the radiation tubes 4 have an adjustable temperature between 650°C and 800˚C which is maintained with the help of the exhaust 19. The radiation tubes heat through radiation: people, objects and the houses floors, maintaining a temperature which can be adjusted in the interval comprised between 14˚C - 22˚C. The heating with radiation tubes is the most efficient and economical choice for interior spaces with a height of more than 4.5 m. 2. Water heating The burning gases when exiting the radiation tubes 4 have a temperature

comprised between 120°C - 150˚C and are guided towards exhaust 6 and towards the heat changer C where they give the heat produced by the burning gases to heating the water which is then guided towards container 17 type tank inside a tank.

The temperature of the water reaches 65˚C - 70˚C and the gases are evacuated at a temperature of 40˚C - 60˚C.

3. Hot air heating

The hot air obtained by cooling the burner and the focal tubes 1, 2 are of approximatively 120˚C - 160˚C and are sent by the exhaust 19 through pipe D towards the burning chamber. After obtaining the desired temperature in the working chambers, the hot air is automatically guided towards the radiant space.

Image/photo:

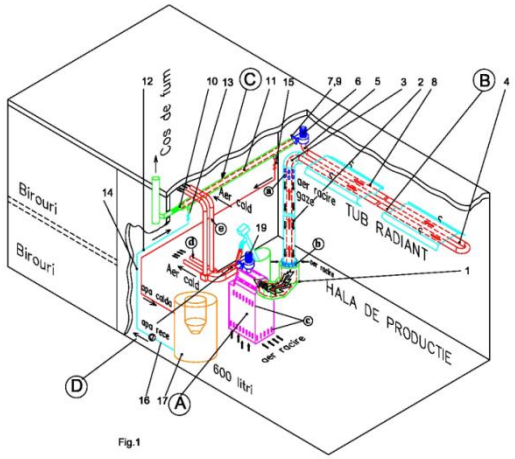

Fig.1

Invention category: 3

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	I.I. Dorel Neacșu
Address:	Galați, 7 Siderurgiștilor Str.
Phone:	0744614198
Fax:	-
Invention title:	**STEERING WHEEL WITH AIR CONDITIONING FOR VEHICLES**
Authors:	Dorel Neacșu
Patent no.:	118528
Contact person	Dorel Neacsu
E-mail:	dorunro@gmail.com
Description of the invention:	The invention refers to a steering wheel with air conditioning, whose surface is heated or cooled, respectively, by the flux of air deviated from the air conditioning unit of the vehicle. At the same time, the steering wheel is intended to create a microclimate in the area where the face of the driver is situated.
Image/photo:	-
Invention category:	3

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	Technical University of Moldova
Address:	Bd. Ștefan cel Mare, 168, MD-2004, Moldova, Chișinău
Phone:	37322 23 76 19; 3732 69077227
Fax:	37322 232252
Research theme:	**WIND POWERED EDDY CURRENT HEATER.**
Authors:	Ion Sobor, Rodion Ciuperca, Andrei Chiciuc, Vasile Rachier, Stella Tarita
Contact person:	Petru Todos, Tudor Ambros
E-mail:	Ion.sobor@gmail.com
Description of the research:	Title: Wind Powered Eddy Current Heater. Main objective: research, design and achieving of eddy current permanent magnets heater powered by wind turbine using for direct conversion of mechanical energy in to heat. Original elements: Exclusion from conversion technological chain of wind energy into electricity and then into thermal energy or mechanical energy into heat energy using friction forces. The conversion of mechanical energy into thermal energy is achieved through eddy currents generated by a permanent magnet inductor driven by a wind turbine. Using: for efficient conversion of mechanical energy directly into heat. The mechanical energy may be produced by any type of motor, including a wind or water turbine. Advantages: efficient use of wind potential; absence of friction forces; direct conversion of mechanical energy into heat; using available and cheap materials, does not contain copper, aluminum, electrical insulation, electrical steel; high overload capacity, up to 250 %; directly driven by a wind or water turbine; high efficiency – 93 %.

Image/photo:	
Research category:	3

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Agriculture – Horticulture – Gardening

Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**TRICYCLE**
Authors:	Dragomir Pop
Patent no.:	118192
Contact person	Danuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention refers to a tricycle propelled by a single person, meant for traffic, especially in urban areas.
Image/photo:	**-**
Invention category:	4

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Teaching methods and materials

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Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**INSTALLATION FOR TRANSFORMING THE ASCENDING FORCE OF LIQUIDS INTO ELECTRIC AND MECHANIC ENERGY**
Authors:	Dragomir Pop
Patent no.:	Cerere nr. a 2009 00255
Contact person	Danuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention refers to an installation for transforming water hydraulic energy, obtained from the ascension of liquids, into electric and mechanic energy. The installation is composed of a water basin with a vertical tube inside, with the role of storing guiding and command launching of round floaters to engage, through the impulse of the ascending force, a series of arms – assembled in pairs on a rotor and conferring the latter a rotation movement – for the continuous rotation cycle of a main spindle, the rotor respectively.
Image/photo:	-
Invention category:	6

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**MOBILE FLOATING HYDRO-GENERATOR**
Authors:	Romeo Frigioiu
Patent no.:	122105
Contact person	Dănuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention solves the problem of achieving a portable floating system needed for obtaining useful mechanic energy from the kinetic energy of running water.
Image/photo:	-
Invention category:	6

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

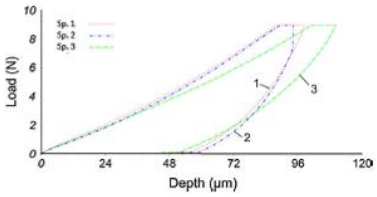
Invention Registration FORM

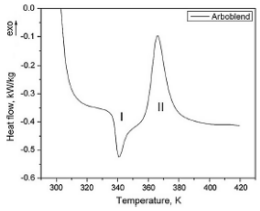
Company Name/ Institution:	Gheorghe Asachi Technical University of Iaşi
Address:	Blvd. Mangeron, No. 59A
Phone:	0040. 232. 212322
Fax:	0040.232. 212322
Invention title:	**MICRO INDENTATION AND DIFFERENTIAL SCANNING CALORIMETRY OF "LIQUID WOOD" SAMPLES**
Authors:	Dumitru Nedelcu, Simona Plavanescu, Constantin Carausu
Patent no.:	Own researches
Contact person	Dumitru Nedelcu
E-mail:	nedelcu1967@yahoo.com
Description of the invention:	The use of recycled materials has become an important trend in all activity areas, reason why the "liquid wood" is the material that will replace plastic in the near future. The main drawback of plastics and their processing methods is the existence in their composition of some carcinogens, their non-biodegradability and the difficulty in recycling products made from these plastics. There are three types of material known as "liquid wood", namely: arbofill, arboblend and arboform. "Liquid wood" can be reused up to five times over, without affecting the mechanical properties of the material, as for example fire resistance and durability. Lignin was used only as a fuel until not so long ago, but the research done in the last few years has shown that it is a substance that confers wood its strength and takes the form of granules that may be melted. Thus, lignin was used to produce a material out of which almost anything can be manufactured, from furniture, accessories, toys, plastic cases for electronic devices, and food containers of any shape, to car bodies, and which is known as "liquid wood". Its properties recommend "liquid wood" as an alternative to all plastic products in the near future, as it is biodegradable and reusable several times, and its properties remain intact. Three types of "liquid wood" are known: Arbofill, Arboblend and Arboform. Whereas Arboform is 100% biodegradable, the other two materials are only partially biodegradable. The following types of "liquid wood" were used: Arbofill Fitchie, Arboblend V2 Nature and Arboform L, V3 Nature. The research described in this paper focuses on the study of microindentation and

differential calorimetry. Also, the software package we used enabled us to read both the microhardness values, and the reduced indentation modulus and Young's modulus.

The studied test samples showed the following mean recovery values: 45.9170µm for Arbofill Fitchie, 22.2783µm for Arboblend V2 Nature and 17.7430µm for Arboform L, V3 Nature. These values are in agreement with the microhardness and modulus of elasticity values. Differential calorimetry research has shown that Arboblend V2 Nature and Arboform L, V3 Nature suffered two transformations each, one endothermal and the other exothermal, during which we measured the transformation onset and completion temperatures, as well as the temperature in the middle of the transformation process. We also measured the amount of absorbed and dissipated heat, respectively. As far as Arbofill Fitchie is concerned, the DSC diagram showed no temperature-dependent heat flow variation that could suggest a solid state transformation. We could safely state that the Arbofill Fitchie sample is thermally stable up to a temperature of 423K.

Image/photo:





Invention category: 6

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**INSTALLATION FOR TRANSFORMING WATER KINETIC ENERGY INTO ELECTRIC AND MECHANIC ENERGY**
Authors:	Dragomir Pop
Patent no.:	119903
Contact person	Danuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention refers to an installation for transforming running water kinetic energy into electric and mechanic energy using an ensemble of two floaters with stair decks and vertical walls exposed to the water stream which acts on the submerged blades, curved so as to ensure the creation of a convergent-divergent nozzle which leads to increasing the active water stream.
Image/photo:	-
Invention category:	6

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Means of transportation – Vehicles – Ships – Airplanes

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Invention Registration FORM

Company Name/ Institution:	Ing. Toader Buțincu
Address:	-
Phone:	-
Fax:	-
Invention title:	**FLYING MACHINE - WITH AIR TURBINES; WITH TURBINES FOR AIR; WITH PROPELLER OF AIR (FLYING PLATFORM).**
Authors:	Ing. Toader Buțincu
Patent no.:	126657, 126658, 125765
Contact person	Ing. Toader Buțincu
E-mail:	-
Description of the invention:	These machines take off and land vertically and differ one from another mainly by their construction and principle of functioning of their active components of air interaction. The buoying force of the first machine is achieved with air turbines which may function successively or simultaneously with various rotation speeds. The second machine develops a sustaining force,due to the passing of the air through a complex system driven by two or more statoreactors. The third machine's buoying force is obtained, basically, subsequent to the static pressure difference between the inferior and the superior sides of the active plates, difference caused by several propeller of air. With special device, any of the three flying machines may take off, respectively land, on water.
Image/photo:	-
Invention category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	Ing Niculina Buțincu; Ing. Toader Buțincu
Address:	-
Phone:	-
Fax:	-
Invention title:	**HYDRAULIC WHEEL**
Authors:	Ing Niculina Buțincu; Ing. Toader Buțincu
Patent no.:	A/00257/03.04.2014
Contact person	Ing. Toader Buțincu
E-mail:	-
Description of the invention:	The wheel has several buckets mounted on a special hub, which rotate together around a central cylindrical body,which is built and fixed on a shaft,which stands on two props, supporting the entire wheel. The construction of the components and the modality of their assembly make possible the integral use of the potential (gravitational) energy of water, from any natural source, no matter the difference of level between the free surface of the water and the symmetry axle of the wheel. The particularity of this wheel lies in the fact that the entire quantity of water used circulates only inside the wheel. It has multiple advantages, because it works slowly and uniformly, shock-free and noiseless, it does not have any impact on the environment, it develops a relatively high torque, it has a good reliability, the exploitation costs are negligible and it does not require permanent supervision of its functioning.
Image/photo:	-
Invention category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	University Dunărea de Jos of Galați
Address:	47, Domnească Str.
Phone:	0722383282
Fax:	-
Research theme:	**MARITIME JACK UP PLATFORM MADE BY RETROFITTING OF AN INLAND VESSEL HULL**
Authors:	Prof.dr.ing. Ionel Chirica, PhD. stud. Dumitru Lupascu, Conf.dr.ing. Elena-Felicia Beznea, PhD. stud. George Solomon
Contact person:	Prof.dr.ing. Ionel Chirica
E-mail:	ionel.chirica@ugal.ro
Description of the research:	The research activity is focused on the design problems related to the retrofitting of an inland ship structure into a maritime self-elevating platform. The most important design problems are the global and local strengthening of the platform and tubular legs structures. The methodology used FEM global and local strength calculation of platform structure and legs structure using site-specific parameters recommended by DNV rules, such as water depth, wave and wind loads. Also, the global static and dynamic behavior analysis of the jack-up unit have been performed. The jack-up platform (self elevating unit) is nowadays in construction in Giurgiu Shipyard and is designated to operate in Black Sea coast area. Acknowledgements The work has been performed in the scope of the National Project, Ctr. 650/2015.

Image/photo:

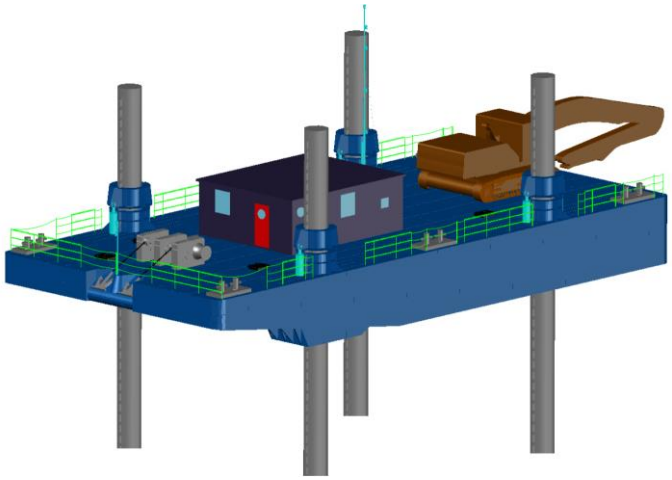


Figure 1: General view of the jack up platform

Research category:

7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	University Dunărea de Jos of Galați Ship Design Group Galați
Address:	47, Domnească Str.
Phone:	0722383282
Fax:	-
Research theme:	**ADAPTIVE BULBOUS BOW – EFFICIENT SOLUTION FOR FUEL CONSUMPTION REDUCING OF INLAND WATER WAY SHIPS**
Authors:	Prof.dr.ing. Ionel Chirică, Prof.dr.ing. Dan Obreja, Conf.dr.ing. Ionel Gavrilescu, Ing. Vasile Giuglea, Conf.dr.ing. Ovidiu Ionas, Ing. Octavian Dumitriu
Contact person:	Prof.dr.ing. Ionel Chirică
E-mail:	ionel.chirica@ugal.ro
Description of the research:	The reduction of fuel consumption is an important target of shipbuilding industry. In this respect, improving / reducing the total ship hull resistance and finding new solutions for ship hull forms is mandatory. The bulbous bow is a usual solution for sea going ships, facilitated by the concrete operational conditions (existence of a main operational condition, related to draught and speed). In case of inland water ways ships this main operational condition is difficult to be defined, due to the variation of certain parameters such as water depth, ship speed, current speed etc.). As consequence, for inland water ways ships, is difficult to define a single bulb, able to cope with the variation of so many parameters. This was the reason to investigate the possibility to use an adaptive bulbous bow, with variable geometry, able to improve the total hull ship resistance, in different loading and navigational conditions. The effect of such adaptive bulbous bow has been analyzed for an existing small passenger ship (VEGA RIVER) design by SDG without bulbous bow. The research have been conducted in the following steps: - First step: CFD computation, performed for the initial configuration and for the ship with a bulbous bow of different lengths, to determine the total

ship resistance.

Four different bulbous bow lengths have been considered: 1875mm, 2000mm, 2250mm and 2500mm, for the relative ship speeds: 10km/h; 12km/h, 14km/h; 16km/h, 18km/h; 20km/h; 22km/h;

- Second step: Design of mechanical system of the adaptable bulbous bow for the selected ship.

- Third step: Towing tests on experimental scale model / prototype (1/10). The relative ship speeds considered: 10km/h; 12km/h, 14km/h; 16km/h, 18km/h; 20km/h; 22km/h

According to the calculus performed for the full scale ship, the maximum reduced consumption is of about 18%.

Acknowledgements

The work has been performed in the scope of the European FP7 Project ADAM4EVE, Contract No.: SCP2-GA-2012-314206 (2013-2015).

Image/photo:

Figure 1: Experimental model during towing tank tests

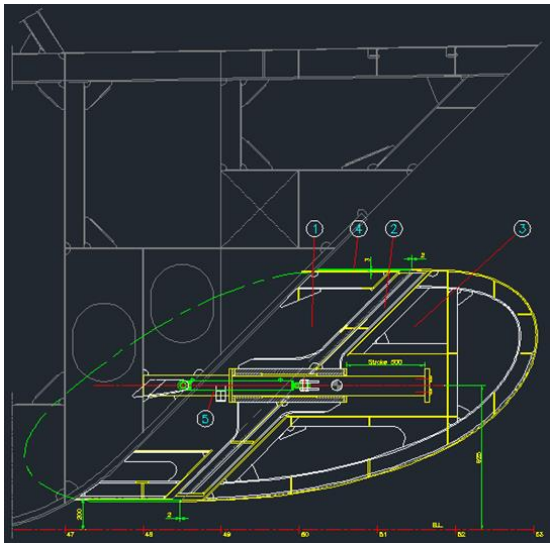


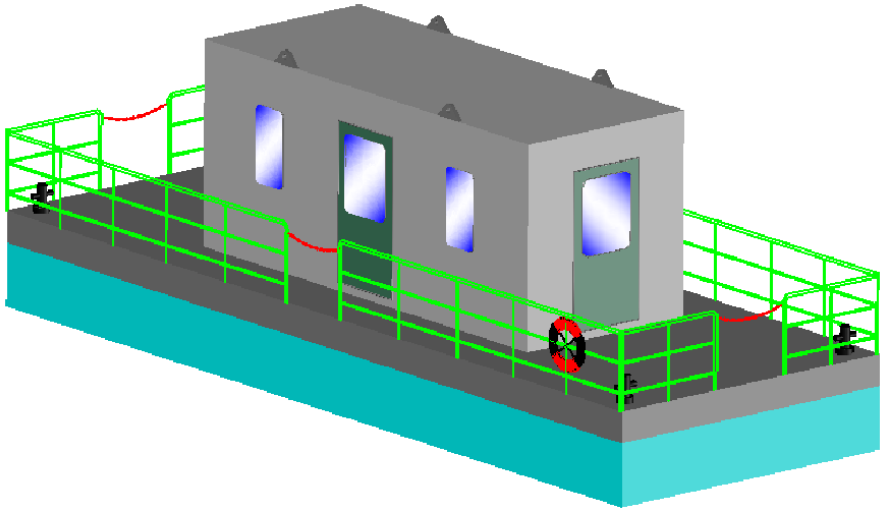
Figure 2: Design of the adaptive bulbous bow prototype

Research category: 7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	University Dunărea de Jos of Galați Navrom Shipyard Galați
Address:	47, Domnească Str. / 54, Portului Str., Galați
Phone:	0722383282
Fax:	-
Research theme:	**LIGHTWEIGHT FLOATING WORKSHOP FOR SHIPYARD ACTIVITY**
Authors:	Prof.dr.ing. Ionel Chirica, Conf.dr.ing. Elena-Felicia Beznea, PhD. stud. Ing. Dumitru Lupascu, Ing. Gabriel Manole
Contact person:	Prof.dr.ing. Ionel Chirica
E-mail:	ionel.chirica@ugal.ro
Description of the research:	For ship repairing in shipyard, many operations, especially for equipment in engine room, need small machining and therefore moving of workers from ship to the shipyard workshop. The idea of the research is to design and build a mobile workshop equipped with tools and machines for small operations such as welding, grinding, drilling, cutting, bending etc. The mobile workshop is a module structure (a container-workshop on a pontoon), being also a multifunctional system, with three working areas to obtain the best efficiency: - one inside the container especially for machining operations; - the second and third areas are two small areas on aft and fore ends of the pontoon, placed outside the container only for welding operations. The container-workshop is fixed on the pontoon with mobile fixing system (container locks). The main important item of the workshop is to have a lightweight structure, having possibility to be placed in various places in shipyard, by lifting with a crane. The pontoon is not a classical landing pontoon but is a dedicated pontoon. The restrictions requiring the minimum free board have been considered in the stability calculus. The pontoon has been designed to operate in inland waterways, so that the stability requirements of the national and international rules have been fulfilled. To obtain a lightweight structure, for

	the floating workshop a hybrid systems have been adopted: a hybrid structure concerning frames (made out of steel pultruded profiles) and panels (made out of layered composites or (aluminum) as outer skins and aluminum as inner skins). Between the two skins the insulation (made out of specific naval material: mineral wool) is provided. The floating workshop is nowadays in construction in NAVROM SHIPYARD Galati. Acknowledgements The work has been performed in the scope of the European FP7 Project SMARTYards, Proj. No. 605436 (2013-2016).
Image/photo:	 Figure 1: Floating workshop model
Research category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	University Dunărea de Jos of Galați
Address:	47, Domnească Str.
Phone:	0722383282
Fax:	-
Research theme:	**LIGHTWEIGHT HIDRO-BUS**
Authors:	PhD. Student Ing. Adrian Presura, Prof.dr.ing. Ionel Chirică
Contact person:	Prof.dr.ing. Ionel Chirică
E-mail:	ionel.chirica@ugal.ro
Description of the research:	The research work is focused on the strength anlaysis of the structure of twin-hull ships, particularly a passenger catamaran. The catamarans have some advantages against conventional monohulls: the larger deck area and cargo volume, better transverse stability and in general improved behavior in waves. But due to need of large open spaces, for passenger/car ferry ships and having as major restriction the structure weigth, one of the problems arised during designing of the catamaran structure is the determination of the effectiveness of deck structure. The F EM analysis was used for examining the behavior of different deck structure designs in order determine the solution which accomplish better designing criteria regarding allowable stress and deformations and total weight. The results of this analysis shows that, making a proper structural analysis and using light weight materials, important gains for ship owners and for environment protections can be achieved. This research underlined two aspects: i) the weight of a ship structure can be considerable decreased, from initial design based on "Rules" dimensioning, using a FEM calculation; ii) a classical structure solution, like arch design, can be integrated in a ship structure in order to reduce the number of intermediate supporting members.

Image/photo:

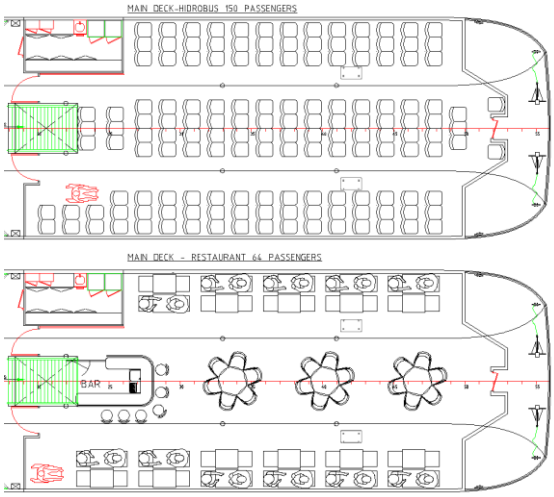


Figure 1: Deck arrangement of the hidro-bus

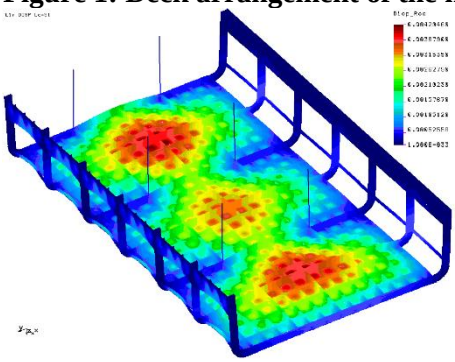


Figure 2: Typical structure – displacement map

Research category:

7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Company Name/ Institution:	University Dunărea de Jos of Galați
Address:	47, Domnească Str.
Phone:	0722383282
Fax:	-
Research theme:	**IMPACT MODELING OF COMPOSITE SANDWICH PLATES USED IN SHIPBUILDING**
Authors:	PhD. Student Ing. Florentina Rotaru, Prof.dr.ing. Ionel Chirică, Conf.dr.ing. Elena-Felicia Beznea
Contact person:	Prof.dr.ing. Ionel Chirică
E-mail:	ionel.chirica@ugal.ro
Description of the research:	Lightweight structure is the target in the shipdesign process. Lower hull weight enables the possibility of low consumption of propulsion system and thus low emission of the ship. By using the last technologies in composite structures field, many structures have been built from light materials with high performances. Response of several composite sandwich plates to impact dynamic loads and to a quasi-static simulation of rigid spheric indenter has been evaluated and compared. In this research work, the important aspect of dynamic loading of composite sandwich structures is presented. The dynamic response of composite sandwich plates is analysis by impacting the plates at mid-skin surface with a metal sphere. The numerical analysis was performed by using AUTODYN 3D solver from ANSYS. Acknowledgements The work has been funded by the Sectoral Operational Programme Human Resources Development 2007-2013 of the Ministry of European Funds through the Financial Agreement POSDRU/159/1.5/S/13239.

Image/photo:

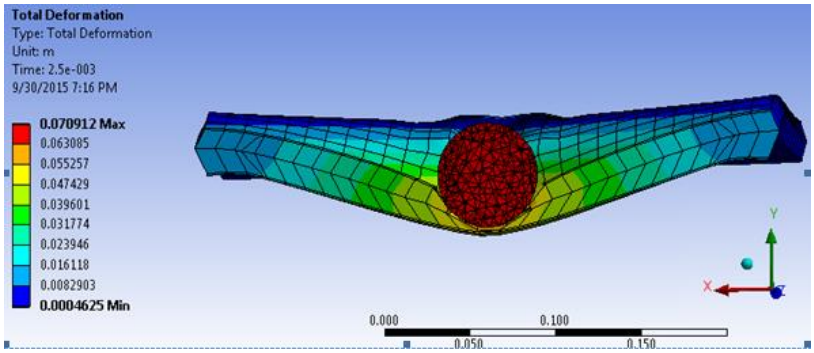


Figure 1: Plate deformation for indenter velocity v= 30m/s

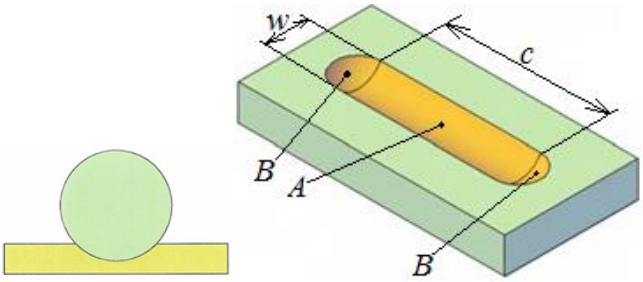
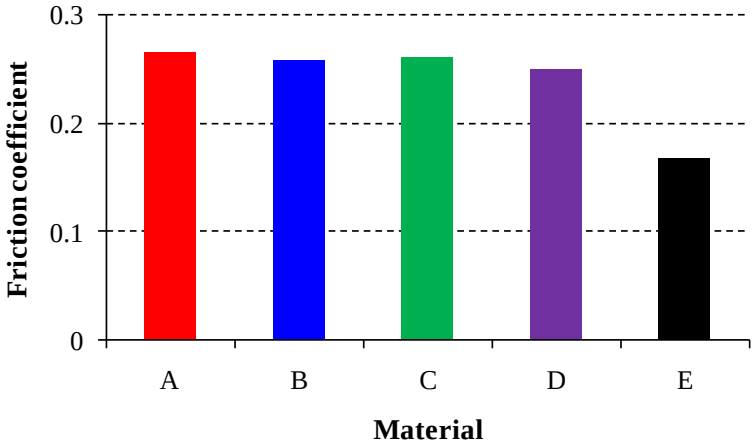
Research category:

7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	University Dunărea de Jos of Galați Comoti - national research and development institute for gas turbines
Address:	47, Domnească Str., Galați / 220 D Iuliu Maniu Bd., sector 6, Bucharest, România
Phone:	0722383282
Fax:	-
Research theme:	**CHARACTERISTICS DETERMINATION OF THE COMPOSITE MATERIAL USED FOR AERONAUTIC ROTOR BLADE IMPELLER**
Authors:	Conf.dr.ing. Elena-Felicia Beznea, Conf.dr.ing. Doina Boazu, Prof.dr.ing. Ionel Chirica, Dr.Ing. Valeriu Vilag
Contact person:	Prof.dr.ing. Ionel Chirica
E-mail:	ionel.chirica@ugal.ro
Description of the research:	Aeronautic industry has to solve a number of items related to increasing of comforts on aircrafts boars, fuel economy, low emissions and high performance at low cost. Using of light weight composite materials like CFRPs for the impeller of aerodynamic compressors is one of problems to achieve the requirements of the aircrafts industry. Manufacturing of these materials involves the knowledge on their characteristics. In the research work the mechanical tests for determining of the material wearing characteristics of the CFRPs used for the impeller of aerodynamic compressors is described. The mechanical tests are performed by using the existent equipment in the Laboratory of composites from University Dunarea de Jos of Galati. The wearing test (in fact scratching tests) using a sphere having a rectilinear motion on the surface, is illustrated in Figure 1 (schematic representation of the trace of wearing in the case of sphere on surface configuration). The wearing tests have been performed at universal tribometer UMT-2 - CETR, from Laboratory of Mechanical Engineering Department of "Dunarea de Jos" Galati University. The tribometer is connected to the control equipment (PC) with the acquisition program which allows the monitoring of test process. Using the control equipment it is possible to set the input and output parameters

	(normal force, friction force, displacements, friction coefficient). Acknowledgements The research has been supported through the ERA NET - MANUNET International Cooperation Programme, Research project ManuCFBlade, no. 7077/2013.
Image/photo:	 **Figure 1:** Wearing in the case of sphere on surface and trace of wearing  **Figure 2:** The average values of the dry friction coefficient
Research category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Galați, România, 7 – 9 October 2015
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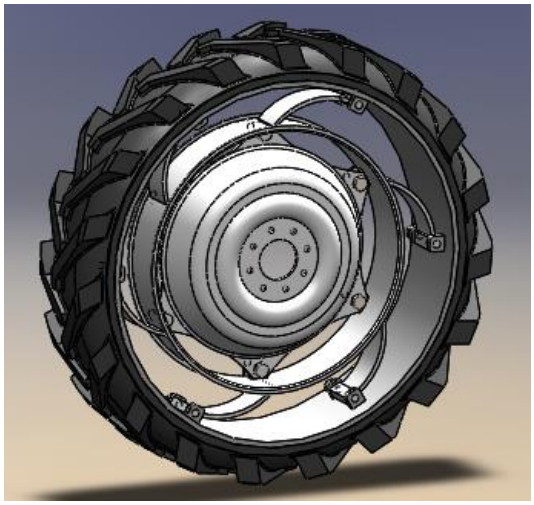
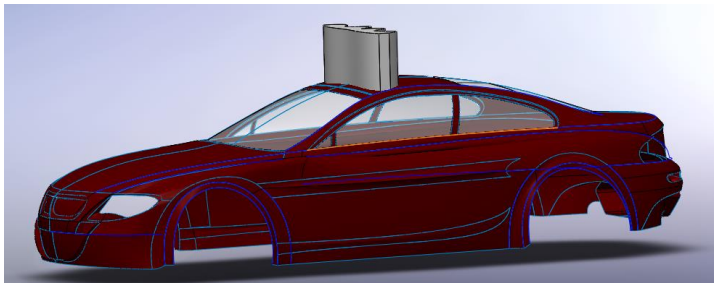
Invention Registration FORM

Company Name/ Institution:	Faculty of Engineering, "Dunărea de Jos" University of Galați
Address:	Domnească St., no.111, Galați, România
Phone:	0763617799
Fax:	-
Invention title:	**INTEGRATED SUSPENSION WHEEL FOR OFF-ROAD MACHINERY**
Authors:	Florin Bogdan Marin, Alexandra Bucur, Ionel Petrea
Patent no.:	-
Contact person	Florin Bogdan Marin
E-mail:	florin.marin@ugal.ro
Description of the invention:	The invention relates to a integrated suspension in the wheel dedicated to off-road machinery. Repairing off-road machinery flat tire needs special equipment and the time needed for the operation is considerable. Also, in remote off-road terrain the operation might be dangerous for technicians. Spare wheels are usually not available in the field due to the high volume and also have high price, such as in case of forest machinery or tractors. The wheels in off-road machinery needs to be reliable concerning puncture but also provide suspension of the vehicle at low speeds but a high torque applied to the wheel. The suspension system of the present invention has particular utility in case of off-road firefighter vehicles as there is relatively small volume of rubber to burn and it provides the mean of transportation of the vehicle even if the wheel is burning. The wheel, according to the present invention, comprises of a wheel, an arc fixed to the wheel support, an exterior ring connected to the arc and fixed to the non-inflatable tire. One object of the present invention is an improved suspension system. The second object of the present invention is the feature of the wheel of not being prone to puncture flat.

Image/photo:	
Invention category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Faculty of Engineering, "Dunărea de Jos" University of Galați
Address:	Domnească St., no.111, Galați, România
Phone:	0763617799
Fax:	-
Invention title:	**CAR TOP AIRBAG FOR PEDESTRIAN PROTECTION**
Authors:	Florin Bogdan Marin, Cătălin Solomon, Mirel Pamant
Patent no.:	-
Contact person	Florin Bogdan Marin
E-mail:	florin.marin@ugal.ro
Description of the invention:	Frontal accident at high speeds against pedestrian causes high number of fatalities. One of the major cause of death is that the pedestrian is projected over the car. Consequently the death cause is the impact with the road from a considerable distance and not the initial impact with the car. The pedestrian airbag cushion, according to the present invention, includes a cushion inflated to cover the space above car top. A tether is provided on a portion of the cushion corresponding transversal length of the car top. The airbag module has an airbag inflator and a vehicle top airbag. The vehicle top airbag is inflated by the airbag inflator and is oriented to deploy over the vehicle top. Following deployment the airbag is able to retain pedestrian movement over the vehicles, as in case the accident occurs at relatively high speeds (above 30 km/h). The airbag is extending above the vehicle top in order to stop the movement of the pedestrian to the back of the vehicles, where might crash from a considerable distance to road.
Image/photo:	

Invention category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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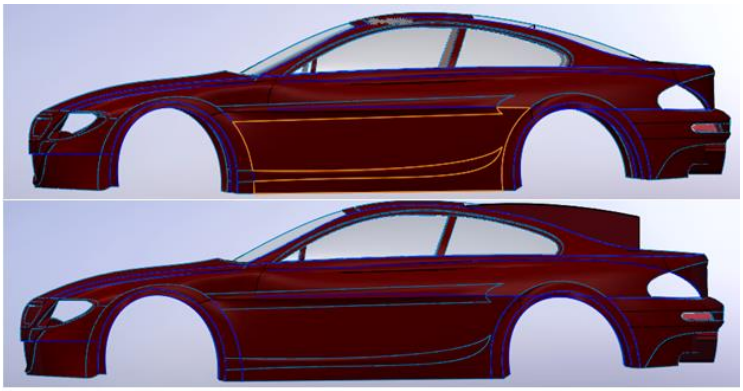
Invention Registration FORM

Company Name/ Institution:	Faculty of Engineering, "Dunărea de Jos" University of Galați
Address:	Domnească St., no.111, Galați, România
Phone:	0763617799
Fax:	-
Invention title:	**RECONFIGURABLE CAR TOP**
Authors:	Florin Bogdan Marin, Mirel Pamant
Patent no.:	-
Contact person	Florin Bogdan Marin
E-mail:	florin.marin@ugal.ro
Description of the invention:	The streamlined shape of a car with an low resistace of air property is important for cars especcialy for sport vehicles. It is considered optimum of an vehicle shape the famous " water drop-shape ". An optimum shape of the rear of the car is a lower profile implying lower air resistance, less turbulance and an increased stability. However, the lower profile of the rear of the vehicles will also imply an unconfortable position for the back seat passangers. The invention objective is to develop an extendable, reconfigurable geometry of the top car in the rear of the vehicle, so that to allow a higher efficiency concerning aerodynamics at high speed but also to provide more passanger space when needed. The invention relates to a link element of variable supporting length which allows repositioning of the vehicle top. The effective supporting length of the element is variable. The part that is detaching in the vehicle top is solid while the lateral parts are made of elastic rubber material hiding in the vehicle top.

Image/photo:	
Invention category:	7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Faculty of Engineering, "Dunărea de Jos" University of Galați
Address:	Domnească St., no.111, Galați, România
Phone:	0763617799
Fax:	-
Invention title:	**RECONFIGURABLE TRUCK BOX**
Authors:	Florin Bogdan Marin, Mirel Pamant, Alexandra Bucur
Patent no.:	-
Contact person	Florin Bogdan Marin
E-mail:	florin.marin@ugal.ro
Description of the invention:	The invention is related with the aerodynamics optimization of truck boxes. In the truck transportation field an important amount of truck travel is done with the truck running without cargo. In these cases a smaller volume of truck box will translate in a diminished aerodynamic drag and also provide better stability in case of lateral wind. Aerodynamic drag reduction decreases the fuel needed to move the truck and might reduce millage considerably. Square-shaped boxes cause turbulences in the rear part of the truck and also cause high air resistance due to considerable surface of the truck box causing unnecessary energy consumption. Moreover, turbulence in the rear part of the truck reduces increases the risk of accident for the other road users such as motorcycles due to the air pressure acting in the lateral of the truck. The variable geometry of truck box, in accordance with the present invention, comprises of folding parts of lateral walls of truck box that are vertically retractable using electrical actuators, as well as folding parts of the roof and back door. The frame of the truck box, in order not to modify resistance of the truck box, remains in the position of a square box like shape. One object of the present invention is an improved aerodynamics of the truck box, which translates in decreasing fuel consumption by 10%.
Image/photo:	-

Invention category: 7

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Food – Beverages – Cosmetics – Hygiene materials – Medication

Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**PROCEDURE FOR OBTAINING STAINED GLASS TYPE BOARDS / APPLICATION: STAINED GLASS PANEL-WINDOW**
Authors:	Dănuț Busuioc
Patent no.:	125204
Contact person	Dănuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention solves the technical problem of achieving a decorative stained glass type board for current use in constructions. The application "Stained glass panel-window" is made out of panels with various images, which are placed inside the window, from the inside, possible with interchangeable types, changing the exterior appearance observable from the inside of the room, offering the possibility to modify the general atmosphere on request. Depending on the support material, it can ensure protection against UV and caloric rays.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galaţi
Address:	Str. Domnească, 47
Phone:	0745930740
Fax:	-
Invention title:	**COSMETIC PRODUCTS BASED ON MUD FROM LACUL SĂRAT**
Authors:	Liana Teodora Dinică, Ioana Otilia Ghinea, Rodica Mihaela Dinică
Patent no.:	-
Contact person	Ioana Otilia Ghinea, Rodica Mihaela Dinică
E-mail:	rodica.dinica@ugal.ro
Description of the invention:	The present study refers to a physical-chemical analysis of the sapropelic mud of Lacul Sărat and to obtaining cosmetic products based on mud. The mud from the salty lakes of the Bărăgan Plain has been a natural therapy for centuries, the organic matter of the sapropelic peloids having healing and regenerative qualities which are well known by the local population. Black in colour, the mud from Lacul Sărat is hydrated, sulphurous, has a characteristic smell (sulphurous hydrogen) and physical-chemical properties which make it extremely useful in treating various diseases, being one of the most valuable muds in the country, from water with the highest concentration of salt in the country, where sodium salts, magnesium, calcium and iodine are predominant. The mud can be obtained, at very low costs, from deposits at the bottom of the lake. The main objectives of the study are to characterize the mud and obtain cosmetic products with a therapeutic effect on the skin. A detailed laboratory analysis was carried out in order to determine various physical and chemical properties of the mud from Lacul Sărat, collected from the East shore in May. Many analytical techniques were used in order to determine the chemical composition of the mud, including FT-IR and Raman spectrometry. The physical parameters, like dry matter, pH and electric conductivity were also determined. The chemical analysis shows a high content of organic components found in different stages of discomposure (B complex vitamins), as well as organic components, components which have anti-inflammatory and de-contraction, bio-trophic stimulating, vasodilator and cellular regeneration effects. Using the mud in obtaining cosmetics (cleansing, soap masks) is based on its physic-

Image/photo:	chemical properties, on its deep skin penetration and cleansing capacity through osmosis, hydration, stimulating and regenerating mineral elements. 
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Practical Scientific Institute of Horticulture and Food Technology
Address:	Republic of Moldova, MD 2070 Chisinau, Codru town, str. Vierul, 59
Phone:	+373 (022) 28-54-31
Fax:	+373 (022) 24-16-88
Invention title:	**VITAMIN AND MINERAL SUPPLEMENT FOR WHEAT FLOUR (EMBODIMENTS)**
Authors:	Svetlana Popel, Elena Draganova
Patent no.:	MD 633 Z 2013.12.31
Contact person	Svetlana Popel
E-mail:	sspopeli@mail.ru
Description of the invention:	The invention relates to the flour-grinding and baking industry, namely to a vitamin and mineral supplement for wheat flour. The supplement contains vitamins B1, B2, B6, PP, folic acid, elemental iron or ferrous fumarate, or ferrous sulphate, zinc oxide, as well as food filler. The result consists in producing a supplement with an optimal ratio of ingredients, which when added into the wheat flour contributes to the increase of its biological value.
Image/photo:	

Invention category: 8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	S.C. HOFIGAL EXPORT –IMPORT S.A,
Address:	2 Serelor Str., București
Phone:	0213345135
Fax:	-
Research theme:	**ANTI-BURNS GEL AND ITS OBTAINING PROCEDURE (ARSUTRAT/PLAGOTRAT)**
Authors:	St Manea., V. Tamas, C. Iordachel Patent: B.I. nr 125505/2011 C.B.I. nr. A.00210
Contact person:	Viorica Tamas
E-mail:	cercetarehofigal2013@yahoo.com
Description of the research:	Product,, Arsutrat "-gel is indicated for the relief and treatment of various forms of dermal burns and wounds with disinfectant, decongestants, painkillers and dermorestitutiv, regenerativ of damage tissue.
Image/photo:	-
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	S.C. HOFIGAL EXPORT –IMPORT S.A,
Address:	2 Serelor Str., București
Phone:	0213345135
Fax:	-
Research theme:	Phytotherapeutic preparation rich in ω3 and ω6 polyunsaturated
Authors:	St.Manea Patent: C.B.I. a.201000494/8062010
Contact person:	Tamas Viorica
E-mail:	cercetarehofigal2013@yahoo.com
Description of the research:	The invention is a dietary supplement with a well balanced combination of polyunsaturated fatty acids ω3 and ω6 of vegetable origin, making a better ratio between them in comparison with fish oil. These oils are from organically grown plants and they are processed in GMP conditions.
Image/photo:	-
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	S.C. HOFIGAL EXPORT –IMPORT S.A,
Address:	2 Serelor Str., București
Phone:	0213345135
Fax:	-
Research theme:	**COSMETIC COMPOSITION BASED ON FRESH PLANT JUICES, DESIGNED TO DELAY SKIN AGING PROCESS.(CIULEANDRA)**
Authors:	St.Manea,V.Tamas, A.D.Raiciu, N.Radulescu Patent: B.I. 12.3484/2009
Contact person:	Viorica Tamas
E-mail:	cercetarehofigal2013@yahoo.com
Description of the research:	The invention is a range of 3 products (face cream / day / night, body lotion) designed to nourish the skin beauty and wrinkling delay. As a result, the active substances are with great complexity and effectiveness with essential nutrients and antioxidants from: gemoderivate, barley, Mallow, Amaranth, Milk Thistle, hemp, Blackseeds, Echinacea.
Image/photo:	-
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galaţi
Address:	111 Domnească Str. Galați
Phone:	0741990960
Fax:	-
Research theme:	**BIOPRESERVATIVES WITH ANTIMICROBIAL EFFECT FROM COCONUT FAT**
Authors:	Georgiana Horincar, Vicentiu-Bogdan Horincar, Gabriela Bahrim
Contact person:	Georgiana Horincar
E-mail:	parfene_georgiana@yahoo.com
Description of the research:	Ensuring the stability and the food security are goals of modern principles regarding food safety and the quality of life. Ensuring modern nutritional trends related to public health caused the replacement of chemically synthesized additives with natural compounds, that fulfill the same role, thus eliminating the cumulative risk of chemicals in the body. For thousands of years, coconut oil products used in traditional medicine are believed to be antiblenorrhagic, antibronchitis, antifebrile and antigingivitic and is thought to be the world's most useful medicinal plant in tropical and subtropical countries. This was the reason for choosing the coconut oil as natural biopreservatives provider. Coconut oil is a very important source of fatty acids which have high antimicrobial activity. Fatty acids profiles and antimicrobial activity of crude coconut fat hydrolysates was obtained on solid-state cultivation system with a selected yeast strain Yarrowia lipolytica RO13. A preliminary step regarding extracellular lipase production and solid state enzymatic hydrolysis of crude fat at different water activity and time intervals up to seven days was also applied. Gas chromatography-mass spectrometry analysis was used for quantification of medium chain saturated fatty acids (MCSFA) and the results revealed a higher concentration of about 70 % lauric acid from total fatty acids. Further, antimicrobial activity of fatty acids against some food-borne pathogens (Salmonela enteritidis, Escherichia coli, Listeria monocytogenes and Bacillus cereus) was evaluated. The minimum inhibitory concentration of the obtained hydrolysates varied from 12.5 to 1.56 ppm, significantly lower than values reported in literature. The results

	provide substantial evidence for obtaining biopreservative effects by coconut fat enzymatic hydrolysis.
Image/photo:	-
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Dunărea de Jos University of Galaţi
Address:	111 Domnească Str. Galați 800201 Galați
Phone:	0743110732
Fax:	-
Invention title:	**STATISTICAL OPTIMIZATION OF *PLEUROTUS OSTREATUS* SUBMERGED CULTIVATION IN ORDER TO INCREASE THE BIOMASS PRODUCTION**
Authors:	Vicentiu-Bogdan Horincar, Ana-Maria Popa, Georgiana Horincar, Gabriela Bahrim
Patent no.:	-
Contact person	Vicentiu – Bogdan Horincar
E-mail:	h_vicentiu@yahoo.com
Description of the invention:	Many mushrooms have demonstrated nutritional and health-promoting benefits. The submerged cultivation of mushrooms has been previously applied at reduced scale and proved to be promising for quick and efficient production of high quality biomass rich in biological active metabolites. The submerged culture of mushrooms represents a future for biotechnological processes at industrial level, in order to obtain biomass with economical value (food and ingredients, nutraceuticals and pharmaceuticals). *Pleurotus ostreatus* is well known worldwide for its culinary and medicinal value. The aim of the present study was to create a mathematical model and to optimise the most important biotechnological parameters that have influence on biomass production of *Pleurotus ostreatus*, by cultivation in submerged conditions. Applying the Central Composite Design, it was easy to identify the concentration of nutritive medium constituents which can influence the *P. ostreatus* biomass production. Analysis of variance (ANOVA) exhibited a high correlation coefficient (R2) value of 0.9908 which certify that the mathematical model

	was relevant for that biotechnological process.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Galați, România, 7 – 9 October 2015
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Invention Registration FORM

Company Name/ Institution:	Practical Scientific Institute of Horticulture and Food Technology
Address:	Republic of Moldova, MD 2070 Chisinau, Codru town, str. Vierul, 59
Phone:	+373 (022) 28-54-31
Fax:	+373 (022) 24-16-88
Invention title:	**FUNCTIONAL FOOD PRODUCT ON THE BASE OF VEGETABLE OILS**
Authors:	Svetlana Popel, Lidia Parshacova, Janna Cropotova, Inesa Soboleva
Patent no.:	MD 579 Z 2013.08.31
Contact person	Janna Cropotova
E-mail:	jcropotova@gmail.com
Description of the invention:	The invention relates to the food industry, in particular to a functional food product on base of vegetable oils. The product, according to the invention, contains grape seed oil and a mixture of vegetable oils, consisting of linseed or rapeseed oil and of sunflower or corn, or soybean oil, the components being taken in the following ratio, mass %: - grape seed oil 2…16 - mixture of vegetable oils 84…98 at the same time the ratio of polyunsaturated fatty acids ω-3 to isω-6 in the product is (5…10):1. The result of the invention consists in the production of a food product with an optimum ratio of polyunsaturated fatty acids.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	Practical Scientific Institute of Horticulture and Food Technology
Address:	Republic of Moldova, MD 2070 Chisinau, Codru town, str. Vierul, 59
Phone:	+373 (022) 28-54-31
Fax:	+373 (022) 24-16-88
Invention title:	**METHOD FOR EVALUATING THE THERMOSTABILITY OF STUFFING FOR BAKERY AND CONFECTIONERY PRODUCTS**
Authors:	Janna Cropotova, Svetlana Popel, Parşacova Lidia
Patent no.:	MD 821 Z 2015.05.31
Contact person	Janna Cropotova
E-mail:	jcropotova@gmail.com
Description of the invention:	The invention relates to the food industry, in particular to a method for evaluating the thermostability of stuffing for bakery and confectionery products. The method, according to the invention, provides for the calculation of stuffing thermo-stability index value with a content of dry substances of 30…65%, prepared from the following components for 100 kg of finished product, in kg: - fruit, berry or vegetable raw material 45.0…50.0 - sugar 20.2…57.1 - starch 0.5…1.0 - gellan gum 0.1…1.0 - citric acid 0.1…0.3 using the formula: $BI = 59,65 - 4,76 \cdot A - 85,26 \cdot G + 0,33 \cdot SU + 49,19 \cdot A \cdot G + 0,12 \cdot A \cdot SU + 0,22 \cdot G \cdot SU - 0,82 \cdot A^2 \cdot G \cdot SU + 290,87 \cdot G^2 - 189,69 \cdot G^3 - 0,0087 \cdot SU^2$, where: BI − thermostability index, units G − gellan gum content, kg A − starch content, kg SU − dry substance content, %, at the same time if BI value is equal to 90…100 units the stuffing possesses high thermostability, to 80…89 − average thermo-stability, and if less than 80 the stuffing is thermally unstable.

Image/photo:	
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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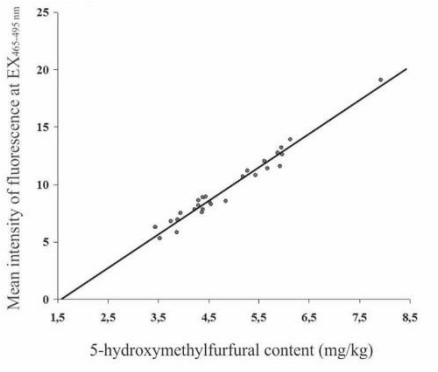
Company Name/ Institution:	Practical Scientific Institute of Horticulture and Food Technology of Moldova[1] Alma Mater Studiorum - Università di Bologna[2]
Address:	[1]Republic of Moldova, MD 2070 Chisinau, Codru town, str. Vierul, 59 [2]Italy, CESENA, Piazza Goidanich 60, 47521
Phone:	+373 (022) 28-54-31 (1) +39-0547-338147 (2)
Fax:	+373 (022) 24-16-88 (1) .+39-0547-382348 (2)
Research theme:	**A NOVEL FLUORESCENCE MICROSCOPY APPROACH TO ESTIMATE QUALITY LOSS OF STORED FRUIT FILLINGS AS A RESULT OF BROWNING**
Authors:	Janna Cropotova, Urszula Tylewicz, Emiliano Cocci, Santina Romani, Marco Dalla Rosa
Contact person:	Janna Cropotova
E-mail:	jcropotova@gmail.com
Description of the research:	The aim of the research is to estimate the quality deterioration of apple fillings during storage. A novel, time-saving and non-invasive method based on fluorescence microscopy for prompt ascertainment of non-enzymatic browning initiation in fruit fillings is investigated in the study. Apple filling samples were obtained by mixing different quantities of fruit and stabilizing agents (inulin, pectin and gellan gum), thermally processed and stored for 6-month. The preservation of antioxidant capacity (determined by $DPPH^{\bullet}$ method) in apple fillings was indirectly correlated with decrease in total polyphenols content that varied from 34 ± 22 to $56 \pm 17\%$ and concomitant accumulation of 5-hydroxymethylfurfural (HMF), ranging from 3.4 ± 0.1 to 8 ± 1 mg/kg in comparison to initial apple puree values. The mean intensity of the fluorescence emission spectra of apple filling samples and initial apple puree was highly correlated ($R^2 > 0.95$) with the HMF content, showing a good potentiality of fluorescence microscopy method to estimate non-enzymatic browning.

Image/photo:	
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	I.I. Dorel Neacșu
Address:	Galați, 7, Siderurgiștilor Str.,
Phone:	0744614198
Fax:	-
Invention title:	**PROCEDURE AND MATRIX FOR ACHIEVING REGISTERED TRADEMARK SOAP**
Authors:	Dorel Neacșu
Patent no.:	117385
Contact person	Dorel Neacșu
E-mail:	dorunro@gmail.com
Description of the invention:	The invention refers to a procedure for achieving registered trademark soap, as well as a matrix for applying the procedure. The matrix for achieving the registered trademark soap consists of two semi matrices equipped inside with cores which reproduce the marking or the brand insignia. The respective matrix has one hole which communicates with the cavity of the matrix – for pouring the base composition of the soap, and another hole which communicates with the cavity created by the cores – for pouring the base composition which will create the trademark of the soap.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Company Name/ Institution:	Public Institution Practical Scientific Institute of Horticulture and Food Technology, Laboratory Food Technology
Address:	59, Vierul str., MD-2070, Codru, Chisinau, Republic of Moldova
Phone:	+373 22 28 54 31
Fax:	+373 22 28 50 25
Invention title:	**PROCESS FOR THE PRODUCTION OF A FAT-SOLUBLE EXTRACT AND A PROTEIN PRODUCT FROM WHEAT GERMS**
Authors:	Vavil Caragia, MD; Viorel Simac, RO; Diana Nicolaeva, MD; Marina Podogova, MD; Ana Jenac, MD; Marina Tirsina, MD;
Patent no.:	MD 624
Contact person	Olga Migalatiev
E-mail:	olgamigalatiev@yahoo.com
Description of the invention:	The invention relates to biotechnology, namely to a process for the production of a fat-soluble extract and a protein product from wheat germs, which can be used in food industry, medicine and cosmetics. The process, according to the invention, consists in that the raw material is dried at a temperature not exceeding 70 °C up to the humidity of 6...8%, during at most 10 minutes, is ground to a diameter of 2...3 mm, followed by extraction with carbon dioxide at a pressure of 22...25 MPa and a temperature of 45...60 °C, during 55...60 minutes, then is separated the carbon dioxide with the production of the fat-soluble extract and the protein product and subsequent filtration of the fat-soluble extract.

Image/photo:	 Fig. 1. CO_2-meal  Fig.2.CO_2-extract
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	Public Institution Practical Scientific Institute of Horticulture and Food Technology, Laboratory Food Technology
Address:	59, Vierul str., MD-2070, Codru, Chisinau, Republic of Moldova
Phone:	+373 22 28 54 31
Fax:	+373 22 28 50 25
Invention title:	**FRUIT, BERRY AND VEGETABLE CONDIMENT**
Authors:	Linda Liudmila, MD; Elena Pirgari, MD; Vavil Caragia, MD; Olga Migalatiev, MD; Ana Jenac, MD; Tatiana Sarandi, MD;
Patent no.:	665
Contact person	Olga Migalatiev
E-mail:	olgamigalatiev@yahoo.com
Description of the invention:	The invention relates to the food industry, namely to a fruit, berry and vegetable condiment. The condiment includes pumpkin or apple sauce, Japanese quince or yellow cherry plum, or gooseberry sauce, as well as granulated sugar, table salt, spices, mustard, pectin or xanthan gum, or carob tree gum, or guar gum and water. The result is to increase the uniformity and stability of condiment consistence and to increase its nutritional value.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Company Name/ Institution:	„Gheorghe Asachi" Technic University of Iaşi,
Address:	67, Dimitrie Mangeron Street, 700050 Iaşi, România,
Phone:	0755.101.092
Fax:	-
Invention title:	**DEVICE FOR MEASURING THE THREAD-BRACKET FRICTION FORCE OF THE ORTHODONTIC BRACES**
Authors:	Neculai Seghedin, Dragoş-Florin CHITARIU, Irina-Nicoleta ZETU
Patent no.:	108/ 17.02.2015
Contact person	Prof. Dr.Ing. Neculai Seghedin,
E-mail:	nseghed2003@yahoo.com
Description of the invention:	The invention refers to a device used for measuring the friction force between the threads and the brackets found in orthodontic braces. The device, according to figures 1, 2 is composed of a main board (1) on which a support is being applied (2). The board (3) can move guided on the support (2) in a direction perpendicular to the frontal plan. The board (4) can move both horizontally and vertically guided on the support (2). The movement of the boards on the three directions reciprocally perpendicular can be measured by the micro-meters (6), (7) and (8) placed on the (26), (28) and (30) supports, placed on board (1), Figure 3. On the (3) and (4) boards are glued some brackets (9) and (10), which are passed by a metallic thread (11), Figure 2. The metallic thread (11) has at the other end a tensometric transmitter (12) which is moved with the help of a screw (13), placed in a support nut (14). The transmitter (12) can move on guidance (16), which is attached to the board (1) with a support (17). The thread (11) is attached, at the other end, with an inductive transmitter (19), which is placed on the board (1) with a magnetic support (20). The friction force of the thread-bracket is measured with the help of the tensometric transmitter (12), and the movement of the thread is highlighted with the help of the movement inductive transmitter (19). The position of the board (3) is ensured with the help of a tightening mechanism with articulated bars (21) attached to the support (30). The position of the board (4) is ensured with the help of a tightening mechanism with articulated bars (24) attached to

Image/photo:

the support (25). Figure 3.

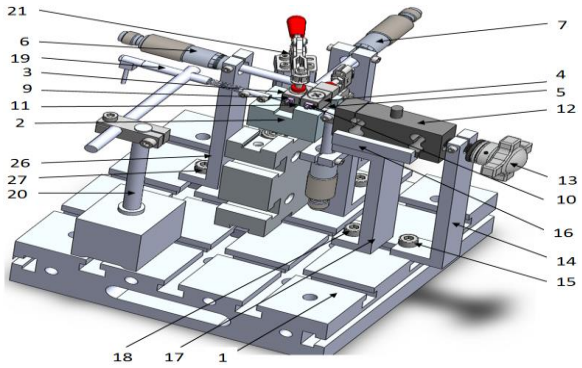

Figura 1 (Figure 1)

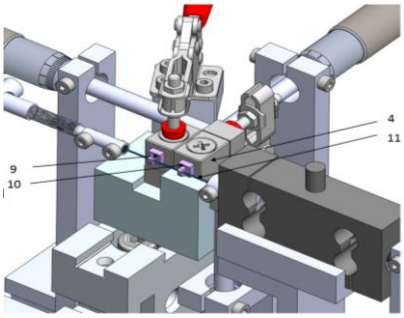

Figura 2 (Figure 2)

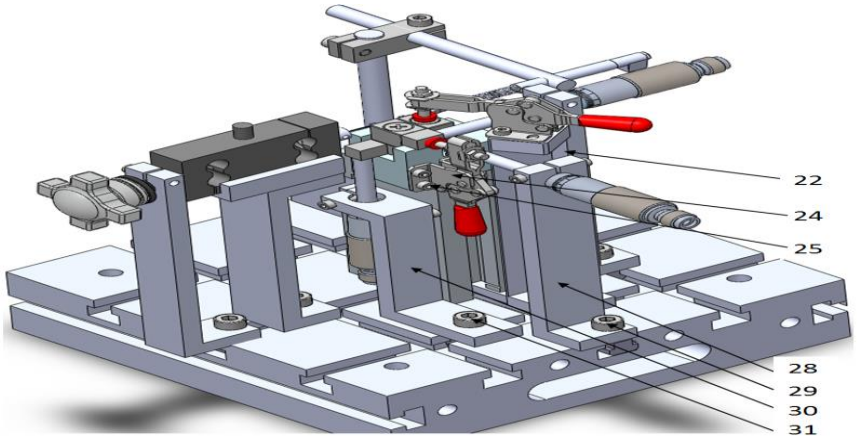

Figura 3

Invention category: 5

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	Scientific and Practical Institute of Horticulture and Food Technologies
Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Research theme:	**APPRECIATION METHOD FOR SECONDARY FERMENTATION CAPACITY OF YEAST STRAIN FOR THE PRODUCTION OF RED SPARKLING WINE.**
Authors:	Nicolae Taran, Eugenia Soldatenco, Boris Morari, Olga Soldatenco
Contact person:	Eugenia Soldatenco
E-mail:	soldatenco_e@mail.ru
Description of the research:	The invention relates to biotechnology, namely appreciation method for secondary fermentation capacity of yeast strain for the production of red sparkling wine. Method of the invention contemplates the addition of the yeast strain in an amount of 3 million at. / cm^3 into the wine with a sugar content of 22 g / dm^3 and phenolic substances from 1000 to 2500 mg / dm^3, the process of fermentation is going over 5 days at 20 ° C in a test tube with a diameter of 2 cm and a height of 15 cm, in which is placed a pipe with one end soldered and with a diameter of 0.3 cm and a height of 10 cm, with neck oriented towards the bottom of the tube, pipe is graduated in scale where one unit have a volume equal to 0,071 cm^3, in process of testing from pipe air is exhaust and filled with fermentation solution from the tube. And by determining the volume of gas accumulated in the pipe we can judge about fermentation dynamic in the tube. As the accumulated gas volume is greater, the more increased capacity of secondary fermentation the yeast strain has.
Image/photo:	-
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Invention title:	**STRAIN OF YEAST *SACCHAROMYCES CEREVISIAE* FOR THE PRODUCTION OF SPARKLING WHITE WINE**
Authors:	Nicolae Taran, MD; Eugenia Soldatenco, MD; Victoria Adajuc, MD.
Patent no.:	MD 4225
Contact person	Eugenia Soldatenco
E-mail:	soldatenco_e@mail.ru
Description of the invention:	The invention relates to biotechnology and can be used in the wine industry. The yeast strain *Saccharomyces cerevisiae*, deposited at the National Collection of Nonpathogenic Microorganisms under the number CNMN-Y-24, can be used in the production of sparkling white wines. The result consists in the selection of a local yeast strain from the must obtained from Chardonnay grape variety with the capacity of carbohydrate fermentation at moderate concentrations of alcohol for producing sparkling white wines of high quality.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Research theme:	**CORRECTION OF ALCOHOLIC CONTENT IN WHITE AND RED DRY WINES USING BLENDING METHOD**
Authors:	Nicolae Taran, Svetlana Stoleicova, Eugenia Soldatenco
Contact person:	Eugenia Soldatenco
E-mail:	soldatenco_e@mail.ru
Description of the research:	Correction of alcoholic content in white and red wines using blending method consists in partial dealcoholization of wine using vacuum distillation method, with subsequent blending in different proportions with natural full wine. This method allows obtaining of white and red dry wines with corrected alcoholic content, restoring the fullness of wine, and to regulate the composition of the wine. According to obtained results, blending of initial wine with dealcoholized wine in proportions 50%:50% and 70%:30% contributes the improvement of the effectiveness of dealcoholization process, leads to substantial reduction of operating time and amelioration of quality for wines with reduced alcoholic content.
Image/photo:	-
Research category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Invention title:	**STRAIN OF YEAST SACCHAROMYCES CEREVISIAE FOR THE PRODUCTION OF WHITE DRY WINES**
Authors:	Nicolae Taran, MD; Eugenia Soldatenco, MD; Maria Antohi, MD.
Patent no.:	MD 4203
Contact person	Eugenia Soldatenco
E-mail:	soldatenco_e@mail.ru
Description of the invention:	The invention relates to biotechnology and can be used in the wine industry. The strain of yeast *Saccharomyces cerevisiae*, deposited at the National Collection of Nonpathogenic Microorganisms under the number CNMN-Y-23, can be used in the production of white dry wines. The result consists in the selection of a local yeast strain from must obtained from Aligote grape variety with high technological characteristics, in particular with the ability of carbohydrate fermentation at an increased active acidity of the must.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Invention title:	**STRAIN OF SACCHAROMYCES CEREVISIAE YEAST FOR THE PRODUCTION OF DRY RED WINES**
Authors:	Nicolae Taran, MD; Eugenia Soldatenco, MD; Maria Antohi, MD.
Patent no.:	MD 4242
Contact person	Eugenia Soldatenco
E-mail:	soldatenco_e@mail.ru
Description of the invention:	The invention relates to biotechnology and can be used in the wine industry. The yeast strain *Saccharomyces cerevisiae*, deposited at the National Collection of Nonpathogenic Microorganisms under the number CNMN-Y-25, can be used in the production of dry red wines. The result consists in the selection of a local yeast strain from the must obtained from Cabernet-Sauvignon variety for the production of dry red wines of high quality, possessing carbohydrate fermentability at high concentrations of phenolic compounds and increased formation of glycerol.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Invention title:	**STRAIN OF SACCHAROMYCES VINI YEAST FOR THE PRODUCTION OF WHITE DRY WINES**
Authors:	Nicolae Taran, MD; Olga Soldatenco, MD.
Patent no.:	MD 4210
Contact person	Eugenia Soldatenco
E-mail:	**soldatenco_e@mail.ru**
Description of the invention:	The invention relates to biotechnology and can be used in the wine industry. The strain *Saccharomyces vini* yeast, deposited at the National Collection of Nonpathogenic Microorganisms under the number CNMN-Y-26, can be used in the production of white dry wines. The result consists in the selection of a local yeast strain from the must obtained from Chardonnay variety cultivated at the viticultural and winemaking center Cricova with the ability of carbohydrate fermentation at low temperatures to produce high-quality wine.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Company Name/ Institution:	Scientific and Practical Institute of Horticulture and Food Technologies
Address:	MD 2070, mun. Chișinău, vil. Codru, Vierul str., 59
Phone:	+37322285431
Fax:	+37322285025
Invention title:	**STRAIN OF THE YEAST *SACCHAROMYCES CEREVISIAE* FOR THE PRODUCTION OF AROMATIC DRY WHITE WINES**
Authors:	Nicolae Taran, MD; Eugenia Soldatenco, MD; Victoria Adajuc, MD.
Patent no.:	MD 4224
Contact person	Eugenia Soldatenco
E-mail:	soldatenco_e@mail.ru
Description of the invention:	The invention relates to biotechnology and can be used in the wine industry. The yeast strain *Saccharomyces cerevisiae*, deposited at the National Collection of Nonpathogenic Microorganisms under the number CNMN-Y-22, can be used in the production of aromatic dry white wines. The result consists in the selection of a local yeast strain from the must obtained from Muscat grape variety for the production of aromatic dry white wines of high quality.
Image/photo:	-
Invention category:	8

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Publicity – Printing – Packages – Packaging

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Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60 Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**BOARD TYPE HYDRO-GLIDER WITH MANUALLY ACTIVATED PROPELLER**
Authors:	Pop Dragomir
Patent no.:	119775
Contact person	Danuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention solves the technical problem of achieving a board type floater equipped with a manual propelling system, easy to activate and which ensures an increased speed.
Image/photo:	-
Invention category:	10

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60, Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**PROPELLING MECHANISM FOR SMALL BOATS**
Authors:	Dragomir Pop
Patent no.:	116956
Contact person	Danuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	The invention refers to a manually activated propelling mechanism destined for small boats. The problem that the invention solves is the creation of a muscular action propelling mechanism based on obtaining a reactive jet with the help of two oscillating pallets situated in two hydraulic chambers, each of which is equipped with a discharge nozzle, the pallets being activated by a balancer equipped at the inferior end with a contact roll placed in the slider of the conductive pallet
Image/photo:	-
Invention category:	10

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Invention Registration FORM

Company Name/ Institution:	I.I. Neacșu Dorel
Address:	Galați, 7, Siderurgiștilor Str.
Phone:	0744614198
Fax:	-
Invention title:	**MULTIFUNCTIONAL WINDOW**
Authors:	Dorel Neacșu
Patent no.:	119901
Contact person	Dorel Neacșu
E-mail:	dorunro@gmail.com
Description of the invention:	The invention refers to a multifunctional window, whose transparency can be modified, to be used for publicity or for aesthetic purposes. In view of achieving variable transparency, the multifunctional window is equipped with a liquid or gas stored in a tank within the window frame, inside which a pump is installed, as well as aspiration and repression pipes for the liquid/ gas in the spaces between the pane and the frame
Image/photo:	-
Invention category:	10

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

INVENTION CATEGORY
Environment protection – Energy

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Invention Registration FORM

Company Name/ Institution:	Asociația "Job"
Address:	Galați, 60, Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**BOX FOR COINS**
Authors:	Dănuț Busuioc
Patent no.:	115918
Contact person	Dănuț Busuioc
E-mail:	**asociatia_job@yahoo.com**
Description of the invention:	The invention consists in achieving a technical solution to storing and transporting coins in rolls of ten, or of multiples of ten, in transparent plastic boxes.
Image/photo:	**-**
Invention category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	Alexandru Ioan Cuza University, Faculty of Biology; Dunărea de Jos University, Faculty of Food Science and Engineering
Address:	Bd. Carol I, No. 20 A, 700505 Iași, România; 47 Domnească St., 800008 Galați, România
Phone:	-
Fax:	-
Research theme:	**INNOVATIVE SOLUTIONS ON BIOREMEDIATION OF AQUATIC ENVIRONMENTS POLLUTED WITH RECALCITRANT PHARMACEUTICAL COMPOUNDS**
Authors:	Claudia Popa (Ungureanu), Lidia Favier, Cătălin Tănase, Gabriela Bahrim
Contact person:	Claudia Popa Ungureanu
E-mail:	claudia.popa@ugal.ro
Description of the research:	In the last years, the presence in the environment of emerging micropolluants from pharmaceutical sources, such as carbamazepine, diclofenac and clofibric acid, has received much attention based on their toxicity against biological systems, even in concentrations of ng L^{-1}. It is important to highlight the potential impact of the release of pharmaceuticals into the environment, since these compounds are designed to affect biochemical and physiological functions on aquatic organisms. As aquatic pollutants, these drugs are recalcitrant compounds and have moderate and high recalcitrance in correlation with their chemical structure and toxicity. White-rot fungus is known as microorganisms with a great implication in degradation of a wide range of xenobiotics and recalcitrant pollutants and this capacity is correlated with their adaptability at simple environmental conditions and their ability for phenol oxidases production. This ability being of great interest for the development of environmentally friendly biotechnological processes to be applied in wastewater bioremediation. From a practical implementation point of view, in the wastewater treatment works, and for the increase of economic efficiency of the studied bioprocesses, the use of multiple cultures for bioremediation processes was followed, selected fungal strains-activated sludge, and to establish the optimal conditions for targeted xenobiotic compounds bioconversion and also the increase of biotransformation efficiency.

	The innovation approaches would be useful for the practical applications of white-rot fungi in wastewater treatment for xenobiotic recalcitrant compounds removal, like pharmaceutical pollutants.
Image/photo:	-
Research category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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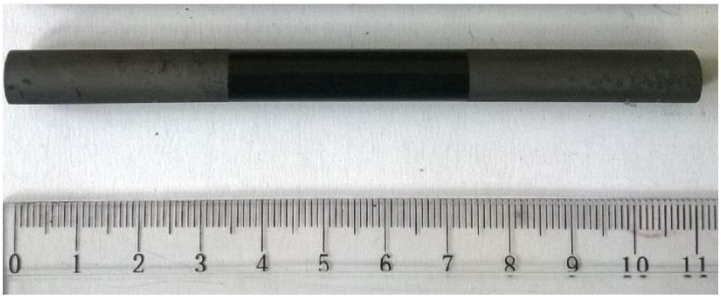
Research Registration FORM

Company Name/ Institution:	Grupul de Măsurători și Diagnoză SRL Universitatea "Dunărea de Jos" din Galați
Address:	Str.41 Roșiori, Bl. PIN 1, 29, Galați 800044, România 111 Domnească 800201, Galați, România
Phone:	(+40) 336 80 2228 (+40) 336 13 01 86
Fax:	(+40) 336 80 2228 (+40) 336 13 01 86
Research theme:	**CARBON FILLED POLYMERS**
Authors:	Claudia Ungureanu, Marius Bodor, Iulia Graur, Adrian Cîrciumaru, Vasile Bria
Contact person:	Adrian Cîrciumaru
E-mail:	adrian.cîrciumaru@ugal.ro
Description of the research:	Active carbon composites have attracted considerable attention owing to their unique mechanical, surface and multi-functional properties, and strong interactions with the matrix resulting from the nano-scale microstructure and extremely large interfacial area. The aim of this study is the formation of composite materials with active carbon which improve the mechanical, physical and electrical properties of polymer. Amongst high electrical conductivity carbon powder is the cheapest and easiest to use with the disadvantage generated by the fact that when put into a polymer carbon particles tend to aggregate and the final result is a material with poor mechanical properties. Carbon composites shows electrical conductivity values above the epoxy resin value. This study is about using active carbon to change the electrical conductivity of three different epoxy systems.

Image/phoo	
Research category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	„Dunărea de Jos" University of Galați
Address:	47 Domnească Str.
Phone:	0726320942
Fax:	-
Research theme:	**PRELIMINARY RESULTS FROM THE 2014 AROMAT CAMPAIGN**
Authors:	Daniel-Eduard Constantin, Carmelia Dragomir, Mirela Voiculescu, Lucian Georgescu, Alexis Merlaud and Michel Van Roozendael
Contact person:	Daniel-Eduard Constantin
E-mail:	daniel.constantin@ugal.ro
Description of the research:	The Airborne ROmanian Measurements of Aerosols and Trace gases (AROMAT) campaign was held in Romania during the first two weeks of September 2014. AROMATcampaign took place in the framework of the ESA Copernicus Earth Observation Programme and was conducted by several research institutions from Romania (UGAL, INOE, INCAS) and Europe (BIRA-IASB, MPI, FUB, KNMI, UNI.BREMEN). In this work we present the results obtained by Dunarea de Jos University of Galati which performed in-situ measurements and remote sensing observations.
Image/photo:	-
Research category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	„Dunărea de Jos" University of Galați
Address:	Domnească Street, No. 47
Phone:	40236460182
Fax:	40236460182
Research theme:	**ARTIFICIAL INTELLIGENCE BASED ENERGY EFFICIENT CONTROL FOR THE VARIABLE SPEED ELECTRIC DRIVES**
Authors:	Marian Găiceanu, Emil Roșu
Contact person:	Marian Găiceanu
E-mail:	Marian.Gaiceanu@ugal.ro, Emil.Rosu@ugal.ro
Description of the research:	Artificial intelligence represents a viable solution for implementing the high performance real time control systems. Taking into consideration the properties of the feed forward neural networks (FFNN), a robust optimal control solution to parameter variations of the three-phase induction motor is obtained. The on-line learning strategy of the FFNN is based on the recursive Gauss Newton algorithm (RGNA). The advantages of using RGNA are the increasing learning speed than of the conventional backpropagation one, and the robustness to parameter variations. The FFNN architecture based on the RGNA is designed such that the local minimum solution is avoided. The delivered optimal solution is connected to the real time electric drive. In this way, by setting a fixed reference speed value, the RGNA will deliver the on-line optimal reference speed profile to the real drive. By follow the optimal reference, the energy efficiency during the dynamic regimes is increased. The rotor field oriented vector controlled IM at constant flux has been considered. The obtained neurocontroller, delivers the solution of matrix Riccati differential equation (MRDE) based on the measured currents, speed, rotor flux angleand the estimated load torque. The obtained performances of the intelligent drive are: the input energy minimization, the fast compensation of the load torque smooth response, no oscillations on the control interval, no overshoot. The input pattern of the neuro-optimal controller consists of the real data and includes all the nonlinearities of the three-phase induction motor in rotor field oriented system. The multidimensional computing controller delivers the adequate optimal control after training stage of the NN, the optimal

controller being replaced entirely by the neuro control proposed strategy. The conclusions based on the proposed intelligent drive simulation results are: the reduction with 8-18 percent (depends on the adequate choice of the weighting matrices) of the input AC energy versus the classical control; by using a load torque estimator, the torque transducer is eliminated; high dynamic performances (without overshoot and robustness to load variations due to the feedforward compensating of the load torque).

Acknowledgment

This work was supported by a grant of the Romanian National Authority for Scientific Research, CNDI– UEFISCDI, project number PN-II-PT-PCCA-2011-3.2-1680.

Image/photo:

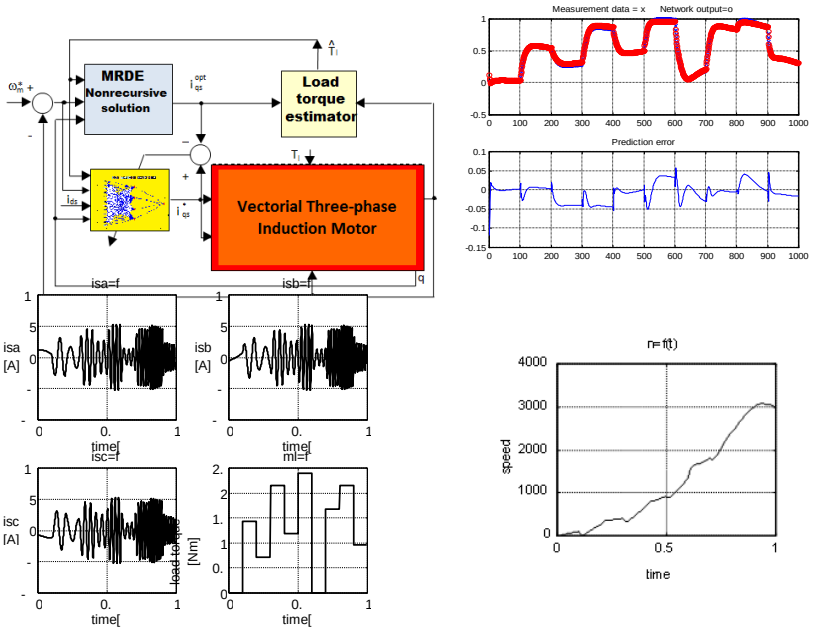

Fig.1-4 (left up to right down). The Neuronal Electric Drive System: architecture; comparison between the measurement data and the Neuronal

	Controller output; the adequate three-phase current response to load torque variation, and the obtained speed drive response.
Research category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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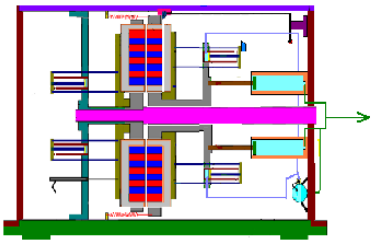
Invention Registration FORM

Company Name / Institution:	Ion V Ion ; Tudorel Scantei
Address:	309 Traian Str. Galați
Phone:	0737901919
Fax:	-
Invention title:	**ENERGETIC TRANSFORMER**
Authors:	Ion V Ion ; Scantei Tudorel
Patent no.:	O.S.I.M. A/00965 / 2014
Contact person	Tudorel Scantei ; Ion V Ion
E-mail:	invscanteitudorel@yahoo.com
Description of the invention:	The invention refers to a combination of magnetic, hydraulic and mechanical devices which transform the energy of permanent magnets into machine work indefinitely. The invention with the help of permanent magnets, some ferromagnetic pieces which close or open the magnetic circuits of the permanent magnets with the help of some hydraulic and mechanical devices that solve the problem. The prototype of the invention is under progress.
Image/photo:	
Invention category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	ADR SE
Address:	24 Anghel Saligny Str. Brăila, România
Phone:	0339401018
Fax:	0339401017
Invention title:	**THE NATIONAL POLE FOR COMPETITIVENESS IN PROMOTING MODERN FABRICATION SYSTEMS FOR IMPLEMENTING GREEN PRINCIPLES – "MEDGREEN"**
Authors:	ADR SE
Patent no.:	n/a
Contact person	Madalina Ion-Toma, manager proiect Serviciul Implementare Proiecte ADR SE/Ofiter comunicare Pol MEDGreen
E-mail:	madalina.toma@adrse.ro
Description of the invention:	The MEDGreen Competitiveness Pole represents a microeconomic approach by means of which the competencies of various actors/ entities with growth potential at national level are coagulated and brought to bear on a segment specific to machine, equipment and tool fabrication, with applicability in economic sectors with a high potential of growth from those pertaining to the green economy sector. The MEDGreen Pole includes 10 projects, 3 of which are investment ones, 3 are research and development projects, and 4 are "soft" projects – carried out in the South-East, West, and Bucuresti-Ilfov development regions. The National Pole for Competitiveness in Promoting Modern Fabrication Systems for Implementing Green Principles – "MEDGreen" is developed within the Sectorial Operational Programme "Increasing Economic Competitiveness" – Priority Axis 1. "An Innovative and Eco-efficient System of Production" – Major Intervention Domain 1.3. "Entrepreneurial Durable Development" – Operation 1.3.1. "Development of Support Structures for Businesses of National and International Interest".
Image/photo:	

Invention category: 11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	"Dunărea de Jos" University of Galați
Address:	41 Roșiori Str., , Galați 800044, România 111 Domnească 800201, Galați, România
Phone:	(+40) 336 80 2228 (+40) 336 13 01 86
Fax:	(+40) 336 80 2228 (+40) 336 13 01 86
Research theme:	**MEMORY SHAPE POLYMERS**
Authors:	Iulia Graur, Claudia Ungureanu, Marius Bodor, Adrian Cîrciumaru, Vasile Bria
Contact person:	Adrian Cîrciumaru
E-mail:	adrian.cîrciumaru@ugal.ro
Description of the research:	The objective of this paper is to review the most common applications of shape memory polymers (SMPs) and shape memory composites (SMCs) and gathering of valuable scientific results regarding these smart materials. For materials composite manufacture three epoxy resins were used: Epiphen, HT2 and C. These resins were chosen for their mechanical and physical proprieties. For matrix forming was used an mixture of 1-methyl – 2 pyrrolidinone with polysulfone. The mechanic proprieties at bending were: energy to break, elasticity modulus, creep energy, strain at break, force at break, stress at break. The best answers to the three-point bending test were given by resin C and resin HT2 while Epiphen gave the weakest values relative to the type of resin. For polysulfone materials, breaking forces cannot be considered reliable because these materials have a very special behavior, as they do not break due to three points bending tests. If the other materials had a resins close behavior, becoming more or less brittle, the addition of polysulfone in materials converts them in flexible ones.

Image/phoo	
Research category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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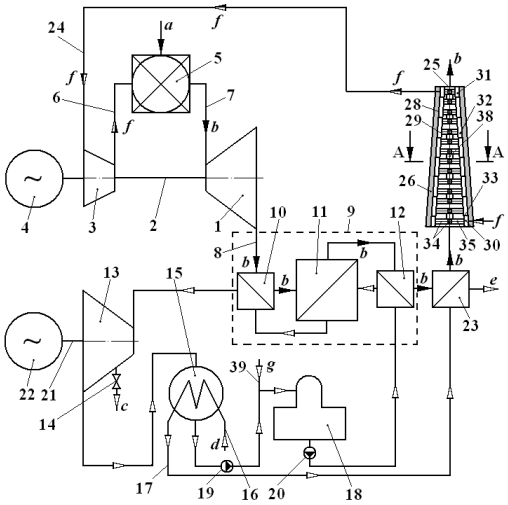
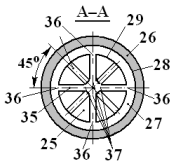
Invention Registration FORM

Company Name/ Institution:	"Vasile Alecsandri" University of Bacău
Address:	157 Calea Mărăşeşti str., Bacău, Bacău county, postal code 600115, România
Phone:	+40 745 389 921
Fax:	+40 234 545 753
Invention title:	**COMBINED GAS AND STEAM TURBINE INSTALLATION**
Authors:	Tudor Sajin, Sorin-Gabriel Vernica, Dragoş Iulian Nedelcu, Cătălin Bîrsan, Constantin Narcis Ostahie, Florin Aniţei, Marius Gheorghe Mărian
Patent no.:	RO 126050 B1
Contact person	Tudor Sajin
E-mail:	sajin_tudor@yahoo.com
Description of the invention:	The invention relates to a combined gas and steam turbine installations. According to the invention, the installation (Fig.1) comprises a gas turbine (1) on a rotation axle (2) whereof there is mounted an air turbo compressor (3) and an electric generator (4), a pressurized combustion chamber (5) coupled to a discharge tubing (6) of the air turbo compressor (3) and to an input tubing (7) of the gas turbine (1), a steam boiler (9) with heat exchangers (10), (11) and (12) linked in the gas portion (b) to an output tubing (8) of the turbine (1) and serially connected by means of a closed water-steam circuit with a steam turbine (13) on whose rotation axle (21) there is mounted electrical generator (22), a steam condenser (15) provided with some input-output tubings (16) and (17) for the cooling water (d) and a deaerator (18) having at each input and output a feed pumps (19) and (20). In order to increase the heat recovery degree of flue gases and in order to operate in central heating mode with the co-generation of electrical energy, technological steam and hot water at a certain thermal efficiency, on the path of the flue gases (b), at the output of the turbine (1) the heat exchangers (10), (11) and (12) of the boiler (9) are placed in the succession steam overheater (10) - evaporator (11) - economizer (12), in the water-steam circuit, there being used the steam turbine (13) with adjustable steam intakes (14). The installation comprising additionally a heat exchanger (23) placed on the path of flue gases (b), downstream of the economizer (12)

	and coupled on the water portion to the tubing (17) for cooling water (d) of the condenser (15), and also a device for exhausting the flue gases (b) into the atmosphere, provided with an air preheater coupled to the sucking tubing (24) of the turbo compressor (3). The device (Figs.1 and 2) for exhausting the flue gases (b) into the atmosphere is manufactured in the shape of a flue stack (25) with a thermal insulation (26). The preheater (Fig.2) is manufactured in the shape of a shirt (27).
Image/photo:	 Fig. 1  Fig. 2
Invention category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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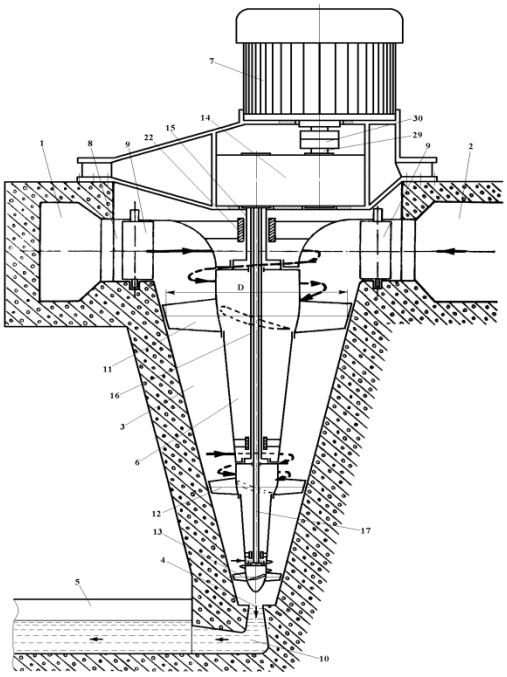
Invention Registration FORM

Company Name/ Institution:	"Vasile Alecsandri" University of Bacău
Address:	157 Calea Mărăşeşti str., Bacău, Bacău county, postal code 600115, ROMANIA
Phone:	+40 745 389 921
Fax:	+40 234 545 753
Invention title:	**MICRO HYDROELECTRIC POWER PLANT**
Authors:	Tudor Sajin, Marius Gheorghe Mărian, Constantin Narcis Ostahie, Sorin-Gabriel Vernica, Florin Aniţei, Cătălin Bîrsan, Dragoş Iulian Nedelcu
Patent no.:	RO 125723 (B1)
Contact person	Tudor Sajin
E-mail:	sajin_tudor@yahoo.com
Description of the invention:	The invention relates to the micro hydroelectric power plants, concrete to the micro hydropower plants for energy extraction from rivers with reduced hydraulic potential. According to the invention, the micro hydroelectric power plant (Fig.1), comprises a foundation shore, manufactured in the shape of a spiral housing (1) from reinforced concrete with tangential inlet (2), through which is deviated a part of the river flow, and with a chamber (3) for formation of the water flow in the form of gravitational vortex, at the bottom of which is made a central hole (4) for water outflow, positioned over a tailrace channel (5), a hydraulic turbine (6) with vertical shaft, positioned in the center of the chamber (3) and connected kinematically to an electric generator (7). *In order to increase the efficiency of conversion of available hydraulic energy into electricity*, the spiral housing (1), at the entrance in the upper part of the chamber (3), is equipped with a wicket gate (8) with fixed guide blades (9) having adjustable tilt. The chamber (3) is designed as a truncated cone positioned with the large base at the top. Between the central hole (4) and the tailrace channel (5) is coupled a draft tube in the elbow (10). Hydraulic turbine (6) is carried out in speed stages (11), (12) and (13) with characteristic diameters (D) of the mobile blades, which decreases along the chamber (3) from the entrance to the hole (4) directly proportional with

	the decreasing of the chamber (3) cross section diameter. The hydraulic turbine (6) is connected kinematically with the electric generator (7) through a stages (11), (12) and (13) speed reduction and multiplication mechanism (14). Each stage (11), (12) or (13) of the hydraulic turbine (6) is mounted on its own shaft of rotation (15), (16) or (17). The shafts (15), (16) and (17) are assembled telescopically and are connected to the respectiv drive gear (18), (19) or (20) of the reduction and multiplication mechanism (14). The type of the blades used in each stage (11), (12) or (13) are chosen according to the specific speed thereof.
Image/photo:	 Fig. 1
Invention category:	11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Address:	157 Calea Mărăşeşti str., Bacău, Bacău county, postal code 600115, România
Phone:	+40 745 389 921
Fax:	+40 234 545 753
Invention title:	**WAVE ENERGY CONVERSION PLANT**
Authors:	Tudor Sajin, Dragoş Iulian Nedelcu, Sorin-Gabriel Vernica, Florin Aniţei, Marius Gheorghe Mărian, Cătălin Bîrsan, Constantin Narcis Ostahie
Patent no.:	RO 125676 (B1)
Contact person	Tudor Sajin
E-mail:	sajin_tudor@yahoo.com
Description of the invention:	The invention relates to the wave energy conversion plants, particularly to a installations with the floating elements for wave energy conversion into electrical energy. The wave energy conversion plant (Fig.1 and Fig.2) is constituted by a structure of the float cylinders (1), tied at the ends with the joints, and by a mechanisms for converting the relative and alternative rotary motion of the float cylinders (1) in relation to the axes of the joints in the movement of the conversion mechanism mobile elements related kinematically with the electric generators (4). In order to transform the both components of the mechanical energy, such as potential and kinetic energy of waves into electricity at high efficiency, the float cylinders (1) are mounted with the posibility to relative rotation around the longitudinal axis (2) and are bound together in parallel at both ends with the arms (3). The arms (3) are perpendicular to the longitudinal axis (2), so that consecutively one end of the arm (3) is rigidly connected to the end of a float cylinder (1) and the other end of the arm (3) is rigidly mounted to the longitudinal ax (2) of the neighbor float cylinder (1). The mechanisms for converting the relative and alternative rotary motion of the float cylinders (1) in relation to the longitudinal axes consist of some multiplier gears (Fig.4) and of some transmissions for converting of the alternative rotary motion into unidirectional rotary motion, at wich output axes are coupled the electric generators (4). Coaxially with each

Image/photo:

float cylinder (1) are rigidly installed to the rotation axis (5) a water wheels (6) (Fig.3) in the chessboard arrangement (Fig.2) with the possibility of rotation in relation to the float cylinders (1) with a helical blades (7), having the eardrums (T), open in the opposite direction with wave propagation (v) and coupled through some additional gearing multipliers to some additional electric generators (8). The each of longitudinal axes (2) of the marginal float cylinders (1) are related each with a rudder (12) for guiding the structure of cylinders (1) with the longitudinal axes (2) perpendicular to the propagation direction (v) of the waves (V).

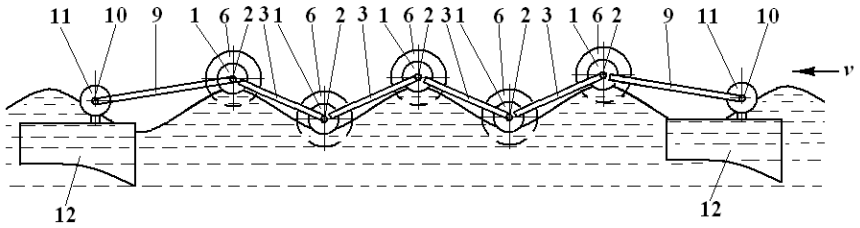

Fig. 1

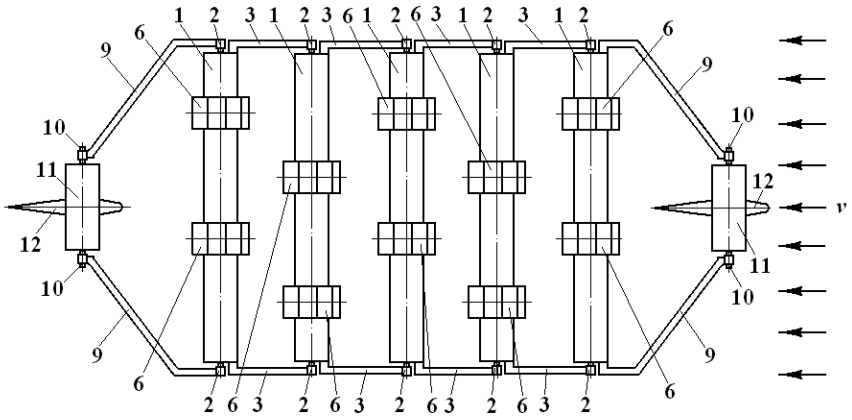

Fig. 2

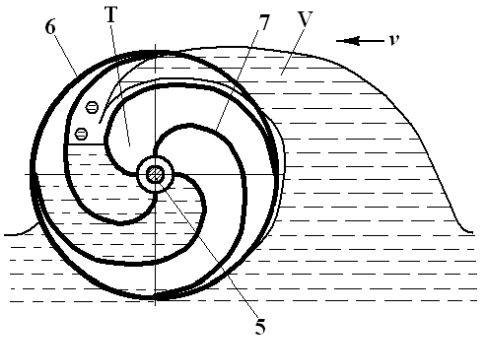

Fig. 3

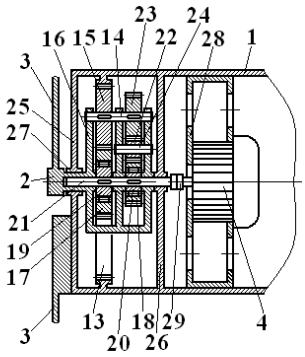

Fig. 4

Invention category: 11

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60, Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**BOARDS FOR COVERING VARIOUS CONSTRUCTIVE ELEMENTS**
Authors:	Danuț Busuioc
Patent no.:	-
Contact person	Dănuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	This model of boards is intended for covering construction elements. The visual aspect of the construction elements – apparent brick, cubical stone, calcium, rectangular tiles, V packages, scales type tiles – is transferred on the surface of the construction elements by means of profiled boards made out of plastic.
Image/photo:	**-**
Invention category:	12

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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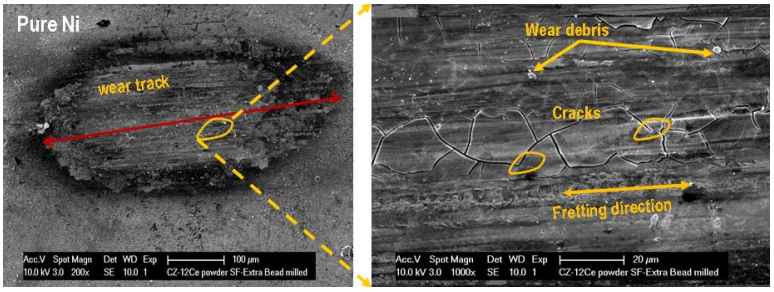
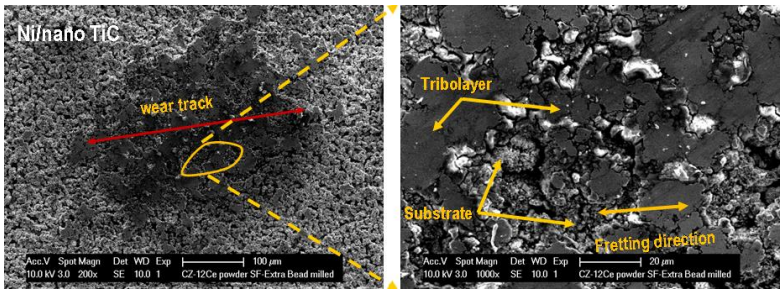
Invention Registration FORM

Company Name/ Institution:	"Job"Asociation
Address:	Galați, 60, Domnească str.
Phone:	0768 021 628
Fax:	-
Invention title:	**PLASTIC BOARDS WHICH ENCAPSULATE CONSTRUCTION MATERIALS**
Authors:	Dănuț Busuioc
Patent no.:	-
Contact person	Dănuț Busuioc
E-mail:	asociatia_job@yahoo.com
Description of the invention:	This model of boards is intended for covering construction elements. The visual aspect of the construction elements – rough stones, river stones, shaped stones, planks, grooved tiles, apparent bricks – is transferred on the surface of the construction elements by means of profiled boards made out of plastic.
Image/photo:	-
Invention category:	12

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

Research Registration FORM

Company Name/ Institution:	Competences Center: Interfaces – Tribocorrosion - Electrochemical Systems (CC-ITES), Faculty of Engineering, Dunarea de Jos University of Galati.
Address:	47 Domnească Street, 800008 Galați, România
Phone:	+40 766211119
Fax:	-
Research theme:	**ADVANCED COATINGS FOR ENERGY APPLICATIONS – IMPROVING TRIBOCORROSION BEHAVIOUR BY ELECTRO-CODEPOSITION OF TIC NANO – DISPERSED PARTICLES WITH NICKEL MATRIX**
Authors:	Eliza Dănăilă, Lidia Benea, Pierre Ponthiaux, Nadège Caron, Olivier Raquet
Contact person:	Eliza Dănăilă
E-mail:	Eliza.Mardare@ugal.ro
Description of the research:	In order to increase the hardness, reduce the friction coefficients and further improve the wear properties of pure Ni coatings, Ni/TiC nanocomposite coatings were prepared on the surface of stainless steel by electrochemical co-deposition process. The effects of TiC nano-particles content on the morphology, composition, hardness and tribocorrosion properties of the Ni/TiC nanocomposite were investigated compared to pure Ni coatings. The surface morphology and the composition of coatings were characterized by scanning electron microscopy (SEM) with energy dispersive analyzer system (EDX). The tribocorrosion behavior of the pure Ni and Ni/TiC nanocomposite coatings were evaluated using a ball-on-flat fretting set-up, by applying different loads in specific environment of nuclear power plant. The following conclusions can be drawn: ►SEM micrographs with EDX analyzes proved that TiC nanoparticles were successfully embedded into Ni matrix transforming the surface morphology of Ni/TiC nanocomposite coatings from regular pyramidal (for pure Ni coating) to a globular grain structure. ►The advanced functional surfaces of Ni/nano-TiC coatings revealed a higher nanohardness value as compared with those of the pure Ni coatings. ►During tribocorrosion tests the shift of potential is smaller for Ni/TiC

	nano-composite coating as compared with pure Ni and it increases during fretting, proving a better resistance to corrosion and wear (tribocorrosion) in specific environment of nuclear power plant. ►The friction coefficients recorded in wet conditions of Ni/TiC nano-composite coatings are smaller compared to pure Ni at all applied forces.
Image/photo:	 SEM morphologies of the wear track on pure nickel surface  SEM morphologies of the wear track on pure nickel surface
Research category:	11

Competences Center: Interfaces – Tribocorrosion - Electrochemical Systems (CC-ITES)

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials

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Research Registration FORM

Company Name/ Institution:	Competences Center: Interfaces – Tribocorrosion - Electrochemical Systems (CC-ITES), Faculty of Engineering, Dunarea de Jos University of Galati.
Address:	47 Domnească Street, 800008 Galați, România
Phone:	+40 744216277
Fax:	-
Research theme:	**NANOPOROUS TIO_2 THIN FILM FORMED BY ELECTROCHEMICAL TECHNIQUE TO IMPROVE THE BIOCOMPATIBILITY OF TITANIUM ALLOY IN PHYSIOLOGICAL ENVIRONMENT**
Authors:	Lidia Benea, Eliza Dănăilă
Contact person:	Lidia Benea
E-mail:	Lidia.Benea@ugal.ro
Description of the research:	Titanium alloys are widely recognized as the most appropriate materials for biomedical applications, due to their well-established corrosion resistance and biocompatibility. Among titanium alloys, Ti–6Al–4V alloy has gained wide popularity as a general-purpose alloy and more recently for biomedical applications. However, Ti–6Al–4V alloy is known for its notoriously poor tribological properties. This consideration may limit its applicability particularly in areas involving wear and friction. Several surface engineering methods have been explored to enhance the corrosion-wear resistance of the titanium alloys while maintaining their corrosion resistance and biocompatibility. Among these methods, the production of titania coatings by anodic oxidation treatment offers some promising features. In this work, Ti-6Al-4V alloy was anodically oxidized using H_2SO_4 electrolyte. The tribocorrosion behavior of untreated Ti-6Al-4V alloy and nanoporous oxide film formed by controlled anodic oxidation technique in physiological solution was evaluated based on the open circuit potential (OCP) measured as a function of time and electrochemical impedance spectroscopy measurements (EIS), performed before, during and after fretting tests. After the tribocorrosion tests, wear tracks that developed on the untreated and anodically oxidized surfaces were investigated by scanning electron microscopy (SEM), in order to determine

the wear mechanism. The wear volume was measured by non-contact white light interferometry analysis using a Wyco NT3300 optical profilometer.

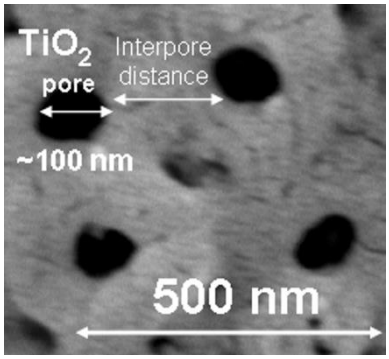
►Novel nanoporous TiO_2 layers were grown anodically on Ti-6Al-4V alloy substrates in H_2SO_4 acid solution.

►The nanoporous formed TiO_2 layer is a very good support for hydroxyapatite (HA) electrodeposition necessary in applications as bioimplants.

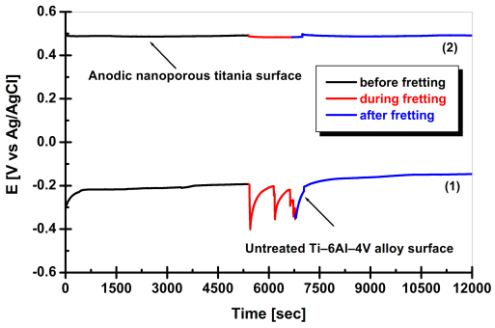
►The nanoporous TiO_2 layer increases significantly the surface roughness compared to the untreated Ti-6Al-4V alloy surface.

►The anodic formed nanoporous TiO_2 layer present high corrosion resistance in bio-simulated solution as compared with untreated Ti-6Al-4V alloy surface.

Image/photo:



Nanoporous TiO_2 layer obtained by electrochemical method. Thickness ~ 60 nm



OCP - time plots obtained in physiological solution before, during and after fretting under the same test conditions for: (1) untreated Ti-6Al-4V alloy surface and (2) anodic nanoporous titania surface

Research category: 12

Invention categories: 1. Mechanics – Motors – Machines – Equipment – Industrial procedures – Metallurgy. 2. Informatics – Computers – Electronics – Electricity – Communication devices. 3. Sanitation facilities – Ventilation facilities – Heating and cooling installations. 4. Agriculture – Horticulture – Gardening. 5. Medicine – Surgery – Orthopaedics. 6. Teaching methods and materials. 7. Means of transportation – Vehicles – Ships – Airplanes. 8. Food – Beverages – Cosmetics – Hygiene materials – Medication. 9. Sport - Leisure. 10. Publicity – Printing – Packages – Packaging. 11. Environment protection – Energy 12. Materials, Advanced Materials, Biomaterials and Nanomaterials