

**ABSTRACTS OF MECHANICAL AND ELECTRICAL ENGINEERING**  
**OBTAINING THE CHARACTERISTICS OF SMALL AND VERY SMALL SPAN WINGS**

Beazit ALI<sup>1</sup>  
Deniz UNSALAM<sup>2</sup>  
Adriana SPORIŞ<sup>3</sup>  
Filis TULEI<sup>4</sup>

<sup>1</sup> Senior lecturer.PhD. Beazit Ali, „Mircea cel Batran” Naval Academy

<sup>2</sup> Prof.Ph.D , Dokuz Eylul University, Iatanbul, Turkey

<sup>3</sup> Lecturer Ph.D.Adriana Sporiş, „Mircea cel Batran” Naval Academy

<sup>4</sup> Prep.univ.ing Filis Tulei, „Mircea cel Batran” Naval Academy

**Abstract:** *This scientific work presents the way in which the small and very small span wings can be obtained starting from the great span wings and using the two scales of the similarity theory. Basing on two scales model it can transcribe from model at nature the coefficients  $c_x$ ,  $c_y$  and lengthening  $\lambda$  of GOTTINGEN- 612 profile.*

**Key words:** *span wings*

**IMPLEMENTATION OF HAMMING CODES IN RECONFIGURABLE HARDWARE**

Constantin ANTON<sup>1</sup>  
Ion TUTANESCU<sup>2</sup>  
Gheorghe SERBAN<sup>3</sup>  
Gabriel IANA<sup>4</sup>  
Petre ANGHELESCU<sup>5</sup>

<sup>1</sup> PhD eng.,University of Piteşti, Romania

<sup>2</sup> PhD eng.,University of Piteşti, Romania

<sup>3</sup> PhD eng.,University of Piteşti, Romania

<sup>4</sup> PhD eng.,University of Piteşti, Romania

<sup>5</sup> PhD eng.,University of Piteşti, Romania

**Abstract:** *In this paper is hamming code proposed implementing a structure for reconfigurable hardware for error correction bits on a line of communication. Algorithms for implementing the hamming code is made on a structure as simple and is aimed at the trials of code/decode the information to perform at a speed as much as possible, without the special hardware consumes resources. They are made functional simulations of implemented module and comparative results speed/resources occupied for various lengths of sequences.*

**Keywords:** *Hamming code, hardware structure, communication, error correction, FPGA implementation.*

**PUSHOVER ANALYSIS FOR BUILDING STRUCTURES**

Cătălin BACIU<sup>1</sup>

<sup>1</sup> assistant engineer, Military Technical Academy, Bucharest

**Abstract:** *Nowadays the winning formula in building design is to find a convenient way to make a safety structure, able to sustain static and dynamic loads, but in the same time with low costs of production. Both the chosen structural system and the material characteristics offer multiple possibilities to solve even the most difficult building design problems.*

*The analysis for reinforced concrete structures in the elasto-plastic domain, without reaching the final stage, has to take into consideration the gradual development of plastic deformations. The static post-elastic analysis gives the opportunity to determine the existing reserve capacity of the structural elements. Thus, this type of analysis refers to the check problem.*

*The static post-elastic analysis consists of “step by step” procedures (“biographical” methods), which are able to show the progressive evolution of plastic deformations.*

*The main idea of this approach is to determine deformations and stresses of the structural elements, gradually loaded, showing the change of the stiffness due the gradually appearance of plastic hinges.*

**Keywords:** *frame, damp, stiffness, plastic hinges, yield, total failure*

**AIS MONITORING SYSTEM**

Nicolae BADARA<sup>1</sup>  
Aurelian Traian TUDOR<sup>2</sup>

<sup>1</sup> PhD lecturer eng., Mircea the Batran Naval Academy

<sup>2</sup> PhD lecturer eng., Mircea the Batran Naval Academy

**Abstract:** *System monitoring / alarm port aims interactive viewing a series of command and control consoles geographical distribution of marine activity reported by AIS system messages in a local or global area.*

*The aim is to enhance: safety of life at sea, safety and efficiency of navigation, marine environmental protection, prevention of human and material losses through early alert to local bodies. Achieving this goal is possible only through on-line monitoring and rigorous management.*

**Key-words:** *AIS, System monitoring, geographical distribution*

## THE EFFECTS OF COPPER AS ALLOYING ELEMENT IN ALUMINIUM ALLOYS ON MECHANICAL PROPERTIES

Alin BĂEȚAN<sup>1</sup>  
Ion SPOREA<sup>2</sup>  
Adriana TOKAR<sup>3</sup>

<sup>1</sup> Drd. Polytechnic University Timișoara

<sup>2</sup> PhD eng. Polytechnic University Timișoara

<sup>3</sup> PhD eng. Polytechnic University Timișoara

**Abstract** Widespread use of alloy type silumin casting pistons in the engine heat, due to favourable properties of casting (especially flow), requires the use of chemical compositions to provide mechanical resistance as long task, that is to be refractory temperatures above 300°C. The paper is studying two alloys between chemical compositions: Si = 4,5-7,25 and Cu=2,0-4,2 Al rest, who were cast in temporary forms, shell and pressure. Tests performed on the two alloys shows that the higher content of Si and Cu, to obtain superior mechanical properties due to the supersaturate degree of solid solution and the quantity, shape and distribution of silica particles.

**Keywords** aluminum alloys, casting, mechanical properties, aging

## EXPERIMENTAL MODELING OF THE LASER WELDING FOR CARBON STEEL USED IN WELDED CONSTRUCTION

Remus BOBOESCU<sup>1</sup>  
Valentin GLOD<sup>2</sup>

<sup>1</sup> Drd. Polytechnic University Timișoara

<sup>2</sup> Mr. drd. Eng. Glod Valentin Military school "Ereimia Grigorescu" Sibiu, Romania

**Abstract** This study presents an experimental study on laser welding of steel Dillimax 500 using a laser with Nd: YAG in continuous regime. Laser power and welding speed are varied on a factorial experimental plan type 2<sup>2</sup>. Weld characteristics are studied. This study presents mathematical models, the hierarchy of influence factors, response surfaces and statistical analysis using ANOVA method.

**Keywords** laser welding, carbon steel, experimental model

## ABOUT BALLAST WATER TREATMENT METHODS

Paul BOCĂNETE<sup>1</sup>  
Emilian MACARIE<sup>2</sup>  
Ionel POPA<sup>3</sup>  
Dinu ATODIRESEI<sup>4</sup>

<sup>1</sup> Professor Ph.D. Eng., Maritime University Constanta

<sup>2</sup> Eng, Navigable Routs Administration

<sup>3</sup> Ph.D. Eng., Naval Academy of Constanta

<sup>4</sup> Eng., Biolog, Naval Academy of Constanta

**Abstract.** This paper examines a promising ballast water treatment technology. Ships need ballast water for their stability and maneuverability. This water is not pure, but it contains a sample of the local ecosystem at the place of intake. Within a few days to weeks, vast quantities of water are shipped from one continent to the other. At the port of destination, ballast water is often pumped overboard, including the organisms it still contains. The receiving ecosystem is not always well adapted to the reception of newly introduced species. Such new species sometimes develop into a plague, pushing native species to the edge of their existence. The International Maritime Organization of the UN has declared that from 2009 onwards ballast water has to be free of organisms to minimize the risk of introduction of invasive species

**Key words:** ballast water treatment; ballast water management; aquatic nuisance species (ANS); non-indigenous species (NIS); tank ship; risk assessment; hazardous area; ship operations. ballast, water, hypochlorination systems, pumping equipment

## CALCULATION OF CONSTRUCTION PARAMETERS INDUCTION MOTORS WITH BILATERAL ARC INDUCTOR, RADIAL AIR GAP AND NOZZLE INDUCED

Teodor BUGLEA<sup>1</sup>

<sup>1</sup> Lt.cdr.(R) drd.eng., officer in charge of a navigational watch – on ships of 500 GRT or more

**Abstract.** The paper presents an coherent algorithm for determining account of the constructive parameters of induction motors with bilateral arc inductor, radial air gap and nozzle induced. It was used in making a experimental model used in power plants active government.

**Keywords:** synchronous speed, nozzle induced, air gap, polar pitch, teeth pitch, equivalent air gap, Carter factor, quality factor of the motor.

## A LQR CONTROLLER SYNTHESIS FOR DEPTH CHANGING FOR AN AUTONOMOUS UNDERWATER VEHICLE

Paul Burlacu<sup>1</sup>

<sup>1</sup> PhD eng. lecturer, Naval Academy „Mircea cel Bătrân”

**Abstract-** This study will present a design for the control of depth changing system for an autonomous underwater vehicle. This design will also be based on a linearized model of the underwater vehicle.

**Keywords:** linearization, open loop scheme, closed loop scheme, optimal controller, simulations.

## WEB PAGES SECURITY

Marian CAȚĂ<sup>1</sup>

Anca ATODIRESE<sup>2</sup>

<sup>1</sup> Mircea cel Bătrân” Naval Academy, Informatics Technologies Centre

<sup>2</sup> Mircea cel Bătrân” Naval Academy, Informatics Technologies Centre

**Abstract** This article was possible follow the achievements of the authors while they were trying to secure the pages that are belong to the “Mircea cel Bătrân” Naval Academy web site and to protect them against some possible web attacks.

**Keywords:** security, vulnerability, web attack, sql injection

## INTEGRAL OPERATORS OF POTENTIAL TYPE

Petronela CATANA<sup>1</sup>

Dumitru Dan PASCALI<sup>2</sup>

<sup>1</sup> PhD Lecturer, “Dimitrie Cantemir”, Faculty of Tourism and Commercial Management Constanta, Christian University Bucharest, Romania

<sup>2</sup> PhD Professor, Courant Institute of Mathematical Sciences New York University, USA

**Abstract:** In order to prove the Sobolev imbedding theorem we shall establish an integral representation of continuous differentiable functions and discuss some properties of integral operators with a polar Kernel.

**Keywords:** compact operators, integral operators, representation of integral operators

## THE EXPERIMENTAL STAND USE FOR THE SUCCESSIVE CUPPING WITH THINNING

Aurelia CHIOIBAȘ<sup>1</sup>

<sup>1</sup> PhD lecturer eng, Naval Academy „Mircea cel Bătrân”

**Abstract:** The piece „Tubular rivet”, which to belong to rapid button there is on the experimental research regarding the successive cupping with thinning from strip. The experimental stand was consisted the power cam press (eccentric) type PAI 16 which is installed the dynamometer die for research of drawing. On the die was installed the dynamometer pick-up for register the variation of force during the stroke and on the headwork was installed the inductive displacement pick-up. The signals which were pulled out from the both pick-up was amplify from dynamic tensometer and sent at oscillograph for amplification and visualization.

**Key words:** cupping on strip, rapid button, power cam press (eccentric), dynamometer die, dynamometer pick-up, inductive displacement pick-up, dynamic tensometer, oscillograph.

## CONSIDERATIONS OVER THE EXTREME VALUES OF THE MAXIMUM PRINCIPAL STRESS DURING THE HYDRODYNAMIC IMPACT, OVER SEMIELIPTICAL NAVAL BULBS

Vergil Chițac<sup>1</sup>

Petar Kolev<sup>2</sup>

Adrian Popa<sup>3</sup>

<sup>1</sup> PhD professor eng. Naval Academy, Contanta, Romania

<sup>2</sup> PhD professor eng. Technical University, Varna, Bulgaria

<sup>3</sup> PhD lecturer eng. Naval Academy, Contanta, Romania

**Abstract:** Nowadays, naval bulbs are design considering their hydrodynamic purpose: to reduce the drag force. This works makes an analysis considering the extreme values of the maximum principal stress, for 8 types of idealized bulbs.

**Keywords:** Bulbous bow, slamming, principal stress.

## THE MODALITY TO ESTABLISH THE INTEGRATION OF CHEMICAL ELEMENTS INTO GROUP A OR B OF THE PERIODIC SYSTEM

Florica CHIVU<sup>1</sup>

<sup>1</sup> PhD lecturer Naval Academy “Mircea cel Batran”

**Abstract:** The modality to establish the integration of a chemical element into group A or B of the periodic system shall meet the following criteria:

- An element falls into group A of the periodic system if in its nucleus the last baryon has a spin 1/2;

- *An element falls into group B of the periodic system if in its nucleus the last baryon has a spin 3/2:  
The baryonic spin criterion of the last baryon of a certain element makes it possible to establish that there are 50 elements falling into group A and 62 elements falling into group B, i.e. a total amount of 1/2 of the elements.*  
**Key words:** baryonic spin, periodic system, chemical element.

## **ABOUT THE CONJUGATION OF MAXIMAL TORAL SUBALGEBRAS FOR A SEMISIMPLE LIE ALGEBRA**

**Camelia CIOBANU<sup>1</sup>**  
**Cristina FLAUT<sup>2</sup>**  
**Diana SAVIN<sup>3</sup>**

<sup>1</sup> Ass. Prof., Dept. of Mathematics-Informatics and Fundamental Technical Sciences, “Mircea cel Batran” Naval

<sup>2</sup> Lect., Dept. of Mathematics and Informatics, “Ovidius” University, Constanta, Romania

<sup>3</sup> Lect., Dept. of Mathematics and Informatics, “Ovidius” University, Constanta, Romania

**Abstract:** *We shall prove in this paper that the root system associated to a semisimple Lie algebra does not depend on the maximal toral subalgebra considered. This will follow from the fact that two maximal toral subalgebras are conjugated via an automorphism of Lie algebra.*

**Keywords:** semisimple Lie algebra, toral subalgebra, Cartan decomposition.

## **THE INFLUENTS OF COLD PLASTIC DEFORMATIONS OVER FRICTION COEFFICIENT AND MICROHARDNESS**

**Dumitru DASCĂLU<sup>1</sup>**  
**Sisisa KUZMINOVIC<sup>2</sup>**  
**Valeriu DULGHERU<sup>3</sup>**  
**Draguta DASCALU<sup>4</sup>**

<sup>1</sup> Assoc. prof. Ph.D., Navy Academy “Mircea cel Batran” Constanta, Romania

<sup>2</sup> Prof. Ph.D. eng., Faculty of Mechanical Engineering, University of Novi Sad, Novi Sad, Serbia

<sup>3</sup> Prof. Ph.D. eng., University of Technical Moldova, Chisinau, Moldova

<sup>4</sup> Prof. School number 5, Constanta

**Abstract:** *FINPLAST it's the name of new experimental technology, propose by author for upgrading performance of the sliding bearings. This paper presents experimental determinations effect of finplast technology over hardness and friction coefficient. It is studying the influents of finplast parameters (cold plastic deformation force, the number of passes, the existence or not existence of lubrication during cold plastic deformations) and antifriction materials. It is presenting the value of the most important tribological parameters.*

**Key works:** sliding bearings, technology, micro hardness, friction coefficient.

## **APPLICATION OF AN APPROXIMATE ANALYTICAL METHOD FOR NONLINEAR POISSON-BOLTZMANN EQUATION**

**Dumitru DELEANU<sup>1</sup>**

<sup>1</sup> Assoc. Prof., Department of Mathematical Sciences, Constantza Maritime University

**Abstract:** *Variational iteration method for calculating the approximate solutions of Poisson-Boltzmann equation with appropriate boundary and initial conditions are presented. A particular form of this equation describes the electrostatic field near a wall region for rectangular geometry. The hyperbolic sine function involved is replaced with a cubic polynomial so that initial equation is approximated with a Lienard equation. The results obtained by means of variational iteration method are compared with those obtained from homotopy perturbation method and those obtained by direct numerical integration. An error analysis is conducted to evaluate the performance of proposed solution technique. The results have shown that variational iteration method is a powerful solution technique in the analysis of some kinds of problems.*

**Keywords:** electrostatic field description, Poisson- Boltzmann equation

## **ELECTROMAGNETIC COUPLE CONTROL OF AN ASYNCHRONOUS MACHINE**

**Florențiu DELIU<sup>1</sup>**  
**Silviu GHEORGHIU<sup>2</sup>**

<sup>1</sup> Assistance, Naval Academy „Mircea cel Bătrân” Constanța, România

<sup>2</sup> Prof. Ph.D., Naval Academy „Mircea cel Bătrân” Constanța, România

**Abstract:** *Operation at variable frequency of asynchronous machine is considering only the statoric flux, or the rotoric flux or the useful constant flux to avoid magnetic saturation and the occurrence of problems of heating, harmonics or couples parasite. In this study we decided to maintain the stator current around the nominal value.*

**Keywords:** voltage, frequency, maximization of the electromagnetic torque.

## TECHNOLOGIES OF OBTAINING THE MATERIALS USED IN THE PRODUCTION OF BUSHINGS (FRICTION BEARINGS)

Ion DINESCU<sup>1</sup>  
Gabi BARDOCZ<sup>2</sup>

<sup>1</sup> PhD Professor. Eng., “Henri Coandă” Air Force Academy, Brasov,

<sup>2</sup> Ph.D. Eng., “Transilvania” University of Brasov.

**Abstract:** *The designing of a product always starts from the constructive and functional requirements, which must be fulfilled by the product, thus it is worth to mention the issue of selecting the material out of which that particular product will be made.*

*The most important requirements are those concerning the assurance of high mechanical characteristics under special regimes (extreme temperatures, high pressures, corrosive agents, etc.), whereas the weight of the finished product must be minimized by diminishing the density of the materials. Another issue in view is that of material saving, of the wise use of materials by means of rationally conceived projects and scientifically elaborated consumptions. The paper presents a few characteristics of certain alloys necessary in the production of friction bearings used in the military technique.*

**Key words:** *materials, friction bearings, technologies, bimetal.*

## OUTPUT ELECTRIC CURRENT'S MODELING AND SIMULATION OF A FLUX COMPRESSION GENERATOR COIL

Vasile DOBREF<sup>1</sup>  
Codrin Gruie CANTEMIR<sup>2</sup>  
Alexandru SOTIR<sup>3</sup>  
Octavian TARABUTA<sup>4</sup>  
Mircea Constantinescu<sup>5</sup>

<sup>1</sup> Ph.D Senior Lecturer Commander “Mircea cel Batran” Naval Academy

<sup>2</sup> Prof.PhD., University Columbus, Ohio, USA

<sup>3</sup> Ph.D Professor “Mircea cel Batran” Naval Academy

<sup>4</sup> Ph.D Instructor Commander “Mircea cel Batran” Naval Academy

<sup>5</sup> Ph.D Senior lecturer Mircea cel Batran” Naval Academy

**Abstract:** *The present technology used for the generation of an electromagnetic pulse (EMP) in defence applications has been implemented starting with three sorts of generators so far: flux compression generators (FCG), magneto-hydrodynamic (MHD) generators and virtual cathode oscillators (VCO). This paper describes the basic principles of the most common and effective type of generator, the FCG and particular results obtained by a research team of the Romanian naval academy during designing and building an electromagnetic bomb prototype. As the FCG requires a coil, the authors present hereinafter the preliminary calculations of the output current that have been used in the actual design. All the results presented hereby have been demonstrated by the actual prototype developed.*

**Key words:** *EMP, electromagnetic, pulse, generator, bomb*

## THE HYDROELASTIC DYNAMIC RESPONSE IN IRREGULAR HEAD WAVES, FOR A 6500 TDW CHEMICAL TANKER SHIP

Leonard DOMNISORU<sup>1</sup>  
Liviu Dan STOICESCU<sup>2</sup>  
Daniela DOMNISORU<sup>3</sup>

<sup>1</sup> PhD prof.eng.. University “Dunare de Jos” Galati, Naval Architecture Faculty

<sup>2</sup> PhD prof.eng.. University “Dunare de Jos” Galati, Naval Architecture Faculty

<sup>3</sup> Drd.fiz. University “Dunarea de Jos” Galati, Sciences Faculty/ Physics

**Abstract:** *In this paper is presented the study of the steady state and transitory hydroelastic dynamic response of a full scale 6500 tdw chemical tanker ship, induced by irregular head waves, model Longuet-Higgins. There are considered two load cases: full cargo and ballast. The analyses have been carried on with the eigen program DYN. The numerical model includes linear-modal frequency domain procedures and also non-linear time domain implicit integration procedures for the motion equations solution. The numerical results pointed out the occurrence of the slamming phenomenon at both ship extremities, so that in the ship girder are recorded very high whipping transitory vibrations. For the numerical analyses is used the chemical tanker model provided by the ICEPRONAV Galati, in the frame of the CEEX EU-SSS Project. The numerical results pointed out that the non-linear analyses could reveal the extreme wave loads in the ship hull structure.*

**Keywords:** *ship dynamic response, slamming, whipping, irregular waves, hydroelasticity theory*

## SOME EXPERIMENTAL RESULTS IN THE RESEARCHES REGARDING THE NAVAL DIESEL ENGINES RUNNING

Alexandru DRAGALINA<sup>1</sup>  
Charles HARMAN<sup>2</sup>  
Traian FLOREA<sup>3</sup>  
Anastase PRUIU<sup>4</sup>  
Sanda-Ileana DRAGALINA<sup>5</sup>  
Traian-Vasile FLOREA<sup>6</sup>

<sup>1</sup> PhD Prof.eng., Naval Academy „Mircea cel Bătrân” Constanța

<sup>2</sup> PhD Prof.eng., Duke University, North Carolina, USA

<sup>3</sup> PhD Prof.eng., Naval Academy „Mircea cel Bătrân” Constanța

<sup>4</sup> PhD Prof.eng., Naval Academy „Mircea cel Bătrân” Constanța

<sup>5</sup> Lecturer, Naval Academy „Mircea cel Bătrân” Constanța

<sup>6</sup> Eng. S.C. Delatreid, Constanța

**Abstract:** *This paper presents the results of some tests of functional parameters of a naval propulsion engine. The checks were necessary to determine the accuracy of performance on board maintenance, including adjustment of the injection advance angles and cleaning of the exhaust gas spaces.*

**Keywords:** *engine, diesel, naval, propulsion, running*

## THE STUDY BEHAVIOUR OF MULTISTORY BUILDINGS

Florin EFTIME<sup>1</sup>

<sup>1</sup> Captain, assistant, Military Technical Academy, Bucharest, Romania

**Abstract:** *This paper presents the seismic response of two category of dual structures: unbracing metallic frames as a result of combination between rigid beam-column nodes and semi-rigid beam-column nodes, and metallic frames with bracing eccentrically openings in combination with unbracing eccentrically openings with rigid nodes.*

*The metallic multi-storey buildings are in your component composites bridging, whence pull together two different materials. The concrete, it's the plate of bridging and it's heterogeneous material with different behaviour for tension and compressing.*

**Keywords:** *Buildings, ductility, unbracing metallic frames, joints*

## OPTIMAL REGENERATOR PERFORMANCE IN STIRLING ENGINES

Traian FLOREA<sup>1</sup>

Michel FEITH<sup>2</sup>

Alexandru DRAGALINA<sup>3</sup>

Traian Vasile FLOREA<sup>4</sup>

Anastase PRUIU<sup>5</sup>

Marian RISTEA<sup>6</sup>

Daniela CHENDRA<sup>7</sup>

<sup>1</sup> Prof. eng. Department of Thermal Machines and Devices Naval Academy of Constanta, Romania

<sup>2</sup> Prof.Ph.D.eng., University Nancy 1, Paris, France

<sup>3</sup> PhD Prof. eng. Department of Thermal Machines and Devices Naval Academy of Constanta

<sup>4</sup> PhD, Eng. Department of Thermal Machines and Devices Naval Academy of Constanta

<sup>5</sup> PhD Prof. eng. Department of Thermal Machines and Devices Naval Academy of Constanta

<sup>6</sup> Assist. eng.S.C. Delatreid S.R.L. Constanta, Romania

<sup>7</sup> Prof. grad. I. Daniela CHENDRA Ciprian Porumbescu Elementary School, Constanta, Romania

**Abstract:** *The key component of a Stirling engine is its regenerative heat exchanger. This device is subject to losses due to dissipation arising from the flow through the regenerator as well as due to imperfect heat transfer between the regenerator material and the gas. The magnitudes of these losses are characterized by the Stanton number  $St$  and the Fanning friction factor  $f$ , respectively. Using available data for the ratio  $St/f$ , results are found for the Carnot efficiency and the power output of the regenerator. They depend on the conductance and on the ratio of pressures at the two sides of the regenerator. Optimum results for efficiency and power output of the regenerator are derived in the limit of zero Mach number. The results are applied to the Stirling engine. The efficiency and the power output of the engine are found for given amplitude of the compression piston. Optimization with respect to regenerator conductance and piston phase angle leads to a maximum possible value of the power output. Under optimal conditions, the Carnot efficiency just below this maximum is close to 100%.*

**Key words:** *regenerative heat exchanger, regenerator, heat engine, Stirling engine, thermal efficiency, Carnot efficiency*

## CALCULATION OF INDUCTIVITIES BY MEANS OF SYMBOLIC METHODS

Gheorghe GAVRILĂ<sup>1</sup>

Florin-Roman ENACHE<sup>2</sup>

<sup>1</sup> Professor, PhD, Military Technical Academy

<sup>2</sup> Lecturer professor, PhD, Military Technical Academy

**Abstract:** *In the designing and realization of the electromagnetic devices, an important problem is represented by the self and mutual inductivities calculation.*

*There are many methods which can be used for this, as it follows: direct method, the calculation by means of the reluctance (when the coils are placed on the magnetic circuits), utilizing Neumann's formula and the calculation on basis of the energetic definition of the inductivity.*

*Even in the case of linear magnetic media, the problem is not simple, because it is necessary to calculate the magnetic flux density as accurate as possible, in a lot of points from space.*

*An adequate method for this purpose is the utilization of the symbolic methods with MAPLE simulator.*

*After some theoretical considerations, in the paper a few applications relating to self and mutual inductivities calculation are presented. The obtained results are discussed, pointing out the advantages of the symbolic methods: fast calculation, but without the loss of the physical meaning of the problem.*

**Keywords:** *Self-inductivity, mutual inductivity, Neumann's formula, symbolic methods*

## A REAL OPERATING CONDITION TESTING SYSTEM FOR ELECTRIC TRACTION MOTORS AS PART OF AN INDEPENDENT WHEEL DRIVE

Stefan GHEORGHE<sup>1</sup>  
Mircea COVRIG<sup>2</sup>  
Grigore DANCIU<sup>3</sup>  
Costin CEPISCA<sup>3</sup>  
Tudor URSU<sup>4</sup>  
Sorin Dan GRIGORESCU<sup>5</sup>  
Sanda Victorinne PATURCA<sup>6</sup>  
Nicolae JULA<sup>7</sup>  
Dorin OPREA<sup>8</sup>

<sup>1</sup> Department of Materials, Electrical Machines and Drives,

<sup>2</sup> Department of Automotive Engineering,

<sup>3</sup> Department of Metrology, Instrumentation, Sensors and Transducers, University POLITEHNICA of Bucharest

<sup>4</sup> Research Institute for Electrical Machines ICPE-ME SA

<sup>5,6,7,8</sup> Military Technical Academy Bucharest

**Abstract:** - This paper presents a testing system designed and built by the authors for testing in real operating conditions the electric traction motors as part of an independent wheel drive electric vehicle. There are presented the solutions chosen for the mechanical part, the hardware and software related to the electric drive system and the monitoring system.

**Key-Words:** - electric vehicle, independent wheel drive, electric traction motors

## EXPERIMENTAL STUDY ON THE OXYGEN FLOW IN OXYGEN ASSISTED LASER CUTTING

Valentin GLOD<sup>1</sup>  
Remus BOBOESCU<sup>2</sup>

<sup>1</sup> Mr. drd. Eng. Military school "Eremia Grigorescu" Sibiu , Romania

<sup>2</sup> Drd. Polytechnic University Timișoara

**Abstract** Oxygen assisted laser cutting is a widespread industrial process, especially in shipbuilding industry. There is an experimental research on the cut of 3mm thick steel using a CO<sub>2</sub> laser with maximum power of 1.5 kW under pulsed regime. Cutting process is controlled by changes in oxygen pressure, laser power, cutting speed, pulses frequency and the operating cycle of the laser. In addition, the effect of distance between oxygen blowing nozzle and piece is studying. Cutting process is characterized by the cut width. It has developed a direct analytical method for determining the effect of changes in cut width due variation of nozzle-piece distance.

**Keywords:** laser oxygen cutting, cut width, relative variation

## SUSCEPTIBILITY OF PARAMETRIC ROLL RESONANCE INDUCED BY ROAD WAVINESS IN LAND VEHICLES

Kunsel-Özel IZET- ÜNSALAN<sup>1</sup>  
Deniz ÜNSALAN<sup>2</sup>

<sup>1</sup> Associate Professor, Ph. D. Eng., Ovidius University, Constanta, ROMANIA

<sup>2</sup> Commander, Turkish Navy (R), Professor, Ph. D. Eng., Piri Reis University, Tuzla, Istanbul, TURKEY

**Abstract:** Parametric roll resonance is a well-known phenomenon in certain marine vehicles when the change in roll stability parameters experienced as the ship progresses in waves with a frequency of encounter becomes equal to twice natural frequency of roll of the ship. In its canonical form, it can be explained by the Mathieu differential equation. It has been a recent area of study of naval architects, where various aspects of the phenomenon have been studied. The aim of this paper is to show that the same phenomenon is also a possibility, at least in theory, where the regular road waviness can induce parametric roll in land vehicles.

**Key words:** Parametric resonance, vehicle roll, road waviness, Mathieu differential equation

## HIGH RESOLUTION POSITION INDUCTIVE TRANSDUCERS FOR MILITARY APPLICATIONS

Nicolae JULA<sup>1</sup>  
Tudor URSU<sup>2</sup>  
Costin CEPISCA<sup>3</sup>  
Ciprian RACUCIU<sup>4</sup>

<sup>1</sup> PhD Professor at Military Technical Academy

<sup>2</sup> PhD in Electrical Engineering and first degree Senior Researcher at Sistem Euroteh

<sup>3</sup> PhD Professor at Polytechnic University from Bucharest

<sup>4</sup> PhD Professor at Military Technical Academy

**Abstract:** In this paper the authors present certain theoretical, conceptual and technological aspects on main types of high resolution inductive transducers for military applications. Inductive resolvers, as well as inductive RVDT, have a priority in these applications, even other types of position transducers, as optical, capacitive or magnetic encoders are in competition.

In the world there are many researchers that continue activity of conceptual and technological development to increase the resolution level of the inductive resolvers and inductive RVDT, as well as to obtain smaller and smaller dimensions, just it is requested in such kind of applications. On the other hand, the inductive transducers are more adapted at harsh mechanical and climatic conditions that are usual for military applications. The paper is referring, especially, to inductive transformers type resolver.

**Key words:** inductive transducers, high resolution, harsh conditions

## CONSIDERATIONS REGARDING EXHAUST GAS RECIRCULATION AND HUMID AIR MOTOR

Daniel MĂRĂȘESCU<sup>1</sup>

Sebastian ZĂICEANU<sup>2</sup>

<sup>1</sup> Asp.ing. Academia Navală Mircea cel Bătrân

<sup>2</sup> Lt(r). drd. ing. Academia Navală Mircea cel Bătrân

**Abstract:** *There is international effort focused on the reduction of gaseous emissions that contribute to global warming and atmospheric pollution. Ships are responsible for a portion of this pollution contributing to environmental degradation. Exhaust from marine diesel engines includes air pollution in the form of nitrogen oxides, carbon oxides, unburned hydrocarbons and particulate matter. These have been proven to have a negative impact on health and the environment. Increasingly, these marine sources are being targeted for reduction.*

**Keywords:** *pollution, fuels, water, burning,*

## THE GENERATION OF WATER/FUEL EMULSIONS

Corneliu MOROIANU<sup>1</sup>

<sup>1</sup> “Mircea cel Bătrân” Naval Academy, Constanța, Romania

**Abstract:** *This paper presents a possibility of producing the water-heavy fuel emulsions by means of ultrasounds.*

**Keywords:** *ultrasonic vibration phenomenon, water-heavy fuel emulsions, ultrasound propagation.*

## ON THE EKMAN CURRENTS TRANSPORT ON THE ROMANIAN BLACK SEA SHORE

Angela MUNTEAN<sup>1</sup>

<sup>1</sup> PhD senior lecturer eng., Naval Academy “Mircea cel Batran” Constanta

**Abstract:** *The circulation of water on the Romanian Black Sea coast is not very well known. The wind driven circulation is a very important element of this circulation. Some theoretical calculi regarding the water transport of Ekman currents on the ocean regions with finite depths are presented. Those results are applied for Romanian Black Sea shore and are compared with some results obtained from observations.*

**Keywords:** *wind driven circulation, water transport, Ekman currents*

## A MATHEMATICAL METHOD TO DETERMINE THE ENERGY CONSUMPTION AND POLLUTANT EMISSIONS FROM MARITIME TRANSPORT

Florin NICOLAE<sup>1</sup>

Adriana MUNTEANU<sup>2</sup>

<sup>1</sup> PhD senior lecturer „Mircea cel Batran” Naval Academy, Constantza, Romania

<sup>2</sup>,PhD „Mircea cel Batran” Naval Academy, Constantza, Romania

**Abstract:** *In EU member countries, in 2008, transport was responsible for almost a third of final energy consumption and for more than a fifth of greenhouse gas emissions. Although there are some data bases that can be used for assessing the amount of pollutant emissions from maritime transport, is important to be aware that assessing the amount of emissions from an array of mobile sources (such as vessels or other means of transport) is more difficult than assessing the amount of emissions from a limited number of stationary sources (such as plants or thermal power stations). Many assessments should be based on intergradations and mathematical methods; the latter is being used for rating the volume of pollutant emissions commensurate with all types of scenario that can occur in a certain amount of time and in one area.*

**Keywords:** *air pollutant emissions, greenhouse effect, maritime transport*

## NOISE AND VIBRATIONS PRODUCED ONBOARD FRIGATES TYPE 22

Tiberiu PAZARA<sup>1</sup>

Silvestru GROZEANU<sup>2</sup>

<sup>1</sup> PhD candidate teacher assistant, Naval Academy „Mircea cel Batran”, Constanta

<sup>2</sup> PhD lecturer, Naval Academy „Mircea cel Batran”, Constanta

**Abstract:** *The noise produced onboard military ships affects the efficiency and comfort of crew, and the vibrations produced affects the working state of the equipment. Yet, both noise and vibrations affects ship's safety, making it easier to be detected by the enemy. The paper considers some aspects of noise and vibration and their sources onboard frigates.*

**Key words:** *noise, vibration, frigates.*



## THEORETICAL CONSIDERATIONS ABOUT THE INFLUENCE OF THE NAVAL BULB'S PLATE THICKNESS OVER THE EXTREME VALUES OF THE MAXIMUM PRINCIPAL STRESS WHICH OCCUR IN IT DURING THE HYDRODYNAMIC IMPACT

**Adrian POPA<sup>1</sup>**

<sup>1</sup> Lt. (Navy) Lecturer eng., Naval Academy „Mircea cel Bătrân”, Constanța

**Abstract:** *During the navigation in rough sea, the bow of the ship gets off the water and at the entrance suffers a hydrodynamic impact. The structural response of the ship it's a very destructive one. That way, the designers has tried to reinforce the bow structure at the most load point. In this paper, the author makes a short theoretical analysis about the influence of the plate thickness over the extreme values of the principal stress.*

**Keywords:** *slamming, hydrodynamic impact, structural optimization*

## PLACES TO IDENTIFICATION NARROW MONTAJ OF AUTOMATED DEVICES FOR IGNITION BY ELECTRICAL SIMULATION OF WINQSB

**Gheorghe POPESCU<sup>1</sup>**

**Ștefan GHIMIȘI<sup>2</sup>**

**Alin STÂNCIOIU<sup>3</sup>**

<sup>1</sup> Prof. Dr. Eng.- “C. Brâncuși” University of Târgu Jiu

<sup>2</sup> Prof. Dr. Eng.- “C. Brâncuși” University of Târgu Jiu;

<sup>3</sup> Lecturer. Dr. Eng.- “C. Brâncuși” University of Târgu Jiu

**Abstract:** *In this work the authors present the result of the theoretical researches and experiences concerning the identification and elimination of the tight places in the automatic montage of the electric ignition devices used in the pyrotechnic industry for improving the labour productivity.*

*Taking into account the fact the above production system is an expectation system depending on a theoretical study followed by computer simulation with the data processing product WINQSB, Queing System Simulation module, we identified the tight places that generate expectation queues when remaking, verifying and assembling the electric ignition devices of the indigenous electric detonators.*

*In this way, using the WINQSB simulation, we offered solutions for 3 analysis types :*

*the ensemble and marks analysis which entered the system, the analysis of the working machines using and the analysis of the queues.*

**Keywords:** *Electropirotehnics inflammatory, programming language, processing component, during the assembly, tight spots, queues, simulation, clients, analysis of clients, analysis of queues.*

## THE OPPORTUNITY FOR REINVENTORIED FLOATING CRANE

**Violeta POPESCU<sup>1</sup>**

**Hazel MENADIL<sup>2</sup>**

<sup>1</sup> PhD assistance prof. eng, University Ovidius Constanța

<sup>2</sup> PhD lecturer eng., University Ovidius Constanța

**Abstract:** *In the current conditions of port operations, respectively port terminals, there becomes more obvious the need to be used, in addition to existing docks equipment, modern floating equipments for ships operations. The conditions that are appropriate for reinventing of port cranes are:*

*- The size and deadweight capacity of all types of ships have increased, so that, not all ports have the necessary conditions for receipt and / or their operation in a convenient time (limited depth of water in the basin, the crane arm length corresponding width vessel, large number of cranes);*

*- Increasing ships demands increasing areas of land of port terminals for storing the import / export goods;*

*- Increasing container traffic in certain areas has caused congestion of major ports, resulted in formation waiting String of ships and means of road transport of containers in entry-port, which affect logistics of the distribution chain of goods, with the result of increased costs of crossing vessels in port and reducing profit;*

*- The economic crisis increases the risk of major investment in berths construction with classical facilities for operating vessels, so a floating crane is cheaper, it can operate in the port basins, in open sea or navigable channel, anywhere requires the recipient.*

*So, the concept of floating crane comes back in force in port activity with new perspectives and advantages. The paper brings into question new types of floating equipment for transshipment of solid bulk and containers.*

**Keywords:** *port equipment, floating crane, floating terminal.*

## MODEL ADDITIVE-INCREASE AND MULTIPLICATIVE-DECREASE FOR THE STREAMING MEDIA

**Ioan POPOVICIU<sup>1</sup>**

<sup>1</sup> PhD senior lecturer Naval Academy “Mircea cel Batran” Constantza

**Abstract:** *Streaming media is sensitive to delay and jitter, but can tolerate some data loss. Thus, TCP with reliable transmission service at the cost of potentially large delay at congestion may not be an optimal choice for streaming applications. For these reasons, streaming media applications often use UDP as a transport protocol rather than TCP. A non-TCP protocol is called TCP-friendly when it yields the same throughput as traditional TCP. TCP-friendly protocols are generally used for multimedia/real-time applications. This paper proposes a TCP-friendly protocol model for the streaming media.*

**Key words:** *TCP, congestion, AIMD, QoS, friendly*

## **HEAT PIPE BASICS**

**Dan POTROCEA<sup>1</sup>**

<sup>1</sup> Chief Engineer Post Graduate, Maritime Expert Advisor, Romanian Maritime Training Center

**Abstract:** A heat pipe is a device that efficiently transports heat from its one end to the other. It utilizes the latent heat of the vaporized working fluid instead of the sensible heat. As a result, the effective thermal conductivity may be several orders of magnitudes higher than that of the good solid conductors. Heat input at the evaporator vaporizes the working fluid and this vapor travels to the condenser section. Here the latent heat is rejected via condensation. The vapor of the working fluid condenses and the condensate returns to the evaporator by means of capillary action.

**Key words:** heat pipe, thermal conductivity, vaporized working.

## **COMPUTATION OF BREAKING WAVE LOADS AND FEM MODELING OF A PNEUMATIC WAVE ENERGY CATCHER**

**Mihail PRICOP<sup>1</sup>**

**Anne STENE<sup>2</sup>**

**Florin GHEORGHE<sup>3</sup>**

**Valentin ONCICA<sup>4</sup>**

<sup>1</sup> PhD senior lecturer eng., Naval Academy „Mircea cel Bătrân”, Constanța

<sup>2</sup> Ph.D Professor., Aalesnud University College, Norway

<sup>3</sup> prep.eng., Naval Academy „Mircea cel Bătrân”, Constanța

<sup>4</sup> PhD lecturer eng., Naval Academy „Mircea cel Bătrân”, Constanța

**Abstract:** The purpose of this paper is to show the outcome of our research concerning determining the distribution of wave pressure in the catcher structure, and secondly concerning verifying with FEM the predimensioned structure resistance when hit by the waves in the Black Sea; furthermore the vertical distribution of horizontal and vertical velocity and wave pressure relatively with the catcher position are studied and analyzed, helping us to make a decision over the structural dimensions.

The wave velocity and pressure have been determined using the Goda method on breaking wave forces on walls. The input data has been considered to be the average multiannual value of wave height and period on the Romanian Black Sea coast; furthermore we have taken into consideration the case of the highest wave from the last fifty years. The catcher geometrical characteristics have been tailored using criteria given by the wave parameters on the Romanian Black Sea coast.

**Key words:** wave energy catcher, pulsating wave loads, Goda model, breaking wave forces.

## **FEW SOLUTIONS TO REDUCE THE POLLUTION FROM MARINE DIESEL ENGINES**

**Anastase PRUIU<sup>1</sup>**

**Adrian BEJAN<sup>2</sup>**

**Traian FLOREA<sup>3</sup>**

**Alexandru DRAGALINA<sup>4</sup>**

**Nicolae BERECHET<sup>5</sup>**

**Nicu OLARU<sup>6</sup>**

<sup>1</sup> PhD Prof..eng, Naval Academy „Mircea cel Bătrân” Constanța

<sup>2</sup> PhD Prof..eng, Duke University, North Carolina, USA

<sup>3</sup> PhD Prof..eng, Naval Academy „Mircea cel Bătrân” Constanța

<sup>4</sup> PhD Prof..eng, Naval Academy „Mircea cel Bătrân” Constanța

<sup>5</sup> Ing. Nicolae BERECHET - Histria Shipmanagement SRL

<sup>6</sup> Ing. Nicu OLARU - SNP Petrom S.A. București – Petromar Constanța

**Abstract:** The IMO Annex VI of MARPOL 73/78 Regulations for the Prevention of Air Pollution from Ships, has been ratified and took effect from May 2005. In part, Annex VI sets the limits for NOx emissions which will be applicable to ship's propulsion and auxiliary engines greater than 130kW. This regulation affect all new vessels constructed after 1st January 2000. Furthermore, this regulation will also affect engines over 130kW, which undergo major conversion after 1st January 2000. The adoption of this new legislation has far reaching affects for all ship builders and ship operators.

**Keywords:** pollution, engines, fuel

## **ABOUT FRACTAL MODELLING OF MOUNTAINS WITH RIVERS**

**Adrian- Gelu RADU<sup>1</sup>**

**Marcel SULTANESCU<sup>2</sup>**

<sup>1</sup> Teacher of Computer Science and Physics, Trades and Services High School, Buzau

<sup>2</sup> Lecturer of Computer Science, Department of Science Education DPIPP Buzau, University Bucuresti

**Abstract:** Fractality is a mathematical concept which seems to fit some structures in nature. Numerous scientists use derivatives of this concept, and therefore it is bound to happen that the term 'fractal structure' is used in different meanings. It either is used to denote the fractal set itself, or the generating system of the fractal set, where the generating system is based on a suitable construction rule which usually works inductively from one generation level to the next.

This paper addresses the long-standing problem of generating fractal mountains with rivers, and presents a partial solution that incorporates a squig-curve model of a river's course into the midpoint-displacement model formountains. The method is based on the observation that both models can be expressed by similar context-sensitive rewriting mechanisms. As a result, a mountain landscape with a river can be generated using a single integrated process.

**Keywords:** terrain models, midpoint displacement, squig curve.

## COMPARATIVE ANALYSES AT DIFFERENT TEMPERATURES ON THE BEHAVIOUR OF CYLINDRICAL ENERGY STORING ELASTIC ELEMENTS WITHIN ELECTRICAL EQUIPMENTS

Gheorghe RAȚIU<sup>1</sup>

<sup>1</sup> Assoc. prof. dr. eng., “Nicolae Balcescu” Land Forces Academy, Sibiu

**Abstract:** *There is a tendency for miniaturization in the electrical equipments industry. Due to the miniaturization, electrical stress is increasing, so that deflection may appear. Deflection processes modeling needs complete information. In order to change a determinist design to a operational one, that will take into account the reliability, one needs to know each parameter variation low. In this paper one make a forecast estimation of the helicoidally springs characteristics, by the reliability indicators and by the performance degradation coefficient of the spring metal “b”, that is experimentally measured using some original stand in heating conditions.*

**Keywords:** *reliability, degradation coefficient, heating conditions*

## UNDERWATER ROBOTS MOVEMENT CONTROL ACCORDING TO „TIME” PARAMETER

Simona RUS<sup>1</sup>

Ana ION<sup>2</sup>

Victor Octavian RUS<sup>3</sup>

<sup>1</sup> Ph.D. Eng. Main Scientific Researcher II, Diving Centre, Constanta, Romania;

<sup>2</sup> Ph.D., “Mircea cel Bătrân” Naval Academy of Constanta, Romania

<sup>3</sup> Student, Mechanics Faculty of the “Ovidius” University of Constanta, Romania

**Abstract:** *The measurements that influence an underwater robot’s horizontal, vertical, or both directions simultaneous movements are various and have unknown values. The determination of coefficients is difficult and pertains numerous experiments. In conclusion, one may state that there is no other complete mathematical models for such kinds of vehicles, but partial ones. Modeling and simulation of some real underwater vehicles, is practically impossible.*

*When the mathematical equations of the model are highly approximated - big faults can appear, and they are multi-parametrical when they are very complex – the mathematical model becomes incompatibly undetermined. Modeling according to the method of similitude implies determination of „interest” proportions on miniature models (made at a certain scale), which keep to the rules of similitude.*

*The proportions determined on a model can be extended, with acceptable error for the approved proportions of real underwater robots, which develop in their natural environment.*

**Keywords:** *Diving Centre, ROV / AUV, divers, base ship, offshore zone, oil rig.*

## THE ANALYSIS OF A MAGNETISATION DEVICE USING FEMM

Adelina Rodica SAMOILESCU<sup>1</sup>

Valentin IONIȚĂ<sup>2</sup>

<sup>1</sup> Drd. eng., University Polytechnic Bucharest, Faculty of Electrical Engineering

<sup>2</sup> PhD Prof. eng., University Polytechnic Bucharest, Faculty of Electrical Engineering

**Abstract:** *This paper analyses a magnetization device with cylindrical geometry which allows a 2-D approach using FEMM, a free software based on the finite elements method. The obtained values of the magnetic flux density in different regimes are compared for two main cases: with and without a magnetic sample inside the coil. Another comparison was made between the results obtained by the numerical simulation and by the analytical method.*

**Key words:** *magnetic materials, superconducting, analytical model.*

## THE USE OF THE INITIAL PLAN METHOD TO MEASURE THE ELECTROMAGNETIC FIELD ON BOARD THE SHIP (EFBS)

Gheorghe SAMOILESCU<sup>1</sup>

Rodica BĂRĂNESCU<sup>2</sup>

Radu MIHALCEA<sup>3</sup>

Mircea CONSTANTINESCU<sup>4</sup>

Alexandru SOTIR<sup>5</sup>

Camelia CIOBANU<sup>6</sup>

Laura CIZER<sup>7</sup>

<sup>1</sup> Prof. Ph.D. eng Naval Academy „Mircea cel Bătrân” Constanța, România

<sup>2</sup> Prof. Ph.D. eng., Faculty of Mechanical, University Illinois, Chicago, USA

<sup>3</sup> Prof. Ph.D. eng., Faculty of Mechanical, University Illinois, Chicago, USA

<sup>4</sup> Senior lecturer, Ph.D., eng., Naval Academy „Mircea cel Bătrân” Constanța, România

<sup>5</sup> Prof. Ph.D. eng Naval Academy „Mircea cel Bătrân” Constanța, România

<sup>6</sup> Senior lecturer, Ph.D., Naval Academy „Mircea cel Bătrân” Constanța, România

<sup>7</sup> Lecturer Ph.D., Naval Academy „Mircea cel Bătrân” Constanța, România

**Abstract:** *This method implies the introduction of intermediary field sources in the shape of a plan (S) where the field distribution is experimentally determined. The statement for the problem of the initial plan method is as follows: knowing the values of EFBS in the measurement plan (S) situated at a normal measurement depth  $h_s = h_n$ , it is imperative to analytically measure the value of the field in another plan (S<sub>1</sub>) situated at the depth  $h > h_s$ . An effective performance parameter, in*

evaluating the magnetic imprint of the ship, is the field gradient of the ship electromagnetic field component. In practice the field gradients pertaining to the longitudinal characteristics:  $\frac{\partial H_x}{\partial x}$ ,  $\frac{\partial H_y}{\partial x}$ ,  $\frac{\partial H_z}{\partial x}$  are of utmost importance.

**Key words:** magnetic scalar potential, ferroprobes

## **IMPLEMENTATION OF JAVA SOFTWARE TO DETERMINE THE EQUIVALENT RELIABILITY OF A COMPLEX SYSTEM**

**Cosmin ȘTIRBU<sup>1</sup>**  
**Constantin ANTON<sup>2</sup>**  
**Emil SOFRON<sup>3</sup>**

<sup>1</sup> As. drd. eng., University of Pitesti

<sup>2</sup> Gl. bg. r. dr. eng., University of Pitesti

<sup>3</sup> PhD Prof. eng., University of Pitesti

**Abstract.** In this paper we present the calculation of the equivalent reliability of a non decomposed system using a method based on graphs theory. To improve the speed of the calculation we create JAVA software, which can be easily used in practice. This software allows the calculation of the reliability for any configuration of electronic system. The reliability coefficient is very useful in the fault diagnosis of the systems.

**Keywords:** reliability, node, graph, non decomposed system

## **ALUMINIUM ALLOYS STRUCTURES, MECHANICAL PROPRIETIES AND AFTER CASTING TREATMENTS**

**Dan TOKAR<sup>1</sup>**  
**Ion SPOREA<sup>2</sup>**  
**Arina NEGOIȚESCU<sup>3</sup>**

<sup>1</sup> Drd., Polytechnic University Timișoara

<sup>2</sup> PhD Prof.eng., Polytechnic University Timișoara

<sup>3</sup> Eng, Polytechnic University Timișoara

**Abstract:** Cast aluminium alloys pistons in the engine heat, on the basis of ternary system Al-Si-Cu aim to increase the mechanical resistances, especially the increasing resistance of the duration of the operating temperature of heat engines pistons exceeding 300 °C. In order for this work is studied in two alloys that contain Mn besides of high quantity Cu. Based on these alloys are being alloying other elements that result in mechanical tests show a jump in net terms of refractory due to the structure of the strengthening stable phases: Al<sub>7</sub>Cu<sub>2</sub>Fe, W (Al<sub>x</sub>Mg<sub>5</sub>Si<sub>4</sub>Cu<sub>4</sub>).

**Keywords:** aluminum alloys, alloy components and phases, heat treatment

## **WATER BASED TECHNOLOGIES USED ON DIESEL ENGINES FOR THE REDUCTION OF NO<sub>x</sub> EMISSIONS**

**Adrian TRIFAN<sup>1</sup>**  
**Daniel MĂRĂȘESCU<sup>2</sup>**

<sup>1</sup> Lt(r). drd. eng. Naval Academy “Mircea cel Bătrân”

<sup>2</sup> Asp.eng. Naval Academy “Mircea cel Bătrân”

**Abstract:** Theoretical and experimental evidence indicates that NO<sub>x</sub> reductions due to various water injection modes range from 10 to 80 percent for intake air humidification / water injection, 20 to 50 percent for direct injection and 10 to 50 percent for fuel-water emulsions. The effects of water on other emissions, such as particulate matter, carbon monoxide, total hydrocarbons and smoke, also vary for each method; NO<sub>x</sub> reduction is often accompanied by increases in other emission products. WIS design thus becomes an optimization problem of maximizing NO<sub>x</sub> reduction while minimizing the increase of other emissions.

**Keywords:** pollution, fuels, water, burning,

## **M-FUNCTIONS THAT COMPUTE THE BESSEL FUNCTIONS OF THE FIRST KIND $J_\nu$ AND SECOND KIND $Y_\nu$ WITH $\nu$ INTEGER**

**Paul VASILIU<sup>1</sup>**

<sup>1</sup> Ph.D. Lecturer Naval Academy “Mircea cel Batran”, Constanta

**Abstract:** In mathematics, Bessel functions, first defined by the mathematician Daniel Bernoulli and generalized by Friedrich

Bessel, are canonical solutions  $y(x)$  of Bessel's differential equation  $x^2 \frac{d^2 y}{dx^2} + x \frac{dy}{dx} + (x^2 - \nu^2)y = 0$  for an arbitrary

real or complex number  $\nu$ , the order of the Bessel function. The most common and important special case is where  $\nu$  is an integer. The OCTAVE package is the free implementation of the MATLAB package. In OCTAVE package we can find the functions `besseli` and `bessely`. With their help we can compute the values of the Bessel functions of the first kind  $J_\nu$  and

second kind  $Y_\nu$ , with  $\nu$  noninteger. In this work I present two  $M$ -functions for computing the values of Bessel functions of the first kind  $J_\nu$ , and second kind  $Y_\nu$ , with  $\nu$  integer.

**Keywords:** Bessel functions,  $m$ -function, integer, noninteger, order

## **CONSIDERATIONS REGARDING THE LOW - SULPHUR FUEL OPERATION OF DIESEL ENGINES**

**Sebastian ZĂICEANU<sup>1</sup>**

**Adrian TRIFAN<sup>2</sup>**

<sup>1</sup> Lt(r). drd. eng. Academia Tehnica Militară de București

<sup>2</sup> Lt(r). drd. eng. Naval Academy

**Abstract:** Today, we have ECAs (emission control areas) based on EU and IMO regulations, in the Baltic Sea, the North Sea and the English Channel. And more such areas are expected to come. In the USA, the EPA (Environmental Protection Agency) is considering to designate Long Beach an ECA very soon. The sulphur content has an impact on the sulphur acid emission to the air, sea

and land, as well as a major impact on the particle level in the exhaust gas.

**Keywords:** pollution, fuels, water, burning

## ABSTRACTS OF SOCIAL AND ECONOMICS SCIENCES

### IMO REGULATIONS ON LIFE-SAVING APPLIANCES

Oana ADĂSCĂLIȚEI<sup>1</sup>

<sup>1</sup> PhD Asistent, University Maritime, Constanta, Romania

**Abstract:** This Article aims to trace the evolution of the legal process relating to life-saving appliances starting with the first version of SOLAS Convention of 1914 up to the latest major legal amendment of chapter III SOLAS in 1998. As both the SOLAS Convention and the LSA Code are at present undergoing a wide review process, the role of the Maritime Safety Committee (MSC) and of the Sub-Committee on Ship Design and Equipment (DE) respectively will be presented with respect to the adoption of circulars relating to life-saving appliances.

**Key words:** life-saving appliances, SOLAS Convention, LSA Code

### THE ECONOMIC VARIETY SUPPORT IN THE RURAL AREA

Mădălina ALBU<sup>1</sup>

<sup>1</sup> PhD Lecturer, Petroleum – Gas University of Ploiești

**Abstract:** Economic diversification is an increase in community employment through the introduction of a new industry or through the expansion of an existing industry other than a single sector or dominant industry. Rural community economic diversification, is one solution to the problems facing rural regions and small towns. This paper presents a case study on Cornu village.

**Key words:** economic activity, rural area

### ASPECTS OF LAW OF THE SEA CONVENTION - MONTEGO BAY 1982 -

Constantin ANECHITOAIE<sup>1</sup>

<sup>1</sup> Ph.D, Col. (r), Constanta „Ovidius” University

**Abstract:** On the 31<sup>st</sup> of March 2009, the number of parties to UNCLOS stood at 157, including the European Community. On the 31<sup>st</sup> of May 2007, Lesotho and Morocco ratified the Convention and expressed their consent to be bound by the Agreement relating to the Implementation of Part XI of the Convention (Part XI Agreement). Thus, on the 27<sup>th</sup> of July 2007, there were 129 parties to that Agreement, including the European Community. Following the accessions of Lithuania on the 1<sup>st</sup> of March 2007, of the Czech Republic on the 19<sup>th</sup> of March 2007, and of Romania on the 16<sup>th</sup> of July 2007, the number of parties to the 1995 Fish Stocks Agreement rose to 67, including the European Community [1].

**Keywords:** UCLQS; Law of the Sea Convention; Romania; Black Sea; Danube; geopolitics; axes

### MARITIME ENGLISH-TEACHING/LEARNING RESOURCES-COURSE BOOK PRESENTATION

Carmen ASTRATINEI<sup>1</sup>

<sup>1</sup> PhD lecturer , Naval Academy “Mircea cel Bătrân”

**Abstract:** The aim of this paper is to discuss ESP English, with special reference to the place of ESP Maritime English within the wide range of English teaching/learning resources. A brief introduction will be made reviewing the literature on the subject matter, then an attempt of Maritime English resources and materials classification will be presented. Finally, the first unit of a navigation 1<sup>st</sup> year course book will be presented highlighting its self-study component.

**Key words:** maritime English; teaching/learning resources; self-study

### RISK FACTORS AND SAFETY AT WORK IN POTENTIALLY EXPLOSIVE ENVIRONMENTS

Nicolae BARBU<sup>1</sup>

<sup>1</sup> Chief chestor, drd, Police Inspectorat of Constanta

**Abstract:** A special class of substances or mixtures of substances, generically called explosives contain both fuel and oxidants but necessary chemical reaction of oxidation-reduction and therefore no longer need outside stimulation for only the voluntary triggering the explosion. In their military or civilian applications, explosive materials must operate and release their energy "chemical potentially explosive" only after the desired action, voluntary and does not accept their accidental initiation. However, we can not say that there is or there are no accidents with explosives or explosive devices. Their consequences are often unexpected and always destructive, resulting in material losses and casualties.

**Key words:** risk management, risk procedures, safety management

## **TOBACCO CESSATION**

**Aurel BEJAN<sup>1</sup>**

<sup>1</sup> PhD lecturer, Naval Academy „Mircea cel Bătrân”

**Abstract:** *Tobacco use can be a hard habit to break because nicotine is physically addicting. You experience a craving for tobacco. The force of habit is strong. Tobacco use may seem an indispensable part of your daily life. However, you can quit if you are willing to put forth the effort. Millions of people have done it. In fact, one out of three tobacco users who attempt to quit, succeed in quitting.*

**Key words :** *Health, smoking habits, prohibited, effects, physical tests*

## **PARTICULARITIES OF SEAFARERS AND CADETS RECRUITMENT IN MARITIME TRANSPORT**

**Paul BOCANETE<sup>1</sup>**

**Cristina NISTOR<sup>2</sup>**

**Alina BREAZU<sup>3</sup>**

<sup>1</sup> PhD Prof., Constanta Maritime University, Constanta

<sup>2</sup> As..drd., Constanta Maritime University, Constanta

<sup>3</sup> Prep. drd. Constanta Maritime University, Constanta

**Abstract:** *This paper presents the particularities of seafarers and cadets recruitment in maritime transport as observed at some crewing companies. Recruitment represents the process of screening and selecting qualified people for a job. Choosing the right person is essential for maritime companies. Therefore, it is vitally important to choose the adequate skills and qualities needed to ensure recruitment of suitable candidates. Observing the leadership skills, in particular, plays a strategic role in the process of recruitment.*

**Key words:** *maritime transport, seafarers, cadets, crew.*

## **USING VIDEOS IN TEACHING ENGLISH**

**Lili BUZATU<sup>1</sup>**

**Liana ROBU<sup>2</sup>**

<sup>1</sup> Prof def. Naval Academy “Mircea cel Bătrân” Constanta

<sup>2</sup> Prof def. Naval Academy “Mircea cel Bătrân” Constanta

**Abstract:** *Although disregarded for many years, using videos in an English course has been extensively used recently as a source of authentic material and an interactive way to introduce particular language points that need to be practiced in classroom. Videos play an important part in teaching and learning a foreign language, as they employ real-life situations with real-life expressions and other particularities. Being a great resource to use in class there are an endless number of ways to exploit them to create motivating, memorable classes with a high level of language production. However the disadvantages should not be disregarded but turned into prolific English teaching classes.*

**Key words:** *Videos, teaching, English*

## **À LA RECHERCHE DE ... L'INTERCOMPRÉHENSION**

**Laura CIZER<sup>1</sup>**

**Alina BARBU<sup>2</sup>**

<sup>1</sup> PhD Asist., Naval Academy “Mircea cel Bătrân” Constanta

<sup>2</sup> PhD Lect. , Naval Academy “Mircea cel Bătrân” Constanta

**Abstract:** *L'Union européenne est plurilingue, dans sa réalité quotidienne comme dans sa législation. Le recours à une seule langue de communication entre les différents peuples européens ferait peser un risque énorme sur la capacité de l'Europe à faire vivre ensemble des cultures et des langues diverses, sans parler de l'avantage économique et culturel qu'en retirerait le pays dont la langue serait devenue la langue intereuropéenne.*

*Avec l'intercompréhension, les citoyens européens peuvent surmonter ce risque d'appauvrissement des échanges: elle installe entre eux un échange direct, plurilingue, respectueux de la forme de pensée de chaque interlocuteur. Elle est le signe d'une action concrète en faveur de la diversité culturelle et linguistique.*

*Les deux films français présentés dans notre ouvrage: „Les poupées russes” et „L'auberge espagnole” témoignent précisément de cette même habileté à communiquer en évitant le recours à une langue tierce entre deux personnes parlant des langues proches.*

**Key words:** *intercompréhension, polyglotte, univers culturel, échanges linguistiques*

## **PSYCHOLOGICAL RESEARCH RELATING TO VALUES**

**Carmen Luminița COJOCARU<sup>1</sup>**

<sup>1</sup> Ph.D. Senior Lecturer „Mircea cel Bătrân” Naval Academy

**Abstract:** *The study deals with some aspects of the concept of value, the methodological context of the investigation as well as two modalities of placing the (professional) values in a hierarchical order, that is the one achieved on the criterion of the mean score of preference/acceptance (of its descriptive information „offer”) and the other one achieved on the criterion of intradimensional correlativity (with its integrative information „offer”) and aiming at the personological profile.*

**Keywords:** *value concept, hierarchy of professional values, research*

## INTERCOMPRÉHENSION EN LANGUES ROMANES ET ACQUISITION DE COMPÉTENCES PLURILINGUES

Elena COMES<sup>1</sup>

Marinela VRAMULET<sup>2</sup>

<sup>1</sup> PhD profesor, University Ovidius Constanta

<sup>2</sup> PhD lecturer, Universitatea Ovidius Constanta

**Résumé:** La présente contribution rend compte d'une expérience d'enseignement-apprentissage dans le domaine de l'intercompréhension en langues romanes réalisée dans l'Université Ovidius de Constanta dans le cadre d'un master proposé dans la Faculté des Lettres à partir de 2007, intitulé FLE et plurilinguisme dans l'espace européen. Il s'agit d'une formation universitaire dans le domaine du plurilinguisme par l'introduction de disciplines spécifiques pour ce domaine, telles, d'une part, les cours d'initiation à l'intercompréhension en langues romanes en tant que méthode d'acquisition d'une compétence plurilingue et, d'autre part, les ateliers d'apprentissage par intercompréhension, en vue de l'acquisition de compétences partielles, réceptives, de deux langues romanes inconnues aux candidats.

Ce master s'adresse en particulier à des étudiants ayant une licence en langues romanes et ouverts, par là, vers le plurilinguisme sur le terrain des langues romanes.

**Mots clés:** politiques linguistiques européennes, didactique des langues, master de plurilinguisme, inter-compréhension en langues romanes, formation de formateurs plurilingues.

## ECONOMIC ASPECTS OF INTERCOMPREHENSION

Sorinel COSMA<sup>1</sup>

Simona COSMA<sup>2</sup>

<sup>1</sup> Associate Professor, PhD, “Ovidius” University Constanta, Romania,

<sup>2</sup> Teacher, “Mircea cel Batran” Naval Academy, Constanta, Romania

**Abstract:** *Intercomprehension offers significant advantages in terms of allocative efficiency and distributive fairness, making, in general terms, an attractive public policy. It is an approach which places an emphasis on diversity and takes multilingualism seriously. It can make multilingualism considerably cheaper and less cumbersome in the day-to-day operations of a linguistically diverse institution, while also meeting much higher standards of distributive fairness than the current tendency towards linguistic hegemony – English only – or the oligarchic alternative – prominent role of English, French, German.*

*Until now, intercomprehension has been examined mostly from the perspective of applied linguistics or language dialects. Given its potential importance as a language policy instrument, a broad, interdisciplinary assessment of various language policy scenarios embodying intercomprehension appears very necessary.*

**Key words:** *intercomprehension, economy*

## THE EVOLUTION OF ENGLISH LANGUAGE IN THE CONTEXT OF GLOBALIZATION

Alina DAVIES<sup>1</sup>

Maria CIOCAN<sup>2</sup>

<sup>1</sup> prof.def., CPILS, Naval Academy Mircea cel Batran, Constanta

<sup>2</sup> prof. def. dr, CPILS, Naval Academy Mircea cel Batran, Constanta

**Abstract:** *The English language is currently accepted as the world's lingua franca, as it is widely used in international transactions, navigation, the military, education, a.s.o. This paper deals with the emergence of English as a global language, as a linguistic consequence of globalization. Thus, the audience is invited to consider first of all, the necessity of having a universal language in this highly interconnected world, then the circumstances that favoured the evolution of English to its current global status, and lastly, the impact of this universal language on the other languages of the world.*

**Key words:** *globalization, evolution of English language, universal language, lingua franca, global language*

## CHILDREN'S GAMES OR RETURN TO THE CHILDHOOD OF MANKIND

Sanda-Ileana DRAGALINA<sup>1</sup>

<sup>1</sup> Lectrer, Naval Academy „Mircea cel Bătrân”, Constanța. Romania

**Résumé:** *Dans les jeux des enfants, considérés aujourd'hui une manifestation naïve de la vitalité enfantine, résident les racines culturelles de l'humanité. Les spécialistes y reconnaissent les traces d'une existence vécue dans la sacralité du mythe, le Paradis spirituel de l'homme à l'âge ou les Dieux envahissaient la conscience humaine.*

**Key words:** *game, children, folklore, sacred, profane.*



## EVALUATION ANALYSIS OF WASTE COLLECTION AND STORAGE IN THE SOUTH-EAST DEVELOPING REGION OF ROMANIA

Georgeta DRAGOMIR<sup>1</sup>  
Ștefan DRAGOMIR<sup>2</sup>  
Carmen-Marina DRAGOMIR<sup>3</sup>

<sup>1</sup> PhD Prof., University “Danubius” Galați

<sup>2</sup> PhD Prof., University “Dunărea de Jos” Galați

<sup>3</sup> Masters University “Dunărea de Jos” Galați

**Abstract:** Economical activity of collection and disposal of urban and rural waste in the south-east developed region, are organized differently depending on: the size of locality, the number of people served, equipment, property form, the area from which collection (urban or rural) and the disposal surface. This study presents a complete analysis on the waste collection and a comparing between divers types of disposal area.

South-east developing Region is located in the south-eastern Romania, covering 35,762 km<sup>2</sup> or 15% of the total area of our country. The south-east region is the second largest between the eight developing region of Romania. The districts that are included in this development region are: Braila, Buzau, Constanta, Galati, Tulcea, Vrancea.

**Key word:** Waste collection, transport system, disposal area, types of disposal.

## ILLEGAL IMMIGRANTS AS A THREAT OF THE MARITIME SECURITY

Raluca ENESCU<sup>1</sup>

<sup>1</sup> Assistant Lecturer Ph. D. candidate, Naval Academy „Mircea cel Batran” Constanta

**Abstract:** Taking their chances on fishing boats, dinghies and canoes, every year thousands of men, women and children drown in a desperate bid to reach Europe from Africa. They cross from West Africa to the Spanish Canary Islands, from Morocco to Southern Spain, from Libya to Malta and the Italian islands of Sicily and Lampedusa, and from Turkey to the islands of Greece. People entering Europe irregularly – without passports or visas – do so for a variety of reasons. In some cases they are fleeing persecution, human rights violations and armed conflict and can, therefore, be considered as refugees who need special protection. More often, they are migrants trying to escape poverty and unemployment.

**Key words:** illegal immigrant, maritime security, threat, refugees

## BIOCHEMICAL PARAMETERS IN THE NAVAL PENTATHLON

Virgil ENE-VOICULESCU<sup>1</sup>  
Carmen ENE-VOICULESCU<sup>2</sup>  
Onder ATAKAN<sup>3</sup>

<sup>1</sup> Senior lecturer Ph.D. Naval Academy „Mircea cel Batran” Constanta, Romania

<sup>2</sup> Professor Ph.D. University „Ovidius” Constanta, Romania

<sup>3</sup> Comander, Naval Academy, Tusla, Turkey

**Abstract:** Under consideration accomplished subdued research a series of the biochemical parameters (the hemoglobin, albuminoidal, lactic acid), who conditions the physical special effort. Hold the medical area (A.Demeter, 1982[3]; M. Ifrim, 1989[5]) propose in the process of selection grids with standard values have the parameters determinant in the system criterions of selection. Biochemical investigations suggested were effectuate in this experimentally stage to the initially and final moment. Through these inhibition of laboratory investigation we have follow:

1. If the results obtained frames in the natural suggested limits hold by the medical area specialist;

2. In what grey the investigations values obtained are influenced of the specific complex effort from the military pentathlon.

The biochemical investigation realized demonstrated that the results obtained of subjects the group of the experiment they framed in natural physiological limits.

**Key words:** the hemoglobin, albuminoidal, lactic acid, the urea

## THE STUDY SPECIFIC APPEARANCE PREPARATION PARAMETERS IN THE MILITARY PENTATHLON

Virgil ENE-VOICULESCU<sup>1</sup>  
Carmen ENE-VOICULESCU<sup>2</sup>  
Nils Sverre HAUG<sup>3</sup>

<sup>1</sup> Senior lecturer Ph.D. Naval Academy „Mircea cel Batran” Constanta, Romania

<sup>2</sup> Professor Ph.D. University „Ovidius” Constanta, Romania

<sup>3</sup> Professor Ph.D. Telemark College, Oslo University, Norway

**Abstract:** In specify training investigation realized demonstrated that the results obtained of subjects the group of the experiment they framed to anticipate performance results. From the series five specify training parameters apply in research, from statistical viewpoint to the ultimate testing mark crease average values to the level experiment group.

**Key words:** shooting, obstacle race, swimming, throwing, cross country

## THE CONFLICT BETWEEN TURKEY AND GREECE REGARDING THE SOVEREIGNTY OVER THE CYPRUS ISLAND

Olimpiu Manuel GLODARENCO<sup>1</sup>

<sup>1</sup> PhD senior lecturer, Director, Muzeul Marinei Române

**Abstract:** On 16 november1994, some twelve years after being opened for ratification, the 1982 Law of the Sea (LOS) Convention came into force. Less than one year later, the Greek parliament ratified the convention, a move that evoked a fiery response from Turkey, the only NATO nation that has not indicated an intent to do likewise. Labeling the Greek vote a *casus belli*, the Turkish parliament promptly authorized the government to take “all necessary measures, including military steps, deemed necessary to protect the vital interests” of Turkey. Simultaneous 1995 naval exercises in the Aegean Sea by the two nations did little to calm matters.

**Key Words:** aircraft, alliance, convention, embargo, invasion, security, territorial sea

## BUSINESS COMMUNICATION – BETWEEN PAST AND FUTURE

Gabriela GOGOT<sup>1</sup>

<sup>1</sup> Oil and Gas University from Ploiești

**Abstract:** To communicate effectively means a change in a manner convenient thinking, feeling or behavior of speaker. Ability to communicate effective means the centre of communication competence. First, the competence assessment context influences the content and form of communication. Communication skills is one that says that in a particular context and with a particular interlocutor, an argument can convince, and another not. A particular language may be appropriate and another may be inappropriate. The experience of human relationships and individual psychology and group knowledge are important ways to increase communication skills.

**Keywords:** Business, negotiation, communication

## WHAT’S IN A NAME?

Ana ION<sup>1</sup>

<sup>1</sup> PhD Asist. , Naval Academy “Mircea cel Bătrân” Constanța

**Abstract:** Is a personal name just an artificial and meaningless convention? Does a name suggest anything when we pronounce it? So...“What’s in a name? That which we call a roseBy any other name would smell as sweet.” (Romeo and Juliet -II, ii, 1-2) Would it? No doubt, Shakespeare was right.

What we intend here is to make an attempt to trace back the origin of some names, and to show how they have perpetuated in time. This is an interesting and delightful subject that varies so much around the world and tells us so much about a country or society. Everywhere names themselves mean something, but often the meaning has been lost or obscured by time. The study of personal names is known as *anthroponymy*.

**Key words:** anthroponymy, names, hipocorystics.

## TEAM SPORTS AS A NECESSITY FOR YOUNG PEOPLE

Riccardo Izzo<sup>1</sup>

<sup>1</sup> Proffesor Ph.D.Urbino University “Carlo Bo”, Faculty of Motor, Sport and Health Science, Italy

**Abstract:** Team sports are extremely good at satisfying the needs of young adolescents, both from a purely physical and psychological point of view. In fact, team sports tend to “mould” the character of the adolescent, making them more attentive to the people around them and therefore, more willing to understand, encourage and help those who are less able, trying out a new type of social relationship based on common interests and mutual respect, on working together. According to different authors it is above all the use of the lower limbs to encourage the activity and development of internal organs and the heart and lungs in particular. If, for example, we analyze some sporting disciplines, we can say that basketball is an activity that adolescents enjoy a great deal. It improves reaction speed, agility and balance and since tactics play an important role in a match and at any time, players can be called upon to perform combinations that are often rather complex, it also improves attention and the ability to reflect.

**Key-words:** team-sports, strength, endurance, neuromuscular sensitivity, coordination skills, motor imagination

## FOCUSSING ON LANGUAGE: ERRORS AND CORRECTION

Edith KAITER<sup>1</sup>

<sup>1</sup> Junior Assistant, PhD student, “Mircea cel Bătrân” Naval Academy Constanța

**Abstract:** Errors often show that a student is experimenting with language, trying out ideas, taking risks, attempting to communicate. In this way, student errors are evidence that progress is being made. Therefore, one of the most important aspects is when and how to interfere and correct the errors that students sometimes make.

The aim of the paper is to present ways of correcting errors, having as main purpose the students’ motivation to learn more from their errors and not to feel guilty and start being afraid to express their ideas in a foreign language.

**Keywords:** errors, correction, communication, feedback, confidence.

## DIE BEDEUTUNG DES WECHSELS VON SOZIALEN ORGANISATIONSFORMEN IM FREMDSPRACHENUNTERRICHT DIE EINFÜHRUNG VON GRUPPENARBEIT

Olga KAITER<sup>1</sup>

<sup>1</sup> PhD Lecturer, “Ovidius” University Constanța

**Kurzfassung:** Infolge des Prozesses der Globalisation und des näheren Zusammenrückens in der Welt stellte man fest, dass das Lernen von Fremdsprachen eine wichtige Voraussetzung für die Kommunikation geworden ist. Die intensiven menschlichen Kontakte im Bereich der Wirtschaft, der Kultur und des Tourismus, die nun vom gesellschaftlichen Wandel in der Welt bestimmt wurden, setzten die Verständigung mit anderen Sprechern voraus. Wenn man die Ziele des kommunikativen Fremdsprachenunterrichts in Betracht zieht, dann sieht man die Notwendigkeit der Vermittlung von neuen Lernstrategien und Lerntechniken ein, die den Lernenden im Lernprozess der Fremdsprache helfen und sie auf die Kommunikation vorbereiten.

Ein wichtiger Aspekt in der Arbeit ist die Sensibilisierung der Lehrenden für den Wechsel von sozialen Organisationsformen, die die Unterrichtsroutinen auflösen und den Raum für das Neue schaffen.

**Schlüsselwörter:** Wechsel, Organisationsformen, Fremdsprachenunterricht, Gruppenarbeit, Lernstrategien

## NATURE OF EFFORT'S SPECIFICITY IN THE DURING ATHLETIC TASKS

Ion LAZĂR<sup>1</sup>

<sup>1</sup> PhD lecturer, “Mircea cel Bătrân” Naval Academy, Constanța

**Abstract:** The batch exposed to scientific investigation is of 20 athletes, length jumpers, participants in the national Championship of athletics of România, which have been registered, measured and analyzed in competition, as well as in development training of muscular strength in which the athletes have used the means they commonly use, but also in means we imposed, like the condition simulator.

**Key word:** experiment, speed, training, method, jumping in lengths

## NAVY SPEAK: ENHANCING YOUR UNDERSTANDING OF MARITIME TERMINOLOGY WITH THE HELP OF INTERCOMPREHENSION

Delia LUNGU<sup>1</sup>

Maria Filomena CAPUCHO<sup>2</sup>

Mariana BOERU<sup>3</sup>

<sup>1</sup> PhD assistance prof., Naval Academy „Mircea cel Bătrân”, Constanța, Romania

<sup>2</sup> Prof.Ph.D, Catholic University of Portugal

<sup>3</sup> Prof. def., Naval Academy „Mircea cel Bătrân”, Constanța, Romania

**Abstract:** This paper will attempt to illustrate the benefits of employing the intercomprehension method and techniques in order to enhance one's understanding of a specialized language, in our case, the maritime one. Although English is the “official” language of the naval environment, there is, however, a certain degree of multilingualism to be found especially aboard maritime ships with multinational crews. Therefore, a method such as intercomprehension, which increases the learners' awareness of the linguistic knowledge that they already possess and encourages them to actively transfer it to other foreign languages of interest, well, such a method will surely facilitate communication, especially in a multilingual environment.

**Keywords:** intercomprehension, ESP, navy

## A TWO-FOLD APPROACH TO DEVELOPING READING SKILLS: EXPLICIT VERSUS IMPLICIT VOCABULARY LEARNING STRATEGIES

Olesia LUPU<sup>1</sup>

Elena COJOCARU<sup>2</sup>

<sup>1</sup> PhD Univ. Lecturer,

<sup>2</sup> Teaching Assistant Faculty of Economics and Business Administration, “Alexandru Ioan Cuza” University, Iași

**Abstract:** The relationship between reading competence and vocabulary acquisition has been an on-going concern for recent ESP research. Nation suggests that ‘Learning rates can be increased considerably by some deliberate attention to vocabulary’ (2001), thus offering a theoretical grounding for developing explicit approaches to teaching vocabulary. The paper discusses implicit versus explicit strategies of teaching specialized vocabulary. The two approaches will be presented contrastively as to suggest that extensive exposure to new vocabulary helps learners acquire new vocabulary.

**Key words:** Vocabulary acquisition, reading competence, genre approach

## WHEN A SERGEANT BECOMES A BROWN HAT

Raluca-Aurora MATEȘ<sup>1</sup>

<sup>1</sup> PhD Asist., Naval Academy „Mircea cel Bătrân”, Constanța, Romania

**Abstract:** Slang is the use of informal words and expressions to describe a person, an object or a condition. The definition of slang varies widely; however the generally accepted definition is of language which is very informal or much below the standard level of education. Slang is the continual and ever-changing use and definition of words in informal conversation, often using references as a means of comparison or showing likeness.

**Key words:**

## **PUSHUPS VARIATIONS, MODIFICATIONS AND MISTAKES**

**Cristian Ovidiu MIHĂILESCU<sup>1</sup>**

<sup>1</sup> Lecturer Ph.D. Naval Academy “Mircea cel Bătrân” Constanța, Romania

**Abstract:** The article is an essay about pushups which explains step by step how these should be performed, in a correct manner, what are the possible variations and how should we avoid possible mistakes, preventing thus injuries. The article seek for instructing all (beginners, intermediates and advanced) athletes in how to introduce the pushups in their workout in order to build strength and endurance in upper body.

**Key words:** Pushups, workout, strength, muscle, endurance, chest, shoulders, arms, core.

## **COMMENT PEUT-ON MOTIVER LES ELEVES ET LES INCITER A APPRENDRE LES LANGUES ETRANGERES?**

**Andreea-Simona MILAN<sup>1</sup>**

**Résumé:** Aujourd'hui, on attache plus d'importance à l'apprentissage des langues à l'école. L'enseignant a un rôle important dans l'apprentissage d'une langue étrangère. C'est à lui de savoir comment faire pour attirer ses élèves, de choisir les bons instruments de travail pour la classe de langue et de garantir le succès des élèves.

**Mots clé:** motivation, attitude, initiation

## **ELITE OF ROMANIAN NAVY DIPLOMACY – COMMANDERS OF NAVY SCHOOL “MIRCEA” (1939-2009)**

**Marian MOȘNEAGU<sup>1</sup>**

<sup>1</sup> Captain (N.), Ph.D, Chief of Military Historical Service

**Abstract:** The artisans of these diplomatic effects were the commanders of the School-Ship “Mircea”, part of the gallery being Captain August G.T. Roman (16 January 1939-1<sup>st</sup> April 1941), Captain Gheorghe Gustav Drimba (1<sup>st</sup> April 1941-1<sup>st</sup> October 1943 and 2-5 September 1944), Lieutenant Constantin Chiriac (1<sup>st</sup> October 1943-2<sup>nd</sup> September 1944), Captain Iosif Biaciu (9 September 1947-15 May 1948), Lieutenant-captain Ioan Stoian (27 May 1946-9 September 1947), Captain Nicolae Milu (May 1948-June 1949, June 1950-June 1951), Captain Ioan Gheorghe (May 1952-30 September 1955), Lieutenant-captain Vladimir Cosmiceanu (30 September 1955-1960), Lieutenant Costică Ciocoiu (1960-1962), Captain Alexandru Hârjan (1<sup>st</sup> January 1965-19 September 1973), Captain Petre Zamfir (5 April 1965-25 February 1966, was in command of the ship only during the Constanța-Hamburg march), Captain Eugen Ispas (19 September 1973-8 September 1977), Captain Dan I. Stăiculescu (15 August 1978-5 March 1990), Captain Dinu Sorin Pampărău-Sălăvăstru (5 March 1990–2006) and Captain Gabriel Moise (1 October 2006 till present).

**Key words:** commanders, School-Ship “Mircea”

## **THE IMPORTANCE OF TRAINING FOR ROMANIAN SEAFARERS COMPETITIVENESS**

**Ion NĂFTĂNĂILĂ<sup>1</sup>**

**Cristina NISTOR<sup>2</sup>**

<sup>1</sup> PhD Prof. , Academy of Economic Studies, Bucharest

<sup>2</sup> As. drd., Maritime University, Constanta

**Abstract:** In maritime transport, competitiveness of seafarers can be acquired by appropriate training. Unfortunately, some shipping companies prefer to spend financial resources on higher salaries than their competitors in order to attract and maintain personnel, rather than investing in training and in courses for professional and personal development of seafarers. This paper presents the importance and the effects of training of seafarers on safety and competitiveness.

**Key words:** maritime transport, seafarers, training, crew, competitiveness.

## **IMPROVING ORGANIZATIONAL PERFORMANCE**

**Filip NISTOR<sup>1</sup>**

**Cătălin POPA<sup>2</sup>**

**Maurrissio PASSINI<sup>3</sup>**

<sup>1</sup> Assistant Lecturer eng. Filip Nistor, Naval Academy „Mircea cel Batran“ Constanta

<sup>2</sup> Lecturer Cătălin C. Popa, Naval Academy „Mircea cel Batran“ Constanta

<sup>3</sup> Ph.D , president of CoMeTra (Mediterranean Transport Community), Italy

**Abstract:** One of the most important shifts in the emphasis of HR management in the past few years has been the appointment of HR as a strategic business contributor. Even organizations that are not-for-profit, such as governmental or social service entities, must control their human resources as being valuable and in a “businessoriented” manner.

**Keywords:** HR management, performance, organization, merger, acquisitions

## TRAINING PERSONNEL FOR TODAY'S PORT

Haralambie BEIZADEA<sup>1</sup>

Filip NISTOR<sup>2</sup>

Luigi ROBBA<sup>3</sup>

<sup>1</sup> PhD Prof.eng. Beizadea Haralambie, Naval Academy „Mircea cel Batran“ Constanta

<sup>2</sup> Assistant Lecturer eng. Filip Nistor, Naval Academy „Mircea cel Batran“ Constanta

<sup>3</sup> Ph.D., General Secretary of Italy harbor association , Italy

**Abstract:** Increasing trade and a reducing labour pool could eventually take its strain on ports. The goal of human resources department from a port company is to find port personnel who either possess or have the potential skills and attitudes that will enable a port business to carry out the tasks necessary for the achievement of its aims and objectives.

**Keywords:** port, training, standards, personnel

## THE IMPORTANCE OF DETERMINING BODY COMPOSITION IN ATHLETES AND UNSPORTSMANLIKE

Olaru CRISTINEL<sup>1</sup>

Osman FESCI<sup>2</sup>

<sup>1</sup> Asistent, Naval Academy, Constantza, Romania

<sup>2</sup> Comander, Forces Army Academy, Ankara, Turkey

**Abstract:** The determination of body composition is a basic measure of health status and capacity of the athlete's effort and for the general population. Body composition is one factor that contributes to athletic performance. The percentage of fat varies according to age, sex, and the sport and by sport practiced, training status, energy intake. The unsportsmanlike, determining body composition is important for proper assessment of nutritional status and treatment monitoring nutritional imbalances.

**Keywords:** body composition, active mass, fat.

## A NEW-FANGLED METHOD TO PSYCHOLOGICALLY INFLUENCE THE HIGH PERFORMANCE SPORTSMEN AND STUDENTS

Naie Gilles OPRİŞAN<sup>1</sup>

Boris RIŞNEAC<sup>2</sup>

<sup>1</sup> Lecturer Ph.D, Naval Academy „Mircea cel Batran“ Constanta

<sup>2</sup> Profesor Ph.D. National University of Physical Education, Chisinau, Moldova

## PYGMALION MYTH

Marioara PATEŞAN<sup>1</sup>

<sup>1</sup> Assoc. professor, PhD, “Nicolae Bălcescu” Land Forces Academy, Sibiu

**Abstract:** Pygmalion story has been transmitted and represented in arts through the centuries. Myth represents initiating stories which tell us primordial truths and place us into a realm of transreality. The mystery and the unknown are amplified by man who tries to discover the truth. A myth is but a story full of wisdom which has real cultural, moral and traditional values. It carries with itself the mystery of the past and in the same time the desire to find out more about it. Such a myth is Pygmalion, the search for perfection, for beauty, for life, for immortality. In this study I will depict the myth of Pygmalion in Romanian and British literature, focusing on Shaw's play. Nichita Stănescu and George Bernard Shaw have different points of view when it comes to the theme of creation, love and sacrifice, but both strive for perfection in art.

**Key words:** myth, approach, creation, love, sacrifice

## DATA WAREHOUSE OF A DERRICK - PART OF THE PETROLEUM PRODUCTION QUALITY MANAGEMENT SYSTEM

Loredana-Maria PAUNESCU<sup>1</sup>

<sup>1</sup> Asist.univ.dr.d. - Department for Economical Mathematics and Informatics, Petroleum&Gas University, Ploiesti, Romania

**Abstract:** The present work is concerned with the oil production which is a complex process. The main objectives are: the best administration of casualty stages of mains, the control over the level of accomplished production and the economic level of oil-field development tracking. The data warehouse procedure represents a new way of using important warehouses of grand dimensions that are useful in the development of a firm activity for a certain period of time. In the oil production activity and/or the gas production the use of the datawarehouse is a natural application because the process itself means the periodic canvassing and stockaging of certain data that can be used not only for the observation of derrick status at a certain moment but also for the prediction of its subsequent evolution and the prereception of any disturbance or bad maintenance.

**Key words:** activities, process, derrick, oil, objective, model, control, datawarehouse.

## **THE FUTURE OF ENGLISH IN A GLOBAL WORLD**

**Oana-Andreea PIRNUTA<sup>1</sup>**

**Adina TUDORACHE<sup>2</sup>**

**Ioana Mihaela DINESCU<sup>3</sup>**

<sup>1</sup> Senior Lecturer Ph.D. TRANSILVANIA University of Brasov, Romania

<sup>2</sup> Senior Lecturer Ph.D. TRANSILVANIA University of Brasov

<sup>3</sup> BUCEGI Mountain Training Base Predeal – Romania

**Abstract:** *The present paper lays emphasis upon cultural globalisation and the imperialism of the English language. It aims at illustrating the erroneous idea that globalisation is a single way path from the American culture towards the rest of the world, by distinguishing between three important concepts: globalisation in general, Americanisation and McDonaldisation. There is no absolute meaning that could define cultural globalisation, but there are three different theoretical perspectives on this topic that perceive globalisation either as a factor of cultural homogenisation (an American one), as a force that leads to cultural diversity or as a two-way process between the local and the global. The emergence of English as a Lingua Franca is a consequence of the imposition of the English language on other cultures along with its cultural, political and economic models, in other words because of linguistic imperialism.*

**Key words:** *cultural globalisation, linguistic imperialism, Americanisation, McDonaldisation, lingua franca.*

## **OPERATIONAL SOLUTIONS FOR IMPROVING THE QUALITY OF MILITARY EDUCATIONAL MANAGEMENT**

**Cătălin C. POPA<sup>1</sup>**

**Filip NISTOR<sup>2</sup>**

**Alberto Russo FRATTASI<sup>3</sup>**

<sup>1</sup> Major, Lecturer, Naval Academy „Mircea cel Bătrân”, Constantza, Romania

<sup>2</sup> Captain, Professor Assistant, Naval Academy „Mircea cel Bătrân”, Constantza, Romania

<sup>3</sup> Ph.D., honorific president of CoMeTra (Mediterranean Transport Community), Italy

**Abstract:** *This paperwork is meant to treat some stringent problems and difficulties in educational processes management within military institution, starting with the study of complex challenges in economical and social changes dimension, defined in relation with the most recently tendencies on labor market. The authors reflected as a conclusion that the incentive of teaching and educational training quality of in military area should be built on the concept of military social values improvement, as a work hypothesis before any strategy design. The educational process should be oriented, as civilian teaching system, toward student, in the center of its rationality based on knowledge society principle.*

**Key words:** *management, educational processes, military institutions*

## **THE NEW RELATIONS BETWEEN GLOBAL ECONOMY, INTERNATIONAL TRADE AND FINANCIAL SYSTEM**

**Cătălin C. POPA<sup>1</sup>**

**Haralambie BEIZADEA<sup>2</sup>**

**Luca SISTO<sup>3</sup>**

<sup>1</sup> Major, Lecturer, Naval Academy „Mircea cel Bătrân”, Constantza, Romania

<sup>2</sup> Professor, PhD, Naval Academy „Mircea cel Bătrân”, Constantza, Romania

<sup>3</sup> Responsible of maritime political CONSITARMA, Italy

**Abstract:** *The new tendencies of global economy can be more efficiently detailed, explained and understood, on the base of those internal functional relations established in contemporary economical global dimension, between economy, international trade and monetary-financial system. Starting with the idea of a new economies' typology will be clearly possible to analyze the mechanism of international outturn results in relation with trade dynamics connected to the new particularities of international monetary-financial system. This paperwork brings into discussion the equilibrium principles regarding the global economy functionality in the presence of integration and globalization phenomena. Continuing an old author's theory, the paperwork studies in a synthetic manner the interstitial ties between a new typology of economies (as has been treated in previous scientific papers) and financial system as being the main way in harmonizing the global equilibrium.*

**Keywords:** *global economy, financial system, international trade*

## **INTERCOMPREHENSION IN LANGUAGE TEACHING. PRACTICABLE OR UTOPIAN?**

**Corina SANDIUC<sup>1</sup>**

<sup>1</sup> Junior assistant, „Mircea cel Batran” Naval Academy

**Abstract:** *Language is not only an instrument of communication, but also an important part of the world we live in. Therefore, speaking two or three languages and understanding many more opens the access door to a great amount of knowledge, helping people to exchange ideas more efficiently and to have greater autonomy on many different levels from professional to personal. In this context, intercomprehension emerges as the ability to understand a language which has not been studied before based on the discursive competences already developed. If this process is harmoniously developed, the study of different languages will not be limited to the acquisition of linguistic knowledge, but will allow for a new approach to language teaching and learning as a translinguistic process. The question that now arises is whether intercomprehension is something that can be taught in school as any other skill or just another theoretical concept with no real applicability.*

**Key words:** *intercomprehension, linguistic awareness, linguistic competence, comprehensive processes.*

## **TEACHING ENGLISH - NOT AN EASY TASK**

**Gabriela ȘERBĂNOIU<sup>1</sup>**

<sup>1</sup> PhD Senior Lecturer, Police Academy Bucharest

**Abstract:** *This paper focuses on aspects of teaching English, including the covering of all skills involved in the process, going through choosing the right coursebooks with the right criteria of assessment, teacher's roles etc. I have started from the premise that lesson planning is the art of combining a number of different elements into a coherent whole so that a lesson has an identity which students can recognise, work within, and react to - whatever metaphor teachers may use to visualise and create that identity. We, the teachers, need to consider a number of crucial factors such as the language level of our students, their educational and cultural background, their likely levels of motivation, and their different learning styles.*

**Key words:** *selection and grading, language study activities, language skill activities, topics.*

## **MAKING USE OF PROPER NAMES IN FOREIGN LANGUAGES CLASSES**

**Anca SIRBU<sup>1</sup>**

<sup>1</sup> PhD Asist. , Naval Academy “Mircea cel Batran” Constanta

**Abstract:** *This article provides an overview of the role of proper names in German language classes. Learners of German as a foreign language are normally confronted with German proper names in their textbooks. Students learning German are faced with many difficulties with regard to proper names. The recognition of proper names constitutes one of the major problems in terms of teaching German as a foreign language. For German, it is difficult to decide whether a capitalized word is a proper name because proper names and generic terms (normal nouns) are capitalized both at the beginning and within a sentence. These difficulties can be minimized in different ways: e.g. by collecting differently spelt family names from various sources such as a phone directory or a newspaper, by comparing idiomatic phrases or communication rules with those in the first language, or by listing names that students may be familiar with, like the name of a town or a famous brand.*

**Key words:** *proper names, German as a foreign language*

## **TEACHING ENGLISH THROUGH VOCABULARY**

**Dana Carmen ZECHIA<sup>1</sup>**

<sup>1</sup> PhD lecturer , “Mircea cel Batran” Naval Academy, Constanta

**Abstract:** *Vocabulary is most frequently taught in a spoken or written context, and we have already seen that there are good arguments for this approach. We are going to look at contexts at various levels, and discuss ways they can be exploited for vocabulary teaching purposes. Basically learning a foreign language is a matter of learning the vocabulary of a language. Not being able to find the words you need to express yourself is the most frustrating experience in speaking another language. Vocabulary is not the whole story; the system of language is also important. It is possible to have a good knowledge of how the system of a language works and yet not be able to communicate in it. Whereas, if we have the vocabulary we need, it is usually possible to communicate.*

**Key words:** *vocabulary, system, teaching, language, knowledge.*