

**ROMANIAN ACADEMY**  
**Department of Technical Sciences**

**ACADEMY OF TECHNICAL SCIENCES**

**COMMISSION OF ACOUSTICS  
OF ROMANIAN ACADEMY**



**THE ANNUAL SYMPOSIUM OF THE INSTITUTE  
OF SOLID MECHANICS  
SISOM 2016  
and  
Symposium of Acoustics  
Bucharest, May 12-13, 2016**

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## *Session 1 – System Dynamics and Continuum Mechanics*

(1D) Polidor BRATU

*Dynamic response for systems with structural nonlinear under excitation force in harmonic regime*

(2D) Dan Alexandru IORDACHE

*Study of the Life and Main Achievements in the Field of Applied Mechanics of the Great American Inventor  
R. G. LeTourneau*

(3D) Dimitar STEFANOV, Tudor SIRETEANU, Ana Maria MITU, Gheorghe GHIȚĂ

*Novel Systems for Mitigation of Vibrations and Seismic Protection*

(4D) Vasile MARINA, Viorica MARINA

*The influence of load shape and structural factors on variations of stress / strain states at microscopically level*

(5D) Ștefan SOROHAN, Nicolae CONSTANTIN, Constantin Valentin EPURAN

*Modal analysis of a small wind turbine with wind concentrator*

(6D) Mircea LUPU

*The criterions for absolute stability in dynamical systems. Applications in optimal control*

(7D) Nicolae CONSTANTIN, Marin SANDU, Mircea GĂVAN, Adriana SANDU,  
Constantin Valentin EPURAN, Bogdan PĂTRĂU, Cătălin ENESCU

*Considerations upon the damage tolerance of sandwich materials*

- (8D) Viorel ANGHEL, Ștefan SOROHAN, Dan DUMITRIU, Daniel BALDOVIN  
*Linear and nonlinear finite element analysis for a circular tapping plate loaded circumferentially*
- (9D) Elena GUTULEAC, Grigore SECRIERU  
*Mathematical modeling of elastic–plastic structures vulnerability under intensive loading*
- (10D) Ruxandra VIDU  
*Nanomaterials for solar energy*
- (11D) Ovidiu VASILE  
*Analysis of the vibrations effects on the built environment produced by vibration sources from inside/  
outside of buildings*
- (12D) Mihai CIUNCANU  
*Performance requirements for generators of dynamic actions and monitoring systems for dedicated testing  
stands*
- (13D) A. ELHASSOUNY and F. SMARANDACHE  
*Multi-Criteria Decision Making Method for n-wise Criteria Comparisons and Inconsistent Problems*
- (14D) Adriana STUPARU  
*The dynamic behavior of the engines in vibrational regime for the self-propelled road vehicles*

(15D) Sorin Adrian POPA

*Assessment requirements for the functional performance of elastomeric bearings used on bridges and viaducts*

(16D) Daniela BARAN, Vasile ȚURCAN

*Using CATIA for an optimal design of an aeronautical structure*

(17D) Nicolae CONSTANTIN, Constantin Valentin EPURAN

*Behaviour of a wind turbine blade in various configurations*

(18D) V. CHIROIU, L. MUNTEANU, C. BRISAN

*On the tactile sensing virtual simulation*

(19D) V. CHIROIU, R. IOAN, I. GIRIP, V. MOSNEGUTU

*On the non-periodic multilayer structures*

(20D) Nicolae POP, Miorița UNGUREANU, Bogdan CIORUTA

*The models for control of systems with friction*

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## *Session 2 – Robotics*

- (1R) Said BROUMI, Mohamed TALEA, Assia BAKALI, Florentin SMARANDACHE  
*Interval Valued Neutrosophic Graphs*
- (2R) Cătălin MOLDOVAN, Ionel STAREȚU  
*Advanced control solution for an anthropomorphic gripper*
- (3R) Marcel MIGDALOVICI, Luige VLĂDĂREANU, Daniela BARAN, Gabriela VLĂDEANU  
*On Critical Position of Walking Robots Evolution and Applications*
- (4R) Luige VLADAREANU, Mihaiela ILIESCU, Marcel MIGDALOVICI, Eugen ALBU, Hongbo WANG, Yongfei FENG, Jianye NIU, Daniel MITROI  
*Functional and experimental model architecture on the VIPRO platform for 3D simulation of the mobile robots*
- (5R) Yongfei FENG, Hongbo WANG, Musong LIN, Victor VLADAREANU, Hao YAN  
*Movement Intention Prediction of Lower Limb for Paralyzed Patients Based on Plantar Multidimensional Force Sensor System*
- (6R) Jianye NIU, Hongbo WANG, Hongmin SHI, Luige VLADAREANU, Yuxiang ZHANG, Dong LI  
*Mechanism Design and Parameter Optimization of Wheel-legged Rescue Robot*



(7R) Mihaiela ILIESCU, Luige VLADAREANU, Ioana PINTILIE, Marian LAZAR, Daniel MITROI,  
Mihai RADULESCU

*Multi-Axes Mechatronics Systems for Printing Ultrathin Layers of Perovskite Solar Cells*

(8R) Victor VLADAREANU, Sergiu CONONOVICI, Hongbo WANG , Yongfei FENG, Vlad GROSU

*Modeling and simulation of the humanoid robots walking with loads adapted to motion environment*

(9R) Alexandru GAL, Luige VLADAREANU, Oana CHENARU, Gelu FLOREA, Catalin-Eugen SIMION

*3D modeling of mobile robots in virtual reality environment using Blender and Unity applications integrated on VIPRO Platform*

(10R) Octavian MELINTE, Luige VLADAREANU, Mihai IONEL, Valentin BARBU

*NAO humanoid robots using virtual reality platforms Choreographe and Webots applied on VIPRO Platform*

(11R) Mihnea MOISESCU, Ioan Stefan SACALA, Ioan DUMITRACHE, Simona Iuliana CARAMIHAI,  
Victor VLADAREANU, Calin Aurel MUNTEANU

*Adopting Cyber Physical Systems and Internet of Things Principles in Robotic System Design*

(12R) Daniel MITROI, Luige VLADAREANU, Radu I. MUNTEANU, Hongbo WANG, Yongfei FENG,  
Eugen ALBU

*The UAVs autonomous navigation interfaces using distributed particle filters for sensor networks*

- (13R) Razvan CHIRITA, Alexandru CHIRITA, Mihnea MOISESCU, Ioan Stefan SACALA,  
Octavian MELINTE, Alexandru GAL,  
*Mixed Reality in Robotic Systems Control and Simulation*
- (14R) Oana CHENARU, Gelu FLOREA, Catalin-Eugen SIMION, Daniel MITROI, Alexandru GAL,  
Octavian MELINTE  
*Remote Control and eLearning Platform for Virtual Reality through Virtual Projection*
- (15R) Eugen ALBU, Luige VLADAREANU, Radu A. MUNTEANU, Hongbo WANG, Jianye NIU,  
Doina MARIN  
*The communication strategy on the capabilities and opportunities of the versatile, intelligent and portable robot platform VIPRO*
- (16R) Doina MARIN  
*Artificial intelligence implementation in the field of NC machine tools*

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### *Session 3 – Wear investigations of materials, Biomechanics and Mechatronics*

(1W) Lucian CĂPITANU, Virgil FLORESCU, Constantin ȚIGĂNEȘTEANU, Liliana-Laura BĂDIȚA  
*Adhesion of the coatings with thin layers testing by the inclined cyclic impact*

(2W) Miorița UNGUREANU, Nicolae POP  
*Considerations on tribological aspects of the brakes system for mining hoisting*

(3W) Constantin D. STĂNESCU, Gabi ROȘCA-FARTAT, Constantin POPESCU, Nicolae PANĂ,  
Tudor BURLAN-ROTAR  
*Contributions for the development of a device for the decommissioning of the horizontal fuel channels in the CANDU 6 nuclear reactor. Fuel channel evolution and requirements*

(4W) Gabi ROȘCA-FARTAT, Constantin POPESCU, Nicolae PANĂ, Tudor BURLAN-ROTAR,  
Constantin D. STĂNESCU  
*Contributions for the development of a device for the decommissioning of the horizontal fuel channels in the CANDU 6 nuclear reactor. Fuel channel components presentation*

(5W) Ion BULAC  
*Determination of the flexibility, rigidity matrixes for the 4R asymmetrical spherical quadrilateral mechanism*

(6W) Mariana PĂTRASCU (ANTONESCU), Constantin D. STĂNESCU, Doina ENE  
*Black powder of gas pipeline*

- (7W) Doina TĂRĂBUȚĂ (ENE), Mariana PĂTRAȘCU (ANTONESCU), Melania TĂMAȘ  
*Thermal analysis using ANSYS software package*
- (8W) Melania TĂMAȘ, Doina ENE  
Experimental researches, obtained on rough turning of some magnetic materials, based on NdFeB,  
using infrared thermography analysis
- (9W) Constantin D. STĂNESCU, Elena SCUTELNICU (PĂUN), Doina ENE, Madalina SCUTELNICU,  
Daniel VANE  
*Applications Optimization Methods Industrial Products*
- (10W) Alexandru VLĂDEANU, Gabriela VLĂDEANU  
*The Determination of the Bucket Position at the Excavators with the Aid of the Tilt Sensors*
- (11W) Tudor BURLAN-ROTAR, Liliana CĂINICEANU  
*Considerations on contactless electromagnetic techniques for grains moisture measurements in grains silos*
- (12W) Liliana CĂINICEANU  
*Experimental results obtained by measuring the harmonics of high power audio devices equipped with NdFeB permanent magnets in the anechoic chamber*

- (13W) Ionel SOLOMIE, Constantin DOCHIȚA  
*Reflections concerning the optimization of the parameters of the cutting regime on the frontal milling by applying the Taguchi method*
- (14W) Elena SCUTELNICU (PĂUN), Daniel VANE  
*Considerations on water treatment using optical sensors LDO*
- (15W) Mariana PĂTRAȘCU (ANTONESCU), Doina ENE  
*Methods for the determination of the loss of gases from the pipes on the transport of hydrocarbons*
- (16W) Ion BULAC  
*Determination of the flexibility, rigidity matrixes for the 4R symmetrical spherical quadrilateral mechanism*
- (17W) Melania TĂMAȘ, Mariana PĂTRAȘCU  
*The behavior assessment on mechanical deformation of plastic deformation by bending process of some magnetic materials, based on NdFeB alloys*
- (18W) Nicolae PANĂ, Gabi ROȘCA-FARTAT, Tudor BURLAN-ROTAR  
*Contributions for the development of a device for the decommissioning of the horizontal fuel channels in the CANDU 6 nuclear reactor. Fuel channel inside components installation*

(19W) Gabi ROȘCA-FARTAT

*Contributions for the development of a device for the decommissioning of the horizontal fuel channels in the CANDU 6 nuclear reactor. Cutting and extracting device operating presentation*

(20W) Constantin POPESCU

*Contributions regarding the operating particularities of the cutting and extraction device in the CANDU horizontal fuel channels pressure tube decommissioning. Part I: Movement and fixing device inside the pressure tube*

(21W) Constantin POPESCU

*Contributions regarding the operating particularities of the cutting and extraction device in the CANDU horizontal fuel channels pressure tube decommissioning. Part II: Cutting and extracting pressure tube process*

(22W) Nicolae PANĂ

*Contributions for the development of a device for the decommissioning of the horizontal fuel channels in the CANDU 6 nuclear reactor. Fuel channel outside components installation*

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## ***Session 4 – Technical Acoustics and Speech Technology***

(1A) Mariana Cristina STAN, Luminița ANGHEL

*The airborne noise level produced by the fan coils in an office building from Bucharest*

(2A) Marius DEACONU, Laurențiu CRISTEA

*Sound Transmission Loss in Porous and Isotropic Materials. Comparative Analysis between Impedance Tube and FEM Results*

(4A) Diana MILITARU, Marilena LAZĂR

*Limited-vocabulary speaker independent continuous speech recognition using class-based language model*

(5A) Svetlana SEGĂRCEANU, Tiberius ZAHARIA

*New Developments of the Set of Visual Tools for Speech Processing*

(6A) Svetlana SEGĂRCEANU, Tiberius ZAHARIA

*Study of Potential Resources of Improving the Performance of Speaker Identification Systems*

(7A) Florin CURELARU

*Evaluation of the popular VAD techniques for text-independent speaker verification tasks on handheld devices*



- (8A) Laurențiu CRISTEA, Marius DEACONU  
*Perceptual Distortions in Recording Studio Control Rooms*
- (9A) Mariana Cristina STAN, Alexandru Radu STAN  
*Acoustic treatments at studio “Radio Trinitas“ – Sibiu*
- (10A) Laurentiu CRISTEA, Marius DEACONU  
*Acoustic response optimization of thin plates, in active noise control simulation*
- (11A) Nicolaie ORĂȘANU, Andrei CRAIFALEANU  
*Study of the acoustical behavior of a quasi-parabolic horn*
- (12A) Craita CARP-CIOCARDIA, Ioan MAGHETI  
*Spectral sidebands in vibration diagnosis of the wheel*
- (13A) Toma ZAPLAIC, Nicolae ENESCU  
*Evaluation of exposure acoustics of a building near a complex network traffic*
- (14A) Luminita VOICULESCU, C. POPA, Roxana Alexandra PETRE  
*The vibrations of a rigid shaft supported on elastic orthotropic bearings*
- (15A) Victor MINCHEVICI, Nicolae ENESCU  
*Measures to reduce the noise generated by a local railroad*
- (16A) Sorina ILIUTA, Mihnea MAGHETI, Mihai ZAPLAIC  
*Determination disturbance on population produced by the noise generated by the operation of a conveyor belt going through several areas inhabited*

(17A) Cristian RUGINA

*Finite element analysis of high power ultrasonic transducers used in EDM*

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