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Technical Program

Monday, June 20

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Conference Hall

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Impact of Strategies for Cooperative Project of R&D

Prof. Arturo Lara-López, Universidad de Guanajuato, México.

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Micromanufactories: A New Methodology for Sustainable Manufacturing

Prof. Yuichi Okazaki, National Institute of Advanced Industrial Science and Technology, Japan.

Tuesday, June 21

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- A9-428, On “Perpetual Motion Machine Conversion, **N. M. Dehelean, L.M. Dehelean, E.Ch. Lovasz and V. Ciupe**, “Politehnica University, Timisoara, Romania. 772
- A9-329, Tracking of Flat Belts by Skewing Pulley Axis, **M. Egger**, FH-OOE, Wels, Austria, **and K. Hoffmann**, TU-Wien, Vienna, Austria. 777
- A9-431, An Optimal Model of Up-shifting Path for Bicycle Chainring, **Y. Z. Ma and S. J. Chiou**, National Chung Hsing University, Taichung, Taiwan. 783

Linkages and Cams V, Ch. Prof. I. Visa, Room B-106

- A11-401, Synthesis of a 3RT Linkage Used for the Orientation with Large Angular Stroke of a PV Platform, **I. S. Hermenean, I. Visa, D. V. Diaconescu and N. Creanga**, Renewable Energy and Recycling, Transilvania University, Brasov, Romania. 789
- A11-375, Synthesis of Bar Linkage Mechanisms to Guide and Drive Rapiers, **A. Guha and C. Amarnath**, IIT Bombay, India. 799
- A11-376, Structural Analysis and Synthesis of Assur Groups Based on Their Topological Properties, **N. Krokhmal and O. Krokhmal**, Kurgan State University, Kurgan, Russia. 805
- A11-389, Kinematic Position Analysis of a Notable Bi-tetra-modal Linkage: the RRRCR Spatial Linkage, **J. J. Cervantes-Sánchez, J. M. Rico-Martínez, A. Tadeo-Chávez, G. I. Pérez-Soto, L. D. Aguilera**, DICIS-Universidad de Guanajuato, Salamanca, Gto., Mexico, **and L. Gracia**, Instituto IDF, Universidad Politecnica de Valencia, Valencia, Spain. 814
- A11-400, Synthesis of a RRSS Linkage for Tracking a Two Axis Photovoltaic System, **M. M. Vătăşescu, I. Vişă, D. Diaconescu and R. Săulescu**, Renewable Energy Systems and Recycling Research Centre, Transilvania University of Braşov, Braşov, România. 822

Design Methodology V, Ch. Prof. D. Martins, Room A-105

- A23-427, Enumeration of Kinematic Chains and Mechanisms Review, **R. Simoni, A. P. Carboni, H. Simas and D. Martins**, Federal University of Santa Catarina, Florianopolis, Brazil. 832
- A23-501, Joint Stiffness Tuning for Compliant Robots: Protecting the Robot under Accidental Impacts, **D. M. Gan, N. G. Tsagarakis, J. S. Dai, D. G. Caldwell**, Italian Institute of Technology, Genoa, Italy, **J. S. Dai**, King’s College, London, UK. 841

- A23-467, Formulation of Approximate Generalised Experimental Data based Model for Machining Properties of Bamboo, **C. N. Sakhale, M. P. Singh, J. P. Modak**, Priyadarshini College of Engineering Nagpur University, **and P. M. Bapat**, Cummins College of Engineering for Women, Nagpur University, India. 848
- A23-442, Conceptual Design of Brake Disc Applied to Hybrid Electric Vehicles, **A. B. Rocha and Z. C. Silveira**, University of Sao Paulo, Sao Carlos, SP, Brazil. 859
- A23-493, String Matrix Based Geometrical and Topological Representation of Mechanisms, **K. T. Zhang, J. S. Dai**, King's College London, London, UK. **K. T. Zhang, Y. F. Fang and Q. Zeng**, Beijing Jiaotong University, Beijing, P. R. China. 867

Rotor Dynamics I, Ch. Prof. R. Rządkowski, Room B-104

- A17-292, Analysis of Middle Bearing Failure In So-3 Jet Engine Using Tip-Timing, **R. Szczepanik, E. Rokicki, J. Spychala, M. Kowalski**, Air Force Institute of Technology, Warsaw, Poland, **R. Rządkowski, and M. Drewczyński**, Institute of Fluid-Flow Machinery, Gdańsk, Poland. 877
- A17-327, Resonance Effect, Critical and Resonance Velocities, **O. Zhyvotov**, Yuzhnoye State Design Office, Dnepropetrovsk, Ukraine. 882
- A17-355, Structural Vibration Analysis of Large-scale Wind Turbines Considering Periodically Time-Varying Parameters, **K. T. Kim, and C. W. Lee**, KAIST, Deajeon, Korea. 890
- A17-378, FE Modeling of Blade Couple with Friction Contacts under Dynamic Loading, **L. Pesek, L. Pust, F. Vanek, and J. Vesely**, IT AS CR, v.v.i., Prague, Czech Rep. 899
- A17-478, Continuous Models of Elastic Roll on Various Supports, **Kai Jokinen, and Erno Keskinen**, Tampere University of Technology, Finland. 907

Dynamics of Machinery I, Ch. Prof. X. Jin, Room B-105

- A24-399, On the Equilibrium Point and Dynamic Stability of a Mechanism, **X. Jin and C. Yong**, Southwest Jiaotong University, Chengdu, China. 916
- A24-295, Tellegen's Theorem Applied to Machinery, **T. H. Davies**, Loughborough University, Leicestershire, UK. **and L. P. Laus**, Federal University of Technology - Paraná, Paraná, Brazil. 923
- A24-308, An Approach to Establish Vibration Response at all Bearings of a Countershaft Due to all Machine Elements on It, **G. D. Mehta and J. P. Modak**, Priyadarshini College of Engineering Nagpur University, Nagpur, India. 929

- A24-320, Dynamics Analysis of The Mechanical System of Lunar Sampling, **Z. Dong, S. Yin, H. Yang, H. Wang, H. Cheng, W. Fu**, China University of Mining and Technology, Beijing, China, **and S. Yin**, Beijing Spacecrafts, Beijing, China. 938
- A24-258, Using the Dynamic Compliance Method for Modal Analysis and Steady State Vibrations in the Fluid-Structure Interaction, **F. Malenovsky, F. Pochyly, L. Pohanka and M. Chlud**, BUT, Brno, Czech Republic. 945

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Robotics and Mechatronics XI, Ch. Prof. Y. Nakamura, Room B-1

- A12-460, Stabilizing Control of Personal Mobility with a Spherical Wheel Composed of Serial Kinematic Chain, **S. Ok and Y. Nakamura**, University of Tokyo, Tokyo, Japan. 953
- A12-470, A Pseudo-isotropic Three-phalanx Under-actuated Finger, **G. Dandash, R. Rizk**, Lebanese University Doctoral School, Hadath, Lebanon, **S. Krut and E. Dombre**, Lirimm, Montpellier University-CNRS, 161 rue Ada, Montpellier France. 961
- A12-472, Modelling and Simulation of a Mobile Robot with Self-Locking Speed Reducers, **M. Wojtyra and J. Fraczek**, Institute of Aeronautics and Applied Mechanics Warsaw University of Technology, Warsaw, Poland. 969

Robotics and Mechatronics XII, Ch. Prof. S. K. Saha, Room A-103

- A12-465, Synthesis and Design of a 2-DOF Haptic Device for Simulating Epidural Injection, **M. H. Koul, S. K. Saha**, Dept. of Mechanical Engg IIT Delhi, Hauz Khas, New Delhi, India, **D. Rabinowitz**, Dept. of M.E.M.S., Rice University, Houston, Texas USA. **and M. Manivannan**, Dept. of App. Mechanics IIT Madras, Chennai, India. 977
- A12-479, A Mechanical Calibration Approach for Binary Parallel Robots, **D. Schütz, A. Raatz and J. Hesselbach**, Technische Universität Braunschweig, Braunschweig, Germany. 984
- A12-483, Force Capabilities of Kinematically Redundant Planar Parallel Manipulators, **L. Weihmann, L. S. Coelho**, PUCPR, Curitiba, Brazil, **and D. Martins**, UFSC, Florianópolis, Brazil. 991

Computational Kinematics VI, Ch. Prof. A. Müller, Room A-3

- A7-517, The Geometric vs Algebraic Definition of Mobility, **A. Muller**, University Duisburg-Essen, Germany, **and S. Piipponen**, University of Western Ontario. London (ON), Canada. 999
- A7-494, A Geometric Approach to the Characterization of Form Closure for Planar Joint, **A. Dawari and D. Sen**, Centre for Product Design and Manufacturing Indian Institute of Science, Bangalore, India. 1007
- A7-561, Quadric Surface Fitting Applications to Approximate Dimensional Synthesis, **M. J. D. Hayes and S. R. Rucu**, Mechanical and Aerospace Engineering Carleton University, Ottawa, ON., Canada. 1015

Gearings VI, Ch. Prof. W. B. Shieh, Room A-106

- A9-458, Topological Synthesis of Fractionated Parallel Hybrid Transmission with Two Inputs, **W. B. Shieh**, Mingchi University of Technology, **D. Z. Chen and C. F. Tsai**, National Taiwan University, Taipei, Taiwan. 1023
- A9-468, Adaptive Grid-Size Modelling of Helical Gear Pairs, **M. Barbieri, A. Zippo and F. Pellicano**, Università di Modena e Reggio Emilia, Modena, Italy. 1032
- A9-411, Profile Shift Coefficients and Thickness Modification Coefficients for Straight Bevel Gears under Static Tooth Root Stress used on PV Tracking Systems, **R. Velicu, I. Vişa, G. Moldovean, and B. Butuc**, Transilvania University, Braşov, Romania. 1037

Linkages and Cams VI, Ch. Prof. G. Moroz, Room B-106

- A11-482, The Assembly Modes of Rigid 11-bar Linkages, **Ioannis Z. Emiris**, National and Kapodistrian University of Athens, Greece, **and Guillaume Moroz**, INRIA Nancy, France. 1047
- A11-417, Synthesis Strategy for a Mechanism Based Test Bench for Compliant Structures, **U. Hanke, K-H. Modler**, IFKM - Technische Universität, **N. Modler, M. Zichner, P. Lucas**, ILK - Technische Universität, Dresden, Germany, **and S. Lin**, CDHK - Tongji University, Shanghai, PRC. 1056
- A11-432, Linkages Modelling as Multibody Systems, **I. Visa and M. Comsit**, Transilvania University of Brasov, Brasov, Romania. 1062

Design Methodology VI, Ch. Prof. N. M. Thanh, Room A-105

- A23-511, On 4 - DOF Particularly Decoupled Parallel Mechanisms, **V. Glazunov**, Mechanical Engineering Research Institute, **S. Palochkin**, **S. Kheilo**, **M. Shirinkin**, Moscow State Textile University, Moscow, Russia, and **N. M. Thanh**, University of Transport, Ho Chi Minh City, Vietnam. 1072
- A23-498, Topological Structure Designs of Front Crank Type Elliptical Motion Exerciser, **M. H. Hsu**, **H. P. Kuo**, **C. C. Hsueh**, **P. Y. Lin**, Kun Shan University, Tainan, Taiwan, and **H. H. Huang**, National Panting University of Science and Technology, Pingtung, Taiwan. 1080
- A23-294, Structural Link Optimization of an Echography Robot, **S. Miossec** and **L. Nouaille**, PRISME Laboratory, University of Orléans, France. 1085

Rotor Dynamics II, Ch. Prof. S. Braut, Room B-104

- A17-469, Structural Optimization with Frequency Constraint of the Reinforced Concrete Columns of the Spring Mounted Turbine Generator Foundation, **S. Braut**, **R. Žigulic**, **G. Štimac**, and **A. Skoblar**, Faculty of Engineering, University of Rijeka, Rijeka, Croatia, **M. Butković**, Polytechnic of Karlovac, Karlovac, Croatia. 1094
- A17-291, Forced Response of the Mistuned First Stage Compressor Bladed Disc of an Aircraft Engine - Experimental and Numerical Results, **R. Rzadkowski**, **A. Maurin**, **A. Maciejewska**, **M. Drewczyński**, **M. Soliński**, Institute of Fluid-Flow Machinery, Gdańsk, Poland, **R. Szczepanik**, **A. Zyluk**, and **K. Sybilski**, Air Force Institute of Technology, Warsaw, Poland. 1101
- A17-603, Vibration-based Diagnostics of Rolling Element Bearings: State of the Art and Challenges, **C. Nataraj**, Department of Mechanical Engineering, Villanova University, Villanova, PA, USA, and **K. Kappaganthu**, Advanced Engineering Cummins Engine, Inc. Columbus, IN, USA. 1109

Dynamics of Machinery II, Ch. Prof. T. Thuemmel, Room B-105

- A24-438 Introduction to Modelling and Parameter Identification Methodology of Linkages by Measurements and Simulation, **T. Thuemmel** and **M. Rossner**, Technische Universität München Institute of Applied Mechanics, Munich, Germany. 1119
- A24-434, Force-Displacement Model of Compliant Mechanisms using Assur Sub-Chains, **S. Durango**, **J. Correa**, **O. Ruiz**, **M. Aristizabal**, CAD CAM CAE Laboratory, EAFIT University, Medellín, Colombia, **J. Restrepo-Giraldo** and **S. Achiche**, Engineering Design and Product Development Technical University of Denmark, Lyngby, Denmark. 1129

- A24-495, Dynamics of Stress Wave Propagation during Percussive Drilling Process, **E. K. Keskinen, T. Karvinen, J. Montonen**, Tampere University of Technology, Tampere, Finland, **and M. Heinonen**, Robit Rocktools, Lempäälä, Finland. 1139
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Tuesday, June 21

15:00-16:00

Robotics and Mechatronics XIII, Ch. Prof. S. B. Nokleby, Room B-1

- A12-477, An Operator-Focused Algorithm for Tele-Operating Mobile Manipulators, **M. Frejek and S. B. Nokleby**, University of Ontario Institute of Technology, Oshawa, Ontario, Canada. 1144
- A12-486, Consequences of the Use of Decentralized Controllers for Redundantly Actuated Parallel Manipulators, **T. Hufnagel**, Heilbronn University, Heilbronn, Germany **and D. Schramm**, University Duisburg-Essen, Chair of Mechatronics, Duisburg, Germany. 1152
- A12-490, Inverse Dynamics of a 5-DOF Reconfigurable Parallel Robot, **N. Plitea, D. Pislă, C. Vaida, B. Prodan, R. Dadarlat**, Technical University of Cluj-Napoca, Memorandumului, Cluj-Napoca, Romania, **J. Hesselbach and A. Raatz**, Technical University of Braunschweig, Langer Kamp, Braunschweig, Germany. 1160

Robotics and Mechatronics XIV, Ch. Prof. L. Baron, Room A-103

- A12-488, Planar 3 Degree-of-Freedom Parallel Manipulator with an Articulated Platform Featuring a Planetary Gearbox, **Y. Vermette and L. Baron**, École Polytechnique, Montreal, Canada. 1167
- A12-509, Trajectory-tracking Control of a Planar 3-RRR Parallel Manipulator with Singularity Avoidance, **C. Nasa and S. Bandyopadhyay**, Department of Engineering Design Indian Institute of Technology Madras, Chennai, India. 1174
- A12-500, Modified Wren Platforms, **G. Kiper and E. Söylemez**, Middle East Technical University, Ankara, Turkey. 1183

Computational Kinematics VII, Ch. Prof. D. Pislă, Room A-3

- A7-543, Kinematics of New Parallel Structures with 3 and 4 DOF Using Planar Parallel Modules, **D. Pislă, N. Plitea, C. Vaida, A. Vidrean, M. Glogoveanu, D. Lese, and B. Konya**, Technical University of Cluj-Napoca, Memorandumului, Cluj-Napoca, Romania. 1188

- A7-535, Multi-Objective Scale Independent Optimization of 3-RPR Parallel Mechanisms, **M. H. Saadatzi, H. D. Taghirad, M. Teshnehlab**, K.N. Toosi University, Tehran, Iran, **M. Tale Masouleh and C. Gosselin**, Laval University, Quebec, Canada. 1197
- A7-528, Efficient Solution of Kinematics for Multi-loop Mechanisms using Gröbner Bases, **T. Uchida and J. McPhee**, University of Waterloo, Waterloo, Ontario, Canada. 1207

Gearings VII, Ch. Prof. M. Pleguezuelos, Room A-106

- A9-558, Analytical Expression of the Efficiency of Involute Spur Gears, **M. Pleguezuelos, J. Pedrero and M. Sánchez**, UNED, Madrid, España. 1216
- A9-608, Offset Face Gear Tooth Surface Equations and Simulation, **Y. Guo, T. Wang and Q. Li**, Mechanical Engineering Institute, Tianjin University, Tianjin, China. 1225
- A9-387, Mechanical Efficiency of Straight Bevel Gears Used in Photovoltaic Trackers Depending on Geometrical Parameters, **G. Moldovean, B. Butuc, R. Velicu, and C.C. Gavrila**, Transilvania University, Brasov, Romania. 1230

Linkages and Cams VII, Ch. Prof. B. Corves, Room B-106

- A11-456, Descriptive and Intuitive Mechanism Design and Synthesis Using Geometry-Based Computer-Aided Methods, **B. Corves, M. Riedel and M. Hüsing**, RWTH Aachen University, Aachen, Germany. 1240
- A11-464, Two Poses Synthesis of Spatial Linkages Using Similarity Transformation, **G. F. Bär, K.-H. Modler, J. Ehlig**, Technische Universität Dresden, Dresden, Germany, **and S. Lin**, Tongji University, Shanghai, China. 1247
- A11-512, On Polynomial Flexure Hinges for Increased Deflection and an Approach for Simplified Manufacturing, **S. Linß, L. Zentner**, Department of Mechanism Technology Ilmenau University of Technology, **and T. Erbe**, Department of Engineering Design, Ilmenau University of Technology, Ilmenau, Germany. 1255

Design Methodology VII, Ch. Prof. S. Żółkiewski, Room A-105

- A23-555, Selection and Impact of Parameters in Composite Materials Designing, **S. Żółkiewski**, Silesian University of Technology, Gliwice, Poland. 1264
- A23-540, A Spring-mass-lever Model, Stiffness and Inertia Maps for Single-input, Single-output Compliant Mechanisms, **S. Hegde, G. K. Ananthasuresh**, Mechanical Engineering, Indian Institute of Science, Bangalore, India. 1274

- A23-545, Buckling as a New Perspective on Static Balancing of Mechanisms, **J. A. Gallego and J. L. Herder**, Dept. of BioMechanical Engineering, Delft University of Technology, Delft, The Netherlands. 1284

Rotor Dynamics III, Ch. Prof. J. C. Gómez-Mancilla, Room B-104

- A17-601, Preliminary Analysis for Worn Out Gas Turbine Blade-Vane Components Related to Resonant Mode Frequencies and Fatigue Life Consumption, **J. C. Gómez-Mancilla**, Instituto Politécnico Nacional, México D. F., **L. M. Palacios-Pineda, Y. López-Grijalba, and O. Gutiérrez-Suárez**, Instituto Tecnológico de Pachuca, Pachuca, Hidalgo, México. N/A
- A17-600, Evolution of Rotor Dynamics in 20th Century, **J. S. Rao**, Altair Engineering India, Bangalore, India N/A
- A17-602, Stability Analysis of Hydrodynamic Bearings with a Central Circumferential Feeding Groove, **M. Chouchane, S. Naïmi**, University of Monastir, Monastir, Tunisia, and **J. L. Ligier**, RENAULT S.A, Rueil Malmaison, France. N/A

Dynamics of Machinery III, Ch. Prof. T. Majewski, Room B-105

- A24-453, Resultant Dynamic Force of Automatic Balancing of a Disk with Elastic Shaft, **T. Majewski**, Departament of Mechanical Engineering, Universidad de las Américas, and **M. A. Meraz Melo**, Departament of Mechanical Engineering, Instituto Tecnológico de Puebla, Puebla, México. 1291
- A24-476, Dynamics of the Vibration Driven Tool at Its Interaction with the Processing Material, **S.F. Jatsun, I.V. Lupehina, L. Yu. Volkova**, South-West State University, Kursk, Russia, **G. J. Panovko and A. A. Blagonravov**, Mechanical Engineering Institute RAS, Moscow, Russia. 1299
- A24-593, Dynamic Answer Optimization and Experimental Research Concerning the Mechanisms of Farming Machine, **I. D. Geonea, A. Margine, N. Dumitru**, Craiova University, and **C. Micu**, G.S.I. Transporturi, Craiova, Romania. 1304

Robotics and Mechatronics XV, Ch. Prof. A. Raatz, Room B-1

- A12-499, Advantages of Task-adapted Parallel Robot Systems Featuring Modularity and Reconfigurability, **G. Borchert, A. Burisch and A. Raatz**, Technische Universität Carolo-Wilhelmina, Braunschweig, Germany. 1314
- A12-462, Kinetostatic Analysis of the New Parallel Manipulator with Cylindrical Joints, **Zh. Baigunchekov, B. Nurakhmetov, K. Sartaeov, M. Izmambetov and Zh. Myrzageldieva**, Kazakh-British Technical University, Almaty, Kazakhstan. 1322
- A12-513, Semi-Autonomous Collaborative Mobile Robot System for Material Handling, **V. J. Gonzalez-Villela, A. Angeles-Garcia and D. Lima-Robleda**, Department of Mechatronics Engineering UNAM, CU, Mexico, D.F., Mexico. 1329

Robotics and Mechatronics XVI, Ch. Prof. L. Notash, Room A-103

- A12-491, Investigation of Force Capability in Wire-Actuated Parallel Manipulators for Wire Failure, **M. Agahi and L. Notash**, Queen's University, Kingston, Canada. 1335
- A12-503, Implementation of the Slide-O-Cam mechanism in the Design of a Robot Gripper, **A. Silva-Caballero, M. González-Palacios, L. A. Aguilera-Cortés**, Universidad de Guanajuato, Salamanca, M/éxico. 1345
- A12-523, Shaking Force Balancing of a Redundant Planar 4-RRR Parallel Manipulator by Linear Momentum with the Loop Equations Included, **V. van der Wijk, J. L. Herder**, University of Twente, Enschede, The Netherlands, **S. Krut and F. Pierrot**, LIRMM, Montpellier, France. 1353

Computational Kinematics VIII, Ch. Prof. J. Yu, Room A-3

- A7-367, The Reciprocity of a Pair of Line Spaces, **J. Yu**, Beihang University, Beijing, China, **X. Kong**, Heriot-Watt University, Edinburgh, United Kingdom, **J. B. Hopkins, M. L. Culpepper**, Massachusetts Institute of Technology, Cambridge, USA. and **J. S. Dai**, King's College, Univ. of London, London, UK. 1362
- A7-261, Analysis of Mechanism Structure Using Zero Transformation Parameters, **K. Sholanov**, Kazakh National Technical University, Republic of Kazakhstan. 1372
- A7-570, Serial Kinematic Chains with Unilateral External Force Constraints, **D. Zlatanov**, University of Genoa, Genoa, Italy. 1380

Gearings VIII, Ch. Prof. D. Su, Room A-106

- A9-586, Online Gearbox Condition Monitoring Supported by Wireless Communication Techniques, **D. Su, and W. Peng**, Advanced Design and Manufacturing Engineering Centre, School of Architecture, Design and the Built Environment, Nottingham Trent University, Burton Street Nottingham, NG1 4BU, UK. 1389
- A9-598, Novel Variable-Tooth-Thickness Hob for Longitudinal Crowning in the Gear-Hobbing Process, **R. H. Hsu and Z. H. Fong**, National Chung Cheng University, Chia-Yi, Taiwan. 1398
- A9-318, The Design of Three-speed Front Internal Gear Hub for a Bicycle, **L. C. Hsieh**, Dept. of Power Mechanical Engineering, National Formosa University, and **H. C. Tang**, Institute of Mechanical and Electro-Mechanical Engineering, Yunlin, Taiwan. 1407

Linkages and Cams VIII, Ch. Prof. J. L. Herder, Room B-106

- A11-492, Static Balancing of an Inverted Pendulum with Pre-stressed Torsion Bars, **G. Radaelli, J.L. Herder**, TUDelft, **R. Buskermolen**, HCI, and **R. Barents**, InteSpring, Delft, The Netherlands. 1414
- A11-418, Synthesis of Geared Mechanisms for Guidance Tasks Application in Packaging and Spacer Fabric Handling, **U. Hanke, K-H. Modler**, Technische Universität Dresden, Dresden, Germany, and **S. Lin**, CDHK - Tongji University, Shanghai. 1423
- A11-553, Feasibility of Application of Finite Element Analysis Technique to Rigid Body Kinematics of a Mechanism, **J. P. Modak**, Priyadarshini College of Engineering, Near C.R.P.F. Campus, MIDC, Hingna Road, Nagpur, India 440 019. 1431

Design Methodology VIII, Ch. Prof. C. López-Cajún, Room A-105

- A23-537, Durability tests, **J. M. Moisés**, Volkswagen de México, Puebla, México, and **M. T. Jose**, SEPI Zacatenco IPN, DF, México. 1435
- A23-405, 3D Modeling And Motion Anaisys of the Clock Mechanism, **B. Popkonstantinovic, Z. Jeli**, Faculty of Mechanical Engineering, **M. Dimitrijevic, S. Misic**, Faculty of Civil Engineering, Belgrade, Serbia. 1441
- A23-309, Some Considerations About the Modern Role of the Mechanical Historical Heritage, **F. Rosa and E. Rovida**, Politecnico di Milano - Dip.to di Meccanica, Milano, Italy. 1447

Rotor Dynamics IV, Ch. Prof. A. Grządziela, Room B-104

- A17-255, Diagnosing Of Rotor Systems Of Marine Gas Turbine Engines In Nonstationary States, **A. Grządziela**, Polish Naval Academy, Gdynia, Poland. 1454
- A17-572, Modal Analysis in Identification and Diagnostics of Rotating Machinery, **J. Bednarz, T. Barszcz, T. Uhl, and P. Kurowski**, AGH Univeristy Of Science and Technology, Kraków, Poland. 1460

Dynamics of Machinery IV, Ch. Prof. J. M. Dorador, Room B-105

- A24-455, Physical Explanation on Rotational Vibration Via Distorted Force Field of Multicyclic Symmetric Systems, **D. L. Chen, S. Y. Wang, J. P. Liu** School of Mechanical Engineering, Tianjin University, Tianjin, China, **and J. Xiu**, School of Electrical Engineering and Automation, Tianjin University, Tianjin, China. 1470
- A24-269, Vector Cyclegram of Machine-Automaton, **A. Jomartov, G. Ualiyev**, Institute of Mechanics and Mechanical Engineering, Almaty, Republic Kazakhstan. 1477
- A24-413, Kinematical Dynamic Characteristics of a Planetary Differential Mechanism, **V. Merticaru and E. Merticaru**, Technical University “Gh. Asachi”, Iasi, Romania. 1484

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Robotics and Mechatronics XVII, Ch. Prof. Y. Nakamura, Room B-1

- A12-534, Mechanism and Control of Knee Power Augmenting Device with Backdrivable Electro-Hydrostatic Actuator, **H. Kaminaga, H. Tanaka and Y. Nakamura**, The University of Tokyo, Tokyo, Japan. 1488
- A12-516, Optimal Continuous Trajectory in Parallel Manipulators with Minimum Energy, **A. Rojas Salgado and R. Terrazas Mallea**, UNAM, DF, Mexico. 1498
- A12-542, Quasi-Static Simulation of a Wheeled Mobile Robot Having a Passive Variable Camber, **V. Eathakota, G. Aditya and M. Krishna**, RRC, IIIT-H, Hyderabad, India. 1508

Robotics and Mechatronics XVIII, Ch. Prof. I. A. Tabără Room A-103

- A12-531, Determination of the Positioning Errors of the Robot Due to the Influence of Misalignments of the Revolute Joints Axes, **I. A. Tabără, V. Moise, I. Dugăeşescu and L. Ioniță**, University Politehnica, Bucharest, Romania. 1516
- A12-539, Kinematic Analysis and Computation of ZMP for a 12-internal-DoF Biped Robot, **O. Narvez-Aroche, E. Rocha-Cózatl and F. Cuenca-Jiménez**, National Autonomous University of Mexico, Mexico City, Mexico. 1522
- A12-568, A Novel Type of 5 DOF Parallel Micromanipulator with Piezoelectric Actuators, **D. Prusak, G. Karpziel and T. Uhl**, AGH-UST, Krakow, Poland. 1532

Computational Kinematics IX, Ch. Prof. A. Veg, Room A-3

- A7-613, Computer Aided Balancing (CAB) Applied on an Orbiting Mechanism, **A. Veg, G. Sinikovic, R. Andrejevic and E. Veg**, University of Belgrade, Faculty of M. E., Belgrade, Serbia. 1538
- A17-484, Analysis of a Spatial Tensegrity-based Compliant Mechanism, **Y. Moon, C.D. Crane III** University of Florida, Gainesville, FL USA, **and R. Roberts**, Florida State University, Tallahassee, FL USA. 1546
- A7-340, Mechanical Design and Kinematics Simulation for a Power Wheelchair with Self-actuated Seating Functions, **J. G. Zhang, F. Wang, Q. Xue, Y. P. Guo and Y. Ren**, College of Mechanical Engineering, Tianjin University of Science and Technology, Tianjin, China. 1556

Linkages and Cams IX, Ch. Prof. C. Nelson, Room B-106

- A11-518, A Case Study of Designing a Cam-Follower Mechanism with Cycloidal Motion, **A. Pourghodrat and C. A. Nelson**, University of Nebraska-Lincoln, Nebraska, USA. 1560
- A11-520, Bendable 9-Faced Polyhedra: Generation, Classification and Application, **M. Hamann, G. Weiss**, Faculty of Mathematics and Natural Sciences, Dresden University of Technology, Dresden, **N. Posselt, K. H. Modler**, Faculty of Mechanical Engineering, Dresden University of Technology, Dresden, Germany, **and S. Lin**, Department of Mechanical Engineering and Automobile, Tongji University, Shanghai, China. 1567
- A11-554, Determination of the Minimum Size of the Disk Cam with Translating Flat-Face Follower, **V. Moise, I. A. Tabara, I. Dugaesescu**, University Politehnica, Bucharest, Romania, **and M. Ene**, University Quebec, Quebec, Canada. 1571

Multibody Dynamics I, Ch. Prof. A. Kecskemethy, Room A-105

- A8-530, Time-Optimal Motion Planning Along Specified Paths for Multibody Systems Including Dry Friction and Power Constraints, **F. Geu Flores and A. Kecskemethy**, Lehrstuhl für Mechanik und Robotik Universität Duisburg-Essen, Duisburg, Germany. 1577
- A8-497, Scaling Kinematic Chains in the Air -Identification of Floating Systems Using Dynamics Constraint of the Baseline without Force Measurement-, **K. Ayusawa, Y. Nakamura**, University of Tokyo, **and G. Venture**, The Tokyo University of Agriculture and Technology, Japan. 1587
- A8-564, Optimization in Dynamic Regime of a Francis Hydraulic Turbine Wicket Gate Mechanism, **N. Dumitru, R. Malciu, S. Dumitru and A. Margine**, University of Craiova, Craiova, Romania. 1597

History of Mechanism and Machine Science I, Ch. Prof. H. Kerle, Room B-105

- A21-279, Historical Remarks on Past Model Collections of Machines and Mechanisms in Europe, **H. Kerle**, Technical University, Braunschweig, Germany, **K. Mauersberger**, Technical University, Dresden, Germany, **and M. Ceccarelli**, University of Cassino, Cassino, Italy. 1607
- A21-357, A Note on the Mechanics of Ancient Gear Systems, **F. Sorge**, University of Palermo, Palermo, Italy. 1616
- A21-393, Mechanism Designs of Cultural Heritage, **M. Ceccarelli**, LARM at University of Cassino, Cassino, Italy. 1624

Wednesday, June 22

9:00-10:00

Conference Hall

Keynote Lecture 3, Ch. Prof. José M. Rico

The Task Selection Problem in the Kinematic Synthesis of Linkages
Prof. Michael McCarthy, University of California-Irvine, USA.

Wednesday, June 22

10:00-11:40

Robotics and Mechatronics XIX, Ch. Prof. M. Hiller, Room B-1

- A12-538, Optimization of the Wire Length for a Skid Actuated Wire Based Parallel Robot, **C. Sturm, T. Bruckmann, D. Schramm and M. Hiller**, University Duisburg-Essen, Duisburg, Germany. 1632
- A12-552, Thermoelectric Energy Harvester for a Smart Bearing Concept, **T. J. Uhl and M. L. Lubieniecki**, University of Science and Technology, Cracow, Poland. 1636
- A12-562, Simulation and Experimentation of Walking of the Bioloid Humanoid Robot, **V. Nuñez, L. I. Olvera and J. A. Pamanes**, División de Estudios de Posgrado e Investigación, Instituto Tecnológico de la Laguna, Torreón, Coah. México. 1644
- A12-573, 3D Objects Grasps Synthesis: A Survey, **S. El-Khoury**, Scuola Superiore Sant'Anna, Percro - Pisa, Italy, **A. Sahbani and P. Bidaud**, Pierre & Marie Curie University, Paris, ISIR-CNRS, France. 1651
- A12-259, Stabilizing Role of Feet in Walking Machines, **T. Zielinska**, Warsaw University of Technology, Institute of Aeronautics and Applied Mechanics (WUTIAAM), ul. Nowowiejska, 24, 00-665 Warsaw, Poland. 1661

Robotics and Mechatronics XX, Ch. Prof. I. Ion, Room A-103

- A12-563, Elastic Systems for Static Balancing of Robot Arms, **I. Simionescu, L. Ciupitu, Luciana Ionita, I. Ion**, Politehnica University, Bucharest, Romania, and **M. Ene**, University of Quebec, Quebec, Canada. 1666
- A12-347, An Approach for Stiffness Modelling of Lower Mobility Parallel Manipulators using the Generalized Jacobian, **H. T. Liu, T. Huang**, Tianjin University, Tianjin, China, **Y. G. Li**, Tianjin University of Technology and Education, Tianjin, China, and **D. G. Chetwynd**, The University of Warwick, Coventry, UK. 1671

- A12-487, Semi-global Output Feedback Asymptotic Tracking for an Under-actuated Variable Stiffness Mechanism, **O. M. Anubi and C. Crane**, Center for Intelligent Machines and Robotics, University of Florida, Gainesville, FL USA. 1680
- A12-359, A Novel 6 dof Parallel Robot With Decoupled Translation and Rotation, **E. Yime**, Universidad Tecnológica de Bolívar, Campus Tecnológico de Ternera, Cartagena de Indias, Colombia, **H. Moreno and R. Saltarén**, Universidad Politécnica de Madrid, Calle José Gutierrez Abascal, 2, 28006. Madrid, Spain. 1687
- A12-410, Pose Accuracy Analysis of Master Slave Surgical Robot System, **J. Y. Zhang, C. Zhao and D. W. Zhang**, Tianjin University, Tianjin, China. 1693

Multibody Dynamics II, Ch. Prof. J. Ambrósio, Room B-106

- A8-585, Contact Mechanics In A Roller Chain Drive Using A Multibody Approach, **C. Pereira**, ISEC Polytechnic, Coimbra, Portugal, **J. Ambrósio**, IDMEC-IST, Lisbon, Portugal, **and A. Ramalho**, CEMUC-FCTUC, Coimbra, Portugal. 1699
- A8-263, Contact Prediction Between Moving Objects Bounded by Curved Surfaces, **A. Albedah**, King Saud University, Riyadh, Saudi Arabia, **and J. J. Uicker**, University of Wisconsin, Madison, Wisconsin, USA. 1705
- A8-301, On the Motion of the Rigid with Points Forced to Move on Given Fixed Surfaces, **S. Ogaru and N. D. Stănescu**, University of Pitești, Pitești, Romania. 1715
- A8-496, A General Contact Algorithm for Multibody System Dynamics with Complex Non-conforming 3D Geometry, **D. Dopico, A. Luaces, J. Lujris and J. Cuadrado**, Universidad de la Coruña, Ferrol, Spain. 1722
- A8-448, Elasto-Dynamic Modeling of a Novel High-Speed Parallel Manipulator with String-Parallelogram Mechanism, **T. Sun, Y. Song, K. Yan and G. Dong**, Tianjin University, Tianjin, P. R. China. 1729

History of Mechanism and Machine Science II, Ch. Prof. H. S. Yan, Room B-105

- A21-271, Ancient Mechanical Horse Carriages: from Basic Research to Science Education in Museums, **H. S. Yan**, National Cheng Kung University, Tainan, Taiwan. 1738
- A21-475, Creating Present-Day Solutions from Historical Knowledge, **T. Brix, U. Döring and M. Reebing**, Ilmenau University of Technology, Ilmenau, Germany. 1744
- A21-397, Ivan Ivanovich Artobolevski as one of the Founders of IFToMM, **O. Egorova**, Moscow State Open University, Moscow, Russia, **and M. Ceccarelli**, DiMSAT, University of Cassino, Cassino, Italy. 1752

- A21-356, Development of a Foldable Maritime Container, **A.J. Klein Breteler**, Technical University Delft, Delft, the Netherlands. 1762
- A21-597, Considerations About Some Applications of “Simple Machines”, **S. M. Cretu, L. Suci**, University of Craiova, Craiova, Romania, and **G. C. Brinzan**, “Fratii Buzesti” National College, Craiova, Romania. 1768

Tribology I, Ch. Prof. E. Ciulli, Room A-3

- A19-504, Dynamic Aspects of a New Experimental Apparatus for Tribological Investigations on Cam-Follower Pairs, **D. Vela, F. Fazzolari and E. Ciulli**, University of Pisa, Pisa, Italy. 1774
- A19-526, Interface Mass Trasfer During the Tribofinishing Process, **I. Hilerio and M. Barrón**, Universidad Autónoma Metropolitana, Distrito Federal, México, 1783
- A19-527, Wet and Dry Abrasion Behavior of AISI 8620 Steel Boriding, **I. Hilerio**, Universidad Autónoma Metropolitana, Distrito Federal, México. 1788
- A19-262, Evaluation of Surface Fatigue Life and Durability Using D-value and Hardness, **A. Yoshida**, Hiroshima International University, Hiroshima, Japan, **M. Seki, M. Fujii**, Okayama University, Okayama, Japan, and **K. Fukuhara**, IAV GmbH, Berlin, Germany. 1792
- A19-362, General Static Load Capacity in Four Contact Point Slewing Bearings. Theoretical and Finite Element Calculations, **J. Aguirrebeitia, M. Abasolo, R. Aviles and I. Fernandez**, ETSIB, UPV/ EHU, Bilbao, Spain. 1799

Education I, Ch. Prof. P. Fanghella, Room A-106

- A20-443, Education in Mechatronic Engineering - Italian perspective, **Pietro Fanghella**, DIMEC - University of Genoa, Genoa, Italy. 1806
- A20-548, The Spherical Four-Bar Mechanism: Optimum Synthesis with DE Algorithm and Animation Using Mathematica, **R. Peón-Escalante, C. Villanueva, and F. Peñuñuri**, Universidad Autonoma de Yucatán, Mérida, México. 1814
- A20-551, Robotics Engineering at the Universidad Politécnica de Guanajuato, Applied Educational Innovation, **A. Cruz-Bernal and E. Chávez Conde**, Departamento de Ingeniería Robótica, Universidad Politécnica de Guanajuato, Cortázar, Gto. México. 1822
- A20-345, Development of the Waseda Wheeled Robot No. 2 Refined II and Pilot Experiments with Undergraduate Students, **J. Solis and A. Takanishi**, Waseda University, Tokyo, Japan. 1830

Sustainable Energy Systems I, Ch. Prof. R. Balan, Room A-105

- A29-592, Advanced Control Algorithms for Energy Efficiency and Comfort Inside a House, **R. Balan, S. Stan, V. Maties, R. Donca and M. Vlad**, Technical University of Cluj-Napoca, Cluj-Napoca, Romania. 1837
- A29-599, Modeling and Control of Variable Speed Wind Turbine Equipped with PMSG, **D. I. Stroe, A. I. Stan**, Aalborg University, Aalborg, Denmark, **I. Visa and I. Stroe**, Transilvania University, Brasov, Romania. 1845
- A29-579, Mechanism to Control Power in Small Wind Turbines, **G. Muñoz-Hernández and M. Martínez-Jiménez**, CIATEQ A.C., Querétaro, México. 1850
- A29-604, IFToMM Technical Committee - Sustainable Energy Systems, **I. Visa**, Transilvania University of Brasov, Brasov, Romania. 1856
- A29-594, Comparative Analysis of the Energy Response for Three Tracking System Types used for CPV Convertors, **I. S. Hermenean, I. Visa, D. V. Diaconescu and A. Duta**, Renewable Energy and Recycling, Transilvania University, Brasov, Romania. 1866

Reliability of Machines and Mechanisms I, Ch. Prof. S. H. Chang, Room B-104

- A15-350, A Monolithic Six Degrees-of-freedom Piezo-Micro-Positioner with Nanometer Resolution, **C. C. Su, C. L. Tsai and S. H. Chang**, National Taiwan University, Taipei, Taiwan, R.O.C. 1876
- A15-441, The Theory of Reliability of Machines and Mechanisms - History, State-of-art and Prospects, **I. Demiyanshko**, University MADI, Moscow, Russia. 1882
- A15-412, Multiobjective Robust Design Optimization of Rail Vehicle, **M. Nejlaoui, A. Houdi, Z. Affi, and L. Romdhane**, LGM-ENIM, University of Monastir, Tunisia. 1888
- A15-341, Approaches and Techniques for Calculating Real Reliability of Machine as a System of Different Dependent Components and Complicated Logic of Limiting States, **V. Algin**, Joint Institute of Mechanical Engineering National Academy of Sciences, Minsk, Belarus. 1896
- A15-445, Sleeved Roll Reliability and Serviceability Improvement, **V. Plakhtin**, Moscow State Open University, Moscow, Russia. 1902

Robotics and Mechatronics XXI, Ch. Prof. K. J. Waldron, Room B-1

- A12-454, Resolving the Paradox of Asymmetry in the Gallop Gait, **K. J. Waldron**, University of Technology, Sydney, Australia, **and S. P. N. Singh**, Australian Centre for Field Robotics, Sydney, Australia. 1906
- A12-611, The Problems of Electronic Cam Applications, **M. Václavík and P. Jirásko**, VÚTS, a.s., Liberec, The Czech Republic. 1912
- A12-403, A New 3-DoF Planar Parallel Manipulator with Unlimited Rotation Capability, **V. Arakelian**, INSA, Rennes, France, **S. Briot**, IRCCyN-CNRS, Nantes, France, **S. Yatsun and A. Yatsun**, South-West State University, Kursk, Russia. 1920

Robotics and Mechatronics XXII, Ch. Prof O. Altuzarra, Room A-103

- A12-480, Discontinuity Analysis of Position Error due to Clearances in Parallel Manipulators, **O. Altuzarra, Ch. Pinto**, Univ. of the Basque Country, Bilbao, Spain, **J. Aginaga and X. Iriarte**, Public University of Navarra, Pamplona, Spain. 1928
- A12-450, Locally Dynamic Isotropy of Modified Symmetric Gough-Stewart Parallel Micromanipulators, **Z. Tong, J. He, H. Jiang and Gu Duan**, Harbin Institute of Technology, Harbin, China. 1937
- A12-466, Structural Synthesis, Dynamic Modeling and Analysis of a 3-DOF Asymmetric Parallel Mechanism, **R. Z. H. Almeida and T. A. Hess-Coelho**, University of São Paulo, São Paulo, Brazil. 1945

Multibody Dynamics III, Ch. Prof. E. C. Lovasz, Room B-106

- A8-423, Simulation Models for Compliant Mechanisms with Integrated Actuators, **N. Modler, K. H. Modler, W. Hufenbach**, Technische Universität Dresden, Dresden, Germany, **D. Mărgineanu, E. C. Lovasz and D. Perju** Universitatea Politehnica Timișoara, Timișoara, Romania. 1954
- A8-310, Multibody Method for Dynamic Calculation of Kinematic Chains Movement with Clearances in Pin Joints, **J. C. Grigore and N. D. Stănescu**, University of Pitești, Pitești, Romania. 1961

- A14-316, On the Dynamics of Multibody Systems with Springs, **N.-D. Stănescu and S. Mihalcea**, University of Pitești, Pitești, Romania. 1966

History of Mechanism and Machine Science III, Ch. Prof. T. Koetsier, Room B-105

- A21-272, A Note on Stephenson's Valve Gear and its Analysis in the 1850s, **G. Klijn, and T. Koetsier**, VU University, Amsterdam, Netherlands. 1972
- A21-287, On the Attendees of 2004-2007 Activities of IFToMM Permanent Commission for History of Machines and Mechanisms Science, **H. S. Yan**, National Cheng Kung University, Tainan, Taiwan. 1981
- A21-451, Straight-line Mechanisms in the Collection of Bauman Moscow State Technical University, **D. Klyukin, M. Shchedrin and V. Tarabarin**, BMSTU, Moscow, Russia. 1987

Sustainable Energy Systems II, Ch. Prof. R. Chicurel, Room A-105

- A29-600, Rotary Expander for Operation with Waste or Solar Derived Heat, **A. González, R. Chicurel, M. I. Rodríguez**, Instituto de Ingeniería, Universidad Nacional Autónoma de México, México, Distrito Federal, **and E. Terrazas**, Electroindustrias Delta, México, Distrito Federal. 1993
- A29-596, Energy Comparison of PV Systems with Mono- and Bi-axial Pseudo-equatorial Tracking Mechanisms, **B. G. Burduhos, M. M. Vătășescu, R. G. Săulescu and I. Tatu**, Renewable Energy Systems and Recycling Research Centre, Transilvania University of Brasov, Brasov, România. 1998
- A29-605, Micro Hydropower Plant with Rotor's Pintle and Hydrodynamic Profile of Blades, **I. Bostan, V. Dulgheru, and V. Bostan**, Technical University of Moldova, Chishinau, Republic of Moldova. 2008

Human-Machine Systems I, Ch. Prof. K. Kedzior, Room A-106

- A10-436, Experimental and Numerical Investigations on Pilot-Glider-Environment System during the Impact against a Deformable Barrier, **L. Lindstedt, C. Rzymkowski and K. Kedzior**, Warsaw University of Technology, Warsaw, Poland. 2012
- A10-304, Human Machine Interface Based on ZigBee Technique for Monitoring Vibration of Dynamic Object, **B. Borowik**, University of Bielsko-Biala, Bielsko-Biala, Poland, **and J. Wojnarowski**, Silesian Polytechnic, Gliwice, Poland. 2020

Vibrations I, Ch. Prof. N. Vrankovic, Room B-104

- A28-383, A Novel Algorithm for Bearing Stiffness Optimization, **M. Jokic, M. Stegic and N. Vrankovic**, University of Zagreb, Zagreb, Croatia. 2024
- A28-384, Receding Horizon Control of a Compliant Manipulator: Experimental Analysis, **P. Boscariol, A. Gasparetto, M. Giovagnoni, A. Lanzutti, R. Vidoni and V. Zanutto**, DIEGM University of Udine, Udine, Italy. 2029
- A28-446, Modelling and Vibration of Gear Drive Systems Considering Real Face Width, **M. Byrtus and V. Zeman**, University of West Bohemia, Plzeň, Czech Republic. 2039

Standardization of Terminology, Mechanical Transmissions and Non-linear Vibrations I, Ch. Prof. T. Brix, Room A-3

1. A27-404, Multilingual Illustrated μ -thesaurus of “Mechanism” Indexing Terms, **E.-C. Lovasz, D. Perju, A. Lovasz**, Politehnica University of Timisoara, Timisoara, Romania, **T. Brix**, Technische Universität Ilmenau, Ilmenau, Germany, **K.-H. Modler**, Technische Universität Dresden, Dresden, Germany, **and B. Corves**, RWTH University Aachen, Aachen, Germany. 2047
2. A26-582, Topological Structure of a Six-speed Automatic Transmission Mechanism, **O. Antonescu and P. Antonescu**, Politehnica University, Bucharest, Romania. 2053
3. A14-319, Nonlinear Vibration Analysis of Wind Turbine Blades, **J. C. Jauregui**, CIATEQ, A.C., Querétaro, Qro., Mexico, **and D. Jimenez**, Universidad Politécnica de Chiapas, Tuxtla Gtz, Chis, Mexico. 2059

Robotics and Mechatronics XXIII, Ch. Prof. C. Crane, Room B-1

- A12-481, Development of Single Degree of Freedom Open-loop Chains to Move a Body Through a Series of Poses, **J. Bari, C. Crane**, University of Florida, Gainesville, FL, USA, **and D. Dooner**, Univ. of Puerto Rico-Mayagüez, Mayagüez, Puerto Rico. 2067
- A12-474, Matrix Exponentials and Differential Principles in the Dynamics of Robots, **I. Negrean, C. Schonstein, K. Kacso and A. Duca**, Technical University of Cluj-Napoca, Cluj-Napoca, Romania. 2077
- A12-567, Kinematic Analysis of the 3-RPC-T Fully Translational Mechanism, **E. A. Rodríguez-Velazco and E. Rodríguez-Leal**, Dept. of Mechatronics and Automation, Tecnológico de Monterrey, Monterrey, Mexico. 2087

Robotics and Mechatronics XXIV, Ch. Prof. J. A. Carretero, Room A-103

- A12-577, Taking Measurements In and Around a Cluttered Static Environment with a Kinematically Redundant Serial Manipulator, **J. A. Carretero, B. C. Woody**, University of New Brunswick, Fredericton, NB, Canada, **and J. Slipp**, PAWS, Cape Breton University, Sydney, NS, Canada. 2093
- A12-576, Dynamic Balancing of a 2-DOF 2RR Planar Parallel Manipulator by Optimization, **A. Buganza and M. Acevedo**, Escuela de Ingeniería, Universidad Panamericana, Mexico City, Mexico. 2101
- A12-514, *MERO* Modular Robots, Solution for Displacing Technological Equipments on Irregular Terrains, **I. Ion, I. Simionescu, A. Curaj and A. Vasile**, Politehnica University, Bucharest, Romania. 2107

History of Mechanism and Machine Science IV, Ch. Prof. U. Meneghetti, Room B-105

- A21-574, Antique Applications of Cam Mechanisms, **U. Meneghetti and A. Maggiore**, University of Bologna, Bologna, Italy. 2115
- A21-560, Coriolis' Theory of Machines and Mechanisms, **A. R. E. Oliveira**, Polytechnic School, Department of Mechanics and Structures, Federal University of Rio de Janeiro, Brazil. 2123

- A21-435, Models of the Gears with Variable Transmission Ratio in the Collection of Bauman Moscow State Technical University, **E. Mikhailov and V. Tarabarin**, BMSTU, Moscow, Russia. 2128

Linkages and Cams X, Ch. Prof. I. Torres, Room B-106

- A11-352, Methods of Structural Synthesis of Mechanisms, **K. Romaniak**, Cracow University of Technology, Cracow, Poland 2134
- A7-439, Synthesis of Five-bar Motion Generation with Gear Fabrication Tolerances, **Y.M. Al-Smadi, A. Bhargava, and H. Adib**, AECOM, New York, USA, **S. Mutawe, M. Mahgoub and R.S. Sodhi**, NJIT, Newark, USA. 2140
- A11-311, Hybrid Platform Driven by Low DOF Mechanisms, **W. Y. Chung**, Chinese Culture University, Taipei, Taiwan. 2146
- A11-506, Path Generator via the Type-P Fourier Descriptor for Open Curves, **C. Yue, H. J. Su**, Department of Mechanical Engineering, University of Maryland, Baltimore County, Maryland, USA, **and Q. J. Ge**, Department of Mechanical Engineering, Stony Brook University, New York, USA. 2154

Vibrations II, Ch. Prof. Ch. Pinto, Room B-104

- A28-519, Vibratory Dynamic Behaviour of Parallel Manipulators in Their Workspace, **Ch. Pinto, J. Corral, S. Herrero and B. Šandru**, University of the Basque Country, Spain. 2160
- A28-424, Comparison of Attitudes to Solve a Vibration-isolation System with a Gyroscopic Stabilization, **J. Šklíba, M. Sivčák and J. Škoda**, TU of Liberec, Liberec, Czech Republic. 2168
- A14-298, Transformed Hypergraphs of Subsystems in Synthesis of Transverse Vibrating Beam-Systems as Effect of Using of Approximate Method their Analysis, **A. Buchacz**, Silesian University of Technology, Gliwice, Poland. 2173

Robotics and Mechatronics XXV, Ch. Prof. M. Acevedo, Room B-1

- A12-525, Kinematic Robot Tracking Using Uncalibrated Cameras, **J. Munnae and H. Lipkin**, Mechanical Engineering Georgia Tech., Atlanta, GA. 2183
- A12-366, Joint Flexibility Versus Link Flexibility for Flexible-link Flexible-joint Manipulators, **M. Vakil, R. Fotouhi and P. N. Nikiforuk**, University of Saskatchewan, Saskatoon, Canada. 2189
- A12-588, Adaptive Drive of Manipulator, **K. Ivanov, Z. Ualiev and B. Tultaev**, Almatinsky University of Power Engineering and Telecommunications, Institute of Mechanics and Theoretical Engineering of Kazakh National Academy, Almaty, Kazakhstan. 2198

Robotics and Mechatronics XXVI, Ch. Prof. M. González Palacios, Room A-103

- A12-578, Some mechatronic solutions towards a surveillance of mechanical systems, **K. J. Kalinski, M. Galewski, M. Mazur and M. Chodnicki**, Gdansk University of Technology, Gdansk, Poland. 2205
- A12-273, Passive Compliant Mechanisms for Robotic (Micro)Devices, **Š. Havlík**, Institute of Informatics, Slovak Academy of Sciences, Banská Bystrica, Slovakia. 2215
- A12-522, Direct and Inverse Kinematics of Stewart Platform Applied to Offshore Cargo Transfer Simulation, **H. Gonzalez, O. Lengerke**, University Autonomous of Bucaramanga, Bucaramanga, Colombia, **M. S. Dutra and O. Lengerke**, University Federal of Rio de Janeiro, Rio de Janeiro, Brasil. 2222

Robotics and Mechatronics XXVII, Ch. Prof. A. Rojas Salgado, Room A-3

- A12-381, Stiffness Analysis of 6-RSS Parallel Manipulator, **G. D. L. Soares Júnior, J. C. M. Carvalho and R. S. Gonçalves**, Federal University of Uberlândia, Uberlândia, Brazil. 2229

Additional Papers

A7-300, A Novel PKM Based Vibrating Sifter and Its Screening Efficiency Experimental Study
H. Shen, J. Zhang, C. Xue, B. He, Y. Liu, T. Yang 2236

A9-245, Mechanical And Pneumatic Motor With Offset Swinging Planetary Drive of Bevel Gear
W. Yu, H. Liu 2241

A9-252, Brief Introduction to the Research On The Swinging Planetary Drive And The Swinging Planetary Pneumatic Motor
H. Ji, H. Liu 2247

A9-550, Stresses in Flex Gear Cup due to Insertion of Wave Generating Cams in Harmonic Drives
B. S. Mahanto, R. Miati 2254

A11-489, Research and Development of an Adjustable Elliptical Exerciser
J. H. Shyu, C. K. Chen, Y. J. Luo 2262

A12-508, The Study of Manipulation Problem with Application of a New Gripper with Elastic Fingers
K. Mianowski 2268

A12-601, The Tangent Bundle RRT Algorithms for Constrained Motion Planning
C. Suh, B. Kim, F. C. Park 2284

A18-557, Analysis of Influence of Pressure of Wheel, Weight, and Tire Tread on Brake Data of Vehicles on Ministry of Transport Tester and on Flat Ground
C. Senabre, E. Velasco, S. Valero 2289