

## Technical Program

**SUNDAY, June 14, 2015**

19:00 *Welcoming Cocktail* (San Marino Room)

**MONDAY, June 15, 2015**

8:00 - 9:15 *Registration of participants* (Main Hall)

9:15 - 9:30 Welcome address: (Cristal Palace Hall)  
Professor D. T. Spasić, the President of  
Serbian Society of Mechanics

Plenary Lectures (Cristal Palace Hall)  
Chairman: Dragan T. Spasić

9:30 - 10:15 P-1 D. Šumarac  
CYCLIC PLASTICITY OF STRUCTURES

10:15 - 11:00 P-2 G. D. Manolis  
ELASTIC WAVE-FIELDS IN INHOMOGENEOUS MEDIA:  
BOUNDARY INTEGRAL EQUATION (BIE) SOLUTIONS

11:00 - 11:30 *Coffee Break* (Main Hall)

11:30 - 13:10 Parallel Sessions

Session	S1	G1	F1	I1
Hall	<i>Cristal Palace</i>	<i>Topola</i>	<i>VIP</i>	<i>Bukulja</i>
11:30	S1a	G1a	F1a	I1a
11:50	S1b	G1b	F1b	I1b
12:10	S1c	G1c	F1c	I1c
12:30	S1d	G1d	F1d	I1d
12:50	S1e	G1e	F1e	

13:10 - 15:00 *Lunch* (First Floor)

Plenary Lecture (Cristal Palace Hall)  
Chairman: Mihailo Lazarević

15:15 - 16:00 P-3 S. Adhikari  
COMPUTATIONAL METHODS FOR NANOSCALE BIO-SENSORS

16:00 - 16:30 *Coffee Break* (Main Hall)

16:30 - 18:10 Parallel Sessions

Session	S2	G2	C1	B1
Hall	<i>Cristal Palace</i>	<i>Topola</i>	<i>VIP</i>	<i>Bukulja</i>
16:30	S2a	G2a	C1a	B1a
16:50	S2b	G2b	C1b	B1b
17:10	S2c	G2c	C1c	B1c
17:30	S2d	G2d	C1d	B1d
17:50	S2e	G2e	C1e	
18:10		G2f		

19:00 - 21:00 *Wine tasting* (Winery *Vrbica*, *Tarpoš* ~ 6 km)

## TUESDAY, June 16, 2015

Plenary Lectures (*Cristal Palace Hall*)

Chairman: George Manolis

9:30 - 10:15 P-4 J. Tenreiro Machado  
FRACTIONAL CALCULUS: FUNDAMENTALS AND APPLICATIONS

10:15 - 11:00 P-5 N. Challamel and V. Picandet  
ELASTIC AND ELASTOPLASTIC LATTICE FOUNDATIONS OF  
NONLOCAL BEAM MECHANICS

11:00 - 11:30 *Coffee Break* (Main Hall)

11:30 - 13:10 Parallel Sessions

Session	S3	G3	F2	I2
Hall	<i>Cristal Palace</i>	<i>Topola</i>	<i>VIP</i>	<i>Bukulja</i>
11:30	S3a	G3a	F2a	I2a
11:50	S3b	G3b	F2b	I2b
12:10	S3c	G3c	F2c	I2c
12:30	S3d	G3d	F2d	I2d
12:50	S3e	G3e	F2e	

13:10 - 15:00 *Lunch* (First Floor)

Plenary Lecture (*Cristal Palace Hall*)

Chairman: Noel Challamel

15:15 - 16:00 P-6 B. A. Borovac and M. N. Nikolić  
PRIORITIZED CONTROL OF HUMANOID ROBOT IN PRESENCE OF  
MULTIPLE CONTACTS

16:00 - 16:30 *Coffee Break* (Main Hall)

16:30 - 17:30 Parallel Sessions

Session	S4	M1	C2	B2
Hall	<i>Cristal Palace</i>	<i>Topola</i>	<i>VIP</i>	<i>Bukulja</i>
16:30	S4a	M1a	C2a	B2a
16:50	S4b	M1b	C2b	B2b
17:10	S4c	M1c	C2c	B2c

17:40 - 18:20 Round table: CURRICULUM IN ENGINEERING MECHANICS –  
WHAT TO TEACH DURING PROLONGED TRANSITION IN SERBIA?  
(*Cristal Palace Hall*)

18:30 - 19:30 General Assembly Meeting of Serbian Society of Mechanics (*Cristal Palace Hall*)

20:00 - 22:30 *Gala Dinner* (*Restaurant Aleksandar ~ 1 km*)

**WEDNESDAY, June 17, 2015**

9:30 - 11:10 Parallel Sessions

Session	S5	M2	F3
Hall	<i>Cristal Palace</i>	<i>Topola</i>	<i>VIP</i>
9:30	S5a	M2a	F3a
9:50	S5b	M2b	F3b
10:10	S5c	M2c	F3c
10:30	S5d	M2d	F3d
10:50	S5e	M2e	

11:10 - 11:40 *Coffee Break* (Main Hall)

11:40 - 12:40 Mini-symposia

Session	M3
Hall	<i>Topola</i>
11:40	M3a
12:00	M3b
12:20	M3c

12:50 Closing Ceremony (*Topola Hall*)

## List of Contributions

### General Mechanics (G)

**G1**    *Chair: Dragomir Zeković*  
          *Co-Chair: Božidar Jovanović*

G1a: Vladimir Dragović, Borislav Gajić, Božidar Jovanović  
THE INTEGRABILITY OF A MOTION OF A SYMMETRIC RIGID BODY

G1b: Radoslav Radulović, Dragomir Zeković, Mirko Pavišić  
BRACHISTOCHRONIC MOTION OF A NONLINEAR NONHOLONOMIC MECHANICAL  
SYSTEM MODEL

G1c: Danilo Karličić, Dragan B. Jovanović, Predrag S. Kozić, Milan Cajić  
VIBRATION OF CRACKED NANOBEAM UNDER THE EFFECTS OF THERMAL AND  
MAGNETIC FIELDS

G1d: Milosav Ognjanović, Nenad Kolarević, Marko Miloš  
FRETTING WEAR INTENSITY IDENTIFICATION IN MACHINE PARTS CONTACTS

G1e: Ivana D. Atanasovska, Radivoje M. Mitrović, Nataša D. Soldat  
DEVELOPING THE FINITE ELEMENT MODEL FOR DYNAMIC ANALYSIS OF RADIAL  
BALL BEARING

**G2**    *Chair: Vladimir Dragović*  
          *Co-Chair: Nenad Grahovac*

G2a: K. Kukić, V. Dragović  
CORRELATION OF THE MAGRI'S METHOD OF SYZYGIES AND SEPARATION  
VARIABLES IN SOME EXAMPLES OF THE SYSTEMS OF THE KOWALEVSKI TYPE

G2b: Aleksandar Nikolić, Slaviša Šalinić  
FREE VIBRATION ANALYSIS OF THE HORIZONTAL AXIS WIND TURBINE TOWER

G2c: Miodrag Zigic, Nenad Grahovac  
OSCILLATIONS OF ADJACENT STRUCTURES DURING AN EARTHQUAKE

G2d: Aleksandar Okuka, Dragan T. Spasić  
ON ACTIVE SEISMIC PROTECTION COMBINED WITH BOTH PASSIVE FRACTIONAL  
DAMPING AND DRY FRICTION

G2e: S. Kostić, N. Vasović, I. Franović, K. Todorović  
NONLINEAR DYNAMICS OF SPRING-BLOCK EARTHQUAKE MODEL UNDER  
DIFFERENT TRIGGERING REGIMES

G2f: Slaviša Šalinić, Marina Bošković, Radovan R. Bulatović  
MINIMIZATION OF JOINT REACTION FORCES OF THE 2-DOF PLANAR SERIAL  
MANIPULATORS

**G3** *Chair: Borislav Gajić*  
*Co-Chair: Miodrag Žigić*

G3a: Sreten Mastilovic  
BALLISTIC IMPACT FRAGMENTATION AT HIGH STRIKING VELOCITIES: PART I:  
FRAGMENT MASS DISTRIBUTION

G3b: Sreten Mastilovic  
BALLISTIC IMPACT FRAGMENTATION AT HIGH STRIKING VELOCITIES: PART II:  
MAXIMUM FRAGMENT MASS

G3c: Miloš Jočković, Anina Šarkić, Mira Petronijević  
MODELS RELATED TO THE MOVING LOAD PROBLEMS

G3d: M. Kozić, S. Ristić, B. Katavić, S. Linić, M. Ristić  
DETERMINATION OF THE TEMPERATURE DISTRIBUTION ON THE WALLS OF  
VENTILATION MILL BY NUMERICAL SIMULATION OF MULTIPHASE FLOW AND  
THERMOGRAPHY

G3e: Bojan Jeremić, Radoslav Radulović, Aleksandar Obradović  
BRACHISTOCHRONIC MOTION OF A VARIABLE MASS NONHOLONOMIC  
MECHANICAL SYSTEM

## **Fluid Mechanics (F)**

**F1**    *Chair: Nebojša Vasović*  
         *Co-Chair: Damir Mađarević*

F1a:    Miroslava Vukcevic, Vladimir Cvijovic  
IONIZED GAS INFLUENCE ON THE TRANSPORT PARAMETERS IN THE BOUNDARY LAYER

F1b:    S. Kostić, I. Guranov, N. Vasović  
NONLINEAR TIME SERIES ANALYSIS OF FLUID DYNAMICS: STOCHASTIC GROUNDWATER LEVEL OSCILLATION

F1c:    Damir Madjarević  
APPEARANCE OF THE TEMPERATURE OVERSHOOT WITHIN THE SHOCK STRUCTURE IN BINARY GAS MIXTURE MODELS

F1d:    S. Mandić, S. Stojković  
RESISTANCE AND STABILIZING CHARACTERISTICS OF THE PROJECTILE WITH FLARE AFTERBODY

F1e:    M. Kozić, S. Ristić, S. Linić, T. Hil, S. Stetić-Kozić  
CFD ANALYSIS OF THE MIXING PROCESS IN A HORIZONTAL TWIN-SHAFT PADDLE BATCH MIXER WITH MULTIPHASE FLUID

**F2**    *Chair: Siniša Mesarović*  
         *Co-Chair: Aleksandar Bengin*

F2a:    M. Dehsara, S.Dj. Mesarovic, H. Fu, D.P. Sekulic, M.Krivilev  
PHASE-FIELD MODELS FOR CAPILLARY FLOWS

F2b:    Ž. M. Stamenković, J. D. Nikodijević, M. M. Kocić, M. D. Nikodijević  
HARTMANN–COUETTE FLOW AND HEAT TRANSFER IN CHANNEL WITH POROUS WALLS

F2c:    M. Kozić, S. Ristić, B. Katavić, S. Linić, M. Ristić  
DETERMINATION OF THE TEMPERATURE DISTRIBUTION ON THE WALLS OF VENTILATION MILL BY NUMERICAL SIMULATION OF MULTIPHASE FLOW AND THERMOGRAPHY

F2d:    A. Šarkić, K. Kostadinović, D. Šumarac  
NUMERICAL INVESTIGATIONS OF THE FLOW AROUND A HIGH-RISE BUILDING



F2e: S. Linic, B. Rasuo, M.Kozic, V. Lucanin, A. Bengin  
DRAG-COEFFICIENT BEHAVIOR OF THE BIO-INSPIRED HIGH SPEED TRAIN  
DESIGNS

**F3** *Chair: Srboljub Simić*  
*Co-Chair: Miloš Jovanović*

F3a: Srboljub Simić, Milana Pavić-Čolić  
MOMENT CLOSURE HIERARCHIES FOR RAREFIED GASES

F3b: Đ. S. Čantrak, N. Z. Janković  
ANALYSIS OF TURBULENCE GENERATED BY AXIAL FANS USING PIV AND LDA  
METHODS

F3c: M. M. Kocić, Ž. M. Stamenković, J. D. Nikodijević, J. B. Bogdanović-Jovanović  
M. D. Nikodijević,  
EMHD FLOW AND HEAT TRANSFER IN CHANNEL WITH POROUS WALLS

F3d: Miloš M. Jovanović, Boban D. Nikolić, Saša Milanović  
RAYLEIGH BENARD CONVECTION SECONDARY INSTABILITY IN PRESENCE OF  
TEMPERATURE PERTURBATIONS ON THE LOWER PLATE

## **Mechanics of Solid Bodies (S)**

**S1**    *Chair: Miroslav Živković*  
          *Co-Chair: Stanko Ćorić*

S1a:    Dragan Rakić, Miroslav Živković  
STRESS INTEGRATION OF THE DRUCKER-PRAGER MATERIAL MODEL WITH  
KINEMATIC HARDENING

S1b:    Saša Kovačević, Nenad Marković, Dragana Turnić  
ULTIMATE STRENGTH OF LONGITUDINALLY UNSTIFFENED PLATE GIRDER  
CONSIDERING PATCH LOAD LENGTH

S1c:    Stanko Ćorić, Stanko Brčić  
BEHAVIOR OF THE FRAME STRUCTURES IN ELASTO-PLASTIC DOMAIN

S1d:    D. Momčilović, I. Atanasovska, R. Mitrović , M. Vukšić Popović  
STRESS CONCENTRATION FACTORS IN RE-EVALUATION OF DESIGN SOLUTION

S1e:    G. Kastratović, A. Grbović, N. Vidanović  
APPROXIMATE DETERMINATION OF STRESS INTENSITY FACTORS FOR PENNY  
SHAPED CRACKS IN THREE DIMENSIONAL ELASTIC SOLIDS

**S2**    *Chair: Ratko Pavlović*  
          *Co-Chair: Milan Mićunović*

S2a:    Marko D. Topalović  
MODELING GRANULAR MATERIALS WITH MESHLESS DEM AND SPH METHODS

S2b:    I. Pavlović, R. Pavlović, P. Kozić, G. Janevski  
MOMENT LYAPUNOV EXPONENTS OF VISCOELASTIC NANOBEAM: NUMERICAL  
DETERMINATION USING MONTE CARLO SIMULATION

S2c:    Nikola Nešić  
ANISOTROPIC 3D DAMAGE MODELING OF SILICONE NITRIDE

S2d:    M. Micunovic, Lj. Kudrjavceva, M. Topalovic  
INELASTICITY OF METALS - AN APPLICATION TO THERMAL RATCHETTING

S2e:    Predrag M. Elek, Slobodan S. Jaramaz, Dejan M. Micković, Nenad Miloradović  
EXPERIMENTAL AND NUMERICAL ANALYSIS OF PERFORATION OF THIN STEEL  
PLATES BY DEFORMABLE STEEL PENETRATORS

**S3**     *Chair: Dragoslav Šumarac*  
          *Co-Chair: Branislava N. Novaković*

S3a:     Dragan T. Spasić  
A SOLUTION OF FRACTIONAL CATTANEO-TYPE HEAT CONDUCTION EQUATION IN  
A SEMI-INFINITE MEDIUM

S3b:     D. Karličić, M. Cajić, P. Kozić, R. Pavlović  
THERMAL EFFECTS ON VIBRATION AND STABILITY OF A MULTIPLE-NANOBEAM  
SYSTEM EMBEDDED IN AN ELASTIC MEDIUM

S3c:     Zoran Perović, Dragoslav Šumarac  
DAMAGE OF TRUSSES DUE TO CYCLIC PLASTICITY

S3d:     A. S. Petrović, N. R. Trišović, T. Đ. Maneski, Z. Golubović, V. O. Milošević-Mitić, W.  
Li, I. Grozdanović  
STRUCTURAL DYNAMIC MODIFICATION OF A TUBULAR COLLECTOR

S3e:     Branislava N. Novakovic  
OPTIMAL SHAPE OF A COLUMN WITH CLAMPED-ELASTICALLY SUPPORTED ENDS  
POSITIONED ON ELASTIC FONDATION

**S4**     *Chair: Valentin Glavardanov*  
          *Co-Chair: Dragan Jovanović*

S4a:     J. Jarić, D. Kuzmanović, D. Šumarac  
ON ELASTICITY TENSOR OF ANISOTROPIC DAMAGE MECHANICS

S4b:     Vladimir Stojanović, Dragan B. Jovanović  
GEOMETRICALLY NONLINEAR VIBRATIONS OF BEAMS SUPPORTED BY THE  
NONLINEAR ELASTIC FOUNDATION WITH VARIABLE DISCONTINUITY

S4c:     V. B. Glavardanov, R. B. Maretic, N. M. Grahovac, M. M. Zigic  
BUCKLING OF GENERALIZED ELASTICA SUPPORTED BY CARDAN JOINTS

**S5**     *Chair: Aleksandar Sedmak*  
          *Co-Chair: Dragana Turnić*

S5a:     M. Stamenković, G. Janevski, P. Kozić  
DYNAMIC ANALYSIS OF MICROBEAM UNDER THE ACTION OF MOVING  
MICROPARTICLE

S5b:     Dragana Turnić, Slavko Zdravković, Tomislav Igić

EFFECTS OF MOVABLE LOAD ON A BEAM ON ELASTIC FOUNDATION

S5c: Ivica Čamagić, Nemanja Vasić, Srdjan Jović, Zijah Burzić, Aleksandar Sedmak  
INFLUENCE OF TEMPERATURE AND EXPLOITATION TIME ON TENSILE  
PROPERTIES AND MICROSTRUCTURE OF SPECIFIC WELDED JOINT ZONES

S5d: J. Dautović, V. Madić, S. Đurković  
RIVETS REPLACEMENT METHODOLOGY ON THE AIRCRAFT STRUCTURE

S5e: Marija Lazović, Biljana Deretić Stojanović, Janko Radovanović  
STABILITY OF DOUBLE ELASTICALLY WEDGED CFT COLUMNS

## **Biomechanics (B)**

**B1**    *Chair: Sondipon Adhikari*  
          *Co-Chair: Miloš Kojić*

B1a:    D.T. Spasić, D.V. Dankuc and N.I. Kovičić  
A NOTE ON TISSUE ANALOGUES RECOGNITION

B1b:    N. D. Filipovic, I. Saveljic, Z. Milosevic, D. Nikolic, T. Exarchos  
BIOMECHANICAL MODEL OF SEMI-CIRCULAR CANAL

B1c:    M. Kojic, M. Milosevic, V. Simic, A. Ziemys, M. Ferrari  
A COMPUTATIONAL MODEL FOR DRUG TRANSPORT IN TUMOR

B1d:    Andjelka N. Hedrih, Mihailo Lazarević  
MULTI-LAYER OSCILLATORY SPHERICAL NET MODEL OF MOUSE ZONA  
PELUCIDA

**B2**    *Chair: Nenad Filipović*  
          *Co-Chair: Velibor M. Isailović*

B2a:    Milos Kojic, Miljan Milosevic  
MASS RELEASE CURVE AS THE CONSTITUTIVE CURVE FOR DIFFUSION IN  
COMPLEX MEDIA

B2b:    V. M. Isailovic, M. M. Nikolic, N. D. Filipovic  
TAPERED BOX MODEL OF THE COCHLEA: AIR AND BONE CONDUCTION

B2c:    M. Milosevic, V. Simic, A. Annapragada, M. Kojic  
MODELING OF CONVECTIVE-DIFFUSIVE TRANSPORT WITHIN MOUSE BRAIN

## **Control and Robotics (C)**

**C1**    *Chair: J. A. Tenreiro Machado*  
          *Co-Chair: Zoran Mitrović*

C1a:    Mohsen Razzaghi  
TAYLOR SERIES AND HYBRID APPROXIMATIONS FOR CONTROL PROBLEMS

C1b:    Miloš Živanović  
COMPARATIVE SIMULATION RESULTS OF SECOND-ORDER DECOMPOSITION  
PRINCIPLE BASED CONTINUOUS AND SLIDING MODE CONTROL OF MOTION OF A  
3DOF MANIPULATOR

C1c:    M. M. Jovanović, A. M. Simonović, N. S. Lukić, N. D. Zorić, S. S. Ilić, S. N. Stupar  
DETERMINATION OF ACTIVE VIBRATION CONTROL SYSTEM EFFECTIVENESS  
WITH DIFFERENT SENSOR POSITION

C1d:    Sreten B. Stojanovic, Dragutin Lj. Debeljkovic  
ROBUST FINITE-TIME STABILITY OF UNCERTAIN DISCRETE-TIME SINGULAR  
SYSTEMS WITH TIME-DELAY

C1e:    Mirko S. Mišljen, Mihailo P. Lazarević  
FINITE-TIME STABILITY OF PERTURBED FRACTIONAL-ORDER SYSTEMS WITH  
MULTIPLE TIME-VARYING DELAYS

**C2**    *Chair: Dragutin Debeljković*  
          *Co-Chair: Miloš Živanović*

C2a:    S. B. Stojanovic, D. Lj. Debeljkovic, N. J. Dimitrijevic, G. V. Simeunovic  
AN IMPROVED FINITE-TIME STABILITY OF LINEAR SYSTEMS WITH TIME-  
VARYING DELAY

C2b:    N. D. Zorić, A. M. Tomović, Z. S. Mitrović, M. P. Lazarević, M. N. Pavišić  
COMPARISON OF VARIOUS OPTIMIZATION CRITERIA FOR ACTUATOR  
PLACEMENT FOR ACTIVE VIBRATION CONTROL OF SMART COMPOSITE BEAM

C2c:    Petar D. Mandić, Mihailo P. Lazarević, Nikola Djurović, Tomislav B. Šekara  
STABILIZATION OF CART PENDULUM SYSTEM BY USING FRACTIONAL ORDER PD  
CONTROLLER

## **Interdisciplinary Areas (I)**

**I1**     *Chair: Radomir Mijailović*  
          *Co-Chair: Nenad Busarac*

I1a:     Radomir Mijailović  
THE COEFFICIENT OF RESTITUTION FOR FRONTAL CENTRAL VEHICLE CRUSH  
CASE

I1b:     Kosta Velimirović, Nemanja Velimirović  
FLIGHT PERFORMANCE DETERMINATION OF THE TURBOJET AIRCRAFT

I1c:     M. S. Cajić, D. Z. Karličić, M. P. Lazarević  
NONLOCAL VIBRATION OF FRACTIONAL ORDER VISCOELASTIC NANOBEAM  
WITH ATTACHED NANOPARTICLE

I1d:     V. Lj. Dunić, N. M. Busarac, V. R. Slavković, R. B. Slavković  
IMPLICIT THERMO-MECHANICAL STRESS INTEGRATION OF SHAPE MEMORY  
ALLOYS

**I2**     *Chair: Bojana Radojković*  
          *Co-Chair: Snežana Vulović*

I2a:     N. M. Busarac, V. Lj. Dunić, V. R. Slavković, R. B. Slavković  
PARTITIONED APPROACH THERMO-MECHANICAL COUPLING WITH  
CONSIDERATION TO CYCLIC PLASTICITY MODEL AT LARGE DEFORMATIONS

I2b:     B. M. Radojković, S. S. Ristić, R. M. Jančić-Hainemann, S. R. Polić  
LASER INDUCED THERMAL AND MECHANICAL SHOCK WAVES IN CERAMICS

I2c:     S. D. Vulovic, M. M. Zivkovic, R. S. Vujanac  
REMAINING LIFE ASSESSMENT OF DRUM IN THERMAL POWER PLANT

I2d:     V. R. Slavković, N. M. Busarac, V. Lj. Dunić, R. B. Slavković  
IMPLICIT STRESS INTEGRATION ALGORITHM FOR POLYMERIC MATERIALS AT  
WIDE RANGE OF STRAIN RATES AND TEMPERATURES

## **Mini-symposia - Nonlinear Dynamics (M)**

**M1**    *Chair: Katica (Stevanović) Hedrih*  
          *Co-Chair: Ivana D. Atanasovska*

M1a: Katica R. (Stevanović) Hedrih  
TRIGGER OF COUPLED ONE SIDE SINGULARITIES

M1b: Ivana D. Atanasovska, Marija Vukšić Popović, Dejan B. Momčilović  
SIMULATION OF THE KINEMATIC HARDENING OF AISI 316 STEEL BY NONLINEAR  
FINITE ELEMENT ANALYSIS

M1c: Andjelka N. Hedrih, J. Tenreiro Machado, Katica R. (Stevanović) Hedrih  
ELECTROMECHANICAL ANALOGY AND GENERALIZED FUNCTION OF  
FRACTIONAL ORDER ENERGY DISSIPATION IN SPHERICAL NET DISCRETE  
CONTINUUM MODEL OF MOUSE ZONA PALUCIDA

**M2**    *Chair: Julijana Simonović*  
          *Co-Chair: Srđan Jović*

M2a: J. Simonovic  
SYNCHRONIZATION PROOF OF SIGNAL TRAVELING IN THE NONLINEAR CHAINES  
OF MATERIAL PARTICLES

M2b: Lj. Kevac, M. Filipović  
ANALYSIS OF THE PERFORMANCE OF CPR SYSTEM WITH CHANGEABLE MASSES  
OF WINCHES AND ROPES

M2c: Katica R. (Stevanović) Hedrih  
DYNAMICS OF THE ELLIPTIC BILLIARDS AND ROLLING BALL IMPACTS

M2d: Srđan Jović, Vladimir Raičević, Ivica Čamagić  
ANALYSIS OF VIBRO-IMPACT SYSTEM BASED ON OSCILLATOR MOVING ALONG  
ROUGH CIRCLE LINE UNDER OUTER ONE-FREQUENCY FORCE ACTION

M2e: Stevan Maćešić, Ana Stanojević, Ljiljana Kolar Anić, Željko Čupić  
CONDITION FOR APPEARANCE OF ANDRONOV-HOPF AND SADDLE-NODE  
BIFURCATIONS IN THE MODEL OF NEUROENDORINE SYSTEM WITH FIVE  
VARIABLES



**M3** *Chair: Stevan Maćešić*  
*Co-Chair: Vladana Vukojević*

M3a: Ana Stanojević, Željko Čupić, Ljiljana Kolar-Anić, Vladana Vukojević  
MATHEMATICAL MODELLING OF ETHANOL EFFECTS ON THE DYNAMICS OF THE  
HYPOTHALAMIC-PITUITARY-ADRENAL (HPA) SYSTEM

M3b: B. Adnadjevic, M. Gigov, J. Jovanovic, A. Stanojevic  
EFFECTS OF ULTRASONIC AND MICROWAVE FIELDS ON ISOTHERMAL KINETICS  
OF FULLEROL FORMATION

M3c: Lj. Veljovic, G. Bogdanovic, D. Milosavljevic, A. Radakovic  
VECTORS OF MASS MOMENTS AND VECTOR ROTATORS IN RIGID BODY  
DYNAMICS WITH COUPLED ROTATIONS