

## Technical program

### SUNDAY, June 18, 2017

19:00            *Welcoming Coctail*        (*Banquet hall*)

### MONDAY, June 19, 2017

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

9:00 - 9:15        Welcome address:        (*Forum Palace Hall*)  
Professor M. P. Lazarević, the President of  
Serbian Society of Mechanics

Plenary Lectures (*Forum Palace Hall*)  
Chairman: Mihailo P. Lazarević

9:15 - 10:00        P-1 F. Chernousko  
LOCOMOTION OF MOBILE ROBOTIC SYSTEMS: DYNAMICS  
AND OPTIMIZATION

10:00 - 10:45        P-2 P. Spanos  
RANDOMLY EXCITED NONLINEAR DYNAMIC SYSTEMS  
ENDOWED WITH FRACTIONAL DERIVATIVES ELEMENTS

10:45 - 11:10        *Coffee Break*                (*Main Hall*)

11:10 - 12:30        Parallel Sessions

Session	G1	S1	C1	F1
Hall	<i>Forum Palace</i>	<i>Banquet hall</i>	<i>Idea hall</i>	<i>Dialogue hall</i>
11:10	G1a	S1a	C1a	F1a
11:30	G1b	S1b	C1b	F1b
11:50	G1c	S1c	C1c	F1c
12:10	G1d	S1d	C1d	F1d

12:10 - 13:20        *Lunch*                        (*Restaurant*)

Plenary Lecture (*Forum Palace Hall*)

Chairman: Srboľjub Simić

13:30 - 14:15 P-3 G. Saccomandi  
UT VIS SIC TENSIO

14:20 -17:30 *Social program (excursion to Mokra Gora and train ride "Sargan Eight" )*

17:40 - 19:20 Parallel Sessions

Session	G2	S2	M1	C2
Hall	<i>Forum Palace</i>	<i>Banquet hall</i>	<i>Idea hall</i>	<i>Dialogue hall</i>
17:40	G2a	S2a	M1a	C2a
18:00	G2b	S2b	M1b	C2b
18:20	G2c	S2c	M1c	C2c
18:40	G2d	S2d	M1d	C2d
19:00	G2e	S2e	M1e	

**TUESDAY, June 20, 2017**

Plenary Lectures (*Forum Palace Hall*)

Chairman: G. Saccomandi

9:00 - 9:45 P-4 J. Jovanović

DESIGN OF THE ANTITURBULENCE SURFACE FOR  
PRODUCING MAXIMUM DRAG REDUCTION EFFECT

9:45 - 10:30 P-5 T. P. Exarchos et al.

PERSONALIZED SITE-SPECIFIC MODELS OF  
ATHEROSCLEROTIC PLAQUE PROGRESSION

10:30 - 11:00 *Coffee Break* (*Main Hall*)

11:00 - 13:00 Parallel Sessions

Session	G3	M2	S3	M1
Hall	<i>Forum Palace</i>	<i>Banquet hall</i>	<i>Idea hall</i>	<i>Dialogue hall</i>
11:00	G3a	M2a	S3a	M1f
11:20	G3b	M2b	S3b	M1g
11:40	G3c	M2c	S3c	M1h
12:00	G3d	M2d	S3d	M1i
12:20	G3e	M2e	S3e	M1j
12:40	G3f	M2f	S3f	M1k

13:00 - 14:20 *Lunch* (*Restaurant*)

Plenary Lecture (*Forum Palace Hall*)

Chairman: T. P. Exarchos

14:30 - 15:15 P-06 Valentina Golubović-Bugarski et al.

IDENTIFICATION OF DYNAMIC PROPERTIES OF  
MECHANICAL STRUCTURE FROM MEASURED VIBRATION  
RESPONSES

15:15 - 15:40 *Coffee Break* (*Main Hall*)

15:40 - 17:20 Parallel Sessions

Session	S4	M2	C3	I1
Hall	<i>Forum Palace</i>	<i>Banquet hall</i>	<i>Idea hall</i>	<i>Dialogue hall</i>
15:40	S4a	M2g	C3a	I1a
16:00	S4b	M2h	C3b	I1b
16:20	S4c	M2i	C3c	I1c
16:40	S4d		C3d	I1d
17:00	S4e			I1e

17:20 - 18:00 Round table: **CURRICULUM** IN ENGINEERING MECHANICS  
(*Forum Palace Hall*)

18:00 - 19:00 General Assembly Meeting of Serbian Society of Mechanics  
(*Forum Palace Hall*)

19:00 - 21:30 *Gala Dinner* (*Restaurant Hotel Omorika*)

**WEDNESDAY, June 21, 2017**

Plenary Lecture (*Forum Palace Hall*)

Chairman: V. Golubović-Bugarski

9:00 - 9:45 P-7 D. Milosavljević

DYNAMICAL BEHAVIOR OF COMPOSITE MATERIALS  
REINFORCED WITH STRONG FIBERS

9:50 - 11:10 Parallel Sessions

Session	M3	S5	I2	
Hall	<i>Banquet hall</i>	<i>Idea hall</i>	<i>Dialogue hall</i>	
9:50	M3a	S5a	I2a	
10:10	M3b	S5b	I2b	
10:30	M3c	S5c	I2c	
10:50	M3d	S5d	I2d	

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

11:40 - 12:40 Parallel Sessions

Session	M3	S6		
Hall	<i>Idea hall</i>	<i>Dialogue hall</i>		
11:40	M3e	S6a		
12:00	M3f	S6b		
12:20	M3g	S6c		
12:40		S6d		

13:00 Closing Ceremony (*Dialogue hall*)

## List of Contributions

### General Mechanics (G)

**G1** *Chair: Katica R. (Stevanović) Hedrih*  
*Co-Chair: Srbojub Simić*

G1a Jovo Jarić, Dragoslav Kuzmanović,  
ON LINEAR ANISOTROPIC ELASTICITY DAMAGE TENSOR

G1b Vladimir Dragović, Katarina Kukić,  
THE SEPARATION VARIABLES FOR THE GENERALIZED KOWALEVSKI  
TOP VIA DISCRIMINANTLY SEPARABLE POLYNOMIALS

G1c: Katica R. (Stevanović) Hedrih  
EXTENDED CLASSICAL THEORY OF IMPACTS BY KINEMATICS AND  
DYNAMICS OF TWO ROLLING BODIES IN SKEW COLLISION

G1d Nenad M. Grahovac, Miodrag M. Žigić  
ENERGY DISSIPATION ANALYSIS OF A COLUMN LIKE STRUCTURE  
DURING EARTHQUAKE EXCITATION

**G2** *Chair: Vladimir Dragović*  
*Co-Chair: Miodrag Žigić*

G2a: Božidar Jovanović  
CONTACT SYMMETRIES AND NOETHER THEOREM FOR TIME-  
DEPENDENT HOLONOMIC AND NONHOLONOMIC SYSTEMS

G2b: Ljudmila T. Kudrjavceva, Marko D. Topalović, Milan V. Mićunović  
RUTTING PROBLEM FOR RUBBER WHEEL MOTION OVER HMA ASPHALT  
CONCRETE PAVEMENT

G2c: Vladimir Dragović, Borislav Gajić, Božidar Jovanović  
INTEGRATION OF  $SO(n-2)$  AND  $SO(n-3)$  SYMMETRIC TOPS

G2d: Radoslav Radulović, Bojan Jeremić, Aleksandar Obradović, Zoran Stokić  
GLOBAL MINIMUM TIME FOR THE BRACHISTOCHRONIC MOTION OF A  
PARTICLE IN AN ARBITRARY FIELD OF POTENTIAL FORCES

G2e: Aleksandar S. Okuka, Miodrag M. Žigić, Nenad M. Grahovac  
ON RHEOLOGICAL BEHAVIOR OF ASPHALT CONCRETES

**G3**     *Chair: Božidar Jovanović*  
          *Co-Chair: Nenad Grahovac*

G3a: Nenad M. Grahovac, Miodrag M. Žigic, S. Goločorbin-Kon, M. Mikov,  
D.T. Spasić  
A DESCRIPTION OF METHOTREXATE DISTRIBUTION AND EXCRETION IN  
A RAT BY A FRACTIONAL MODEL

G3b: Srdjan Jović  
VIBRO-IMPACT SYSTEM BASED ON FORCED OSCILLATIONS OF HEAVY  
MASS PARTICLE ALONG A ROUGH CICLOID

G3c: Srđan Kostić, Nebojša Vasović, Kristina Todorović, Dragoslav Kuzmanović  
STABILITY ANALYSIS OF STATICALLY INDETERMINATE EARTH SLOPES  
USING FINITE ELEMENT METHOD

G3d: Bojan Medjo, Marko Rakin, Nenad Gubeljak, Walid Musraty, Andrej Likeb,  
Ivana Cvijović-Alagić, Aleksandar Sedmak  
FRACTURE MECHANICS ANALYSIS OF HETEROGENEOUS CYLINDRICAL  
STRUCTURES USING PIPE-RING NOTCHED BEND SPECIMENS

G3e: Sreten Mastilović  
A NOTE ON DAMAGE-FRAGMENTATION TRANSITION OF SLENDER  
TAYLOR PROJECTILES: SIZE EFFECT AND SCALING BEHAVIOR

G3f: Antonio Rinaldi, Sreten Mastilović  
A REMINDER OF THE KRAJCINOVIC APPROACH TO SCALING OF QUASI-  
BRITTLE FRACTURE

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

**S1**     *Chair: Ratko Pavlović*  
          *Co-Chair: Dušan Zorica*

S1a: Dušan Zorica, Teodor M. Atanacković, Zora Vrcelj, Branislava Novaković  
NON-LOCAL AXIALLY LOADED ROD PLACED ON VISCOELASTIC AND  
PASTERNAK TYPE FOUNDATION: DYNAMIC STABILITY ANALYSIS

S1b: Milan Cajić, Danilo Karličić, Mihailo Lazarević  
COMBINED SUB-HARMONIC RESONANCES OF NANOBEAM ON  
FRACTIONAL VISCO-PASTERNAK TYPE FOUNDATION

S1c: Miloš Jočković, Matthias Baitsch, Marija Nefovska-Danilović  
FREE VIBRATION ANALYSIS OF CURVED BERNOULLI-EULER BEAM  
USING ISOGEOMETRIC APPROACH

S1d: I. Pavlović, R. Pavlović, P. Kozić, G. Janevski  
INFLUENCE OF PASTERNAK VISCOELASTIC LAYER ON TIMOSHENKO  
BEAMS STOCHASTIC STABILITY

**S2**     *Chair: Ratko Maretić*  
          *Co-Chair: Ivan Pavlović*

S2a: Ratko Maretić, Sanja Ožvat, Armin Berecki, Valentin Glavardanov  
BUCKLING OF CIRCULAR GRAPHENE SHEETS IN AN ELASTIC MEDIUM

S2b: Dragan Rakić, Miroslav Živković, Milan Bojović  
IMPLICIT STRESS INTEGRATION OF THE ELASTIC-PLASTIC STRAIN  
HARDENING MODEL BASED ON MOHR-COULOMB

S2c: Vladimir Lj. Dunić, Nenad A. Grujović, Radovan B. Slavković, Nenad M.  
Busarac, Vukašin R. Slavković  
FEM ANALYSIS OF CONCRETE GRAVITY DAM BY DAMAGE PLASTICITY  
CONSTITUTIVE MODEL

S2d: Dejan B. Momčilović, Ivana D. Atanasovska  
APPLICATION OF GRADIENT ELASTICITY ON CORROSION FATIGUE  
DAMAGE ASSESSMENT

S2e: Vladimir Milovanović, Aleksandar Dišić, Nikola Jovanović, Gordana Jovičić,  
Miroslav Živković  
EXPERIMENTAL STUDY OF DEFORMATION BEHAVIOR AND FATIGUE  
LIFE OF S355J2+N STEEL GRADE UNDER CYCLIC LOADING



**S3**     *Chair: Nina Anđelić*  
          *Co-Chair: Živojin M. Stamenković*

S3a: Slaviša Šalinić, Aleksandar Nikolić  
DETERMINATION OF NATURAL FREQUENCIES OF A PLANAR SERIAL  
FLEXURE-HINGE MECHANISM USING A NEW PSEUDO-RIGID-BODY  
MODEL (PRBM) METHOD

S3b: Nina M. Anđelić, Vesna O. Milošević-Mitić, Taško Đ. Maneski, Đorđe D.  
      Đurđević  
MINIMUM WEIGHT OF OPEN SECTION THIN-WALLED STRUCTURAL  
ELEMENTS UNDER STRESS CONSTRAINT

S3c: Aleksandar Tomović  
A NOVEL APPROACH TO THE FREE AXIAL-BENDING VIBRATION  
PROBLEM OF INHOMOGENEOUS ELASTIC BEAMS WITH VARIABLE  
CROSS-SECTIONAL PROFILES

S3d: Dragan V. Čukanović, Aleksandar B. Radaković, Gordana M. Bogdanović,  
      Dragan I. Milosavljević, Vladimir N. Geroski  
BENDING ANALYSIS OF FUNCTIONALLY GRADED PLATE ACCORDING  
TO HIGH ORDER SHEAR DEFORMATION THEORY

S3e: Nikola Nešić, Milan Cajić, Danilo Karličić  
NON-LINEAR PRINCIPAL RESONANCE OF AN ORTHOTROPIC AND  
MAGNETOELASTIC RECTANGULAR PLATE OSCILLATING ON  
FRACTIONAL VISCOELASTIC LAYER

S3f: Jelena D. Petrović, Živojin M. Stamenković, Miloš M. Kocić, Jasmina B.  
      Jovanović-Bogdanović, Milica D. Nikodijević  
MHD FLOW AND HEAT TRANSFER IN THE POROUS MEDIUM UNDER THE  
INFLUENCE OF AN EXTERNALLY APPLIED MAGNETIC FIELD AND  
INDUCED MAGNETIC FIELD

**S4**     *Chair: Dragan Milosavljević*  
          *Co-Chair: Gordana Kastratović*

S4a Aleksandar R. Savić, Marina M. Aškrabić  
CORRELATION BETWEEN DYNAMIC MODULUS OF ELASTICITY AND  
COMPRESSIVE STRENGTH for SELF-COMPACTING MORTARs

S4b Marija M. Rafailović, Miroslav M. Živković, Vladimir P. Milovanović, Jelena  
      M. Živković  
E4 AND MITC4+ SHELL FINITE ELEMENT PERFORMANCE ANALYSIS

S4c Gordana Kastratović, N. Vidanović, Aleksandar Grbović  
STRESS INTENSITY FACTOR ASSESSMENT FOR MULTIPLE SURFACE  
CRACKS

S4d Milena Rajić, Dragan B. Jovanović, Dragoljub S. Živković  
THERMOELASTIC STRESS AND DEFORMATION STATE IN GAS PIPES OF  
HOT WATER BOILER UNDER THE STATIONARY AND NON STATIONARY  
TEMPERATURE FIELD

S4e Marina Četković  
IMPERFECTION SENSITIVITY OF PLATES IN THERMAL ENVIRONMENT

**S5**     *Chair: Miroslav Živković*  
          *Co-Chair: Stanko Ćorić*

S5a Stanko B. Ćorić  
COMPARATIVE BUCKLING ANALYSIS AND DETERMINATION OF THE  
EFFECTIVE LENGTH FACTORS USING TWO NUMERICAL PROCEDURES

S5b Andrija Radović, Nikola Blagojević, Dragoslav Šumarac  
STABILITY ANALYSIS OF VERTICAL CUTS

S5c Zoran Perović, Dragoslav Šumarac  
ELASTOPLASTIC ANALYSIS OF FRAME STRUCTURES SUBJECTED TO  
CYCLIC LOADING

S5d Svetlana M. Kostić, Biljana Deretić-Stojanović  
AN EFFICIENT MODEL FOR NONLINEAR ANALYSIS OF CIRCULAR CFT  
COLUMNS

**S6**     *Chair: Gordana Kastratović*  
          *Co-Chair: Nataša Trišović*

S6a: Janko Radovanović, Dragoslav Šumarac, Marija Lazović  
CALCULATION OF THE LIMIT LOAD FOR THE STEEL ARC OF THE BIOCE  
BRIDGE

S6b: Miroslav S. Marjanović, Dragan M. Kovačević  
FREE AND FORCED VIBRATION ANALYSIS OF DELAMINATED  
COMPOSITE PLATES OF ARBITRARY SHAPE USING TRIANGULAR  
LAYERED FINITE ELEMENTS

S6c: Nataša Trišović, Wei Li, Aleksandar Sedmak, Ana Petrović, Radivoje  
Mitrović, Zoran Stokić  
ITERATIVE METHODS FOR EIGENSENSITIVITY ANALYSIS - A REVIEW

S6d: Nataša Trišović, Wei Li, Nikola Mladenović, Olivera Jeremić, Ines  
Grozdanović, Ana Petrović  
EIGENSENSITIVITY AND STRUCTURAL OPTIMIZATION WITH ACCENT  
ON THE REPEATED FREQUENCIES

### **Fluid Mechanics (F)**

**F1** *Chair: Dragan Jovanović*  
*Co-Chair: Damir Mađarević*

F1a: Saša M. Milanović, Miloš M. Jovanović, Boban D. Nikolić, Živan T. Spasić  
SOLID PARTICLES VELOCITY DISTRIBUTION IN PNEUMATIC  
TRANSPORT OF GRANULAR MATERIALS IN CHANNELS WITH A NON-  
CIRCULAR CROSS SECTION TAKING INTO ACCOUNT SECONDARY FLOW

F1b: Miloš M. Jovanović, Boban D. Nikolić, Saša Milanović, Živan Spasić  
FORCED RAYLEIGH BENARD CONVECTION SECONDARY INSTABILITY  
IN PRESENCE OF TEMPERATURE MODULATION ON BOTH PLATES

F1c: Srbojlob Simić, Ana Jacinta Soares, and Damir Madjarević  
MULTI-TEMPERATURE ZND DETONATION MODEL

F1d: Damir Madjarević, Ana Jacinta Soares, and Srbojlob Simić  
NUMERICAL ANALYSIS OF DETONATION WAVES IN MULTI-  
TEMPERATURE ZND MODEL

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

**C1** *Chair: Dragan T. Spasić*  
*Co-Chair: Nemanja D. Zorić*

C1a: Nemanja D. Zorić, Aleksandar M. Tomović, Miroslav M. Jovanović, Nebojša  
S. Lukić, Zoran M. Stokić

EFFECT OF PIEZOELECTRIC FIBER-REINFORCED COMPOSITE (PFRC)  
ACTUATOR ORIENTATION ON CONTROLLABILITY OF ANTISYMMETRIC  
COMPOSITE PLATES FOR ACTIVE VIBRATION CONTROL

C1b: Jovana Kovačević, Mara Bosnić, Dragan T. Spasić  
ON APPROXIMATE ANALYTICAL SOLUTIONS OF EQUATIONS OF  
MOTION: TODA OSCILLATORS AND AN OPTIMAL ORBITAL TRANSFER

C1c: Miloš M. Živanović  
VELOCITY CONTROL OF A MECHANICAL SYSTEM USING SECOND-  
ORDER DECOMPOSITION PRINCIPLE

C1d: Petar D. Mandić, Mihailo P. Lazarević, Zoran Stokić, Tomislav B. Šekara  
DYNAMIC MODELLING AND CONTROL DESIGN OF SEVEN DEGREES OF  
FREEDOM ROBOTIC ARM

**C2** *Chair: Slaviša Šalinić*  
*Co-Chair: Zoran Perović*

C2a: Jelena Vidaković, Mihailo P. Lazarević, Vladimir M. Kvrgić, Maja M. Lutovac  
Banduka, Stefan M. Mitrović

CONTROL SYSTEM DESIGN OF SPATIAL DISORIENTATION TRAINER

C2b: Marina Bošković, Slaviša Šalinić, Radovan Bulatović, Goran Miodragović  
MULTIOBJECTIVE OPTIMIZATION FOR DYNAMIC BALANCING OF FOUR-  
BAR MECHANISM

C2c: Miloš D. Lukić, Mihailo P. Lazarević, Petar B. Petrović  
ANALYSIS AND OPTIMIZATION OF UNDERACTUATED FINGER FOR  
CMSYSLAB ROBOTIC HAND

C2d: Isak Karabegović, Ermin Husak  
BY USING DIGITAL TECHNOLOGY ROBOTIC TECHNOLOGY FOLLOW  
THE FOURTH INDUSTRIAL REVOLUTION-INDUSTRY 4.0

**C3** *Chair: Srdjan Jović*  
*Co-Chair: Sreten Stojanović*

C3a: Vladimir Kvrgić, Jelena Vidaković, Mihailo Lazarević, Goran Pavlović  
CALCULATION OF THE ACCELERATION FORCE COMPONENTS AND  
ROLL AND PITCH LINK ANGLES OF THE CFS AND SDT

C3b: Sreten B Stojanović, Dragutin Lj. Debeljković, Milos M. Stevanović, Milan S.  
Stojanović

RECIPROCALLY CONVEX APPROACH TO FINITE-TIME STABILITY OF SYSTEMS WITH TIME-VARYING DELAYS

C3c: Sreten B Stojanović, Dragutin Lj. Debeljković, Milos M. Stevanović, Milan S. Stojanović

DELAY DECOMPOSITION APPROACH TO DELAY DEPENDENT STABILITY FOR LINEAR DISCRETE-TIME SYSTEMS WITH TIME-VARYING DELAY

C3d: Mandić Slobodan, Pavić Miloš, Ignjatović Milan, Vlahović Nataša, Ocokoljić Goran

MISSILE ROLL AUTOPILOT WITH AERODYNAMIC INTERCEPTOR

**Interdisciplinary Areas (I)**

**I1** *Chair: Nebojša Vasović*  
*Co-Chair: Ivan A. Kostić*

I1a: Marija Stamenković Atanasov, Predrag Kozić, Aleksandar Atanasov, Nikola Nešić

THERMAL AND MAGNETIC EFFECTS ON THE FORCED VIBRATION OF AN ELASTICALLY CONNECTED NONLOCAL ORTHOTROPIC DOUBLE-NANOPLATE SYSTEM

I1b: Miloš M. Kocić, Živojin M. Stamenković, Jelena D. Petrović, Jasmina B. Jovanović-Bogdanović, Milica D. Nikodijević

FLOW AND HEAT TRANSFER OF TWO IMMISCIBLE MICROPOLAR FLUIDS IN THE PRESENCE OF UNIFORM MAGNETIC FIELD

I1c: Vukašin Slavković, Nenad Grujović, Aleksandar Dišić, Andreja Radovanović  
INFLUENCE OF ANNEALING AND PRINTING DIRECTIONS ON MECHANICAL PROPERTIES OF PLA SHAPE MEMORY POLYMER PRODUCED BY FUSED DEPOSITION MODELING

I2d: Iva Guranov, Srđan Kostić, Nebojša Vasović  
PERIODIC AND AUTOREGRESSIVE MODELS OF GROUNDWATER LEVEL DYNAMICS

I1e: Ivan A. Kostić, Olivera P. Kostić, Zoran A. Stefanović  
COMPUTATIONAL 2D ANALYSES OF SEVERAL JET VANE TYPES AIMED FOR THE ROCKET ENGINE THRUST VECTOR CONTROL

**I2** *Chair: Predrag Elek*  
*Co-Chair: Jelena Svorcan*

I2a: Jelena Svorcan, Zorana Trivković, Marija Baltić, Ognjen Peković  
COMPARISON OF DIFFERENT NUMERICAL APPROACHES TO  
COMPUTATION OF WIND TURBINE BLADE AERODYNAMIC  
PERFORMANCES WITH SPECIAL ATTENTION TO VORTEX METHODS

I2b: Predrag Elek, Slobodan Jaramaz, Dejan Micković, Ivana Todić  
ANALYTICAL MODELING OF BALLISTIC PERFORATION IN PLUG  
FORMATION MODE

I2c: Jelena S. Andrić  
NUMERICAL STUDY OF THE EFFECTS OF DRIVING PATTERNS ON  
ENERGY FLOW AND FUEL CONSUMPTION IN PARALLEL HYBRID  
ELECTRIC VEHICLES

I2d: Kosta Velimirović, Nemanja Velimirović  
FLIGHT PERFORMANCE DETERMINATION OF THE TURBOJET AIRCRAFT  
ORA0

### **Mini-symposia - Nonlinear Dynamics (M1)**

**M1\_1** *Chair: Katica (Stevanović) Hedrih*  
*Co-Chair: Ivana D. Atanasovska*

M1a: Katica R. (Stevanović) Hedrih  
PHASE PORTRAIT AND ENERGY SURFACES OF NON-LINEAR SYSTEMS  
WITH ONE DEGREE OF FREEDOM: CHARACTERISTIC EXAMPLES

M1b: P. Krasilnikov, R. Amelin  
ON THE SATURN'S PRECESSION

M1c: Vladimir S. Korolev, Elena N. Polyakhova, Irina Yu. Pototskaya, Alexey A.  
Tikhonov,  
PROBLEMS OF MOTION STABILITY OF SOLAR SAIL SPACECRAFT

M1d: Ivana D. Atanasovska, Dejan B. Momcilović  
DYNAMICS OF COMPLEX SYSTEMS CONSIST OF DEFORMABLE BODIES  
IN CONTACT - THE NEW APPROACH

M1e: J. Simonović  
NONLINEAR MODELS OF BONE EXTERNALLY EXCITED CELLULAR  
REMODELING

**M1\_2** *Chair: P. Krasilnikov*  
*Co-Chair: J. Simonović*

M1f: Nebojša I. Potkonjak, Ljiljana Z. Kolar-Anić, Maja C. Pagnacco, Slobodan R. Anić,  
SOME CONSIDERATION ABOUT VOLTAMMOGRAM AS BIFURCATIONS  
DIAGRAM IN ELECTROCHEMICAL OSCILLATORY SYSTEMS

M1g: Jelena P. Maksimović, Kristina Stevanović, Itana Nuša Bubanja, Ljiljana Z. Kolar-Anić, Slobodan R. Anić, Nebojša I. Potkonjak, Maja C. Pagnacco  
THE NON-LINEAR BRIGGS-RAUSCHER REACTIONS AS A MEDIUM FOR  
INVESTIGATION OF THE CAFFEIC ACID CONCENTRATION AND ITS  
POTENTIAL ANTIRADICAL ACTIVITY

M1h: Željko Čupić, Ana Ivanović-Šašić, Vladimir Marković, Ana Stanojević,  
Slobodan Anić, Nataša Pejić, Ljiljana Kolar-Anić  
BIFURCATION ANALYSIS AS THE METHOD FOR DETERMINATION OF  
PARAMETERS THAT APPEAR IN THE MODEL OF CONSIDERED PROCESS

M1i: Ljubinko B. Kevac, Mirjana M. Filipović, Ana M. Djurić  
ELASTIC S-TYPE CABLE-SUSPENDED PARALLEL ROBOT IN PRESENCE  
OF SECOND MODE

M1j: Danilo Z. Karličić, Milan S. Cajić  
NONLINEAR DYNAMIC STABILITY OF A FUNCTIONALLY GRADED  
NONLOCAL NANOBEM IN THERMAL ENVIRONMENT BY USING  
INCREMENTAL HARMONIC BALANCE METHOD

M1k: Marina Trajković-Milenković, Otto T. Bruhns, Dragoslav Šumarac  
NUMERICAL ANALYSIS OF FINITE HYPO-ELASTIC CYCLIC  
DEFORMATION WITH SMALL AND MODERATE ROTATIONS

**M2 Turbulence**

**Minisymposia - Turbulence (M2)**

**M2\_1** *Chair: Đorđe Čantrak*  
*Co-Chair: Milan Šekularac*

M2a: Aleksandar S. Čočić, Milan M. Raković, Dejan B. Ilić, Milan R. Lečić  
NUMERICAL COMPUTATIONS OF TURBULENT FLOW THROUGH ORIFICE  
FLOW METER

M2b: Dejan Cvetinović, Rastko Jovanović, Jiří Vejražka, Jaroslav Tihon, Kazuyoshi Nakabe, Kazuya Tatsumi

POSSIBILITY OF VORTEX STRUCTURES CONTROL BY MODULATION OF THE NOZZLE EXIT VELOCITY USING LOW-AMPLITUDE OSCILLATIONS

M2c: Jelena Svorcan, Zorana Trivković, Toni Ivanov

COMPUTATIONAL ANALYSIS OF HORIZONTAL-AXIS WIND TURBINE BY DIFFERENT RANS TURBULENCE MODELS

**M2\_2** *Chair: Dejan Cvetinović*

*Co-Chair: Živojin Stamenković*

M2d: Živojin M. Stamenković, Jasmina B. Jovanović-Bogdanović, Miloš M. Kocić, Jelena D. Petrović

MHD STEADY AND UNSTEADY FLOW PAST A CIRCULAR CYLINDER

M2e: Dejan B. Ilić, Đorđe S. Čantrak, Novica Z. Janković

REYNOLDS NUMBER INFLUENCE ON INTEGRAL AND STATISTICAL CHARACTERISTICS OF THE TURBULENT SWIRL FLOW IN STRAIGHT CONICAL DIFFUSER

M2f: Milan B. Šekularac, Novica Z. Janković

EXPERIMENTAL AND NUMERICAL ANALYSIS OF FLOW FIELD AND VENTILATION PERFORMANCE IN A TRAFFIC TUNNEL VENTILATED BY AXIAL FANS

**M2\_3** *Chair: Aleksandar Čočić*

*Co-Chair: Jelena Svorcan*

M2g: Djordje M. Novković, Jela M. Burazer, Aleksandar S. Čočić, Milan R. Lečić  
NUMERICAL RESEARCH OF SWIRL-FREE FLOW IN AZAD DIFFUSER

M2h: Jasmina B. Bogdanović-Jovanović, Živojin M. Stamenković, Miloš M. Kocić, Jelena D. Petrović

CAVITATION IN VENTURI NOZZLE – NUMERICAL PREDICTION OF CAVITATION PARAMETERS

M2i: Jela M. Burazer

NUMERICAL RESEARCH OF ENERGY SEPARATION IN A CYLINDER WAKE



## **M3 Bionengineering**

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*Co-Chair: Miljan Milošević*

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SPONTANEOUS FORMATION OF SYNCHRONIZATION CLUSTERS IN  
NEURONAL POPULATIONS INDUCED BY NOISE AND INTERACTION  
DELAYS

M3b: Miloš Kojić, Miljan Milosević, Vladimir Simić  
CONVECTION–DIFFUSION TRANSPORT MODEL USING COMPOSITE  
SMEARED FINITE ELEMENT

M3c: Andjelka N. Hedrih, Katica (Stevanović) Hedrih  
RESONANCE AS POTENTIAL MECHANISM FOR HOMOLOG  
CHROMOSOMES SEPARATION THROUGH BIOMECHANICAL  
OSCILLATORY MODEL OF MITOTIC SPINDLE

M3d: Miljan Milosević, Milos Kojić, Vladimir Simić  
FIELD OF CORRECTION FACTORS FOR SMEARED FINITE ELEMENT

**M3\_2** *Chair: Nenad Filipović*

*Co-Chair: Velibor Isailović*

M3e: Milica M. Nikolić, Nenad D. Filipović  
APPLICATION OF DPD METHOD ON MODELLING SEMICIRCULAR  
CANALS

M3f: Velibor Isailović, Igor Saveljić, Dalibor Nikolić, Zarko Milosević, Dusan  
Pavlović, Nenad D. Filipović  
EYE TRACKING ALGORITHM AND COMPUTATIONAL MODELING IN  
PREDICTION OF BENIGN PAROXYSMAL POSITIONAL VERTIGO DISEASE

M3g: Nenad Filipović, Velibor Isailović, Žarko Milosević, Dalibor Nikolić, Igor  
Saveljić, Milica Nikolić, Bojana Ćirković-Andjelković, Nikola Jagić, Exarchos  
Themis, Dimitris Fotiadis, Gualtiero Pelosi, Oberdan Parodi  
COMPUTATIONAL MODELING FOR PLAQUE PROGRESSION AND  
FRACTIONAL FLOW RESERVE IN THE CORONARY ARTERIES