



PRELIMINARY PROGRAM

31 October 2018, Wednesday

Institute of Mechanics-BAS, hall 200

9:30 – 10:00

Registration

10:00 – 10:20

Opening Session

Welcome addresses

10:30 – 11:40

Plenary lectures

Chairman: S. Stoytchev

N. Zlatov

In memory of Prof. Yuli Toshev - Founder of Bulgarian Society of Biomechanics; First President of Bulgarian Society of Biomechanics

R. Raikova

A realistic rat muscle model composed by motor units controlled by variable inputs to their motoneurons

11:40 – 13:00

Break

13:00 – 15:00

Session № 1

Chairman: **R. Raikova**

13:00 – 13:20

J. Lima de Jesus, H. M. Ramos, X. Chiementin, R. Taiar, Ch. B. Machado

A microphone-based gait assessment method (MGAM) in a patient with Parkinson disease

13:20– 13:40

G. Nikolova, V. Kotev, D. Dantchev

Female's mass-inertial parameters in body positions as classified by NASA: A short review

BULGARIAN SOCIETY OF BIOMECHANICS

Biomechanics Days 2018, Sofia, 31.10-02.11.2018



- 13:40 – 14:00 **D. Despotova, S. Karastanev, P. Kiriazov**
Optimization-based control design approach for motion/
posture stabilization tasks
- 14:00:14:20 **S. Molchanova, A.G. Kuchumov**
Biomechanical modelling of shape memory stent
interaction with bile duct during endobiliary
interventions
- 14:20 – 14:40 **N. Antonova, I. Velcheva, Khr. Khristov, E.
Konstantinova, A. Alexandrova, V. Paskova, I.
Ivanov, E. Zvetkova, G. Melnikova, N. Todorova**
Methodical approaches in the study of the mechanical
and electrical properties of blood and blood formed
elements and cell's surface
- 14:40 – 15:00 **A. Alexandrova, N. Antonova, A. V. Muravyov, Khr.
Khristov, I. Velcheva, E. V. Uzikova**
Evaluation of the leukocyte adhesion under flow
conditions in patients with type 2 diabetes mellitus.
Role of red blood cell aggregating agents
- 15:00 – 15:20 Coffee break**
- 15:20 – 17:00 Session № 2**
Chairman: **I. Yotov**
- 15:20 – 15:40 **K. Markovic, S. Markovic, I. Yotov**
Kinematic and kinetic analysis of handball throwing. A
review
- 15:40 – 16:00 **L. Trenev**
A model for beginner bating/hiting training for 11-13
year old cricketers
- 16:00 - 16:20 **N. Staikov**
Study of interactions between physical and technical
indicators on women playing futsal
- 16:20 – 16:40 **E. Avramov, M. Avramova**
Relation between antropometric indicators and the sport-
technical characteristics of suspending handball
goalkeeper
- 16.40 – 17.00 **K. Tahtakov**
Device for measurement and control of the head position



1 November 2018, Thursday

Institute of Mechanics-BAS, hall 200

10:00 – 11:40

Session № 3

Chairmen: **P. Kiriazov**

10:00 – 10:20

S. Stoytchev, S. Nikolov, M. Antonova, M. Nenov
Critical bending pressure of abdominal aorta aneurism under physiological pressure and axial deformation

10:20 – 10:40

S. Bosiakov, K. Yurkevich, A. Ershova
Analytical model of anisotropic distribution of bone elastic properties

10:40 – 11:00

S. Gavriushin, E. Demishkevich
Simulation of the long-term orthodontic tooth movement using finite-element analysis of visco-elastic model for periodontal ligament

11:00 – 11:20

T. Polyakova, S. Gavriushin
Biomechanical modeling of dentures fixed on transitional implants

11:20 – 11:40

S. Bosiakov, A. Matveev, M. Nikolaitchik
Assessment of the ultimate load of the femur with different designs of implants

11:40 – 13:00

Break

13:00 – 14:20

Session № 4

Chairman: **S. Nikolov**

13:00 – 13.20

N. F. Otani, S. M. Shontz, C. A. Linte
Biomechanical reconstruction and visualization of myocardial active stresses for cardiac viability assessment

13.20 – 13.40

K. Ben-Zikri, Z. Yaniv, K. Baum, C. A. Linte
Automatic reconstruction of long-limb standing panoramas from multiple X-ray image sectors

13.40 – 14.00

D. Chakarov, M. Tsveov, I. Veneva, P. Venev
Development of an upper limb exoskeleton for rehabilitation and training

BULGARIAN SOCIETY OF BIOMECHANICS

Biomechanics Days 2018, Sofia, 31.10-02.11.2018



- 14.00 – 14.20 **G. Jalalahmadi, M. Helguera, S. Hodis, D. Mix, C. A. Linte**
Wall stress as a non-invasive biomarker of abdominal aortic aneurysm severity
- 14:20 – 14:40** **Coffee break**
- 14:40 – 16:00** **Session № 5**
Chairmen: **D. Chakarov**
- 14:40 – 15:00 **S. Nikolov, M. Nenov**
Modelling vaccine quantity in mathematical models of melanoma treatment
- 15:00 – 15:20 **M. Kirilova-Doneva**
Efficacy and safety of hernia meshes
- 15:20 – 15:40 **K. Tahtakov**
Auxiliary device for diagnosis of musicogenic epilepsy
- 15:40 – 16:00 **E. Petrova**
Analysis of cells growth at adaptation of bacterial strain *Acidithiobacillus ferrooxidans*. JCM 3863 to 30 g/L ferrous ions
- 16:00 – 16.30** **Closing Session**
Chairman: **S. Stoytchev**

2 November 2018, Friday

Culture program
Sofia free tour -10:30 – 14:00