

## **Symposium 4 | *Bioinformatics and Computational Biology for Biomedicine (BCB-Biomed)***

Organizers: F. Pereira (PT), T. Cunha-Oliveira (PT), R. Travasso (PT), G. Gonnella (IT)

Day: Wednesday June 8, Thursday June 9

### **Wednesday June 8**

#### **14.00-16.00 Session 1: BCB-Biomed I (Chair: F. Pereira (PT))**

**14.00-14.45: An embedding space for SARS-CoV-2 epitope-based vaccines.** Roberto Santana [University of the Basque Country, Spain]

**14.45-14.55: Transcriptome analyses of circadian clock disrupted cancer cells reveals differential alternative splicing of cancer hallmarks genes.** Deeksha Malhan, [Institute for Theoretical Biology ITB, Germany]

**14.55-15.05: Timing treatment: profiling the circadian clock and optimizing treatment timing in cancer.** Angela Relogio, [Institute for Theoretical Biology and Molecular Cancer Research Center, Germany]

**15.05-15.15: Deep Modelling for Anti-Cancer Drug Response through Gene Expression and Mutation Data.** Filipa Carvalho, [University of Coimbra, Portugal]

**15.15-16.00: Trustworthy Cardiovascular Risk Assessment.** Simão Paredes [Coimbra Polytechnic – ISEC, Portugal]

#### **16.00-16.30 COFFEE**

#### **16.30-18.00 Session 2: BCB-Biomed II (Chair: G. Gonnella (IT))**

**16.30-17.15: Polymer models of retroviral integration in DNA and genomes.** Enzo Orlandini [Università di Padova, Italy]

**17.15-18.00: Semiflexible polymers under external fields.** Antonio Lamura [IAC – CNR, Italy]

**Thursday June 9**

**08.30-10.30 Session 3: BCB-Biomed III (Chair: R. Travasso (PT))**

**8.30-9.15: Vertex model of the pseudo-stratified neural tube epithelium.** Pilar Guerrero [Universidad Carlos III de Madrid, Spain]

**9.15-9.25: Molecular dynamics simulation of human chromosome: cluster formation, transcriptional activity and correlation regulatory networks.** Massimiliano Semeraro, [Università di Bari, Italy]

**9.25-9.35: Dynamical Properties of Clusters of Active Particles.** Claudio Caporusso, [Università di Bari, Italy]

**9.35-9.45: Endothelial Cell Dynamics in 3D Vessel-like Structures: A Multi-Phase Field Model.** Marcos Gouveia, [University of Coimbra, Portugal]

**9.45-10.30: A cellular Potts model describing wound healing assays in diverse cell motility and cell adhesion conditions,** João Carvalho [University of Coimbra, Portugal]

**10.30-11.00 COFFEE**

**11.00-12.30 Session 4: BCB – Biomed V (Chair: F. Pereira (PT))**

**11.00-11.45: Clinical applications of high-throughput array technology and associated bioinformatics tools.** Luísa Pereira [Universidade do Porto, Portugal]

**11.45-11.55: Effect of Anti-VEGF Presentation in Controlling Vascular Development.** Rui Travasso, [University of Coimbra, Portugal]

**11.55-12.05: Synthetic Data Augmentation for Biological Datasets.** Beatriz Silva, [University of Coimbra, Portugal]

**12.05-12.15: Designing optimized drug candidates with Generative Adversarial Network.** Maryam Abbasi, [University of Coimbra, Portugal]

**12.15-12.25: Method for assessing motor activity by the capture system.** Maxim Baltin, [Kazan Federal University, Russia]

**12.30-14.00 LUNCH**

**Submissions Accepted for the Poster Session (June 9, 19.00)**

56ASM-0014: Olshannikova Svetlana, Kinetics of ficin molecules aggregation by dynamic light scattering

56ASM-0015: Olshannikova Svetlana, Kinetics of papain molecules aggregation by dynamic light scattering

56ASM-0016: Olshannikova Svetlana, Kinetics of bromelain molecules aggregation by dynamic light scattering

56ASM-0018: Victoria Koroleva, Virtual screening of immobilization agents for bromelain, ficin, papain among biodegradable polysaccharides modified with vinyl monomers

56ASM-0020: Victoria Koroleva, Flexible molecular docking to identify optimal binding sites and affinity energies of potential carriers for immobilization to papain

56ASM-0021: Victoria Koroleva, Flexible molecular docking to identify optimal binding sites and affinity energies of potential carriers for immobilization to bromelain

56ASM-0022: Oleg Markelov, DESIGN OF CONJUGATED IONIC-HYDROGEN BONDS BETWEEN PEPTIDE SEQUENCES AND SITES OF PROTEIN BIOMARKERS OF NONCOMMUNICABLE DISEASES

56ASM-0122: Oleg Markelov, Perception of the target signal in conditions of contralateral interference in listeners with normal hearing and sensorineural hearing loss

56ASM-0126: Bulat Mingazov, Assessment of the effect of complete and incomplete spinal cord injury on the mechanical properties of bone tissue

56ASM-0128: Azat Nasretdinov, AN AUTOMATED METHOD FOR ASSESSING BONE STRENGTH BASED ON CT DATA

56ASM-0136: Regina Miftakhova, Single-nucleotide polymorphisms of POLQ rs3218634 and rs532411 may be associated with the risk of luminal breast cancer

56ASM-0123: Markelov Oleg, Approaches to the analysis of objective tinnitus

All these abstracts are from Russian researchers / institutions. It is unclear whether the authors will be allowed to travel/attend the conference. Therefore, we decided to accept them as posters