



UNIVERSITY OF CRAIOVA

“Constantin Belea” Doctoral School
Faculty of Automation, Computers and Electronics

Craiova, Blvd. Decebal no. 107, 200440, <http://www.ace.ucv.ro/>



International Doctoral Workshop on Modelling, Diagnosis and Control of Biosystems – MODICOBIO

24 October 2024

University of Craiova
Craiova, Romania

Chairs:

Costin Bădică

Department of Computers and Information Technology
University of Craiova
Craiova, Romania

Velislava Lyubenova

Institute of Robotics
Bulgarian Academy of Science
Sofia, Bulgaria

Dan Selișteanu

Department of Automatic Control and Electronics
University of Craiova
Craiova, Romania

Aim and scope:

The aim of this workshop is to introduce PhD students and young researchers of the “Constantin Belea” Doctoral School, Faculty of Automation, Computer and Electronics to recent research topics in the main areas of the interdisciplinary field of biosystems. Several types of biosystems will be considered: bioprocesses (biotechnological processes) such as fermentation processes but also biological treatment processes from Wastewater Treatment Plants, biological systems and biomedical systems. Also, several modelling, diagnosis and control techniques will be tackled, including novel bio-inspired and Artificial Intelligence approaches.

The workshop will consist of invited lectures presented by international and national scientists who will introduce their main research areas to the audience, as well as their novel results in the workshop topics. In addition to attending these lectures, PhD students and young researchers will have the opportunity to present their doctoral research and to discuss their topics and ideas with experienced researchers from Romania and from abroad.



ȘCOALA DOCTORALĂ
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Location: University of Craiova
A.I. Cuza 13, Craiova
Room 420

PROGRAM

Thursday 24.10.2024

10:00-11:20

Session 1 – Bioprocesses

Modeling of Alcoholic Batch Fermentation by *Kluyveromyces marxianus*

Anastasiya Zlatkova, Ch. Assist. PhD, Institute of Robotics, Bulgarian Academy of Science, Sofia, Bulgaria

General Dynamical Model Approach for Gluconic Acid Production

Maya Ignatova, Prof. PhD, Institute of Robotics, Bulgarian Academy of Science, Sofia, Bulgaria

Contemporary Methods for Modeling and Adaptive Control of Bioprocesses Embedded in the Software System InSEMCoBio

Velislava Lyubenova, Prof. DSc., Institute of Robotics, Bulgarian Academy of Science, Sofia, Bulgaria

Wastewater Treatment Plants – from Modelling to Control and Real Implementation

Dan Selişteanu, Prof. PhD, Monica Roman, Prof. PhD, Dorin Şendrescu, Prof. PhD, Ion Marian Popescu, Assoc. Prof. PhD

University of Craiova, Craiova, Romania

Thursday 24.10.2024

11:20-11:40

Coffee Break

Thursday 24.10.2024

11:40-13:00

Session 2 – Bio-inspired and Medical Applications

Genetic Algorithms for Mountain Car Problem

Costin Bădică, Prof. PhD, Amelia Bădică, Prof. PhD, University of Craiova, Craiova, Romania

Maria Ganzha, Prof. PhD, Marcin Paprzycki, Prof. PhD, Warsaw University of Technology, Warsaw, Poland

AI as Second Opinion in Medicine – Applications in Liver Diseases

Mădălin Mămuleanu, Assoc. Prof. PhD, University of Craiova, Craiova, Romania

Enes Stastoli, PhD student, University Metropolitan Tirana, Tirana, Albania

Streamlining Radiology Reports Conclusions with Fine-Tuned Llama 3

Ştefan Voinea, PhD student, "Constantin Belea" Doctoral School, University of Craiova, Craiova, Romania

Dan Selişteanu, Prof. PhD, University of Craiova, Craiova, Romania

Region of Interest Detection using AI Techniques and Morphological Operations

Andrei Nascu, PhD student, "Constantin Belea" Doctoral School, University of Craiova, Craiova, Romania

Gabriel Stoian, Assoc. Prof. PhD, Department of Informatics, University of Craiova, Craiova, Romania

Thursday 24.10.2024

13:00-14:00

Round table: Doctoral research and challenges