Press Release

DCPM
Digitalized Clone for Personalized Medicine

EU Research and Innovation Staff Exchange (RISE) Project DCPM presented at the 21st IFAC World Congress

The 21st World Congress of the International Federation of Automatic Control will be held as a virtual event, between the 11th and 17th of July, 2020

Budapest, 18 July 2020 – The partners of the DCPM consortium made more than 20 presentations at the virtual 21st IFAC World Congress, in the topic Quality of Life and Health Care. IFAC World Congress is a leading triennial conference of automation and control engineering with about 3000 papers in more than 250 scientific sessions including dedicated tracks on Modelling and Simulation of Biological and Medical Systems. Due to the actual Covid situation the IFAC World Congress 2020 was held completely virtual. Two special session were organized by the DCPM project participants including close to hundred publications:

- **Control, Mechatronics, and Imaging for Medical Devices and Systems in Medicine,**
- **Physiological Control Systems in Medicine.**

List of selected presentations given by the project participants

Control, Mechatronics, and Imaging for Medical Devices and Systems in Medicine special session:

- **Development of a Discrete Spectrometric NIR Reflectance Glucometer**
- **Pulse Wave Velocity Measurement in the Carotid Artery Using an LED-LED Array Pulse Oximeter**
- **Finite Element Simulation Based Analysis of Valve-Sparing Aortic Root Surgery**

Physiological Control Systems in Medicine special session:

- **Artificial Intelligence Based Insulin Sensitivity Prediction for Personalized Glycaemic Control in Intensive Care**
- **Clinical Application of a Model-Based Cardiac Stroke Volume Estimation Method**
- **Clinical Application Scenarios to Handle Insulin Resistance and High Endogenous Glucose Production for Intensive Care Patients**
- **Comparison between Single Compartment Model and Recruitment Basis Function Model on NICU Patients**
- **Effect of Small Airways and Viscoelasticity on Lung Mechanics from Expiratory Occlusion**
- **Estimating (unidentifiable) Enhanced EGP in Glycaemic Control Modelling: Dancing with Minions of the Dark Lord**
- **Insulin Resistance in ICU Patients: Women Have Stronger Metabolic Response**
- **Minimally Invasive Model Based Stressed Blood Volume As an Index of Fluid Responsiveness**

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- **Non-Invasive Measurement of Tidal Breathing Lung Mechanics Using Expiratory Occlusion**
- **Physiological Sex Differences in Mechanically Ventilated Premature Neonates: A Pilot Study**
- **Using the Adapted Levenberg-Marquardt Method to Determine the Validity of Ignoring Insulin and Glucose Data That Is Affected by Mixing**
- **Virtual Patient Modeling and Prediction Validation for Pressure Controlled Mechanical Ventilation**

Project Key Facts
Full Name: DCPM – Digitalized Clone for Personalized Medicine
Start date: 01 January 2020
Duration: 48 months
Budget: 929.200 €
EU Contribution: 680.800 €
Coordinator: Budapest University of Technology and Economics

Project Partners

Belgium
University of Liége

Germany
Furtwangen University

Hungary
Budapest University of Technology and Economics
University of Szeged
Bekes County Central Hospital
Evopro Innovation Ltd.

New Zealand
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