

# Agenda

Date	Avenue
20,21,22 / 10 / 2022	THE WESTIN HOTEL, IZIDORA KRŠNJAVOGA 1, ZAGREB

## 01 Thursday, October 20, 2022

### 9:00 Registration

**9:30** Mario Novak, Ph.D.: "The use of novel technologies in the research of ancient people and diseases" (Institute for Anthropological Research)

**9:55** Associate Professor Sasha Missoni, Ph.D.: "Management in science" (Institute for Anthropological Research)

**10:30** Assistant Professor Kresimir Krizanovic, Ph.D.: "Diagnostics through genome sequencing, applications in human and veterinary medicine" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**11:00 Opening ceremony** (Petra Bonacic Bartolin, PhD, Prof. Ratko Magjarevic. PhD, Mario Medvedec, PhD.)

**12:00 Lunch (free time)**

## 01 Thursday, October 20, 2022

### Neurosurgical and Neurological Engineering

**13:00** Professor Vladimir Ivkovic PhD, MSc, MSS, ScD hc: "Functional Brain and Physiologic Monitoring: From Extreme Environments to Clinical Applications" (Massachusetts General Hospital & Harvard Medical School)

**13:30** Academician Vida Demarin M.D., Ph.D., FAAN, FAHA, FESO, FEAN, FWSO: "Dopler - the Game changer in Brain's Health" (Croatian Academy of Sciences and Arts)

**14:00** Assistant Professor Vladimira Vuletic, M.D. Ph.D. FEAN: "Technical Improvements Improve Outcomes in Neurodegenerative Diseases" (Head of Clinical Department of Neurology, UHC Rijeka)

**14:30** Assistant Professor Hrvoje Budincevic, M.D. Ph.D., FEAN, FESO: "Brain's Circulation Monitoring in Clinical Practice" (University Hospital Sveti Duh)

**15:00 Coffee break**

### Medical Robotics

**15:15** Professor Darko Chudy, M.D., Ph.D.: "Robotics in cranial neurosurgery" (Clinical Hospital Dubrava)

**15:35** Professor Zdenko Kovacic, Ph.D.: "Robotics in Medicine - Projects of Laboratory for Robotics and Intelligent Control Systems (LARICS)" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**16:00** Assistant Professor Tvrtko Hudolin, M.D., Ph.D.: "Radical prostatectomy from open to robotic" (Department of urology, KBC Zagreb)

**16:30** Assistant Professor Marko Svaco, Ph.D.: "RONNA - Robotic neuronavigation" (University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture)

**16:50** Filip Suligoj, Ph.D.: "Patient localization for minimally invasive robotic interventions" (University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture)

**17:15 - 18:15 Workshop: Application of 3D modeling in human and veterinary medicine**

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## 02 Friday, October 21, 2022

### Tissue and Regenerative Engineering

**09:00** Professor Iva Dekaris, M.D. Ph.D. "Transplantation of in vitro cultured corneal limbal stem cells in corneal combustion" (Svjetlost Eye Clinic)

**09:30** Igor Erjavec, Ph.D.: "Application of osteoinductive agents for bone tissue engineering" (University of Zagreb School of Medicine)

### Pharmaceutical Engineering

**09:50** Visnja Stepanic, Ph.D.: "Technology driven drug discovery" (Rudjer Boskovic Institute)

**10:20** Ljiljana Fruk, Ph.D.: "Bio-nano Tools in Medicine: From in vivo Biosensors to Tissue Engineering" (University of Cambridge)

**11:20** Mario Medvedec, Ph.D.: "Global Clinical Engineering Day - October 21"

### 12:00 Lunch (free time)

### Cardiovascular Engineering

**13:00** Professor Hrvoje Gasparovic, M.D., Ph.D., FETCS "Unmet Challenges in Implantable Mechanical Circulatory Support" (Head of the Department of Cardiac Surgery - KBC Zagreb)

**13:25** Tomislav Tokic, M.D.: "Left Ventricular Assist Devices: a Historical Perspective" (KBC Zagreb)

**13:40** Professor Igor Karsaj, Ph.D.: "The role of numerical models in vascular diseases treatment" (University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture)

### Orthopedic Engineering

**14:00** Professor Michael Sutcliffe, Ph.D.: "Biomechanics approach to optimising medial opening wedge high tibial osteotomy", (University of Cambridge)

**14:25** Petra Bonacic Bartolin, Ph.D.: "Repair and reconstruction techniques of ligaments of the knee joint" (Imperial College London)

**14:40** Hrvoje Klobucar, M.D., Ph.D. "Tendon-bone junction - pathology and treatment options" (Acromion -Special hospital for orthopedics and traumatology)

**15:00** Professor Mario Kasovic, Ph.D.: "Modern biomechanical technologies in gait analysis" (University of Zagreb, Faculty of Kinesiology)

### 15:15 Coffee break

### Diagnostic Engineering

**15:30** Assistant Professor Jelena Bozek, Ph.D. "Medical image analysis of the brain: from newborns to adulthood" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**15:40** Petra Margetic, M.D., Ph.D. "The role of modern digital technology in diagnostic imaging" (Sisters of Charity Hospital)

**15:47** Asst. Prof. Severino Krizmanic: High wall shear stress and its gradient indicates intimal hyperplasia in vascular bypass graft end-to-side distal anastomosis (University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture)

### Biomedical Instruments

**16:05** Associate Professor Zeljka Lucev Vasic, Ph.D. "Intrabody communication in biotelemetry" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**16:20** Professor Ratko Magjarevic, Ph.D.: "Wearables and Big Data - challenges and perspectives" (University of Zagreb, Faculty of Electrical Engineering and Computing)

### Health Informatics

**16:35** Associate Professor Alan Jovic, Ph.D.: "Development of a Web-Based Platform for Biomedical Time Series Analysis - Best Practices and Challenges" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**17:00 - 18:00 Workshop: Telemedicine and telehealth**

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## 02 Friday, October 21, 2022

### Veterinary Engineering

**16:45** Professor Matthew J Allen, MA VetMB PhD FORS MRCVS: "Surgical Navigation and Robotics in Veterinary Medicine" (University of Cambridge)

**17:00** Dr. Kirsten Häusler, PHD, CCRP: "Application of technology in animal rehabilitation" (Praxis Dr. Kirsten Häusler)

**17:15** Bill Oxley MA VetMB DSAS(Orth) MRCVS RCVS "3D printing in veterinary medicine" (Founder of Vet3D)

**17:30** Professor Christopher James, B.Elec.Eng.(Hons), PhD, FIET, SMIEEE, FEAMBES "Behaviour monitoring for well being" (Director of Biomedical Engineering Institute, University of Warwick)

**18:00 - 18:30 Workshop: Patent protection strategies in medicine**

## 03 Saturday, October 22, 2022

### Rehabilitation Engineering

**09:00** Lana Popovic -Maneski, Ph.D.; "Functional electrical stimulation in rehabilitation engineering" (Institute of Technical Sciences)

### Medical Biochemistry Engineering

**09:15** Ivana Popovic: "Application of robots in the rehabilitation process" (Polyclinic Glavic)

**09:25** Ana Kozmar, Ph.D.: "The clinical laboratory's use of automation and its potential" (KBC zagreb)

### Scientific works of researchers

**9:45** Claudia Zindl, Zachary Baum, Matthew Allen: "Implantation of Press-Fit Acetabular Cups for Canine Total Hip Replacement: Comparison of a Navigated to the Free-Hand Technique" (Surgical Discovery Centre)

**9:52** Vedran Srhoj-Egekher, Mario Cifrek, Stanislav Peharec: "Low-back pain patients classification based on sEMG activation patterns detection" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**9:59** Vjekoslav Kopacin: "Virtual surgery and 3D printing in craniofacial surgery - our experience at UHC Osijek using newly developed open-source Add-On" (UHC Osijek)

**10:06** Dora Machaček, Ivan-Conrado Šoštarić-Zuckermann: "Automatic objective magnification detection in brightfield microscopy by use of neural network" (University of Zagreb, Veterinary Faculty)

**10:13** Slaven Lasic, Filip Djerke, Silvio Basic: "Brain Computer Interface in Neurology: The future of neurorestoration, the possibilities and perils. A narrative review" (Department of Neurology)

**10:20** Marina Prisljin, Dunja Vlahovic, Ivana Ljolje, Petar Kostesic, Nenad Turk, Simun Naletilic, Dragan Brnic, Nina Kresic: "Influence of in vitro cultivation on differentiation genes expression in canine adipose-derived mesenchymal stem cells" (Virology Department, Croatian Veterinary Institute, Zagreb, Croatia)

**10:27** Luka Klaić, Ivana Culjak, Antonio Stanesic, Ivan Vrhoci, Patrik Sajinović, Mario Cifrek, Hrvoje Dzapo: "Wireless Device for Biomedical Signal Acquisition with Dry Electrodes on an e-Bike" (University of Zagreb, Faculty of Electrical Engineering and Computing)

**10:34** Rachel Boixadera: "Development of technically advanced solutions in medicine through the application of business models" (University of Cambridge)

**10:45** Prof. Martha Zequera Díaz, Ph.D.: "Health care systems for Diabetes and Diabetic foot complications" (Pontificia Universidad Javeriana)

**10:55** Matea Kos: "Molecular testing of EGFR mutations in histological and cytological samples"

11:15 Closing ceremony

10:55 - 11:15 Separate Panel: Women in science

10:55 - 11:15 Separate panel: Mental health during Ph.D. studies