

# INTERNATIONAL WORKSHOP OF MATERIALS PHYSICS

## „*Materials and structures for bio-applications*”

### MEETING PROGRAM

– Monday, 21<sup>st</sup> of September –

- **10:00\*–10:20:** ZOOM video conferencing preparation.
- **10:20–10:30:** Short overview of the mission and scope of the National Institute of Materials Physics – Romania, General Director Dr. Ionuț Enculescu

#### Session 1<sup>\*\*</sup> : Biofunctional materials and testing

- **10:30–10:55:** “*The benefits of well-balanced alkali-free phosphosilicate bioactive glass compositions for bone regeneration*”  
Presents: José Maria da Fonte Ferreira, Department of Materials and Ceramic Engineering, University of Aveiro, Portugal
- **10:55–11:00:** Q & A session
- **11:00–11:25:** “*Cell-based approaches in bone regeneration*”  
Presents: Jeroen van den Beucken, Radboud University Nijmegen Medical Center, Netherlands
- **11:25–11:30:** Q & A session
- **11:30–11:55:** “*3D printing of hydroxyapatite/PEEK composites for orthopaedic applications*”  
Presents: Adrian R. Boyd, Nanotechnology and Integrated Bioengineering Centre, School of Engineering, Ulster University, UK
- **11:55–12:00:** Q & A session
- **12:00–12:25:** “*Ionized Jet Deposition of nanostructured thin films onto metallic and polymeric biomedical devices*”  
Presents: Gabriela Graziani, IRCSS Istituto Ortopedico Rizzoli, NanoBiotechnology Laboratory, Bologna, Italy  
Co-authors: S. Farè<sup>2</sup>, C. Gualandi<sup>3</sup>, M. Boi<sup>1</sup>, M.L. Focarete<sup>3</sup>, G. Pagnotta<sup>3</sup>, M. Bianchi<sup>4</sup>, N. Baldini<sup>1,6,7</sup>

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- **12:25–12:30: Q & A session**

- **12:30–12:55: “Bioassays in evaluation of biocompatibility, cytotoxicity and efficacy of biomaterials”**

Presents: Radu Albulescu, National Institute for Chemical Pharmaceutical Research and Development, Bucharest, Romania & “Victor Babeş” National Institute for Research and Development in Pathology and Biomedical Sciences, Bucharest, Romania

Co-authors: A.C. Popa<sup>1</sup>, A.M. Enciu<sup>2</sup>, L. Albulescu<sup>2</sup>, E. Codrici<sup>2</sup>, D. Popescu<sup>2</sup>, S. Mihai<sup>2</sup>, M. Dudau<sup>2</sup>, R. Iukse<sup>3</sup>, G. Neagu<sup>3</sup>, A. Albulescu<sup>3,4</sup>, C. Tanase<sup>2,5</sup>, G. Manda<sup>2</sup>, G.E. Stan<sup>1</sup>, M. Hinescu<sup>2</sup>

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<sup>5</sup>Titu Maiorescu University, Bucharest, Romania

- **12:55–13:00: Q & A session**

- **13:00–13:25: “Magnetron sputtered bioactive glass implant-type coatings: the road so far and the road ahead”**

Presents: George E. Stan, National Institute of Materials Physics, Măgurele, Romania

Co-authors: A.C. Popa<sup>1</sup>, C. Tanase<sup>3</sup>, H.R. Fernandes<sup>4</sup>, J.M.F. Ferreira<sup>4</sup>

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- **13:25–13:30: Q & A session**

- **13:30–14:30: Lunch break**

## **Session 2\*\* : Bio-devices and their application**

- **14:30–14:55: “Glass microfluidic lab-on-chip devices by ultrafast laser processing”**

Presents: Felix Sima, Centre for Advanced Laser Technologies (CETAL), National Institute for Laser, Plasma and Radiation Physics (INFLPR), Măgurele, Romania

Co-authors: F. Jipa<sup>1</sup>, C. Butnaru<sup>1</sup>, S. Orobeti<sup>1</sup>, E. Axente<sup>1</sup>, H. Kawano<sup>2</sup>, A. Miyawaki<sup>2</sup>, K. Obata<sup>3</sup>, D. Serien<sup>3</sup>, Koji Sugioka<sup>3</sup>

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- **14:55–15:00: Q & A session**
  
- **15:00–15:25: “Are nanomaterials important building blocks in advanced sensing systems?”**  
**Presents:** Cecilia Cristea, “Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania  
**Co-authors:** O. Hosu, A. Cernat, M. Tertis, A. Florea, B. Feier  
<sup>1</sup> “Iuliu Hațieganu” University of Medicine and Pharmacy, Cluj-Napoca, Romania
  
- **15:25–15:30: Q & A session**
  
- **15:30–15:55: “Electrochemical materials for sensing biomolecules”**  
**Presents:** Ana Maria Oliveira Brett, Faculty of Science and Technology, Department of Chemistry, University of Coimbra, Portugal  
**Co-authors:** V. Diculescu, T.A. Enache, A.M. Chiorcea-Paquim,  
<sup>1</sup> Faculty of Science and Technology, Department of Chemistry, University of Coimbra, Portugal
  
- **15:55–16:00: Q & A session**
  
- **16:00–16:25 “Deep eutectic solvents: green media for formation of electroactive polymer materials”**  
**Presents:** Christopher M.A. Brett, Faculty of Science and Technology, Department of Chemistry, University of Coimbra, Portugal  
**Co-authors:** W. da Silva, M.M. Barsan, M.E. Ghica  
<sup>1</sup> Faculty of Science and Technology, Department of Chemistry, University of Coimbra, Portugal
  
- **16:25–16:30: Q & A session**
  
- **16:30–16:55 “Newly synthesized micro- and nano- materials for electroanalysis”**  
**Presents:** Madalina M. Barsan, Laboratory of Multifunctional Materials and Structures, National Institute of Materials Physics, Măgurele, Romania.  
**Co-authors:** V.C. Diculescu, I. Enculescu, A. Evanghelidis, E. Matei, M. Enculescu, A. Aldea, R.J. Branco Leote, G.E. Stan, N. Apostol  
<sup>1</sup> National Institute of Materials Physics, Măgurele, Romania
  
- **16:55–17:00: Q & A session**
  
- **17:00–17:15: Conclusions and closing remarks.**

*\*Romanian Time Zone = Eastern European Summer Time = Central European Time +1*

*\*\*Narrated Power point presentations*