

# The 3<sup>rd</sup> ICYS & MANA Reunion Workshop

March 4<sup>th</sup> - 5<sup>th</sup>, 2021

Live Venue: Auditorium, WPI-MANA bld. Namiki, NIMS, Tsukuba

## March 4<sup>th</sup>, 2021

15:30 - Open

### Opening

Chair: Tomo NAKAYAMA

15:45 Greetings Takayoshi SASAKI (Director, MANA, NIMS)  
Koichi TSUCHIYA (Managing Director, ICYS, NIMS)  
Introduction Tomo NAKAYAMA (Deputy Director, MANA, NIMS)

Chair: Koichi TSUCHIYA

### Plenary Talk 1

16:00 - 16:30 *From 1D to 2D Atomically-Precise Graphene Nanoarchitectonics*  
Cesar MORENO (Senior Researcher, Catalan Institute of Nanoscience and Nanotechnology, Spain)

### Session 1:

16:30 - 16:45 *Nanorobots and Microrobots: Machines squeezed between the viruses and cells*  
Martin PUMERA (Professor, University of Chemistry and Technology, Prague, Czech Republic)

16:45 - 17:00 *Functional Quasicrystals? - Harnessing the Complexity of Aperiodic Intermetallic Compounds*  
Cesar Pay GOMEZ (Associate Professor, Uppsala University, Sweden)

17:00 - 17:15 *Transparent Nanocomposite Materials*  
Ilyya SYCHUGOV (Associate Professor, KTH Royal Institute of Technology, Sweden)

17:15 - 17:30 *Proton-Conducting Solid Oxide Cells*  
Lei BI (Professor, University of South China, China)

### 5min Break

17:35 - 17:50 *Polyelectrolytes: from Complexation to Functional Materials*  
Gauthier RYDZEK (Associate Professor, University of Montpellier, France)

17:50 - 18:05 *Exploring Iron Carbide on the Nanoscale*  
Zoe SCHNEPP (Senior Lecturer, University of Birmingham, UK)

18:05 - 18:20 *Leveraging Mechanosensing to Counteract Disease*  
Giancarlo FORTE (Vice Chair, St. Ann's University Hospital Brno, Czech Republic)

- 18:20 - 18:35 *Enhancing Strength of Light Alloys Through Precipitation Hardening*  
Chamini Lakshi MENDIS (Head of Academic Affairs, Brunel University London, UK)
- 18:35 - 18:50 *BioEngineering Hybrid Robots from Nanobots to 3D BioBots*  
Samuel SANCHEZ ORDONEZ (Group Leader, Professor. Institute for Bioengineering of Catalonia, Spain)

## March 5<sup>th</sup>, 2021

### Plenary Talk 2

Chair: Tomo NAKAYAMA

- 9:00 - 9:30 *Exploiting the Rotational Flexibility of Extended Benzoate Ligands to Form Highly Augmented MOFs and Cages – Metallo-supramolecular Systems for Water Oxidation Catalysis*  
Wolfgang SCHMITT (Professor. Trinity College Dublin, Ireland)

### Session 2:

- 9:30 - 9:45 *Topological States of 2D SSH Model and Photonics Extension*  
Katsunori WAKABAYASHI (Professor, Kwansai Gakuin University, Japan)
- 9:45 - 10:00 *On the Design of Lithium Oxides for Solid State Batteries*  
Jennifer RUPP (Thomas Lord Associate Professor, MIT, USA)
- 10:00 - 10:15 *Cathodoluminescence Study of Mg Activation and Diffusion in GaN*  
Jun CHEN (Scientist, RCFM, NIMS)

### 5min Break

- 10:20 - 10:35 *Designing Functional Shape Memory Polymers for Biomedical Applications*  
Koichiro UTO (Independent Scientist, RCFM, NIMS)
- 10:35 - 10:50 *First-Principles Study on the Origin of Stability in Mg-Zn-Y Alloy with Long-Period Stacking Order*  
Takao TSUMURAYA (Assistant Professor, Kumamoto University, Japan)
- 10:50 - 11:05 *Functionalized Nanoporous Materials for Energy and Environmental Applications*  
Ajayan VINU (Professor, The University of Newcastle, Australia)

### Closing

- 11:05 - *Closing* Tomo NAKAYAMA (Deputy Director, MANA, NIMS)

**Workshop Videos will be disclosed until March 7<sup>th</sup>, 2021.**