

## **A message from the President of the University of Toyama**

On behalf of the University of Toyama, let me extend my greetings to you all who is participating in the Forum of Center for Advanced Materials Research and International Collaboration.

This is the 6<sup>th</sup> time having this Forum. Our objective is to become a core of the material engineering research as an important research area of our university based on the research of aluminum alloy. And thanks to the cooperation of the research institutes and industries in Japan and overseas, we have reached our sixth year. Furthermore, I extend my sincere congratulations that the Advanced Aluminum International Research Center became the center which is attached directly to the university from this year.

I am hoping that such effort of material engineering that supports our social infrastructure will develop into our future in the field such as the next-generation automobiles and space development.

Finally, I would like to thank everyone, especially the companies for their valuable contributions to have this Forum.

September, 2020

***Prof. Saito Shigeru***

President of University of Toyama



## **A message from the Executive Vice-President for Research**

Thank you to everyone for participating in the 6th Forum of Center for Advanced Materials Research and International Collaboration.

The University of Toyama established the Advanced Aluminum International Research Center in April 2020. We are very pleased to announce that this Forum will be the first time it is hosted by this Center. As well as research activities focusing on aluminum alloy, which is a major industry in Toyama Prefecture, as one of the centers that promotes science and technology at the University of Toyama, we expect great progress toward the world.

Now, I would like to bring my message to a close, requesting for your further assistance and cooperation.

September 2020



***Prof. Kitajima Isao***

Executive Vice-President for Research  
Director, Organization for Promotion  
of Research  
University of Toyama

## **A message from the Dean of the School of Sustainable Design**

On behalf of the School of Sustainable Design, I would like to express my gratitude to everyone for their cooperation regarding the implementation of the 6th Forum of Center for Advanced Materials Research and International Collaboration.

The Advanced Aluminum International Research Center was founded in June 2016 as the center attached to the School of Engineering and became the center attached to the School of Sustainable Design in July 2018. And it became Advanced Aluminum International Research Center (ARC-CAMRIC) attached directly to the University in April 2020.

Focusing on researching aluminum, magnesium and other high-performance hybrid materials as next-generation lightweight materials which are necessary for creating safe and secure cities, we will exchange the results of actual industry-academic collaborative research from both industrial and academia aspects throughout the world in this Forum while the Department of the Materials Design and Engineering of the School of Sustainable Design plays the leading role, hoping that this Forum provides opportunities to create a brilliant future.

September, 2020

***Prof. Watanabe Tohru***

Dean, School of Sustainable Design

University of Toyama



## **A message from the Director of ARC-CAMRIC**

It is a great pleasure to have the 6th ARC-CAMRIC Forum online by Advanced Aluminum International Research Center of the University of Toyama.

I could not expect to reach today 6 years ago, but I strongly believed that we would continue to conduct research on aluminum alloys, light metals and surrounding technologies in this Center. As a result, we published more than 250 scientific papers, done 110 cooperative research with industries and received 50 foundations during 5 years. I sincerely thank everyone in the departments, the schools in the University of Toyama and other universities, research institutes and students, especially the industries for their support and cooperation. We also have successfully established global educational course for master/PhD course students in Materials Functional Engineering Course in the Graduate School of the University of Toyama. Now we have new relationships with Polytechnic University of Turin in Italy and Magnesium Research Center of Kumamoto University in Japan. And I hope this will lead to the establishment of a new research core of light materials in the near the future.

Once again, thank you so much for all your support.

September 2020

**Prof. Matsuda Kenji**

Director, Advanced Aluminum International  
Research Center  
University of Toyama



# 6th Forum of Center for Advanced Materials Research and International Collaboration **online** (CAMRIC-FORUM6), University of TOYAMA (20th Light Metals International Workshop By JILM)

28 September – 8 October, 2020



The 6th Forum of Center for Advanced Materials Research and International Collaboration, University of Toyama will be held on 28 September-8 October, 2020.

This forum will be focused on the future innovation for industrial products of light weight materials, especially aluminum and magnesium alloys, and other materials including energy and hybrid composites for the next generation.

**Admission  
Free**

## Programme

28 September, 2020

- 11:20-12:00 1-1 "Potassium Prussian blue-coated Li-rich cathode with enhanced lithium ion storage property"  
**Prof. Dr. Guanghui Min**, Shandong University, China
- 15:35-16:15 1-2 "Influence of strengthening phases on the microstructures and mechanical properties of Aluminium-Copper alloys for shaft-liner application"  
**Prof. Pham Mai Khanh**, Hanoi University of Science and Technology, Viet Nam
- 16:30-17:10 1-3 "Ultrafine grained aluminium plates with low anisotropy and capabilities to deep drawing"  
**Prof. Dr. Małgorzata Lewandowska**, Warsaw university of Technology, Poland

29 September, 2020

- 13:50-14:30 2-1 "Effect of sintering parameters on mechanical properties of FeMn13-TiC Composite fabricated by spark plasma sintering"  
Lecturer, **Dr. Dang Quoc Khanh**, Hanoi University of Science and Technology, Viet Nam
- 14:45-15:25 2-2 "The effect of deformation on the microstructure in Al-Mg-Si(-Cu) alloys"  
Senior Scientist, **Dr. Calin D. Marioara**, SINTEF, Norway

30 September, 2020

- 09:35-10:15 3-1 "How microstructural characteristics influences fcc structural metals' plastic deformation mechanisms"  
**Prof. Dr. Mitsuhiro Murayama**, Virginia Tech, U.S.A.
- 10:30-11:10 3-2 "Cementitious materials and zeolites for heavy metal and dye waste removals"  
Dept Chair, **Assist. Prof. Dr. Kedsarin Pimraksa**, Chiang Mai University, Thailand
- 14:45-15:25 3-3 "Resistance of non-equimolar CoCrFeNi-based high entropy alloys against high-temperature oxidation"  
**Dr. Richard Gawel**, AGH University of Science and Technology, Poland

1 October, 2020

- 09:35-10:15 4-1 "Precipitate Nucleation During Three Phase Solid-Solid Transformations"  
**Prof. Dr. Gary J. Shiflet**, University of Virginia, U.S.A.
- 15:35-16:15 4-2 "A Study on Occupation Sites in  $M_6C$  Carbide in High Chromium Cast Iron Using Statistical Beam-Rocking TEM-EDS Analysis"  
**Prof. Dr. Torranin Chairuangsi**, Chiang Mai University, Thailand
- 16:30-17:10 4-3 "Evaluation of Cryo-treatment on Additive Manufactured Austenitic Stainless Steels"  
**Assoc. Prof. Dr. Róbert Bidulský**, Košice Self-Governig Region,  
Authorised representative for innovation and technological transfer  
Responsible person for European Powder Metallurgy R&D Center, Slovakia

2 October, 2020

14:45-15:25 5-1 "Contamination suppression for ultra-low energy electron microscopy"  
Director of ISI Brno, **Dr. Ilona Müllerová**, Czech Academy of Sciences, Czech Republic

5 October, 2020

15:35-16:15 6-1 "Solidified structure and precipitation behaviors in rapidly solidified Al-Hf alloys"  
**Prof. Emer., Dr., Norio Furushiro**, Osaka University, Senior Advisor, School of Sustainable Design and School of Engineering, University of Toyama, Japan

6 October, 2020

11:20-12:00 7-1 "Welding of lean duplex/austenitic stainless steels by flux-cored arc welding"  
**Assoc. Prof. Dr. Chaiyasit Banjongprasert**, Chiang Mai University, Thailand

13:50-14:30 7-2 "Developing high-strength and high-electrical conductivity aluminum alloys containing iron"  
Specially appointed Prof., **Dr. Zenji Horita**, Kyushu Institute of Technology, Senior Advisor, School of Sustainable Design and School of Engineering, University of Toyama, Japan

14:45-15:25 7-3 "Tracking the growth and transformation of Al-Mg-Si-Cu precipitates by in situ heating TEM"  
Director, Prof. **Dr. Randi Holmestad**, Norwegian University of Science and Technology, Norway

7 October, 2020

09:35-10:15 8-1 "Extrusion and cast aluminium alloys for automotive structural applications - Alloy development in Hydro Aluminium"

Customer Technical Support Engineer, **Dr. Takeshi Saito**, Hydro Aluminium Asia Pte Ltd, Singapore

13:50-14:30 8-2 "Evolution of electron microscopy IV –Recent progress of materials development –"  
**Prof. Emer., Dr., Makoto Shiojiri**, Kyoto Inst. Tech., Senior Advisor, School of Sustainable Design and School of Engineering, University of Toyama, Japan

14:45-15:25 8-3 "An experimental and modelling study of the PLC effect in an AlMg-alloy"  
**Prof. Dr. Knut Marthinsen**, Norwegian University of Science and Technology, Norway

8 October, 2020

11:20-12:00 9-1 "Wire and arc additive manufacturing based on twin wire indirect arc"

**Dr. Dongting Wu**, Shandong University, P.R.China

14:45-15:25 9-2 "Synthesis, structural and microstructural characterization of high-entropy oxides from Co-Cr-Fe-Mg-Mn-Ni-O and Co-Cr-Fe-Mg-Mn-Zn-O systems"  
**Assist. Prof. Dr. Mirosław Stygar**, AGH University of Science and Technology, Poland

\*This Forum is an online format using [the Zoom system](#). Participation is for free.

\*If you would like to listen to the presentations of this Forum, please contact the office below by **24 September**, indicating the affiliations and names of all the participants. We will return to you with the Zoom URL, and/or ID and password.

\*The presentations are in English. There is no simultaneous interpretation. Please note that we are not responsible for any instability of the connection status and internet security during the Forum.

\* Due to the time difference, there is a large time between presentations. Please confirm the time of the presentation you would like to listen to. Also, the speaker or the contents of the presentations may change without notice.

Contact Us:

Center for Advanced Aluminum Materials Research and International Collaboration  
(ARC-CAMRIC)

Organization for Promotion of Research, University of Toyama,  
3190, Gofuku, Toyama, 930-8555, JAPAN

Phone&FAX: +81-76-445-6249 e-mail: [camric@sus.u-toyam.ac.jp](mailto:camric@sus.u-toyam.ac.jp) (Mitsui (Ms.))