



## The 19<sup>th</sup> International Conference on Aluminum Alloys

23-27 June 2024,

Atlanta, GA, USA

<https://icaa19.org/>

### Program Schedule

Corporate Sponsors:



**RioTinto**



*Scepter*

**Novelis**



**ThermoFisher**  
SCIENTIFIC

*Ball*

**Reynolds**®



**PRECISION STRIP**  
*a Toll Processor of Metals*

THE  
**Coca-Cola**  
COMPANY

Day 1, Jun 23, 2024

---

02:00PM -

05:00PM

*Pre-Registration/ Reception*

Lobby/Reception

Area (2nd Floor)

08:00AM - **Opening Ceremony**

08:15AM Moderators

**GLC 236**

Richard Hamerton, Novelis

Naresh Thadhani, Georgia Tech

Additional room (GLC 222) will be set up to view this presentation virtually.

---

08:20AM - **Keynote Speaker - Charles “Chuck” Johnson President and CEO**  
09:00AM **Aluminum Association**

**GLC 236**

Moderators

Tina Kosmicki, Novelis

**Title: U.S. Aluminum in a Time of Transition**

As president and CEO of the Aluminum Association, Charles "Chuck" Johnson serves as the chief advocate for the full aluminum value chain in the United States, which supports hundreds of thousands of American workers. The association's 120+ members make 70 percent of the aluminum and aluminum products shipped in North America.

Prior to joining the association in 2022, Charles served as the President of the International Safety Equipment Association (ISEA), the trade organization for personal protective equipment and technologies. During his tenure, he modernized ISEA's operations and spearheaded the passage of key liability legislation for safety equipment manufacturers. Notably, Charles led the ISEA as the industry was at the forefront of the COVID-19 pandemic response. He previously served as the vice president of policy for the Aluminum Association, acting as strategic advisor to the industry and advancing the aluminum industry's interests in Washington D.C. and abroad. His responsibilities included federal affairs, environmental regulation, occupational health and safety, community and consumer protection, international regulation and sustainability.

Charles has 18 years of aluminum industry experience, during which he represented the U.S. industry in international corporate stewardship deliberations, diverse standards setting forums and at the WHO/FAO.

---

09:00AM -

09:20AM

***Break - 20 mins***

**Reception/Break**

**Area (3rd Floor)**

---

09:20AM -  
11:50AM  
**GLC 225**

## **Corrosion, Surface Treatments and Environmentally Sensitive Fracture**

Moderators

Mary Lim, Novelis

Preet Singh, Georgia Tech

### **How solute atoms control aqueous corrosion of Al-alloys**

09:20AM - 09:45AM

Presented by:

Huan Zhao, Xi'an Jiaotong University

### **Optimizing Corrosion Performance of Additively Manufactured 7050-based High Strength Aluminum Alloy**

09:45AM - 10:10AM

Presented by:

Rupesh Rajendran, Georgia Tech

### **Machine Learning Driven Corrosion Resistant AA6XXX Alloy Design**

10:10AM - 10:35AM

Presented by:

Shanshan Wang, Senior Scientist, Novelis Inc

### **Filiform Corrosion Behavior of Painted AA7075 sheet**

10:35AM - 11:00AM

Presented by:

Xiaorong Zhou, Professor , The University Of Manchester

### **Effect of Copper in Aluminum Alloy and in Pre-treatment Solution on the Filiform Corrosion**

11:00AM - 11:25AM

Presented by:

Jichao Li, Surface Treatment And Corrosion, Constellium

### **Effect of wire drawing and heat treatment on the exfoliation corrosion mechanism of Al-Zn-Mg-Zr-V wires**

11:25AM - 11:50AM

Presented by:

Christoph Altenbach, Postdoctoral Researcher, German Aerospace Center, Institute Of Materials Physics In Space

---

09:20AM -  
03:45PM  
GLC 233

## **New directions in alloy and process design (Including Artificial Intelligence and Machine Learning)**

Moderators

Fatih Sen, Novelis

Surya Kalidindi, Georgia Tech

## **Accelerated development of materials using high-throughput strategies and AI/ML**

09:20AM - 09:45AM

Presented by:

Surya Kalidindi, Georgia Tech

## **Predicting plastic anisotropy of aluminum using Material Data Driven Design (MAD3) software**

09:45AM - 10:10AM

Presented by:

David Montes De Oca Zapiain, Sandia National Laboratories

## **Co-precipitation High-Strength Al-Mg-Si-Cu-Zn Alloy Design**

10:10AM - 10:35AM

Presented by:

Fan Meng, Scientist, Novelis

## **Microstructure, elevated-temperature properties, and simulation of Al-based entropy alloys**

10:35AM - 11:00AM

Presented by:

X. Grant Chen, Research Chair, University Of Quebec At Chicoutimi

## **Preparation of Alumina Particle Dispersed Aluminum Composites by Accumulating Roll Bonding Method**

11:00AM - 11:25AM

Presented by:

Gen Sasaki, Professor, Hiroshima University

## **Towards hybrid modeling of extrusion-based aluminum value chains**

11:25AM - 11:50AM

Presented by:

Christian Dalheim Øien, PhD Student, Norwegian University Of Science And Technology

**In situ conductometry during homogenization of Al-Mg-Si alloys for machine learning-based prediction of the final grain structure of extruded profiles**

01:20PM - 01:45PM

Presented by:

Johannes Österreicher, Senior Scientist, Austrian Institute Of Technology

**Data Transformation and Feature Extraction for the analysis of variables influencing the quality of aluminum ingots**

01:45PM - 02:10PM

Presented by:

Manuela Schreyer, Data Analyst, AMAG Austria GmbH

**Advanced Data Engineering for a cold rolling mill to enable Machine Learning and Data Analysis**

02:10PM - 02:35PM

Presented by:

Alexander Haidenthaler, Data Engineer, Austria Metall GmbH

**Data Driven Methods in Dimensionally Challenging Settings with an Example of Process Influence on Material Quality**

02:55PM - 03:20PM

Presented by:

Patrick Pfeiffer, Data Scientist, Austria Metall GmbH

**Delta Machine Learning for Improved Extrapolation**

03:20PM - 03:45PM

Presented by:

Adam Birchall, PhD Researcher, Brunel University London

---

09:20AM -

04:35PM

GLC 222

## **Modelling and Simulations (process and products)**

Moderators

Chal Park, Novelis

Warren J. Poole, Full Professor, The University Of British Columbia

### **Development of Integrated Computational Materials Engineering (ICME) Framework to Predict Mechanical Properties of AlSi7MgMn in a Structural Component Manufactured with High-Pressure Die Casting (HPDC)**

09:20AM - 09:45AM

Presented by:

Yang Li, Research Scientist, Ford Motor Company

### **Multi-scale Simulation of Formation of Si-Dominated Precipitates in Heat-treated HPDC AlSi7MgMn Alloys**

09:45AM - 10:10AM

Presented by:

Miao He, Postdoc, University Of Michigan

### **Modelling the atom clustering kinetics under the influence of excess vacancies during natural ageing in 6xxx alloys**

10:10AM - 10:35AM

Presented by:

Xuezhou Wang, PhD Candidate, Norwegian University Of Science And Technology

### **Effects of Mg/Si ratio on clustering behavior using Monte-Carlo simulation in Al-Mg-Si alloys**

10:35AM - 11:00AM

Presented by:

JiWook Park, Korea Institute Of Industrial Technology

### **CFD Modelling of Liquid Metal Flow Through Tundish and Nose-tip Assembly for Continuous Belt Caster**

11:00AM - 11:25AM

Presented by:

Shahin Ahmad, Senior Scientist, Aditya Birla Science & Technology Co. Pvt. Ltd.

### **Die filling studies and development of Two-wheeler Brake Discs out of novel Al-15Mg2Si- 4.5Si composite**

11:25AM - 11:50AM

Presented by:

Prosenjit Das, Assistant Professor , Indian Institute Of Science Bangalore

### **On the Effect of Flow on Dendritic Solidification in 7xxx Al alloys**

01:20PM - 01:45PM

Presented by:

Thomas Flint, Lecturer, The University Of Manchester

### **Temperature-Dependent Yield Strength of Particle-Containing Aluminum Alloys**

01:45PM - 02:10PM

Presented by:

Olaf Engler, Senior Scientist, Speira Research And Development

### **Strengthening effect of single GP-zone and $\theta'$ plate in Al-Cu alloys**

02:10PM - 02:35PM

Presented by:

Haiwei Zheng, PhD Candidate, Tokyo Institute Of Technology

### **Physics-based modelling of precipitation in multi-component aluminum alloys: consideration of natural ageing**

02:55PM - 03:20PM

Presented by:

Somayeh Gharavian, Doctoral Researcher, Brunel University London

### **A robust dislocation line tension model considering obstacle strength distribution for yield strength prediction of an Al-Cu-Li alloy**

03:20PM - 03:45PM

Presented by:

Purnima Bharti, Research Scholar, Indian Institute Of Technology Roorkee, India

### **Heterogeneous dispersoid distribution in AA6082: simulation and experimental insights**

03:45PM - 04:10PM

Presented by:

Nicolás García Arango

### **A new transformation path for the L12- Al<sub>3</sub>Zr dispersoid, triggered by Cu ternary alloying**

04:10PM - 04:35PM

Presented by:

Flemming Ehlers, Associate Professor, Key Laboratory Of Light-weight Materials, Nanjing Tech University

---



09:20AM -

05:25PM

**GLC 236**

## **Microstructure Design; Alloying and Heat Treatments**

Moderators

Daehoon Kang, Principal Scientist, Novelis Inc.

Kwangjun Euh

Young-Hee Cho, Principal Researcher, Korea Institute Of Materials Science

### **Suppressing effect of Al<sub>3</sub>(Sc,Zr) dispersoids on PLC behavior in AlMgScZr alloy**

09:20AM - 09:45AM

Presented by:

Youcai Qiu, PHD Student, Chongqing University

### **Cluster strengthening of aluminium alloys**

09:45AM - 10:10AM

Presented by:

Christopher Hutchinson, Monash University

### **Precipitation behavior of Al-7Si-0.35Mg casting alloy during T5 heat treatment**

10:10AM - 10:35AM

Presented by:

Young-Hee Cho, Principal Researcher, Korea Institute Of Materials Science

### **Effect of quenching rate on microstructure formation in Al-Zn-Mg alloy sheets**

10:35AM - 11:00AM

Presented by:

Yuki Aisu, Japan / UACJ Corporation

### **Creep aging behavior of aluminum alloys EN AW 2024 and EN AW 7075**

11:00AM - 11:25AM

Presented by:

Hannes Fröck, Head Of Laboratory Competence Center °Calor, University Of Rostock / Materials Science

### **Influence of a pre-aging treatment on the material properties and the subsequent heat treatment in 6xxx series aluminium alloys**

11:25AM - 11:50AM

Presented by:

Patrick Ortner, Phd Student, Friedrich-Alexander-Universität Erlangen-Nürnberg

## **Effect of Ag and Zn on Ultra-high Strength Al-Li Alloy**

01:20PM - 01:45PM

Presented by:

Yuxing Tian, Senior Engineer, Chinalco Materials Application Research Institute

## **Cluster hardening in Al-Mg-Zn-(Cu) crossover alloys**

01:45PM - 02:10PM

Presented by:

Philip Aster, Montanuniversitaet Leoben

## **External stress on the precipitation and properties in an Al-Zn-Mg alloy**

02:10PM - 02:35PM

Presented by:

Duo Zhang, Assistant Research Fellow, Institute Of Metal Research, Chinese Academy Of Sciences

Haichang Jiang, Professor, Institute Of Metal Research, Chinese Academy Of Sciences

Lijian Rong

## **The Application Cases of the CALPHAD Approach in Aluminum Alloys**

02:55PM - 03:20PM

Presented by:

Song-Mao Liang, Materials Scientist, Computherm LLC

## **Influence of Ag on microstructure and mechanical properties of as-cast Al-33Zn-2Cu high-zinc aluminum alloy**

03:20PM - 03:45PM

Presented by:

Haitao Zhang, Northeastern Universit

## **Solute clustering and early-stage precipitation in Al-Mg-Si alloys**

03:45PM - 04:10PM

Presented by:

Chunan Li, PhD Student, Norwegian University Of Science And Technology

## **Effect of Precipitations on the Static Recrystallization and Texture Evolution of High Recycled-Content Al-Mg-Si Alloys**

04:10PM - 04:35PM

Presented by:

Yandong Jing, Phd Student, EPFL

## **Effects of user-defined parameters on cluster analysis in Al-Mg-Si-Cu-Sn alloy**

04:35PM - 05:00PM

Presented by:

MiYoung Lee, Korea Institute Of Industrial Technology

## **3D non-destructive grain structure characterization in metallic alloys using lab-based diffraction contrast tomography**

05:00PM - 05:25PM

Presented by:

Hrishikesh Bale - INVITED SPEAKER, Market Solutions Manager, Carl Zeiss Research Microscopy Solutions

---

09:20AM -  
05:25PM

GLC 235

## **Deformation Behavior and Mechanical Properties (Fatigue and Fracture)**

Moderators

David Anderson , Novelis

Rick Neu, Georgia Tech

### **The Effect of Strain Rate on Fracture Behavior of AA6111 Alloys**

09:20AM - 09:45AM

Presented by:

Danielle Z eng

### **Necking and fracture strain measurements in plane strain tension to understand the effect of impurities on 6XXX alloys**

09:45AM - 10:10AM

Presented by:

Pierre Guerin, PhD Student, C-TEC Constellium Technology Center

### **In-plane Edge Stretch Characterization of Aluminum Sheet**

10:10AM - 10:35AM

Presented by:

Christopher Brown, Engineer, Novelis

### **Microstructure and Damage Evolution in Recycled 6xxx Aluminium Alloy**

10:35AM - 11:00AM

Presented by:

Yangchao Deng, PhD Student, The University Of Manchester

### **Experimental determination of the forming envelope in hydroforming of AA6111-T4 tubes**

11:00AM - 11:25AM

Presented by:

Yannis Korkolis, Professor, Technical University Of Dortmund - IUL

### **Effect of crystal orientation on the stretch flange formability of single-crystal Al-Mg-Si alloy sheet**

11:25AM - 11:50AM

Presented by:

Taku Niino, UACJ Corporation

### **Texture Effects on Through-Thickness Strength Gradients in Wrought Plate**

01:20PM - 01:45PM

Presented by:

Daniel Magagnosc

### **Effect of Thickness on the Bendability of Extruded AA6082 Alloy**

01:45PM - 02:10PM

Presented by:

Jun Ma, Associate Professor, Norwegian University Of Science And Technology

### **Effect of Hardening Rate on Bendability of Aluminum Extrusions**

02:10PM - 02:35PM

Presented by:

Jacqueline Noder, Postdoctoral Fellow , The University Of British Columbia

### **Devolution of Stress-Strain Data in Aluminum Alloys to Identify the Debris Species from their Obstacle Strength Factors Depending on their Thermo-Mechanical Processing**

02:55PM - 03:20PM

Presented by:

Shigeo SAIMOTO, Emeritus Professor, Queen's University, Kingston, Canada

### **Dependence of thermomechanical response on Cu content in a hardenable Al-Si-Mg alloy**

03:20PM - 03:45PM

Presented by:

Seyedmehdi Hosseini, Research Fellow, BCAST, Brunel University London

### **Understanding the effect of intermediate annealing on Aluminium sheet bendability through 3D microstructural characterisation**

03:45PM - 04:10PM

Presented by:

Laura Gonzalez Duque, PhD Student, University Of Manchester

### **Leveraging Retrogression and Reaging for the Forming and Mechanical Joining of High Strength Aluminum Alloys**

04:10PM - 04:35PM

Presented by:

Eric Taleff, The University Of Texas At Austin

### **Transforming PLC phenotypes in a 5xxx aluminum alloy by electrically assisted deformation**

04:35PM - 05:00PM

Presented by:

Angelika Cerny

# **Improvement of mechanical properties of Al-Cu-Mg alloys by heavy cold rolling and subsequent aging treatment**

05:00PM - 05:25PM

Presented by:

ITOH Goroh, Professor, Ibaraki University

---

09:20AM -  
05:25PM

**GLC 323 & 324**

## **Casting and Solidification**

Moderators

Enzo Liotti, University Of Oxford

Shahid Akhtar, Principal Research Scientist, Hydro Aluminium

Sanjeev Das, Associate Professor, NIT Raipur

### **Revealing the heterogeneous nucleation and grain growth behaviours of inoculated aluminium alloys by in-situ X-radiographic study and numerical modelling**

09:20AM - 09:45AM

Presented by:

Yanjun Li - INVITED SPEAKER, Norwegian University Of Science And Technology

### **In-situ X-ray imaging and deep learning for solidification science of sustainable alloys**

09:45AM - 10:10AM

Presented by:

Enzo Liotti, University Of Oxford

### **In-situ X-ray Tomography of Entrained Oxides in Ca-added Al-Mg melts**

10:10AM - 10:35AM

Presented by:

Sean Telford

### **In Situ Monitoring of Nucleation and Growth of Al-Fe-Si Intermetallics: Inspiring Alloy Design of Next-Generation Recycling Friendly Aluminium Alloys**

10:35AM - 11:00AM

Presented by:

Georges Salloum-Abou-Jaoude, Senior Innovation Engineer, Constellium C-TEC

### **Towards Diffusion By Design in Solidification: an Ab Initio Molecular Dynamics Study of Al-Mg-Si (-Fe) Melts**

11:00AM - 11:25AM

Presented by:

Philippe JARRY, Technical Expert, Constellium C-TEC

### **Parametric Study and Effect of Aluminium Melt Quality on Final Cast Product Properties**

11:25AM - 11:50AM

Presented by:

Shahid Akhtar, Principal Research Scientist, Hydro Aluminium

## **Development of Novel Casting Processes for Aluminium Industries**

01:45PM - 02:10PM

Presented by:

Sanjeev Das, Associate Professor, NIT Raipur

## **Stability and Sedimentation of TiC and SiC Reinforcement Particles in Al-Mg-Si-(Cu) Alloy**

02:10PM - 02:35PM

Presented by:

Abdallah Abu Amara, Doctoral Researcher, BCAST, Brunel University London

## **Flux-Assisted Sessile Drop Method on the Stability and Wettability of Al on TiC**

02:55PM - 03:20PM

Presented by:

Ingvild Runningen, PhD, The Norwegian University Of Science And Technology

## **Enhancing the Efficiency of Commercial Al-Ti-B Grain Refiners**

03:20PM - 03:45PM

Presented by:

Yun Wang, Senior Research Fellow, Brunel University London

## **Microstructure and tensile properties of Stirrcast A356-MWCNT composite**

03:45PM - 04:05PM

Presented by:

Prosenjit Das, Assistant Professor , Indian Institute Of Science Bangalore

Subodh Kumar, Professor, Indian Institute Of Science Bangalore

## **Effect of grain morphology on the Hall Petch relationship of binary Al-Si alloys**

04:05PM - 04:30PM

Presented by:

Shishir Keerti, Doctoral Researcher, Brunel University London

## **In-line temperature measurement in a laboratory direct chill casting plant for alloy design**

04:30PM - 04:55PM

Presented by:

Andreas Weidinger, PhD. Candidate, Montanuniversität Leoben

11:50AM -  
01:20PM

***Lunch***

---



01:20PM -

04:35PM

**GLC 225**

## **Dr Thomas H Sanders Memorial Symposium on Physical Metallurgy**

Moderators

Robert Sanders , Chongqing University/Novelis

Justin Lamb, Moderator, Universal Alloy

### **Dr. T. H. Sanders: Understanding a New Generation of Aluminum Alloys (1974-2023)**

01:20PM - 01:45PM

Presented by:

Robert Sanders, Chongqing University/Novelis

### **Kinetic Monte Carlo simulation of automotive 6000 natural ageing**

01:45PM - 02:10PM

Presented by:

Christophe Sigli, Technical Expert, Physical Metallurgy, Constellium C-TEC

### **Stress corrosion cracking of 7000 series aluminum in humid air**

02:10PM - 02:35PM

Presented by:

Ricky Wheelchel, Constellium

### **Controlling Crystallographic Texture in AA2195**

02:35PM - 02:55PM

Presented by:

Judy Dickson

### **Thomas H. Sanders, Jr.—A Superb Materials Scientist Who Unselfishly Helped the Aluminum R&D Community**

03:20PM - 03:45PM

Presented by:

Joseph Pickens, Retired, Martin Marietta R&D Laboratory

### **Effects of Microstructure on Dynamic Tensile Spall Failure of Al 5083 Alloy**

03:45PM - 04:10PM

Presented by:

Naresh Thadhani, GeorgiaTech

### **The utilization of correlated aging response curves to study the decomposition of Al-Zn-Mg-Cu alloys**

04:10PM - 04:35PM

Presented by:

Justin Lamb, Moderator, Universal Alloy

---

02:35PM -

02:55PM

## *Afternoon break*

**Reception/Break**

**Area (3rd Floor)**

---

04:40PM -

05:30PM

**GLC 225**

## **Industrial Applications (Aerospace, Automotive and Packaging)**

Moderators

Justin Lamb, Moderator, Universal Alloy

### **Wide panel fracture toughness testing of aluminum lithium and conventional aluminum alloys**

04:40PM - 05:05PM

Presented by:

Jonathan Beckman, Gulfstream Aerospace

### **Dissimilar friction stir welding and post-weld heat treatment of Ti-6Al-4V and AA7075 producing joints of unprecedented strength**

05:05PM - 05:30PM

Presented by:

Georg Kunschert, Austrian Institute Of Technology

---

05:30PM -  
07:30PM

**Atrium**

## Poster session

### Moderators

Kumar Sundaram, Novelis  
Kaveh Berenji, Georgia Tech  
Cecelia Jones, Georgia Tech

### **Autonomous Experimentally Driven Parameter-Space Search Methodology for Additively Manufactured Aluminum MMC: Leveraging Increasingly Complex Test Artifacts to Accelerate Learning Rate**

05:30PM - 07:30PM

Presented by:

Jamila Khanfri, Georgia Tech

### **Plasma Focused Ion Beam for Aluminum Characterization and Microanalysis**

05:30PM - 07:30PM

Presented by:

Rick Passey, Senior Product Specialist, Thermo Fisher Scientific

### **Machine learning-based analysis of the hot deformation behavior of an Al-Zn-Mg-Cu-Zr alloy**

05:30PM - 07:30PM

Presented by:

Min Bai, Ph.D. Student, Chongqing University

### **Study on microstructure and mechanical properties of Al-Mg-Si-Cu-Sc-Zr alloy**

05:30PM - 07:30PM

Presented by:

Yurong Yang, Chongqing University

### **A Multiscale Approach to Correlating Microstructure and Failure Behavior in Additively Manufactured Aluminum Metal Matrix Composites**

05:30PM - 07:30PM

Presented by:

Alex Butler, Graduate Student, Georgia Tech

### **Mechanical properties of Al-Zn-Mg alloys with high zinc content produced by the powder metallurgy route**

05:30PM - 07:30PM

Presented by:

Donghyun Bae, Yonsei University

### **Effects of Cooling Rate on Mechanical Properties of Al-6Mg-X Alloys**

05:30PM - 07:30PM

Presented by:

Jae-Cheol Jang, Ph.D. Student, Seoul National University

### **Microstructural evolution during deformation in aluminum based on image analysis of TEM micrographs**

05:30PM - 07:30PM

Presented by:

YOSUKE NAKASHIMA, 10-3 Takiharu, Minami, Nagoya, Japan, Daido University

### **Investigating the influence of pre-ageing and deformation on nanostructural evolution in high-strength Aluminium 6XXX using Atom Probe Tomography**

05:30PM - 07:30PM

Presented by:

Anthony Akinwale, PhD Student, University Of Oxford

### **Formation of precipitates in Al-Mg-Si alloys during isothermal aging**

05:30PM - 07:30PM

Presented by:

Genki Saito, Nagoya University

### **The regulation of microstructure and comprehensive performance in Al-Cu-Mg alloy via novel thermo-mechanical treatment**

05:30PM - 07:30PM

### **Effect of pre-aging on hardening behavior in Al-Mg-Si alloys**

05:30PM - 07:30PM

Presented by:

YUSHO TSUZUKI, 10-3, Takiharu, Minami-ku, Nagoya, 457-8530, Japan, Daido University

### **A robust phenomenological modeling framework based on cross-slip propensity factor for capturing the effect of dynamic strain aging on work hardening behavior of an Al-Mg alloy**

05:30PM - 07:30PM

Presented by:

Surajit Samanta, Ph.D Scholar, Indian Institute Of Technology Roorkee, India

### **Influence of heat treatment on microstructure and localized corrosion mechanism of AA2219**

05:30PM - 07:30PM

Presented by:

Laura Kopruch, Research Assistant , KKS/ RWTH Aachen University

**Assessment of propagation behavior of intergranular cracks in 7XXX alloy by combining crystal plasticity finite element method and hydrogen diffusion analysis**

05:30PM - 07:30PM

Presented by:

Ryota Higa, Student, Kyushu University

**Effect of solution heat treatment on precipitation behavior during aging treatment of Al-Zn-Mg alloy**

05:30PM - 07:30PM

Presented by:

Tatsuya Aono

**Aging Behavior of Al-Zn-Mg Alloy Controlled Cooling Rate after Solution Heat Treatment**

05:30PM - 07:30PM

Presented by:

Shunsuke Araki

**Aging properties of A2024 aluminum alloy applied friction stir welding**

05:30PM - 07:30PM

Presented by:

Shuto Endo, Graduate Student, Muroran Institute Of Technology

**Aging behavior of Zn added Al-Si-Cu-Mg cast alloy**

05:30PM - 07:30PM

Presented by:

Ryoya Shimonaka, Student, Muroran Institute Of Technology

**ELUCIDATION OF THE DOMINANT FACTOR IN THE SHAPE OF GP ZONE AND NANOCLUSTER IN AL ALLOYS**

05:30PM - 07:30PM

Presented by:

Mizuki Shoji, Master, Shibaura Institute Of Technology

**Mechanical properties and microstructure characteristics of Al-Zn-Mg alloys of varied Zn/Mg ratios**

05:30PM - 07:30PM

Presented by:

Wanlalak Sanphiboon, University Of Toyama

**Fabrication of wax injection mold for aluminum investment casting using materials jetting additive manufacturing**

05:30PM - 07:30PM

Presented by:

Ji-woon Lee, Kongju National University

**Effect of substrate composition on aluminum hydride formation on aluminum base substrate by hydrogen plasma**

05:30PM - 07:30PM

Presented by:

Hiroto Yuda, Senior, Ibaraki University

**Effect of manufacturing process on hydrogen content in aluminum alloys**

05:30PM - 07:30PM

Presented by:

Ziang WU, Student, Ibaraki University

08:00AM -

08:45AM

GLC 236

## **Keynote speaker-Christian Engel - Senior Expert for Aluminum Technology, Airbus Inc.**

Moderators

Justin Lamb, Universal Alloy

**Title: More than 100 years of aluminum in aeronautics - a never ending success story?**

Brief Bio: Currently Christian Engel is a Senior Expert for Aluminum Technology; Materials, Process and Test at Airbus. He started 20 years ago in the Failure Analysis laboratory with a thermodynamics and material science background to investigate failure mechanisms of all materials used in Aircrafts. After some years he changed to the area of metallic material development and qualification with close cooperation to material suppliers and academia. Meanwhile he is also acting as advisor for aluminum alloys performance assessment and review, root cause analysis, material development and approval and their selection for aircraft programs.

Abstract: Since the usage for airships, aluminum has played a crucial role in shaping the trajectory of aerospace engineering, from the pioneering days of flight to the cutting-edge technologies of today. Over the decades, advancements in aluminum alloys and manufacturing techniques have continuously elevated the performance and efficiency of aerospace structures. Today's observation in Aerospace is that the usage of composite materials is continuously increasing because of multiple reasons, just to name here, weight performance and corrosion benefits. This note will reflect on the present challenges and opportunities for any structural material that lie ahead, like sustainability, high-rate production, industrialization and supply chain, maintenance, repairability and its operational performance and predictability. As aerospace technology and the governing landscape evolves, the inquiry into whether aluminum's legacy remains an unending success story becomes a pertinent question.

---

08:45AM -

09:30AM

GLC 236

## **Keynote speaker - Prof. Alan Luo – Professor of Materials Science and Engineering, Ohio State University**

Moderators

Shreyes Melkote, Georgia Tech

**Title: Towards Aluminum Circularity and Manufacturing Sustainability for Automotive Applications.**

Brief Bio: Alan Luo is Donald D. Glover Chair in Engineering, Professor of Materials Science and Engineering and Integrated Systems Engineering (Manufacturing) at The Ohio State University (OSU) in Columbus, OH, USA. Prof. Luo is leading Lightweight Materials and Manufacturing Research Laboratory (LMMRL) and is Director of the Advanced Casting Research Center (ACRC) at OSU. Alan is an elected member of the National Academy of Engineering (NAE), as well as a fellow of The Minerals, Metals & Materials Society (TMS), Society for Automotive Engineers (SAE), and American Society of Metals (ASM). Prior to joining OSU in 2013, Dr. Luo was a GM Technical Fellow at General Motors Global Research and Development Center (Warren, MI, USA) with 20 years of industrial experience.

Abstract: Aluminum offers a major lightweight solution to the automotive industry as it is transitioning from the traditional internal combustion engine (ICE) vehicles to alternative energy (battery electric, hybrid and fuel cell) vehicles. This transition provides a great opportunity for aluminum to achieve material circularity and manufacturing sustainability. However, primary production of aluminum is energy-intensive with extensive CO2 emission. Re-melting aluminum scrap only uses ~5% of the energy (and reduced emission) required to produce primary aluminum from ores. This presentation looks at effective utilization of the ever-expanding global aluminum scrap stream to develop value added alloys for automotive applications. We address the challenges of impurities in secondary aluminum from two different pathways: One is to remove the "bad actors" through liquid metallurgical processing methods, whereas the second approach is to mitigate the effect of the "bad actors" influencing the effects of microalloying and processing. For automotive design and manufacturing, the growing alternative energy vehicles tend to have more simplified body structures, enabling the use of large and consolidated castings which significantly reduce welding, joining and assembly. The development and evolution of energy-efficient large thin-wall die casting (also called mega/giga casting) will enhance the sustainability of automotive manufacturing.

---

09:30AM -

09:50AM

## *Break*

Reception/Break  
Area (3rd Floor)

---

09:50AM -

11:30AM

## **Emerging Markets and Applications**

Moderators

GLC 233

Tina Kosmicki, Novelis

### **Microstructure analysis of cold rolled aluminium foil for battery current collector applications**

09:50AM - 10:15AM

Presented by:

Joacim Hagström, Research Leader, Swerim AB

### **Aluminum Foil Anodes for Solid-State Batteries**

10:15AM - 10:40AM

Presented by:

Matthew McDowell

### **Alloy Development for High Performance Aluminum-air Battery Anode**

10:40AM - 11:05AM

Presented by:

Saikat Adhikari, Lead Scientist, Aditya Birla Science And Technology Company Private Limited

---



09:50AM -  
12:20PM  
**GLC 225**

## **Industrial Applications (Aerospace, Automotive and Packaging)**

Moderators

Theresa MacFarlane, Organiser, Novelis

### **Improving Dimensional Accuracy of Aluminum Extrusion by Inline Calibration**

09:50AM - 10:15AM

Presented by:

Torgeir Welo

### **Aluminium Scandium alloy development for hydrogen storage valve**

10:15AM - 10:40AM

Presented by:

Francisco García-Moreno - INVITED SPEAKER

### **Precipitation evolution during long-time ageing in 2xxx alloys: a high-throughput methodology**

10:40AM - 11:05AM

Presented by:

Thomas Perrin, SIMaP-UGA

### **Coarse Grain Controlled High-Toughness AA6xxx Extrusion Alloy**

11:05AM - 11:30AM

Presented by:

MANU SAXENA, General Manager - Extrusion Technical, Hindalco Industries Limited, Renukoot

### **Manufacturing of bright-rolled aluminum suitable for decorative elements in the automotive industry**

11:30AM - 11:55AM

Presented by:

Anita Gründlinger, Product Engineer, AMAG Rolling GmbH

### **Low temperature interrupted quenching improves formability without compromising natural ageing stability and paint bake strength of an Al-Mg-Si alloy**

11:55AM - 12:20PM

Presented by:

Jyoti Ranjan Sahoo, Research Scholar, Indian Institute Of Technology Roorkee, India

---

09:50AM -

04:40PM

**GLC 323 & 324**

## **Casting and Solidification**

Moderators

Kumar Sundaram, Novelis

Dmitry Eskin, Co-organizer, BCAST, Brunel University London

### **Scandium in the additive manufacturing of Al<sub>2</sub>Fe-TiB<sub>2</sub> composites**

09:50AM - 10:15AM

Presented by:

Xiaoming Wang, Purdue University

### **Effect of Li on the structure formation of AlMg<sub>5</sub>Si<sub>2</sub>Mn-type casting alloy**

10:15AM - 10:40AM

Presented by:

Kostiantyn Mykhalenkov, Researcher, University Rostock

### **Eutectic evolution in near-eutectic Sr-modified Al-Si alloys: The impact of electromagnetic stirring**

10:40AM - 11:05AM

Presented by:

Keiji Shiga, Researcher, National Institute Of Advanced Industrial Science And Technology (AIST)

### **Efficiency of in-situ synthesis grain refiner during boron treatment in 1XXX Al alloy**

11:05AM - 11:30AM

Presented by:

JIAN QIN, Weiqiao Lightweight Research Center At Soochow

### **Microstructural Evolution, Mechanical and Corrosion Properties of Highly Recycled Aluminium Alloys**

11:30AM - 11:55AM

Presented by:

Hirenkumar Kotadia, Senior Lecturer , LJMU

### **Influence of Ti on microstructure of high-strength Al-Mg-Si-Cu extrusion alloy**

11:55AM - 12:20PM

Presented by:

Pavel Shurkin, Research Fellow, Brunel University London

### **Revealing the dynamics and mechanisms of Fe-rich intermetallic compound refinement for Fe-tolerant alloy recirculation**

01:50PM - 02:15PM

Presented by:

Shikang Feng, University Of Oxford

### **Up-scaling melt conditioning treatments for Low Pressure Die Casting**

02:15PM - 02:40PM

Presented by:

Jaime Lazaro-Nebreda, Research Fellow, Brunel University London

### **Extraction and characterization of intermetallic particles extracted from DC cast AA8021**

02:40PM - 03:05PM

Presented by:

Sarah George, Senior Lecturer, University Of Cape Town

### **Investigation of Solidification Behavior and Quality of Continuous Cast Al-Mg<sub>2</sub>Si Composite Sheet with Varying Thickness**

03:05PM - 03:30PM

Presented by:

Dheeraj Saini, Ph.D. Student, Indian Institute Of Technology Roorkee, India

### **Effect of nozzle tip shape on periodic surface pattern of Al-3%Si-1%Fe alloy twin-roll cast strips.**

03:50PM - 04:15PM

Presented by:

Seina Kurotatsu, Student, Tokyo Denki University

### **Novel Direct Chilled- Rotor Stator Device Technique for Synthesis of Al-12.6 Si Alloy and Eutectic Silicon Modification**

04:15PM - 04:40PM

Presented by:

Prasenjit Biswas, Assistant Professor, OP Jindal University Raigarh

### **Development of Structural Casting with Digital Twin Technology**

04:40PM - 05:05PM

Presented by:

Shouxun Ji - INVITED SPEAKER, Professor, Brunel University London

---

09:50AM -  
05:05PM

**GLC 236**

## **Microstructure Design; Alloying and Heat Treatments**

Moderators

Naresh Thadhani, Georgia Tech

Judy Dickson

Pascal Gauthier, Metallography Manager, Rio Tinto

### **Effect of impurities on recrystallization behavior of hot-rolled Al-1mass%Mn alloys**

09:50AM - 10:15AM

Presented by:

Ken-ichi IKEDA, Associate Professor, Hokkaido University

### **Precipitation hardening in Al-Fe-Zr alloys**

10:15AM - 10:40AM

Presented by:

Dmitry Eskin, Co-organizer, BCAST, Brunel University London

### **Role of intermediate quenching and dispersoids in controlling planar anisotropy in AA6016-T4 sheets**

10:40AM - 11:05AM

Presented by:

Atish Ray, Lead Scientist, Novelis Inc.

### **Effects of cooling rate on microstructure on Al-Mg-Mn alloys in twin roll casting process**

11:05AM - 11:30AM

Presented by:

Hyoungwook Kim, Director/Principal Researcher, Korea Institute Of Materials Science

### **Effect of Indium on the nucleation and precipitation behaviors of $\alpha$ Al(Mn, Fe) Si dispersoids**

11:30AM - 11:55AM

Presented by:

Zhen Li

### **Microstructural Control of DC-Cast 6082 Alloy Through Chemical Modification**

11:55AM - 12:20PM

Presented by:

Erdem Karakulak, Research Fellow, BCAST, Brunel University London

### **Simultaneous improvement of strength and ductility of ultrafine-grained Al-Cu-Mg alloys with aging treatment**

02:15PM - 02:40PM

Presented by:

Pengcheng Ma, Ph.D. Student, Graduate School Of Engineering Science Yokohama National University

### **Effect of heat treatment on microstructure and tensile behavior in cast Al-Si-Mg alloy**

02:40PM - 03:05PM

Presented by:

Toko Tokunaga, Assistant Professor, Nagoya Institute Of Technology

### **Al Mg Si Fe crossover alloys**

03:05PM - 03:30PM

Presented by:

Bernhard Trink

### **The Role of GP Zone Formation Temperature, Time and Composition on Faceting in Al-Ag Alloys**

03:50PM - 04:15PM

Presented by:

Gary Shiflet, Reynolds Professor Emeritus , University Of Virginia

### **Evolution of Precipitates during Aging of an AA2618 Alloy**

04:15PM - 04:40PM

Presented by:

ASHIM MUKHOPADHYAY, Advisor, Hindalco Industries Limited

### **Microstructural Evolution During Pre-ageing of Al-Cu Alloys**

04:40PM - 05:05PM

Presented by:

Yun Wang, Senior Research Fellow, Brunel University London

### **Competition between dynamic precipitation and dynamic dissolution in 7xxx alloys studied by in situ SAXS**

05:05PM - 05:30PM

Presented by:

Guillaume Crowin, PhD Student, SIMaP-UGA

### **Precipitation behavior of a AlMgZn(CuAg) crossover alloy in different grain size regimes**

01:50PM - 02:15PM

Presented by:

Patrick Willenshofer, Associate Researcher, Montanuniversität Leoben, Austria

---

09:50AM -  
05:05PM  
  
**GLC 222**

## **Advanced Characterization and Testing**

Moderators

Dieter Isheim - Research Associate Professor, Northwestern University

Stefan Pogatscher - Montanuniversitaet Leoben

XiaoXiang Yu, Senior Scientist , Novelis

### **Atom-Probe Tomography for Atomic-Scale Characterization of Aluminum Alloys**

09:50AM - 10:15AM

Presented by:

Dieter Isheim - INVITED SPEAKER, Research Associate Professor, Northwestern University

### **Solute Clustering in a High-strength Al-Mg-Si-Cu Alloy**

10:15AM - 10:40AM

Presented by:

Gregory Thompson - INVITED SPEAKER, Professor , University Of Alabama

### **Investigating the influence of pre-ageing and deformation on nanostructural evolution in high-strength Aluminium 6XXX using Atom Probe Tomography**

10:40AM - 11:05AM

Presented by:

Anthony Akinwale, PhD Student, University Of Oxford

### **Role of naturally aged solute clusters in the nucleation of precipitates during artificial ageing**

11:05AM - 11:30AM

Presented by:

James Famelton, Research Fellow, Brunel University London

### **Correlative DSC and (S)TEM analysis of GP-zone formation and precipitation in an Al-Mg-Si alloy**

11:30AM - 11:55AM

Presented by:

Randi Holmestad, Professor, Norwegian University Of Science And Technology (NTNU)

### **Quench Sensitivity After Solution Heat Treatment of a High Strength 6xxx-series Al Alloy**

11:55AM - 12:20PM

Presented by:

Tudor Piroteala, Lead Engineer, Novelis Inc.

### **The S-phase formation in a high-purity Al-Cu-Mg alloy monitored by truncation during heating-up**

03:05PM - 03:30PM

Presented by:

Torsten Staab, Senior Rescher, Julius-Maximilians Universität Würzburg

### **Recrystallization in Wrought Aluminum Alloys - A Critical Evaluation of Characterization Methods**

02:40PM - 03:05PM

Presented by:

Moritz Theissing, TU Graz

### **Deformation-induced symmetrical tilt boundary in layer-structured Al-Cu eutectic alloy**

01:50PM - 02:15PM

Presented by:

Daisuke Egusa, Assistant Professor, The University Of Tokyo

### **Dislocation-Grain Boundary Interactions Studied using in-situ High-Resolution EBSD (HR-EBSD) in FCC Metals**

02:15PM - 02:40PM

Presented by:

Yang Su - INVITED SPEAKER, Post-doc, Georgia Tech

### **Improving the Reproducibility of Characterization and Quantification of Precipitates through Automated Image Processing and Digital Representation of Processing Steps**

03:50PM - 04:15PM

Presented by:

Birgit Skrotzki, Head Of Division, BAM Bundesanstalt Für Materialforschung Und -prüfung

### **Investigation of nanostructural precipitate evolution in aluminum alloys**

04:15PM - 04:40PM

Presented by:

Moritz Theissing, TU Graz

### **X-ray Tomography Analysis of Intermetallics and Voids in 6XXX alloys**

04:40PM - 05:05PM

Presented by:

Francisco García-Moreno - INVITED SPEAKER

---

09:50AM -  
06:20PM

**GLC 235**

## **Corrosion, Surface Treatments and Environment Sensitive Fracture**

Moderators

Jichao Li, Surface Treatment And Corrosion, Constellium

Mary Lim, Novelis

Preet Singh, Georgia Tech

Ganesh Bhaskaran, Global Roadmap Leader, Novelis Inc

### **Measurement of Coating Protection from Environment Assisted Cracking**

09:50AM - 10:15AM

Presented by:

Victoria Avance, Senior Materials Engineer And Project Manager, Luna Labs

### **Evaluation of the Suitability of SCC-Tests for Screening 7xxx Automotive Sheet Materials**

10:15AM - 10:40AM

Presented by:

Dietrich Wieser, Consultant, Aluminium Deutschland E.V.

### **EFFECT OF GRAIN SIZE ON THE IGC AND SCC RESISTANCE OF 7075 ALLOY**

10:40AM - 11:05AM

Presented by:

Ganesh Bhaskaran, Global Roadmap Leader, Novelis Inc

### **Stress corrosion cracking of high strength Al-Zn-Mg-Cu alloy with Mn-rich dispersoid and T phase**

11:05AM - 11:30AM

Presented by:

Jianwei Tang, Post-doc, Kyushu University

### **Effect of zinc to magnesium ratio on the SCC resistance of high solute 7xxx alloys in a humid environment**

11:30AM - 11:55AM

Presented by:

Ganesh Bhaskaran, Global Roadmap Leader, Novelis Inc

### **Hydrogen-tolerant ultra-high-strength aluminum alloy**

11:55AM - 12:20PM

Presented by:

Hiroyuki Toda, Professor, Kyushu University

### **Influence of internal and external hydrogen on stress corrosion cracking behavior in Al-Zn-Mg alloy**



01:50PM - 02:15PM

Presented by:

Hiro Fujihara, Assistant Professor, Kyushu University

### **Hydrogen-induced nanovoid and intergranular cracking in a novel Al-Zn-Mg-Cu alloy**

02:15PM - 02:40PM

Presented by:

Kazuyuki SHIMIZU, Associate Professor, Tottori University

### **3D analysis of hydrogen embrittlement mechanism in Aluminium alloy by 3D-TEM observation**

02:40PM - 03:05PM

Presented by:

Kyosuke HIRAYAMA, Assistant Professor, Kyoto University

### **Simulating crack tip H-controlled crack growth kinetics in Al-alloys using a coupled chemo-mechanical phase field damage model**

03:05PM - 03:30PM

Presented by:

Cameron Grant, PhD Student, The University Of Manchester

### **The Influence of Partial Recrystallisation on Hydrogen-Environmentally Induced Cracking (H-EIC) of AA7085 in Humid Air**

03:50PM - 04:15PM

Presented by:

Juhi Srivastava, PhD, The University Of Manchester

### **Hydrogen embrittlement resistance of Al-Zn-Mg-Cu alloy processed by surface severe plastic deformation**

04:15PM - 04:40PM

Presented by:

Toshiaki Manaka, Associate Professor, National Institute Of Technology(KOSEN), Niihama College

### **Hydrothermal pretreatment of aluminum for automotive applications**

04:40PM - 05:05PM

Presented by:

John Hill, Technical Leader- Adhesives, Pretreatments & Mechanical Joining , Ford

Jichao Li, Surface Treatment And Corrosion, Constellium

### **Effects of Steam Source Amount on AlO(OH) Film Formation on an Aluminum Alloy by the Steam Coating Process**

05:05PM - 05:30PM

Presented by:

Kensuke Kurihara, Doctoral Course, Shibaura Institute Of Technology

## **Microstructural Effects of Aluminium Extrusions on Anodizing Quality**

05:30PM - 05:55PM

Presented by:

Akshay Deshpande, Deputy Engineer, Hindalco Industries Ltd

## **Analysis of transition of oxide layers formed at high temperatures on Al-Mg alloys.**

05:55PM - 06:20PM

Presented by:

Hiroki Yoshida, Research & Development Center Marketing & Technology Division, UACJ Corporation

---

01:50PM -  
05:05PM  
**GLC 233**

## **Additive Manufacturing and Joining**

Moderators

Patrick Lester, Novelis

Soumya Mohan, Research Engineer II, Georgia Institute Of Technology

**Effect of clearance between components and brazing pressurization on the brazeability of flat joints**

01:50PM - 02:15PM

Presented by:

Kazuya Funatsu, Nippon Light Metal Company, Ltd.

**Dissimilar laser brazing of aluminum alloy and galvanized steel using dual beam**

02:15PM - 02:40PM

Presented by:

Tomo Ogura, Osaka University

**Microstructural characterisation of Al/Cu joints welded using hybrid metal extrusion & bonding**

02:40PM - 03:05PM

Presented by:

Randi Holmestad, Professor, Norwegian University Of Science And Technology (NTNU)

**Engineering defects-free equiaxed grains containing microstructure in Arc-wire DED additive manufacturing of Al-5Mg alloy**

03:05PM - 03:30PM

Presented by:

Sherin Thampi, Resear Scholar, Indian Institute Of Technology, Madras

**The role of inter-pass idle time on the defects and microstructure formation in the wire-arc additive manufacturing of AA 4043 alloy components**

03:50PM - 04:15PM

Presented by:

Tilak Kumar JV, Postdoctoral Researcher, Indian Institute Of Technology, Madras

**Investigating the wire deposition of TiC-inoculated AA7075 using L-DED and the influence of post-processing heat treatment.**

04:15PM - 04:40PM

Presented by:

Michael Benoit, Professor, Department Of Mechatronics & Mechanical Engineering, University Of Waterloo

**Mechanical Behavior of Additively Manufactured vs. Wrought 7050-based High Strength Al Alloy**

04:40PM - 05:05PM

Presented by:

Rupesh Rajendran, Georgia Tech

---

02:20PM -  
05:35PM  
**GLC 225**

## **Deformation Behavior and Mechanical Properties (Fatigue and Fracture)**

Moderators

David Anderson, Novelis

Rick Neu, Georgia Tech

Compression response of Al-Mg system alloy processed by severe-plastic deformation under dynamic loading

01:50PM - 02:15PM

Presented by:

Tao Yamaguchi, Student, Kobe University

Single-Crystal Micropillar Compression Tests for Understanding Strain-Rate Dependent Strength of Additive-Manufactured Al-Fe alloy

02:15PM - 02:40PM

Presented by:

Dasom Kim, Designated Assistant Professor, Nagoya University

A Specific Aluminum Laminate Composite with Very High Impact Toughness

02:40PM - 03:05PM

Presented by:

Haiou Jin, Research Scientist, Natural Resources Canada

Creep and creep-rupture behavior of an additively manufactured Al-Ce-Ni-Mn-Zr alloy

03:05PM - 03:30PM

Presented by:

Jovid Rakhmonov, Staff Scientist, Oak Ridge National Laboratory

Effects of precipitate microstructures on creep properties of AA2618 forged aluminum alloy

04:15PM - 04:40PM

Presented by:

Naohiro KOISO, KOBE STEEL, LTD.

Fatigue Behavior at Elevated Temperature of Alloy EN AW-2618A

03:50PM - 04:15PM

Presented by:

Birgit Skrotzki, Head Of Division, BAM Bundesanstalt Für Materialforschung Und -prüfung

06:00PM -  
09:00PM

## Conference Banquet

Moderators

Naresh Thadhani, Georgia Tech

Richard Hamerton, Novelis

- Cocktails will be served from 6-7pm
- Dinner served at 7pm.
- Speeches - 7-8:30pm

### **Philippe Meyer – Sr. Vice President and CTO - Novelis Inc.**

#### **Title: Aluminum, the ever young and infinite material**

Brief Bio: Philippe Meyer is Senior Vice President and Chief Technology Officer of Novelis Inc. In this role, he is responsible for leading the company's product Innovation Strategy and Research and Development across all regions and markets. He oversees Novelis' global network of Research and Technology Centers as well as Customers Solution Centers throughout North and South America, Europe, and Asia. Novelis is the leading producer of Aluminum flat-rolled products and the world's largest aluminum recycler, with the purpose to shape a sustainable world together. Located in 9 countries with 33 manufacturing sites, Novelis employs about 13 170 people, has an annual revenue of \$ 18.5 billion and an annual EBITDA of \$1.8 billion. (\*) Philippe joined Novelis with the company's acquisition of Aleris. During his seven years with Aleris, he was responsible for R&D, Process-Product-Technology, Quality, Laboratories, and Intellectual Property as Senior Vice President and Chief Technology Officer. Prior to joining Aleris, Philippe held R&D, Operations, and Technology roles at Pechiney, Forgeal, and Montupet. Throughout his 42 year career in the aluminum industry, he has served and goes on serving the automotive, aerospace, beverage packaging, specialty and industrial markets, innovating and developing solutions for and with customers. Among many career achievements, Philippe is one of the founders, and co-chairs the European Aluminium Innovation Hub, which aims at enhancing industrial cooperation towards circularity and a net zero CO2 footprint at the horizon of 2050 or earlier. He is also the sole inventor or co-inventor of over 50 patent families. (\*) Note statistics from Fiscal Year 2023

### **Prof. Chaouki T. Abdallah - Executive Vice President for Research (EVPR) at Georgia Tech**

#### **Title: Where Science Meets Stewardship: Georgia Tech's Innovation in Sustainability**

Brief Bio: Chaouki T. Abdallah was appointed the Executive Vice President for Research (EVPR) at the Georgia Institute of Technology (Georgia Tech) on September 1, 2018. Prior to that, he was a professor of Electrical and Computer Engineering (ECE) at the University of New Mexico (UNM) where he also served as the university's 22nd president, as provost and executive vice president for academic affairs, as well as chair of the electrical and computer engineering (ECE) department.

During his tenure, Abdallah oversaw long-range academic planning and efforts to improve student success, as well as retention-achievement and graduation achievement rates. At Georgia Tech, he serves on the President's executive leadership team and provides overall leadership for the \$1.45 billion annual research enterprise that includes the Georgia Tech Research Institute (GTRI), 10 interdisciplinary research institutes (IRIs), as well as economic development, and related support units within Georgia Tech. He is a member of the Association of American Universities Senior Research Officer (AAU SRO) Steering Committee, serves on the executive committee for the Government-University-Industry Research Roundtable (GUIRR), and the advisory committee for the Center on measuring university performance (MUP). He is also a member of the the National Science, Technology, and Security Roundtable. He has published eight books (three as co-editor and five as co-author) and more than 300 peer-reviewed papers. Abdallah obtained his Bachelor's of Engineering (BE) degree from Youngstown State University in 1981, and his MS and Ph.D. in Electrical Engineering from the Georgia Institute of Technology in 1982, and 1988 respectively. Abdallah conducts research and teaches courses in the general area of systems theory with focus on control, communications, and computing systems. Abdallah is a senior member of IEEE, is a recipient of the IEEE Millennium medal, and is fluent in English, French, and Arabic.

08:00AM -

08:45AM

GLC 236

### **Keynote speaker - Doug McDougall and Ryan Duncan - The Coca-Cola Company**

Moderators

Daehoon Kang, Principal Scientist, Novelis Inc.

#### **Title: The Coca-Cola Company and a World Without Waste**

Doug McDougall is the Vice President of The North America R&D Center at The Coca-Cola Company. He has spent over 26 years in Innovation and Operations for The Coca-Cola Company. He has a passion for bringing innovation to market and building high performing teams. Doug holds a BS in Mechanical Engineering from The Georgia Institute of Technology and a MBA from The University of Georgia. He lives in Decatur with his wife, Jessica, son Wade (15) and daughter Lila (12). When Doug is not working on new products, he's cheering on the Yellow Jackets or trying to visit all the Major League baseball stadiums to cheer on the Atlanta Braves.

Ryan Duncan is a Senior Manager – Packaging Development with The Coca Cola Company's Global Design & Innovation Group and has supported a wide array of packaging innovation and sustainability initiatives for various categories (Coffee, CSD, Glass, and Alcohol Ready to Drink) during his 5 years with the company. Ryan leads the Metal Packaging SME team and is focused on championing new innovation, maintaining Coca Cola's World Without Waste commitment, and providing governance and supply chain support for metal packaging. Prior to joining Coca Cola, Ryan was a Technical Services Manager for Rossi Gearmotors for 10 years and started his career as a Package Development Engineer with Silgan Plastics.

**ABSTRACT:** At The Coca-Cola Company we care about the environment and the natural resources we all share. Sustainability is at the heart of what we do. Our purpose –to refresh the world and make a difference – is what guides our actions. We recognize our responsibility to help solve the global packaging waste crisis. That's why in 2018 we launched World Without Waste, an ambitious, sustainable packaging initiative that will help create a circular economy where the materials in our packaging can be used again and again. World Without Waste has signaled a renewed focus on our entire packaging lifecycle-from how bottles and cans are designed and produced to how they're collected, recycled and repurposed. We developed three fundamental pillars to guide our World Without Waste initiative: design, collect and partner. Many packaging formats have a role to play in delivering our beverages, including glass, PET plastic, aluminum, refillable bottles and even virtually package-less solutions. We are working to make all our packaging more sustainable, including maximizing our use of renewable and recycled content while minimizing our use of virgin material. Our global goals in this pillar are to: \*Make 100% of our packaging recyclable by 2025 \*Use at least 50% recycled material in packaging by 2030 \*Use 3 million metric tons less virgin PET derived from fossil-based sources by 2025 \*25% of our beverages sold by volume in refillable/returnable glass or plastic bottles or in fountain dispensers with reusable packaging by 2030. Aluminum represents approximately 26% of our portfolio globally and TCCC R&D organization will highlight how aluminum plays a critical role to achieve our World Without Waste commitments.

---



08:50AM -  
09:30AM  
GLC 236

---

## **Keynote Speaker- Mark White – Innovation Director, DSW Automotive Ltd**

Moderators

Rajeev Kamat - Novelis Inc.

**Title: Aluminum in Automotive – the efficient, affordable, sustainable alternative for future passenger transportation.**

Brief Bio: Mark White is a Professor at Brunel University in the UK, he is the Chairman of the Industrial Advisory Board & works closely with the BCAST research centre at Brunel, focused on metallurgy & light metals. He is also the Technical Director of Alumobility, an NGO focused on delivering light weight studies for OEMs through the substitution of steel for aluminum to demonstrate weight saving potential for the same attribute performance & lower emissions. Mark is also the Innovation Director of DSW Automotive Ltd, a consultancy company advising OEMs, Tier 1s & Material Suppliers on Body In White (BIW) best practice & future trends. Mark previously worked for JLR for 30 years in Body Engineering, pioneering the JLR work on Aluminum Intensive Vehicles, working with Ford Research to deliver many of the leading AIVs in the last 2 decades.

Abstract: Steel sheet has dominated Body-in-White (BIW) applications in the automotive industry for the previous 100 years, but at the start of the 21st century aluminum intensive vehicles from Audi & Jaguar went into production, demonstrating the potential for vehicle light weighting with aluminum for improved performance & economy, whilst lowering vehicle emissions. In the last 20 years, aluminum has gone from low volumes on niche vehicles to now over 2 million Aluminum Intensive Vehicles being produced every year, but what about the future with Electrification, do we need light-weighting & how do we make the application of aluminum affordable & sustainable to make future passenger vehicles more efficient for OEMs & customers.

09:30AM -  
09:50AM

**Reception/Break  
Area (3rd Floor)**

***Break***

09:50AM -  
02:40PM

**GLC 235**

## **Industrial Applications (Aerospace, Automotive and Packaging)**

### **Deformation Behavior of Aluminum Strip under Edgewise Press Bending**

09:50AM - 10:15AM

Presented by:

Osamu HASEGAWA, Professor, Tokyo Metropolitan College Of Technology

### **Influence of ingot preheating and hot rolling on texture and formability of AA6016 automotive sheet material**

10:15AM - 10:40AM

Presented by:

Angela Thum, Technology Automotive Products & Transport , AMAG Rolling GmbH

### **Texture evolution during hot and cold rolling of the foil stock alloy AA8079**

10:40AM - 11:05AM

Presented by:

Erik Santora, Product Engineer, AMAG Rolling GmbH

### **Effect of the inter-annealing conditions on the resulting softening characteristics of AA8079 foil**

11:05AM - 11:30AM

Presented by:

Erik Santora, Product Engineer, AMAG Rolling GmbH

### **Development of high strength aluminum alloy for hot stamping and its forming technology**

11:30AM - 11:55AM

Presented by:

Hao Wu

### **Effect of the grain boundary microstructure on S.C.C. resistance of high strength 7000 series aluminum alloy extruded materials**

11:55AM - 12:20PM

Presented by:

Tomoo Yoshida, Department Manager, AISIN KEIKINZOKU Co.,Ltd

### **Effects of Zinc addition on aging precipitation and corrosion of A6063 alloy**

01:50PM - 02:15PM

Presented by:

Masahiro ARAKI, Section Chief, YKK AP Inc.

### **Revolutionizing Aluminum Alloys: AMAG's Path to Unrestricted Innovation with AMAG CrossAlloy®**

02:15PM - 02:40PM

Presented by:

Florian Schmid, AMAG Rolling GmbH

---

09:50AM -  
03:30PM

**GLC 233**

## **Modelling and Simulations (process and products)**

Moderators

Hamid Garmestani, Georgia Tech

Olaf Engler Senior Scientist, Speira Research And Development

### **In- & post-process simulations to obtain cost-effective fatigue driven Scalmalloy parts by laser powder bed fusion**

09:50AM - 10:15AM

Presented by:

Akash Sonawane, Metallic Materials Scientist , Central R&T, Airbus SAS

### **Aluminum Laser Powder Bed Fusion Printing and Processing Optimization using ICMD® SaaS Platform**

10:15AM - 10:40AM

Presented by:

Kerem Taskin, Senior Client Solutions Engineer, QuesTek Innovations LLC

### **Analytical prediction of texture of multi-phase material in laser powder bed fusion**

10:40AM - 11:05AM

Presented by:

Wei Huang

### **Disassembling DSC curves with HEXRD and mean-field simulations**

11:05AM - 11:30AM

Presented by:

Robert Kahlenberg

### **Deformation of thick aluminum plates accounting for through-thickness variations in texture**

11:30AM - 11:55AM

Presented by:

Jeffrey Lloyd, US Army Research Laboratory

### **Modeling the Effect of Alloy Composition on Intergranular Corrosion in 6xxx Alloys**

01:50PM - 02:15PM

Presented by:

Eystein Vada, Laboratory Engineer, Hydro Aluminium

### **Modeling the microstructure evolution during hot-rolling of industrial Al-Mg-Si alloys**

02:15PM - 02:40PM

Presented by:

Georg Falkinger

**Stored energy effect on static recrystallisation kinetics of aluminium alloy  
AA6082 during heating**

02:40PM - 03:05PM

Presented by:

Talina Terrazas Monje, PhD Candidate, Graz University Of Technology. Christian Doppler Laboratory For Design Of  
High-performance Alloys By Thermomechanical Processing

**Role of non-ideal orientations in texture evolution after high-temperature  
extrusion of Aluminum alloys**

03:05PM - 03:30PM

Presented by:

Warren J. Poole, Full Professor, The University Of British Columbia

**Microchemistry dependent flow behaviour of secondary aluminum**

03:50PM - 04:15PM

Presented by:

Sharan Roongta, Post-Doctorate, Max Planck Insitut Für Eisenforschung GmbH

**The effect of crystallographic texture on strain localization at weld seams in  
Al-Mg-Si porthole die extrusions**

04:15PM - 04:40PM

Presented by:

Andrew Zang, PhD Candidate, The University Of British Columbia

---

09:50AM -

05:05PM

**GLC 323 & 324**

## **Additive Manufacturing and Joining**

Moderators

Soumya Mohan, Research Engineer II, Georgia Institute Of Technology

Patrick Lester, Novelis

### **Controlling interfacial reaction between Al and carbon fibers during laser powder bed fusion by Ti alloying and TiC coating**

09:50AM - 10:15AM

Presented by:

Asuka Suzuki, Nagoya University

### **Controlling microstructure of Al-Fe-Ti alloys using peritectic reaction in laser powder bed fusion process**

10:15AM - 10:40AM

Presented by:

Naoki Takata, Nagoya University

### **Characterization of porosities and melt pool dimensions in Fe-contaminated hypo- and hyper-eutectic Al-Si alloys produced with laser powder bed fusion**

10:40AM - 11:05AM

Presented by:

Layla Shams Tisha, Research Scientist, Leibniz-Institute For Materials Engineering, University Of Bremen, Germany

### **Heterogeneous plastic strain in an Al-Mn-Ni-Cu-Zr alloy designed for L-PBF**

11:05AM - 11:30AM

Presented by:

Alexis Deschamps, SIMaP-UGA

### **Zr-Ti modified high strength Al-Mg aluminum alloy with heterogeneous microstructure specifically developed for laser powder bed fusion process**

11:30AM - 11:55AM

Presented by:

SaravanaKumar Murugesan, Research Assistant, KKS/ RWTH Aachen University

### **Direct natural and artificial aging of LPBF Al10Si0.3Mg**

11:55AM - 12:20PM

Presented by:

Rabea Steuer

### **Grain refinement in extruded 6000 series aluminum alloy using additively manufactured billet**

01:50PM - 02:15PM

Presented by:

Shogo Oda, YKK AP Inc.

**A new approach to the design of aluminum alloys for additive manufacturing**

02:15PM - 02:40PM

Presented by:

Chengbo Zhu, Research Fellow, Brunel University London

**ABD®-M420; a new high strength / temperature aluminium alloy for additive manufacturing**

02:40PM - 03:05PM

Presented by:

Fateme Amirkhanlu, PhD Student, Brunel University London

**Influence of Oxide Film on Eutectic Melting between Aluminum and Silicon**

03:05PM - 03:30PM

Presented by:

Ryo Tomori, Japan / UACJ Corporation

**Friction Stir Welding and Metal inert Gas Welding; A comparative study for Al6061 joint strength in as-rolled, T6 and B4C reinforced composites**

03:50PM - 04:15PM

Presented by:

Shahid Akhtar, Principal Research Scientist, Hydro Aluminium

Ragnhild Elizabeth Aune, Prof., NTNU

**Studying the influence of welding parameters and post-weld heat treatments on refill friction stir spot welded AA7050 via SAXS**

04:15PM - 04:40PM

Presented by:

Susanne Henninger, Helmholtz-Center Hereon

**A Recrystallisation Model for Additive Friction Stir-Deposited (AFS-D) Alloy**

04:40PM - 05:05PM

Presented by:

Sumit Gahlyan, Assistant General Manager, Hindalco Industries Limited

---

09:50AM -

05:30PM

**GLC 222**

## **Advanced Characterization and Testing**

Moderators

Yang Su - Post-doc, Georgia Tech

Nikhilesh Chawla - Purdue University

Jakub Pepas, Graduate Student, Georgia Institute Of Technology

### **In-situ nanometallurgy via TEM for aluminum alloy development**

09:50AM - 10:15AM

Presented by:

Stefan Pogatscher - INVITED SPEAKER, Montanuniversitaet Leoben

### **Diffusion controlled early-stage L12-D023 transitions within Al3Zr**

10:15AM - 10:40AM

Presented by:

Shiwei Pan, Postdoctoral Researcher, Beijing Institute Of Technology

### **Advanced Characterization and Modelling of Dispersoids with Nucleated Precipitates in Recycling 6xxx alloys**

10:40AM - 11:05AM

Presented by:

Ruben Bjorge, Research Scientist, SINTEF Industry

### **The nucleation and interactive transformation mechanisms of multiple metastable precipitates in a Si-rich Al-Mg-Si alloy**

11:05AM - 11:30AM

Presented by:

Lipeng Ding

### **Structural Connections Between Al-Mg-Zn Alloy Phases and a Quasicrystalline Phase in an Al-Mg-Cu-Ag Alloy**

11:30AM - 11:55AM

Presented by:

Ruben Bjorge, Research Scientist, SINTEF Industry

### **Phase and particle analysis in aluminium alloys using SEM EBSD and Dictionary Indexing**

11:55AM - 12:20PM

Presented by:

Knut Marthinsen, Professor, NTNU, Norwegian University Of Science And Technology

### **Comparisons of XRD and EBSD crystallographic textures**

01:50PM - 02:15PM

Presented by:

Jean Savoie, New Forming Processes And Alloy Development, National Research Council Canada



## **Elucidation of Deformation Mechanisms in Aluminum Alloys by In situ X-ray Micro and Nanotomography**

02:15PM - 02:40PM

Presented by:

Nikhilesh Chawla - INVITED SPEAKER, Purdue University

## **Deformation characteristics of Al alloys and their change with the addition of intermetallic phases**

02:40PM - 03:05PM

Presented by:

Irmgard Weißensteiner, Montanuniversität Leoben

## **Development of microstructurally graded samples in 7xxx alloys aiming for high throughput precipitate characterization**

03:05PM - 03:30PM

Presented by:

Pejot Thomas, PhD Student, SIMaP-UGA

## **3D observation of hydrogen-related pores in surface-modified Al-Zn-Mg alloys using synchrotron X-ray CT**

03:50PM - 04:15PM

Presented by:

Keitaro Horikawa, Associate Professor, Osaka University

## **X-ray computed tomography-based 3D morphological analysis of intermetallic particles of as-cast aluminum alloys**

04:15PM - 04:40PM

Presented by:

Satyaroop Patnaik, Graduate Research Assistant, Purdue University

## **4D full field characterization of recrystallization in Al using synchrotron X-ray Laue micro-diffraction**

04:40PM - 05:05PM

Presented by:

Yubin Zhang, Senior Researcher, DTU

## **Development and Application of a Novel in situ X-Ray Diffraction Method for Electrodeposition of Alloys**

05:05PM - 05:30PM

Presented by:

Jakub Pepas, Graduate Student, Georgia Institute Of Technology

---

09:50AM -  
06:20PM  
**GLC 236**

## **Microstructure Design; Alloying and Heat Treatments**

Moderators

Gary Shiflet, Reynolds Professor Emeritus , University Of Virginia

### **Revisiting Heterogenous $\eta$ -Phase Grain Boundary Precipitation in 7xxx Al alloys**

09:50AM - 10:15AM

Presented by:

Phil Prangnell, Professor, The University Of Manchester

### **Microstructure evolution and kinetic analysis of precipitation process in an Al-Zn-Mg alloy**

10:15AM - 10:40AM

Presented by:

Mami Narita, Assistant Professor, Nagoya Institute Of Technology

### **Geometrical analysis of $\eta$ -MgZn<sub>2</sub>/Al interphase boundary**

10:40AM - 11:05AM

Presented by:

Seiichiro Ii, Principal Researcher , National Institute For Materials Science

### **TEM observation of Al-7%Si-Mg alloys in T6 condition**

11:05AM - 11:30AM

Presented by:

Taiki Tsuchiya, Assistant Prof., University Of Toyama

### **Influence of Ti on the formation of ageing phases in an AlSi7MgCu0.5 alloy**

11:30AM - 11:55AM

Presented by:

Cecilia Poletti, Institute Of Materials Science, Joining And Forming, TU Graz, Kopernikusgasse 24/I, 8010 Graz, Austria.

Christian Doppler Laboratory For Design Of High-Performance Alloys By Thermomechanical Processing,

Kopernikusgasse 24/I, 8010 Graz, Austria

### **Effect of Microalloying with Silver on the Precipitation Behavior of Over-aged Al-Zn-Mg-Cu Alloy**

11:55AM - 12:20PM

Presented by:

Kwangjun Euh

### **Effects of Mg content on recrystallization behavior during brazing of 3003 aluminum alloy**

01:50PM - 02:15PM

Presented by:

Kodai Ichida, UACJ Corporation

**Thermodynamic study of the impacts of Chromium, Iron, and Silicon elements on phase formation of 6xxx automotive alloy**

02:15PM - 02:40PM

Presented by:

Pascal Gauthier, Metallography Manager, Rio Tinto

**Fabrication of Al-based composite containing cellulose nanofibers**

02:40PM - 03:05PM

Presented by:

Seungwon Lee, Associate Prof., University Of Toyama

**New insights into the precipitate evolution in Al-Cu alloys**

03:05PM - 03:30PM

Presented by:

Chamini Mendis, Brunel University London

**The effect of scandium in solution on the precipitation sequence and kinetics in aluminum-copper alloys**

03:50PM - 04:15PM

Presented by:

Austin DePottet, PhD Candidate, Michigan Technological University

**Accelerated nucleation of L12 Al<sub>3</sub>Zr precipitates via Sn microalloying**

04:15PM - 04:40PM

Presented by:

Janet Meier, Postdoctoral Researcher, Oak Ridge National Laboratory

**Microstructure Analysis of T-phase in Al-Zn-Mg Alloy**

04:40PM - 05:05PM

Presented by:

Abrar Ahmed, Doctor Student, University Of Toyama

**The influence of hydrogen and deformation on the microstructural evolution of aluminum alloys**

05:05PM - 05:30PM

Presented by:

Omar BOUKIR, Phd Student, Groupe De Physique Des Matériaux (GPM)

**The Negative Natural Aging Effect of Al-Mg-Si Alloys**

05:30PM - 05:55PM

Presented by:

Haichang Jiang, Professor, Institute Of Metal Research, Chinese Academy Of Sciences

**Role of intermediate quenching and dispersoids in controlling planar anisotropy in AA6016-T4 sheets**

05:55PM - 06:20PM

Presented by:

Atish Ray, Lead Scientist, Novelis Inc.

---

09:50AM -  
06:25PM  
**GLC 225**

## **Sustainability in design and recycling**

Moderators

Stefan Pogatscher - Montanuniversitaet Leoben

Sylvia Cruz, Researcher , EURECAT

### **Counting the Costs of Decarbonization: Balancing Economic Realities with Environmental Ambitions**

09:50AM - 10:15AM

Presented by:

Alexander Wimmer, Head Of Technology & Sustainability, Constantia Teich GmbH

### **Constellium's initiatives to enhance automotive end-of-life recycling**

10:15AM - 10:40AM

Presented by:

Fanny MAS, Senior Metallurgist Engineer, Constellium C-TEC

### **Sustainable aluminium alloys to extrusion process, with high scrap content and low Critical Raw Materials.**

11:05AM - 11:30AM

Presented by:

Sylvia Cruz, Researcher , EURECAT

### **Greener and better: direct extrusion high strength aluminum from scrap via solid phase upcycling**

11:30AM - 11:55AM

Presented by:

Xiao Li, Material Scientist, Pacific Northwest National Lab

### **Characterization and Formability of Sheets Produced from Extruded Aluminum Chips**

11:55AM - 12:20PM

Presented by:

Gabriel Marín, Research Associate, Institute For Forming Technology And Lightweight Construction (IUL) - TU Dortmund

### **Improvement of formability of silicon-containing recycled wrought aluminum by hot stamping after rapid heating**

01:50PM - 02:15PM

Presented by:

Shoichi HIROSAWA, Professor, Graduate School Of Engineering Science Yokohama National University

### **Effect of Fe on the ageing kinetics of aluminium alloys recycled by direct strip casting**

02:15PM - 02:40PM

Presented by:

Lu Jiang, Deakin University

**Microstructural changes and alumina reinforcement distribution derived from heat treatment and solid state processing of aluminium swarf briquettes**

02:40PM - 03:05PM

Presented by:

Jetmira Uka, Doctoral Researcher, Brunel University London

**Effect of impurities on mechanical properties and microstructure of recycled Al alloys processed by severe plastic deformation under high pressure**

03:05PM - 03:30PM

Presented by:

Yongpeng Tang, Project Assistant Professor, Kyushu University

**Upcycling of Post-Consumer Twitch Scrap by Shear Assisted Processing and Extrusion**

03:50PM - 04:15PM

Presented by:

B. Scott Taysom, Pacific Northwest National Laboratory

**Study of Scrap Additions for Production of 1370 Alloy based Green Electrical Cable Material**

04:15PM - 04:40PM

Presented by:

Shahid Akhtar, Principal Research Scientist, Hydro Aluminium

**Microstructure and properties of an additively manufactured Al-Si-Mg-Cu alloy with increased Fe impurity**

04:40PM - 05:05PM

Presented by:

Sumit Bahl, Oak Ridge National Laboratory

**Effect of pre-strain on aluminum alloys from the recycling of end-of-life vehicles**

05:05PM - 05:30PM

Presented by:

Patrick Krall, Research Associate, Montanuniversitaet Leoben

**Investigating the corrosion behaviour of 100% secondary metal content high strength AA6xxx alloys formed using HFQ technology**

10:40AM - 11:05AM

Presented by:

Richard Hunt, Head Of Metallurgy And Materials Characterisation, Impression Technologies Ltd.

---

12:20PM -  
01:50PM

***Lunch***

---

03:30PM -  
03:50PM

***Break***

**Reception/Break  
Area (3rd Floor)**

---

06:20PM -  
10:00PM

***Free Evening***

08:00AM -

## **Early Research Award Introductions and presentations**

09:55AM

Moderators

**GLC 236**

Preet Singh, Georgia Tech

Rajeev Kamat

### **In-situ transformation between $\eta_1$ and $\eta_{12}$ in an AA7075 aluminum alloy**

08:15AM - 08:40AM

Presented by:

Cheng Ling Tai, Ph.D Student, National Taiwan University

### **BENDABILITY OF Al-Mg-Zn-(Cu) CROSSOVER ALLOYS**

08:40AM - 09:05AM

Presented by:

Sebastian Samberger, PhD. Candidate, Montanuniversity Leoben, Austria

### **Effect of impurity elements on microstructure and tensile properties of sustainable cast aluminum alloys**

09:05AM - 09:30AM

Presented by:

Nicholas Richter, Postdoctoral Research Associate, Oak Ridge National Laboratory

### **Cellular Automaton Modeling of Microstructure and Porosity Formation in Aluminum Solidification Processing**

09:30AM - 09:55AM

Presented by:

Michael Moodispaw, The Ohio State University

---



10:15AM -  
11:30AM  
**GLC 236**

## **Microstructure Design; Alloying and Heat Treatments**

Moderators

Daehoon Kang, Principal Scientist, Novelis Inc.

### **Core-shell precipitation in Al - Mg - Sc - Zr alloys**

10:15AM - 10:40AM

Presented by:

Ian Amedeo

### **Microstructure observation of Al-1.0%Mg<sub>2</sub>Si-(Cu, Ni) alloy with two-step aging treatment**

10:40AM - 11:05AM

Presented by:

Kazunobu Fujimoto

### **Effect of Ag and Zn on Ultra-high Strength Al-Li Alloy**

11:05AM - 11:30AM

Presented by:

Yuxing Tian, Senior Engineer, Chinalco Materials Application Research Institute

---

10:15AM -  
12:20PM  
**GLC 225**

## **Sustainability in design and recycling**

Moderators

Fanny MAS, Senior Metallurgist Engineer, Constellium C-TEC

### **Characterization of local strain in iron-bearing Al-Si-Cu-Mg alloys using an in-situ tensile module**

11:05AM - 11:30AM

Presented by:

DaeHan Kim, Postdoc, Korea Institute Of Industrial Technology

### **Influence of varied concentrations of alloying elements on the precipitation of intermetallic phases in wrought 6xxx series aluminum alloys**

11:30AM - 11:55AM

Presented by:

Dominik Steinacker, Research Associate, FAU Erlangen

### **Influence of Fe and Zn on the rapid solidification behavior of AA6061**

10:15AM - 10:40AM

Presented by:

Michael Benoit, Professor, Department Of Mechatronics & Mechanical Engineering, University Of Waterloo

### **Effect of Fe and Si composition ratio on microstructure and mechanical properties of 3104 aluminum cold-rolled sheets**

10:40AM - 11:05AM

Presented by:

Tomotaro Ezaki, Development Department I, Research & Development Division , UACJ Corporation

---

12:20PM -  
12:30PM  
**GLC 236**

***Closing ceremony***

---

12:30PM -  
01:00PM

***Travel Home/ Break***

---

01:00PM -

05:00PM

***Tour 1 -Novelis Global Research and Technology Center***

**Lobby/Reception**

**Area (2nd Floor)**

---

02:00PM -

05:00PM

***Tour 2 - Tour of Georgia Institute of Technology***

**Lobby/Reception**

**Area (2nd Floor)**