



INTPART Workshop

Tokyo Institute of Technology, Friday 14th April-Saturday 15^h May 2023

(Royal Blue Hall, Ookayama Campus, Tokyo Tech).

Organizers: INTPART Project (*Norwegian-Japanese Aluminium alloy Research and Education Collaboration II*) and School of Materials and Chemical Technology, Tokyo Institute of Technology.

Support: Research Council of Norway (no fee for participation)

Participants: Invited participants from aluminium industry, professors and friends, postdocs, PhD and MSc students from the partners of the INTPART project (NTNU, Tokyo Tech, Hydro, University of Toyama, Kyushu University, SINTEF, Japanese Aluminium Association and Toyama Aluminium Association.)

Registered participants: [participation_list_intpart.pdf](#)

PROGRAM:

Friday 14th April:

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| 12:00-12:30 | Welcome and lunch box |
| 12:30-12:40 | Short introduction by professors Kobayashi and Holmestad |
| 12:40-13:10 | Prof. Em. Tatsuo Sato (Tokyo Institute of technology) <i>Roles of solute clusters in aluminum alloys</i> (Invited) |
| 13:10-13:40 | Prof. Eiji Abe (University of Tokyo) <i>How advanced analysis meets the industry process</i> (Invited) |
| 13:40-14:10 | A.Prof. Mami Narita (Nagoya Institute of Technology) <i>Effect of slow quenching on the age hardening behavior of an Al-Zn-Mg alloy</i> (Invited) |
| 14:10-14:30 | Coffee break |

- 14:30-15:00 Prof. Shinji Muraishi (Tokyo Institute of Technology) *Interaction of dislocation and misfitting precipitate in aluminum alloys* (Invited)
- 15:00-15:30 Dr. Calin Marioara (SINTEF) *Atomic clusters and GP-zones in Al-Mg-Si(-Cu) alloys*
- 15:30-15:50 Dr. Seungwon Lee (University of Toyama) *Aging behavior of cold-rolled Al-Mg-Ge-Cu alloy*
- 15:50-16:10 Daehan Kim (Korea Institute of Industrial Technology (KITECH)) *Potential local elongation of Fe-containing Al-Si-Cu-Mg alloys by a deformation semisolid extrusion process*
- 16:10-16:25 Prof. Randi Holmestad (NTNU) *Joining Aluminium and Copper*
- 16:25-16:35 Coffee break
- 16:35-16:55 Yasuhito Kawahara (Kyushu University) *Influence of Cu addition on the atomic structure of early-stage precipitates in 6XXX alloys nanoclusters in Al-Mg-Si(-Cu) alloys by cluster identification algorithms*
- 17:10-17:25 Abrar Ahmed (University of Toyama) *Precipitate observation of Al-Zn-Mg alloys with low Zn/Mg ratio*
- 17:25-17:45 Dr. Jonas Frafjord (NTNU) *Multiscale modelling of aluminium alloys*
- 17:45-18:05 Elisabeth Thrane (Hydro) *Hydro's recycling strategy*
- 18:05-18:20 Prof. Shoichi Hirose (Yokohama National University) *Improvement of battery performance by applying iron-containing recycled aluminium to current collector-free anode of lithium-ion batteries - Comparative and complementary characterization of reaction layers*
- 18:30- Banquet in Tokyo Tech Canteen

Saturday 15th April:

- 09:00-09:30 Prof. Knut Marthinsen (NTNU) *Texture and crystal plasticity (CP) modelling – from basics to advanced polycrystal CP modelling*
- 09:30-10:00 Dr. Hiroki Nakayasu (Kobelco) *Technology of Aluminum Beverage Can-body Stock*
- 10:00-10:15 Prof. Ai Serizawa (Shibaura Institute of Technology) *Steam-derived multifunctionalization of aluminum alloys*
- 10:15-10:30 Kaisei Saito (Tokyo Institute of Technology) *Effects of cluster formation before cold rolling on aging behavior in Al-0.6Mg-1.0Si-0.5Cu alloy*
- 10:30-10:45 Håkon Korsvold (NTNU) *An investigation of the nanostructure in the heat affected zone of a Hybrid metal extrusion and bonding (HYB) welded Al-Mg-Si(-Cu) alloy*
- 10:45-11:00 Kristian Tveitstøl (NTNU) *Measuring local conductivity using EELS*
- 11:00-11:20 Coffee break

- 11:20-11:35 Dr. Ruben Bjørge (SINTEF) *Precipitation in an Al-Mg-(Zn, Ag, Cu-Ag)*
- 11:35-11:50 Oskar Ryggetangen (NTNU) *Quasicrystal and approximant precipitates in aluminium*
- 11:50-12:05 Sivert J.V. Dagenborg (NTNU) *4D-STEM data processing using open-source software and machine learning*
- 12:05-12:20 Yujin Rhee (Tokyo Institute of Technology) *Studying the effect of cold rolling in Al-Zn-Mg-Cu alloys*
- 12:20-12:35 Yuki Tomida (Tokyo Institute of Technology) *Effect of 90 % cold rolling on aging precipitation behavior of Al-Cu-Mg alloy*
- 12:35-13:05 Lunch box
- 13:05-13:20 Christoph Hell (NTNU) *Exploring reciprocal space in STEM*
- 13:20-13:35 Dr. Elisabeth Thronsen (SINTEF) *Phase mapping of precipitates in Al alloys by 4D-STEM*
- 13:35-13:50 Dr. Tina Bergh (NTNU) *In situ heating and scanning transmission electron microscopy studies of the evolution of precipitates in an Al-Mg-Si-Cu alloy*
- 13:50-14:00 Holmestad and Kobayashi – Summary and END of workshop