



Simultaneous Strengthening due to Grain Refinement and Fine Precipitation: Nanoscopic Analyses for Understanding Strengthening Mechanisms

(Workshop Site: I²CNER Hall, Ito Campus, Kyushu University, Japan)
<http://i2cner.kyushu-u.ac.jp>



Sponsored by
Japan Science and Technology Agency under Collaborative Research
Based on Industrial Demand “Heterogeneous Structure Control:
Towards Innovative Development of Metallic Structural Materials”

Workshop Program

September 9 (Tuesday)

12:45-13:00 **Zenji Horita (Kyushu University, Japan)**

Opening Announcement

13:00-13:40 **Shoichi Hirosawa (JST Project Leader, Yokohama National University, Japan)**

Three strategies to achieve concurrent strengthening by ultrafine-grained and precipitation hardenings for severely deformed age-hardenable aluminum alloys

13:40-14:30 **Xavier Sauvage (University of Rouen, France)**

(Keynote) Understanding solute/defects interactions during SPD to combine grain size refinement and fine precipitation in SPD materials

14:30-14:50 <Coffee Break>

14:50-15:40 **Hyoung Seop Kim (POSTECH, Korea)**

(Keynote) Finite element and experimental analyses of dynamic strain aging of a supersaturated age hardenable aluminum alloy

15:40-16:20 **Daisuke Terada (Chiba Institute of Technology, Japan)**

Mechanical properties and microstructure of 6061 alloy after processing by ARB and subsequent aging at low temperatures

16:20-16:30 <Coffee Break>

16:30-17:00 **Kaveh Edalati (Kyushu University, Japan)**

Softening by severe plastic deformation and hardening by annealing of Al-30mol%Zn alloy

17:00-17:30 **Tang Yongpeng (Yokohama National University, Japan)**

Application of spinodal decomposition to achieve concurrent strengthening by ultrafine-grained and precipitation hardenings on severely deformed age-hardenable aluminum alloys

18:30- <Banquet at Ume-No-Hana (http://www.umenohana.co.jp/n_ume_no_hana/2012/05/-1-165.html)>

September 10 (Wednesday)

9:00-9:30 **Zenji Horita (Kyushu University, Japan)**

Supersaturation and precipitation in Al-Fe alloys after processing by high-pressure torsion

9:30-10:00 **Wataru Goto (Yokohama National University, Japan)**

Concurrent strengthening of ultrafine-grained age-hardenable Al-Mg alloys by means of spinodal decomposition

10:00-10:30 **Seungwon Lee (Kyushu University, Japan)**

Strengthening of 7075 alloy by severe plastic deformation and aging

10:30-11:00 **Intan Fadhlina Mohamed (Kyushu University, Japan)**

Microstructural Control of age-hardenable Al alloys by high-pressure torsion

11:00-11:15 <Coffee Break>

11:15-12:00 **General Discussion**



Supported by

Japan Aluminium Association

<http://www.aluminum.or.jp/english/index.html>



Supported by

The Light Metals Educational Foundation of Japan

<http://www.lm-foundation.or.jp/english/index.html>



Co-organized by

World Premier Institute (WPI), International Institute for

Carbon-Neutral Energy Research (WPI-I²CNER),

Kyushu University

<http://i2cner.kyushu-u.ac.jp/>