



# The 5th Trilateral EU-US-Japan Conference on Critical Materials

New Trend of Efficient Management of Critical Materials

October 26th, 2015

Jointly Organised by the



European Commission



U.S. Department of Energy



Japanese Ministry of Economy, Trade and Industry

Hosted by the



New Energy and Industrial Technology Development Organization

# The 5th Trilateral EU-US-Japan Conference on Critical Materials

## New Trend of Efficient Management of Critical Materials

October 26<sup>th</sup>, 2015

### Venue

IINO HALL & CONFERENCE CENTER Room A1, A2, A3

08:30-9:00 **Registration and welcome**  
09:00-9:05 **Welcome Speech**  
**Akihiko Miyamoto**, President,  
New Energy and Industrial Technology Development Organization (NEDO)

### Opening Remarks

09:05-9:10 EU **Gwenole Cozigou**, Director Industrial Transformation and Advanced Value Chains,  
European Commission  
09:10-9:15 US **Alex King**, CMI Director, Critical Materials Institute/Ames Laboratory  
09:15-9:20 Japan **Hiroshi Fukushima**, Deputy Director-General,  
Manufacturing Industries Bureau, Minister of Economy,  
Trade and Industry (METI)

### Session 1 Risk Analysis Chair : JAPAN **Takashi Nakamura**, Professor, Tohoku University

09:20-09:40 US Interagency methodology for assessing critical materials  
**Nedal Nassar**, Physical Scientist, United States Geological Survey  
09:40-10:00 EU Revision of the European methodology for criticality assessment  
**Gian Andrea Blengini**, European Commission, DG JRC, IES-H08 Sustainability Assessment  
10:00-10:20 Japan Material Flows under the different Social System Scenarios  
**Shinsuke Murakami**, Associate Professor, Dept. of Systems Innovation,  
Grad. School of Engineering, The University of Tokyo  
10:20-10:30 Q&A and Summary  
10:30-10:50 Coffee Break

### Session 2 Substitute Development Chair: U.S. **Tom Lograsso**, Critical Materials Institute (CMI)/Ames Laboratory Deputy Director

10:50-11:10 Japan New Trend of METI's Materials Science Strategy  
**Tetsusei Kurashiki**, Policy Bureau, Manufacturing Industries Technology Strategy Office,  
Manufacturing Industries Bureau, METI  
11:10-11:30 EU Hybrid ferrites for permanent magnet applications:  
from processing to industrial recycling and proven functionality  
**Alberto Bollero**, Division of Permanent Magnets and Applications,  
IMDEA Nanoscience, Madrid (Spain)  
11:30-11:50 US Rare Earth based intermetallic strengthened aluminum casting alloys  
**Orlando Rios**, Associate Research Staff,  
CMI /Oak Ridge National Laboratory /  
University of Tennessee Material Science and Engineering Department  
11:50-12:00 Q&A and Summary

12:00-14:00 Lunch (including poster session)

**Session 3 Recycling Including Urban Mining** Chair: JAPAN **Chiharu Tokoro,**  
Professor, Resources and Environmental Engineering,  
School of Creative Science and Engineering, Waseda University

14:00-14:20 EU Recycling of Rare Earth Magnets  
**David Kennedy**, Honorary Research Fellow, Magnetic Materials Group,  
University of Birmingham, UK

14:20-14:40 US Transforming Rare Earth Magnet Recovery and Reuse  
**Tim McIntyre**, Senior Research Staff, CMI / Oak Ridge National Laboratory

14:40-15:00 Japan Cost Effective Mobile Recycling for Rare Earth Urban Mining  
**Kenji Kawabe**, Representative Director, CMC Technology Development Co.,Ltd.

15:00-15:10 Q&A and Summary

15:10-15:30 Coffee Break

**Session 4 Industrial-Academia Cooperation** Chair: EU **Frances Wall**  
Professor of Applied Mineralogy,  
Camborne School of Mines, University of Exeter

15:30-15:50 US The U.S. National Network for Manufacturing Innovation:  
a Mechanism for Public-Private Collaboration  
**Megan Brewster**, Senior Policy Advisor for Advanced Manufacturing,  
AAAS/ORISE Fellow, Office of Science and Technology Policy

15:50-16:10 Japan Activities of Research Center for Rare Metal and Green Innovation  
**Satoshi Sugimoto**, Director of the center,  
Research Center for Rare Metal and Green Innovation, Tohoku  
University

16:10-16:30 EU Turning the raw materials challenge into a strength for Europe:  
The new Knowledge and Innovation Community EIT  
**Ernst Lutz**, EIT KIC Raw Matters

16:30-16:40 Q&A and Summary

## Closing

16:40-16:45 EU **Jonathan Hatwell**, Deputy Head, Delegation of the European Union to Japan

16:45-16:50 US **Mike McKittrick**, Senior Technology Manager, Advanced Manufacturing Office,  
Office of Energy Efficiency and Renewable Energy  
U.S. Department of Energy

16:50-16:55 Japan **Tomomi Yamazaki**, Director General, Electronics,  
Materials Technology and Nanotechnology Dept., NEDO

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17:10-19:00 **Reception & Poster Session** □

## Poster Session

### Poster Session US

Session	Presenter	Position	Affiliation	Poster title
POSTER 1	Dr. Parans Paranthaman	Distinguished Research Staff	Critical Materials Institute/ Oak Ridge National Laboratory	Additive Manufacturing of Permanent Magnets
POSTER 2	Dr. Orlando Rios	Associate Research Staff	Critical Materials Institute/ Oak Ridge National Laboratory	Rare Earth based intermetallic strengthened aluminum casting alloys
POSTER 3	Dr. Orlando Rios	Associate Research Staff	Critical Materials Institute/ Oak Ridge National Laboratory	Thermomagnetic Processing of Permanent Magnet Materials
POSTER 4	Dr. Markus Daene	Scientist	Critical Materials Institute/ Lawrence Livermore National Laboratory	Computational Aspects of Anisotropy Calculations
POSTER 5	Dr. Brajendra Mishra	Professor	Worcester Polytechnic Institute	RECYCLING OPPORTUNITIES IN CRITICAL METALS SUSTAINABILITY
POSTER 6	Dr. Eric Peterson	CMI Focus Area Lead	Critical Materials Institute/ Idaho National Laboratory	CMI Focus Area 3 Overview - Improving Reuse and Recycling
POSTER 7	Dr. Eric Schwegler	CMI Focus Area Lead	Critical Materials Institute/ Lawrence Livermore National Laboratory	CMI Focus Area 4 Overview - Crosscutting Research
POSTER 8	Dr. Parans Paranthaman	Distinguished Research Staff	Critical Materials Institute/ Oak Ridge National Laboratory	CMI Focus Area 1 Overview - Diversifying Supply
POSTER 9	Dr. Tom Lograsso	CMI Focus Area Lead/ Ames Laboratory Deputy Director	Critical Materials Institute/ Ames Laboratory	CMI Focus Area 2 Overview - Developing Substitutes
POSTER 10				

### Poster Session EU

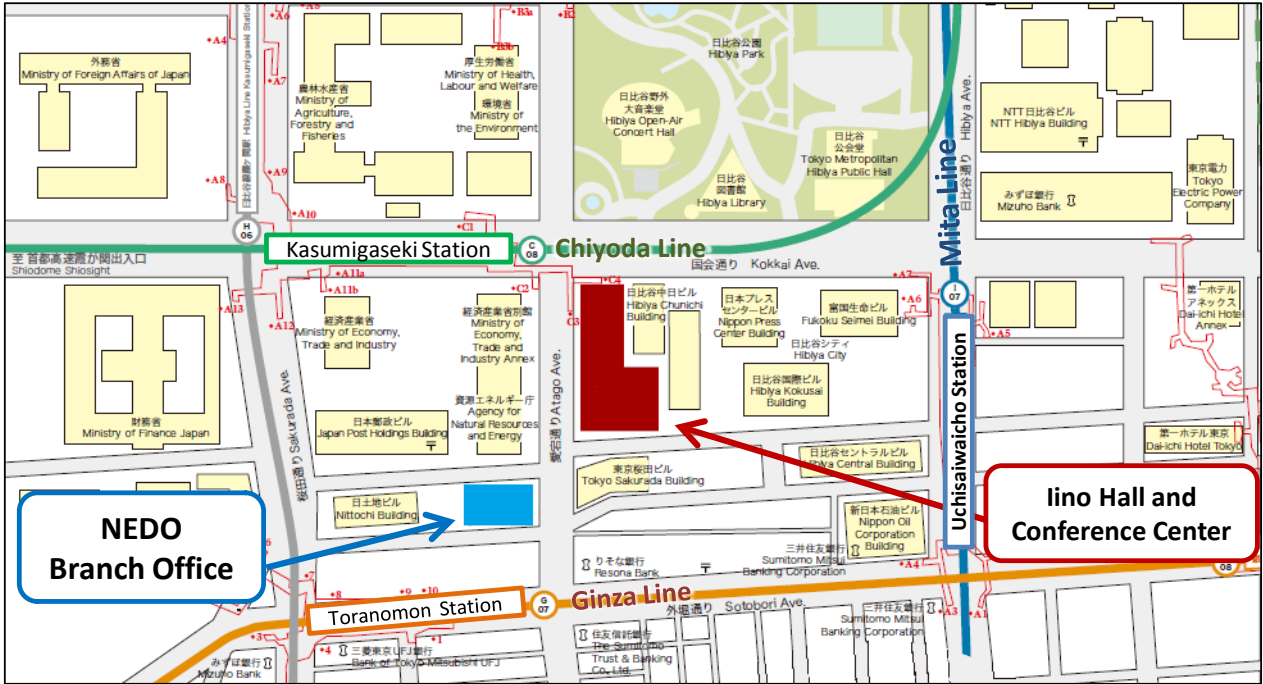
Session	Presenter	Position	Affiliation	Poster title
POSTER 1	Susanne Rotter		Technical University Berlin Project PROSUM	
POSTER 2	Alvaro de Prado Trigo		Bio by Deloitte MSA Study (tbc)	
POSTER 3	Kris Broos		VITO NV Project HISER	
POSTER 4	Maurits Van Camp		UMICORE Academic-Industry relation	
POSTER 5	Arnold Tukker		TNO, Global MFA	
POSTER 6				
POSTER 7				
POSTER 8				
POSTER 9				
POSTER 10				

## Poster Session JAPAN

Session	Presenter	Position	Affiliation	Poster title
POSTER 1	Etsuro Shibata	Professor	Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University	Basic Study of New Electrorefining Technique for Copper Anode with High Platinum Content
POSTER 2	Hirokazu Narita	Director of Environmental Management Research Institute	National Institute of Advanced Industrial Science and Technology (AIST)	Development of new separation reagents for platinum group metals
	Mikiya Tanaka			
POSTER 3	Yutaka Tai	Leader of Materials for Chemical Transformation Group, Inorganic Functional Materials Institute	National Institute of Advanced Industrial Science and Technology (AIST)	Reduction of platinum group metals in diesel oxidation catalysts by controlling catalyst structures
POSTER 4	Akihiro Matsumoto	Grope Leader	Structural Material Research Institute, National Institute of Advanced Industrial Science And Technology	Development of TiCN-FeAl as substitutional material for WC-Co hard material
POSTER 5	Ariga Daisuke	Division member	JOGMEC, Metal strategy division	A study of a stable supply mineral resources
POSTER 6	JOGMEC, Metal strategy division		JOGMEC, Metal strategy division	Verification of supply chain
POSTER 7	Kouich Sakuta	Executive Director	Technology Research Association of Magnetic Materials for High-Efficiency Motors	Development of Magnetic Material Technology for High-efficiency Motors
POSTER 8				
POSTER 9		CMC Technology Development Co.,Ltd.	CMC Technology Development Co., Ltd.	Development of Mobile Recycling Technologies and Equipment
POSTER 10				

# Access

Iino Hall & Conference Center: 4F Iino Building, 2-1-1 Uchisaiwai-cho, Chiyoda-ku, Tokyo



Iino Hall & Conference Center is 3 minutes walk from Toranomom Station (Subway Ginza Line) Exit 9.

