



### **15 OCTOBER 2007 (Monday)**

#### WELCOMING RECEPTION AND REGISTRATION

The Forest Hongo Hotel

Tokyo, Japan

6:00 to 8:00 PM

### **16 OCTOBER 2007 (Tuesday)**

#### TECHNICAL SESSION I

Sanjo Conference Hall, The University of Tokyo

8:30 AM to 5:45 PM

#### **8:30 WELCOME**

##### **Call to Order**

Charles L. Morgan

*UMI Program Chair*

##### **Welcoming Address**

Akira Usui

*President, International Marine Minerals Society*

##### **Technical Session I Introduction**

Charles L. Morgan

*UMI Program Chair*

### **Presentations**

#### **8:50** *Invited Paper*

##### **Development of Deep-sea Mineral Resources: Status and Future Perspectives in Japan**

*Takashi Ooka*

*Japan Oil, Gas and Metals National Corporation, Japan*

#### **9:10** *Invited Paper*

##### **The Prospects of Mining of Minerals from the Deep Seabed**

*Satya Nandan, Secretary-General*

*International Seabed Authority, Jamaica*

**9:30 Do Natural Changes Mask Artificial Impacts on Benthic Ecosystems Over a Period of Time?**

*Rahul Sharma*

*National Institute of Oceanography, India*

**9:50 Nautilus Minerals - Commercializing Submarine Massive Sulphide Systems**

*Michael D. Johnston*

*Nautilus Minerals, Inc., Canada*

**10:10 K-07 - Results of Neptune Minerals 2007 Southern Kermadec Arc Exploration Program**

*Justin Baulch*

*Neptune Minerals Plc, Australia*

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**10:30 Break**

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**10:50 Ultra-shallow Hydrothermal Reservoir Beneath the Caldera Floor of the Suiyo Seamount, Izu-Bonin Arc, Western Pacific: A Synthesis**

*Tetsuro Urabe*

*The University of Tokyo, Japan*

**11:10 Preliminary Results of ROV Expeditions to Kuroko-type Deposits in the EEZ of Japan**

*Kokichi Iizasa*

*Geological Survey of Japan, National Institute of Advanced Industrial Science & Technology, Japan*

**11:30 Application of Radiometric Dating Methods to Modern Seafloor Volcanic Massive Sulphide Deposits: Insights into Hydrothermal Processes**

*Robert Ditchburn*

*GNS Science, New Zealand*

**11:50 Diversity in Mineralization Caused by Phase Separation of the Hydrothermal Fluid: Case Studies of the Southern Okinawa Trough Back-arc Basin**

*Jun-ichiro Ishibashi*

*Kyushu University, Japan*

**12:10 Massive Sulfides from Ancient and Modern Margins of Asian Paleo-ocean and Pacific: Textures, Mineralogy and Fluid Inclusion Data**

*Irina Melekesteva*

*Russian Academy of Sciences, Russia*

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**12:30 Break for Lunch and Poster Session\***

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**2:30 Invited Paper**

**New Frontier Explored by D/V *Chikyu***

*Wonn Sob*

*Kochi Institute for Core Sample Research, JAMSTEC, Japan*

**2:50** *Invited Paper*  
**Methane Hydrate Exploration Around the Eastern Nankai Trough**

*Tatsuo Saeki*  
*Japan Oil, Gas and Metals National Corporation, Japan*

**3:10** **ACS: A Seafloor Drilling System for the Deepsea Methane Hydrate Program Offshore India**

*Michael E. Williamson*  
*Williamson & Associates, United States*

**3:30** **PROD - A "Swiss Army"® Knife" for Deepwater Exploration**

*Alan Foley*  
*Benthic Geotech, United States*

**3:50** **Rovdrill® - The Development and Application of a New ROV Operated Seabed Drilling and Coring System**

*Allan Spencer*  
*Perry Slingsby Systems, Inc., United States*

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**4:10** **Break**

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**4:25** **Summit Construction, Caldera Formation, Cone Growth, Mass Wasting, Hydrothermal Processes, and Sulfide Deposition on Submarine Volcanoes of the Southern Kermadec Arc**

*Alexander Malahoff*  
*GNS Science, New Zealand / Hawai'i Undersea Research Laboratory, University of Hawai'i, United States*

**4:45** **Submarine Hydrothermal Activity and Mineralization on the Kurile and Western Aleutian Island Arcs, NW Pacific**

*Georgy Cherkashov*  
*Institute for Geology and Mineral Resources of the Ocean, St. Petersburg, Russia*

**5:05** **Development of In-situ Chemical Analyzer and Sensor-Those Applications to Time-series Observation and Discovery of New Hydrothermal Sites-**

*Kei Okamura*  
*Center for Advanced Marine Core Research, Japan*

**5:25** **From Space Robotics to Deep Sea Mining**

*Piotr Jasiobedzki*  
*MDA Space Missions, Canada*

**5:45** **Announcements**



**16 OCTOBER 2006 (Tuesday)**



**BANQUET**

*Sanjo Hall, The University of Tokyo*

6:30 to 8:30 PM

**Featuring:**     **Dives of AUV “r2D4” to the Deep**  
                  **- Rift Valley of the Central Indian Mid-Ocean Ridge System-**  
*Professor Tamaki Ura*  
*Director, Underwater Technology Center*  
*Institute of Industrial Science, The University of Tokyo*

## 17 October 2007 (Wednesday)

### TECHNICAL SESSION II

9:00 AM to 5:35 PM

(Concurrent with Technical Session I is the Tokyo Day Tour for spouses and guests)

- 9:00 International Marine Minerals Society: Annual General Membership Meeting**  
*Akira Usui, President*

### Presentations

- 9:30 Development of Offshore Mining and Dredging Technology**  
*Jan Willem de Wit*  
*IHC Holland, The Netherlands*
- 9:50 Technology Development for Commercial Mining of Deep-seabed Polymetallic Nodules**  
*Sup Hong*  
*Maritime and Ocean Engineering Research Institute, KORDI, Korea*
- 10:10 Overview of Cobalt-rich Ferromanganese Crusts, Seamounts, and the Outlook for Mining**  
*James R. Hein*  
*U.S. Geological Survey, United States*
- 10:30 Strategic R&D Proposal for Deep-sea Mineral Resources**  
*Tetsuo Yamazaki*  
*National Institute of Advanced Industrial Science & Technology (AIST), Japan*
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- 10:50 Break**
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- 11:10 UNEP Shelf Programme, Article 76 and How it Affects Coastal States**  
*Yannick Beaudoin*  
*United Nations Environment Programme, Global Resource Information Database, Norway*
- 11:30 Distribution of Manganese Deposits from Cretaceous to Recent - Overview of Studies of Buried Manganese Deposits in DSDP/ODP Cores**  
*Takashi Ito*  
*Ibaraki University, Japan*
- 11:50 Ferromanganese Crusts from the Afanasiy-Nikitin Seamounts in the Eastern Equatorial Indian Ocean: A Review**  
*Virupaxa Banakar*  
*National Institute of Oceanography, India*
- 12:10 Determination of Noble and Rare Metals in Underwater Ferromanganese Ores with the Use of a Atomic Spectrometry Methods**  
*Irina Kubrakova*  
*Russian Academy of Sciences, Russia*
- 12:30 Fundamental Study of Platinum Recovery from Cobalt-rich Crust**  
*Lipang Wang*  
*The University of Tokyo, Japan*

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**12:50 Break for Lunch and Poster Session\***

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**2:20 CBM Stimulation by Borehole Mining: 10 Years After**

*Grigori Abramov*

*Borehole Mining International, Inc., United States*

**2:40 Detection and Quantification of Seafloor Ilmenite Deposits Utilizing Induced Polarization**

*Curtis Clement*

*Williamson & Associates, United States*

**3:00 Research on the Growth Characteristics of Co-rich Crusts from the Western Pacific**

*Jiabua Pan*

*Chinese Academy of Geological Sciences, China*

**3:20 Mineral Processing of Cobalt-rich Ferromanganese Crust and Nodules - Establishment of Treatment Flow for Removal of Substrate Rock**

*Mayumi Ito*

*Hokkaido University, Japan*

**3:40 Bioleaching of Cobalt-rich Ferromanganese Crusts by the Fe(III)-reducing Bacterium *Shewanella algae***

*Yasubiro Konishi*

*Osaka Prefecture University, Japan*

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**4:00 Break**

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**4:15 Offshore Marine Sand Exploration in China**

*Jun Li*

*Qingdao Institute of Marine Geology, China*

**4:35 Exploration and Estimation of Gravel Resource Potential in Southeast Chukchi Sea Continental Shelf off Kivalina, Alaska**

*Sukumar Bandopadhyay*

*University of Alaska-Fairbanks, United States*

**4:55 Gravel Seeding - A Suitable Technique for Restoration of the Seabed Following Marine Aggregate Dredging?**

*Keith Cooper*

*Centre for Environment, Fisheries, and Aquaculture Science, United Kingdoms*

**5:15 Offshore Diamond Mining on the African West Coast**

*Robert Goodden*

*Seacore Mining Ltd., United Kingdom*

**5:35 Closing Remarks and End of Technical Sessions**

**7:00 Special: Japanese Dinner**

*Casual, yet personal introduction by our hosts to local dishes and drinks in close vicinity to the University.*

*Registration required at additional cost. Please see Conference Coordinator or UMI host, if interested.*

**\*Poster Session**

**Hydrohoist - Advanced Technology for Slurry Transport Including Deep Sea Mining**

*Victor Alexandrov (unable to attend)  
St. Petersburg Mining Institute, Russia*

**The GIS-Model of the FeMn Crust Origin on the Seamounts (from the Pacific Ocean Magellan Seamounts)**

*Alex Asavin  
Russian Academy of Sciences, Russia*

**Geotechnical and Sedimentological Study of Deep-sea Sediments from a Manganese Nodule Field of the Northeastern Pacific**

*Sang-Bum Chi  
Korea Ocean Research & Development Institute, Korea*

**The Physical Properties of the Powdered Manganese Nodule and Bottom Sediment from C-C Zone, Northeastern Pacific**

*Hunsoo Choi  
Korea Institute of Geosciences and Mineral Resources, Korea*

**Regional Distribution of Marine Minerals Over 3-D Topographic Map of the Northwest Pacific Ocean**

*Kiyoyuki Kisimoto  
Geological Survey of Japan (AIST), Japan*



**Evaluation of Developing a GIS Model for Selection of Suitable Sites for Manganese Nodule Development in the Northeastern Pacific**

*Young-Tak Ko  
Korea Ocean Research & Development Institute, Korea*

**Deep-sea Mineral Potential of the South Pacific Waters**

*Nobuyuki Okamoto  
Japan Oil, Gas and Metals National Corporation, Japan*

**Drilling High-sulfidation Mineralization at Palinuro Seamount in the Tyrrhenian Sea, Italy**

*Sven Peteresen (unable to attend)  
Leibiz Institute of Marine Sciences at Kiel University, Germany*

**Adsorption Behavior of Gold(I) and Platinum(II) Complex Ions on Manganese Dioxide: Implication to the Uptake Mechanism of Gold and Platinum into Marine Manganese Nodules**

*Sachiro Sakamoto  
Kyushu University, Japan*



**Widespread Distribution and Long-term Continuous Precipitation of Hydrogenetic Ferromanganese Deposits in the NW Pacific Ocean**

*Akira Usui*

*Kochi University, Japan*

**Development of Equipment for Reconnaissance Level Detection and Confirmation of Deepwater Massive Sulfide Deposits**

*Michael E. Williamson*

*Williamson & Associates, United States*

**Adsorption and Co-Precipitation Behaviors of Platinum(II) Complexions on/with Manganese(IV) Dioxide and Manganese(II) Hydroxide: Model Reactions for the Concentration Mechanism of Platinum into Oceanic Manganese Nodules**

*Mamiko Yamashita*

*Kyushu University, Japan*



**18 – 20 OCTOBER 2007 (Thursday through Saturday)**

**FIELD TOUR OF THE HAKONE-IZU NATIONAL PARK AREA**

This required pre-registration at additional cost.