

FINAL PROGRAM

SCIENTIFIC, LEGAL AND ECONOMIC PERSPECTIVES OF MARINE MINING

UNDERWATER MINING INSTITUTE 2006 • KIEL, GERMANY

24 SEPTEMBER 2006 (Sunday)

WELCOMING RECEPTION AND REGISTRATION

The Steigenberger Hotel

Schlossgarten 7, Kiel, Germany

20:00 to 21:30 (*Restaurant Jakob*)

25 SEPTEMBER 2006 (Monday)

TECHNICAL SESSION I

The Steigenberger Hotel

9:00 to 18:00 (*Marco Polo*)

9:00 WELCOME

Call to Order

Prof. Peter M. Herzig

President, International Marine Minerals Society and

Director, Leibniz Institute of Marine Sciences at the University of Kiel

Welcome

Jost de Jager

State Secretary of the Ministry of Science, Economy, and Transportation, Germany

Introductory Remarks

Charles L. Morgan

UMI Program Chair

Presentations

9:15 Regulations for the Exploration of Polymetallic Sulphides and Cobalt Rich Crusts in the International Seabed Area

Secretary-General Satya Nandan

International Seabed Authority, Kingston, Jamaica

9:40 Marine Gas Hydrate Research at IFM-GEOMAR: An Overview on History and Recent Developments

Peter Linke

Leibniz Institute of Marine Sciences at the University of Kiel, Germany

- 10:05 Seafloor Massive Sulfides: Lessons from Land and Sea**
Steven D. Scott
University of Toronto, Ontario, Canada
- 10:30 ROV Kiel 6000: A New Research Platform for Ocean Observatories and Deep-sea Investigations Down to 6000m Water Depth**
Thomas Kubn
Leibniz Institute of Marine Sciences at the University of Kiel, Germany
- 10:55 Break**
- 11:20 Gas Hydrates as a Future Energy Resource - Scientific Aspects and Perspectives**
Christian Müller
Federal Institute for Geosciences and Natural Resources, Hannover, Germany
- 11:45 Polymetallic Nodules as a Future Deep Sea Mineral Resource**
Hermann-Rudolf Kudrass
Federal Institute for Geosciences and Natural Resources, Hannover, Germany
- 12:10 Mineralogy and Chemistry of Ferromanganese Nodules from Campbell Nodule Fields**
Se Won Chang
Korea Institute of Geoscience and Mineral Resources, Daejeon, Korea
- 12:35 Kashevarov Trough Seamount Ferromanganese Crusts (The Sea of Okhotsk)**
Pavel Mikbailik
Russian Academy of Sciences, Vladivostok, Russia
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- 13:00 Break for Lunch and Poster Session***
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- 14:55 From Shovels to Crawlers: The Development of Marine Placer Mining Methods**
Richard H.T. Garnett
Valrik Enterprises, Inc., Ontario, Canada
- 15:20 Deep-sea Mineral Potential in the South Pacific Waters – The Results of the 21-year Long-term Japan/SOPAC Cooperative Deep-sea Mineral Resources Study Programme, 1985-2005**
Nobuyuki Okamoto
Japan Oil, Gas and Metals National Corporation, Kawasaki, Japan
- 15:45 First Australian Offshore Mineral Locations Map**
William J. McKay
Geoscience Australia, Canberra, Australia
- 16:10 Break**
- 16:35 High Resolution Coring – the Ground Truth**
Alister Skinner
British Geological Survey (Marine Operations), Edinburgh, United Kingdom

17:00 Gravel-seeding – A Suitable Technique for Restoration of the Seabed Following Marine Aggregate Dredging?

Keith M. Cooper

Centre for Environment, Fisheries and Aquaculture Science, Essex, United Kingdom

17:25 Eastern English Channel Broadscale Mapping

Silvana Birchenough

Centre for Environment, Fisheries and Aquaculture Science, Essex, United Kingdom

17:50 Announcements

18:00 OPEN EVENING

Note: Concurrent with Technical Session I is the Spouses Day Tour to Luebeck (9:00 to 15:00).

26 SEPTEMBER 2006 (Tuesday)

TECHNICAL SESSION II

8:30 AM to 18:00 PM

8:30 International Marine Minerals Society: Annual General Membership Meeting

Peter M. Herzig, President

Presentations

9:00 The Metallogeny of Ancient Greenstone Belts and Implications for Modern Submarine Hydrothermal Systems

Mark D. Hannington

University of Ottawa, Ottawa, Canada

9:25 Neptune Minerals Plc - First Year as a Public Company

Simon McDonald

Neptune Minerals Plc, New South Wales, Australia

9:50 Search for Sediment-hosted Seafloor Polymetallic Sulfides: What Are We Doing Wrong?

Raymond Binns

*Commonwealth Scientific and Industrial Research Organization
and Australian National University, New South Wales, Australia*

10:15 Chimney Massive Sulfides from the Vienna Woods Deposit (Bismarck Sea, PNG): Mineral Zonation and Geochemical Gradients

Peter E. Halbach

Free University, Berlin, Germany

10:40 Break

- 11:00 Summit Construction, Caldera Formation, Cone Growth, Hydrothermal Processes, and Sulfide Deposition on Submarine Volcanoes of the Southern Kermadec Arc**
Alexander Malahoff
GNS Science, Wellington, New Zealand
- 11:25 Mineralisation Associated with Submarine Volcanoes of the Southern Kermadec Arc, New Zealand**
Ian J. Graham
GNS Science, Wellington, New Zealand
- 11:50 Shallow Submarine Hydrothermal Systems along the Tonga-Kermadec Arc, SW-Pacific: Geological and Metallogenetic Characteristics and Variabilities**
Ulrich Schwarz-Schampera
Federal Institute for Geosciences and Natural Resources, Hannover, Germany
- 12:15 Gold Mineralization in Ancient and Modern Massive Sulfide Deposits Associated with Ultramafic Rocks**
Irina Melekesteva
Russian Academy of Sciences, Chelyabinsk, Russia
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- 12:40 Break for Lunch and Poster Session***
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- 14:10 ²³⁰Th/U-dating of Massive Sulfides: Results and Applications**
Georgy Cherkashov
Institute for Geology and Mineral Resources of the Ocean, St. Petersburg, Russia
- 14:35 First Commercial Drilling for Seafloor Massive Sulfides: Results from the Kermadec 05 Expedition, New Zealand**
Timothy F. McConachy
Commonwealth Scientific and Industrial Research Organization, New South Wales, Australia
- 15:00 Sampling Seabed Massive Sulphides - Practical Experience and Ideas for the Future**
Marcus Rampley
Seacore Limited, Cornwall, United Kingdom
- 15:25 The Economic Traps and Pot-holes of Marine Placer Mining**
Richard H.T. Garnett
Valrik Enterprises, Inc., Ontario, Canada
- 15:50 Break**
- 16:15 Sensitivity Analyses of the Kuroko-type Seafloor Massive Sulfide Mining in Japan's EEZ**
Tetsuo Yamazaki
National Institute of Advanced Industrial Science and Technology, Ibaraki, Japan
- 16:40 InterRidge Statement of Commitment to Responsible Research Practices at Deep-Sea Hydrothermal Vents**
Colin Devey
Leibniz Institute of Marine Sciences at the University of Kiel, Germany

- 17:05 Conceptual Proposals for Environmental Investigations of Deep-Seabed Mining**
Hjalmar Thiel
Hamburg University, Hamburg, Germany
- 17:30 Recommendations for a High Seas Conservation Issue: The Polymetallic Nodule Ecosystem of the Eastern Equatorial Pacific Ocean**
Virginie Tilot de Grissac
National Natural History Museum, Paris, France
- 17:55 Closing Remarks**
- 18:00 End of Technical Sessions**

***Poster Session**

Metalliferous Sediments and Search of Underwater Hydrothermal Deposits
Evgeny Gurvich

Hydrothermal Hematite/Silica Rocks from the Blanco Fracture Zone, Northeast Pacific

James R. Hein, U.S. Geological Survey, Menlo Park, California US

Nautilus Minerals, Inc.: Project Update

David Heydon (DVD only), Nautilus Minerals, Inc.

Visualization and Environmental Impacts of Seafloor Massive Sulphide Mining

Jayne Holden, University of New South Wales, Australia

Preliminary Report: The Third Marine Kuroko-type Deposit in the Area 200 km² of Major Kuroko Province in Japan

Kokichi Iizasa, Geological Survey of Japan, AIST, Ibaraki, Japan

Investigation of Hydrothermal Vent Using Biogeochemical Trace Elements (ATP, Dissolved Methane) in the Northeastern Lau Basin

Kyeong-Hong Kim, Korea Ocean Research and Development Institute, Ansan, Korea

Characteristics of Hydrothermally Altered Wall Rocks from Modern Hydrothermal Fields

Klas Lackschewitz, Leibniz Institute of Marine Sciences at the University of Kiel, Germany

Back-arc Rifting and Formation of the Hydrothermal Ore Deposits at the Northern Izu-Ogasawara Arc in the Western Pacific

Kensaku Tamaki, University of Tokyo, Japan

Reconsideration of Fine-scale Dating of Ferromanganese Crusts for More Reliable Microstratigraphic Correlation

Akira Usui, Kochi University, Japan

Modeling of Methane Plume Behavior in a Water Column

Tetsuo Yamazaki, National Institute of Advanced Industrial Science and Technology, Ibaraki, Japan

26 SEPTEMBER 2006 (Tuesday)

BANQUET

The Freya (Paddle Steamer)

20:00 to 23:00

Featuring: **The Future Ocean – An Initiative to Study Its Changes, Risks and Resources**
Professor Klaus Wallmann
Leibniz Institute of Marine Sciences at the University of Kiel

27 – 30 SEPTEMBER 2006 (Wednesday through Saturday)

FIELD TOUR OF THE HARZ MOUNTAINS

Led by Prof. Peter Halbach. Please gather in the lobby of the Steigenberger Hotel by 8:30. The return to Kiel will be made via the Hamburg Airport by 16:00.

