

## International Workshop for Students "Seafloor Mineral Resources: scientific, environmental, and societal issues"

### Day 1 - Monday 18th March 2013 - Room Marco Polo

9:00 - 9:15 h	Brief welcome	Prof. Martin Visbeck	Speaker of the Cluster of Excellence "The Future Ocean"
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Time	Activity	Presenter	
<b>Theme 1 Scientific basics - session chairs: Prof. Rüpke and Prof. Devey</b>			
9:15 - 10:00 h	Mn nodules deposits, genesis and potential of raw materials	Dr. Thomas Kuhn	Bundesanstalt für Geowissenschaften und Rohstoffe
10:00 - 10:15 h	Discussion		
10:15 - 11:00 h	Genesis, distribution, and resource potential of ferromanganese crusts for strategic and critical metals	Dr. James R. Hein	United States Geological Survey
11:00 - 11:15 h	Discussion		
<b>11:15 - 11:30 h Morning Tea / Coffee break</b>			
11:30 - 12:15 h	Seafloor massive sulfides (SMS) and their resource potential	Prof. Mark Hannington	Ottawa University
12:15 - 12:30 h	Discussion		
<b>12:30 - 13:30 h Lunch buffet</b>			
13:30 - 14:15 h	Distribution of volcanogenic massive sulfides	Prof. Lawrence Cathles	Cornell University
14:15 - 14:30 h	Discussion		
<b>Theme 2 Mining processes - session chairs: Dr. Petersen and Prof. Rüpke</b>			
14:30 - 15:15 h	Meeting global environmental and social development objectives through sustainable seafloor resources	Dr. Samantha Smith	Nautilus Minerals on behalf of Deep Green Resources
15:15 - 15:30 h	Discussion		
<b>15:30 - 15:45 h Coffee break</b>			
15:45 - 16:30 h	Technologies for mining in the deep sea	Stanislav Verichev	MTI Holland B.V.
16:30 - 16:45 h	Discussion		

### Room Baltic A:

17:15 - 18:30 h	Meet the Prof	Prof. Mark Hannington Prof. Lawrence Cathles	ISOS Event
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### 2 - Tuesday 19th March 2013 - Room Marco Polo

Time	Activity	Presenter	
<b>Theme 4 Legal and economic considerations - session chairs: Prof. Matz-Lück, Prof. Requate and Prof. Rüpke</b>			
9:00 - 9:45 h	Law of the Sea and licensing of mining activities	Michael Lodge	International Seabed Authority
9:45 - 10:00 h	Discussion		
<b>Theme 2 Mining processes (cont.) - session chairs: Dr. Petersen and Prof. Rüpke</b>			
10:00 - 10:45 h	Economic consideration of future marine mining activities and production technology	Christian Dornieden	Aker Wirth
10:45 - 11:00 h	Discussion		
<b>11:00 - 11:15 h Morning Tea / Coffee break</b>			
<b>Theme 3 Environmental impact of mining - session chairs: Prof. Devey and Dr. Petersen</b>			
11:15 - 12:00 h	Deep-sea hydrothermal vents and environmental management: a scientist's perspective	Dr. Cindy van Dover	Duke University
12:00 - 12:15 h	Discussion		
<b>12:15 - 13:15 h Lunch buffet</b>			
13:15 - 14:00 h	Past German environmental impact studies on manganese nodules	Dr. Gerd Schriever	BioLab Research Institute
14:00 - 14:15 h	Discussion		
14:15 - 15:00 h	The first environmental impact assessment of a submarine massive sulfide mining operation	Dr. Samantha Smith	Nautilus Minerals
15:00 - 15:15 h	Discussion		
<b>15:15 - 15:30 h Coffee break</b>			
15:30 - 16:15 h	Environmental issues related to the German manganese nodule licence area	Prof. Pedro Martinez Arbizu	Senckenberg Research Institute
16:15 - 16:30 h	Discussion		
16:30 - 16:45 h	Protecting the Marine Environment and Biodiversity from Deep-Sea Mining	Stephan Lutter	World Wide Fund For Nature
16:45 - 17:00 h	Discussion		
<b>Room Baltic A:</b>			
17:15 - 18:30 h	Meet the Prof	Dr. Cindy van Dover Dr. Samantha Smith	ISOS Event

## International Workshop for Students "Seafloor Mineral Resources: scientific, environmental, and societal issues"

### Day 3 - Wednesday 20th March 2013 - Room Marco Polo

Time	Activity	Presenter	
<b>Theme 4 Legal and economic considerations - session chairs: Prof. Matz-Lück, Prof. Requate and Prof. Rüpke</b>			
9:00 - 9:45 h	World metal production and future demands	Dr. Peter Buchholz	Bundesanstalt für Geowissenschaften und Rohstoffe
9:45 - 10:00 h	Discussion		
10:00 - 10:45 h	Legal regulation of the exploitation of the deep sea's mineral resources and latest developments	Prof. Tullio Treves	International Tribunal for the Law of the Sea
10:45 - 11:00 h	Discussion		
<b>11:00 - 11:15 h Morning Tea / Coffee break</b>			
11:15 - 12:00 h	Seabed resources, politics, and maritime limits in the Arctic	Harald Brekke	Norwegian Petroleum Directorate
12:00 - 12:15 h	Discussion		
12:15 - 13:00 h	Towards the development of a national regulatory framework for deep sea mining in the Cook Islands nodules	Paul Lynch	Seabed Mineral Authority Cook Islands
13:00 - 13:15 h	Discussion		
<b>13:15 - 14:15 h Lunch buffet</b>			
14:15 - 15:00 h	<b>Conclusion</b>	<b>Scientific Steering Committee</b>	