



# UMC UNDERWATER MINERALS CONFERENCE

Order	Time	Presenter	Affiliation	Country	Title
<b>Sunday, Sept 27, 2020 - WELCOME RECEPTION</b>					
	19:00 21:00	begin end			INTRODUCTION by Dr. Mark Luther - Welcome; Introduce IMMS, Volunteers and Explain Virtual Conference
<b>Monday, Sept 28, 2020 - TECHNICAL SESSIONS I and II</b>					
	9:00				START: Call to Order by Technical Chair Dr. John Wiltshire; Introduce Host, Dr. Mark Luther
	9:10				University of South Florida and UMC
	<b>9:20</b>				<b>INTRODUCTION to Presentations of <u>Technical Session I - Equipment Technology &amp; Innovations</u></b>
1	9:30	Wiebe Boomsma	Royal IHC	Netherlands	Vertical Transport System: Ready to Launch
2	9:55	Frank Lim	2H Offshore	UK	A Free-Standing Deep Sea Mining Vertical Transport System
3	10:20	Jianyu Xiao	IDSSE	China	Model Test of Skip Lifting System for Deep-sea Mining
	10:45				<b>Coffee Break - 30 minutes</b>
4	11:15	Marcio Yamamoto	National Maritime Research Institute	Japan	A Review of the R&D on Riser System for the Manganese Nodules Exploitation
5	11:40	Benjamin Pietro Filardo	Pliant Energy Systems	USA	Environmentally Benign Nodule Extraction Method Using Autonomous Swarm Robotics
6	12:05	Emanuele Di Lorenzo	Ocean Visions	USA	Ocean Visions: Transforming Science & Engineering into Ocean Solutions
	12:30				<b>LUNCH Break- 1 hour</b>
	13:30				<b>INTRODUCTION to Presentations of <u>Technical Session II - Innovations on Mineralogy</u></b>
7	13:40	Thomas Kuhn	Fed. Inst. for Geosciences and Nat. Resources	Germany	Processing of Mn Nodules with a Combined Pyro-Hydrometallurgical "Zero-waste" Approach
8	14:05	Steinar Ellefmo	Norwegian University of Science and Technology	Norway	Exploration Systems for Seafloor Massive Sulfides - A Conceptual Design
9	14:30	Fredrik Søreide	Norwegian University of Science and Technology	Norway	A New Approach to 3D SMS Mineralization Assessments
	14:55				<b>Coffee Break - 30 minutes</b>
10	15:25	Arnt Helge Olsen	Kongsberg Maritime	USA	Mapping Seafloor Minerals with AUV
11	15:50	Blake Holton	Coda Octopus Products Inc	USA	Real-Time Agile Volumetric Sonar Solution for Mapping, Identification, Monitoring and Mapping
12	16:15	Tetsuo Yamazaki	Osaka Prefecture Univ., Sakai, Japan	Japan	Preliminary Economic Feasibility Analysis of Mound Type Methane Hydrate Mining
	16:40				<b>Closing Remarks</b>
	17:05				<b>Networking Session</b>
	17:30				<b>End of the day</b>



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Tuesday, Sept 29, 2020 - TECHNICAL SESSIONS III and IV					
	9:00				INVITATION TO UMC 2021 - FLORIDA - St. Petersburg
	9:10				INTRODUCTION to Presentations of <b>Technical Session III - Plume Related Research</b>
13	9:20	Laurens de Jonge	IHC Mining B.V.	Netherlands	Polymetallic Nodule Mining: Plume Reduction at the Source
14	9:45	Rudy Helmons	Delft University of Technology	Netherlands	Sediment Discharges from Mining Vehicles, Experiments to Find the Optimal Release Conditions
15	10:10	Steven Rizea	Deep Reach Technology	USA	Status of US DOE Project to Develop a Subsea Mining System that Mitigates the Environmental Impact of Sediment Plumes
	10:35				Coffee Break - 30 minutes
16	11:05	Thomas Peacock	Massachusetts Institute of Technology (MIT)	USA	Deep-Sea Mining Sediment Plumes: Recent Progress and Next Steps
17	11:30	Samantha Smith Kris De Bruyne	GSR	Belgium	GSR Update: Technological Advances and Environmental Responsibility
18	11:55	James Hein	USGS	USA	Cobalt, a Uniquely Deep-Ocean Critical Metal Resource
	12:20				LUNCH Break- 1 hour
	13:20				INTRODUCTION to Presentations of <b>Technical Session IV - Resource Assessment</b>
19	13:30	Mariana Benites	USP - Universidade de São Paulo	Brazil	Resource Considerations of Phosphate-Rich Ferromanganese Crust and Phosphorite Deposits from the Summit of Rio Grande Rise
20	13:55	Kristoffer Solvi	Norwegian Petroleum Directorate	Norway	Deep-Sea Mineral Resources on the Norwegian Continental Shelf
21	14:20	Annemiek Vink	BGR	Germany	Status of Exploration in the German License Area for Polymetallic Nodules
	14:45				Coffee Break - 30 minutes
22	15:15	Max Kaufmann	Camborne School of Mines, University of Exeter	UK	The Hunt for Deep Sea Minerals – Identifying and Analyzing Formation Areas of Marine Minerals
23	15:40	Virginie C. Tilot	Université Catholique de Louvain (Belgium)	Belgium	Traditional Dimensions of Seabed Resource Management in the Pacific
24	16:05	Sean Aldrich Shervin Azad	RSC Mining & Mineral Expl. Goldspot Discoveries Corp.	New Zealand Canada	Application of Artificial Intelligence Technologies and Workflows to Support Marine Mineral Resource Estimation
	16:30				Closing Remarks
	16:40				Networking Session
	17:10				End of the day



# UMC UNDERWATER MINERALS CONFERENCE

Wednesday, Sept 30, 2020 - TECHNICAL SESSION V and VI					
	9:00				INTRODUCTION to Presentations of <b>Technical Session V - Environmental issues</b>
25	9:10	Dr. Sebastian Volkmann	Independent Consultant	Netherlands	Blue Solutions for a Green Energy Future
26	9:35	Dr. Mark Luther	USF College of Marine Science	USA	Observations of Benthic Boundary Layer Processes for Marine Mineral Extraction
27	10:00	Jens Laugesen	DNV GL	Norway	Ideas and Suggestions for Environmental Baseline Studies Related to Future Mineral Extraction on the Norwegian Continental Shelf
	10:25				<b>Coffee Break - 30 minutes</b>
28	10:55	Rick Cole	RDSEA International	USA	Water-Column Physics, Seafloor Massive Sulphides, and Polymetallic Nodules
29	11:20	Hans Smit	OML - Ocean Minerals	USA	Ocean Minerals Program to Address the Critical Metals Supply Chain
30	11:45	Bryan O'Malley	USF College of Marine Science	USA	Benthic Foraminifera are Useful Indicators of Ecological Quality Status for Marine Mining Environmental Impact Assessment
31	12:05	Paul Holthus	World Ocean Council	USA	The Law of the Sea Amendment (BBNJ) and What this New Regulation Means to the Deep Seabed Mining Community
	12:30				<b>LUNCH Break- 1 hour</b>
	13:30				INTRODUCTION to Presentations of <b>Technical Session VI - Mineralogy &amp; Geochemistry</b>
32	13:40	João Carvalho	ISQ	Portugal	Prospectivity Mapping of Seabed Minerals Using Satellite Remote Sensing Data: the SAGRESsmart Project
33	14:05	Francisco Javier Gonzalez	Geological Survey of Spain (IGME)	Spain	An Integrative Metallogenetic Study of Seabed Mineral Deposits in the Pan-European Seas: GeoERA-MINDeSEA
34	14:30	Akira Usui	Kochi University	Japan	Regional and Fine-Scale Variability in Chemical and Mineralogical Composition of the Hydrogenetic Ferromanganese Crusts
	14:55				<b>Coffee Break - 30 minutes</b>
35	15:25	Kira Mizell	USGS	USA	Geographic and Oceanographic Factors that Impact the Composition of FeMn Crusts
36	15:50	Egidio Marino	Geological Survey of Spain (IGME)	Spain	Cobalt-rich Ferromanganese Crusts from the Canary Islands Seamounts: Mineralogy and Geochemistry
37	16:15	Georgy Cherkashov	VNIIOkeangeologia, St Petersburg State Univ.	Russia	Reconstruction of Hydrothermal Ore-Forming System Evolution during 100 kyr Based on Massive Sulfides
	16:40				<b>Closing Remarks</b>
	16:50				<b>Networking Session</b>
	17:30				<b>End of the day</b>



# UMC UNDERWATER MINERALS CONFERENCE

Thursday, October 1, 2020 - TECHNICAL SESSION VII & Workshop					
	9:00				INTRODUCTION to Presentations of <b>Technical Session VII - Regulatory considerations</b>
39	9:10	Ilsa Harper Luther	Tulane University Law School	USA	Ship Happens: Contingency Planning for Deep-Sea Mining in Light of Exxon Valdez
40	9:35	Andreas Kaede	Kanzlei Kaede	Germany	IP Licensing for Deep Seabed Mining (DSM): Leave the Regulatory Gap or Fill it?
	10:00				<b>Coffee Break - 20 minutes</b>
	10:20				INTRODUCTION to <b>BOEM Workshop</b> - Stakeholder Perspectives on U.S. Resources, Regulations, and Responsibilities
	10:30	John Haines	USGS	USA	USGS Mission, Roles and Responsibilities
	11:00	Alden Denny	BOEM	USA	BOEM Mission, Regulations and Jurisdiction
	11:30	Amy Gartman	USGS	USA	USGS Overview of Marine Minerals in the OCS & EEZ
	12:00				<b>Lunch Break - 1 hour</b>
	13:00	Panel	BOEM / USGS	USA	Mineral Resource Discussion Session: Stakeholder Input on Resource Types and Critical Mineral Potential
	13:30	Panel	BOEM / USGS	USA	Mineral Resource Discussion Session: Stakeholder Input on Resource Areas
	14:00	Panel	BOEM / USGS	USA	Mineral Resource Discussion Session: Stakeholder Input on Data Requirements
	14:30				<b>Coffee Break - 15 minutes</b>
	14:45	Panel	BOEM / USGS	USA	Regulatory Framework Discussion Session: Stakeholder perspective on Regulations
	15:15	Panel	BOEM / USGS	USA	Regulatory Framework Discussion Session: Stakeholder perspective on Jurisdiction
	15:45				<b>Coffee Break - 15 minutes</b>
	16:00	Panel	BOEM / USGS	USA	Review of Resource and Areas of Interest
	16:20	Panel	BOEM / USGS	USA	Review of Regulatory and Jurisdictional Input
	16:50	Panel	BOEM / USGS	USA	Discussion of Environmental Stewardship and Closing Remarks
	17:20				<b>Closing Remarks</b>
	17:30				<b>Networking Session</b>
	18:00				<b>End of the day and of UMC 2020</b>