UNDERWATER MINERALS CONFERENCE 2026

Sunday, November 8, 2026 - WELCOME RECEPTION

INTRODUCTION by Dr. Mark Luther - Welcome; Introduce IMMS, then Speech by HOST - TBD

15:00	PRE-REGISTRATION STARTS - Desk located outsise the Welcome Cocktail
17:00 begin **21:00** end	**WELCOME COCKTAIL - Toyama Hilton Doubletree Hotel** (open bar)

Monday, November 9, 2026 - TECHNICAL SESSIONS I, II, III

#	Time	Presenter	Affiliation	Country	Title
	8:00				REGISTRATION STARTS - Desk located in front of the Conference Room
	8:30	Dr. Hiroyuki Yamato	JOGMEC	Japan	Welcome remarks
	8:40	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session I** - **Updates from Jurisdictions with Marine Minerals**
1	8:45	Seiya Kawano	Japan Organization for Metals and Energy Security	Japan	The Evolution of Seafloor Mineral Resource Development in Japan: Policy, Exploration and Technology
2	9:10	Aurora C. Elmore	NOAA	USA	Expanded mapping and exploration efforts in U.S. waters in support of marine critical minerals priorities
3	9:35	Oluyemisi Oluwadare	Nigerian Geological Survey Agency (NGSA)	Nigeria	Building Nigeria's Capacity for Sustainable Marine Mineral Resource Assessment
4	10:00	Kjersti Dahle	Norwegian Offshore Directorate	Norway	From Resource Potential to Regulatory Readiness: Norway's Science Based Approach to Seabed Minerals
	10:25	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session II** - **Latest Developments in Marine Mineral Exploration & Related Techniques**
5	10:25	Michael Stephens	NOAA	USA	NOAA's 2026 Marine Critical Mineral Mapping Expedition in American Samoa
	10:50				**Coffee Break - 20 minutes**
6	11:10	Keith VanGraafeiland	Esri	USA	Spatial Intelligence for Critical Marine Minerals: Integrating American Samoa Seabed Data into a Regulatory System of Record
7	11:35	Nobuyuki Okamoto	Deep Ocean Resources Development Co., Ltd.	Japan	Efforts Toward Commercialization of Polymetallic Nodules in the DORD's License Area
8	12:00	Spencer Collins	Kongsberg	USA	Technology Advances Providing Extreme Acoustic Positioning Repeatability and Performance for Minerals Exploration
9	12:25	Chris Wyatt	WYCO Mineral Advisors	USA	First geologic observations from the UK2 license area, Clarion-Clipperton Zone from the 2026 RV Tangaroa voyage
	12:50				**LUNCH Break- 1 hour** **Early-Career Professionals lunch on Room 204**
10	13:50	Erik Werner	RSC and DORD	Canada	Free-Fall Grab Sampler Redemption?
11	14:15	Akira Tsune	Deep Ocean Resources Development	Japan	Quality Assurance in Polymetallic Nodule Exploration: The Role of SOPs and Certified Reference Materials
12	14:40	Rahul Sharma	National Institute of Oceanography, India	India	Deep-Sea Mining: Scale Matters
	15:05	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session III** - **Risk, Regulation and Readiness**
13	15:10	Nathan Eastwood	Watson Farley & Williams	Australia	Beyond the "Legal Vacuum": Why U.S. and ISA Seabed Mining Regimes Are Parallel, Not Illegitimate
14	15:35	R. Kerry Kehoe	Kehoe Regulatory Advisors, LLC	USA	Managing Uncertainty: A Regulatory Framework for Deep Seabed Mining
	16:00				**Coffee Break - 20 minutes**
15	16:20	Brandon Tuck	Vinson & Elkins	USA	First Impressions: How NOAA's Initial Environmental Impact Statements Will Shape the Future of U.S. Deep Seabed Mining
16	16:45	Daiana Seabra Venancio	Australian National University	Brazil	Navigating the fault lines: Regulatory fragmentation in deep-sea mining
17	17:10	Farida Mustafina	Norwegian University Of Science And Technology	Norway	Regulatory Risk in Deep-Sea Mining: Corporate Perspectives and the Challenge of Governing under Deep Uncertainty
18	17:35	Eikan Sunaoshi	Akita University	Japan	Evaluating Optimal Timing for Manganese Nodule Investment Under Geological and Metal Price Uncertainties

Tuesday, November 10, 2026 - TECHNICAL SESSIONS IV, V and VI

#	Time	Presenter	Affiliation	Country	Title
	8:30	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session IV - Processing, Commercialization and Economics**
19	8:35	Jeffrey Donald	The Metals Company	Canada	From Flowsheet Development to Commercial Readiness: Strategic Metallurgical Approaches for Deep- Sea Polymetallic Nodules
20	9:00	Eric Macris	Viridian Biometals	USA	Low-cost, high-performance, clean processing of seabed nodules with rock-breathing bacteria
21	9:25	David Ruddell	American Metal, Inc.	USA	Beyond Collection: Unlocking Value from Marine Minerals Through Efficient Processing
22	9:50	Jeanny Wijaya	Kyoto University / INPEX Corporation	Japan	Life Cycle Assessment of Alternative Metallurgical Processing Routes for Producing Metal Commodities using Polymetallic Nodules
23	10:15	Tatsuru Takahashi	Hokkaido University	Japan	Toward the Development of a Fine-Particle Mineral Processing Method for Cobalt-rich Ferromanganese Crusts
	10:40				**Coffee Break - 20 minutes**
	11:00	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session V - Environmental Baseline and Ecosystem Studies**
24	11:05	Jeroen Ingels	The Metals Company	Canada	Natural temporal variation drives biodiversity and coupled ecosystem shifts in abyssal benthos targeted for mining
25	11:30	Jayden Hyman	The University of Queensland	Australia	Modelling land and deep-sea trade-offs for ecologically responsible nickel supply
26	11:55	Loic Van Audenhaege	National Oceanography Centre	UK	What Keeps the Nodules at the Surface? A Biological Perspective
27	12:20	Samantha Smith	Global Sea Mineral Resources (& DORD)	Belgium	Advancing Environmental Readiness for a System Integration Test: Collaborative Science by DORD and GSR
	12:45				**LUNCH Break- 1 hour**
28	13:45	Travis W. Washburn	Texas A&M University - Corpus Christi	USA	The DORD multi-decadal time series of the deep seafloor environment in the Clarion-Clipperton Zone
29	14:10	Patrick Schwing	Eckerd College	USA	Establishing geochemical baselines in the Cook Islands Exclusive Economic Zone, CIC CBG04 Exploration Site
30	14:35	Bella Iannotta	University of South Florida	USA	Baseline sedimentary organic matter quality and quantity in polymetallic nodule fields of the eastern CCZ and Cook Islands
31	15:00	S. Kersey Sturdivant	Wetstone	USA	Deep view: Focus on functional metrics to assess benthic response to deep-sea mining
32	15:25	Carmen Sousa	CIMA / ARNET - University of Algarve	Portugal	Sea anemone as model for ecotoxicological assessment of mining-related disturbances
	17:00	Session Chair TBD			**Technical Session VI:** Pre-Banquet **POSTER SESSION** at the 1st floor of Conference Center **(open bar)**

Poster presentations details next page

19:00	**54th UMC BANQUET - ANA Crowne Hotel Ballroom**
22:00	**End of the day**

Tuesday, November 10, 2026 - TECHNICAL SESSIONS IV, V and VI

17:00 Session Chair TBD

Technical Session VI: Pre-Banquet **POSTER SESSION** at the 1st floor of Conference Center **(open bar)**

P1	Abby Malatia	Eckerd College	USA	Development and Application of Th-228 for Tracking Deep-Sea Sediment
P2	Adam Ashby	Bushmead Environmental	UK	Environmental Impacts, Governance Gaps, and Legal Perspectives—A
P3	Alexander Petersen	MOBY Robotics	USA	Using AI and Marine Robotics to Build High Resolution Digital Twins of
P4	Anna Scott	Mithril Minerals	USA	Techno-Economic Model and Validation of a Novel Nodule Collection System
P5	Becky Hitchin	ERM	UK	Using Environmental Impact Assessment to strengthen consistency and
P6	Britt Blankenaar	Allseas Engineering B.V.	Netherlands	Innovative Research Supporting Responsible Deep-Sea Nodule Collection
P7	Cara James	Univ. of British Columbia	Canada	Quantifying 3D Mn/Fe variation in polymetallic nodules
P8	Carmen Sousa	University of Algarve	Portugal	Towards the validation of ABC Transporter proteins as potential biomarkers of
P9	Christopher J Kelly	CSA Ocean Sciences Inc.	USA	Developing a Scientifically Robust Environmental Monitoring Program
P10	Dave Bernstein	NV5	USA	Integrating Complex Offshore Survey Operations in American Samoa
P11	Deborah Kilbane	CSA Ocean Sciences Inc.	USA	Managing Complexity Beneath the Surface: Coordinating Multi-Contractor
P12	Edgar Kutschera	FRANE Media	Germany	Why Great Research Gets Forgotten
P13	Eiichi Kikawa	IDEA Consultants, Inc.	Japan	Deep-sea survey for Fe-Mn crust using a hovering-type AUV
P14	Elena Guillet	Haynes and Boone CDG LLP	USA	Choppy Waters: Navigating Conflicting Regimes
P15	Erik Werner	RSC and Deep Sea Vision	New Zealand	Polymetallic Nodule Resource Classification and Exploration Approach
P16	Frank Lim	2H Offshore	UK	Design Progress of a Free-Standing SMS Mining Vertical Transport System
P17	Gyuha Hwang	KIOST	South Korea	Quantitative Resource Assessment of Cobalt-rich Ferromanganese Crusts on
P18	Hikari Sano	Akita University	Japan	Automated Segmentation of Deep-Sea Polymetallic Manganese Nodules Using
P19	Hiroyuki Yamamoto	JAMESTEC	Japan	Practical operation of deep-sea rare-earth mud mining system
P20	Jack Ingledew-Gale	TMC	Canada	Mapping the Wider Environmental Context of Deep-Sea Mining in the CCZ
P21	Jake Russell	Orpheus Ocean	United State	Autonomous Seafloor Sampling with the Orpheus AUV
P22	Joaquim Bento	The Metals Company	Canada	Assessment of Deep-Sea Mining Benthic Plume Footprint, Sedimentation
P23	John Jamieson	University of Ottawa	Canada	Seafloor Massive Sulfide Deposits: Where are the big and rich deposits?
P24	Josef Flieg	Eckerd College	USA	Baseline Comparison of Sedimentary Biogenic Silica in the CCZ and Cook
P25	Kamlesh Joshi	Deep Reach Technology	USA	Monte Carlo Framework for Reliability and Economic Assessment
P26	Ken Adachi	Tohoku University	Japan	Hydrometallurgical Processing of Cobalt-rich Ferromanganese with Hydrogen
P27	Kjersti Dahle	Norwegian Offshore Director	Norway	Norway's Science-Based Approach to Seabed Minerals
P28	Ko Miyagawa	Hokkaido University	Japan	Improving the flotation selectivity of cobalt-rich ferromanganese crusts
P29	Kristian Mackowiak	Kingston Process Metallurgy	Canada	Integration of Deep-Sea Resources into Existing Flowsheets
P30	Leandro Marinho	University of Algarve	Portugal	Ecotoxicological effects of deep-sea sediments from Pacific polymetallic
P31	Loic Van Audenhaege	NOC	UK	Photogrammetry: Advancing the Next Generation of Ecological Baseline
P32	Lucio Martins	Geological Survey of Brazil	Brazil	Inferred Ocean Core Complexes from New Bathymetric Interpretation
P33	Lukasz Smajdor	Polish Geological Institute	Poland	Application of magnetic surveys as a reconnaissance tool
P34	Makoto Seta	Waseda University	Japan	Rethinking Calls for a Moratorium on Deep-Seabed Mineral Development
P35	Marcos Nobrega	Geological Survey of Brazil	Brazil	Origin and Redox Conditions of Fe-Mn Crust Formation at Sirius Mount
P36	Mark E Mussett	University of South Florida	USA	Nodule Abundance Estimation from Analysis of Seafloor Photographs and
P37	Norihito Samata	Musashino University	Japan	Institutional Design of the Environmental Compensation Fund in the Area
P38	Pedro Madureira	INESC TEC	Portugal	Trident Project for Deep-Sea Impact Assessment and Persistent Monitoring
P39	Rachel Houmphan	The Metals Company	Canada	Reflections on Social Impact Assessment for an Emerging Industry
P40	Rebekka Larson	Eckerd College	USA	Radioisotope Landscape Approach for Sediment Chronometers and Tracers
P41	Seungjin Yang	KIOST	South Korea	Integrated GIS-based Delineation for Ferromanganese Crusts
P42	Shelby Gunnells	Texas A&M University	USA	Chemical spatial distributions in polymetallic nodule deep-sea mining plumes
P43	Steven D Meyers	University of South Florida	USA	Deep Ocean Dynamics from CTD Data in the Cook Islands EEZ
P44	Tae-Kyeong Yeu	KRISO	South Korea	An Introduction to the DREAMS Project
P45	Tami Haase	The Metals Company	Canada	Reviewing Migratory Species, Threatened Species and Ecologically Sensitive
P46	Tetsuo Yamazaki	Osaka Metropolitan Universi	Japan	Self-lift: an innovative recovery system for shallow type methane hydrate
P47	Tim Battista	NOAA	USA	Advancing Deep-Sea Critical Mineral Mapping and Environmental Monitoring
P48	Vladislav Slabov	Norwegian University of scie	Norway	Aqueous Metal Leaching and Density Based Sorting of Sulfide Deposits
P49	Xiande Tian	National Marine Data Inform	China	Technical Specifications for Integrated Database of Deep-Sea Polymetallic

Wednesday, November 11, 2026 - TECHNICAL SESSIONS VII and VIII

#	Time	Presenter	Affiliation	Country	Title
	8:30	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session VII** - **Environmental Impacts, Impact Assessment and Monitoring**
33	8:35	Eva Stewart	Natural History Museum	UK	Impacts of an industrial deep-sea mining trial on macrofaunal biodiversity
34	9:00	Bryan O'Malley	Ecofera	USA	Impacts and recovery of benthic communities from test mining at NORI-D in context with historical disturbance experiments
35	9:25	Adrian Glover	Natural History Museum, UK	UK	The environmental impacts of deep-sea mining: a path forward
36	9:50	Felipe Sales de Freitas	The Metals Company	Brazil	Deep-sea Mining Effects on Benthic Biogeochemical Dynamics in the Southeast CCZ
37	10:15	Ole Larsen	DHI	Denmark	From Disturbance to Ecosystem Function: Modelling Carbon Cycling Following a Deep-Sea Mining Trial
	10:40				**Coffee Break - 20 minutes**
38	11:00	Joaquim Bento	The Metals Company	Brazil	Assessing the Spatial Scales of Mid-Water Dissolved Metal Plumes Generated from Deep-Sea Polymetallic Nodule Mining
39	11:25	Carlos Muñoz-Royo	atdepth	USA	The Roles of Modeling and Monitoring in the Assessment of Deep-Sea Mining Sediment Plumes
40	11:50	Thomas Peacock	Massachusetts Institute of Technology	USA	In-Situ Measurement of Suspended Sediment and Turbulence: Novel Sensors and Platforms for Seabed Mineral Environmental Monitoring
41	12:15	Paul Devine	Teledyne RD Instruments	USA	Current Profiling in Deep, Low-Backscatter Environments: Practical Considerations for Defensible Environmental Monitoring Programs
	12:40				**LUNCH Break- 1 hour** **Women in Marine Minerals lunch in Room 201**
	13:40	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session VIII** - **Marine Minerals Technologies**
42	13:45	George Adams	OSIRenewables	UK	Oil States Deepsea Mineral Riser
43	14:10	Andrea Raes	Allseas Engineering B.V., TU Delft	Netherlands	The Influence of Collector Vehicle Geometry on Near-Field Plume Dynamics: An Experimental Study
44	14:35	Dennis Francke	TU Delft, Royal IHC, Allseas Engineering B.V.	Netherlands	Experimental Investigation of Parallel Pipeline Slurry Transport for Flow Assurance of Multiple Collector Vehicles
45	15:00	Frans van Grunsven	Allseas Engineering Bv	Netherlands	Towards a Mass-Balance Monitoring System for Deep-Sea Nodule Collection
46	15:25	Laurens de Jonge	Royal IHC	Netherlands	Development of Vertical Transport Systems for Deep Sea Mining: From Fundamental Research to Full Scale Pump Station
	15:50				**Coffee Break - 20 minutes**
47	16:10	Michael Clarke	The Metals Company	Australia	Engineering Environmental Performance in Polymetallic Nodule Collection: Equipment Design and Mine Geometry
48	16:35	Marcio Yamamoto	National Maritime Research Institute	Japan	Structural Optimization of Riser Pipes for Deep Sea Mining
49	17:00	Mia Gaudet	Deep Reach Technology	USA	Lessons Learned from Mining Industry Transshipment Operations for Open-Ocean Bulk Cargo Offloading
50	17:25	Kiyotaka Orita	Japan Organization for Metals and Energy Security	Japan	Current state of research and development projects of production systems by JOGMEC

Thursday, November 12, 2026 - TECHNICAL SESSIONS IX and X

#	Time	Presenter	Affiliation	Country	Title
	8:00	**IMMS Annual General Meeting (all are welcome)**			
	8:30	Session Chair TBD			**DISCUSSION PANELS**
51	8:35	Eden Charles	ISA	Jamaica	The Enterprise of the International Seabed Authority
	9:00	Moderator: Charles Morgan			Regulatory Panel
	10:00				**Coffee Break - 20 minutes**
	10:20	Moderator: Samantha Smith			Recovery Technologies of Polymettalic Nodules
	11:20	Moderator: Mark Luther			Impact Assessment and Monitoring Techniques
	12:20		**Lunch Break - 1 hour**		
	13:20	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session IX** - **AI, Autonomy and Monitoring Technologies**
52	13:30	Andrew Lipman	MOBY Robotics	USA	DSM Outside the Box: Using Swarm Robotics and AI to Leverage Efficiency and Compliance on the Seabed and Above
53	13:55	Susumu Takatsuka	Sony Computer Science Laboratories, Inc	Japan	Toward Long-Term Autonomous Monitoring of Deep-Sea Mining Plumes Using Event-Based Vision and Edge Processing
54	14:20	Daniel W. Schmid	Bergwerk	Norway	Quantifying seabed mineral resources and benthic life from seafloor video: machine-learning tools for evidence-based marine-mineral stewardship
55	14:45	Gregory Busch	Benthic Spectral Inc.	USA	AI-Powered Underwater Hyperspectral Imaging for Non-Invasive Mapping and Characterization of Marine Mineral Deposits
56	15:10	João Carvalho	Deep Focus	Portugal	Ai-Driven Targeting for Seafloor Massive Sulfides Exploration
	15:30				**Coffee Break - 20 minutes**
	15:50	Session Chair TBD			INTRODUCTION to Presentations of **Technical Session X** - **Polymetallic Sulphide and Crust Deposits and Geology**
57	15:45	Max Kaufmann	Odyssey Marine Exploration	UK	Mineralised Arc Volcanoes - a Minerals Systems approach to modelling
58	16:10	Alden Ross Denny	Adepth LLC	Norway	Sulfide State: the new definition of sulfide system activity
59	16:35	Ebbe Hartz	Aker BP	Norway	Potential Resources and Environmental Baselines in Ultra-Slow Spreading Seafloor Massive Sulphide Systems
60	17:00	Muhammad Bin Hassan	Universidade de São Paulo	Brazil	Radionuclide Geochemistry and Radiological Implications of Deep-Sea Ferromanganese Crusts from the Rio Grande Rise

Friday, November 13, 2026 - FIELD TRIPS (Optional - details and fee online)

Gokayama: UNESCO World Heritage Site & River Cruise

Unazuki: Kurobe Gorge Railway & Autumn Colors

Takaoka: Traditional Metal Casting & Kaiwomaru Park

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