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Oil in the Sea IV: Inputs, Fates, and Effects

Committee Meeting 5 Open Session
Public Agenda

January 14-15, 2021
All times in Eastern Standard Time

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*Public Session will be recorded and posted on the Oil in the Sea IV project website.
To obtain ZoomGov log information, please register here.

	January 14, 2021 OPEN SESSION	
(EST) 11:00 AM	**Welcome and Introduction**	Kirsi Tikka, *Committee Chair*
11:15 AM	**Experimental spills at SINTEF with focus on dispersed oil, cold seawater and marine ice**	Odd Brakstad, *SINTEF*
12:00 PM	**Biodegradation in the Arctic**	Charles Greer, *National Research Council (Canada)*
12:30 PM	*BREAK*	
1:00 PM	**Oil Fate and Photochemistry**	Collin Ward, *Woods Hole Oceanographic Institute*
1:30 PM	**Long-term fate and biodegradation**	Roger Prince, ExxonMobil (*retired*)
2:00 PM	**Oil Associations with Mineral Particles**	Michel Boufadel, *New Jersey Institute of Technology*
2:30 PM	*BREAK*	
3:00 PM	**Case Study: Exxon Valdez**	Jeffrey Short, *Committee Member*
4:00 PM	*ADJOURN*	

	January 15, 2021 **OPEN SESSION**	
EST 12:00 PM	**Welcome**	Kirsi Tikka, *Committee Chair*
12:10 PM	**Emulsion Modeling** (15 min presentation + 15 min Q&A)	Deborah French McCay, *RPS Group*
12:40 PM	**Adjourn Open Session**	

SPEAKER BIOS

Odd Gunnar Brakstad is a microbiologist working as a Senior Scientist at SINTEF Ocean, Department of Climate and Environment in Trondheim, Norway. He has been working with different aspects of interactions between oil and microbiology, particularly in the marine environment. Over the last 10-15 years, he has primarily been working with biodegradation of crude and the microbial communities involved in the degradation, mainly in natural seawater.

Charles Greer is a Principal Research Officer and the Group Leader of the Genomics and Microbiomes Group in the Energy, Mining and Environment Research Centre (EME) of the National Research Council Canada. He served as the Director of Research and Development at EME-Montreal from April 2011 to May 2013 and again from Nov. 2014 to June 2015. He has been an adjunct professor in the Department of Natural Resource Sciences of McGill University since 1992 and the Biology Department of the University of Sherbrooke since September 2014, and is an Editor for the Canadian Journal of Microbiology.

Charles is a microbiologist/microbial ecologist working on the biodegradation of organic pollutants, bioremediation, phytoremediation and monitoring microbial community structural and functional diversity related to ecosystem processes using metagenomics and metatranscriptomics. He has worked extensively in the Arctic on bioremediation projects and the effects of climate change, and in the marine environment examining natural attenuation as a remediation strategy to address oil spills.

Collin P. Ward is an Assistant Scientist in the Department of Marine Chemistry & Geochemistry at the Woods Hole Oceanographic Institution. He earned a BS and MS in Environmental Sciences from The Ohio State University, and a PhD in Earth and Environmental Sciences from the University of Michigan. His research characterizes how and how fast sunlight and microbes alter the physical and chemical properties of organic carbon in aquatic ecosystems. He works on a wide range of organic carbon types, including natural organic matter, crude oil, and plastics. His study sites span fresh to saline surface waters from the Alaskan Arctic to the Gulf of Mexico.

Roger C. Prince was a Senior Research Associate with ExxonMobil Biomedical Sciences Inc. in Annandale, New Jersey until 2016. He was Exxon's lead scientist in the monitoring of the successful bioremediation of the Exxon Valdez spill, and also did field work on experimental spills in the Arctic.

Prior to joining ExxonMobil he was a visiting faculty member at the University of California in Berkeley, and on the faculty of the University of Pennsylvania. He has published more than 370 papers and chapters in the refereed literature, and was awarded Stanford's Farrel W. Lytle Prize for Contributions to Synchrotron Spectroscopy in 2000, the North Jersey ACS North Jersey Chapter's Lifetime Achievement Award in 2007, and the Waksman Honorary Lectureship of the Theobald Smith Society (ASM) in 2013.

Michel Boufadel is a Professor of Environmental Engineering and Director of the Center for Natural Resources Development and Protection at the New Jersey Institute of Technology. He also holds a title of Professor in the Department of Biological, Chemical, and Pharmaceutical Engineering. He is a professional engineer in Pennsylvania and New Jersey, and Fellow of the American Society of Civil Engineers. His expertise lies in environmental fluid mechanics and modeling of processes, and has applied the expertise in researching the behavior of oil since 1995. Dr. Boufadel was involved in addressing the persistence of the Exxon Valdez oil spill, and the fate and behavior of the Deepwater Horizon spill and the Enbridge Pipe 6 spill in Michigan, both in 2010. He has served on several National Academies committees dealing with oil spill. He also served on the Royal Society of Canada Committee

on the “Behaviour of oil in aqueous environments, in 2016”, and the EPA Science Advisory Board on Shale Gas. He has more than 150 refereed publications in environmental fluid mechanics and modeling. He received a B.S. in Civil Engineering from the Jesuit University at Beirut in Lebanon, and M.S. and Ph.D. in Environmental Engineering at the University of Cincinnati.

Jeffrey Short runs the consulting firm, JWS Consulting, in Alaska. Dr. Short began his career in oil pollution research in 1972, working for the National Marine Fisheries Service, NOAA on oil toxicity effects on Alaskan marine fauna prior to development of the Prudhoe Bay oil field and marine oil terminal in Valdez, Alaska. In investigating the Exxon Valdez spill, Dr. Short led numerous studies on the distribution, fate and effects of the oil over two decades; these studies led to discovery of embryotoxic effects of oil pollution affecting fish at much lower concentrations that had been recognized previously, and quantitative assessments of lingering oil stranded on beaches and of other pollution sources in the Exxon Valdez spill region. He also worked on evaluating oil dispersant effectiveness under sub-arctic conditions, and contributed to the oil budget for the Exxon Valdez spill, which provided a basis for evaluating the effectiveness of response measures. Dr. Short received his PhD in fisheries from the University of Alaska, Fairbanks in 2006, his MS in physical chemistry from the University of California, Santa Cruz, and his B.S. in biochemistry & philosophy from the University of California, Riverside.

Deborah French McCay, PhD, is the Director of Research and Model Development for RPS North America. She received her PhD in Oceanography from the University of Rhode Island in 1984. Dr French-McCay is an internationally recognized expert in oil spill fate and effects modeling for response planning, risk assessments and impact evaluations. She leads development of RPS’s oil and chemical spill models (SIMAP and CHEMMAP), which are applied world-wide. In support of the US government’s natural resource damage assessment for the Deepwater Horizon oil spill of April-July 2010 in the Gulf of Mexico, Dr. French McCay modeled oil transport, fate and exposure to evaluate oil fate, exposure and injuries for water column organisms. She has been principal investigator and primary author of more than one hundred technical reports and papers evaluating oil trajectory and fate, exposure, effects, and ecological risks.