Oil spill response strategies are designed to minimize environmental impacts to the extent possible. Each response option must be evaluated for operational limitations (e.g., sea state), potential effectiveness, environmental impacts of the response option itself, and applicability under various oil spill scenarios (e.g., size and location of the spill) in addition to health and safety of the responders. Although mechanical recovery is often favored for its ability to directly remove oil from the environment, it has long been recognized that for large offshore spills this technology has significant limitations. In addition to known operational limits in the presence of currents and waves, the dynamic-nature of offshore oil slicks, i.e., rapid spreading and movement, has resulted in mechanical recovery only treating a small fraction of spilled oil in the past. Because of these limitations, the oil and gas industry has worked to develop alternative response tools that can be used in addition to mechanical recovery to more effectively treat large offshore oil spills.

This presentation will provide a review of the primary oil spill response options, a discussion that addresses misperceptions and misunderstandings about dispersants and their use, and a description of dispersant use during the Deepwater Horizon incident including the important health and safety aspects of subsea dispersant injection.

Bio: Dr. Thomas Coolbaugh is an Oil Spill Response Advisor for Exxon Mobil Corporation’s Safety, Security, Health and Environment Support organization. He is Vice Chair of IPIECA’s Oil Spill Working Group, a member of the API Spills Advisory Group, the Marine Preservation Association Dispersant Advisory Committee, and the science advisory panel of the University of New Hampshire/NOAA Coastal Response Research Center. He was a member of the committee that prepared the National Research Council report on “Responding to Oil Spills in the U.S. Arctic Marine Environment.” His focus is often on the subject of the science and regulatory aspects of the use of dispersants during an oil spill. He is a member of the recently formed US National Academies of Science, Engineering and Medicine Committee on The Evaluation of the Use of Chemical Dispersants in Oil Spill Response. Tom received his B.A. in chemistry from Amherst College (Thesis Advisor: Dave Dooley), a Ph.D. in chemistry from Caltech (Advisor: Professor Robert Grubbs, 2005 Nobel Laureate), and obtained an M.S. in the Management of Technology from New York University.