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**A Workshop on Ocean-based CDR Opportunities and Challenges,
Part 4: Nutrient Fertilization & Artificial Upwelling and Downwelling**

February 25, 2021
12pm – 4:30pm EST

DRAFT AGENDA

Purpose: This is the last of four workshops designed to explore the most important scientific and technical questions, as well as questions surrounding governance, needed to assess the benefits, risks, and potential scale for the responsible ocean-based carbon dioxide removal and sequestration approaches. This series of workshops is an activity in support of the NASEM Committee on A Research Strategy for Ocean-based Carbon Dioxide Removal (CDR) and Sequestration. Committee members will use this platform as one mechanism to gather information and converse with a diverse set of experts in the field, for the purpose of progressing the consensus study process.

During this workshop, we will examine opportunities and challenges associated with two ocean-based CDR approaches: **Nutrient Fertilization & Artificial Upwelling and Downwelling**. Discussions will be focused on understanding the knowledge base, efficacy, scale, and viability to each approach.

**This public meeting will be recorded and posted on our project website for the duration of the study. All panelists will be provided unique IDs to log in to the Zoom meeting as speakers; a public link will be sent out to registered viewers.*

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| 12:00 PM | Welcome and Workshop Overview Scott Doney, Committee Chair & University of Virginia |
| 12:05 PM | Nutrient Fertilization: Challenges and Opportunities <i>Moderated by: Ken Buesseler, Committee Member and Woods Hole Oceanographic Institution</i> Keynote (30 minutes): Philip Boyd, University of Tasmania <u>Panelists (each panelist will talk for 10 minutes; Q&A/Discussion will follow):</u> Francisco Chavez, Monterey Bay Aquarium Research Institute Stephanie Henson, National Oceanographic Centre, Southampton Fei Chai, University of Maine |
| 1:30 PM | Break |
| 1:45 PM | Artificial Upwelling and Downwelling: Challenges and Opportunities <i>Moderated by: Angelique White, Committee Members and University of Hawai'i</i> Keynote (30 minutes): Ricardo Letelier, Oregon State University <u>Panelists (each panelist will talk for 10 minutes; Q&A/Discussion will follow):</u> |

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David Koweeck, Ocean Visions
Ulf Riebesell, GEOMAR, Kiel
Kate Ricke, University of California, San Diego
Ray Schmitt, Woods Hole Oceanographic Institution

3:15 PM Break

3:30 PM **Overarching Challenges and Opportunities**
Moderated by: Andreas Oschlies, Committee Member & GEOMAR and University of Kiel
Each panelist will talk for 10 minutes; Q&A/Discussion will follow

Panelists:

Joellen Russell, University of Arizona
Nicolas Gruber, ETH, Zürich
Chris Vivian, Centre for Environment, Fisheries and Aquaculture Science

4:30 PM Closing comments and Next Steps