



**36th International Conference on Coastal Engineering
2018
Baltimore, Maryland USA**



**Short Course:
Natural and Nature-Based Features (NNBF) for Coastal Resilience
Sunday, July 29, 2018
8:00 – 5:00 PM
Baltimore Marriott Waterfront Hotel**

Short Course Objectives:

- ◆ Provide participants an overview of NNBF practices and example projects that promote coastal resilience and flood risk reduction.
- ◆ Introduce participants to a spectrum of NNBF solutions, which includes systems approach with integration of conventional infrastructure.
- ◆ Provide participants with a greater understanding of the application and utility of specific NNBF types (e.g., beaches/dunes, wetlands, reefs, islands, etc.)
- ◆ Offer participants insight into NNBF benefits analysis, which includes engineering, environmental, and socio-economic.
- ◆ Provide participants with international examples of NNBF projects.
- ◆ Relate the important role of community and stakeholder engagement.
- ◆ Introduce participants to current R&D efforts that support NNBF solutions and strategies with connectivity to future needs, knowledge gaps, opportunities and barriers
- ◆ Engage workshop participants to identify and new needs, gaps, opportunities for NNBF.

Agenda:

Time	Topic/Action	Lead or Speaker
7:00 - 7:45	Onsite Registration for NNBF Short Course	ICCE Registration Desk
8:00 – 8:15	Welcome, Introductions, and Review of Agenda	Jane Smith, Ph.D., P.E. Senior Scientist, Hydrodynamic Phenomenon US Army Engineer Research and Development Center US Army Corps of Engineers
8:15 – 8:30	Introduction to NNBF history, current practices/applications and example projects	Todd Bridges, Ph.D. Senior Scientist, Environmental Science US Army Engineer Research and Development Center US Army Corps of Engineers
8:30 – 10:15	Application and Utility of Specific NNBF Types: 1. Tidal Wetlands (30 min)	Session Chair: Todd Bridges, Ph.D. 1. Georganna Collins, RLA Chief Landscape Architect/Gulf Restoration Practice Lead, Ecology and Environment, Inc. And Nigel Pontee, Ph.D. Global Technology Leader Coastal Planning and Engineering Jacobs

	<p>2. Reefs/Sub-Aquatic Vegetation (30 min)</p> <p>3. Mangroves Case Study (20 min)</p> <p>Q&A and Panel Discussion (25 min)</p>	<p>2. Siddharth Narayan, Ph.D. Assistant Research Scientist Coastal Adaptation and Nature-based Solutions Institute of Marine Sciences University of California Santa Cruz</p> <p>And</p> <p>Jane Smith, Ph.D. Senior Scientist, Hydrodynamic Phenomenon US Army Engineer Research and Development Center US Army Corps of Engineers</p> <p>3. Victoria “Tori” Johnson, Ph.D. Assistant Professor Department of Naval Architecture and Ocean Engineering United States Naval Academy</p>
<p>10:15 – 10:45</p>	<p>Break</p>	
<p>10:45 – 12:30</p>	<p>Application and Utility of Specific NNBF Types Continued:</p> <p>1. Beaches/Dunes (30 min)</p>	<p>Session Chair: Jane Smith, Ph.D., P.E.</p> <p>1. John Winkelman Coastal Working Group Chair Headquarters, US Army Corps of Engineers</p>

<p>1:30 – 3:15</p>	<p>Important Considerations When Pursuing NNBF Projects:</p> <ol style="list-style-type: none"> 1. Framework for NNBF Projects 2. Community & Stakeholder Engagement (30 min) 3. Identifying/Reporting Benefits Associated with NNBF Projects: Qualitative/Quantitative Analysis of Engineering, Environmental, and Socio-Economic Parameters (30 min) Q&A and Panel Discussion (15 min) 	<p>Session Chair: Jeffrey King, Ph.D., P.E.</p> <ol style="list-style-type: none"> 1. Jeffrey King, Ph.D., P.E. Assistant Lead, Engineering With Nature Initiative US Army Engineer Research and Development Center US Army Corps of Engineers 2. Maria Dillard, Ph.D. Research Social Scientist Community Resilience Group Engineering Laboratory National Institute of Standards and Technology 3. Siddharth Narayan, Ph.D. Assistant Research Scientist Coastal Adaptation and Nature-based Solutions Institute of Marine Sciences University of California Santa Cruz <p>And</p> <p>Nigel Pontee, Ph.D. Global Technology Leader Coastal Planning and Engineering Jacobs Engineering Group</p>
<p>3:15 – 3:45</p>	<p>Break</p>	

3:45 – 4:15	<p>State of the Science/Engineering: R&D Focused on NNBF: Current efforts Knowledge Gaps and Barriers Future Needs and Opportunities (20 min)</p> <p>Q&A and Discussion (10 min)</p>	<p>Julie Rosati, Ph.D., P.E. Technical Director, Flood and Coast US Army Engineer Research and Development Center US Army Corps of Engineers</p>
4:15 – 4:45	<p>Review of Attendee Questions with Interactive Discussion</p>	<p>Jane Smith, Ph.D., P.E. Senior Scientist, Hydrodynamic Phenomenon US Army Engineer Research and Development Center US Army Corps of Engineers</p>
4:45 – 5:00	<p>Closing Remarks</p>	<p>Todd Bridges, Ph.D. Senior Scientist, Environmental Science US Army Engineer Research and Development Center US Army Corps of Engineers</p>
5:00	<p>Adjourn</p>	