

## **Jesse Roberts, Market Acceleration Lead, Water Power, Sandia National Laboratories**

**Formal Education:** B.S., Mechanical and Environmental Engineering, University of California, Santa Barbara, 1997  
M.S., Mechanical and Environmental Engineering, University of California, Santa Barbara, 1998

### **Qualifications Summary**

- Extensive experience in designing and executing research to achieve scientific breakthroughs regarding the interrelationship between various anthropogenic activities and ocean, estuarine, and river hydrodynamics, sediment dynamics, and water quality via combined field, lab, and numerical experiments.
- Developed and patented two novel experimental tools that replicate sea/river bed shear stress time histories for measuring sediment erosion and transport with depth and under typical and extreme weather conditions.
- Over 30 publications pertaining to marine renewable energy, water resources, and the interrelationship between hydrodynamics, sediment dynamics and water quality.
- Reviewer for various U.S. funding agencies and several professional journals.

### **Employment History**

*Sandia National Laboratories, Albuquerque, NM, 2009-Present; Principal Member of Technical Staff*

- Market acceleration and deployment lead for SNL Water Power Technologies and Offshore Wind Programs. Lead multidisciplinary team to characterize the interaction of waves and currents with wave energy converters and offshore wind turbines. Further, study the interrelationship between ocean and sediment dynamics and commensurate effects on the seabed upon installation of marine renewable energy structures. Overarching research focuses on how wave and current interactions with marine renewable energy structures affect both device reliability and ecosystem health.

*Sandia National Laboratories, Carlsbad, NM, 1999-2009; Principal/Senior Member*

- Founder and team lead for SNL Soil and Sediment Transport Group. Initiated, managed, directed, and conducted research to better understand and predict the role sediments play in contaminant exposure and environmental remediation decisions, navigation, dredge material disposal, threatened and endangered species habitat, contamination source identification, and invasive plant species infestation.

### **Patents**

- Sediment Erosion Actuated by Wave Oscillations and Linear Flow (SEAWOLF) Flume, 1/20/2004, Patent No. US 6,679,105 B1
- Adjustable Shear Stress Erosion and Transport Flume (ASSET) Flume, 12/17/2002, Patent No. US 6,494,084 B1