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Preface

The Second Symposium on OpenFOAM in Wind Energy (SOWE) was held in Boulder, Colorado in the United States on May 19-21, 2014. The symposium was co-hosted by the National Renewable Energy Laboratory (NREL) and the Renewable And Sustainable Energy Institute (RASEI) at the University of Colorado, Boulder.

In total, there were 54 attendees from Europe, North America, and Asia representing academia, industry, and national laboratories. There were 28 excellent talks in the areas of i) wind turbine aerodynamics and wakes; ii) site assessment and wind plant aerodynamics; iii) atmospheric flow; and iv) other topics including meshing, algorithms, post-processing, and parallel performance. Computations ranged from RANS to LES using a few cores to thousands of cores. The range of applications is broad including controls, terrain effects, aeroacoustics, fluid-structure interaction, and much more.

A subset of the presenters opted to write full conference papers. These peer-reviewed proceedings are the collection of those full papers. The papers well represent the range of topics presented in the conference and help to describe the state of OpenFOAM's use in wind energy applications. Hopefully these works spur further research to improve OpenFOAM for this use.

The conference was organized by Matt Churchfield (NREL), Danielle Felix (RASEI), Leigh Dodd (RASEI), and Yvonne Garcia (RASEI). The advisory panel that helped define the technical areas and selected abstracts included Kiran Bhaganagar (Univ. of Texas, San Antonio), Jim Brasseur (The Pennsylvania State Univ.), Peter Hamlington (Univ. of Colorado, Boulder), Scott Haynes (Iberdrola Renewables), Sang Lee (NREL), Wided Mejroubi (ForWind), Pat Moriarty (NREL), Eric Paterson (Virginia Institute of Tech.), Anupam Sharma (Iowa State Univ.), Sven Schmitz (The Pennsylvania State Univ.), and Bernhard Stoevesandt (Fraunhofer, IWES).

Following the Second SOWE, the Third SOWE is hosted by the Dipartimento di Meccanica and Dipartmento di Energia at Politecnico di Milano in Italy.

Boulder, Colorado, USA
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M. Churchfield

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