

Wind and Structures, an International Journal

Editorial Preface

This special volume consists of selected papers from the mini-symposium ‘Fluid-Structure Interactions’ and ‘International Conference on Wakes and Flow-induced Vibrations (ICWFIV)’ which were held under the umbrella of ‘The 2019 World Congress on Advances in Structural Engineering and Mechanics (ASEM19)’ at ICC Jeju, Jeju Island, South Korea, during September 17-21, 2019. The papers selected for this volume have all been peer-reviewed. The conference and symposium focused on bluff body wakes and flow-induced vibrations of structures, including DNS study of flow-induced vibrations of a yawed circular cylinder, experimental study of galloping of a suspension bridge, structural stability of wind turbines, control of flow around building structures, and wake-induced forces on multiples structures. The discussion in the symposium home in on flow-induced vibration and concluded that the so-called independence principle is valid in the prediction of streamwise and cross-flow vibrations for cylinder yaw angle upto 45° and 60° , respectively. The total damping including aerodynamic and structural damping can be considered the criterion for the analysis of the galloping performance of a long-span footbridge with a bluff cross-section. The two-cylinder flow is more sensitive to Re than the single cylinder flow. The reported wind turbine failure histories showed that extreme winds are largely responsible for the damage of the structural integrity of the wind turbine blades and towers. The average number of failure incidents increases with turbine density. Among the incidents, the number of blade failures is much higher than the tower failures. I would like to thank all authors for submitting their papers for this special issue and for commitment to revising their papers following the reviewer comments. I cordially acknowledge the reviewers for their time and effort in reviewing the papers.

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