

MEMS Sensors Applied to On-Site Sensing of Unsteady Aerodynamics

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Abstract – Microelectromechanical systems (MEMS) and unsteady aerodynamics are two important research areas and possibly interact with each other by their features of small size and high-frequency response. There are 3 parts of works will be addressed in this talk: (1) Design, fabrication and testing of CMOS (complementary metal-oxide-semiconductor) MEMS sensors including flow sensors and pressure sensors; (2) CMOS MEMS sensors applied to the on-site aerodynamic measurement of flapping wings; (3) CMOS MEMS sensors applied to the on-site aerodynamic measurement of wind turbines



Prof. Lung-Jieh Yang (楊龍杰) received his Ph.D. degree in Institute of Applied Mechanics of National Taiwan University in 1997 and has ever been a visiting associate at Caltech USA during 2000-2001. Yang is currently working as a professor with the Department of Mechanical Engineering, Tamkang University, Taiwan. He published over 78 international journal articles, 119 conference papers, and 5 books in the areas of microelectromechanical systems (MEMS) and flapping wing micro-air-vehicles (FWMAVs). He is the former editor-in-chief of the Journal of Applied Science and Engineering (ESCI index by Clarivate Analytic) during 2011-2020. He is also the former department chair of Mechanical Engineering, Tamkang University during 2011-2015. Prof. Yang chaired or co-chaired ICIUS-2017 (Taiwan), ICIUS-2019 (Beijing) and ICBAO-2015 (Taiwan), and he was elected as the president of International Society of Intelligent Unmanned Systems (ISIUS) in 2022.