



JOHNS HOPKINS
Center for Environmental
& Applied Fluid Mechanics

Weekly CEA FM Seminar: Fall 2013

Date: **Friday, November 22, 2013**

Time: **10:00 AM (Special Time)**

Location: Gilman # 50 (Marjorie M. Fisher Hall)

Speaker: **Dr. Jinjun Wang** (Beijing University of Aeronautics and Astronautics)

Title: ***"DBD Plasma Flow Control Mechanism and Application"***

Abstract

Flow control using DBD (dielectric-barrier-discharge) plasma actuators is a relatively new, but rapidly expanding area of research in this seminar, the mechanism of this flow control will be introduced briefly. Some new plasma actuators, such as plasma synthetic jet actuators, plasma vortex generators will be presented. Finally, novel applications of DBD plasma actuators for aerodynamic control are then discussed, including pitch and roll control, plasma jet vectoring, circulation control and plasma flap, showing a potential of DBD plasma actuators for replacing movable aircraft control surfaces.

Bio



Professor Jinjun Wang is the Director of Institute of Fluid Mechanics at Beijing University of Aeronautics and Astronautics (BUAA) and the Director of Fluid Mechanics Key Laboratory, Ministry of Education of China. Professor Wang received his Bachelor and Master degrees from Wuhan University of Hydraulic and Electric Engineering in 1983 and 1986, respectively. He obtained his Ph.D. degree from Tsinghua University in 1990 and as a postdoctoral fellow in BUAA during 1990-1991. Since 1993, he has been a full professor in BUAA. He was the head of Department of Aircraft Design and Applied Mechanics (1997-2003) in BUAA. He is the recipient of National Science Foundation for Outstanding Youth Scientist Award (2004) and the Yangtze River Scholar Award (Distinguished Professor) from the Ministry of Education of China (2009). He is also the associate editor of Journal of Aircraft and Journal of Experimental Mechanics, invited editor of Science in China-Technological Science, and the editorial board members of Experiments in Fluids, Theoretical and Applied Mechanics Letters and Chinese Journal of Aeronautics. He has been the member of International Steering Committee of the Asian Symposium on Visualization since 2007 and the member of Organization Committee of International Symposium on Fluid Control Measurement and Visualization since 2005. He has published more than 60 papers in international archival Journals in Flow control, Turbulence, Aircraft Aerodynamics, including Journal of Fluid Mechanics, Physics of Fluids, Progress in Aerospace Sciences, AIAA Journal and Experiments in Fluids.