Lunch 'n' Learn
July 11, 2019
"High Performance CoFlow Jet Active Flow Control and Its Impact"
Guest Speaker:
Prof. Gecheng Zha, U. of Miami, FL
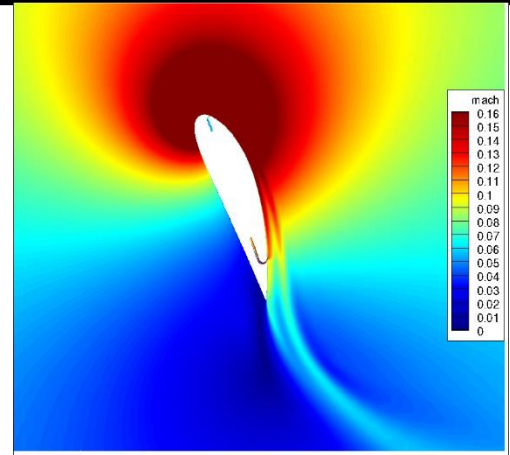
The CoFlow Jet (CFJ) active flow control airfoil is a zero-net-mass-flux flow control that radically increases the lift coefficient, reduce drag, and increase stall angle of attack at low energy expenditure. In a recent project funded by DARPA, Dr. Zha and his team successfully embed micro-compressors inside the CFJ airfoil and achieves Super-Lift Coefficient that exceeds the theoretical limit. While generating very high lift coefficient, a CFJ airfoil also reduces the pressure drag to a large extent that a very high thrust is generated. The low energy expenditure also enables the CFJ airfoil to improve cruise efficiency when the flow is benign at low angle of attack. The unique performance of the CFJ airfoil have high potential to impact future aircraft design. A new concept of VTOL and STOL aircraft using CFJ flow control will be presented.

Dr. Zha is the originator of CoFlow Jet (CFJ) active flow control. He received his Ph.D. degree from the University of Montreal in 1994 with FCAR scholarship from the Quebec government. He is a full professor at the University of Miami, FL, and the director of the Aerodynamic and CFD Lab. Dr. Zha is specialized in aerodynamics, aircraft design, flow control, CFD (computational fluid dynamics) high order algorithm/code development, wind tunnel testing, turbulence simulation, turbomachinery aerodynamics, fluids-structural interaction, and design optimization. Dr. Zha's research at UM has been funded by DARPA, NASA, ARO, AFOSR, NRC, AFRL, GUIde, CIRA, Siemens, etc. In Spring of 2000, he studied at MIT as a special student in the Dept. of Aero and Astro. He is an ASME Fellow, AIAA Associate Fellow, NASA NIAC Fellow.

Time: *11:45 am*

Location:
China Garden Buffet
112 Woodman Dr.
Dayton, OH 45431

Lunch:
You will be able to purchase the buffet