"Investigations of High Performance Airfoil Using Co-Flow Jet (CFJ) Flow Control for Mars Airplane".

This proposal will conduct research based on CFD numerical simulation to apply the recently developed CFJ airfoil for Mars airplane. The atmosphere on Mars is about 1/10 of dense as that on earth and the Reynolds number is low for airfoil. The airfoil is hence more susceptible for insufficient stall margin and lift. CFJ airfoil is very promising to provide the high performance airfoil for Mars airplane with high lift, high stall margin, and low drag.

Gecheng Zha
Director of CFD and Aerodynamics Lab.
Dept. of Mechanical & Aerospace Engineering
University of Miami