

Details of the Speaker

Sumon K. Sinha, Founder of Sinhatech, USA

Biography :-- Dr. Sumon K. Sinha acquired an intuitive understanding of aerodynamics while building, experimenting with and flying model aircraft from a very young age while growing up at Kharagpur. He subsequently obtained his B.Tech (Hons) in Mechanical Engineering from IIT Kharagpur in 1978 and a MS and Ph.D. specializing in Fluid-Thermal Sciences from the University of Miami. This combination has given Dr. Sinha the ability to see past conventional thinking and led to the invention and successful flight testing of the Composite Flexible Surface Deturbulator. It offers a very simple way to get extremely high aerodynamic efficiency in real-life turbulent air. It has also been used to stabilize cars and trucks in high crosswind and reduce wind noise. The Deturbulator principle, which involves large-eddy breakup in a unique manner, can also be scaled up to modify cyclonic flow structures.

After spending 30 years in academia at various US universities, including 18 years as a tenured professor of mechanical engineering at University of Mississippi, Dr. Sinha became a full-time entrepreneur in 2007. He founded Sinhatech to use his innovative ideas to solve technical problems which do not have acceptable solutions using accepted state-of-the-art methods. His customers have included both aircraft developers and large automotive manufacturers. His research continues to be supported by the National Science Foundation, NASA and universities.



Details of the Talk

Date: 07/08/2015

Title: Developing a Low-Cost Unmanned Aerial Platform for very low Altitude Sea Surface Measurements

Abstract: Continuous monitoring of sea surface conditions at low altitude is needed to obtain high resolution data which satellites cannot provide. A system of small, low cost unmanned aircraft (UAV) can provide this provided they are adequately hardened to encounter wind gusts and occasional water spray. Recent advances in electronics and electric propulsion technology have dropped cost and improved capability of UAV platforms. A solution for augmenting this further with Dr. Sumon Sinha's patented "Deturbulator" turbulence control technology is presented. The final UAV platform will have Deturbulators integrated into the design. They will have the required endurance and payload capacity while stably negotiating near surface winds and wind gusts.

