

AAE SPECIAL SEMINAR

Australian Hypersonic History

THURSDAY SEPTEMBER 14TH, 2023

MRGN 121 3:30PM-4:30PM



DR. ALLAN PAULL

University of Queensland-Lockheed Martin
Australia

Professor in Advanced Hypersonics

Biography

Allan Paull gained his PhD in applied mathematics at the University of Queensland (UQ). He has worked for 34 years in hypersonics at the University of Queensland and DSTO. His primary past interests have been supersonic combustion and flight testing. He has led the HyShot, HyCAUSE and HIFiRE hypersonic flight programs and provided numerous insights into the operation of scramjets. He was employed at UQ from 2018-2023 as the DST Chair in Future Hypersonic Technologies where he concentrates on advanced concepts, in particular high speed electric propulsion. He is currently employed under a Lockheed Martin Australia grant at UQ in the position of Chair in Future Hypersonic Technologies where he continues development of a flight test program (STAje-) to demonstrate electric propulsion. He is concurrently the Technical Lead to the Australian Program Office for Advanced Hypersonics.

Abstract

It is interesting to note that Australia has undertaken multiple flight test of hypersonic vehicles. Some of these are small experiments involving fundamental physics such as natural boundary layer transition, and scramjet combustion, whilst others have demonstrated capabilities of flight vehicles. But how did a small country as Australia position itself to be undertaking such flight tests? This seminar will provide some of the history which led to Australia and in particular, Australian Universities, down a path which culminated in not only understand and contributing to many scientific developments in the field, but also taking these concepts and finding an approach using modern technology and limited funds to complete multiple flight tests under programs such as HyShot, HyCAUSE and HIFiRE.