



Aircraft Efficiency Step Jumps: Operations and / or Evolutionary Aerodynamics and Propulsion

Tuesday 27 July 2010 at University of Bristol

Speakers:

Dr Raj Nangia, Consulting Engineer, Bristol, UK

Dr Fayette Collier, Project Manager, Environmentally Responsible Aviation, NASA Langley Research Center

Dr Rubén Del Rosario, Principal Investigator, Subsonic Fixed Wing, Fundamental Aeronautics Program, NASA Glenn Research Center

Andrew Bradley, Chief Design Engineer, Rolls Royce

Each speaker will spend 10 minutes setting the scene and this will be followed by an open discussion for 40 minutes.

Over three generations, the civil aviation industry has dominated world transport. Growth has been upwards - bigger, farther and faster on an economic productivity basis. With increasing concerns regarding environmental issues and volatility of fuel price, the ACARE (Europe) and NASA objectives imply reduction of Aviation's environmental impact (fuel burn, noise, emissions) by 50%, or more, in 25 years.



As aviation matures, the propulsive, aerodynamic and structural efficiencies show smaller increments. The environmental objectives on an evolutionary basis become very costly and challenging. The pace of research is however, increasing and there should be some "plateau" jumps.

With some lateral thinking, we can envisage "step jumps" by changing the focus towards operational strategies.

Towards achieving a more efficient Commercial Aviation industry, Air-to-Air Refuelling (AAR), "multi-stage operations" and Close Formation Flying (CFF, drag reduction) are proposed. All have significant possibilities. It will be interesting to know and explore how these technologies may co-exist and compare with evolutionary technologies.

This Lecture has been organised by the Aerodynamics Group and will take place at the University of Bristol, Queens Building, University Walk, Bristol, BS8 1TR. Commencing at 18:00hrs, refreshments will be served from 17:30hrs.

An Evening Reception will take place following the Lecture.

For further details visit www.aerosociety.com/conference

FREE TO ATTEND

All Visitors Welcome

RSVP is appreciated:

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