



The Dept. of Mechanical & Manufacturing Engineering is pleased to host an informal talk by

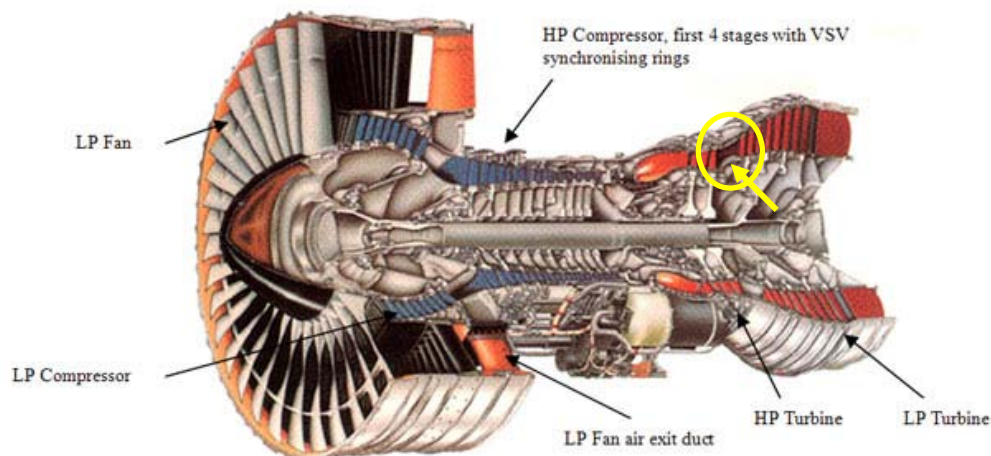
Prof. Bengt Sundén

Head of the Department of Energy Sciences, Lund University

On Some Heat Transfer Issues in an Intermediate Duct of an Aircraft Engine

Friday, 2 December 2016, 10:00-10:45 in Seminar Room 3 (SR3), Parsons Building

Abstract – This work originates from phenomena and engineering problems occurring in the intermediate duct between the high-pressure (HP) turbine and low-pressure (LP) turbine in an aircraft jet engine (see schematic below; the yellow circle indicates the location of this duct). These ducts typically include obstacles and surface enlargements (e.g., ribs) and impinging jets may also be present. In addition, a so-called pocket cavity exists between the high-pressure turbine exit and the outlet guide vanes. The present talk highlights experimental and computational investigations of these phenomena with real world relevance.



Biography – Bengt Sundén graduated as MSc in Mechanical Engineering at Chalmers University of Technology, Göteborg in 1973 and presented his PhD-thesis in thermodynamics and fluid mechanics at Chalmers University in 1979. In 1980 he was appointed Docent and held positions there as Research Associate, Docent and University lecturer. In 1992 he was appointed Professor of Heat Transfer at Lund University, where he has been Head of the Department of Energy Sciences since 1995. Professor Sundén has been teaching undergraduate and graduate courses in various aspects of thermodynamics, heat transfer and fluid mechanics. He has supervised more than 170 MSc theses, many of them in cooperation with industries.



His current research interests include enhancement of heat transfer in compact heat exchangers, computational convection in complex geometries (e.g. cooling of combustor walls, blade and vane



cooling, recuperators and intercoolers in gas turbine systems), combustion-related heat transfer including thermal radiation, gas turbine heat transfer (impinging jets, film cooling, ribbed ducts), and experimental measurement techniques.

Professor Sundén has published extensively in these areas, including about 500 papers in well-recognised journals, books and proceedings. He has delivered several keynote and invited lectures and papers. He has been editor for twenty four books, and is actively involved in several international and organising committees, boards etc. He initiated and was the first editor-in-chief of the International Journal of Heat Exchangers. He is also editor-in-chief for a book series, Developments in Heat Transfer. In addition, he is on the editorial board for another four journals. Professor Sundén is an ASME Fellow and has served in several editorial roles for journals. He has achieved several international awards. In 2006 he was appointed honorary professor of Xi'an Jiaotong University, China.