

AEROACOUSTICS OF LOW MACH NUMBER FLOWS

Stewart Glegg and William Devenport

Aeroacoustics of Low Mach Number Flows: Fundamentals, Analysis and Measurement provides a detailed introduction to sound radiation from subsonic flow over moving surfaces. This phenomenon is the most widespread cause of flow noise in engineering systems, including fan noise, rotor noise, wind turbine noise, boundary layer noise, airframe noise, and aircraft noise.

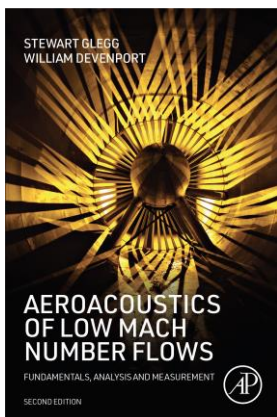
The course is scheduled to have a duration of 8 hours, with the following time allocation:

- Morning Session on June 3, 2024: 4 hours
- Afternoon Session on June 3, 2024: 4 hours

>> Register here <https://www.aidaa.it/aeroacoustics/registration/>

Course Objectives:

- Addresses in detail sound from rotating blades, ducted fans, airframes, boundary layers, and more.
- Presents theory in such a way that it can be used in computational methods and calculating sound levels.
- Includes coverage of different experimental approaches to this subject.



1. Foundations of Aeroacoustics-Turbulence and Sound (Chapter 2 & 3)
2. Lighthills Acoustic Analogy (Chapters 4 & 5)
3. Propeller and Open Rotor Noise (Chapters 6 & 7)
4. Turbulent Flows (Chapters 10,11, & 12)

Stewart Glegg was a Professor at Florida Atlantic University until he retired in May 2023 and is now an Affiliate faculty member of CREATE at Virginia Tech. He was an Associate Editor for the AIAA Journal (1994-97) and has served on the editorial board of the Journal of Sound and Vibration (Elsevier) and the International Journal of Aeroacoustics (SAGE). In May 2004, he was awarded the American Institute for Aeronautics and Astronautics Aeroacoustics Award for "Outstanding contributions to the understanding and reduction of fan noise in turbo machinery". He has published over 200 technical papers in leading scientific and engineering journals.

William Devenport is the Crofton Professor in Engineering within the Department of Aerospace and Ocean Engineering at Virginia Tech and leads a research program centered on experimental studies of aerodynamics and aeroacoustics. He is Director of the Virginia Tech Stability Wind Tunnel and Director of the Center for Research and Engineering in Aero/hydrodynamic Technology (CREATE). He has published over 200 technical articles and, in May 2019, received the AIAA Aeroacoustics Award for "Seminal and pioneering contributions in aeroacoustics particularly in developing new experimental techniques and in the understanding of turbulence and surface roughness noise".