

AEROSPACE ENGINEERING

DIMEAS - High-fidelity numerical simulations of the acoustic-flow interaction over an acoustic liner grazed by a turbulent flow.

Funded By	Dipartimento DIMEAS
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Contact	
Context of the research activity	The PhD candidate will work on the ERC Starting Grant project LINING project. In this project we aim at measuring, describing, and modeling the complex acoustic flow interaction over acoustic liners with several degrees of complexity (i.e., from single degree of freedom to bulk acoustic liner).
Objectives	The PhD candidate will: <ul style="list-style-type: none">- Carry out lattice-Boltzmann Very Large Eddy simulations of the turbulent flow over conventional single/double degree of freedom acoustic liners and novel meta-liners.- Analyze the flow over the liner and within the orifice.- Compare the numerical simulations results against the experimental results obtained by the PhD with focus on experiments.- Apply post processing techniques to determine how the flow affects the acoustic field and vice versa.
Skills and competencies for the development of the activity	The PhD candidate shall have: <ul style="list-style-type: none">- Basic knowledge of aeroacoustics.- Basic Knowledge of turbulence and its statistical characterization.- Experience with computational fluid dynamics.