



Master Thesis at German Aerospace Center (DLR) in Braunschweig, Germany

Morphing aircraft wing skin with pressure actuation



Tubercles on aircraft leading edges ([Fish et al. \(2011\)](#)).

Would you like to join us in addressing this challenge?

At the Institute of Lightweight Systems in the department Adaptronics of the German Aerospace Center (DLR), we are designing and testing morphing aircraft structures for the future of aviation. The goal of morphing in general is to adapt the shape of a component such as aircraft parts to meet aerodynamic targets. At the same time, the shape variable structure has to withstand large operating loads.

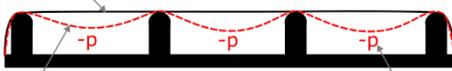
The objective of this work is to pioneer research in the field of morphing tubercles or corrugated morphing aircraft skins (see figures). The application scenario can be selected by the student after a discussion with the supervisor at DLR. You get the chance to perform experiments at DLR location in Braunschweig and gain knowledge with the finite element simulation tool ANSYS Workbench, which is widely used in industry.

The thesis must be written in English. You will work at DLR in Braunschweig (Germany). A laptop will be provided as well as the necessary lab equipment. Your direct supervisor will be at DLR location in Braunschweig but you will also get council from your professor at the University of Trento.

Are you interested?

Then contact **Emiliano Rustighi** at your university. He will answer your initial questions and put you in touch with us in Braunschweig.

Undeformed morphing skin



Deformed morphing skin

Concept of a morphing wing skin which can be deformed (red) by drawing a vacuum (-p).

Contact at University of Trento

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