# Fracture Mechanics for Composite Sandwich Structures in Aircrafts

Postdoc position interview

DTU

October 1, 2019

# Education

2007 - 2010 B.Sc. Aerospace Engineering, Politecnico di Milano (Milano, Italy)

2010 - 2013 Double M.Sc. Programme EAGLES (Engineers As Global Leaders in Energy Sustainability)

- ▶ M.Sc. Mechanical Engineering, Drexel University (Philadelphia, USA), 2012
- ▶ M.Sc. Space Engineering, Politecnico di Milano (Milano, Italy), 2013
- ▶ Master thesis at IMDEA Materials (Madrid, Spain), 2012 - 2013

2015 - 2019 Double Ph.D. Programme DocMASE (Joint European Doctoral Programme in Advanced Materials Science and Engineering)

- ▶ Ph.D. Materials Science and Engineering, Université de Lorraine (Nancy, France), exp. December 2019
- ▶ Ph.D. Polymeric Composite Materials, Luleå University of Technology (Luleå, Sweden), exp. December 2019

# Experience

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|---|---|
| 2012 | Research assistant, Drexel University (Philadelphia, USA) |
| 2012 - 2013 | Research assistant, IMDEA Materials (Madrid, Spain) |
| 2013 - 2015 | Early Stage Researcher, D-Baug, ETH Zürich (Zürich, Switzerland) |
| 2015 - 2017 | Early Stage Researcher, IJL, Université de Lorraine (Nancy, France) |
| 2016 - 2017 | Teaching assistant, EEIGM, Université de Lorraine (Nancy, France) |
| 2018 - 2019 | Early Stage Researcher, TVM, Luleå University of Technology (Luleå, Sweden) |
| 2018 - 2019 | Teaching assistant, TVM, Luleå University of Technology (Luleå, Sweden) |

# Research activity

PhD thesis title  Influence of microstructure on debonding at the fiber/matrix interface in fiber-reinforced polymers under tensile loading

Other projects  Experimental and numerical investigation of the effect of temperature and curing history on the viscoelastic behavior of epoxy matrix

Effect of temperature and loading rate on transverse cracking in glass fiber/epoxy cross-ply laminates under tensile loading

Microscopic observation and statistical analysis of fiber/matrix interface crack growth in cross-ply FRPC laminates

Publications (selected)  Finite Element solution of the fiber/matrix interface crack problem: convergence properties and mode mixity of the Virtual Crack Closure Technique

Energy release rate of the fiber/matrix interface crack in UD composites under transverse loading: effect of the fiber volume fraction and of the distance to the free surface and to non-adjacent debonds