



# Luca Di Stasio

## Early Stage Researcher

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## Background

I am currently employed as a full-time PhD candidate in Polymeric Composite Materials at the Division of Materials Science, Department of Engineering Sciences and Mathematics, Luleå tekniska universitet (LTU) in Luleå, Sweden. I currently teach in 4 graduate-level courses offered in the subject of Polymeric Composite Materials. The courses are offered as part of the LTU-offered Master programme in Composite Materials and the international joint Master programmes in Materials Science and Engineering EEIGM/EUSMAT (European School of Materials Science and Engineering) and AMASE (Advanced Materials Science and Engineering). Previously, I taught at the École Européenne d'Ingénieurs en Génie des Matériaux (EEIGM) in Nancy, France in undergraduate- and graduate-level courses in Solid Mechanics, Viscoelasticity, Linear Elastic Fracture Mechanics, Mechanics of Composite Materials. I also contribute to the research activities of the Polymeric Composite Materials subject at LTU, working on integrated computational and experimental mechanics of polymers and polymer composites with a focus on fatigue, fracture and damage (see my Research Statement for more details). In addition, I am involved in the supervision of graduate students in the context of Master theses and project courses. I am actively involved in the continuous improvement of teaching practices in the subject of Polymeric Composite Materials by proposing new experimental activities for students (composites repair laboratory, bi-axial strain gauge measurements) as well as improving the virtual learning space of the courses offered in the subject. Furthermore, I actively contribute to the pedagogical research in Higher Education; currently I am working on a contribution (article and oral presentation) to the upcoming *Development Conference for Swedish Engineering Education 2019*.

## Higher Education Courses and Study Programmes

### Subject Related Courses

As detailed in my resumé, I have received a BSc in Aerospace Engineering (2010) from Politecnico di Milano (Milan, Italy), a MSc in Mechanical Engineering (2012) from Drexel University (Philadelphia, USA), a MSc in Space Engineering (2013) from Politecnico di Milano (Milan, Italy), a PhD in Materials Science and Engineering (exp. Dec. 2019) from Université de Lorraine (Nancy, France) and a PhD in Polymeric Composite Materials (exp. Dec. 2019) from Luleå tekniska universitet (Luleå, Sweden). The courses I attended in these programs qualify me to teach within the specializations of Polymeric Composite Materials, Computational Mechanics, Experimental Mechanics, Computational Materials Science. I have also published peer-reviewed journal articles and conference papers and given several oral presentations in international conferences and seminars on Polymeric Composite Materials and Computational Mechanics (see my full list of publications for a more detailed account).

### Pedagogic Courses

I have successfully completed the 7.5 ECTS course *Qualifying course for university teachers* at Luleå tekniska universitet (Luleå, Sweden) in February 2019. During my stay at the École Européenne d'Ingénieurs en Génie des Matériaux (EEIGM) in Nancy, France, I also completed the following courses (in-presence or online) on Higher Education: Teaching in Higher Education (4 ECTS), Teaching Sustainability and Sustainable Development (2 ECTS), Oral Communication and Body Language in the Workplace (3.5 ECTS). Furthermore, in 2017 I completed the *Software Carpentry Instructor Training Program* proposed by *The Carpentries* to become a Certified Workshop Instructor. *The Carpentries* is non-profit association whose aim is to teach software development and data science skills to researcher and to promote Open Science values and best practices.

## Experience of Teaching and Supervision within Higher Education

### Teaching

*Solid Mechanics, 7.5 ECTS, École Européenne d'Ingénieurs en Génie des Matériaux (Nancy, France), 2017, Spring Term, Bachelor's Level*

I am responsible for the laboratory sessions devoted to Mode I delamination testing (Double Cantilever Beam) of composites and calculation of Uni-Directional (UD) elastic properties from experimental data.

*T7020T - Composites: Design and Numerical Methods, 7.5 ECTS, Luleå tekniska universitet, 2018, Autumn Term, Master's Level*

I am responsible for the laboratory sessions devoted to Mode I delamination testing (Double Cantilever Beam) of composites and calculation of Uni-Directional (UD) elastic properties from experimental data.

*T7005T - Aerospace Materials, 7.5 ECTS, Luleå tekniska universitet, 2018 - 2019, Spring Term, Master's Level*

The course is divided into 3 main thematic sections: fatigue, fracture and damage in fiber-reinforced composites; joining techniques for composites; advanced metallic alloys. The first part, on fatigue, fracture and damage of composites, involves laboratory sessions of which I have been in charge. In the 2019 edition of the course, I have also defined the research topic of the laboratory session and designed the learning activities in the lab. I also improved the virtual learning space of the course by restructuring its content and appearance. Furthermore, I helped the design of the seminar activity in the section on advanced metallic alloys.

*T7012T - Composite Materials, 7.5 ECTS, Luleå tekniska universitet, 2018 - 2019, Autumn and Winter Term, Master's Level*

I am responsible for the laboratory sessions devoted to manual manufacturing of composites, mechanical testing and calculation of Uni-Directional (UD) elastic properties from experimental data.

*T7011T - Mechanics of Fiber Composites, 7.5 ECTS, Luleå tekniska universitet, 2019, Winter Term, Master's Level*

I am responsible for the laboratory sessions devoted to mechanical testing of composites and calculation of Uni-Directional (UD) elastic properties from experimental data.