

Luca Di Stasio

Early Stage Researcher

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Research Interests –

- Linear and non-linear behavior of materials and structures: elasticity, fracture, plasticity, viscoelasticity, viscoplasticity, piezoelectricity, magnetostriction
- Multi-scale computational modeling of materials: Finite Element Method (FEM) and its variants, Lattice Boltzmann Method (LBM), Molecular Dynamics (MD), Discrete Element Method (DEM)
- Modeling of fatigue, fracture, and damage in polymers and FRPC: delamination, transverse cracking, fiber-matrix debonding, transverse cracking induced delamination
- Experimental mechanics of FRPC: mode I, II, III and mixed mode I-II delamination, automated observation of transverse cracks, estimation of stiffness reduction, loading rate effects, effect of curing history and degree of cure on mechanical properties
- Theoretical, experimental and computational fracture mechanics: interface cracks, Fracture Mechanics, Virtual Crack Closure Technique (VCCT), J-integral, Cohesive Zone Model (CZM), eXtended Finite Element Method (X-FEM)
- Adoption and dissemination of Open Science practices: open innovation, research data management, research software development and maintenance, open data, open source software
- Learner-centered pedagogy and teaching in higher education: signature pedagogies, threshold concepts, taxonomies, learning objectives, physical and virtual learning spaces

Research Area and Approach

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Current and Past Research

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Future Research Directions

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