|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Luca Di Stasio** | | | | | | | | | | | | | | | | | | | |
| **R&D Professional** | | | | | | | | | | | | | | | | | | | |
| Discovery Boulevard, G-3900, KAUST, Thuwal, Saudi Arabia | | | | | | | | | | | | | | | | | | | |
| **D-CPR Certified** | | | **Driving License B (IT)** | | | | | | | | | | | | | | | | |
| **(+966) 53 419 70 84** | | |  | | | | | | | | | **luca.distasio@gmail.com** | | | | | | | |
| **Profile** | | |  | | | | | | | | |  | | | | | | | |
| **Employment History** | | | | | | | | | | | | | | | | | | | |
| **Kaust** | | | | | | | | | | | | Thuwal, Saudi Arabia | | | | | | | |
| Apr 2020 - Present | | | **Postdoctoral Researcher** *(with Prof. Brian Moran)* | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Université de Lorraine** | | | | | | | | | | | | Nancy, France | | | | | | | |
| Sep 2020 – Feb 2021 | | | **Guest Lecturer** | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Luleå University of Technology** | | | | | | | | | | | | Luleå, Sweden | | | | | | | |
| Jan 2018 – Dec 2019 | | | **Early-stage Researcher** *(with Prof. Janis Varna)* | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| Jan 2018 – Dec 2019 | | | **University Teaching Assistant** | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Université de Lorraine** | | | | | | | | | | | | Nancy, France | | | | | | | |
| Sep 2016 – Dec 2017 | | | **University Teaching Assistant** | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| Sep 2015 – Dec 2017 | | | **Early-stage Researcher** *(with Prof. Zoubir Ayadi)* | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | |  | | | | | | | |
| **The Learning Center Zürich** | | | | | | | | | | | | Zürich, Switzerland | | | | | | | |
| Dec 2014 – Aug 2015 | | | **Personal Tutor** | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **ETH Zürich** | | | | | | | | | | | | Zürich, Switzerland | | | | | | | |
| Sep 2013 – Aug 2015 | | | **Early-stage Researcher** *(with Prof. Hans Herrmann)* | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **IMDEA Materials Institute** | | | | | | | | | | | | Madrid, Spain | | | | | | | |
| Nov 2012 – Aug 2013 | | | **Research Assistant** *(with Dr. Claudio Lopes)* | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Drexel University** | | | | | | | | | | | | Philadelphia, USA | | | | | | | |
| Jan 2012 – Jun 2012 | | | **Research Assistant** *(with Prof. Sorin Siegler and Prof. Jonathan Spanier)* | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Politecnico di Milano** | | | | | | | | | | | | Milano, Italy | | | | | | | |
| Jan 2011 – Jun 2011 | | | **Personal Tutor** | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Istituto Sacro Cuore** | | | | | | | | | | | | Milano, Italy | | | | | | | |
| Oct 2009 – Jun 2011 | | | **Learning Support Teacher** | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | | | | | | | | | |
| **Education** | | | | | | | | | | | | | | | | | | | |
| Sep 2015 – Dec 2019 | | | **PhD** | **Polymeric Composite Materials** | | | | | | | |  | | | | | | | |
|  | | | Luleå University of Technology | | | | | | | | | Luleå, Sweden | | | | | | | |
| Sep 2015 – Dec 2019 | | | **PhD** | **Materials Science** | | | | | | | |  | | | | | | | |
|  | | | Université de Lorraine | | | | | | | | | Nancy, France | | | | | | | |
| Nov 2013 | | | **PE** | **Industrial Engineering** | | | | | | | |  | | | | | | | |
|  | | | Politecnico di Milano | | | | | | | | | Milano, Italy | | | | | | | |
| Oct 2010 – Oct 2013 | | | **MSc** | **Space Engineering** | | | | | | | | **GPA 110/110** | | | | | | | |
|  | | | Politecnico di Milano | | | | | | | | | Milano, Italy | | | | | | | |
| Sep 2011 – Jun 2012 | | | **MSc** | **Mechanical Engineering** | | | | | | | | **GPA 4/4** | | | | | | | |
|  | | | Drexel University | | | | | | | | | Philadelphia, USA | | | | | | | |
| Sep 2007 – Sep 2010 | | | **BSc** | **Aerospace Engineering** | | | | | | | | **GPA 110/110** | | | | | | | |
|  | | | Politecnico di Milano | | | | | | | | | Milano, Italy | | | | | | | |
| Sep 2002 – Jun 2007 | | | **Dip** | **Scientific High School** | | | | | | | | **GPA 100/100 cum Laude** | | | | | | | |
|  | | | Istituto Sacro Cuore | | | | | | | | | Milano, Italy | | | | | | | |
| Sep 1997 – Jun 2007 | | |  | **Cello Studies** | | | | | | | |  | | | | | | | |
|  | | | Municipal School of Music | | | | | | | | | Cernusco s/N, Italy | | | | | | | |
| **Professional Development (Selected)** | | | | | | | | | | | | | | | | | | | |
| Oct – Dec 2021 | | | **Higher Education Teaching Certificate** | | | | | | | | | | | | | | | | |
|  | | | Harvard University (through HarvardX) | | | | | | | | | | | | | | | USA | |
| May 2021 | | | **Structuring Machine Learning Projects** | | | | | | | | | | | | | | | | |
|  | | | DeepLearning.AI (through Coursera) | | | | | | | | | | | | | | | | USA |
| Apr 2021 | | | **Improving Deep Neural Networks: Hyperparameter Tuning, Regularization and Optimization** | | | | | | | | | | | | | | | | |
|  | | | DeepLearning.AI (through Coursera) | | | | | | USA | | | | | | | | | | |
| Apr 2021 | | | **Neural Networks and Deep Learning** | | | | | | | | | | | | | | | | |
|  | | | DeepLearning.AI (through Coursera) | | | | | | USA | | | | | | | | | | |
| Mar 2021 | | | **French National Qualification as Assistant/Associate Professor** | | | | | | | | | | | | | | | | |
|  | | | Ministère de l’Enseignement Supérieur et de la Recherche | | | | | | | | | | | | | France | | | |
| Sep – Nov 2020 | | | **Carpentries Trainer Training** | | | | | | | | | | | | | | | | |
|  | | | The Carpentries | | | | | | | | | | | USA | | | | | |
| Jun – Jul 2020 | | | **Carpentries Maintainer Training** | | | | | | | | | | | | | | | | |
|  | | | The Carpentries | | | | | | | | | | | USA | | | | | |
| Sep 2018 – Jan 2019 | | | **Swedish Qualifying Course for University Teachers** | | | | | | | | | | | | | | | | |
|  | | | Luleå University of Technology | | | | | | | | | | | | | | | Sweden | |
| May – Jul 2018 | | | **Fundamentals of Business Certificate** | | | | | | | | | | | | | | | | |
|  | | | Quantic School of Business and Technology (previously Smartly) | | | | | | | | | | | | | | | USA | |
| Mar 2018 | | | **Research Funding** | | | | | | | | | | | | | | | | |
|  | | | Luleå University of Technology | | | | | | Sweden | | | | | | | | | | |
| Jun – Sep 2017 | | | **Carpentries Instructor Training** | | | | | | | | | | | | | | | | |
|  | | | The Carpentries | | | | | | USA | | | | | | | | | | |
| Nov – Dec 2016 | | | **CSR and Value Creation** | | | | | | | | | | | | | | | | |
|  | | | Audencia Business School | | | | | | France | | | | | | | | | | |
| Sep – Nov 2016 | | | **Project Management** | | | | | | | | | | | | | | | | |
|  | | | Ecole Centrale Lille | | | | | | France | | | | | | | | | | |
| Jul 2015 | | | **Effective Exploitation of High Performance Computing Systems** | | | | | | | | | | | | | | | | |
|  | | | Swiss National Supercomputing Center | | | | | | Switzerland | | | | | | | | | | |
| Jul 2015 | | | **CNC Technician Certificate** | | | | | | | | | | | | | | | | |
|  | | | Centro di Formazione Salesiano Don Bosco | | | | | | | | Italy | | | | | | | | |
| **Computer Skills** | | |  | | |  |  |  | | | | |  | | | |  | | |
|  | | |  | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | |  | | | | | | | |
| **Technical Skills** | | | | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | |  | | | | | | | |
| **Soft Skills** | | | | | | | | | | | | | | | | | | | |
|  | | |  | | | | | | | | |  | | | | | | | |
| **Languages** | | **Italian** | | | Native speaker | | | | | **English** | | | | | Highly proficient | | | | |
|  | | **French** | | | Highly proficient | | | | | **Spanish** | | | | | Highly proficient | | | | |
|  | | **German** | | | Working knowledge | | | | | **Swedish** | | | | | Working knowledge | | | | |
| **Projects** | | | | | | | | | | | | | | | | | | | |
| Current | | | | | | | | | | | | | | | | | | | |
| * Formulation of cohesive zone models and cohesive elements for large deformations at the crack tip of Neo-Hookean thin sheets under conditions of plane stress   *In collaboration with:* Prof. Brian Moran, Dr. Yin Liu   * Neo-Hookean sphere impacting on a water droplet at rest on rigid/deformable, hydrophobic/hydrophilic surfaces: modeling the mechanics of solid and fluid phases and their interaction   *In collaboration with:* Prof. Brian Moran, Prof. Tadd Truscott   * Design of soft polymer balls with internal structure for asymmetric impact trajectories   *In collaboration with:* Prof. Brian Moran   * Asymptotic characterization of the elastic fields along the front of a crack in a 3D Neo-Hookean body under large deformations   *In collaboration with:* Prof. Brian Moran | | | | | | | | | | | | | | | | | | | |
| Completed | | | | | | | | | | | | | | | | | | | |
| * Micromechanics of damage in thin- and ultra thin-plies of glass- and carbon-fiber reinforced polymer composites for aerospace applications   *In collaboration with:* Prof. Janis Varna, Prof. Zoubir Ayadi   * Characterization of the fiber-matrix debonding process from the analysis of post-mortem optical micrographs   *In collaboration with:* Mr. Florian Feyne, Prof. Janis Varna   * Experimental and numerical analysis of the effect of temperature and curing history on the viscoelastic behavior of epoxy resin   *In collaboration with:* Mr. Pietro Cuccarollo, Dr. Liva Pupure, Prof. Janis Varna, Prof. Marino Quaresimin   * Effect of aging on transverse cracking in glass fiber reinforced polymer composites   *In collaboration with:* Prof. Janis Varna   * Effect of temperature and loading rate on transverse cracking in glass fiber reinforced polymer composites   *In collaboration with:* Prof. Janis Varna   * Coupling a boundary-conforming Lattice Boltzmann Method (LBM) with a subdivision-based Finite Element Method (FEM) for linear elastic thin shells through advanced mesh generation and finite differentiation   *In collaboration with:* Dr. Miller Mendoza, Dr. Falk Wittel, Prof. Hans Herrmann   * Performance optimization of a Matlab-based code for multiscale modeling of wood   *In collaboration with:* Dr. Falk Wittel   * Effect of loading rate on interlaminar fracture toughness in advanced carbon fiber reinforced polymer composites   *In collaboration with:* Dr. Claudio Lopes   * Automated crack detection and extraction of fracture parameters from video recordings of interlaminar fracture toughness tests (DCB, ENF, MMB)   *In collaboration with:* Dr. Claudio Lopes   * Modeling complex patterns of crack propagation: branching and merging mechanisms   *In collaboration with:* Dr. Carlo Barbieri, Dr. Stephen Wolfram   * Design of a coupled piezoelectric-magnetostrictive nano-resonator for the detection of environmental electromagnetic fields   *In collaboration with:* Dr. Stephanie Johnson, Prof. Jonathan Spanier   * Talus morphology and its relationship to the kinematics of the ankle joint   *In collaboration with:* Prof. Sorin Siegler | | | | | | | | | | | | | | | | | | | |
| **Publications** | | | | | | | | | | | | | | | | | | | |
| Peer-reviewed Journal Publications | | | | | | | | | | | | | | | | | | | |
| 1. Di Stasio, L., Liu Y., & Moran, B. (2021). Large deformation near a crack tip in a fiber-reinforced neo-Hookean sheet with discrete and continuous distributions of fiber orientations. *Theoretical and Applied Fracture Mechanics, 114,* 103020.   https://dx.doi.org/10.1016/j.tafmec.2021.103020   1. Di Stasio, L., Varna, J., & Ayadi, Z. (2021). Growth of interface cracks on consecutive fibers: On the same or on the opposite sides? *Materials Today: Proceedings, 34(1),* 360-365.   https://dx.doi.org/10.1016/j.matpr.2020.06.410   1. Di Stasio, L., Varna, J., & Ayadi, Z. (2020). Effect of the proximity to the 0°/90° interface on Energy Release Rate of fiber/matrix interface crack growth in the 90°-ply of a cross-ply laminate under tensile loading. *Journal of Composite Materials, 54(21),* 3021-3034.   https://dx.doi.org/10.1177/0021998320912810   1. Di Stasio, L., & Ayadi, Z. (2019). Finite Element solution of the fiber/matrix interface crack problem: Convergence properties and mode mixity of the Virtual Crack Closure Technique. *Finite Elements in Analysis and Design, 167,* 103332.   https://dx.doi.org/10.1016/j.finel.2019.103]332   1. Di Stasio, L., Varna, J., & Ayadi, Z. (2019). 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. *Theoretical and Applied Fracture Mechanics, 103,* 102251.   https://dx.doi.org/10.1016/j.tafmec.2019.102251 | | | | | | | | | | | | | | | | | | | |
| Conference Proceedings | | | | | | | | | | | | | | | | | | | |
| 1. Di Stasio, L., Varna, J., & Ayadi, Z. (2019). Estimating the average size of fiber/matrix interface cracks in UD and cross-ply laminates. In Turon, A., Maimì, P., & Fagerström, M. (Eds.), *Proceedings of the 7th ECCOMAS Thematic Conference on the Mechanical Response of Composites (Composites 2019), Girona, Spain, September 18-20, 2019* (pp. 57-68).   Retrieved from https://documentations.wiki/R9NAz/proceeding-composites-2019-v4-pdf.html   1. Di Stasio, L., Varna, J., & Ayadi, Z. (2018). Effect of boundary conditions on microdamage initiation in thin ply composite laminates. In *Proceedings of the 18th European Conference on Composite Materials (ECCM18), Athens, Greece, June 24-28, 2018.*   Retrieved from https://az659834.vo.msecnd.net/eventsairwesteuprod/production-pcoconvin-public/f02831a803b64483b250b93c1536cb00 | | | | | | | | | | | | | | | | | | | |
| Theses | | | | | | | | | | | | | | | | | | | |
| 1. Di Stasio, L. (2019). *Influence of microstructure on debonding at the fiber/matrix interface in fiber-reinforced polymers under tensile loading* [Doctoral dissertation, Luleå University of Technology and Université de Lorraine].   Digitala Vetenskapliga Arkivet (DiVA). http://urn.kb.se/resolve?urn=urn:nbn:se:ltu:diva-76646 Université de Lorraine thesis repository. http://docnum.univ-lorraine.fr/public/DDOC\_T\_2019\_0229\_DI\_STASIO.pdf   1. Di Stasio, L. (2013). *Experimental, analytical and numerical investigation of loading rate effects on mode I, mode II and mixed-mode I-II delamination in advanced CFRP* [Master’s thesis, Politecnico di Milano].   Digital archive of PhD and post graduate theses (POLITesi). http://hdl.handle.net/10589/82983 | | | | | | | | | | | | | | | | | | | |
| Conference Contributions and Seminars | | | | | | | | | | | | | | | | | | | |
| 1. Di Stasio, L., & Moran, B. (2022, July 7). *A Dugdale-Barenblatt model for cracks in thin neo-Hookean sheets* [Conference session, oral presentation]. 11th European Solid Mechanics Conference (ESMC 2022), Galway, Ireland. 2. Di Stasio, L. (2020, July 27). *Native scripting in Windows: the Command Prompt interface* [Conference session, oral presentation]. CarpentryCon @ Home 2020 – Growing Inclusive, Computational Communities and Leaders, online. https://youtu.be/hRYBGsCxfDY 3. Di Stasio, L., Varna, J., & Ayadi, Z. (2019, May 29). *Ply-thickness effect on fiber-matrix interface crack growth* [Conference session, oral presentation]. 9th International Conference on Composite Testing and Model Identification (CompTest2019), Luleå, Sweden. | | | | | | | | | | | | | | | | | | | |
| Lectures and Workshops (given as main lecturer/instructor) | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | |
| **Professional Honors and Awards** | | | | | | | | | | | | | | | | | | | |
| 2019 | **Wallenberg Jubileumsanslaget Travel Grant** | | | | | | | | Knut and Alice Wallenberg Foundation | | | | | | | | | | |
|  | Travel expenses for the participation to the 12th International Conference on Composite Science and Technology. | | | | | | | | | | | | | | | | | | |
| 2019 | **Erasmus+ Higher Education** | | | | | | | | European Commission | | | | | | | | | | |
|  | Travel expenses for a one-week visit to the Elasticity and Strength of Materials Group of Prof. Federico Paris at Universidad de Sevilla (Sevilla, Spain). | | | | | | | | | | | | | | | | | | |
| 2015 – 2018 | **Erasmus Mundus Fellowship** | | | | | | | | European Commission | | | | | | | | | | |
|  | Stipend and travel expenses for the participation to the Joint European Doctoral Program in Advanced Materials Science and Engineering (DocMASE). | | | | | | | | | | | | | | | | | | |
| 2013 | **PEGASUS Award** | | | | | | | | PEGASUS | | | | | | | | | | |
|  | Recognition of special achievements in European cooperation through working abroad for academic research or industrial development projects from PEGASUS (European Network of Excellence in Aerospace Engineering Education). | | | | | | | | | | | | | | | | | | |
| 2012 – 2013 | **Erasmus Fellowship** | | | | | | | | European Commission | | | | | | | | | | |
|  | Stipend and travel expenses to conduct a research project at IMDEA Materials Institute as part of the Double Master Degree EAGLES (Engineers as Global Leaders for Energy Sustainability) program. | | | | | | | | | | | | | | | | | | |
| 2011 – 2012 | **EU-US Atlantis Program Fellowship** | | | | | | | | European Commission & US DoEd | | | | | | | | | | |
|  | Full tuition, stipend and travel expenses to conduct graduate studies at Drexel University as part of the Double Master Degree EAGLES (Engineers as Global Leaders for Energy Sustainability) program. | | | | | | | | | | | | | | | | | | |
| 2012 | **Academic Excellence Award** | | | | | | | | BCC di Cernusco s/N | | | | | | | | | | |
|  | Award for excellence in undergraduate studies. | | | | | | | | | | | | | | | | | | |
| 2007 – 2010 | **Merit-based Tuition Fees Exemption** | | | | | | | | Politecnico di Milano | | | | | | | | | | |
|  | Merit-based partial exemption from tuition fees to conduct undergraduate studies. | | | | | | | | | | | | | | | | | | |
| 2007 | **Academic Excellence Award** | | | | | | | | BCC di Cernusco s/N | | | | | | | | | | |
|  | Award for excellence in high school studies. | | | | | | | | | | | | | | | | | | |
| 2007 | **Academic Excellence Award** | | | | | | | | Italian government | | | | | | | | | | |
|  | Award for excellence in high school studies. | | | | | | | | | | | | | | | | | | |