












## Davide Crisafulli

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**Date of birth:** 25/12/1997 **Nationality:** Italian

### ABOUT ME

I am a PhD student of "Bioengineering applied to medical sciences" at UniMe. I have a good knowledge of the English language, a fair use of Microsoft Office, Ansys, Solidworks, Nx, Matlab and similar. I love training, keeping fit, I like helping people and teamworking. I'm determined to improve my skills and to learn more things.

### EDUCATION AND TRAINING

[ 09/2021 – Current ]

#### PhD student in "Bioengineering applied to medical sciences"

**University of Messina** <https://www.unime.it/it>

**City:** Messina | **Country:** Italy |

Application of thermographic method for rapid evaluation of fatigue properties of different types of materials, e.g., steels, plastics, carbon fibers, additive manufacturing products. Knowledge of cumulative damage models for reliability and safety of mechanical components. Experienced in operation and maintenance of fatigue testing machines. Familiarity with a variety of equipment including MTS, Instron, Italsigma, SEM, XRF.

Tutor: Prof. Ing. Giacomo Risitano

coTutor: Prof. Ing. Dario Santonocito

[ 2018 – 2021 ]

#### Master degree in Mechanical Engineering (LM-33)

**University of Messina** <https://www.unime.it/it>

**City:** Messina | **Country:** Italy | | **Final grade:** 110 cum laude | **Thesis:** Numerical and experimental structural analysis for the mechanical reliability of leads used in implantable cardioverter defibrillators

Investigation of the mechanical reliability of Durata7122 cardiac lead used in implantable cardioverter defibrillators (Abbott).

Tutor: Prof. Ing. Giacomo Risitano

coTutor: Dott. Leonardo Marinaccio

[ 2015 – 2019 ]

#### Bachelor degree in Industrial engineering (L-9)

**University of Messina** <https://www.unime.it/it>

**City:** Messina | **Country:** Italy | | **Final grade:** 110 cum laude | **Thesis:** Fluid dynamic characterization of a windshield for a Pre Moto3 motorcycle

Development of a computational fluidynamics model to improve the aerodynamics performance of a Pre Moto3 motorcycle.

Tutor: Prof. Ing. Filippo Cucinotta

coTutor: Prof. Ing. Giacomo Risitano

[ 2010 – 2016 ]

#### Diploma scientifico - Campo di studi EQF - Livello 4

**Liceo Scientifico "Giuseppe Seguenza"**

**City:** Messina | **Country:** Italy |

[ 09/2021 ] **IELTS English Certificate CEFR B2**

**British Council**

**Country:** Italy |

## WORK EXPERIENCE

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[ 01/10/2023 – Current ] **Expert in the field (MECHANICAL DESIGN SSD ING/IND 14)**

**Università degli studi di Messina**

**City:** Messina | **Country:** Italy

Topic: "Fundamentals of Structural Mechanics" Prof.Ing. Dario Francesco Santonocito – Management Engineering degree program.

[ 09/2022 – Current ] **Tutor for students**

**University of Messina**

**City:** Messina | **Country:** Italy

Student tutorials on Matlab and Ansys software for "Vehicle Dynamics" and "Vehicle Mechanical Design" courses.

[ 01/07/2021 – 28/06/2024 ]

**Chairman**

**Associazione Culturale Unitamente ETS**

**City:** Messina | **Country:** Italy

"Unitamente" is the name of a non-profit organization made up to carry out and/or promote cultural activities. The main task is to support the "Stretto in Carena UNIME" team.

[ 03/01/2021 – 20/02/2021 ]

**CFD engineer consultant at Wind tunnel "Raffaele Balli"- Team Gresini Racing**

**Wind Tunnel "Raffaele Balli"**

**City:** Perugia | **Country:** Italy

The aim of the work was the optimization of the front fairing of an

Honda NSF250RW for Gresini Racing in partnership with Prof.Ing.Lorenzo Scappaticci at wind tunnel "Raffaele Balli" in Perugia, Italy.

TASKS:

-Design of winglets to be mounted on the front fairing to reduce the drag resistance of the motorcycle.

-CFD simulations of the motorcycle with the various designs and choice of the best one (which gave the greater reduction of drag).

[ 05/07/2021 – 25/07/2021 ]

**CFD engineer consultant at Wind tunnel "Raffaele Balli"- Team SpeedUp Moto2**

**Wind Tunnel "Raffaele Balli"**

**City:** Perugia | **Country:** Italy

The work was about the Boscoscuro Moto2 prototype of the SpeedUp team.

TASKS:

-Test of several fairing configurations.

-CFD simulations of the motorcycle with various configurations.

[ 08/2019 – 28/06/2021 ]

**Aerodynamics division member**

**Stretto in Carena UNIME**

**City:** Messina | **Country:** Italy

Design and optimization of fairings for a racing motorcycle which competes in the VI edition of the MotoStudent International Competition.

[ 08/2019 – 28/06/2022 ]

**Tutor for students**

**Stretto in Carena UNIME**

**City:** Messina | **Country:** Italy



Group leader of SIC-Academy, school-work alternation training project. The main task was to teach CAD design lessons to secondary school students.

[ 01/07/2019 – 01/08/2019 ] **Mechanical engineer Internship**

**smartme.IO**

**City:** Messina | **Country:** Italy

The main tasks were the CAD design of an environmental station and of a support for arancino.cc development board.

## MOBILITY PERIOD

[ 20/01/2023 – 20/04/2023 ] **Mechanical engineer fellowship**

**INSTITUTE OF PHYSICS OF MATERIALS (IPM) - CZECH ACADEMY OF SCIENCES, BRNO (CZ)**

The aim of the fellowship was the microstructural and fatigue mechanism investigation on additive manufacturing materials adopted in bioengineering fields.

TASKS:

- Extraction of samples.
- Metallographic preparation
- Hardness measurement
- Roughness measurement
- Observation using light optical and scanning electron microscopes including EBSD
- Fractographic analysis
- Porosity characterization

## LANGUAGE SKILLS

**Mother tongue(s):** Italian

**Other language(s):**

**English**

**LISTENING B2 READING B2 WRITING B2**

**SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## DIGITAL SKILLS

**My Digital Skills**

**CAD design**

Siemens NX | Dassault SolidWorks | Autodesk Inventor (CAD) | Rhino/Grasshopper | Autocad

**CAE/CFD**

ANSYS Workbench ANSYS APDL | Siemens Star CCM+ | Fluent (Ansys) | Altair Hyperworks

**Other software**

Matlab/SIMULINK | Microsoft Office

## DRIVING LICENCE

**Cars:** B

## CONFERENCES AND SEMINARS

[ 06/09/2023 – 09/09/2023 ] **52° AIAS National Conference** Genova

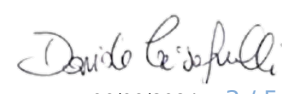
Speaker, NATIONAL CONFERENCE

[ 02/07/2023 – 07/07/2023 ]

**20th International Conference on Experimental Mechanics in Engineering and Biomechanics (ICEM20)**

Porto, Portugal

Speaker, INTERNATIONAL CONFERENCE



[ 03/2023 ] **SIRAMM23 - International Conference on "Structural Integrity and Reliability of Advanced Materials obtained through Additive Manufacturing"**

Timisoara, Romania

Speaker, INTERNATIONAL CONFERENCE

[ 07/09/2022 – 10/09/2022 ] **51° AIAS National Conference** Padova

Speaker, NATIONAL CONFERENCE

[ 23/02/2024 ] **4th Workshop of the working group MEAS "Thermography as a quantitative analysis tool" within AIAS - Italian Scientific Society of Mechanical Design and Construction of Machines (ING-IND/14)**

Milano

[ 11/06/2023 – 15/06/2023 ] **AIAS PhD SUMMER SCHOOL 2023 "Advances in Fracture Mechanics and Failure Analysis"**

Ferrara

[ 13/06/2022 – 16/06/2022 ] **AIAS PhD SUMMER SCHOOL 2022 "Advances in Fatigue"** Ferrara

## HONOURS AND AWARDS

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[ 07/2021 ] **Best Rookie Team MotoStudent Petrol Category - VI Motostudent International Competition**  
**Awarding institution:** Moto Engineering Foundation

VI Edition of the Motostudent international competition held in the Motorland Aragón circuit. The "Stretto in Carena" team was ranked 5th in the race, 7th in the overall standings and winner of the Best Rookie Team award in the MotoStudent Petrol category.

[ 01/2020 ] **NX CAD Design Academic Awarding institution:** Siemens Digital Industries Software

ID: C3ju8yub6

[ 05/05/2020 ] **Fundamentals of STAR-CCM+ (University: Star CCM+ Training) Awarding institution:** Siemens PLM Software

[ 22/05/2020 ] **Heat Transfer (University: Star CCM+ Training) Awarding institution:** Siemens PLM Software

[ 23/05/2020 ] **Multiphase in STAR-CCM+ (University: Star CCM+ Training) Awarding institution:** Siemens PLM Software

[ 04/2020 ] **Siemens NX: Design for Injection Molding Awarding institution:** LinkedIn

[ 04/2020 ] **Siemens NX: Surfacing Awarding institution:** LinkedIn

[ 04/2020 ] **NX: Class A Surfacing Awarding institution:** LinkedIn

[ 04/2020 ] **Learning Siemens NX Awarding institution:** LinkedIn

[ 05/2020 ] **Leadership: Practical Skills Awarding institution:** LinkedIn

[ 05/2020 ] **Learning MATLAB Awarding institution:** LinkedIn

**ECDL Full Awarding institution:** CEPIS

## LIST OF PUBLICATIONS

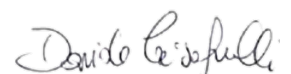
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[ 2022 ] **Effect of misalignments and welding penetration on the fatigue strength of a common welded detail: SED method predictions and comparisons with codes**

P. Foti, D. Crisafulli, D. Santonocito, G. Risitano, F. Berto

Int. J. Fatigue. 164 (2022). [JOURNAL-IF:6(2024)]

**Link:** <https://doi.org/10.1016/j.ijfatigue.2022.107135>



**A New Approach for the Tribological and Mechanical Characterization of a Hip Prosthesis Through a Numerical Model Based on Artificial Intelligence Algorithms and Humanoid Multibody Model**

[ 2022 ]

D. Milone, G. Risitano, A. Pistone, D. Crisafulli, F. Alberti

Lubricants MDPI. [JOURNAL – IF: 3.584 (2024)]

**Link:** <https://doi.org/https://doi.org/10.3390/lubricants10070160>

**An innovative experimental energy-based approach for the life prediction of notched details**

[ 2023 ]

D. Crisafulli, P. Foti, D. Santonocito

IOP Conf. Ser. Mater. Sci. Eng. (2023) [PROCEDIA – NATIONAL CONFERENCE]

**Link:** <https://doi.org/10.1088/1757-99X/1275/1/012018>

**Microstructural characterization and mechanical behaviour of laser powder Bed Fusion stainless steel 316L**

[ 2024 ]

D. Crisafulli, S. Fintová, D. Santonocito, D. D'Andrea

Theoretical and Applied Fracture Mechanics, 131 (2024) [JOURNAL–IF: 5.3 (2024)]

**Link:** <https://doi.org/10.1016/j.tafmec.2024.104343>

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*I hereby consent to the processing of the data I provided in this CV, in accordance to the Regulation of the European Parliament 679/2016, regarding the protection of natural persons and free movement of such data.*

Messina, Italy, 06/08/2024



Davide Crisafulli