



Antonio Alessandro Deleo

AEROSPACE ENGINEER · STRUCTURAL ENGINEER · SOFTWARE ENGINEER

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Education

University of Washington Seattle

Seattle, US



DOCTOR OF PHILOSOPHY (PH.D.) IN AEROSPACE ENGINEERING

2016 – 2023

- Thesis title: **FastDM4C: A Fast and Efficient Discrete Model for Composites**
- Supervisor: Prof. Marco SALVIATO
- GPA: 3.95



BACHELOR OF SCIENCE (B.S.) IN AEROSPACE ENGINEERING

2014 – 2016

- Aeronautical Capstone Project
- Technical Electives in Aerostructures and Modeling



Cascadia College

Bothell, US

BACHELOR OF SCIENCE (B.S. TRANSFER) IN CIVIL AERONAUTICAL

2012 – 2014

- GPA: 3.97



Conservatory of Music "G.Rossini"

Pesaro, Italy

BACHELOR (B.MUS) AND MASTER (M.MUS) IN MUSIC - FLUTE PERFORMANCE

2005 – 2012

- GPA: 4.0 cum Laude

Academic Experience

University of Washington

Seattle, US

RESEARCH ASSISTANT AT MULTISCALE ANALYSIS OF MATERIALS & STRUCTURES (MAMS) LAB

Sep. 2016 - Present

- Computational Modeling of Fracture Onset and Propagation
- Bio-Inspired Materials
- Multiaxial Fatigue of Composite Materials
- Composite Origami
- Development and Maintenance of Computational Codes

TEACHING ASSISTANT

Sep. 2016 - Sep. 2020

- Introduction and Advanced Finite Element Method
- Introduction and Advanced Mechanics of Composites
- Solid Mechanics
- Aircraft Design

Specialized Courses

Sep. 2018 **Nanofabrication**, Washington Nanofabrication Facility (WNF)

Seattle

Sep. 2017 **Micro and Nanofabrication (MEMS)**, EPFLx

Switzerland

Jun. 2017 **Fatigue and Damage Tolerant Design**, FAA

Seattle, US

Jun. 2015 **GEA Aviation Summer Program**, ENAC - ISAE-SUPAERO

Toulouse, France

Honors & Awards

May 2015 **Robert Reynolds Scholarship**, University of Washington Seattle

Seattle, WA, USA

Aug. 2015 **Valedictorian GEA Aviation Program**, ENAC - ISAE/Supaero

Toulouse, France

2012 – 2014 **President Honors**, Cascadia College

Bothell, WA, USA

Seminars & Conference Talks

2023	Society of Advanced Materials and Processing Engineering (SAMPE)	Seattle, WA, USA
2022	American Society for Composites 37th Technical Conference (ASC) University of Washington, Finite Element Class (AA540)	U. of Arizona, Tucson, AZ, USA Virtual Conference
2021	Engineering Mechanics Institute Conference (EMI) University of Washington, Finite Element Class (AA540) University of Washington, Advanced Composite Class (AA535)	Virtual Conference Seattle, WA, USA Seattle, WA, USA
2020	University of Washington, Finite Element Class (AA540) University of Washington, Solid Mechanics Class (AE540)	Seattle, WA, USA Seattle, WA, USA
2019	Engineering Mechanics Institute Conference (EMI) University of Washington, Finite Element Class (AA540) The Joint Center for Aerospace Technology Innovation (JCATI)	Caltech, Pasadena, USA Seattle, WA, USA Seattle, WA, USA
2018	American Society for Composites 33rd Technical Conference (ASC) Fatigue and Damage Tolerance Design (FDT) Society of Advanced Materials and Processing Engineering (SAMPE) University of Washington, Finite Element Class (AA540)	Seattle, WA, USA Kirkland, WA, USA Long Beach, CA, USA Seattle, WA, USA

Publications

14	DISCRETE, MESO-SCALE MODELING OF FIBER-REINFORCED COMPOSITES (DM4C): APPLICATION TO THE ADDITIVE MANUFACTURING OF CONTINUOUS FIBERS <i>Salviato M., Deleo A. A., Phenisee S., Pelessone D., Flores M.</i>	2023 IMECE - in print
13	FASTDM4C: A FAST AND EFFICIENT DISCRETE MODEL FOR COMPOSITES <i>Deleo A. A., Phenisee S., Pelessone D., Flores M., Salviato M.</i>	2023 ASC - submitted
12	ANALYSIS OF ADDITIVE MANUFACTURED STRUCTURAL JOINTS USING DISCRETE MODEL FOR COMPOSITES (DM4C) <i>Deleo A. A., Phenisee S., Pelessone D., Furmanski J., Flores M., Salviato M.</i>	2023 SAMPE
11	INVESTIGATION OF THE EFFECT OF IN-PLANE WAVINESS ON THE MECHANICAL BEHAVIOR OF ADDITIVE MANUFACTURED COMPOSITE LAMINATES <i>Phenisee S., Deleo A. A., Pelessone D., Huff S., Shelley D., Flores M., Salviato M.</i>	2023 SAMPE
10	A NOVEL DISCRETE, MESOSCALE MODELING FRAMEWORK FOR THE SIMULATION OF THE DAMAGING AND FRACTURING BEHAVIOR OF COMPOSITES <i>Salviato M., Phenisee S., Deleo A. A., Pelessone D., Furmanski J., Flores M.,</i>	2022 ASC
9	DISCRETE MODELING AND MACHINE LEARNING ASSISTED CALIBRATION OF 3D PRINTED CARBON FIBER REINFORCED PLASTICS (CFRP) STRUCTURAL JOINTS <i>Deleo A. A., Phenisee S., Pelessone D., Furmanski J., Flores M., Salviato M.</i>	2022 ASC
8	DISCRETE, MESO-SCALE MODELING OF FIBER-REINFORCED COMPOSITES (DM4C): APPLICATION TO ADDITIVE MANUFACTURING OF CONTINUOUS FIBER COMPOSITES <i>Phenisee S., Deleo A. A., Pelessone D., Flores M., Salviato M.</i>	2022 ASC
7	A NOVEL DISCRETE, MESOSCALE MODELING FRAMEWORK FOR THE SIMULATION OF THE DAMAGING AND FRACTURING BEHAVIOR OF COMPOSITES <i>Salviato M., Phenisee S., Deleo A. A., Pelessone D., Flores M.</i>	2022 IMECE
6	ORIGAMI-BASED DEPLOYABLE STRUCTURES MADE OF CARBON FIBER REINFORCED POLYMER COMPOSITES <i>Deleo A.A., O'Neil J., Yasuda H., Salviato M., Yang J.</i>	2020 CST
5	AEROGAMI: COMPOSITE ORIGAMI STRUCTURES AS ACTIVE AERODYNAMIC CONTROL <i>Cozmei M., Hasseler T., Kinyon E., Wallace R., Deleo A. A., Salviato M.</i>	2020 Comp Part B
4	A STUDY ON THE MULTI-AXIAL FATIGUE FAILURE BEHAVIOR OF NOTCHED COMPOSITE LAMINATES <i>Qiao Y., Deleo A. A., Salviato M.</i>	2019 Comp Part A

3	COMPOSITE ORIGAMI: FOLDABLE STRUCTURES BASED ON TACHI-MIURA-POLYHEDRON ORIGAMI TECHNIQUE <i>Deleo A.A., O'Neil J., Yasuda H., Yang J., Salviato M.</i>	2018 SAMPE
2	DEPLOYABLE STRUCTURES CONSTRUCTED FROM COMPOSITE ORIGAMI <i>O'Neil J., Deleo A.A., Yasuda H., Salviato M., Yang J.</i>	2018 ASC
1	COMPUTATIONAL STUDY FOR SIZE EFFECT IN COMPOSITES AND NANOCOMPOSITES <i>Deleo A. A., Salviato.M</i>	2018 ASC

Certifications

5	GOOGLE TENSORFLOW DEVELOPER CERTIFICATE <i>Google Tensorflow</i>	2024
4	NATURAL LANGUAGE PROCESSING IN TENSORFLOW <i>DeepLearning.AI</i>	2023
3	CONVOLUTIONAL NEURAL NETWORKS IN TENSORFLOW <i>DeepLearning.AI</i>	2023
2	INTRODUCTION TO TENSORFLOW FOR ARTIFICIAL INTELLIGENCE, MACHINE LEARNING, AND DEEP LEARNING <i>DeepLearning.AI</i>	2023
1	FUNDAMENTALS OF ACCELERATED COMPUTING WITH CUDA C/C++ <i>Nvidia</i>	2022

Skills

Major Programming	Matlab, C++, Python, CUDA, T _E X
Minor Programming	Bash, Fortran
FEM	Abaqus, Femap, LS-Dyna, Nasgro, AFGROW, Hyperworks, Ansys
Composite Manufacturing	Hand Layup, Autoclave, VARTM, Molding, Hot-press, 3D Printing
Database	SQLite, MySQL, PostgreSQL
Management	Git, GitKraken, Docker, Singularity, Apptainer
Photography	Photoshop, Illustrator, Inkscape
Virtual Reality	Unity

Activities

Climbing	Sport, Bouldering, and Trad Multipitches. Climbing Officer @ UW Climbing Club
Music	Flute and Piccolo Player in UW CPO, Bainbridge Island Symphonic Orchestra and Puget Sound Symphonic Orchestra
Sports	Mountaineering, Hiking, Trekking, Skiing, Climbing
Culinary	Italian food enthusiast

Other

Citizenship	Italian
Birth year	1993 (29 years old)
Languages	Italian (native), English, Romanian
Driving	Washington State/European licence