DR n. 422 del 19/02/2024

PERSONAL INFORMATION | Agnese Staffa

Sex Female | Date of birth 05/12/1994 | Nationality Italian

POSITION | Ph.D. in the Department of Mechanical Engineering, University of Perugia

WORK EXPERIENCE

April 2024 – September 2024 | Traineeship at the Faculty of Ljubljana

University of Mechanical Engineering, University of Ljubljana

- Vibration fatigue monitoring of 3D printed structures with embedded sensors.
- Fabrication of 3D printed samples with embedded 3D printed strain and temperature sensors
- Vibration tests and climatic chamber testing to study sensor abilities.

Business or sector Mechanical Engineering

April 2022 – June 2022 | Collaborator at Department of Mechanical Engineering

University of Perugia (Department of Engineering, https://ing.unipg.it/)

▪ Collaboration on the AEDITO ACTUATOR industrial research project of OMA S.p.a. "Numerical verification and experimental validation of the integrated electromechanical actuator":
▪ Creation of the numerical model of the electromechanical actuator using Ansys FEM
▪ "Endurance" and "Performance" experimental test with electrodynamic shaker
▪ Validation of the numerical model with numerical-experimental comparison

Business or sector Mechanical Engineering

EDUCATION AND TRAINING

September 2018 – September 2021 | Master's Degree in Mechanical Engineering | EQF Level 7

Department of Engineering (University of Perugia)

▪ Thermofluid Dynamics and Thermotechnical Systems, Advanced Mechanical Design (shells, plates, pressure vessels, dynamic analysis of mechanical structures, "Design of a Crane in a Pulled Beam"), Dynamic Field Design (FEM analysis using Ansys software, "Dynamic Analysis and Verification of a Car Ski Carrier"), Vehicle Mechanics, Mechatronics of Energy Systems (electric motors, data acquisition systems, theoretical knowledge of Labview software, theoretical knowledge of the main programming languages for embbended computers and PLCs, common rail and GDI engines), Industrial design methods (Product development techniques in industrial and commercial fields, "Design of an accessory for automatic cleaning and filling of coffee pods"), Internal combustion engines, Mechanical and Thermal Sensors and Measurements, Applied mechanics ("Analysis of a spring system with preloading" using Matlab-Simulink software)

October 2019 – November 2019 | Minimaster introductory in Project Management

IPMA

▪ Project management methodologies, with reference to the international IPMA ICB4 model
▪ Individual Competence Baseline

September 2013 – July 2018	**Bachelor's Degree in Mechanical Engineering**

Department of Engineering (University of Perugia)

- Machine Drawing (Autocad), Computer Skills (programming in Matlab environment), Structure Mechanics, Vibration Mechanics, Machine Construction (structural mechanics), Machines (internal combustion engines, turbomachines, cogeneration plants), Mechanical Technology, Industrial Plants, Mechanical and Thermal Measurements (sensors and measuring instruments)

September 2008 – July 2013	**Scientific high school diploma**

State Scientific High School "G. Alessi"

PERSONAL SKILLS

Mother tongue(s)   Italian

Other language(s)

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
English				
B1	B1	B1	B1	B1

Communication skills
- Communication skills, especially in academics and research, acquired during undergraduate study, time with research group and doctoral program.

Organisational / managerial skills
- Organizational skills acquired during my work as pool lifeguard, like the teamwork, and developed in group projects at the University.

Job-related skills
Job-related skills acquired during the period of collaboration with the University and the Ph.
- FEM analysis and simulation about different types of materials and structures
- Experience in vibration testing, according to standard

Digital skills
Replace with your other computer skills. Specify in what context they were acquired. Example:
- good command of office suite (word processor, spread sheet, presentation software)
- good commands in 2D and 3D CAD programs (Autocad, SolidWorks, bases of Creo)
- good programming skills in Matlab environment and bases of Python
- good skills in finite element analysis (FEM) software (Ansys and Workbench)
  All these skills I acquired during my time as a university student.

Driving licence
Driving licence category:
B

ADDITIONAL INFORMATION

Publications
Staffa, A., Palmieri, M., Morettini, G., Cianetti, F., & Braccesi, C. (2024, May). **Integration of Piezoresistive Sensors into AM Structural Components: Evaluation of Sensor Properties and Its Impact on Component Mechanical Performance**. In IOP Conference Series: Materials Science and Engineering (Vol. 1306, No. 1, p. 012021). IOP Publishing.

Mancini, E.; Mussolin, L.; Morettini, G.; Palmieri, M.; Ionica, M.; Silvestre, G.; Cadoux, F.; Staffa, A.; Ambrosi, G.; Cianetti, F.; et al. **Collection of Silicon Detectors Mechanical Properties from Static and Dynamic Characterization Test Campaigns**. Instruments, 2023

Staffa, A.; Palmieri, M.; Morettini, G.; Zucca, G.; Crocetti, F.; Cianetti, F., **Development and Validation of a Low-Cost Device for Real-Time Detection of Fatigue Damage of Structures Subjected to Vibrations**, *Sensors* 2023

G. Morettini, S.M.J. Razavi, A. Staffa, M. Palmieri, F. Berto, F. Cianetti, C. Braccesi, **On the combined use of averaged strain energy density criteria (ASED) and equivalent material concept (ECC) for the fracture load prediction of additively manufactured PLA v-notched specimens**, Procedia Structural Integrity, 2023

G. Morettini, A. Staffa, E. Mancini, M. Dionigi, F. Cianetti, C. Braccesi, **Simplified Fe modeling of the PyCubed PCB complete with components for CubeSat missions**, *Journal of Space Safety Engineering*, 2022

Presentations Conferences	Participation at the Conference "53° AIAS National Conference" with presentation **"Sensitivity analysis of integrated sensors created through Additive Manufacturing for monitoring components subject to dynamic loads",** Napoli 2024

Participation at the Conference "VAL5 Fifth International Conference on Material and Component Performance under Variable Amplitude Loading" with presentation **"Experimental Research On Fatigue Self-Awareness Of Single-Process 3d-Printed Structures",** Dresden 2024

Participation at the Conference "52° AIAS National Conference" with presentation **"Integration of Piezoresistive Sensors into AM Structural Components: Evaluation of Sensor Properties and Its Impact on Component Mechanical Performance",** Genova 2023

ANNEXES

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