

DARIO MAGLIACANO

CURRICULUM VITAE



Date of birth / 06/05/1991 Age / 31
Place of birth / NAPOLI (NA)
Nationality/ citizenship / Italy
Via M. Stanzione, 11, 80129 NAPOLI (NA)
Driving licence / B / Car available
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FOREIGN LANGUAGE SKILLS

MOTHER TONGUE(S): Italian



ENGLISH EXCELLENT	C1	C2	C1	C1	C1
FRENCH GOOD	C1	C1	C1	C1	B2
GERMAN LIMITED	A1	A1	A1	A1	A1
SPANISH LIMITED	A1	A1	A1	A1	A1

DIGITAL COMPETENCES

Self-assessment grid 
Information processing **Proficient user**
Communication **Proficient user**
Content creation **Independent user**
Safety **Independent user**
Problem solving **Independent user**

EXPECTATIONS AND FEATURES OF THE DESIRED JOB

ECONOMIC SECTOR: 1. education, training, research and development / 2. education, training, research and development

CAREER FIELD: 1. R&D and patents / 2. Engineering and design / 3. Management

DESIRED JOB:
Aerospace and Aeronautic Engineer

PREFERRED DISTRICT TO WORK IN: 1.
NAPOLI

AVAILABILITY FOR BUSINESS TRAVELS:
Yes, including relocation

AVAILABILITY TO RELOCATE ABROAD:
Yes, but only in Europe

Career Goal

My goals for the long-term period mainly consist in continuing the research activity in engineering field. Considering the nature of my studies and background, this could be either done in an university, as well as in a R&D department of a high level company.



WORK EXPERIENCES

Fixed-Term Researcher
POLITECNICO DI TORINO
Aeronautics, aerospace, shipbuilding
TORINO (TO)
01/2023 - TODAY

Main activities and responsibilities: Structural digital twins for aircraft design
Employed as: office worker - fixed-length contract | Company sector: Engineering and design

Co-founder
WAVESIT S.R.L.
Aeronautics, aerospace, shipbuilding
NAPOLI (NA)
06/2021 - TODAY

Main activities and responsibilities: Research and technology development in the field of Vibration and Acoustics.
Working as: other, self employed | Company sector: Engineering and design

Research Fellow
UNIVERSITÀ DEGLI STUDI DI NAPOLI 'FEDERICO II'
Education, training, research and development
NAPOLI (NA)
08/2020 - 07/2022

Main activities and responsibilities: PRIN - DEvelopment and applications of a Virtual hybrid platform for multiscale analysis of advanced Structures of aircraft (DEVISU).
Employed as: other - fixed-length contract | Company sector: Engineering and design

Technical Development Manager
PHONONIC VIBES S.R.L.
MILANO (MI)
01/2020 - 03/2020

Main activities and responsibilities: R&D Officer in metamaterials for vibroacoustic applications.
Employed as: intern/trainee - indeterminate length contract | Company sector: Engineering and design

Customer Care
ATITECH S.P.A.
Aeronautics, aerospace, shipbuilding
NAPOLI (NA)
10/2016 - 12/2016

Main activities and responsibilities: Care of customers (airlines) during the maintenance process, market analysis.
Employed as: intern/trainee - internship | Company sector: Customer service

Undergraduate Internship
CENTRO ITALIANO RICERCHE AEROSPAZIALI
Aeronautics, aerospace, shipbuilding
CAPUA (CE)
09/2015 - 12/2015

Main activities and responsibilities: Active noise and vibration control in the automotive sector, as part of the Low Noise project.
Employed as: intern/trainee - undergraduate internship | Company sector: R&D and patents

other information

Currently employed: Yes
Registration at the employment office: Yes
Voluntary service: Yes
Work experience made during studies: Yes



ACADEMIC STUDIES

PH.D.
2016 - 2020

Università degli Studi di NAPOLI 'Federico II'
Dottorato di ricerca in ingegneria industriale



PhD cycle: 32

Dissertation/thesis title: Vibroacoustics of Porous Media with Periodic Inclusions | Thesis supervisor: OUISSE MORVAN, DE ROSA SERGIO, FRANCO FRANCESCO, KHELIF ABDELKRIM | Dissertation/thesis keywords: Shift cell; dispersion curves; absorption coefficient; transmission loss; design guidelines
Age at graduation: 28 | Official duration: 3 years
| Evaluation (extended): Double PhD degree (Université de Franche-Comté, FR; Università degli Studi di Napoli 'Federico II', IT)
Graduation date: 20/02/2020

MASTER'S DEGREE 2013 - 2016 CERTIFIED TITLE



Università degli Studi di NAPOLI 'Federico II'

Dipartimento di Ingegneria Industriale

Ingegneria aerospaziale

LM-20 - 2nd level degree in Aerospace and aeronautical engineering

Dissertation/thesis title: Active control of vehicle noise and vibrations | Dissertation/thesis subject: SPERIMENTAZIONE DELLE STRUTTURE | Thesis supervisor: VISCARDI MASSIMO

Age at graduation: 24 | Official duration: 2 years

Final degree mark: **109/110**

Graduation date: 03/02/2016

BACHELOR'S DEGREE 2009 - 2013 CERTIFIED TITLE



Università degli Studi di NAPOLI 'Federico II'

Dipartimento di Ingegneria Industriale

Ingegneria aerospaziale

L-9 - 1st level degree in Ingegneria industriale

Dissertation/thesis title: Innovative methodologies for predictive analysis of interior noise in railway vehicles | Dissertation/thesis subject: SPERIMENTAZIONE DELLE STRUTTURE | Thesis supervisor: VISCARDI MASSIMO | Dissertation/thesis keywords: safety psychoacoustic technology train noise

Age at graduation: 22 | Official duration: 3 years

Final degree mark: **94/110**

Graduation date: 21/06/2013

SCIENTIFIC CERTIFICATE NAPOLI 2009

Scientific High School

Istituto Superiore Statale 'Giuseppe Mazzini', NAPOLI (NA)

School-leaving examination mark: **100/100**

Kind of secondary school diploma: Italian secondary school diploma

Kind of secondary school attended: Public school



OTHER POSTGRADUATE STUDIES

2020

24 crediti formativi (CFU)

Università Telematica PEGASO

Basic skills in anthropo-psycho-pedagogical disciplines and teaching methodologies and technologies.

Duration in months: 1 months



FOREIGN LANGUAGE SKILLS

DIPLOMAS AND CERTIFICATES

English First Certificate in English, University of Cambridge, 05 Aug 2008, **Europass level B2**

English Level 1 Certificate in ESOL International (Speaking and Listening) - Grade 8, Trinity College London, Jun 2008, **Europass level B2**

French DELF Scolaire niveau 1, Institut Français de Naples, May 2004, **Europass level A2**

German Attestato di conseguimento del livello A1 di Tedesco, Centro Linguistico di Ateneo dell'Università degli Studi di Napoli 'Federico II', 22 Mar 2021, **Europass level A1**

Spanish Attestato di conseguimento del livello A1 di Spagnolo, Centro Linguistico di Ateneo dell'Università degli Studi di Napoli



INFORMATION TECHNOLOGY SKILLS

OFFICE AUTOMATION

Office Suite: Microsoft Office (Advanced) | **Spreadsheets:** Microsoft Excel (Highly Specialised) | **Web Browser:** Google Chrome (Highly Specialised) | **Word Processors:** Microsoft Word (Highly Specialised)

APPLICATION SOFTWARE

CAD - Assisted Design: CATIA (Intermediate) | **Structural calculation:** COMSOL Multiphysics (Advanced) , VA One (Foundation) , wave6 (Foundation)

COMPUTER PROGRAMMING

Markup languages: LaTeX (Highly Specialised) | **Programming languages:** C# (Intermediate) , MATLAB (Advanced)

SYSTEMS AND NETWORKS MANAGEMENT

Operating systems: Microsoft Windows (Advanced)

ICT CERTIFICATES

ECDL Certificate Associazione Italiana per l'Informatica ed il Calcolo Automatico, 2007-12-20



STUDIES AND EXPERIENCES ABROAD

FRANCE 2017

European Union program (VIPER: Vibroacoustics of Periodic Media (EU H2020))

At: Université de Franche-Comté

Place: Besançon (France) | **Language:** English | **Duration:** 36 (months)

VIPER is a European Joint Doctorate network focused on research in Vibroacoustic of PERiodic media. Structural periodic design is a powerful strategy for lightweight structures achievements while remaining a convenient solution for manufacturing aspects. One of the research targets is the inclusion of vibroacoustic design rules at early stage of products development through the use of periodic media which exhibit proper dynamic filtering effects.



PROFESSIONAL ACCOLADES AND AWARDS

STATE EXAMINATION 08/11/2016

Ingegneria Industriale



PUBLICATIONS

CONFERENCE PROCEEDINGS 2023

A. Casaburo, D. Magliacano, G. Petrone, F. Franco, S. De Rosa,
Determination of Johnson-Champoux-Allard model parameters with machine learning techniques
Organization: NOVEM 2023

The purpose of this work is to investigate the performances of machine learning techniques in determining the parameters of JCA model, in order to understand whether missing values can be predicted just relying on a set of already performed experimental characterizations when not all the experimental setups are available. In particular, Gaussian processes are used on a training set describing porous materials in terms of JCA parameters and the values of acoustic indices at fixed frequencies.

CONFERENCE PROCEEDINGS 2022

G. Catapane, D. Magliacano, G. Petrone, A. Casaburo, F. Franco, S. De Rosa,
Labyrinthine Resonator Design for Low-Frequency Acoustic Meta-Structures
Organization: WMVC 2022
The scope of this project is to prove that labyrinthine resonance

JOURNAL ARTICLES

2022

frequency cannot be predicted through conventional quarter-wavelength formula, mainly because natural frequency depends just on tube length. Moreover, a new analytical formula is proposed by considering the main parameters of labyrinthine resonators: number of labyrinth branches, dimension of the single-port air-inlet, and the total length of the labyrinth.

G. Catapane, D. Magliacano, A. Casaburo, G. Petrone, F. Franco, S. De Rosa, Semi-analytical estimation of Helmholtz resonators' tuning frequency for scalable neck-cavity geometric couplings
Review: CEAS Aeronautical Journal
Publisher: Springer

The main target of the present research work is to obtain an accurate prediction of the tuning frequency of a Helmholtz-resonating device, whose resonance properties are exploited in a wide part of acoustic meta-material design.
doi.org/10.1007/s13272-022-00592-4

CONFERENCE PROCEEDINGS

2022

S. De Rosa, G. Catapane, A. Casaburo, D. Magliacano, G. Petrone, F. Franco, A versatile offset operator for the discrete observation of coupled vibroacoustic systems
Organization: 9th International Symposium on Scale Modeling
The recently defined VOODOO method has demonstrated that a transformation matrix can be defined by using the Betti theorem and it can be invoked for both deterministic and stochastic loads. In principle, with this transformation, two completely different systems can be connected, according to few rules. This paper provides the theoretical framework underlying the extension of VOODOO to the structural-acoustic coupling.
issm9.sciencesconf.org/data/pages/Final_Proceedings...

JOURNAL ARTICLES

2022

A. Casaburo, D. Magliacano, G. Petrone, F. Franco, S. De Rosa, Gaussian-Based Machine Learning Algorithm for the Design and Characterization of a Porous Meta-Material for Acoustic Applications
Review: Applied Sciences
Publisher: MDPI
The scope of this work is to consolidate research dealing with the vibroacoustics of periodic media. This investigation aims at developing and validating tools for the design and characterization of global vibroacoustic treatments based on foam cores with embedded periodic patterns, which allow passive control of acoustic paths in layered concepts.
doi.org/10.3390/app12010333

CONFERENCE PROCEEDINGS

2021

G. Catapane, D. Magliacano, A. Casaburo, G. Petrone, F. Franco, S. De Rosa, Evaluation of improved correction factors for the prediction of Helmholtz resonances
Collection: Aerospace Europe Conference 2021
Organization: Council of European Aerospace Societies
The main target of the present research work is to obtain an accurate prediction of the tuning frequency of a Helmholtz-resonating device, numerically modeled through a Finite Element approach. In this context, an investigation on a correction factor for the classical formulation used to estimate the Helmholtz resonance frequency starting from its geometrical characteristics, accounting for different-shaped resonators with varying neck/cavity ratios is performed.

JOURNAL ARTICLES

2021

G. Catapane, D. Magliacano, G. Petrone, A. Casaburo, F. Franco, S. De Rosa, Transmission Loss Analyses on Different Angular Distributions of Periodic Inclusions in a Porous Layer
Review: Aerotecnica Missili & Spazio
Publisher: Springer
The scope of this paper is to investigate the sound transmission loss of an acoustic package of glass wool with embedded periodic inclusions, considering the possibility to improve a standard configuration and inserting the innovative package in a practical configuration used in the aeronautic field for noise suppression. Periodic inclusions are introduced to enhance the sound transmission loss performance of the acoustic package in the mid-high range of frequencies.

JOURNAL ARTICLES

2021

doi.org/10.1007/s42496-021-00101-6

D. Magliacano, G. Petrone, F. Franco, S. De Rosa, Numerical investigations about the sound transmission loss of a fuselage panel section with embedded periodic foams
Review: Applied Acoustics
Publisher: Elsevier
The scope of this paper is to investigate the sound transmission loss of a typical fuselage panel section, as well as to propose solutions based on the inclusion of a periodic pattern inside its foam core, which aim at passively improving the acoustic performance in a mid-high range of frequencies. In detail, a new fuselage panel configuration is numerically studied, starting from the state of the art regarding the acoustic packages based on porous meta-materials.

doi.org/10.1016/j.apacoust.2021.108265

CONFERENCE PROCEEDINGS

2021

A. Casaburo, D. Magliacano, G. Petrone, F. Franco, S. De Rosa, Optimizing the acoustic properties of a meta-material using machine learning techniques
Organization: Internoise 2021
The scope of this work is to consolidate research dealing with vibroacoustics of periodic media. This investigation aims at developing and validating tools for the design of global vibroacoustic treatments based on foam cores with embedded periodic patterns, which allow passive control of acoustic paths in layered concepts.

CONFERENCE PROCEEDINGS

2021

G. Catapane, D. Magliacano, G. Petrone, F. Franco, S. De Rosa, Periodic resonator-based optimization of an acoustic package made of glass wool
Organization: rev2021
Nowadays, modern urbanization and traffic increase could cause severe noise-induced health damages, such as annoyance, sleep disturbance, or even ischemic heart disease, and thus the interest on environment noise control is quickly growing.

CONFERENCE PROCEEDINGS

2021

A. Pecoraro, D. Magliacano, G. Petrone, M. Filippi, F. Franco, S. De Rosa, Periodicity and quasi-periodicity effects on vibration band gaps: numerical investigations on one-dimensional structures
Organization: AIDAA 2021
Periodic structures have found a big interest in engineering application because they introduce frequency band effects due to the impedance mismatch generated by periodic discontinuities in the geometry, material, or boundary conditions. Adding periodicity to structures leads to wave mode interaction, which generates pass-and stop-bands.

JOURNAL ARTICLES

2020

D. Magliacano, S. Ashani, M. Ouisse, E. Deckers, G. Petrone, W. Desmet, S. De Rosa, Formulation and validation of the shift cell technique for acoustic applications of poro-elastic materials described by the Biot theory
Review: Mechanical Systems and Signal Processing
Publisher: Elsevier
doi.org/10.1016/j.ymssp.2020.107089

JOURNAL ARTICLES

2020

D. Magliacano, M. Ouisse, S. De Rosa, F. Franco, A. Khelif, Computation of acoustic properties and design guidelines of periodic Biot-modeled foams
Review: Applied Acoustics
Publisher: Elsevier
doi.org/10.1016/j.apacoust.2020.107428

CONFERENCE PROCEEDINGS

2020

D. Magliacano, M. Ouisse, S. De Rosa, F. Franco, A. Khelif, Design guidelines for the acoustic performance improvement of a periodic porous material
Organization: 3rd Euro-Mediterranean Conference on Structural Dynamics and Vibroacoustics
Some guidelines are provided in order to predict at which frequency the 1st performance peak (related to periodicity effects: half of the wavelength = periodicity dimension) appears, together with its amplitude, as functions of the unit cell dimensions. Also the

link between the unit cell dimensions and the 1st performance peak amplitude as functions of the design frequency is shown. Furthermore, some additional guidelines are provided as functions of the airflow resistivity of the foam.

JOURNAL ARTICLES

2020

D. Magliacano, M. Ouisse, A. Khelif, S. De Rosa, F. Franco, N. Atalla, M. Collet, Computation of dispersion diagrams for periodic porous materials modeled as equivalent fluids
Review: Mechanical Systems and Signal Processing
Publisher: Elsevier
doi.org/10.1016/j.ymssp.2020.106749

CONFERENCE PROCEEDINGS

2019

D. Magliacano, M. Ouisse, S. De Rosa, F. Franco, A. Khelif, Investigations about the modelling of acoustic properties of periodic porous materials with the shift cell approach
Organization: SMART 2019

CONFERENCE PROCEEDINGS

2018

D. Magliacano, M. Ouisse, A. Khelif, S. De Rosa, F. Franco, N. Atalla, Computation of wave dispersion characteristics in periodic porous materials modeled as equivalent fluids
Organization: ISMA 2018

CONFERENCE PROCEEDINGS

2018

D. Magliacano, M. Ouisse, A. Khelif, S. De Rosa, F. Franco, N. Atalla, Validation of shift cell approach for the modelling of acoustic properties of foams embedding periodic inclusions
Organization: NOVEM 2018

CONFERENCE PROCEEDINGS

2017

D. Magliacano, M. Ouisse, A. Khelif, S. De Rosa, F. Franco, A, literature review for the analysis of vibroacoustic properties of periodic inclusions in porous materials
Organization: MEDYNA 2017
This work is a literature review which mainly focuses on three aspects concerning periodic inclusions in porous materials: the concept of substitution of a fluid layer for a porous layer, the Transfer Matrix Method and the descriptions of two alternatives to multi-layering.

JOURNAL ARTICLES

2016

D. Magliacano, M. Ciminello, I. Dimino, M. Viscardi, A. Concilio, Feasibility study for a tonal vibration control system of a mounting bracket for automotive gearboxes
Review: International Journal of Mechanics
Publisher: North Atlantic University Union
A conceptual design of an active device able to attenuate the tonal vibrations of a mounting bracket for automotive gearboxes is addressed in this paper. A preloaded piezo stack actuator is used to counteract the unbalanced vibrations of the component by monitoring its operational deformations.
naun.org/cms.action?id=12113

CONFERENCE PROCEEDINGS

2016

D. Magliacano, I. Dimino, M. Viscardi, A. Concilio, Active vibration control by piezoceramic actuators of a car floor panel
Collection: ICSV 23
Organization: International Institute of Acoustics and Vibration (IIAV)
The main purpose of this work is the implementation and experimental investigation of an active vibration control concept for vibration reduction in an automobile passenger compartment. For the control experiments, the floor panel of a medium class test car was equipped with a combination of piezoelectric actuators and accelerometers. The experimental activity focused on the rear under-seat panel of a car body and consisted of SISO and MISO feedforward control applications.

JOURNAL ARTICLES

2016

D. Magliacano, M. Ciminello, I. Dimino, M. Viscardi, A. Concilio, Active vibration control of a mounting bracket for automotive gearboxes
Review: International Journal of Mechanical Engineering
Publisher: IARAS Journals
The aim of this paper is to investigate the use of active vibration control in automotive gearboxes mounting brackets to reduce tonal disturbances. A combination of piezoelectric accelerometers and an internally preloaded piezo stack actuator is used to counteract their unbalanced caused vibrations.

