Curriculum Vitae

Personal Information

Name: **Giacomo D'Elia**

Education

September 2014 – Today
MSc in Mechanical Engineering, University of Ferrara, Italy.
Actual GPA: **28.65/30**

September 2010 – March 2014
BSc in Mechanical Engineering, University of Ferrara, Italy.
Thesis: *"Analisi degli aspetti economici e legislativi della produzione di energia da fonti non fossili"*
Description: This thesis explored the economical faisability of three main sustainable energy systems such as mini-hydro, small wind farm and photovoltaic system.
Final grade: **105/110**
Advisors: Prof. Mauro Venturini

Internship for Master Thesis

July 2016 – December 2016
SIEMENS Industry Software, Belgium.
Title: **"Reference matrix for multi–axis random vibration control tests"**
Description: The purpose was to investigate different MIMO target generation procedures pointing out the advantages and the challenges in terms of physical meaning and their impact on the random control strategy, in order to obtain a well-defined automatic procedure to include in the standard practice.
Advisors: Prof.Dr. Emiliano Mucchi, Dr. Bart Peeters, Eng. Umberto Musella

Publications

January 2016
U. Musella, G. D'Elia, S. Manzato, B. Peteers, P. Guillaume, F. Marulo. "**Analyses of target definition processes for MIMO Random Vibration Control tests**". IMAC XXXV, Los Angeles, USA.

Main Education Experiences

September 2010 – Today
Mechanics of vibrations. GPA 30/30 cum laude
Main topics: Equation of motion of both single and multi degree of freedom systems, modal analysis, dynamic analysis of complex structure by means of finite elements, basic signal processing techniques for the diagnostics of rotating machines such as gears and bearings.
Assignemts: 1) Torsional vibration of a nautical driveline, 2) Numerical evaluation of flexional vibration of a cantilever beam with Rayleight-Ritz method, 3) Dynamic analysis of cantilever beam by means of finite element method, 4) Diagnostics of localized faults in both gears and bearings

Laboratory experiences: 1) Experimental modal analysis of a body-in-white of small vehicle with shaker excitation, 2) Experimental modal analysis of an engine pump support with hammer excitation.

Digital control systems. GPA 30/30 cum laude
Main topics: Design and simulation of a digital control system.
Assignments: Design of a closed loop digital control system.

Mechanical design. GPA 29/30
Main topics: Static and fatigue design of main machine components and joints, i.e. shafts, gears, bearings, belts, pulleys, bolt joints and weld joints.
Assignments: Static and fatigue design of a powertrain composed by belts, gears and bearings.

Mechanics of machines. GPA 29/30
Main topics: Kinetostatic analysis and functional design of main machine components and joints, i.e. ordinary and planetary gearboxes, lubricated bearings and gears.

Fluid dynamic design of turbomachinery. GPA 28/30
Main topics: 1D and 2D design of Turbomachinery and development of aerodynamics techniques.
Assignments: 1) Design and fluid dynamic analysis of a radial fan. 2) Thermal analysis of Newton's fluid in a cylindrical duct by means of finite volume methods.

Technical Skills

Numerical and experimental activities	MIMO Random Vibration Control Tests, Signal processing for the diagnostics of gears and bearings, FE model.
Software and programming languages	MATLAB/Simulink, Test.Lab, MSC.Nastran/MSC.Patran, COMSOL Multiphysics, SolidWorks and ANSYS.
Training courses and seminars	*Course of modal analysis: theory and practice*, ISMA KU Leuven, Belgium, 2016.

Personal Skills

Excellent interpersonal and organizational skills gained through training experience. During my academic career, especially in my internship at Siemens, I had the opportunity to work as active member of a team, enhancing my communication and presentation skills.

Languages

Italian	Mother tongue
English	Intermediate

Interests

Travels · Footbal · Gym · Music

Availability

Available to travel both Italy and abroad for small and long period.

Autorizzo al trattamento dei dati personali, secondo quanto previsto dal D.lg. 196/03.

Ferrara, February 2017 Giacomo D'Elia