

# PANAGIOTA CHATZI MSC

## MECHANICAL ENGINEER

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Thessaloniki, Greece



### SKILLS

#### GENERAL:

- Engineering Statistics
- Root Cause Analysis
- Aerospace Manufacturing
- Research & Development
- New Product Development
- RED-X apprentice
- Strategic Planning
- REACh Compliance
- Process Improvements
- Languages: Greek (Native), English (Fluent), French (Intermediate)

#### TECHNICAL:

- Composite Materials (Technical Expert)
- Mechanical Design / GD&T
- Stress Analysis
- CFD
- Fortran

#### SOFTWARE:

- SolidEdge
- Solidworks
- Inventor
- Ansys
- AutoCad
- Matlab
- Abaqus
- Microsoft Office Suite

#### EXPERIMENTAL

- Design of Experiments
- Differential Scanning Calorimetry
- Microscopy
- Thermogravimetric Analysis
- FTIR
- Mechanical testing to ASTM & ISO
- Electrical properties
- Rheology

### PROFESSIONAL PROFILE

Aerospace experience in development of technologically disruptive aircraft parts (primary structure, interiors). Significant contributions in development of novel material systems in collaboration with suppliers seeking optimal combination between structural performance, weight and cost in fast pace aerospace manufacturing environment.

### WORK EXPERIENCE

#### **COLLINS AEROSPACE | ACTUATION SYSTEMS | BANBURY, UK | NOVEMBER 2013 TO PRESENT**

##### *Design & development engineer*

*Professional Summary:* Design and development of novel composite primary structure component in a cross-functional team across three Collins' business units (Technology Readiness Level 3-4). Development of composite/metallic joints, stress analysis, documentation and interpretation of qualification requirements, testing of sub-assemblies (static, fatigue). Development of new material systems in collaboration with suppliers for optimal performance and cost. Collaboration with manufacturing department to define and achieve superior part quality

##### *Accomplishments:*

- Design of composite to metallic joints through CAD modelling and stress analysis.
- Ownership of M&P related deliverables of R&D projects to meet Technology Readiness Reviews including specification of materials and processes
- Successful development of new material systems to achieve structural, electrical and cost characteristics
- Ownership of Mechanical tests implementation (lab environment, environmental tests, static & fatigue) to ensure optimal performance and achieve Technology Readiness Reviews
- Qualification activities support including Qualification Test Plan and specification of test equipment.
- Optimization of composite laminate characteristics through changing process parameters to reduce void content, control of volume fraction, interlaminar adhesion and electrical conductivity and result in optimal mechanical performance.
- Processes development: Filament winding and RTM
- Contributions to R&D work led to 3 European Patent Applications.

#### **CRANFIELD UNIVERSITY SUPPORTED BY ABB SWITZERLAND | CRANFIELD, UK | JULY 2012 TO**

##### **SEPTEMBER 2013**

##### *Researcher*

*Professional Summary:* Development of novel conductive composite materials. Experimental set up and investigation of electrical properties in close collaboration with a team of chemists and manufacture engineers. Constitutive modelling of polymer behavior in electrical conductivity and chemical reduction kinetics.

##### *Accomplishments:*

- Development of a method for the production of conductivity grading polymeric materials to be used for the reduction of electrical stress concentration
- Grading in conductivity on selected locations of a graphene oxide filled epoxy system achieved by radiation and thermal induced reduction of graphene oxide to graphene
- Development of a process to homogeneously disperse graphene oxide nanoparticles into an epoxy matrix
- Conductivity mapping in a lab scale demonstrator resulting in 1 European Patent Application.

## WORK EXPERIENCE (continued)

### CERAMETAL | KOROPI, GREECE | MARCH 2011 TO MARCH 2012

*Mechanical Design Engineer*

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*Professional Summary:* Working in sales department communicating with international customers to ensure meeting their requirements and provide cost through getting involved in all stages of production from conceptual design to manufacturing

*Key Responsibilities:*

- Design of wear resistant products
- Material and process selection and product cost calculation
- Application of the appropriate geometric tolerances according to international standards
- Providing technical support at all stages of production process
- Liaising with customers to specify initial requirements and offer technical solutions

*Accomplishments:*

- Creation of reliable cost model reflecting each product

## EDUCATION

### CRANFIELD UNIVERSITY | MSc by Research School of Applied Sciences | 2015

*Thesis principal subjects:* Conductivity grading in epoxy graphene oxide composites using thermal reduction

### NATIONAL TECHNICAL UNIVERSITY OF ATHENS | MSc Marine Technology and Science | Grade: 8.24/10, 2014

*Thesis principal subjects:* Antipollution technology, Water injection mathematical modeling in a 2-stroke marine Diesel engine through modification and improvement of FORTRAN code in software KIVA3V

### ARISTOTLE UNIVERSITY OF THESSALONIKI | Diploma in Mechanical Engineering | Grade: 6.80/10, 2009

*Thesis principal subjects:* Development of experimental device for studying flow phenomena in the anterior chamber of the human eye using CAD and CFD

## SCIENTIFIC CONFERENCES – PUBLICATIONS

A.V. Michailidou, P. Chatzi, P.G. Kalozoumis, A.I. Kalfas, M. Pappa, I. Tsiafis, E.I. Konstantinidis, P.D. Bamidis “A Laboratory Scale Facility for the Parametric Characterization of the Intraocular Pressure of the Human Eye”, Medicon 2010, Paper No 343, The XII Mediterranean Conference on Medical and Biological Engineering and Computing, Chalkidiki, Greece, May 27-30.

Neha Chandarana, Emmanuel Ramasso, Zijie Wu, James Bernard, Jon Pethick, Panagiota Chatzi, Constantinos Soutis, Matthieu Gresil, “Damage identification in a tubular composite/metal joint through chronology-based robust clustering of acoustic emissions” 9th European Workshop on Structural Health Monitoring July 10-13, 2018 Manchester, UK

## PATENTS

EP3014630B1: A material comprising reduced graphene oxide, a device comprising the material and a method of producing the material. Emmanuel Logakis, Alex Skordos, Panagiota Chatzi

EP3133298B1: Connector. Ioannis Giannakopoulos, James Bernard, Panagiota Chatzi, Ian Chase, Hugo Palmer

EP3131097A1: Composite material. Panagiota Chatzi, James Bernard, Ioannis Giannakopoulos

EP3156324B1: Hybrid metallic/composite piston head joint. Rony Ganis, James Bernard, Ioannis Giannakopoulos, Panagiota Chatzi, Thomas Higginbottom