

Emmanouil Alexiou


Dpl. MEng Aerospace Propulsion Systems
Performance Engineer

As an Aerospace Engineer I am keen on sharing and developing my knowledge and understanding of Fluid Mechanics, Aerodynamics and Thermodynamics. My career goal is to assume a role which allows me to take responsibility over technical analysis issues in a cutting-edge technology working environment.

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WORK EXPERIENCE

Propulsion Systems Performance Engineer Laboratory of Fluid Mechanics and Turbomachinery

07/2018 – Present Thessaloniki, Greece
Laboratory of Fluid Mechanics & Turbomachinery (LFMT). A major contributor in European Union Research Projects within the Horizon 2020 framework

Achievements/Tasks

- Carried Out Propulsion Systems Simulation for Unmanned Aerial Vehicles
- Initiated Development of an Aircraft Jet Engine Simulation Tool
- Responsible For Aerothermal Jet Engine Modelling for Conceptual Engine Architectures within the Horizon 2020 framework
- Delivered Inter-cooled and Recuperating Innovative Aero-engine Cycle Simulations within the Horizon 2020 framework
- Delegated to Perform a Jet Engine Selection Process and Integration for Unmanned Aerial Vehicle (U.A.V.) Applications
- Optimised Subsonic Intake using an Isentropic approach and Computational Fluid Dynamics
- Optimised Propelling Nozzle Design using an Isentropic approach and Computational Fluid Dynamics
- Undertook Research on Hybrid Propulsion Systems within the Horizon 2020 framework

Contact: Kyros Yakinthos – +302310 996002

EDUCATION

Master in Mechanical engineering (MEng) Aristotle University of Thessaloniki

09/2013 – Present Current Overall Grade: MEng (Hons)
Upper Second Class

Courses

- Aerodynamics
- Thermal Gas Turbines
- Advanced Thermodynamics Simulations
- Computational Fluid Dynamics
- Gas Turbine Performance and Design
- Internal Combustion Engines
- Finite Element Analysis and Method
- Aircraft Performance and Design

Gas Turbine Performance and Transient Performance

Cranfield University 

04/2018 – 05/2018

Courses

- Gas Dynamics
- Combustion Systems
- Simulation using Method of Constant Mass and Flow Method of Inter component Volumes
- Axial Turbine Design and Performance
- Gas Path Analysis
- Gas Turbine Behavior at Heat Soakage Effects
- Axial Compressor Design and Performance
- Mechanical Integrity

SKILLS

Simulations conducted using Matlab

CFD simulations conducted using ANSYS

CFD simulations conducted using ANSA

GasTurb

NPSS

Autodesk Inventor

Conducted Data Analysis on novel Engine Cycles

Conducted Sensitivity Analysis on novel Cycles

Simulation Software Development Suite

Provided Expert Advice on U.A.V. Applications

PERSONAL PROJECTS

Project Aegis (07/2018 – Present)

- Aircraft Engine Modular Simulation Platform Development
- Innovative Thermodynamic Cycles for Aircraft Propulsion
- U.A.V. Engine Integration and Assessment
- Subsonic Intake optimisation using Computational Fluid Dynamics
- Exhaust system and Propelling Nozzle Design optimisation using Computational Fluid Dynamics

DELAER-RX3 (03/2019 – Present)

- Advanced Propeller Design with low noise signature
- Variable Pitch Geometry Propeller Performance Analysis and Assessment
- Propeller Design and Performance Analysis Simulation Software Developed
- Engine and Air-frame Interaction studies

CERTIFICATES

Certification on BETA CAE Systems SA Simulation Suite
(12/2018 – Present) 

Completed a series of courses that certifies fluency in CFD, Morphing and Optimization, Stress Analysis, Composite and Laminates, Pre and Post Processing Procedures using ANSA and META suite

Certificate for Highest Grade Point Average, Greek Ministry of Education (09/2012 – 07/2013)

INTERESTS

Aerodynamic Analysis and Flight Characteristics of Blended Wing Body Air vehicles

Thermal Efficiency Augmentation Techniques for Thermal Gas Turbines

Modeling and Fluid Mechanics Analysis in Advanced Blades for High Pressure Turbines

Modeling and Fluid Mechanics Analysis in Boundary Layer Ingestion Compressor Systems