DIMITRA - EIRINI DIAMANTIDOU

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SKILLS
Aerospace Engineering
Engineering Principles
Mechanical Engineering
Energy Systems
Machine Learning
Data Science
Strategic & Tactical Planning
Research and analytical skills
Leadership Skills
Project Management
Reporting
Problem Solving
Presentation Skills
Organisational Skills
Attention to detail

IT SKILLS
Microsoft Office Suite (Word, Excel, PowerPoint), macOS, Keynote, Numbers, Pages, Ubuntu Python, Bash, Fortran, MATLAB, OpenFOAM, ANSA, Ansys Fluent, Ansys CFX, CAD Creo Parametric, Solidworks, Autodesk Inventor

AFFILIATIONS
Member of the Doctoral Student Council - MDU

Member at the American Society of Mechanical Engineers (ASME)

Member at the American Institute of Aeronautics and Astronautics (AIAA)

LANGUAGES
English (Fluent)
Greek (Native)
Swedish (Intermediate)

INTERESTS
Skiing
Ice Skating
Portrait Photography
Painting
Boxing
Piano
Guitar

PROFILE

A highly efficient, scientifically curious and innovation focused professional with extensive experience in engineering principles, aerospace, energy systems, and mechanical engineering. Possesses excellent organisational, planning, and high-level analytical skills that include the ability to see granular, as well as big picture issues. Bringing forth capability in performing research on various processes and offering solutions and alterations to achieve optimal results. Outstanding interpersonal, written, and oral communication skills and proficient in building relationships with engineers, researchers, professors and co-workers.

EDUCATION

MÄLARDALEN UNIVERSITY - MDU | 2019 - Present
PhD Candidate
Västerås, Sweden

Thesis: "Design Optimization of Hybrid-Electric Aircraft Using Coupled Aero Propulsive Approaches."

ARISTOTLE UNIVERSITY OF THESSALONIKI | 2013 - 2019
BSc - MA Mechanical Engineering
Thessaloniki, Greece

Thesis: "Reduced Order Models for Thermal Management of High Voltage Enclosures."

Description: The work implemented non-intrusive parametric reduced order models to investigate thermal loading in high voltage enclosures. The work achieved a computational speed-up factor of 60, with a maximum relative error of 1.5%.

MUSIC HIGH SCHOOL OF SERRES | 2007 - 2013
Apolytirion
Serres, Greece

Emphasis: English, Mathematics, Statistics, Music, History, Piano, Flute, Guitar

PROFESSIONAL EXPERIENCE

MÄLARDALEN UNIVERSITY - MDU | 2021 - present
Lecturer

- Prepare and deliver a required number of lectures of Process Optimisation and Process Modelling modules at undergraduate level including assessments according to the module specification
- Promote active learning and engage students in course material, fostering critical thinking and problem-solving skills
- Effectively manage examinations, and assessment of student attendance, performance, and progress
- Responsible for marking and moderating students' work

MÄLARDALEN UNIVERSITY - MDU | 2019 - 2022
PhD Researcher
Västerås, Sweden

Project: HECARRUS (Hybrid-Electric Small Commuter Aircraft Conceptual Design), funded by the European Commission

Focus: The goal of this project was to design a 19-passenger hybrid-electric commuter aircraft with a partial hybrid powertrain system, featuring underwing mounted turboprop engines and an aft-mounted electric fan. The main objectives were to minimize the environmental impact of the system and reduce overall operation costs.

Responsibilities:

- Developed an operational and mission analysis model including estimation of the aircraft aerodynamics, weights and performance
- Created an energy-flow model to account for the energy balance between the fuel and electric energy
- Designed an integration framework to include different aircraft disciplines in the optimization loop
- Performed data analysis and writing up results for technical reports and publications

MÄLARDALEN UNIVERISTY - MDU | 2019 - 2020
PhD Researcher
Västerås, Sweden

Project: TRADE (Turbo Electric Aircraft Design Environment) funded by the European Commission

Focus: The project developed an integration framework for conceptual design and optimization of hybrid-electric aircraft. The framework included the three main aspects of such aircraft: gas turbine performance, structural and aerodynamic analysis.

Responsibilities:

- Designed and implemented a multi-disciplinary integration platform using the OpenMDAO open-source optimization software
- Responsible for the system-level assessment of the aircraft with a focus on the aircraft and mission analysis
- Reviewed data and finalised the project technical reports

ABB - CORPORATE RESEARCH | 2019 - 2019
Västerås, Sweden
Internship

- Performed numerical analysis of high voltage components to investigate thermal performance
- Accountable for the development of reduced order models using machine learning techniques to predict the thermal loading of components
- Examined the operational feasibility by evaluating analysis, problem definition, requirements, solution development, and proposed solutions

ARISTOTLE UNIVERSITY | 2014 - 2016
Suspension Team Leader
Internship

- Supported the Aristotle Racing Team by designing the technical reports according to the Formula Student regulations
- Manufactured the suspension components and aerodynamic package using composite materials
- Responsible for the car assembly and suspension set-up during the testing period

VOLUNTEERISM

ASME TURBO EXPO CONFERENCE | 2022 - present
Chair of the Student Advisory Committee

Managing all student-related initiatives before and during the conference including the organization of a “Women in Turbomachinery online seminar series” to encourage and inspire female students

ASME TURBO EXPO CONFERENCE | 2021 - 2022
Vice-Chair of the Student Advisory Committee

Responsible for the applications and selection procedure of committee liaisons

PUBLICATIONS

“Recent Advances in Boundary Layer Ingestion Technology of Evolving Powertrain Systems.” MDPI Sustainability 2022, 14, 1731. doi

"System-Level Assessment of a Partially Distributed Hybrid Electric Propulsion System." ASME Turbo Expo 2022, June 13–17, 2022, V001T01A018. doi

“A Robust Initialization Approach of Multi-Point Synthesis Schemes for Aero-Engine Conceptual Design.” AIAA 2021–3469. AIAA Propulsion and Energy 2021 Forum. August 2021. doi

“Exploring Design Trade-Offs for Installed Parallel Hybrid Powertrain Systems.” AIAA 2021–3314. AIAA Propulsion and Energy 2021 Forum. August 2021. doi

“Multi-Point Design of Parallel Hybrid Aero Engines.” 2020 AIAA/IEEE Electric Aircraft Technologies Symposium (EATS), 2020, pp. 1–18. doi