FREDERICK UNIVERSITY

SCHOOL OF ENGINEERING
DEPARTMENT OF MECHANICAL ENGINEERING

CALL FOR DOCTORATE APPLICATIONS FOR THE ACADEMIC YEAR 2019-2020

The **Department of Mechanical Engineering** invites applications from prospective students for the Academic Year 2019-2020 for the Ph.D. Program of Study:

1. **Ph.D. in Mechanical Engineering (Ph.D.) (30 positions)**

   The positions are related to Mechanical Engineering domains such as:

   - Renewable Energy Sources (RES) and Hydrogen Technologies
   - Simulations in Metal Hydride Compressors (MHC)
   - Development of advanced CNC programming functions in an integrated software tool with post-processing capabilities.
   - Food Security - Aquaculture Engineering
   - Engineering Economic Analysis of Energy Efficient Technologies
   - Internal combustion engine (ICE) non-premixed and premixed combustion modelling, and computational fluid dynamics (CFD) simulation of flow, combustion and emissions.
   - Development of computational fluid dynamics (CFD) methodology incorporating reduced and optimised chemical kinetics mechanisms for gas fuels combustion and emissions prediction
   - Design and Simulation of Additive Manufacturing Processes and Products
   - Design and simulation of adhesive bonding and composite materials for light-weight applications
   - Energy assessment of the built environment
   - Assessment of waste to energy conversion technologies
   - Climatic assessment of the built environment in terms of urban design and planning projects and policies

- Briefing for Sustainable Urbanism with emphasis on methods and tools, which can facilitate a multi- disciplinary approach to 'evidence-base' urban design to support a responsive and energy conscious built environment
- Advance design and simulation of carbon fiber parts
- Design and construction of advanced machine elements and devices
- Reverse engineering, 3D printing and scanning of complex parts
- Further penetration of RES using Pumped Storage
- Green (RES/Hydrogen) Energy Supply Systems
- Construction of phantoms of human-organs to be used in various medical imaging modalities research and automation techniques for motions of medical phantoms to be used in various medical imaging modalities research
- Surverying envirnomental radioactivity in Cyprus: gamma and alpha (air, water, soil)
- Monte Carlo simulations in solid state systems (metals, semiconductor alloys)
- Medical Imaging algorithms (SPECT/PET): optimization and development
- Future Aircraft Design Synthesis and Multidisciplinary Optimisation
- Unmanned Aerial Vehicle (UAV) Design and Autonomous Flight
- Aircraft Flight Aerodynamics, Performance, Dynamics and Simulation
- Road Vehicle Aerodynamic Design and Performance Analysis
- Automotive Shock absorber Smart Continuous Fault Detection
- Driver behaviour recognition system for avoiding abnormality in driving
- Design of new road restraint systems
- Automotive crashworthiness and Crashworthy deformation of thin-walled structures

Doctorate Program Coordinator

Professor Varnavas Serghides

Email: eng.sv@frederick.ac.cy

Deadline for submission of applications: September 16th, 2019

Admission Criteria

The Doctoral Program of Study requires completion of 240 ECTS for students who do not hold a relevant Master's degree, while for students with a Master's Degree from an Accredited Program of Study of a recognised University or a Higher Education Institution, completion of 180 ECTS is required. Very good knowledge of English is required for all candidates.

For more information visit the University Web site (HERE).

Application submission

All applicants must submit an application in due time, which must include:

- **Application Form, available online (HERE)**
- **Two (2) Reference Letters**
- **Statement of Research Interests**
- **Copy of the degrees and transcripts**
- **Short Curriculum Vitae**

Candidates who meet all the admission criteria will be invited to interview.

Tuition Fees

Tuition fees and program specific scholarships are published on the Frederick University website (HERE). Further special tuition waiver leading up to 90% tuition funding is also available.

For more information visit the University's Web site (HERE).

Information

For more information, please contact:

a. Frederick University Admissions Office in Nicosia tel. +357 22394394, and Limassol tel. + 357 25730975
b. E-mail address: admissions@frederick.ac.cy
c. The Coordinator of each Program of Study