ΥΠΟΤΡΟΦΙΑΓΙΑ ΕΚΠΟΝΗΣΗ ΔΙΔΑΚΤΟΡΙΚΗΣ ΔΙΑΤΡΙΒΗΣ ΣΤΗ ΜΕΓΑΛΗ ΒΡΕΤΑΝΙΑ

Το τμήμα Μηχανολόγων Μηχανικών του 'The University of Nottingham' της Μεγάλης Βρετανίας, προκηρύσσει μια υποτροφία για διδακτορική έρευνα σχετική με την μοντελοποίηση της κυματικής διάδοσης σε σύνθετες κατασκευές.

Οι υποτροφία περιλαμβάνει πλήρη κάλυψη των διδάκτρων και λοιπών πανεπιστημιακών εξόδων, καθώς και μισθό της τάξης των 13726 λιρών/έτος, εξαιρουμένου φορολογίας, για 3 χρόνια.

Η προκήρυξη της θέσης στα αγγλικά παρατίθεται παρακάτω:

PhD Studentship

PhD Scholarship in Mathematical Physics

University of Nottingham - Faculty of Mathematics / Engineering

Project description:

Reconstructing the vibrational field of a complex built-up structure is a challenging task, in particular at high frequencies. Characterising the structural dynamics in terms of waves in a uniform or periodic medium is often an important first step in understanding the basic wave modes and their dispersion curves. Recently, FE based methods have been developed at Mechanical Engineering Department treating the wave propagation data for periodic waveguides of arbitrary layering. This information also enters high frequency methods such as Statistical or Dynamical Energy Analysis (DEA) and ray-based methods as they have been developed in the School of Mathematical Sciences. Real mechanical structures are rarely fully periodic or homogeneous – variations in shape or thickness, boundaries and intersections as well as curvature destroy the perfect symmetry. The aim of the project is to extend periodic structure theory to wave propagation in quasi-periodic and inhomogeneous media such as stiffened structures. The modelling of waves can then be recast in terms of Bloch theory, which will be modified by using appropriate energy or flux conservation assumptions. The information about the propagating modes will then be implemented into the DEA method making it possible to compute the vibrational response of structures with arbitrary complexity at large frequencies.

The PhD programme contains a training element, which includes research work as well as traditional taught material. The exact nature of the training will be mutually agreed by the student and their supervisors. The graduate programmes at the School of Mathematical Sciences provide a variety of appropriate training courses.

We require an enthusiastic graduate with a 1st class degree (BSc or Msc) in Mathematics, Physics, or Mechanical Engineering with analysis skills, goodwriting skills, and strong interest in computer-code development. A candidate with a solid background in vibro-acoustics and quantum mechanics will have an advantage. The studentship provides an annual stipend of approximately £13,726 and full payment of Home/EU Tuition Fees and will cover up to four years of study, depending on the training needs of the candidate. The studentship is available immediately but could also be used for 2014/15 entry.

Informal enquiries should be addressed to Dr Tanner gregor.tanner@nottingham.ac.uk and/or Dr. Chronopoulos dimitrios.chronopoulos@nottingham.ac.uk

To apply, please access: https://my.nottingham.ac.uk/pgapps/welcome/. **This studentship is open until filled. Early application is strongly encouraged.**