### PhD/Postdoc OPEN POSITIONS

**Initial Call**

**New EU-funded project on System Identification, Condition & Health Monitoring for a New Generation of Wind Turbines**

We have commenced a research project on system identification, condition and health monitoring for a new generation of wind turbines from 01 December 2009.

#### Vibration control of wind turbines based on smart semi-active control strategies (Postdoc)

**Requirements:** Knowledge in vibrations, structural dynamics, vibration control, signal processing and preferably in time-frequency methods such as wavelets; proficiency in computer programming; experience in sensors and hardware interfacing with MATLAB, SIMULINK and Labview will be considered as an added advantage.

**Prof Biswajit Basu**  
Trinity College Dublin, Ireland  
basub@tcd.ie

#### Wireless sensor network (WSN) for wind turbines (PhD)

**Requirements:** An excellent academic record (first class primary degree or a postgraduate qualification, e.g. M.Sc., or equivalent) in Computer Science, Electronic Engineering, Theoretical Physics or a related numerate discipline. Demonstrated proficiency in wireless communications, sensor networking or wind energy systems.

**Dr Ciaran McGoldrick**  
Trinity College Dublin, Ireland  
Ciaran.McGoldrick@cs.tcd.ie

#### Flow induced vibrations and noise in wind turbines (Postdoc)

**Requirements:** A minimum of a 2.1 degree in Mechanical or Aerospace Engineering, or a closely related discipline, with some background in either experimental or computational fluid mechanics.

**Dr Craig Meskell**  
Trinity College Dublin, Ireland  
cmeskell@tcd.ie

#### System Identification of Wind Turbines (PhD)

**Requirements:** Knowledge or experience with modelling of mechanical systems, general time-series analysis, control, estimation theory and optionally aerodynamics.

**Bo Juul Pedersen**  
LAC engineering, Denmark  
bjp@lacengineering.com

#### Flexible Multibody Dynamics of Wind Turbines (PhD)

**Requirements:** Knowledge or experience with multibody modelling (ADAMS), health monitoring and strategies for vibration control (active, passive, semiactive and smart materials).

**Prof. Søren R.K. Nielsen**  
Aalborg University, Denmark  
soren.nielsen@civil.aau.dk
Robust Statistical Time Series Methods for Health Monitoring of Wind Turbines (PhD)
*Requirements*: statistical signal analysis, random vibration, damage diagnosis methods, experimental techniques, MATLAB.

Effective Models and Identification Methods for Wind Turbine Structures Under Uncertainty and Varying Operating Conditions (PhD)
*Requirements*: structural identification, structural dynamics, stochastic methods, MATLAB.

Improvement of engineering aerodynamic models for wind turbines based on experiments and CFD (PhD)
*Requirements*: Knowledge of basic aerodynamics, fluid mechanics and programming skills in Fortran/Matlab. Previous experience with wind turbines will be considered an advantage.

Fault detection in wind turbine gearboxes using non-classical approaches (PhD)
*Requirements*: degree in engineering (preferably mechanical, computer literacy, basic knowledge related to signal processing

Damage detection in wind turbines (mainly blades) using high-frequency methods - guided ultrasonic waves (PhD)
*Requirements*: degree in engineering (preferably mechanical, computer literacy, basic knowledge related to signal processing

Simulation of impact damage in composite blades (PhD)
*Requirements*: knowledge in mechanics of composite materials, practical experience in the use of finite element codes for modelling of composite material behaviour, interest in experimental testing of materials. The applicants should preferably possess a first class honours (four years) degree in Civil/Mechanical/Aerospace Engineering or other relevant discipline.

Prof. Spilios D. Fassois
University of Patras, Greece
fassois@mech.upatras.gr

Prof. Niels N. Sørensen
RISØ-DTU, National Laboratory for Sustainable Energy, Wind Energy Division
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Prof. Wieslaw J. Staszewski
Sheffield University
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Prof. Keith Worden
Sheffield University
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Prof. Francesco Aymerich
Universita degli studi die Cagliari
aymerich@iris.unica.it

Applicants for PhD positions need to be within the first five years (or full-time equivalent) of their careers in research. Applicants for Pdoc positions must either be in possession of a doctoral degree or have at least four years of full-time equivalent research experience. Applicants must not have resided or carried out their main activity (work, studies, etc.) in the country of the organization they are applying to for more than 12 months in the 3 years immediately prior to the recruitment.

Positions include interdisciplinary training, summer schools and yearly international meetings.

Please send CV and letter by Email to the appropriate PI. The candidates are expected to start as soon as possible. Each position will be funded for a period of 2 or 3 years.