



Introduction

In collaboration with the Dynamic Systems and Design Cluster at Faculty of Engineering, Ain Shams University, the following internships are available for the undergraduate students. The aim of these internships is to improve the Higher Education in mechanical engineering in the fields of condition monitoring of sustainable technologies to improve climate change resilience in the education.

Benefits for the students:

- Possibility to work in a high-quality research environment.
- Participate in a real-life project and interact with a team of qualified engineers.
- Certificate of Participation in the project upon successful completion.

Please note that this is a full-time internship.

Internship Timeline:

Deadline for application	12/07/2022
Internship Period	24/7 to 22/9

To apply, send your **CV** to hr.asugards@eng.asu.edu.eg indicating **the title of** the project you are applying for.

Mapping of artificial acoustic emission sources detection on wind turbine blade

Project Description

Acoustic emission refers to the phenomenon of radiation of acoustic (elastic) waves in structures that occurs when a damage is initiating. It is a passive technique which means you do not need to inject energy into structure to find out the damage location. You simply use piezoelectric sensors to detect these surface waves and try to use their features to link them with damage mode.

Scope of Work

- Using acoustic emission sensors on small wind turbine.
- Signal processing of the acoustic emission signal.
- Development of simple time map on the blade surface.
- Damage location using time map.

Needed Qualifications

- Familiar with Python and MATLAB.
- Familiar with using sensors and DACs.

Number of Participants: 2