

Proposals for EPS Student Projects 2020-2021

Lead Academic : Professor Amin Al-Habaibeh

All projects offered by Amin are related to on-going work and commercialization, students chose to accept any of the following projects will also accept the following two conditions:

- *Confidentiality: Background information, research output and prototypes provided to or by students for this coursework are confidential and should not be communicated to third parties without the approval of their project supervisor.*
- *Intellectual Property Rights (IPR): All intellectual property produced by students for this coursework will be the property of Nottingham Trent University due to its relationship to Industrial Partners and on-going research activities.*

If you have any questions or would like to discuss any of the projects further, please do not hesitate to contact Amin, Tel: 0115 848 2564, email: Amin.Al-Habaibeh@ntu.ac.uk

EPS Brief E:

Wave Energy Water Tank

The development of a mechanism to generate wave for the current wave energy tank available at NTU in Future Factory. In this project, the team will design and build an automated mechanism to create waves of different heights and profiles using a computerised or autonomous system. The project will also include the integration of an ultrasound sensor to capture the wave profile using a data acquisition system.

EPS Brief F:

The design and development of a small scale Wind Energy Harvester

Project Outline: This project will focus on developing a low-cost wind energy system using mechatronic systems to enhance performance using the reciprocating configuration, see figure.

A small scale system will be designed and built using 3D printing and Arduino, raspberry pi or any other suitable controller will be used to control the system and generate electricity in a wind tunnel.

See the link below for further details:

<http://www.bbc.co.uk/news/uk-england-16814752>

The project will also include the design of a suitable wind tunnel for testing.



EPS Brief G:

Solar roads and pavements

The development of a pavement unit that can generate electricity using PV solar panels to power basic demand for electricity .

EPS Brief H:

Brain monitoring

For this project, we will develop an electronic circuits to read brain waves to enable disables people to communicate with other people effectively.

EPS Brief I:

Wind tunnel

In this project, the students will design and build a wind tunnel to test a wide range of wind energy applications.