

INSTRUCTIONS FOR SELECTION OF 'IN GLASGOW' PROJECTS

Accessing the database

To access the database please use the following link

<https://glasgowprojects.eng.gla.ac.uk/>

Viewing project titles and descriptions

Please see the below instructions for use:

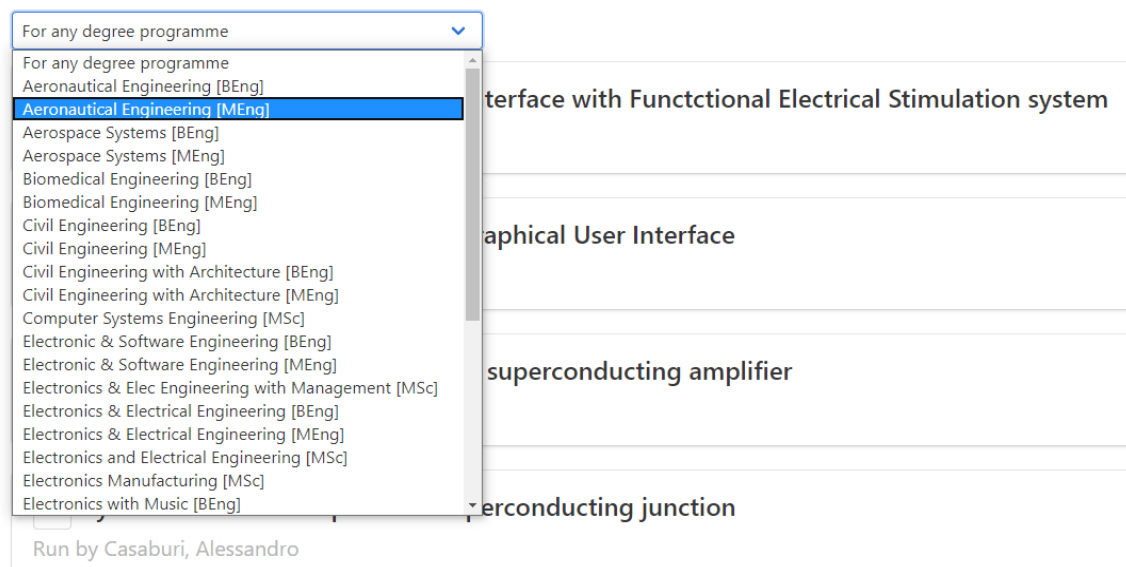
- Please enter your full GUID in "Username" e.g. 1001111C
- Please enter your password which you use to access My Glasgow/My Campus
- Select your degree programme from the "Filter list"
- The list of project titles will be shown as per the below example:

Available Projects

Please follow the instructions on using the project database that have been circulated by the Teaching Office.

Note: When making your project choices, please ensure that your selection meets the constraints outlined in the instruction document.

Now choose your projects



For any degree programme

- For any degree programme
- Aeronautical Engineering [BEng]
- Aeronautical Engineering [MEng]**
- Aerospace Systems [BEng]
- Aerospace Systems [MEng]
- Biomedical Engineering [BEng]
- Biomedical Engineering [MEng]
- Civil Engineering [BEng]
- Civil Engineering [MEng]
- Civil Engineering with Architecture [BEng]
- Civil Engineering with Architecture [MEng]
- Computer Systems Engineering [MSc]
- Electronic & Software Engineering [BEng]
- Electronic & Software Engineering [MEng]
- Electronics & Elec Engineering with Management [MSc]
- Electronics & Electrical Engineering [BEng]
- Electronics & Electrical Engineering [MEng]
- Electronics and Electrical Engineering [MSc]
- Electronics Manufacturing [MSc]
- Electronics with Music [BEng]

Interface with Functional Electrical Stimulation system

Graphical User Interface

Superconducting amplifier

Superconducting junction

Run by Casaburi, Alessandro

Instructions for selection of projects

- For full information on title, please select + button. Please see below sample:

The performance of microultrasound arrays made with different piezoelectric materials

Run by Cochran, Sandy

Description

Microultrasound arrays are key components for medical ultrasound imaging with high spatial resolution. They have been developed quite recently and research is taking place to explore their optimisation in terms of sensitivity (the size of the signal they generate) and spatial resolution (the shortness of the pulses they produce). One way to achieve better results is with composite materials, in which piezoelectric ceramic or crystal components are engineered into a polymer matrix. Both the geometry and the material constituents of the composite have important effects on the behaviour, in turn affecting the sensitivity and spatial resolution of the array. In this project, the use of different composite geometries and different materials will be explored through the design of complete microultrasound arrays with finite element analysis. Both regular and pseudorandom composite geometries will be studied, with the latter reducing the generation of unwanted dynamic modes but requiring alternative fabrication techniques and potentially offering poorer sensitivity. Additionally, the effects of the choice of materials on the array performance will be investigated, with more than one different type of ceramic and crystal simulated. The outcome of this project will be a report detailing the difference between regular and pseudorandom composites made with different constituent materials realised through the behaviour of microultrasound imaging arrays. There will be opportunities during the project to explore different finite element analysis packages and other simulation software to gain experience of contemporary virtual prototyping techniques principally in micromechanical dynamics.

Prerequisite Skills

Mechanical engineering and biomedical engineering are the most appropriate degree programmes for this project; beyond that, the student will require no specific prerequisite skills.

Make this project my

1st 2nd 3rd 4th 5th

 preference

- If you wish further information on a project title, please feel free to contact the supervisor. Contact details can be found on the webpages of the James Watt School of Engineering.

Selecting projects

- Select **FIVE** different titles in order of your preference, i.e. for your first choice of project title select “1st”, your second choice of project title select “2nd” and so on until you have selected a total five different project titles. A box on the lower right corner shows your selections.

Available Projects

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Now choose your projects

Aeronautical Engineering [MEng]

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Run by Cochran, Sandy

Description

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1st 2nd 3rd 4th 5th

 preference

You have chosen 1 project. You need to choose 4 more.

1: The performance of microultrasound arrays made with different piezoelectric materials

2:

3:

4:

5:

- To avoid strong clustering of project selections by students, your selections are subject to the following two constraints:
 - Select **no more than two project titles** per Lecturer. Therefore, you need to choose titles from at least **three** different Lecturers
 - Your **first three project selections** must be from **three different lecturers**.