

The Fourth Year Project Selection Process

Andrew Gee

Department of Engineering, Cambridge

26 April 2021

Type A and B projects

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Tomorrow is the deadline for sending Type B proposals to coordinators.

If a Type B project is not viable, a Type A project must be selected instead.

Most students choose a Type A project.

Group centres

A: Thermodynamics and Fluid Mechanics

Prof Stewart Cant

B: Electrical Engineering

Prof Sir Mark Welland

C: Mechanics and Materials

Dr Graham McShane

D: Civil, Structural and Environmental Engineering

Prof Abir Al-Tabbaa

F: Information Engineering

Dr Sumeet Singh

Overall coordinator

Dr Andrew Gee

Group centres

A: Thermodynamics and Fluid Mechanics

Prof Stewart Cant (Mrs Kate Graham)

B: Electrical Engineering

Prof Sir Mark Welland (Mrs Susan Murkett)

C: Mechanics and Materials

Dr Graham McShane (Mrs Hilde Hambro)

D: Civil, Structural and Environmental Engineering

Prof Abir Al-Tabbaa (Mrs Sue Stocks)

F: Information Engineering

Dr Sumeet Singh (Mrs Lina Zvaginyte-Bagociene)

Overall coordinator

Dr Andrew Gee

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Part IIB (4th year) Engineering Project List for 2019-2020

Preview projects

This page allows you to preview the project that have already been submitted, even though the system may not be live to students yet. It will give you the chance to see if anyone else has already submitted a similar project to one that you may be considering.

The projects and detailed instructions are listed under the following categories:

- Browse by Subject Groups**
 - Group A (Energy, fluid mechanics and turbomachinery)
 - Group B (Electrical engineering)
 - Group C (Mechanics, materials and design)
 - Group D (Civil, structural and environmental engineering)
 - Group F (Information engineering)
- Browse by Engineering Areas**
 - Mechanical Engineering
 - General Engineering
 - Energy, Sustainability and the Environment
 - Aerospace and Aerothermal Engineering
 - Civil, Structural and Environmental Engineering
 - Electrical and Electronic Engineering
 - Information and Computer Engineering
 - Electrical and Information Sciences
 - Instrumentation and Control
 - Bioengineering
- All projects listed by title

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Group F Project List for 2019-2020

Projects are being offered by members of staff in the following fields:

- Communications
- Computer Vision and Robotics
- Control
- Medical Imaging
- Signal Processing
- Software Engineering and Computing
- Speech Processing
- Bioengineering
- Machine learning

[Credits](#)

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>>> [Next topic:](#)

F: Machine learning

Somenath Bakshi
F-SB2330-1 : Machine-learning based image-segmentation for synthetic biology

Miguel Hernandez Lobato
F-JMH233-1 : Graph neural networks
F-JMH233-2 : Theoretical and empirical analysis of probability measure morphing
F-JMH233-3 : Bayesian deep learning, Laplace approximation and model linearization

Joan Lasenby
F-JL-1 : Machine learning (ML) for autonomous training of image-based inspection systems.

Athina Markaki
F-AM253-3 : Architecture Characterisation of Porous Scaffolds for Tissue Engineering using Machine Learning

Timothy O'Leary
F-TSO24-2 : Deep learning for cell biology

Elena Punsakaya

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Google, Voklo, Play

Marcus Tomalin

- F-MT126-1 : Offensive Language Detection and Classification
- F-MT126-2 : Fact Checking Fake News

Rich Turner

- F-RET26-1 : Probabilistic modelling and inference for continual learning
- F-RET26-2 : Causal inference, probabilistic models and Bayesian inference
- F-RET26-3 : Machine Learning for Climate Science

Adrian Weller

- F-AW665-1 : Interpretability in Machine Learning

See also from other groups/topics:

- D-1B340-2 : Generating product assembly sequences from construction products
- C-GC121-1 : Designing alloys using machine learning
- C-GC121-2 : Machine learning and materials
- C-POK21-1 : Interactive optimisation of natural user interfaces
- C-POK21-2 : Optimisation of interaction of augmented reality user interfaces
- C-POK21-3 : AR annotation system
- C-POK21-5 : Data-driven inference of software developer practices and techniques
- F-ML468-1 : Computations in neural circuits
- C-GTP-3 : A "Virtual" Training Environment for the Match Sprint Race (Virtual Opponent)
- C-GTP-4 : Simulation and Strategy Optimization for Track Cycling
- C-GTP-8 : A "Virtual" Training Environment for the Match Sprint Race (System Development)
- F-ARS27-1 : Uncertainty in Speech and Language Processing
- F-ARS27-2 : Uncertainty in Speech and Language Processing
- F-JS851-2 : Coding for Insertions and Deletions
- F-JS851-3 : Coding for DNA storage
- F-RS771-2 : Fast geometric interpolation for high-dimensional data
- F-S5540-1 : Fitting models to Financial time series
- F-RV285-1 : Algorithms for matrix estimation
- F-RV285-2 : Message passing algorithms for group testing
- C-GNW20-2 : Model order reduction for medical ultrasound simulation
- C-GNW20-3 : Learning for tumour ablation treatment planning with ultrasound
- F-PCW-1 : Quaternion neural network models for speech recognition
- F-PCW-2 : Low and Variable Frame Rate Speech Recognition Models
- F-PCW-3 : Neural Network Based Diarisation

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Information and Computer Engineering

Ozgur Akan
[F-OBA21-2](#) : DNA-based molecular communication - Simulation and capacity calculation for DNA-based bit-wise molecular communication in a diffusive channel

Somenath Bakshi
[F-SB2330-1](#) : Machine-learning based image-segmentation for synthetic biology

Ioannis Brilakis
[D-IB340-2](#) : Generating product assembly sequences from construction products

David Cebon
[C-DC-1](#) : Mapping and Reversing

Roberto Cipolla
[F-CIPOLLA-1](#) : Building a food ingredient recognition system
[F-CIPOLLA-2](#) : Human pose and 3D shape estimation from mobile phone images
[F-CIPOLLA-3](#) : Image-based relocalisation in indoor environments using mobile phones
[F-CIPOLLA-4](#) : Augmenting reality for paper based electrocardiograms.

Michael Crisp
[B-MICB7-1](#) : Distributed Software Defined Radio for RFID
[B-MICB7-3](#) : Backscatter communication simulation

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Ask about supervision style, what you will *actually be doing*, research environment, chances of getting the project.

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Be aware of any collaborations and confidentiality issues.

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If a project you are considering is pre-allocated, you have at least one week to make a different choice.

Expressing your preferences

Nominate *three* projects, in order of preference, on COMET between tomorrow and Friday 21 May.

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Let supervisors know if you are willing to take on any of their other projects.

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If you have been unlucky or did not make strategic choices, you should contact the coordinator of the group that is of most interest to you. They will assist you in finding a project.

Take-home points

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Any questions?