Call for Proposals: MathWorks-CUED Small Grant Programme

Cambridge University Engineering Department (CUED) seeks proposals for short-term projects for developing innovative education curricula and/or research programme. The selected projects will be funded based on the donation from The MathWorks Ltd., and a total of £50k is available for this funding round to fund up to five projects. This call seeks small proposals for projects starting any time after February 1st, 2022, and ending before January 31, 2023. The MathWorks-CUED Small Grant Programme plans to install three similar calls in the next few years.

The closing date of this call is **January 14th, 2022 (4pm)**, and the detailed application procedure can be found below.

1. Background

MathWorks, developer of MATLAB & Simulink, has donated a discretionary fund, expected for supporting research (~20-40%) and education curriculum development (~60-80%) within CUED based on competitive selection processes. Funding can be requested for short-term projects. Examples include undergraduate research placements (UROPs) or part-time support for the development of curriculum materials for undergraduate teaching and labs, assessment tools, teaching/interactive tool development, research education and training tools. The outcome of supported projects are expected to be freely open-sourced (BSD licensed) and/or open to public.

In addition to funding, MathWorks offers in-kind technical support for the projects to consult on aspects of software engineering and/or co-develop contents for teaching. The selection process will therefore prioritise those projects which make the best use of this collaboration opportunities with MathWorks engineers.

There will be a brief online workshop on **November 26th, 2021, 12pm-1pm**, to introduce the funding program and some previous/exemplar projects. Please register your interest in the following website or contact Fumiya Iida (fi224@cam.ac.uk) for any questions.

Registration Website Link

2. Scope of Call and Funding Criteria

This call aims to support short-term proposals fulfilling one or more of the following criteria:

- Curriculum projects in the fields of Artificial Intelligence, Robotics & Autonomous Systems, Electrification, Communication Systems, Control System Design, Environmental Engineering, Climate Mitigation, Vehicle Dynamics, Parallel Computing, System Engineering, Edge Computing, IoT;
- Short research projects, e.g. UROPs;
- Laboratory projects for undergraduate teaching;
- Collaboration projects that can exploit the technical assistance of MathWorks engineers.

This is a restricted call only for the academics of the Department of Engineering at the University of Cambridge, but additional collaborators from other Cambridge departments are welcome as Co-Investigators.

3. Application Process and Evaluation

Applicants should submit a proposal based on the form attached below.
The following information should be provided in the application form below:
- Name and contact details
- Collaborators details (optional)
- Project title
- Expected start date and durations
- Project outline (max 500 words)
- Project budget (no word limit)
- Any additional funding support (optional, no word limit)
- Expected outcome, deliverables, and/or demonstrators (no word limit)
- Future implications and long-term plan (max 200 words)

The closing date for this call is January 14th 2022 (4pm). A single PDF document should be sent via email to Fumiya Iida (fi224@cam.ac.uk). The Review Panel, chaired by Fumiya Iida, Department of Engineering, will review all applications and shortlist projects that could potentially be funded. Shortlisted projects will be invited to a review meeting shortly after the deadline, if necessary, to introduce their projects briefly, followed by a Q&A session. Projects which are not shortlisted will be given feedback and suggestions. Final decisions will be informed shortly after the review meeting. The assessment is based on the criteria below.

The Review Panel will evaluate all submitted proposals with respect to expected curriculum or research impact, importance/impact of outcome, new directions of research and collaborations, interdisciplinary collaborations, values for money, long-term plans, perspectives as set out below.

The Review Panel encourages applicants to highlight the criteria mentioned in Section 2 above, as well as the terms and conditions below.

4. Terms and Conditions
- Total budget requested should not exceed £15k, but we expect to fund more projects with smaller budget.
- A brief progress report will be requested within 12 months from the start of projects, describing the results, outputs and outcomes from the projects, the impact on all stakeholders, and the future plans.
- All activities must be completed before January 31st 2023, but an extension of deadline can be granted in special circumstances (e.g. affected by COVID-19 access restrictions).
- The outcome supported projects are expected to be freely open-sourced. Software outputs are to be released under BSD-2 license.

5. Questions
If you have any questions about the funding programme please contact:
Fumiya Iida (fi224@cam.ac.uk)

MathWorks-CUED Funding Proposal

1. Applicant Details

Main Applicant Name (incl. CRSID/Email)	
Department/Faculty/Division	
Collaborators (optional, academic, incl. affiliation details, and CRSID or emails)	

2. Proposed project

Project title	
Expected start date and durations	
Project Outline, Workplan, Collaborations (max 500 words)	
Total project budget, and the budget usage (no word limit)	
Any additional funding support (optional, no word limit)	
Expected outcome, deliverables, and/or demonstrators (no word limit)	
Future implications and long-term plan (max 200 words)	

Please confirm that you would be willing to share this proposal with MathWorks?

☐ Yes   ☐ No

Please confirm that you would be willing to collaborate with MathWorks engineers in this project?

☐ Yes   ☐ No   ☐ Not sure

Funding Selection Criteria

Criteria	Description
Project proposal quality, originality, and scope (30%)	- Demonstrates a modern and innovative approach to address a departmental, university, national or international needs
Value for money to MathWorks-CUED community (30%)	- Creates lasting educational or research assets that can be used and improved by the faculties/students of CUED and beyond - Provides evidence/potential for knowledge exchange & tech transfer between CUED and external partners - Demonstrates potential for future funding from MathWorks or other funding sources - Project investigators express interest to collaborate with MathWorks engineers
Impact on academic area, on user community, industry, and beyond (20%)	- Clearly recognizes, defines, and provides supporting evidence to an existing need - Demonstrates how the project will address it - Expected project outcome have a beneficial impact on the academic area and wider communities - Demonstrates a clear plan for sharing the results of the project with wider community - Provides open access to software produced during project
Clear work plan (20%)	- Defines work packages which can be foreseeably achieved with the proposed resources