Quick Reference

Please note that you must read this full Call document for guidance before submitting your expression of interest

Microscale Systems, Sensors & Devices and Machines - a Community Engagement Workshop

Call type: Expression of Interest

Closing date: 4th April 2022 16:00

How to apply: Expressions of Interest to be submitted via a Smart Survey form here. All Expressions of Interest will be assessed by an EPSRC internal panel and in the event of oversubscription an appropriate number of participants will be selected to attend. Outputs will be collated from the workshop and key findings will be disseminated with attendees.

Key Dates:

Activity	**Date**
Expression of Interest opens	Monday 7th March 2022
Deadline for submission of Expression of Interest	Monday 4th April 2022 16:00
Successful applicants notified	Friday 8th April 2022
Date of workshop	Monday 9th May 2022 09:45-16:00
Similar opportunities: Engineering New Quantum Devices workshop (see page 7)	Tuesday 10th May

Contacts:

For general enquiries please contact the Engineering inbox in the first instance: teamengineering@epsrc.ukri.org

Alternatively, please contact:

Will Gompertz – Portfolio Manager (william.gompertz@epsrc.ukri.org).

Zoe Brown – Senior Portfolio Manager (zoe.brown@epsrc.ukri.org).

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Related EPSRC themes:

Analytical Science	Clinical Technologies (excl. imaging)	Complex Fluids and Rheology
Continuum Mechanics	Fluid Dynamics and Aerodynamics	Graphene and Carbon Nanotechnology
Quantum Devices, Components and Systems	Manufacturing Technology	Materials
Microelectronic Device Technology	Optical Devices and Subsystems	Optoelectronic Devices and Circuits
RF and Microwave Devices	Sensors & Instrumentation	Synthetic Biology

Contents of this call document

Summary

Engineering research in microscale systems, sensors & devices, and machines, collectively known as microsystems, is incredibly diverse and delivers key enabling technologies underpinning a broad range of sectors. It encompasses the development of microfluidic, microelectromechanical systems (MEMS), micro-structured and micro-fabricated devices; the research of which can be of a generic nature or focused on the development of a specific device targeted at a particular end use.

EPSRC will be holding a workshop in May 2022 with the aim of bringing the microsystems community together to explore the current state of microsystems research, future directions of microsystems engineering, and how best the community can be supported to deliver positive impact across various sectors and the UK R&D landscape.

The workshop will consist of:

- Keynote talks from community leaders and EPSRC.
- Facilitated discussion sessions around research challenges facing the microsystems community, and future applications of microsystems research.
- Networking opportunities.

We anticipate this event will be of interest to researchers working in fundamental microsystems research, as well as those who engineer micro-scale devices with particular applications in mind. Colleagues from industry and the third sector are also encouraged to apply in order to foster relationships between industrial needs and fundamental microsystems research, as well as supporting EPSRC to ensure non-academic drivers are reflected in future priorities and scoping activities. This opportunity is not open to PhD students.

The event will be in an accessible format, offering opportunities to attend online or in-person in Manchester (venue to be confirmed).

Please note there is no funding associated with this activity.

Objectives

The overarching objectives of the workshops are:

- To conduct a Strength, Weaknesses, Opportunities and Threats (SWOT) analysis of microsystems engineering to assess the current state of the discipline and identify common research challenges.
- To consider the future direction of microsystems engineering.
- To develop a greater understanding of the support needed across the microsystems ecosystem to ensure that research in the area delivers maximum impact.
- To encourage interaction and networking between a wide range of stakeholders in microsystems research.

To apply, please submit an Expression of Interest following the instructions in the call document linked below. Expressions of Interest will open at 9:00 on Monday 7th March and will close at 16:00 on Monday 4th April.

All Expressions of Interest will be assessed by an EPSRC internal panel and in the event of oversubscription an appropriate number of participants will be selected to attend. Successful applicants will be notified by Friday 8th April.

Background

Microsystems is a relatively small research area within the EPSRC portfolio and dominated by applications-driven research with a strong healthcare focus, reflecting the UK's strength in the area.

The microsystems field and associated community are diverse, with researchers responding to new challenges, application areas and research directions. However, researchers often align themselves with a specific application area rather than to a broader microsystems community, which can result in a level of community

fragmentation. There is therefore no strong sense of a microsystems community; opportunities to establish common interest groups, networks and coordinated community leadership would strengthen the area.

The microsystems community has a history of strong industrial collaboration and partnership, particularly for applications-driven research. Fundamental microsystems research, less driven by application, has the potential to increase the underpinning science and engineering knowledge base and have a broad impact across the breadth of microsystems research. Recent years, though, have seen a decline in fundamental microsystems research.

Additionally, as numbers of EPSRC first grants remain low, there are opportunities to further support the pipeline of future researchers.

This workshop aims to bring together key stakeholders across the microsystems ecosystem to discuss the above challenges, whilst also providing a platform to strengthen the microsystems community.

Who can apply

We anticipate this event will be of interest to researchers working in fundamental microsystems research, as well as those who engineer micro-scale devices with particular applications in mind. Colleagues from industry and the third sector are also encouraged to apply in order to foster relationships between industrial needs and fundamental microsystems research, as well as supporting EPSRC to ensure non-academic drivers are reflected in future priorities and scoping activities.

The event will be in an accessible format, offering opportunities to attend online or in-person in Manchester (venue to be confirmed).

We are committed to a policy of equal opportunities, and encourage applications from women, those with a disability, members of ethnic minority groups, and other groups who are currently under-represented at EPSRC's events.

Support will also be available to cover caring responsibilities in addition to normal care arrangements. Further details are available here. If you have any questions, please contact the organisers.

How to apply

EPSRC are looking to select approximately 40 attendees, with a diverse range of expertise and experience in research and innovation from across all of EPSRC's stakeholder groups. The workshop will include an appropriate balance of expertise from different organisations as well as reflecting a diverse mix of individuals and backgrounds.

Expressions of Interest should be made via the Smart Survey form here, before Monday 4th April 16:00.

There are eight parts to the application, which are detailed below:

Applicant details: Basic information and contact details, including title, name, current position, organisation, and email address.

Area of knowledge and experience: Please outline your current research area, as well as your prior experience.

Please also identify which theme(s) you most closely align with within the microsystems field. Please do note that some fields overlap with one another:

- Nanofabrication
- Photonic Circuits
- Quantum Devices
- Micro-Sensors
- Microfluidic Devices
- MEMS
- Energy Harvesting
- Micro-Acoustic Devices
- Micro-Robotics
- Other (please state):

Current "state of play" of microsystems research: Please answer the following questions about your perception and experience of the current "state of play" of microsystems research. Responses will remain anonymous but may be used to inform the discussion sessions at the workshop.

1. Evaluate the level of collaboration amongst peers across the microsystems community:

   1 = Very Poor, 2 = Insufficient, 3 = Satisfactory, 4 = Good, 5 = Very Good

2. Evaluate the level of collaboration with business/industry across the microsystems community:

   1 = Very Poor, 2 = Insufficient, 3 = Satisfactory, 4 = Good, 5 = Very Good

3. Evaluate the appropriateness of training and support for new researchers across the microsystems community:

   1 = Very Poor, 2 = Insufficient, 3 = Satisfactory, 4 = Good, 5 = Very Good

4. In no more than 30 words, please describe a (present or future) microsystems research activity that excites you.

5. In no more than 30 words, please describe what you believe is the most important priority for the microsystems community over the next 5 years.

Workshop content: Why is this event of interest to you and what contribution are you hoping to make? How will you disseminate the information discussed to your own network/community?

Additional content: Are there any specific questions / topics you would like the microsystems workshop to address?

Attendance: Please confirm whether you would prefer to attend in-person or online. The in-person event will be held in Manchester (venue TBC). We highly encourage in-person attendance at this event to best utilise the networking opportunities; though do note that attendance preferences will not inform the assessment process outlined below. We will try and create appropriate mechanisms for networking for those attending on-line, as well as those in-person.

Other Opportunities: Please indicate if you would be interested and anticipate attending the Quantum New Engineered Devices workshop, brief description stated on page 7.

Equal Opportunities information: EPSRC operates a policy of equality and fair treatment. All applications will be treated fairly, regardless of gender, age, ethnic origin or disability. To help us achieve this aim the information from this section helps us to monitor the effectiveness of our policy. Individuals are asked to supply equal opportunities information which will not be used to determine an applicant's fit to the essential criteria but will be used to consider a balance of gender and other protected characteristics across the workshop, after the initial sift.

Applications will be assessed solely on the information provided in the application, with the focus of the assessment on the answers to the questions provided.

In accordance with the General Data Protection Regulation 2016/679 (EU) (GDPR), the personal information provided on this form will specifically be used for the purpose of administering this form and aggregated anonymised data will be used for the purposes of monitoring our advisory and decision-making bodies. Analysis of the information will be viewed by EPSRC staff only and personal information will not be used for any other purpose without your specific consent.

For further information on how your information will be used, how we maintain the security of your information, and your rights to access information we hold on you, please contact the UK Research and Innovation Information Rights Team.

Assessment:

Assessment process

All Expressions of Interest (EOI) will be assessed by an internal EPSRC panel against the selection criteria.

Selection criteria:

The Expressions of Interest will be used to select participants based on the responses to the assessment questions in the 'How to apply' section, and to ensure as broad a representation of the community as possible, including organisation, research area and prior experience. Places are limited; in the event of over-subscription, an appropriate number will be selected to attend and prioritisation will be based on the essential selection criteria below.

1. Relevance of expertise and/or future research aspirations to the scope of the workshop.

2. Potential to contribute to and gain from the workshop.

3. **For those applications meeting the essential criteria** (criteria 1 and 2), steps will be taken to ensure diversity of membership from across EPSRC's stakeholder groups, with a balance of expertise and institutional representation, and a consideration of gender and ethnicity balance.

Following the EOI process, EPSRC reserve the right to invite attendees to join the workshop, to ensure the balance of membership is appropriate. EPSRC's decision on attendance is final and feedback will not be given to unsuccessful applicants.

Other Opportunities

The Quantum theme at EPSRC will be running a separate workshop event on the 10th May about *"Engineering New Quantum Devices"*. This workshop will seek to identify challenges in transitioning quantum technology into engineering applications, and explore how best EPSRC can support the quantum-engineering community and research into "engineered new quantum devices". The workshop will be held at the same venue in Manchester.

Further details can be found here.

Related Content

- Equality Impact Assessment
- Equality, Diversity and Inclusion

Change log

Name	Date	Version	Change
Will Gompertz	23/02/2022	3	Text changes, addition of links.