

Quick Reference

Please note that you must read the full Call document for guidance before submitting your proposal

Digital Technology for LWEC Senior Fellows

Call type: Invitation for outlines

Closing date: 16:00 11 November 2015

Funding available is up to £4 million (Research Council Contribution at 80% FEC) and the maximum duration of grants is five years. It is anticipated that one or two awards will be made depending on the scope and quality of applications.

How to apply: The first stage in applying is to register your interest by 28 October 2015 by emailing david.holtum@epsrc.ac.uk. The next stage is to submit an Outline proposal to EPSRC via the Je-S system by 16.00 on 11 November 2015.

Assessment Process: Outline Proposals are invited which will be sifted by a Panel consisting of research council and external representatives. It is anticipated that a maximum of five candidates will be invited to submit full proposals and to an Interview Panel in February 2016.

Key Dates:

Activity	Date
Announcement of opportunity	August 2015
Express intention to apply	28 October 2015
Closing date	11 November 2015
Sift Panel & Invitation to Interview	02 December 2015
Successful candidates invited to submit full proposal	03 December 2015
Interviews	16 February 2016
Proposals funded/commence	February 2016 onwards

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Digital Technology for LWEC Senior Fellows

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Related themes: Digital economy, LWEC

Summary

The Living with Environmental Change (LWEC) Theme of EPSRC and the RCUK Digital Economy (DE) Theme invite Outline Proposals for Digital Technology for LWEC Senior Fellows. These are prestigious appointments, with the opportunity to inform and influence the future research agenda for how digital technologies (DT) can be applied in new and transformative ways to help the human and natural environment be more resilient and adaptable to climate change. In addition to an innovative research programme of high quality the fellows will be expected to act as a Champion for this area, to develop outreach activities to other researchers, policy makers and industry through workshops, networks or other mechanisms.

Funding available is up to £4 million (Research Council Contribution at 80% FEC) and the maximum duration of grants is five years. It is anticipated that one or two awards will be made depending on the scope and quality of applications.

The call closes at **16:00 on 11 November 2015**.

All applicants must contact David Holtum at EPSRC by **15:00 on 28 October 2015** to register their intent to apply before submitting a proposal. Applicants who do not register their intent will have their applications rejected. Prior to registering intent candidates should check with their Head of Department to ensure that they have the support of their institution.

Outline Proposals will be sifted by a Panel consisting of research council and external representatives. It is anticipated that a maximum of five candidates will be invited to submit full proposals and to an interview in February 2016 to present their vision and proposed programme of research and related activities.

Background

The Living With Environmental Change network involves 22 partners across government that fund environmental change related research (see <http://www.lwec.org.uk/>). Partners work together with the ambition of providing government, business and society with the knowledge, tools and foresight to be able to adapt to, mitigate and capitalise on environmental change. The role of engineering and the physical sciences is particularly important in enabling progress in areas such as resilient national infrastructure, water security and protection against high impact extreme events, including flooding. The EPSRC current focus is on exploring how strong links with Energy, Engineering,

Mathematical Sciences and Whole-Systems thinking can contribute towards these challenges.

The Digital Economy (DE) Theme supports interdisciplinary research to rapidly realise the transformational impact of digital technologies on aspects of community life, cultural experiences, future society, and the economy. The DE Theme promotes the involvement of users in defining and driving research that addresses real world problems.

In February 2015 a workshop 'EPSRC in a Future LWEC' was attended by academics from a wide range of disciplines and representatives from DEFRA and the Environment Agency. The following major research challenges were identified:

- Transition to a more challenging world - climate change mitigation & adaptation
- Integrated Infrastructure performance assessment, transport, food, water & energy services, flooding, cities
- Decision making under uncertainty
- Open/big data around environmental change and developing a "smart cyber" infrastructure
- Integrated Systems of Systems, Complexity, Failure, Shocks, Non-Linearity, Buildings as Systems

One of the questions to emerge from the workshop was:

How can digital technologies be applied to help the human and natural environments be more resilient and adaptable to climate change?

This also echoed the aspiration for the EPSRC LWEC Theme to build further connections with other EPSRC Themes and engage a wider community of researchers to address challenges arising from environmental change.

Resilience includes the ability to withstand and recover from short-term shocks, and to adapt to long-term trends. Climate effects on ecology, economy and society need to be considered when identifying and researching technology to help mitigation and adaptation. The EPSRC LWEC Theme is particularly interested in the technological factors that contribute to the increase of resilience to climate change whilst also recognising that resilience needs to involve political, equality, diversity, health and other social factors. The interactions between these factors are complex, dynamic and there are many negative and positive feedbacks, offering rich possibilities for future research.

Digital Technologies (DT) will be a vital part of the response to resilience needs. Examples are:

- Strengthening the physical preparedness of communities by providing appropriate data and information for decision-making processes. For example by linking to dynamic input-output models to assess the consequences of infrastructure failures and aiding the recovery process.
- Improving the speed of response to emergencies by providing systems that give a more rapid and useful supply of information.

- Predicting and controlling events by use of advanced sensor technology for example flood-monitoring, traffic control and performance and condition of structures.
- Real-time monitoring of vital infrastructure through the 'Internet of Things'
- Exploiting a wide range of imaging, sensors, devices, communications and decision-making technologies to enable sustainable living in a changing climate

There are many other routes that DT can contribute .EPSRC is now seeking to appoint a leading research-active person who can demonstrate that they can develop and take forward this area. Such a *Senior Research Fellow* would help to define the research agenda for the DT/LWEC interface and act as a Champion and advocate. This could include the following activities:

- Interaction with existing EPSRC investments in LWEC related research. Major EPSRC investments include the Cambridge Centre for Smart Infrastructure and Construction (CSIC), ICIF, iBUILD, the ITRC and Centres for Doctoral Training in Cambridge, Southampton and Imperial and three recently funded consortia concerned with Energy/Water/Food Nexus Sandpit;
- Development of a relevant research programme;
- Networking with other relevant researchers and possible funding of short term feasibility projects;
- Workshops with funders, users and researchers to help define the future research agenda.

As a rough guide it would be expected that 80-90% of the requested funding would be for the research element of the programme.

It is expected that the successful candidate will have an innovative approach to address the central question of how can digital technologies can be applied in new and transformative ways to help the human and natural environments be more resilient and adaptable to climate change.

Remit

It would be expected that the successful candidates would be able to commit in the region of 50% of their time (or higher) to this activity. Candidates should demonstrate how they fulfil each of the expected attributes listed below:

Research excellence – have a track record of outstanding research and in delivering impact. Evidence of international standing and influence in the context of the research and show evidence of recognition in the community on an international scale.

Setting the research agenda - Demonstration of leadership within the research community and evidence of pushing the boundaries of the research area.

Strategic vision - An aptitude for identifying, exploring and developing research opportunities more broadly and across different interfaces. Can demonstrate

where they have positioned themselves to take up these opportunities and have the ability to make decisions to deliver this vision.

Profile and influence - Evidence of acting as an ambassador and advocate for a research field/theme and for research in general. Advising and influencing into policy making.

Inspirational team leader - Ability to lead and inspire. Ability to identify and maximise potential in others (i.e. get the best out of people).

Communication and engagement skills - Possess excellent communications and interpersonal skills.

For more information about EPSRC's portfolio and strategies, see our website: <https://www.epsrc.ac.uk/research/ourportfolio/>

Funding available

Up to £4 million is available to support awards for up to five years under this call. The breadth of the DT/LWEC interface suggests that more than one Fellow may be required to give adequate coverage and it is anticipated that two awards of £1.5 million to £2 million may be made depending on the quality and research area coverage of the applicants. Fellows will be expected to work together to provide an integrated understanding of the DT/LWEC interface.

The awards are expected to support the Fellows, research programmes and appropriate support for outreach activities such as workshops, networking and other innovative approaches to developing the research agenda at the DT/LWEC interface. Resources should also be included for appropriate management of the project, including an advisory group. Funds will be provided through grants according to EPSRC standard conditions.

Eligibility

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide: <https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/>

As this call is a targeted funding opportunity provided by EPSRC, higher education institutions, and some research council institutes and independent research organisations are eligible to apply. A list of eligible organisations to apply to EPSRC is provided at: <http://www.rcuk.ac.uk/funding/eligibilityforrcs/>

How to apply

Submitting an application

You should prepare and submit your proposal using the Research Councils' Joint electronic Submission (Je-S) System (<https://je-s.rcuk.ac.uk/>).

When adding a new proposal, you should select:

- Council 'EPSRC'
- Document type Outline Proposal
- Scheme Outline

- On the Project Details page you should select the 'DTLWEC Senior Fellow' call.

Note that clicking 'submit document' on your proposal form in Je-S initially submits the proposal to your host organisation's administration, not to EPSRC. Please allow sufficient time for your organisation's submission process between submitting your proposal to them and the call closing date. EPSRC must receive your application by 16:00 on 11 November 2015

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (<https://www.epsrc.ac.uk/funding/howtoapply/>) which should be consulted when preparing all proposals.

Guidance on writing an application

Font size 11 is the minimum acceptable, and the minimum margin **must** be size 2cm on all sides. If any attachments exceed the page limit stated, fail to adhere to the specified format or include any documentation that has not been specified your proposal will be returned or rejected.

1. A **Case for Support** addressing the required competencies and experiences outlined below, an indicative proposed research programme (programmes to be expanded upon for the full proposal if selected), and including indicative costs, in no more than eight pages. (To obtain indicative costs, you will need to contact your host organisation's Research Administration (depending on the organisation this may be departmental or central) who will advise you about costing your proposal)

2. **CV** - Please include the following:

- Your current contact details;
- Your employment history, listed in reverse order. Please start with your current employment and make sure that the title of your current post is clear;
- Your academic history, listed in reverse order. The dates of any degrees obtained;
- Track record of research funding, where applicable: please include start/end dates, funding body, value of award, type of grant (e.g. first grant, fellowship etc.), your role on the grant (PI, Co-I, Researcher etc.).
- Any current teaching commitments and administrative activities: examples may include editorial responsibilities, committee membership etc.;
- Other: examples may include invited talks, awards, prizes, memberships of professional bodies etc.

Please do not include details of possible reviewers on your CV.

Please ensure that any breaks in your career due to maternity, paternity or adoptive leave, ill health, career breaks or unemployment are clearly stated, as well as any periods of part time working.

3. Host institution statement completed by the Head of Department of your host department. (maximum two sides A4)

The Head of Department (through consultation with colleagues as appropriate) at the host organisation must complete a statement in support of the application. The statement should be on Departmental or University headed paper, should be dated, and should clearly state the position held by the author (e.g. Head of Department of Electrical Engineering etc.). The statement must include details of the following considerations:

- The process that the host institution has used in order to identify which candidates it would be entering into the competition, why the candidate in particular has been chosen and why the career space for that candidate has been selected
- The statement should identify the key characteristics and skills that the candidate has, which the institution feels highlights the candidate's ability to succeed as The DT/LWEC Senior Fellow.
- How the institution believes that the candidate fulfils the various attributes required.
- The level of support that the host institution will be giving the candidate both as a standard career development package that is open to all staff and additional support as part of the institution's backing of their candidate to be successful in the competition.

The host organisation statement will form part of the assessment of the expression of interest and full proposals.

Further guidance on completing the Je-S form can be found at <https://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/EthicalInformation.htm>. Other relevant guidance includes: EPSRC's policy on animal use in research (<https://www.epsrc.ac.uk/about/standards/animalresearchpolicy/>) and the Responsible Innovation Framework (<https://www.epsrc.ac.uk/research/framework/>).

Please note that on submission to EPSRC **all** non-PDF documents uploaded onto Je-S are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

In addition, where non-standard fonts are present, and even though the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc.), the document is converted to PDF prior to attaching it to the proposal.

For advice on writing proposals see:

<https://www.epsrc.ac.uk/funding/howtoapply/preparing/>

Assessment

Assessment process

Anyone intending to apply to this call must contact David Holtum at EPSRC by 28 October 2015 to register their intent to apply prior to submitting a proposal. Prior to registering intent candidates should check with their Head of Department to ensure that they have the support of their institution.

The Outline proposals will be sifted by a panel consisting of research council and external representatives. It is anticipated that a maximum of five candidates will be invited through to submit full proposals and to attend the interview panel to be held in February 2016.

The invited applicants will be required to submit full proposals that should be written using the Je-S system. Instructions on how to write the full proposals and what additional documents to include will be given to the invited applicants.

The interview panel will include research council and external expert representatives.

Candidates invited to interview will be asked to give a presentation on their planned research programme and outreach activities.

Assessment criteria

The sift stage will primarily assess the ability of the proposed Fellow to lead their planned research programme. This will include:

- The applicant's vision for the development of the DT/LWEC interface.
- Quality and importance of the proposed research programme.
- Track record of coordinating research activities across different disciplines.
- Profile of the candidate within the wider research community.
- Understanding of the DT/DE and LWEC landscapes.

Moving forward

At the interview stage candidates will have the opportunity to:

- Sell their vision for the development of the DT/LWEC research area and engagement with the research councils, policy makers and other stakeholders.
- Convince the panel of their ability to engage with the research community and act as an advocate for the contribution of DT to LWEC.
- Convince the panel of their ability to take forward an internationally leading research programme in an area of importance to the DE and LWEC Challenge Themes.

Additional grant conditions

The Fellows will be known as Digital Technology/LWEC Senior Fellows and should use that title in all activities and publicity.

The Fellows will be required to:

- Make presentations to EPSRC representatives and Scientific Advisory Committees as appropriate.
- Produce and submit annual progress reports on the DT/LWEC activities to the EPSRC.
- Establish and run a steering committee to oversee and advise on the project direction and delivery. The terms of reference for the steering committee and membership will be agreed with the DE and LWEC programmes in advance of the grant start date. The DE and LWEC Heads of Programme or deputised representatives will be members of the committee. The committee will meet at the outset of the project and then on an annual basis to advise and oversee the project.

Key dates

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Change log

Name	Date	Version	Change
David Holtum	03/09/2015	1	N/A
David Holtum	08/10/2015	2	Dates Corrected