Supergen Wind Challenge 2015

Call type: Invitation for proposals

Closing date: 16.00 26 February 2015

Registration of intent: 20 January 2015

Related themes: Energy

Summary
Proposals are invited for collaborative research projects to undertake fundamental research that will underpin the development of Wind Energy technologies. The following themes have been identified as priority areas for the remit of this call.

- Turbine Component Development
- Foundation Systems
- Asset Management
- Whole-Systems Understanding

For each project application there should be a single submission with a single PI. The institutions involved in the successful proposals will be expected to become members of the Supergen Wind Hub.

The call closes at **16:00 on 26 February 2015. Up to £3M is available** for this call. The duration of the grant(s) may be **up to three years**.

Anyone intending to submit a proposal to this call must register their intent by email to energyteam@epsrc.ac.uk by **16:00 on 20 January 2015**, including in the email any project partners, names of the PI and any CoIs, the subject area and an approximate value of funds to be requested. Please note that this is not intended to restrict detail in the final submission as changes will be allowed, but will give us an indication of the level of interest and enable the prompt identification of reviewers. Applicants that do not register their intent will have their applications rejected.

Background
In 2014 The Supergen activities in Wind Energy were successfully renewed as part of Phase 3 Hub funding from RCUK. The Supergen Hub takes a leadership role in bringing together the underpinning research efforts in Wind Energy in the UK and linking them more strongly to the development research being supported.
by other funding organisations. This Supergen challenge call is intended to bring additional research and research groups (including those new to the Supergen activity) into the Hub to augment and strengthen the work that is already being undertaken.

For more information about EPSRC’s existing Wind Energy portfolio and strategies, please see our website:

http://www.epsrc.ac.uk/research/ourportfolio/researchareas/windpower/

The scope of this current call is derived from the outputs of a scoping workshop held in March 2013 (see Appendix A). The workshop was run in conjunction with the Supergen Wind Hub with a mixed audience of academics, industrialists and other stakeholders. Delegates were asked to consider the key research challenges that underpin the deployment of Wind Energy technologies and how these challenges might be addressed.

Successful projects funded through this call will be branded as Supergen Challenge projects and are expected to work closely with the existing Wind Hub. **Applicants should note the additional grant conditions on page six of this document.**

For further information on the operation of the Supergen Wind Hub please refer to their website (http://www.supergen-wind.org.uk/) or contact the Hub Director Prof. Bill Leithead (w.leithead@strath.ac.uk).

**Remit of the call**

The RCUK Energy Programme is looking to fund novel research projects addressing the challenges described below. Proposals are not expected to cover more than one remit area (unless natural crossover is identified). Proposals should clearly indicate which area is being addressed in the case for support. Please note that proposals focusing exclusively on fundamental chemistry and materials science research should be submitted as a standard research application (responsive mode) and will not be accepted through this call.

- Turbine Component Development
- Foundation Systems
- Asset Management
- Whole-Systems Understanding

**Proposals should complement/strengthen work that is currently being carried out by the Hub**

(http://gow.epsrc.ac.uk/NGBOViewGrant.aspx?GrantRef=EP/L014106/1).

**Funding available**

There is up to £3M available to support projects submitted in response to this call. It is intended that 2 to 3 projects will be supported through this call. We will take a portfolio approach to the project proposals and will aim to fund projects across multiple remit areas where quality allows.
Equipment

Where possible, researchers are asked to make use of existing facilities and equipment, including those hosted at other universities. If equipment is needed as part of the research proposal, applicants must follow EPSRC’s rules for requesting equipment over £10,000 in value. Individual items of equipment up to the current OJEC (Official Journal of the European Communities) procurement threshold can be included on research proposals submitted through this call, but research organisations will be expected to make a contribution to the cost. All requests for single items of equipment above the current OJEC threshold will need to go through a separate process which will assess the strategic need for the equipment and how to ensure maximum usage. These proposals will be assessed through the separate Strategic Equipment peer review process.

For more information on equipment funding, please see: http://www.epsrc.ac.uk/research/ourportfolio/themes/researchinfrastructure/subthemes/equipment/

The current OJEC threshold can be found at: http://www.epsrc.ac.uk/research/facilities/equipment/

Eligibility

For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide: http://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/

For an application to be considered it must also meet the following criteria:

- Proposals must be within Research Councils remit. Whilst this is an EPSRC-led call, proposals that have work packages that are in other councils’ remits are acceptable.
- Proposals must be within the remit of the call as listed above.
- Proposals may be up to three years in duration.
- Proposals should be an effective fit to the existing research being undertaken by the Supergen Wind Hub.

How to apply

Submitting 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 ‘Standard Proposal’
• Scheme ‘Standard’

• On the Project Details page you should select the ‘SUPERGEN Wind 2015’ 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. You will be able to submit proposals through the Je-S system on or after 02 February 2015. EPSRC must receive your application by 16:00 on 26 February 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 (http://www.epsrc.ac.uk/funding/howtoapply/) which should be consulted when preparing all proposals.

Guidance on writing application

The proposal document should be a minimum font size of 11pt with the preferred typeface being Arial. The proposal should include the following sections:

Case for support

The case for support should be up to 10 pages in total, to include:

• Two-page track record, which should detail the relevant expertise that each investigator will bring to the research programme. For the Principal Investigator, there should be evidence of leadership and management skills.

• Six-page description of the proposed programme of research, and a brief statement of the research vision, and details of the methodology proposed in each research strand to achieve that vision.

• Two-page management description and how it will interact with the Supergen Wind Energy Hub management structure, to include:
  
  o Management structure, including day-to-day management strategy.

  o Details of external advice streams, including potential users of the technology

  o Monitoring strategy, including how the direction of the research programme will be assessed.

Please note that the case for support should include a description of the national importance of the proposed research. Guidance on national importance can be found at:

http://www.epsrc.ac.uk/funding/howtoapply/preparing/writing/

Pathways to Impact Plan

Up to two pages. This document should describe who may benefit from the research, how they may benefit and what will be done to make sure they have the opportunity to benefit. More information on preparing the impact plan and more general information on economic impact can be found on our website at:
Justification of Resources

Up to two pages. This should be a narrative description of the need for the resources requested. A poorly written JoR is one of the most common causes of delay in processing proposals so it is important that you are clear about what this should include, please refer to the following address for guidance on how to prepare this document:

http://www.epsrc.ac.uk/funding/howtoapply/preparing/writing/jor/

Work Plan

One page. It is not expected that this will be a Gantt chart for the whole time of the project, but should include a comprehensive plan for the start of the project and then refer to the management strategy to give appropriate milestones for when important decisions on the direction will be taken.

Statements of Support

A statement of support from Project Partners should be provided on headed notepaper with a date and signature from the named contact in the collaborating organisation. This should be added to Je-S as the document type "Project Partner Letter of Support". For advice on what these should contain see:

http://www.epsrc.ac.uk/funding/howtoapply/preparing/writing/lettersofsupport/

Assessment

Assessment process

Proposals will be assessed using postal peer review, followed by a prioritisation panel meeting. Reviewers will be independent UK and overseas stakeholders who will all have specific expertise of the area the proposal addresses. The panel will be composed of stakeholders with a broad overview of Wind Energy research and of the Supergen Wind Energy programme.

At the panel a rank ordered list will be generated for each theme and only the top ranked proposals will be funded. Applicants will be informed of the panel outcomes as soon as possible after the panel meeting.

The reviewers and the panel will be asked to assess the proposals against the standard EPSRC criteria: Research Quality; National Importance; Pathways to Impact; Applicant Track Record; Resources and Management, and fit of the proposal to the call as detailed below.

Assessment criteria

The proposals will be assessed on their fit to the scope of the call, and to the following standard criteria:

Research Quality

- Research vision, ambition and adventure
- Distinctiveness from other projects in the existing portfolio
• Appropriateness of proposed methodology

National Importance
• Potential impact of the UK research landscape in cross-disciplinary technology research

Pathways to Impact
• Appropriate and viable potential user collaborations
• Plans for dissemination and knowledge exchange with potential beneficiaries
• of the research

Applicants’ Track Record
• The leadership quality and experience of the PI
• The track record of the team
• The balance of skills of the project team

Resources and management
• Effectiveness of planning and resource management
• Appropriateness of resources requested

Fit to the Call
• Degree to which the proposal aligns with the intent of the call

Guidance

Guidance for reviewers
Information about the EPSRC peer review process and guidance for reviewers can be found at: http://www.epsrc.ac.uk/funding/assessmentprocess/review/

Additional grant conditions
GAC01 In addition to the standard terms and conditions for grants, successful applicants will be required to submit annual progress reports. These reports will be submitted through the Supergen Wind Hub as part of their annual reporting requirements. The reporting format will be sent to the successful projects at least two months before the report is due.

GAC02 The project must collect details of industrial collaborators and their contributions to the research and provide these figures both to the Supergen Wind Hub and to the EPSRC on request. In addition to the core research programme, the project will be expected to work with the Supergen Wind Hub to undertake a wider networking role with the research and user community outside the project membership.

GAC03 The project must have a management committee, or equivalent body to oversee the day-to-day running of the project. This management committee
must work with, or be a part of and drawn from, the existing Supergen Wind Hub management or advisory boards.

GAC04 The project will become part of the Supergen Wind Hub, engaging fully with the Supergen Wind Hub management and steering committees, attending relevant project meetings and providing regular project updates and reports on request. Failure to do so will result in the suspension of the grant.

Key dates

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<thead>
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<th>Activity</th>
<th>Date</th>
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<tbody>
<tr>
<td>EPSRC notified of intention to submit</td>
<td>20 January 2015</td>
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<tr>
<td>Call closes</td>
<td>26 February 2015 (16.00)</td>
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<tr>
<td>Panel Meeting</td>
<td>June 2015</td>
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<tr>
<td>Funding awarded</td>
<td>June/July 2015</td>
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<td>Projects commence</td>
<td>July/August 2015</td>
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Contacts

Any enquiries related to this call should be directed to:

**Dr Oliver Philps**
E: o.philps@epsrc.ac.uk
T: 01793 444268

Any queries regarding the submission of proposals through Je-S should be directed to:

**The Je-S helpdesk**
E: Je-SHelp@rcuk.ac.uk
T: 01793 444164

Change log

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<th>Name</th>
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<td>Oliver Philps</td>
<td>01/12/2014</td>
<td>1.0</td>
<td>Initial Version.</td>
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Appendix A

Outputs from the workshop in March 2013

The following priority areas were identified and further sub-classified

Future Foundation Systems

- Dynamics of complete floating system
- Improved/Alternative/Adventurous foundations
- Substructure silent piling alternative (environmental)
- Floating structures for 50M+ Water depth

Asset management

- Farm Level Control of turbines
- Population based cradle to grave diagnostics and prognostics
- Whole life health monitoring of wind energy systems within systems
- Life-cycle health monitoring and management
- Multiple array health monitoring and planning
- Lifetime extreme event cables

Whole systems understanding of Wind farms

- ‘Whole-system’ CO2 impact of wind
- System of Systems & Wind farm Design
- Integrated model of offshore wind farms

Turbine Component Development

- Levelised Energy Cost reduction
- Integrated modelling frameworks
- Component Development for Wind turbines
- Better Aerodynamic analysis/design tools
- Smart Blades and Materials
- Efficient fluid structure models
- At what scale must WT design change profoundly
- Site specific generators/drive chains
- Smart adaptive blades