

# Announcement of Opportunity Centre for Doctoral Training (CDT)

**Deadline for Outline Proposals: 16:00 Wednesday 12 April 2017**

**Deadline for Full Proposals: 16.00 Wednesday 19 July 2017**

## Summary

1. NERC supports CDT investment to provide focussed investment into areas of priority to address training needs within NERC remit.
2. Proposals are sought to host a new Centre for Doctoral Training (CDT) specialising in **one** of the two following priority areas:
  - A. Freshwater bioscience and sustainability.
  - B. Environmental science underpinning the sustainable future of the energy sector.
3. Funding for eight studentships will be awarded per annum for three years of new student intake (i.e. 24 studentships in total) from the start of the academic year 2018/19.
4. Funding for only one CDT in a single area is available through this call, meaning there are more priority areas than there is available funding for – this is to ensure that only the very best doctoral training is funded.
5. An expectation of the CDT is that NERC funding will be used to leverage additional investment (either cash or in-kind support) from multiple stakeholders.
6. This opportunity is open to organisations eligible for NERC research grant funding, i.e. applicants based in UK Higher Education Institutions (HEIs), NERC research centres, and [Independent Research Organisations \(IROs\) approved by the Research Councils](#).
7. NERC recognises the value of delivering studentships in partnership. NERC encourages proposals that demonstrate cross-disciplinary working, including across departmental boundaries within organisations, or between organisations. Partnerships with end-users (businesses, government departments and other civil society organisations) are strongly encouraged.
8. This call has a two-stage application process.
9. The closing date for outline proposals, to be submitted by email, is **16:00 on Wednesday 12 April 2017**.
10. Following an outline assessment panel, successful outline applications will be invited to submit a full proposal.

11. Full proposal applications must be submitted via the Research Councils' Joint electronic-Submission system (Je-S). The deadline for submission of full proposals is **16:00 on Wednesday 19 July 2017**.

## **CDT priority area scope**

12. The following priority areas have been selected for this call. Proposals must address training within a single priority area; proposals addressing more than one area will not be accepted.

### **A. Freshwater bioscience and sustainability**

#### ***Background***

13. Freshwater systems provide essential ecosystem services and are crucial to supporting the world's growing population. However, they are rapidly losing biodiversity and function, putting the essential services they provide under threat. That threat arises because such systems are under increasing pressure from climate change and human activities such as agricultural intensification, industrialisation and urbanisation (among others), all of which have implications for water quality, predictability of water supply. There is increasing recognition that this connectivity of freshwater ecosystems to the wider environment must be taken into account if we are to manage them sustainably and protect and restore the ecosystem services they provide.
14. As its population increases, a key societal challenge facing the UK is the increasing demand for water, exacerbated by reduced security of supply and increased uncertainty of flood and drought risks as a result of climate change and extreme weather events. This, together with requirements set by various EU directives (e.g. Water Framework Directive<sup>1</sup>, Habitats Directive<sup>2</sup> and Floods Directive<sup>3</sup>) and the potential need to consider future UK legislation outside of the EU, has led to a need to evaluate and better understand freshwater ecosystems and reinforce evidence-based legislation and management. Any development and management of freshwater resources must be informed by robust scientific evidence in order to ensure it occurs in the most environmentally sustainable way possible. To be truly valuable to policymakers and water industry sectors, the research underpinning this evidence must cross multiple disciplines and involve collaboration between relevant stakeholders.
15. The freshwater environmental sector, across academia, industry, government agencies,

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<sup>1</sup> [Water Framework Directive](#)

<sup>2</sup> [Habitats Directive](#)

<sup>3</sup> [Floods Directive](#)

consultancies and NGOs, has identified a shortage of postgraduate skills in the freshwater biosciences. There is also acknowledgement of a growing need for interdisciplinary researchers with knowledge of the interactions between aquatic, terrestrial and atmospheric components of freshwater science in order to understand better the ability of freshwater ecosystems to withstand environmental change and their response to multiple and interacting stressors at a variety of spatial and temporal scales. Without this, the UK faces a shortage of individuals who can provide links between pure and applied research relevant to freshwater resource management, advise on sustainable exploitation of freshwater ecosystems, and effectively communicate findings and research within this area to practitioners with the intention of developing sustainable policy across the broad range of sectors relevant to freshwater sciences.

16. NERC has already made a number of targeted investments in the area of freshwater sciences. Several of its current large strategic research programmes are highly relevant to this priority area and focus on addressing societal challenges surrounding water management both in the UK and globally – examples of such research programme investments are: UK Droughts and Water Scarcity; Flooding from Intense Rainfall; Sustaining Water Resources for Food, Energy and Ecosystem Services; and Understanding the Effectiveness of Natural Flood Management. NERC also identified the dynamics of freshwater ecosystems as one of its first priorities for funding through the Highlight Topics mechanism, having acknowledged the need for a coherent ecosystems-based understanding of freshwater systems at the landscape scale in the UK.
17. Alongside its strategic research investments, NERC also funds targeted innovation programmes with the aim of translating the outputs of NERC research (or co-designing new research) to address specific business, policy or societal challenges. A number of NERC's current innovation programmes address directly the challenges outlined in this call and have built up close working relationships (through the programme coordinators) with relevant end-user organisations within the sustainable food production,<sup>4</sup> infrastructure,<sup>5</sup> and urban development<sup>6</sup> sectors, all of whom would benefit greatly from future PhD graduates with the skills and understanding of freshwater biosciences and ecosystem services that a CDT in this area could provide. A CDT that aims to address the future capacity needs of such end-users should therefore take into consideration their requirements, and the potential input they could provide, when developing a programme of PhD training for future researchers in this area.
18. As well as these shorter-term strategic investments, NERC supports substantial long-term freshwater research and monitoring across the UK through its national capability funding to research centres such as the Centre for Ecology and Hydrology (CEH) and British Geological Survey (BGS), which provide vital information to a wide range of stakeholders

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<sup>4</sup> [Sustainable Agriculture Research & Innovation Club \(SARIC\)](#)

<sup>5</sup> [Environmental Risks to Infrastructure Innovation Programme](#)

<sup>6</sup> [Green Infrastructure innovation programme press release; Scoping study that informed the Green Infrastructure innovation call](#)

in areas such as hydrological processes, lake ecosystems, surface flooding, and storage and flow of groundwater.

19. Despite this existing NERC investment in strategic research, innovation and national capability and RCUK training investments in related disciplines (e.g. EPSRC's CDTs in water informatics and engineering and engineering for the water sector), dedicated investment in training future researchers in the environmental aspects of freshwater sustainability remains limited. A NERC CDT in freshwater bioscience and sustainability will complement training investments made by other research councils and train the next generation of UK environmental researchers equipped with the specialist, interdisciplinary and transferrable skills necessary to monitor, evaluate, and sustainably manage freshwater resources to meet the needs of the wide range of stakeholders relevant to freshwater sciences.

### ***Training remit***

20. Training provided by the CDT must be within the NERC remit,<sup>7</sup> and relevant to the NERC strategy, but may include training at the interface between environmental sciences and other disciplines, where many major research challenges exist. Training delivered by this CDT must align with the areas specifically outlined in this call but may build on existing training infrastructure where applicable, and engagement with other relevant research council CDTs/DTPs and their end-user networks is strongly encouraged.
21. The CDT must offer postgraduate training in freshwater biosciences and the sustainable provision of ecosystem services. While this should be the focus, the training programme is expected to incorporate training in other disciplines, such as hydrology, biogeochemistry and sedimentology, where appropriate, and make use of modelling developments that enable linkage of knowledge and data across disciplines. This should all be underpinned by links with policy development and societal impact. Proposals must outline a coherent training programme that includes all of the following areas:
- Assessment of freshwater ecosystem service provision.
  - Functional and taxonomic diversity of freshwater ecosystems.
  - The impact of physical and ecological connectivity on ecosystem function.
  - The temporal and spatial variability of freshwater ecosystems.
  - Quantitative analysis of the response of ecosystems to multiple and interacting pressures/stressors.
  - Optimising the sustainable management of freshwater ecosystems, including habitat restoration.
  - Cross-cutting skills:
    - Modelling and handling of large data sets for use in environmental system analysis

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<sup>7</sup> [NERC Science Remit](#)

and linkage with ecosystem function and services at a variety of temporal and spatial scales.

- Environmental legislation and water policy.
  - Fieldwork and data acquisition.
22. The training programme should prioritise work on freshwater ecosystems in the UK, but research focused overseas can also be included if suitably justified and sufficiently resourced.
  23. The training programme is expected to build on recent developments in freshwater bioscience capabilities (e.g. new sensor technology and advances in biological/ecological modelling and statistical analysis) and encourage holistic multidisciplinary approaches to ecosystem assessment and management.
  24. Importantly, the CDT should also provide training in broader transferrable skills of particular relevance to future employability in this area, such as policy development and communication, with an emphasis on the relevance of research outputs to other end-users, including industry. Such end-users could include, for example, water companies, infrastructure planners/developers, local councils, government agencies, NGOs and environmental consultancies

## **B. Environmental science underpinning the sustainable future of the energy sector**

### ***Background***

25. Society faces a significant challenge over the coming decades to ensure a secure, safe and affordable energy mix while continuing to tackle climate change by reducing carbon emissions. As the global population continues to grow there will be an increasing demand for energy. In pursuing its remit, NERC invests in world-leading research, training and innovation across the energy spectrum to provide business, policy and wider civil society with the independent evidence and expertise required to inform responsible decision-making regarding the environmental impacts and sustainability of new and existing energy resources.
26. There are a number of environmental science challenges currently facing the energy sector, as its focus shifts to one of alternative energy technologies. These include: development of innovative modelling, imaging and monitoring methods to assess viability of potential targets and quantify environmental impacts of unconventional hydrocarbon exploitation; ensuring a whole system-level understanding of environmental impacts; improved understanding of risks associated with carbon capture and storage (CCS) as an important tool in reducing carbon emissions; and responsible development and exploitation of alternative energy resources.
27. Safe and responsible exploitation of hydrocarbons, both conventional or unconventional,

has always been a high priority for UK research, training and innovation. NERC has invested significantly in this area through both its strategic research (much of it coordinated through cross-disciplinary programmes such as the UK Energy Research Centre and RCUK Energy Programme) and innovation programmes with a particular focus on the environmental impacts of oil and gas exploitation and related challenges faced by the oil and gas industry, such as decommissioning of oil and gas infrastructure. With regards to skills and training, substantial investment has already been made in developing future research leaders in this area through the existing NERC CDT in Oil and Gas, which will have supported at least 90 PhD students by the time its final cohort graduates in 2022. The training provided through this CDT is focused on four key areas within the remit of oil and gas exploitation: effective production of unconventional hydrocarbons; extending the life of mature basins; exploitation in challenging environments; and environmental impact and regulation.

28. Along with the continued importance of ensuring hydrocarbon exploitation is carried out in a safe and responsible manner, there is now increasing focus in the UK on ensuring a safe, affordable and sustainable energy mix in the longer term. This drives the requirement within the energy sector to invest further in research into the efficiencies and environmental impacts of alternative energy resources and CCS and their implications for policy development and societal acceptance. The importance of environmental science research and innovation in areas beyond exploitation of conventional hydrocarbons is demonstrated by significant strategic research investments by NERC in recent years in the areas of CCS, land-based and marine renewables and natural capital in low carbon pathways. New NERC capital investment in the Energy Security & Innovation Observing System for the Subsurface (ESIOS) will also provide substantial research infrastructure to enable scientists to work in collaboration with industry and government to improve understanding across a range of energy sector disciplines such as geothermal, CCS, compressed air energy storage, natural gas storage, underground gasification and shale gas to ensure such developments are safe and sustainable. To support this direction of travel, and to complement significant investments by other funders such as EPSRC in new technologies, it is important to ensure there is future research capacity and capability within the environmental sciences by providing training in key research skills relevant to understanding the environmental implications of these developing areas of the energy sector. Such training should have a strong focus on the links between pure and applied research and the direct implications of such research on global policy development.
29. Advances in environmental monitoring techniques and low-carbon energy technologies mean that future researchers working throughout the energy sector will require a strong grounding in innovative and effective data collection and management and application of large data sets to the challenges of environmental base-lining, monitoring and management. Researchers will also require the ability to work in collaboration with a variety of stakeholders to ensure appropriate and effective data sharing and inform policy development and responsible decision-making.

30. A CDT in this area will therefore deliver subject-specific and transferrable skills training to produce individuals equipped with priority skills in acquisition and handling of large data sets, risk and uncertainty description, research application and sustainability science, in addition to the broad understanding of the changing nature of the energy sector and the commercial, political, and social context in which it operates.

### **Training remit**

31. Training provided by the CDT must be within the NERC remit,<sup>8</sup> and relevant to the NERC strategy, but may include training at the interface between environmental sciences and other disciplines, where many major research challenges exist. Training delivered by this CDT must align with the areas specifically outlined in this call but may build on existing training infrastructure where applicable, and engagement with other relevant research council CDTs/DTPs and their end-user networks is strongly encouraged.
32. The CDT must offer postgraduate training with a particular focus on the development and environmental impacts of unconventional hydrocarbon exploration, CCS and alternative energy resources at the whole-system level. This should all be underpinned by links with policy development and societal impact. Training is expected to build on recent developments in extraction, monitoring and modelling technologies. Proposals must outline a coherent training programme that includes all of the following areas:
- Innovative approaches to environmental monitoring and management in terrestrial and marine environments.
  - Establishing environmental baselines (or proxies for these).
  - Application, refinement and development of new technologies.
  - Development of alternative energy sources, including geothermal and renewable energy technologies.
  - Cross-cutting skills:
    - Modelling and handling of large data sets for use in environmental analysis, in situ monitoring and remote sensing.
    - Environmental legislation and energy policy.
    - Fieldwork and data acquisition.
33. Importantly, the CDT should provide training in broader transferrable skills of particular relevance to future employability in this area, such as policy development and communication, with an emphasis on the relevance of research outputs to end-users, including industry. Such end-users could include, for example, energy companies, technology providers, infrastructure planners/developers, local councils, government agencies, NGOs and environmental consultancies.

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<sup>8</sup> [NERC Science Remit](#)

## **Call requirements – applicable to all CDT priority areas**

### ***Collaboration with end-users***

34. Collaboration with end-users, in the broadest sense, is vital for delivery of excellent multidisciplinary training and for framing research questions to ensure production of research outputs of direct relevance and use to the end-user community. Collaboration with end-users must therefore form a significant part of the CDT's training programme – at both the design and delivery stage – and successful proposals will demonstrate clearly how students will benefit from engagement with multiple types of end-user organisations, on both an individual and a cohort level.
35. Applicants must ensure that a number of the studentships offered by the CDT are CASE studentships and must also embed policy development training and collaboration with end-users through mechanisms in addition to CASE (e.g. placements, training courses, site visits) within their wider training programme. Applicants must demonstrate clearly within their proposals how this will be achieved.
36. An expectation of the CDT is that NERC funding will be used to leverage additional investment (either cash or in-kind support) from multiple stakeholders. Proposals must:
- i. evidence a track record of collaborative working;
  - ii. outline a strategy for engaging with multiple stakeholders in industry, policy making, regulation and society to nurture additional investments; and
  - iii. detail how working with these stakeholders will add value to the CDT and to the studentships, e.g. through placement and future employment opportunities.

### ***Research capacity***

37. Applicants must provide evidence within their proposals that they offer sufficient high-quality research capacity to deliver training in all the areas specified in the remit of the priority area.

### ***Legacy and impact***

38. CDTs are supported with the intention of developing a legacy of training excellence from a directed NERC investment. Proposals must demonstrate consideration of the legacy and impacts of the CDT beyond the lifetime of NERC investment.

### ***Management***

39. The CDT will need to have strong leadership and management. It should have both a lead operational manager and steering committee. The steering committee should be comprised of all hosting CDT partners and also have representation from relevant end-user organisations. It will have overall responsibility for the effective governance of the

CDT and its relationship with NERC and provide a strategic needs framework to aid the prioritisation and development of PhD projects.

40. The CDT must be able to demonstrate that robust and transparent governance arrangements are in place, which may include formal partnership agreements, communication plans and systems for monitoring the CDT's overall progress and success. NERC strongly encourages applicants to incorporate CDT students into the management/running of activities within the CDT.

### ***Widening participation***

41. NERC wants to ensure that it supports the most talented students whatever their background and regardless of where and when they undertook their first degree. To ensure that this happens, we require:
- Selection processes to be open and transparent and enable the potential of the candidate to be assessed whether they are applying on a full or part-time basis, whether they have prior research training or not, and regardless of their demographic.
  - All studentships to be available on a full- or part-time basis and the availability of part-time awards must be clearly set out when advertising funding opportunities. Applicants must indicate within the full proposal if it is not possible to offer part-time across all pathways and provide reasoning for this.
  - Opportunities for NERC-funded studentships to be actively publicised both within and beyond the host Research Organisations.
42. We expect applicants to think imaginatively and demonstrate in their proposals that they have considered how they will contribute to the widening participation agenda and promote postgraduate research to a diverse base of talented graduate students across the UK.

### **Funding**

43. NERC will award eight notional studentships per annum for three years. A notional studentship consists of sufficient funds to meet the annual RCUK minimum stipend and fee levels, plus additional research and management costs as outlined below, for four full years of PhD study; it is expected that individual students will undertake training over a variety of timeframes (between three and four years as appropriate, depending on the discipline and the student's experience/knowledge) and there will not necessarily be a 1:1 ratio of notional studentships to individual students supported by a CDT training grant.

44. Indicative funding total per notional doctoral studentship (based on [RCUK minima 2017/18](#)):

Student Stipend	£58,212
Fees	£16,780
Research Training Support Grant	£11,000
Management Costs	£1,500
<b>Total</b>	<b>£87,492</b>

45. The CDT will have flexibility in how they use the funding ([subject to the normal training grant terms and conditions](#)), as long as the minimum notional numbers of students are supported per annum.

## **Reporting**

46. There will be mandatory annual reporting requirements for the CDT in addition to the standard studentships information captured through the Je-S Studentship Details Portal (SDP). This information will be used by NERC to report on the success of our training investments to government and other partners. Information provided will also be used to provide assurance that the CDT is being managed appropriately and is progressing in accordance with its original funding proposal, the NERC Training Strategy and the aims and expectations outlined in this Announcement of Opportunity document. This additional reporting will take the form of an annual return. Indicative reporting headings include:

- i. Information regarding the student population – demographics, application information, etc.
- ii. Information regarding additional partner engagement, collaborations and co-funding
- iii. CASE partner engagement
- iv. Student Research outputs
- v. Cohort Specific Training Progress and Development updates
- vi. Information regarding supervisor training and professional development
- vii. Any structural and managerial changes that have occurred within the CDT.

## **Application process**

### ***Eligibility***

47. This opportunity is open to organisations eligible for NERC research grant funding, i.e. applicants based in UK Higher Education Institutions (HEIs), NERC research centres, and [Independent Research Organisations \(IROs\) approved by the Research Councils](#).

48. Each CDT must include an accredited higher education PhD award-making body.
49. Organisations ineligible for NERC research grant funding may act as partners in proposals and information regarding the nature of this collaboration must be included within the proposal.

### ***Outline proposals***

50. Applicants are asked to submit an outline proposal ahead of being invited to submit a full proposal for this funding opportunity.
51. Outline proposals must be submitted by email to [NERC Research Careers](#) using the form provided on the NERC website and in *Annex A* by **16:00 GMT on Wednesday 12 April 2017**. Applications received that do not use this form and/or those submitted after the deadline will be excluded from the call.
52. Outline proposals that do not follow the formatting and page limit requirements within the forms will be excluded from this call.
53. All outline proposals must use the form provided on the NERC website and in *Annex A*. The Case for Support section of the form must not exceed 5 pages of A4 in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow, Calibri and Times New Roman are not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Embedded diagrams or pictures or numerical formulae may contain text that is smaller than 11 point but applicants should ensure that the font is legible. Text in tables and figure labels not within embedded diagrams should be at least 11 point.
54. Applicants will need to provide details under the following headings:
  - i. Research Excellence
  - ii. Training Excellence
  - iii. Multidisciplinary Training Environment
  - iv. Partnership Operational Management (Quality Assurance and Attracting Excellent Students)
55. Applicants are strongly encouraged to include a high-level vision statement for their CDT within the Case for Support section of their outline proposal.
56. No other attachments will be accepted, including letters of support. Links to websites will be ignored. Applicants are **not** required to demonstrate any agreed or expected in-kind support or additional funding at the outline proposal stage, although a clear strategy for engagement with multiple stakeholders should be presented.

## **Full proposals**

57. Following the outline proposal assessment process, applicants will be notified whether they have been invited to submit a full proposal for this funding opportunity. Feedback from the outline proposal assessment process will be provided following the announcement of invitations to submit full proposals.
58. All full proposals must use the form provided on the NERC website and in *Annex B*. The Case for Support section of the form must not exceed 14 pages of A4 in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow, Calibri and Times New Roman are not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Embedded diagrams or pictures or numerical formulae may contain text that is smaller than 11 point but applicants should ensure that the font is legible. Text in tables and figure labels not within embedded diagrams should be at least 11 point.
59. Applicants will need to provide details under the following headings:
- i. Research excellence
  - ii. Training excellence
  - iii. Multidisciplinary Training Environment
  - iv. Partnership Operational Management (Quality Assurance and Attracting Excellent Students)
60. At the full proposal stage, applicants must provide evidence of any financial or in-kind commitment agreed by partners. This may take the form of a statement in the Case for Support or a signed letter of support. Only letters of support outlining agreed commitments (financial or in-kind) to the CDT will be accepted at the full proposal stage – no other attachments will be accepted. Links to websites will be ignored.
61. Full proposals must be submitted using the Research Council's Joint Electronic Submission System ([Je-S](#)) by **16:00 GMT on Wednesday 19 July 2017**. Applicants should select Proposal Type – 'Studentship Proposal' and then select the Scheme – 'Doctoral Training' and the Call – 'CDT July 2017'.
62. Please note that on submission to council ALL non-PDF documents 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. Additionally where non-standard fonts are present, and even if 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 should be converted to PDF prior to attaching it to the proposal.

63. To use the Je-S system, the Research Organisation must be registered as a Je-S user. Full details are available on the Je-S website. Further information can also be obtained by contacting the Je-S Helpdesk by [email](#) or by telephone on 01793 444164.
64. **Applicants must ensure that their proposal is received by NERC by 16:00 on the closing date. They should leave enough time for their application to pass through their organisation’s Je-S submission route before this date.** Any proposal that is received after the closing date, is incomplete, or does not meet NERC’s eligibility criteria, will be returned to the applicant and will not be considered.
65. A single proposal should be submitted from the administrative lead partner for both the outline and full proposal application stages.

### Assessment process

66. Both the outline and full proposals will be assessed by a peer review assessment panel, consisting of international experts supplemented by member(s) of the NERC Training Advisory Board (TAB). The assessment process for both panels is provided below:

### Outline proposals

67. The assessment criteria and scoring definitions to be used by the assessment panel for both outline and full proposals are given in *Annexes C & D*. Applicants will **not** be invited to present or provide an interview at the outline proposal stage of the application process.
68. Outline proposals will be assessed against **four criteria**: Research Excellence, Training Excellence, Multidisciplinary Training Environment and Partnership Operational Management. These criteria will be weighted as shown in Table I.

**Table I. CDT Proposal Scoring System.**

CDT Assessment Criteria	Weighting	Score	Overall Excellence Score
1. Research Excellence	35%	/10	= 0.35 x Score
2. Training Excellence	35%	/10	= 0.35 x Score
3. Multidisciplinary Training Environment	15%	/10	= 0.15 x Score
4. Partnership Operational Management	15%	/10	= 0.15 x Score
<b>Overall Grade Excellence Score</b>	100%	/10	Sum

69. Following the outline proposal assessment panel meeting, feedback will be provided on all outline proposals and successful applicants will be informed if they have been invited to submit full proposals.

### **Full proposals**

70. The assessment criteria and scoring definitions to be used by the assessment panel for both outline and full proposals are given in *Annexes C & D*. The full proposal assessment process includes an applicant presentation and interview at the assessment panel.

71. NERC will try to provide early notice of an invitation to attend, but applicants should note that the assessment panel meeting is currently planned for the **week commencing 11 September 2017**.

72. Full proposals will be assessed against the same four criteria as the outline proposals, using the same weighting (Table 1).

73. Following the full proposal assessment panel meeting, feedback for all full proposals will be provided.

### **Timetable**

74. Overview of the competition timetable:

- 8 February 2017: Outline proposals call open.
- 12 April 2017: Closing date for outline proposals.
- w/c 8 May 2017: Outline proposal Assessment Panel meeting.
- 24 May 2017: Full proposals call open.
- 19 July 2017: Closing date for full proposals.
- w/c 11 September 2017: Assessment Panel meeting, with applicant interviews.
- Late September 2017: Decision communicated to applicants.
- September 2018: First CDT studentships commence.

75. For further information please contact [NERC Research Careers](#).

**Annex A: Outline Proposal – Application Form and Case for Support Form**



NERC, Polaris House, North Star Avenue,  
Swindon, Wiltshire, United Kingdom, SN2 1EU  
Telephone: +44 (0) 1793 411500  
[Web](#)

**COMPLIANCE WITH THE DATA PROTECTION ACT 1998**

In accordance with the Data Protection Act 1998, the personal data provided on this form will be processed by NERC, and may be held on computerised database and/or manual files. Further details may be found in the guidance notes

**Centre for Doctoral Training OUTLINE PROPOSAL**

**Administrative Lead Partner** (This is the organisation that will receive the funding for the CDT from NERC, and will be the main point of contact between the two bodies.)

<b>Organisation</b>		<b>Internal Research Organisation Reference</b>	
<b>Division or Department</b>			

**Lead Applicant** (The individual should be from the Administrative Lead Partner and be the administrative lead/head of the CDT).

<b>Name</b>	<b>Organisation</b>	<b>Division or Department</b>	<b>CDT Role</b>	<b>Email</b>

**Hosting Partner** (Please only include HEI or Research Organisation partners that will be acting as hosts for CDT students. Other partners should be mentioned within the Case for Support as appropriate).

<b>Name</b>	<b>Organisation</b>	<b>Division or Department</b>	<b>Email</b>

**Title [up to 150 characters]**

## Centre for Doctoral Training – Outline Proposal Case for Support

Please justify and evidence your proposal using the following headings:

- Research Excellence
- Training Excellence
- Multidisciplinary Training Environments
- Partnership Operational Management

This Case for Support must be completed on standard A4 sized paper in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow, Calibri and Times New Roman are not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Embedded diagrams or pictures or numerical formulae may contain text that is smaller than 11 point but applicants should ensure that the font is legible. Text in tables and figure labels not within embedded diagrams should be at least 11 point. Applicants referring to websites should note that referees may choose not to use them.

This Case for Support section must NOT exceed 5 sides of A4.

## Annex B: Full Proposal – Application Form and Case for Support Form



NERC, Polaris House, North Star Avenue,  
Swindon, Wiltshire, United Kingdom, SN2 1EU  
Telephone: +44 (0) 1793 411500  
[Web](#)

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### Centre for Doctoral Training FULL PROPOSAL

**Administrative Lead Partner** (This is the organisation that will receive the funding for the CDT from NERC, and will be the main point of contact between the two bodies.)

Organisation		Internal Research Organisation Reference	
Division or Department			

**Lead Applicant** (The individual should be from the Administrative Lead Partner and be the administrative lead/head of the CDT).

Name	Organisation	Division or Department	CDT Role	Email

**Hosting Partner** (Please only include HEI or Research Organisation partners that will be acting as hosts for CDT students).

Name	Organisation	Division or Department	Email

**Title [up to 150 characters]**

**CDT Summary [maximum 4000 characters with spaces]**

Please provide a summary of the proposed training in terms appropriate for a general audience, including details on what will make your training offer unique and what its impact will be.

## Centre for Doctoral Training – Full Proposal Case for Support

Please justify and evidence your proposal using the following headings:

- Research Excellence
- Training Excellence
- Multidisciplinary Training Environments
- Partnership Operational Management

This Case for Support must be completed on standard A4 sized paper in single-spaced typescript of minimum font size 11 point (Arial or other sans serif typeface of equivalent size to Arial 11), with margins of at least 2cm. Please note that Arial narrow, Calibri and Times New Roman are not allowable font types and any proposal which has used either of these font types within their submission will be rejected. References and footnotes should also be at least 11 point font and should be in the same font type as the rest of the document. Headers and footers should not be used for references or information relating to the scientific case. Embedded diagrams or pictures or numerical formulae may contain text that is smaller than 11 point but applicants should ensure that the font is legible. Text in tables and figure labels not within embedded diagrams should be at least 11 point. Applicants referring to websites should note that referees may choose not to use them.

This Case for Support section must NOT exceed 14 sides of A4.

## Annex C: Proposal Assessment Criteria

The assessment criteria that will be used to assess proposals are:

Assessment Criteria	Key aspects for an outstanding CDT	Factors and Evidence that might be discussed
1. Research excellence (35%)	<p>The training and training environment must include scientifically excellent and original research within NERC's remit, and specifically within the remit of the call.</p> <p>Critical mass of relevant researchers/teams/projects within the specific remit of the call to allow students to be supported effectively and sufficiently exposed to excellent research and researchers in the relevant areas.</p>	<p>Number of active NERC-funded research projects and PIs at host RO's, specifically within the remit of the call.</p> <p>REF 2014 profiles (where relevant). Standing in the appropriate academic community – national, international etc.</p> <p>Institutional commitment to research excellence, specifically within the remit of the call.</p> <p>Amount of NERC and Research Council research income in research areas specific to the call.</p>
2. Training excellence (35%)	<p>Students are part of an active research and training community and managed as a cohort.</p> <p>Excellent scientific training and transferable/professional skills development opportunities.</p> <p>Excellent training and support for supervisors.</p> <p>Challenging and relevant, but feasible, projects.</p> <p>Co-development of projects and training programmes with end-users to ensure research and skills are tailored to their needs from the outset.</p> <p>Timely access to world-class facilities, direct experience of cutting-edge</p>	<p>Integration of students into the relevant teams/projects/departments/schools.</p> <p>Mechanisms for supervision, supervisor training, and monitoring of both student and supervisor.</p> <p>How generalist and specialist development needs of individual students will be identified and addressed.</p> <p>Personal/professional/career learning and development that students will receive.</p> <p>Collaborative opportunities and end-user engagement in training programmes – which may include training delivery, internships, industrial placements, overseas studies, and co-supervisory arrangements if appropriate.</p> <p>Mechanisms to ensure the development of independent researchers and world-</p>

	<p>techniques, technologies and up to date methodologies.</p>	<p>leading scientists.</p> <p>Access to, and encouragement of, peer-to-peer learning and support.</p> <p>Completion rates, publication and first destination data for students hosted within CDT institutions.</p> <p>Employability of graduates.</p> <p>Leveraged support for the CDT (either in-kind or financial).</p>
<p>3. Multidisciplinary Training Environments (15%)</p>	<p>Training is embedded in multidisciplinary research environments.</p> <p>Excellent opportunities to network with researchers and students from other disciplines.</p> <p>Excellent opportunities for collaborative projects involving end-user partners, including CASE studentships, internships/placements, and end-user co-supervision.</p> <p>End user engagement in all aspects of training, from individual projects to cohort-level specialist and transferrable skills training: Students will gain value from interaction with a wide range of end-users and leave equipped with skills applicable to the environment sector and relevant to policymakers and regulators, industry and business, and NGOs and charities.</p>	<p>How students will be made aware of the context of their research and how it relates to other disciplines, and its application outside of academia.</p> <p>Supervisory or wider advisory team engagement in research outside the relevant discipline(s).</p> <p>Ability to expose students to different disciplines via, for example:</p> <ul style="list-style-type: none"> <li>• Interaction with cohorts from different disciplines beyond the CDT through transferrable skills training, seminars/conferences and networking opportunities.</li> <li>• Placing students within multidisciplinary research teams.</li> <li>• Opportunities to attend specialist training courses in other disciplines where appropriate.</li> </ul>

<p>4. Partnership Operational Management (15%)</p>	<p>Robust and transparent governance arrangements and strategy for managing partnerships between or within organisations.</p> <p>Well-considered mechanism for planning, managing and monitoring training.</p> <p>Agreement by all parties of a robust mechanism for aligning ways of working and sharing resources and finances between different organisations (including non-academic partners).</p> <p>Clear strategy for engagement with end-users, appropriate to the scope of the CDT, in all aspects of training from the outset of the CDT.</p> <p>Well-defined legacy of the CDT beyond the lifetime of any NERC investment, including research and training outcomes and impacts, and opportunities to maximise NERC's investment.</p> <p>Good consideration of the widening participation agenda and robust mechanisms to promote postgraduate research to a diverse base of talented graduate students across the UK, with all studentships offered on a full- or part-time basis through an open and transparent selection process.</p>	<p>Systems and processes for assessing the suitability of supervisors and projects.</p> <p>Competitive mechanisms for awarding studentships within the CDT.</p> <p>Contribution to the widening participation agenda.</p> <p>Strategy for engaging with end-users.</p> <p>Excellent students – processes for student recruitment (ensuring the best-fit students are recruited), induction, progression, monitoring and submission.</p> <p>Arrangements for returning accurate and timely data on studentships to NERC.</p> <p>Mechanisms for improving and maintaining submission rates.</p> <p>Establishing cohorts beyond the NERC funded students by using the CDT as a magnet/nucleus for research and training activities.</p> <p>Robust quality-assurance procedures and structures.</p> <p>Development and demonstration of Success Stories.</p> <p>Arrangements in place for management of data generated by studentship projects.</p>
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## **Annex D: Overall Excellence Score Definitions**

<b>Score</b>	<b>Usual Indicators</b>
<b>Excellent quality proposal</b>	
10	The proposal is outstanding and represents world-leading standards. Highest priority for funding.
9	The proposal is excellent and represents world-class standards. Very high priority for funding.
8	The proposal is very good and contains aspects of excellence. High priority for funding.
<b>Good quality proposal</b>	
7	The proposal is good and is internationally competitive. Should be funded if possible.
6	The proposal is good and on the borderline between nationally and internationally competitive. Potentially fundable.
5	The proposal is good and has some merit but is not at the leading edge. It is suitable for funding in principle but in a competitive context is not a priority.
<b>Potentially useful proposal</b>	
4	The proposal is good and has some merit, but has a number of weaknesses. Not recommended for funding.
3	The proposal is satisfactory. It would provide something useful, but fails to provide reasonable evidence and justification for funding. Not recommended for funding.
<b>Unacceptable proposal</b>	
2	The proposal is weak, and has only a few strengths. Not suitable for funding.
1	The proposal is unsatisfactory and is unlikely to train students successfully. Not suitable for funding.
0	For special cases, e.g. flawed in approach, subject to serious difficulties, does not address operational risks, sufficiently un-clearly written so it cannot be properly assessed, or outside of NERC remit.