

ARIES: Advanced Research and Innovation in Environmental Sciences

What is a PhD?

A PhD, or Doctor of Philosophy, is the highest academic degree a student can achieve and confers the title Doctor. It involves independent research of an original topic under the guidance of one or more expert academic supervisors. As well as undertaking original research, students are typically required to undertake a literature review, to assess and evaluate published research findings relevant to their research topic. Students will usually present their research at (at least) one international conference, publish one or more peer-reviewed journal articles, and prepare a ‘thesis’ dissertation. The thesis must present robust findings and offer a “significant original contribution to knowledge”. It is defended in a “viva voce” oral examination assessed by two expert academic examiners. PhD students receive training in specific research methods as well as more broadly applicable skills, and in addition will usually have the opportunity to be involved in teaching and public engagement activities.

Completion is required within 4 years of the start of a full-time PhD (for part-time study usually 7 years, but regulations differ between institutes). Many institutes also offer a “PhD by Publication” within a shorter time frame (see below).

By collaborating with universities on PhD studentships, organisations can benefit from accessing research excellence including expert advice, methodologies and facilities that address their needs. The ARIES DTP will be looking to fund proposals with a high degree of collaboration between DTP partners as well as external partners, and collaborative studentships can be written starting from an evidence need or industry challenge provided by the partner. Projects will be prioritised for funding based on their ability to demonstrate that they offer a rewarding research experience to students, which balances intellectual challenge and a degree of security for progression within time constraints. The aims of the research must be well defined and present a contribution to knowledge with real-world impact. However, students are expected to have freedom to develop and test their ideas in light of their findings over the course of their PhD. Additional benefits to collaborating organisations are that they increase their visibility as an employer and enhance their recruitment of skilled graduates with specialist knowledge.

Organisations wishing to develop collaborative studentships, should note that a PhD is fundamentally different to a piece of consultancy. A PhD studentship will *extend* the body of knowledge in the research field, whereas a consultancy project will *apply* existing knowledge to pre-defined question or problem. The latter does not offer the academic freedom or ‘significant original contribution to knowledge’ required of a PhD, and this therefore should be considered when developing a project.

“PhD by Publication” might be especially of interest for those working outside of academia, perhaps in industry or policy-making, and who have an existing publication record in the peer-reviewed literature. Generally a small number of publications (e.g. 6 to 8) are presented, along with a critical analysis/synthesis of perhaps 10,000 – 20,000 words. A typical registration time for this type of degree is six months. Attendance at the awarding institute is not a prerequisite, other than for the viva voce, but an Academic Advisor must be identified, who will advise the candidate and provide feedback on their thesis work. Postgraduate Directors of Research within Departments/Schools, or individual academics in the field of interest, are usually the best first points of contact for enquiries about such degrees.