The iBUILD team at Newcastle University are pleased to announce two funded PhD studentships for 2015. Two of the following projects will be funded; selected based upon the candidates who apply:

1. iBUILD: Evaluation and funding of green infrastructure in urban areas: reference code CI-729

Green infrastructure (GI), nature used as an infrastructure system, has been receiving increased interest and application in recent years, this in part is due to drivers such as climate change and urbanisation. There are multiple benefits associated with GI ranging from providing solutions to stormwater management, regulating urban heat and improving air quality, to aesthetic and well-being outcomes. This PhD will explore interdependencies associated with GI in an urban context, methods for valuing GI and how new or existing business models need to emerge to fund and finance GI.

This study would consider:

- Understanding and valuing of GI at different scales; value could include environmental, economic, social, ecological, cultural definitions; scale could be defined in a range of ways e.g. physical, benefit, governance and management.
- Current configuration, connectivity, and benefits of GI in an urban area.
- Apply and review a range of evaluation tools to the case study area.
- Interdependencies between GI and 'grey' infrastructures.
- Future demands on or for GI, identifying obstacles or limitations.
- Application of business models to fund GI provision.

Supervisors: Dr Claire Walsh (CEG); Dr Guy Garrod (AFRD); Professor. Richard Dawson (CEG)

Person Specification and Eligibility Criteria: You must have, or expect to achieve, a minimum of an upper-second class or equivalent in a science, engineering, geography or quantitative social science discipline. Candidates with experience of, or keen ambition to work in a multi-disciplinary environment would be viewed favourably. Candidates need to demonstrate good written and verbal communication skills, experience or willingness to learn applying existing models, and analysing data using GIS. Candidates need to meet EPSRC eligibility criteria for EPSRC DTA awards.

2. iBUILD: Innovative business models from smart infrastructure systems: reference code CI-730

Smart infrastructure responds intelligently to environmental changes, different users or the needs of other interdependent infrastructure systems. These systems collect usage and performance data and use this (automatically, or with human intervention) to ensure the infrastructure achieves the desired performance.

However, in doing so smart infrastructure is opening up opportunities for disrupting traditional ways of delivering infrastructure services and providing new mechanisms for capturing the social and economic value from these services.

This project, which will run alongside the iBUILD Infrastructure business models centre (www.ibuild.ac.uk) explore opportunities for using smart technologies to develop alternative business models for urban infrastructure that might improve the delivery of key services such as heat, water, mobility, sanitation, and communication. This interdisciplinary PhD will explore a range of issues including the engineering, funding, finance and governance issues of smart infrastructure business models.

Supervisors: Prof. Richard Dawson (CEG); Prof. Phil Blythe (CEG); Prof. Andy Pike (CURDS); Prof. Stephanie Glendinning (CEG)

Person Specification and Eligibility Criteria: You must have, or expect to achieve, a minimum of an upper-second class or equivalent in a science, engineering, geography or quantitative social science discipline. Candidates with experience of, or keen ambition to work in a multi-disciplinary environment would be viewed favourably. Candidates need to demonstrate very good written and verbal communications skills and an ability to assimilate information from a variety of sources. Candidates need to meet EPSRC eligibility criteria for EPSRC DTA awards.

3. iBUILD: Valuing Infrastructure Resilience: reference code CI-731

Concepts such as adaptable and resilience are often considered for infrastructure to aspire to. Ultimately though, these must be translated into action on the ground that is financed and maintained. Current business models often fail to appropriately "value" the importance of resilience in delivering indirect economic and non-economic benefits.

The project aim would be to formulate ideas for the development of new business models for funding resilient infrastructure through understanding the value of resilience in its broadest context. The research would explore the following:

- Definitions of resilience drawn from a range disciplines (e.g ecological, economic, engineering, social)
- Application to of these resilience concepts to infrastructure to develop an integrated and holistic resilience framework
- Appraisal of different intervention options for improving resilience using this framework
- Use of different value measures to appraise the different interventions
- Appraisal of the interventions in terms of cost, benefit, value and resilience change, understanding the tensions between different targets and scales
- Draw out potential new business models for improving resilience based on the above

Supervisors: Prof. Stephanie Glendinning (CEG); Dr Jane Gibbon (NUBS); Dr Sean Wilkinson (CEG); Prof. Richard Dawson (CEG); Dr Guy Garrod (AFRD)

Person Specification and Eligibility Criteria: You must have, or expect to achieve, a minimum of an upper-second class or equivalent in a science, engineering, geography or quantitative social science discipline. Candidates with experience of, or keen ambition to work in a multi-disciplinary environment would be viewed favourably. Candidates need to demonstrate very good written and verbal communications skills and an ability to assimilate information from a variety of sources. Candidates need to meet EPSRC eligibility criteria for EPSRC DTA awards.

Value
Depending on how you meet the EPSRC's eligibility criteria (http://www.epsrc.ac.uk/skills/students/help/eligibility/), you may be entitled to a full or partial award. A full award covers tuition fees at the UK/EU rate and an annual stipend of £13,863. A partial award covers fees at the UK/EU rate only.

Duration
3 years

Start date
September 2015

Sponsor
EPSRC DTA, in collaboration with the iBUILD (Infrastructure BUsiness models, valuation and Innovation for Local Delivery) Centre (www.ibuild.ac.uk)

How to Apply
All applicants should complete the University's postgraduate application form. Only mandatory fields need to be completed. However, you will need to include the following information: Insert the programme code 8040F in the programme of study section. Select PhD School of Civil Engineering and Geoscience-Civil Engineering (Water) as the programme of study. Insert the studentship code as stated above in the studentship/partnership reference field.

Attach a covering letter and CV. The covering letter must state the title of the studentship and quote reference code as stated above.

Closing Date for Applications
31st March 2015

Further Information
For further details, please contact:
iBUILD Director: richard.dawson@newcastle.ac.uk
iBUILD Manager: claire.walsh@newcastle.ac.uk