# EPSRC DTP Doctoral Studentship

# Project: Going Circular - Addressing the Climate Emergency: calculating the greenhouse gas savings arising from adopting a circular development pathway in cities

This 4-year studentship is fully funded by the EPSRC. The PhD training and research will be carried out within the Centre for Doctoral Training in the Bartlett School of Planning, University College London.

## The Project

The research aims to determine the reduction in greenhouse gas (GHG) emissions resulting from transitioning to a circular development pathway in cities (see <http://circularcitieshub.com/> for more information). The circular development pathway integrates resource looping (e.g. grey-water and infrastructure recycling, energy recovery); urban adaptation (flexible infrastructure, spaces, self-organising communities); and ecological regeneration (the restoration of urban ecosystem services), to enable the city-region to co-evolve with societal needs, whilst reducing its ecological footprint and GHG emissions (through sequestration, energy recovery, localising resource flows, reducing waste going to landfill, etc). It will produce methodologies and tools which can be used by cities to calculate the emissions savings they can make from adopting this approach.

The research will:

* Identify and evaluate tools or methods for calculating GHG emission savings (direct and indirect);
* Audit existing research to determine the data and algorithms available to calculate emissions savings for the circular actions;
* Determine the dynamic relationships between the actions and how this effects emissions
* Create and calibrate an emissions calculator
* Model emissions reductions for a series of circular development scenarios

The studentship will be supervised by Dr Joanna Williams, Director of the Circular Cities Hub(<http://circularcitieshub.com/d/>) and Dr Zifhu Mi (<https://www.ucl.ac.uk/bartlett/construction/people/dr-zhifu-mi>) both based at The Bartlett, University College London. The student will also collaborate with the Circular Cities Hub (<http://circularcitieshub.com/>) and Circel Lab (<https://www.ucl.ac.uk/circular-economy-lab/>).

## The Person

We are looking for a highly capable and numerate individual, with a relevant MSc qualification and expertise in at least one of the following topics: **emissions modelling, mathematical modelling, carbon accounting, or systems modelling**. It would also be useful (but not essential) for the candidate to have some expertise in any of the following: operational research, ecological economics, scenario modelling, urban ecology or sustainable construction. Post-qualification experience working in these areas would also be helpful.

Closing date for applications is **30th June 2020**

Value of award: Full home student tuition fees and a stipend of ca. £17,285 per annum (for 4 years)

Eligibility: Please refer to eligibility guidance for further detail (https://epsrc.ukri.org/skills/students/guidance-on-epsrc-studentships/eligibility/).

Application Procedure: A recent CV, the full transcript of exam results (listing all subjects and their corresponding grades/marks) and a cover letter stating how the project meets your research interests must be included. Individuals in their final year of study should list all modules/grades for which the results are already known. Prospective candidates can email: Dr Jo Williams (joanna.williams@ucl.ac.uk) for an informal discussion before applying.