

# Bridging the Gaps: Sustainable Urban Spaces

## First Year Review

9 July 2009

James Paskins

Civil, Environmental and Geomatic Engineering

**It has been a year since  
the official launch of  
Bridging the Gaps**





## Website

- Over 3,000 visits
- Nearly 14,000 page views
- 600 unique visitors
- Most popular pages (not including front page)
  - Eligibility details
  - Team details
  - Open Programme

# Champions network

bridging the gaps - UCL > Champions

<https://www.ucl.ac.uk/btg/champions/champions.html>

The table below lists the contact details for the Bridging the Gaps Champions. If your department does not have a champion, and you are interested in taking on the role, take a look at our [becoming a departmental champion page](#).

**Becoming a Champion**

Contact Details for the Bridging the Gaps Departmental Champions

Faculty	Department	Name	email	Telephone number
Mathematical and Physical Sciences	Chemistry	David Rowley	d.rowley@ucl.ac.uk	Tel: 020 7679 4775 Internal: 24775
	Earth Sciences	Shaun Robinson	shaun.rob@ucl.ac.uk	Tel: 020 7679 2428 Internal: 24428
	Mathematics			
	Physics and Astronomy	Jeremy Yates	yates@star.ucl.ac.uk	Tel: 020 7679 7334 Internal: 37154
	Space and Climate Physics	Ady James	ady@ucl.ac.uk	
	Statistical Science	Serge Guller	serge@gstats.ucl.ac.uk	Tel: 020 7679 1867
The Bartlett, Faculty of the Built Environment	Architecture	Paul Smoot	p.smoot@ucl.ac.uk	Tel: 020 7679 4806 Internal: 26606
	Construction and Project Management	Neil Roberts	n.roberts@ucl.ac.uk	
	Development Planning Unit	Adriana Allen	a.allen@ucl.ac.uk	Tel: 020 7679 5805 Internal: 25805
	Planning	Nikos Karalambros	n.karalambros@ucl.ac.uk	Tel: 020 7679 7537 Internal: 27537
Engineering Sciences	Graduate Studies	Marcela Dini	m.dini@ucl.ac.uk	
	Biochemical Engineering			
	Chemical Engineering	Dev Brett	d.brett@ucl.ac.uk	Tel: 020 7679 3310 Internal: 22310
	Civil, Environmental and Geomatics Engineering	Laura Mellis-Evenden	l.mellis-evenden@ucl.ac.uk	Tel: 020 7679 3081 Internal: 22081
	Computer Science	Lewis Griffiths	lgriffin@cs.ucl.ac.uk	Tel: 020 7679 0316 Internal: 30316
	UK Centre for Innovation in Civil Science			
	Electronic and Electrical Engineering			
Life Sciences	Management Science and Innovation			
	Mechanical Engineering	Richard Bucknall	r.bucknall@meeng.ucl.ac.uk	020 7679 2777
	Medical Physics and Biomedical Engineering			
Psychology	Duncan Brumby	brumby@ucl.ac.uk	Tel: 020 7679 0689 Internal: 30689	

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- First point of contact within the department
- Dedicated champion's area on the website
- Positions available

# Champions events so far

## Bartlett Graduate Studies

- 3D printing
- Lighting simulator
- Environmental chambers

## Computer Science

- CAVE: 3D virtual environment
- Pollution monitoring

## Chorley Institute

- 3D scanner
- GIS and geographical datasets

## CEGE Fluids Lab

- Flumes
- Erosion
- Ballast flushing

## CEGE PAMELA

- Adjustable pavement, lighting and sound

## Ear Institute

- LASER Doppler vibrometry
- Magnetoencephalograph
- Anechoic chamber

## Physics

- Research Computing
- Optical Science Lab

Computer Science



One of our champions experiences an immersive 3D environment in the CAVE

CEGE



Demonstration of a model to study ballast tank flushing in the Pat Kemp Fluids Laboratory

# Funding awarded

## Open Programme (small grants)

- 7 awards
- Over £8,000 awarded
- Funding still available

## Staff Exchange

- One award
- £3,000 awarded
- Used to extend a collaboration and work started under the open programme

## Seminar Funding

- 6 interdisciplinary seminars on *Sustainability and the Megalopolis*
- The *Climate and Uncertainty Symposium*
- Nearly £7,000 awarded

## MSc Competition

- 3 awards in 2008
- £18,000 awarded
- 2009 competition now open

## Nanotechnology and Sustainability Sandpit

- 4 awards
- £30,000 awarded
- A new sandpit will run in 2010

## Visiting Scholar Award

- One award
- £3,000
- Seminar and Workshop from John Friedmann (UCLA and The University of British Columbia)

## Open Programme

- Rolling programme with no deadline
- Aiming for a 2 week response
- Up to £2,000 for any activity that builds or develops a research idea
- First come, first served
- Limited funding each year



# Activities funded under the Open Programme

Novel approaches to street-scale pollution dispersion modelling through the integration of advanced statistical methods with environmental fluid modelling

- CEGE
- Statistical Science

Children, disabilities and well-being: a preliminary research in India

- Development Planning Unit
- Leonard Cheshire

National Environmental Crime Conference

- Centre for Security and Crime Science
- Centre for Systems Engineering

Natural ventilation for greener and healthier buildings

- Bartlett: Graduate Studies
- CEGE

Investigating the potential of the slime mould organism [*Physarium polycephalum*] as an architectural-biological sensor and indicator of environmental change

- Bartlett Architecture
- The Cancer Institute

Building a system schematic and simulation model of the London water supply and its dependence on the Thames Basin

- CEGE
- Chemical Engineering

Questioning the sustainability of post-industrial urban landscapes

- Bartlett: Planning
- Geography

## Staff Exchange Programme

- 1 award of £3,000 (out of 4 on offer)
- ‘Calibration of environmental fluid modelling for Street-scale pollution dispersion’
- Used to continue a research collaboration started under the open programme
  - Novel approaches to street-scale pollution dispersion modelling...
  - Statistical Science and Civil, Environmental and Geomatic Engineering

## MSc Projects

- Awards of £6,000
- Allows supervisors to test the feasibility of a cross disciplinary research area
- The student works on the research area during the taught part of their course
- The research area forms the basis of their thesis
- Good response

## Winners of the 2008 MSc Competition

- Contribution of Rainwater Harvesting to the Water Supply-Demand Balance in London - A Case Study  
Civil, Environmental and Geomatic Engineering with the Centre for Advanced Spatial Analysis
- A New Hydride Fuel Cell Hybrid for Zero Emissions Vehicles  
Chemical Engineering with Chemistry
- Uncertainty in Building Performance Simulations  
Statistical Science with The Bartlett School of Graduate Studies
- Posters on display at the reception

## Seminars and conferences

- Seminars, symposia, conferences that appeal across disciplines
- Co-funding the Megalopolis seminar series with the UCL Environment Institute
- Climate and Uncertainty Symposium
  - Civil, Environmental and Geomatic Engineering with Statistical Science

# Sustainability and the Megalopolis

- 6 themed sessions
  - 21 speakers from 15 different UCL departments
- 25 different departments or centres from UCL
- 10 outside organisations, including
  - Other universities
  - The Science Museum
  - The Environment Agency
- Workshop reports available online
  - UCL Environment Institute
- A full report is planned in the near future

## Visiting Scholar

- £3,000 to bring in an external expert
- John Friedmann
  - Expert in Sustainable International Development
  - UCLA and University of British Columbia
- Encounters with Development Planning
  - The Inaugural Professor Sir Peter Hall Lecture
- Varieties of Planning Experience: Towards A Globalised Planning Culture?
  - Research Seminar
- Report and video available from Bartlett: Planning

## The Sandpit: “Little Green Things”



Taking people out of their usual work environment



Identifying challenges and solutions



Matching challenges with solutions



Pitching a research proposal

- 2 day sandpit on nanotechnology and sustainability
- Identified sustainability challenges and nanotechnology solutions
- 11 potential projects were identified
- £30,000 awarded across 4 interdisciplinary teams



**Modelling how nano-scale processes relate to macroscale function**

**£15,000**

- Physics and Astronomy
- Chemical Engineering
- London Centre for Nanotechnology

**Duracoat: Using nanoscience to protect wood**

**£5,000**

- Bartlett: Planning
- Genetics, Evolution and Environment
- Physics and Astronomy
- Bartlett: Graduate Studies

**Pseudo-Living Material Modification**

**£5,000**

- Bartlett: Graduate Studies
- Bartlett: Architecture
- Electronic & Electrical Engineering
- Statistical Science

**Novel Nanostructures for Water Purification and Treatment**

**£5,000**

- Bio Nano Consulting (UCL spin-off)
- London Centre for Nanotechnology
- Electronic & Electrical Engineering
- Bartlett: Graduate Studies
- Civil, Environmental and Geomatic Engineering

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# Programmes that are continuing

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## Current and Upcoming Events and Activities

- The open programme – rolling funding
  - Increasing from £1,000 last year to £2,000 this year
- 2009 MSc competition
  - At least 3 awards of £6,000 for the supervisors of interdisciplinary MSc
- Bridging the Gaps Escalator Award
  - Only open to previous BtG participants (including champions)
  - If you have been involved in Bridging the Gaps you will be invited to apply
- The sandpit will run again with a different topic

# bridging <sup>the</sup> gaps

Sustainable Urban Spaces

[www.ucl.ac.uk/btg](http://www.ucl.ac.uk/btg)