



# Bridging the Gaps: Sustainable Urban Spaces

First Year Review
9 July 2009

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Civil, Environmental and Geomatic Engineering







#### **≜UCL**



#### Website

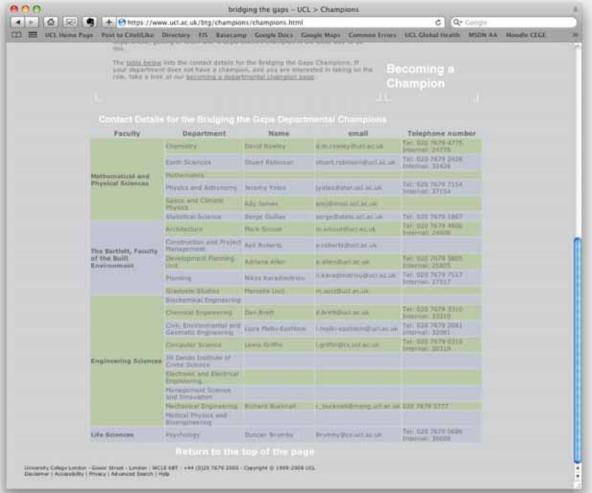
- Over 3,000 visits
- Nearly 14,000 page views
- 600 unique visitors
- Most popular pages (not including front page)
  - Eligibility details
  - Team details
  - Open Programme







#### **Champions network**



- 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
- Erosior
- · Ballast flushing

#### **CEGE PAMELA**

 Adjustable pavement, lighting and sound

#### Ear Institute

- LASER Doppler vibrometry
- Magneto encephalograph
- · Anechoic chamber

#### **Physics**

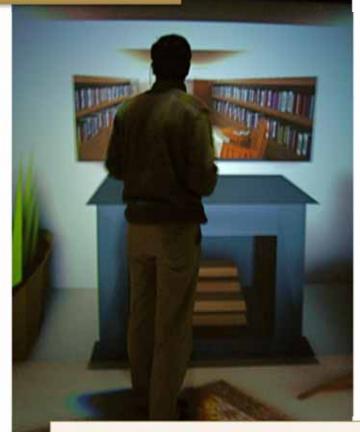
- Research Computing
- Optical Science Lab



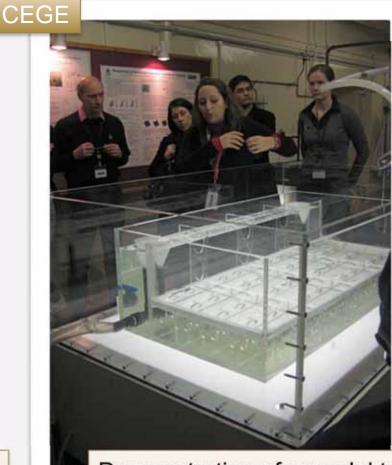


#### **≜UCL**

Computer Science



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



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"









- 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





#### **≜UCL**

# 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 the gaps

Sustainable Urban Spaces

www.ucl.ac.uk/btg



