



The Ove Arup Foundation

## Annual Report 2010/11

### Purpose

The aim of the Foundation is: 'the advancement of education directed towards the promotion, furtherance and dissemination of knowledge of matters associated with the built environment'. We pursue these, where possible, 'with an emphasis on the multi-disciplinary nature of design in engineering and architecture'.

### Chairman's Statement

In common with most foundations like ours, we have experienced very real pressures on our funds in the current economic climate. Even though these pressures are high, we are delighted that we have been able to maintain our giving to achieve many positive outcomes.

A significant proportion of our budget is used on self-initiated projects which span over several years and it is pleasing to note that these long-term commitments have produced very positive outcomes. For example, the Visiting Professor Programme in Building Physics, an original initiative of The Ove Arup Foundation and managed by the Royal Academy of Engineering, has been so effective that the participating Universities have decided to continue with the model after the current programme expires. A much welcome contributor to the success of the initiative was the co-sponsorships and direction given by industry supporters. Elsewhere, our stimulus for research into fire safety engineering subsequently raised awareness of the need to go beyond investigations of structures and materials and to broaden our horizon into the area of sociology.

During the year Professor Peter Jones delivered a lecture with an intriguing title: 'Why are three heads better than one? or, How to prepare for a new Enlightenment'. The subject was on the importance of conversation or as Peter Jones puts it: "the cement of society is conversation". Peter Jones argues the need for collaboration and sharing of ideas. After having attended the lecture, a government minister recommended it to his colleagues saying: "It is important and ought to be read and used to inform our future strategies." The transcript of the lecture and audio recording is available for download from our website: <http://www.ovearupfoundation.org/ourwork/events/62.html>

Once again, we are grateful for the continuing support of Arup Group which, when combined with our endowed funds, enables us to seek wider outcomes, and to take a long term view over the scope of our activities.

*Richard Haryott*

Chairman of The Ove Arup Foundation

## Activities during 2010/11

### Teaching

#### Visiting Professors in Building Physics

The Ove Arup Foundation, together with The Royal Academy of Engineering and industry sponsors (Happold Trust, Hoare Lee, Ian Ritchie Architects and DSSR), continued with funding of a programme aimed at raising the standards of education in building engineering physics and to attract the brightest and the best to enter that field. The sponsored Visiting Professor programmes at Bristol, Cambridge and Sheffield are now complete and it is pleasing to note that these universities have decided to build upon their success and continue in the same vein. The Visiting Professor at Bath has a further year to run.

An outcome from this initiative was the highly regarded report by The Royal Academy of Engineering: *'Engineering a Low Carbon Built Environment'* (available in hard copy from The Ove Arup Foundation). In addition to reviewing the field of building engineering physics, the report highlights the achievements of the Visiting Professors in their teaching initiatives at their respective universities.

We were pleased to make further funding available to develop a proposal for centres of excellence for the teaching of building physics. It is anticipated that this proposal will be published in the spring of 2012.

#### The Ove Arup Foundation / Royal Academy of Engineering Visiting Teaching Fellows

Again, in association with The Royal Academy of Engineering, we have begun a programme of Visiting Teaching Fellows in Engineering Design. The programme is focussed on enriching the teaching curriculum in all aspects design by placing engineers in universities who are still very much hands-on practitioners and can relate and apply teaching material to the operational issues and real-life problems that graduate engineers may face when they first enter industry.

Appointments have been made at Queen's (Belfast), Heriot-Watt, Edinburgh, Sheffield, Bristol, Manchester, Nottingham, Cambridge, UCL and Bath.

[http://www.raeng.org.uk/education/vtf/ove\\_arup/default.htm](http://www.raeng.org.uk/education/vtf/ove_arup/default.htm)

#### Cities Programme at the London School of Economics

The Foundation's initial grant in 1998 enabled the founding of the Cities Programme. Since its launch the programme has produced 275 graduates (as at 2010), many of whom hold key positions in urban development, design and planning internationally. The current cohort of 24 full-time and 6 part-time students registered in 2010/11 are drawn from the UK, Western and Eastern Europe, South and East Asia, North and South America, Africa and Australasia.

Our current support of the programme is funding specialist teaching on environment, infrastructure and resources through dedicated courses on City-making and Urban Environment.

#### University of Cape Town

Our grant in 2006 to the University of Cape Town initiated the Masters programme in 'Urban Infrastructure: Design and Management'; and launched the Centre for Cities in Africa, both of which have produced positive outcomes. The final part of our grant will be used to fund a visiting teaching fellow and to promote the Masters programme.

## Research

### Fire Engineering Research at the University of Edinburgh

Dr Luke Bisby at the University of Edinburgh remains very active in his work on the effect of fire on structures. The current programme covers a range of areas including the fire performance of concrete-filled tubes, definition of the design fire for open-plan occupancies; performance in fire of modern concrete buildings; active fire protection materials in real fires. In addition to the technical research there are teaching elements and work in defining the appropriate knowledge required for the rapidly evolving discipline of Fire Safety Engineering. A short interview with Luke Bisby can be found at [http://www.ovearupf.myzen.co.uk/index.php?option=com\\_content&view=article&id=65&Itemid=14](http://www.ovearupf.myzen.co.uk/index.php?option=com_content&view=article&id=65&Itemid=14)

### Social Aspects of Fire Safety

As reported last year, the work on the technical aspects of fire engineering has prompted us to expand our vision to the sociological nature of fire safety. From twelve universities which were invited to register an interest in this area, detailed discussions took place with a smaller number out of which the University of Edinburgh emerged as the most appropriate partner. We are now in the final stages of appointing a senior research fellow.

## Projects

### Inclusive Access

Following the previous year's grants to The Vassall Centre in Bristol towards workshops for designing for barrier free access and living it was pleasing to note that The Vassall Centre are planning to continue with the programme of workshops.

### Collaborative Design Studio, California Polytechnic State University

Our seed funding enabled the launch of a cross-discipline studio design course for students drawn from the faculties of Architecture, Engineering and Construction Management. A feature of the course is team-based teaching by instructors from the same disciplines and attendance by eminent guest speakers/tutors.

### Engineering Project Delivery Plan for International Development

The Institution of Civil Engineers Apprentice Scheme project to develop an engineer's toolkit for a developing world culminated its launch on 19 October 2010. The toolkit defined the key elements of an Engineering Project Delivery Plan for International Development and the United Nations Millennium Development Goals (UN MDGs). This is a first in the civil engineering field as an open-source set of materials and ideas to help engineers plan and deliver infrastructure for international development, poverty alleviation and the UN MDGs. The toolkit is available from the Institution of Civil Engineers.

<http://www.ice.org.uk/patoolkit/Further-info>

### ICE and Snow

A grant was awarded to the Institution of Civil Engineers alpine event for graduate engineers and young people combining instructional visits to engineering structures with engineering challenges. After the event one participant remarked: "I was going to take a degree in sport, but after ICE and Snow I am now signing up for an engineering degree!"