



*The Ove Arup Foundation*

## **Annual Report 2009/10**

### **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**

Activity in pursuit of our objectives remains at a high level. We have commitments to a number of initiatives which extend over 3 to 5 years. These are mainly academic in nature and it is pleasing to note that very good progress has been made on all fronts. The Visiting Professor Scheme, in association with the Royal Academy of Engineering, has prompted a well received publication that makes important recommendations that are fundamental in working towards a low carbon built environment. Our support of research into the fire safety of structures has triggered interest into the sociological aspects of fire safety and we will follow these up in the coming year.

Support of work with young people included grants to the Industrial Trust's careers programme; the MADE educational programme; and the Campaign for Drawing which published a booklet for dissemination in schools to demonstrate the communicative power of drawings in the built environment professions.

Once again, we are grateful for the continuing support of Arup Group which when combined with our own 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 2009/10

### Teaching

#### Visiting Professors in Building Physics

The Ove Arup Foundation, together with The Royal Academy of Engineering and industry sponsors, 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. Participating universities have appointed Visiting Professors at Bath, Bristol, Cambridge and Sheffield. As we enter the fourth year of the programme, there is evidence that the initiative is already changing the way people think, and is beginning to influence teaching that helps remove boundaries between different branches of engineering, and perhaps further into architecture and planning.

A spin-off from this initiative is the publication of a report by The Royal Academy of Engineering: '*Engineering a Low Carbon Built Environment*' (available on-line from The Ove Arup Foundation and on-line and in hard copy from the Royal Academy of Engineering). 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 and the importance of this work to society through examples of their built works. The report makes a number of important recommendations to Government, universities and the engineering profession, which the sponsors are actively pursuing.

We are grateful to the enthusiastic support, both financially and technically, of our co-sponsors: The Royal Academy of Engineering, The Happold Trust, Ian Ritchie Architects, Hoare Lee and DSSR; and we very much hope that other supporters will join us in seeking to promote further professorships at leading universities.

#### 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.

Apart from teaching, Visiting Teaching Fellows are also involved in supervising project work and mentoring students. They are also expected to deliver two careers' focused presentations during the course of their appointment. Each appointment is for a period of two years. The signs for worthwhile outcomes are already very positive, with the Visiting Teaching Fellows very committed to making a difference

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

We are pleased to support the Masters teaching programme on City Design and Social Science at the LSE. This groundbreaking course was originally made possible by a substantial grant from The Ove Arup Foundation, and now some ten years after the start, alumni are in leading positions around the world, changing the way cities are planned and managed for a sustainable future.

Our funding will support two Ove Arup Fellows in Environment and Infrastructure who will focus on Integrated Urbanism through a series of expert seminars, case studies, tutorials and

field trips. Aligned to this programme we have funded a Cities and Environment public lecture series at the LSE.

### **Constructionarium**

Constructionarium is based on a triangular model formed by a university, contractor and consultant working in partnership to deliver a hands-on construction experience that combines the academic perspective with those of the design professional and practical site delivery over a 6 day working field course. We are pleased to be able to continue to support this valuable learning experience for engineering students and young professionals.

### **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. Discussions are underway to see how the last part of our current funding can be used to publicise the benefits more widely across southern Africa and strengthen the teaching element.

## **Research**

### **Fire Engineering Research at the University of Edinburgh**

Dr Luke Bisby, Senior Research Fellow, at the University of Edinburgh completed his second year and continues with work on the effect of fire on structures. The team has grown and the current research programme is concentrating on the fire performance of a range of materials and structures. Looking to the future, attention is moving towards a more holistic view of fire engineering in terms of safety and economy.

This work on the technical aspects of fire engineering has prompted us to expand our vision to the sociological nature of fire safety. During 2010/11 we will expand the influence of the programme by funding further research into the human factors of fire safety..

## **Projects**

### **Industrial Trust careers programme**

Following on from the previous year's success in providing career experiences to students and teachers, we funded a second programme. Once again, the Industrial Trust reported very positive results from the student and teacher feedback with over 60% of students reporting they would consider a career in construction.

### **MADE (Midlands Architecture + the Designed Environment)**

Support towards MADE's educational programme enabled students from West Midlands schools to begin to understand some of the sustainability issues in the built environment. Some students were fortunate to be given the opportunity to work with an architect and interior designer for the design of a new school.

### **Campaign for Drawing**

Our support of a project for The Campaign for Drawing culminated in the publication of "Drawing: A Tool for Design". Work on the publication commenced with a workshop and

several months later, concluded with the launch of the booklet that illuminates how designers of the built environment think about drawings and use them in their work for design, development and production. It offers a glimpse of the many different kinds of drawings and reveals the versatility of drawing, especially a means of communication. The Campaign for Drawing has embarked on a programme of dissemination in schools.

### **Inclusive Access**

The Ove Arup Foundation awarded grants to The Vassall Centre in Bristol and the University of Reading for collaborative research into inclusive access. Successful workshops were held at both locations and further work resulted in a virtual tour of the The Vassall Centre to demonstrate examples of barrier free access and living.

### **Others**

#### **Sir Misha Black Awards Committee**

We are pleased to be a founder donor to the Patrons Fund of the Sir Misha Black Award Committee. Sir Misha Black was the founder of the Design Research Unit, an international, interdisciplinary design practice. The award is specifically for innovation in the teaching of design and may be given to recognise the innovation in the relationship between design education and professional practice.

#### **Collaborative Design Studio, California Polytechnic State University**

We provided seed funding towards setting up a mandatory interdisciplinary studio involving students from architecture, engineering, and construction management and team-based teaching by instructors from the same disciplines.

#### **Engineering Project Delivery Plan for International Development**

Grant towards the Institution of Civil Engineers Apprentice Scheme to develop a toolkit to provide engineering and professional resource that will be freely available to all graduate engineers and others.

#### **Project X, University of New South Wales**

Grant towards a 3-faculty, multi-disciplinary, design and construct course for students of architecture, civil and environmental engineering, art, project management, landscape architecture, and interior design. The course will culminate in the construction of a studio building in a remote area so, will therefore be highly sustainable with its own water and waste management systems, energy generation and passive thermal controls.

#### **ICE Cool Engineers**

Grant towards the Institution of Civil Engineers alpine event for graduate engineers and young people combining instructional visits to engineering structures with engineering challenges.

#### **TEDx Warwick 2010**

Grant towards an independently run event based on the traditional TED conferences that bring people together in a spirit of sharing new ideas, sparking discussion, and thinking in new ways.