



The Royal Academy
of Engineering

The ERA
Foundation

**The Royal Academy of Engineering
ERA Foundation Entrepreneurs Award 2011**

For early career researchers and academics

£40,000 prize for the winner



The Royal Academy of Engineering ERA Foundation Entrepreneurs Award

This award has been established to identify entrepreneurial researchers, working in UK universities in the field of electro-technology, who are at an early stage in their career. The award will be presented to an individual or team demonstrating considerable entrepreneurial promise and the potential to benefit the UK's future prosperity.

The winning entry will receive a personal prize of £10,000 together with a further £30,000 to invest in the development of the winning idea. In addition to the first award, two additional cash prizes of £2,000 will be presented to the runners-up.

2010 Winner

Dr Alexandre Pechev

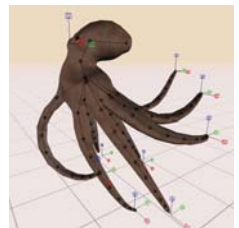
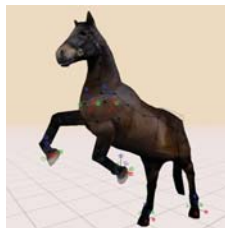
Lecturer, University of Surrey

Dr Alexandre Pechev received the 2010 Award for his submission 'From spacecraft control to fast computer animation in games', which is a new, faster way of animating characters in computer games. Through his company IKinema™, a spin out company of the University, Dr Pechev was able to commercialise this new technology. The prize money allowed him to invest in technical development, professional marketing support and patent protection.

As a result of Alexandre's research into the control of space satellites, it is now possible to have for the first-time truly interactive, real-time, full body animation of many characters and different user-generated creatures in a computer game.

Games currently use motion capture and animation libraries with little or no real-time full body character animation because there is not enough processing power to run the calculations. This results in poor realism and wooden characters with limited interaction with the player, or with the scenery. The new algorithm vastly reduces the time taken to calculate animation so this can now be done in real time and results in much more organic and natural movement of characters.

Games will feel much more realistic and many players' characters can truly interact with each other and with the scenery in real time. It can be used on any platform from mobile phones to high-end gaming consoles and it is also ideally suited to web-based downloadable games, and could enable high-end games to be played on lower specification platforms.



Previous winners

2009 Dr David Batterbee

Research Associate at the University of Sheffield and
Managing Director of MR Shox Ltd

Dr David Batterbee won the award in recognition of his work on 'MR Shox' (MagnetoRheological Shock absorbers) which commercialises semi-active suspension products by utilising magnetorheological fluids. MR Shox began business with the release of a revolutionary electronic absorber for rear suspension mountain bikes.

2008 EMDot

Queen Mary University

The University's spin out company EMDot was awarded the prize for their patented drop-on demand dispensing technology. The technology allows the controlled production of extremely small liquid droplets which is important in a number of biomedical applications such as the engineering of replacement cartilage, soft tissue or bone and the production of microarray chips for drug development or disease diagnosis.

2007 Mario Iobbi

Imperial College London

PhD research student Mario Iobbi won the award for his novel respiratory therapeutic device, Saturation Driven Oxygen Therapy (SDOT). It provides a more effective treatment for patients, decreases the likelihood of emergency hospital admissions and reduces healthcare costs.

2006 Phil Harper

Research Assistant, University of Sheffield

Phil Harper won the award for the development of a unique sensor technology that can monitor and predict the failure of mechanical seals. Through his company Tribosonics Ltd, he was able to exploit the commercial applications of the sensor technology through consultancy and licensing opportunities.

How to apply

For further information please visit our website at www.raeng.org.uk/era

Applications must be received by **Monday 11 October 2010**.

There is no limit to the number of applications any university or institution may submit. If you have any questions please contact Sylvia Hampartumian at the Academy on 020 7766 0648 or by email at awards@raeng.org.uk

The Royal Academy of Engineering

Britain's national academy for engineering brings together the country's most eminent engineers from all disciplines to promote excellence in the science, art and practice of engineering.

The Academy's work programmes are driven by three strategic priorities, each of which provides a key contribution to a strong and vibrant engineering sector and to the health and wealth of society.

- Enhancing national capabilities
- Recognising achievement and inspiring the next generation
- Leading debate

Innovation = Invention + Exploitation

The Royal Academy of Engineering
ERA Foundation Entrepreneurs Award 2011



The Royal Academy of Engineering promotes excellence in the science, art and practice of engineering.

Registered charity number 293074

The Royal Academy of Engineering
3 Carlton House Terrace, London SW1Y 5DG

Tel: 020 7766 0600

Fax: 020 7930 1549

www.raeng.org.uk