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29 APR

Computer scientist honoured by BCS



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Dr Joël Ouaknine from Oxford University's Computing Laboratory is to receive this year's Roger Needham award, from BCS The Chartered Institute for IT, one of the UK's leading computer science awards.



Dr Joël Ouaknine

The Roger Needham award is made annually for a distinguished research contribution in computer science by a UK-based researcher within ten years of being awarded their PhD.

Dr Ouaknine received the award in recognition of his research into describing the behaviour and evolution of models of timed systems: which include anything from the control and guidance systems of rockets to engine management and braking systems for cars. In long-running collaboration with Dr James Worrell, also at Oxford, Dr Ouaknine has developed a series of algorithms to analyse various key aspects of timed systems, solving in the process a number of open mathematical problems in the field.

Although much of this work is still at a theoretical stage, it has begun to attract interest from the automotive and avionics sectors. The ultimate goal of this research is to create verification software that helps designers analyse systems, and find serious faults, whilst their designs are still at an early stage - instead of relying on physical testing that can never hope to reproduce all the potential scenarios and conditions under which faults might occur. Last summer, Dr Ouaknine was awarded a five-year EPSRC Leadership Fellowship to develop this research

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further, in collaboration with industrial partners including Airbus UK and the German automotive engineering firm TraceTronic.

Dr Ouaknine said: 'It's wonderful to receive this award in recognition of my work, and the work of my colleagues, in this area of computer science. The long-term challenge is to develop a suite of tools to assist engineers and programmers to automatically verify the correctness of the safety-critical software systems that they design.'

He is due to receive the award, and present a public lecture on this work, at a ceremony at the Royal Society in London later this year.

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