## Potential Supervisors

**Marta Kwiatkowska**

Marta Kwiatkowska is Professor of Computing Systems and Fellow of Trinity College, University of Oxford. Prior to this she was Professor in the School of Computer Science at the University of Birmingham, Lecturer at the University of Leicester and Assistant Professor at the Jagiellonian University in Cracow, Poland. She holds a BSc/MSc in Computer Science from the Jagiellonian University, MA from Oxford and a PhD from the University of Leicester. In 2014 she was awarded an honorary doctorate from KTH Royal Institute of Technology in Stockholm.

Marta Kwiatkowska spearheaded the development of probabilistic and quantitative methods in verification on the international scene. She led the development of the PRISM model checker, the leading software tool in the area and widely used for research and teaching and winner of the HVC 2016 Award. Applications of probabilistic model checking have spanned communication and security protocols, nanotechnology designs, power management, game theory, planning and systems biology, with genuine flaws found and corrected in real-world protocols. Kwiatkowska gave the Milner Lecture in 2012 in recognition of "excellent and original theoretical work which has a perceived significance for practical computing" and was invited to give keynotes at the LICS 2003, ESEC/FSE 2007, ETAPS/FASE 2011, ATVA 2013, ICALP 2016 and CAV 2017 conferences.

Marta Kwiatkowska is the first female winner of the 2018 Royal Society Milner Award and Lecture. She is a Fellow of ACM, member of Academia Europea, Fellow of EATCS and Fellow of the BCS. She serves on editorial boards of several journals, including Information and Computation, Formal Methods in System Design, Logical Methods in Computer Science, Science of Computer Programming and Royal Society Open Science journal. Kwiatkowska's research has been supported by grant funding from EPSRC, ERC, EU, DARPA and Microsoft Research Cambridge, including the prestigious ERC Advanced Grant VERIWARE "From software verification to everyware verification" and the EPSRC Programme Grant on Mobile Autonomy.

## Software Tools Developed

PRISM - is a *probabilistic model checker*, a tool for formal modelling and analysis of systems that exhibit random or probabilistic behaviour. It has been used to analyse systems from many different application domains, including communication and multimedia protocols, randomised distributed algorithms, security protocols, biological systems and many others.

## Involvement of DTC Students

Caroline Schneider

Andrea Patane