



Dr Chih-Hao Luke Ong
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Professor Ong holds a B.A. in Mathematics (1984, Triple First), a Postgraduate Diploma in Computer Science (1985, Distinction) from Trinity College, University of Cambridge; and a PhD in Computer Science (1988) from Imperial College, University of London. He joined NTU as a Distinguished University Professor in August 2022, and will take up the appointment of Vice President (Research) in January 2023. Prior to joining NTU, he was Lecturer then Professor of Computer Science at the University of Oxford (1994-2022); Fellow of Merton College, Oxford (1994-2022); Honorary Professor of Computer Science, Bristol University (since 2022); Shaw Visiting Professor at National University of Singapore; and Prize Research Fellow, Trinity College, Cambridge (1988-1994).

Professor Ong's research is broad, ranging across semantics of computation, programming languages, verification, logic and algorithms, and algorithmic game theory. A notable feature of his work is the combination of ideas and methods from semantics and structures, with techniques from automated verification. Professor Ong is one of the leading figures and inventors of game semantics and its applications. His solution (with Hyland) to the PCF Full Abstraction Problem opened up the field of game semantics; and their constructions, known as Hyland-Ong games, have become standard notions in the semantics of programming languages. Professor Ong is also known for his pioneering contribution in the field of verification: his LICS 2006 paper co-initiated higher-order model checking, a new branch of algorithmic verification that combines ideas and methods from semantics with automata-theoretic and allied techniques in automatic verification, with applications to the verification of higher-order programs. His current research interests include computer and cyber security, higher-order logic and satisfiability modulo theories, and probabilistic and differentiable programming. Throughout his long stay in Oxford, Professor Ong has supervised well over 60 doctoral students and postdocs.

His contributions to the advancement of computer science have been recognised with leadership positions in major scientific conferences and bodies. Professor Ong was General Chair (2013-2015) of the ACM / IEEE Logic in Computer Science (LiCS), and Founding Vice Chair (2014-2019) of the ACM Special Interest Group in Logic and Computation. He was founding Steering Committee Chair (2015-2018), Formal Structures for Computation and Deduction. He has served as programme chair and on the steering committees of leading scientific meetings, including ACM / IEEE LiCS, European Association of Theoretical Computer Science, European Association of Computer Science Logic, and European Joint Conferences on Theory and Practice of Software. Professor Ong has given numerous keynote presentations and invited lectures, including well over 100 at international research meetings.

Professor Ong has received several international and national accolades. He is the joint winner of the ACM / EATCS / EACSL / KGS Alonzo Church Award 2017 for Outstanding Contributions to Logic and Computation. He is also a recipient of the President of the Republic of Singapore Scholarship in 1981, Prime Minister's Book Prize in 1980, Overseas Merit Scholarship from 1981 to 1984.