



The University of Manchester

By virtue of the powers granted to it by the Charter and Statutes and the authority of the Senate the University has this day awarded the Degree of

DOCTOR OF PHILOSOPHY

in the Faculty of Science and Engineering

Mathematics

to

Jeffrey Chu

who has satisfied the Examiners in the Final Examination for the Degree.



31 January 2018

S. W. 853

Registrar, Secretary and Chief Operating Officer