

# NATIONAL UNIVERSITY OF SINGAPORE



This is to certify that

*SADANANDA RANJIT*

having fulfilled the requirements prescribed  
by the University was conferred the degree of

**DOCTOR OF PHILOSOPHY**

on

30 September 2011

A handwritten signature in black ink, appearing to be 'Alan...', with a long horizontal flourish extending to the right.

*Chair, Board of Trustees*

A handwritten signature in black ink, reading 'Tan Chuan-Jin' in a cursive style.

*President*