

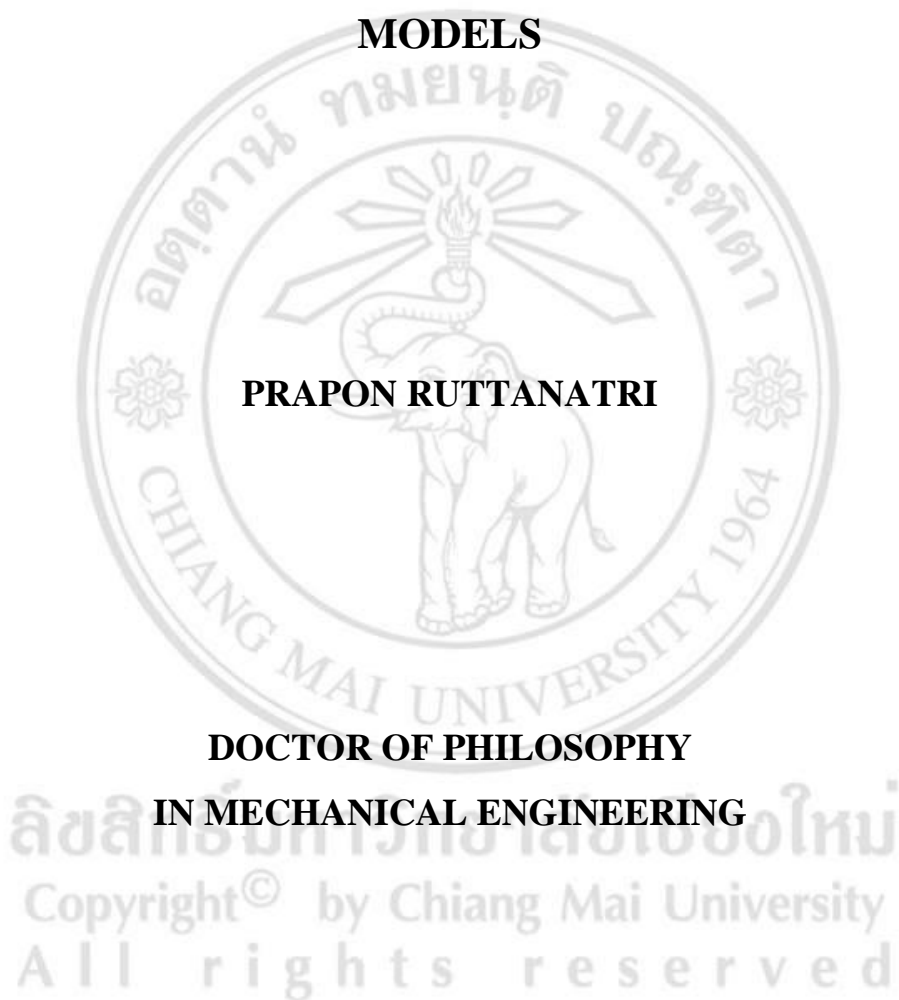
**ROBUST CONTROLLER DESIGN FOR CHATTER
SUPPRESSION IN MACHINING USING
INTEGRATED CUTTING AND
FLEXIBLE STRUCTURE
MODELS**

PRAPON RUTTANATRI

**DOCTOR OF PHILOSOPHY
IN MECHANICAL ENGINEERING**

**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY**

JUNE 2017



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**A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN MECHANICAL ENGINEERING**

ลิขสิทธิ์โดยมหาวิทยาลัยเชียงใหม่
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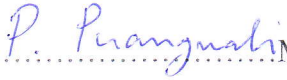
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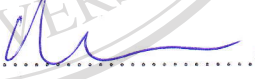
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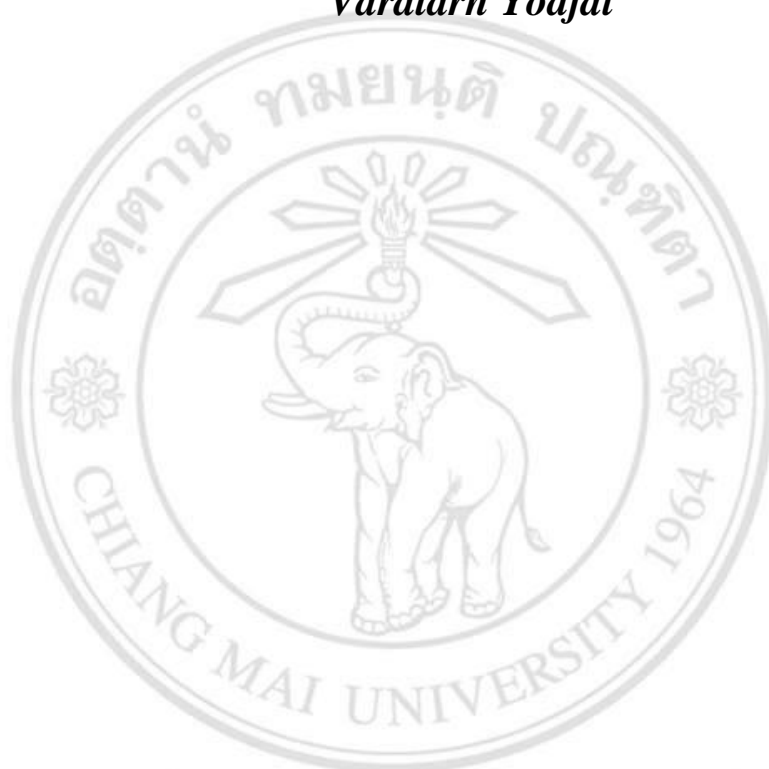
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To My parents: Boontun Ruttanatri

Mali Ruttantri

Varatarn Yodjai



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Prapon Ruttanatri