



Technische Universität München

NATIONAL UNIVERSITY
OF SINGAPORE



TECHNISCHE UNIVERSITÄT MÜNCHEN (TUM)
AND
NATIONAL UNIVERSITY OF SINGAPORE (NUS)
CONFER WITH THIS CERTIFICATE

ON

BANNURU KRANTHI KUMAR REDDY

BORN ON JULY 16, 1989 IN VELGODE, INDIA

THE ACADEMIC DEGREE* OF
MASTER OF SCIENCE
(Industrial Chemistry)

on fulfillment of the required course of study and successful completion of the examination for the above degree jointly at the Technische Universität München and the National University of Singapore in collaboration with the German Institute of Science and Technology - TUM Asia, Singapore.

München/Singapore, April 30, 2014

Prof. Dr. Dr. h.c. mult.
Wolfgang A. Herrmann
President TUM

Mr. Wong Ngit Liong
Chair, Board of Trustees NUS

Prof. Tan Chorh Chuan
President NUS

* Attainment of this degree confers the right to use the title "Master of Science (TUM-NUS)" and the abbreviation "M.Sc. (TUM-NUS)"



EXAMINATION CERTIFICATE

for the

**JOINT UNIVERSITY DEGREE
MASTER OF SCIENCE
INDUSTRIAL CHEMISTRY**

Mr.

Bannuru Kranthi Kumar Reddy

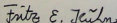
Born on July 16, 1989 in Velgode, India

has according to the examination regulations of the
Technische Universität München and National University of Singapore
completed the requirements for the Degree of Master of Science
(Industrial Chemistry) and has

**Passed with Distinction
sehr gut bestanden, 1.5**

Examination results are summarised on the following page.

München / Singapore, April 30, 2014



PROF. DR. RER. NAT. FRITZ KUEHN
Chair of Programme Management Committee
Technische Universität München



ASSOC. PROF. LAM, YULIN
Deputy Chair of Programme Management Committee
National University of Singapore



Master of Science (Industrial Chemistry)

OFFICIAL TRANSCRIPT

Name : Bannuru Kranthi Kumar Reddy
TUM Matric No : 03643899
NUS Matric No : A0105974Y

Date of Birth : 16-Jul-1989
Date of Admission : August 2012
Academic Year : 2012/2013
Date of Conferment : 30 April 2014

MODULES

Essential Modules

		GRADES		CREDITS	
		NUS	TUM	NUS	TUM
CM 5171	Organo-metallic and Coordination Chemistry	A+	1.0	6.0	9.0
CM 5172	Bioorganic Chemistry	A+	1.0	6.0	9.0
CM 5173	Chemical Reaction Engineering	C+	2.7	6.0	9.0
CM 5105	Chemical Business Administration	C+	2.7	4.0	6.0

Elective Modules

CM 5271a	Molecular and Heterogeneous Catalysis	B+	1.7	4.0	6.0
CM 5271b	Petroleum and Petrochemistry Processes	A	1.0	4.0	6.0
CM 5272a	Biochemistry for Industrial Chemists	A-	1.3	4.0	6.0
CM 5272c	Bioprocessing/Bioengineering	B+	1.7	4.0	6.0
TUM 2	Building Chemistry and Construction Chemicals	A+	1.0	4.0	6.0
TUM 4	Industrial Chemical Marketing	A	1.0	4.0	6.0
CM 5223	Topics in Supramolecular Chemistry	B+	1.7	4.0	6.0

Cross-Discipline Modules

CD 5031	Cultural, Social and Economical Aspects of Globalisation	A+	1.0	1.0	1.0
CD 5041	Technical English	B+	1.7	0.5	1.5
CD 5042	Business English	B+	1.7	0.5	1.5
CD 5130	Legal Aspects in the Chemical Industry	A+	1.0	1.0	1.0
CD 5131	International Intellectual Property Law	A+	1.0	1.0	1.0

Internship	Vanadium Compounds as Active Materials in Sodium Ion Batteries	Pass	Pass	10.0	15.0
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Master Thesis	Full Cell Electrochemical Studies Based on High Capacity Silicon/Carbon Composite Anode Materials for Lithium Ion Batteries	B+	1.7	20.0	30.0
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Grades/Grade Points : A+ & A: 5 A-: 4.5 B+: 4 B: 3.5 B-: 3 C+: 2.5 C: 2 D+: 1.5 D: 1 F: 0

German equivalent : A+ & A: 1.0 A-: 1.3 B+: 1.7 B: 2.0 B-: 2.3 C+: 2.7 C: 3.0 D+: 3.3 D: 4.0 F: 5.0

Cumulative Average Point (CAP) for Graduation

Master (by coursework) = 2.5

Total Credit : 120
CAP : 4.18

Fritz E. Juehn

PROF. DR. RER. NAT. FRITZ KUEHN
Chair of Programme Management Committee
Technische Universität München

Lam Yulin

ASSOC. PROF. LAM YULIN
Deputy Chair of Programme Management Committee
National University of Singapore