

Sungkyunkwan University



on the recommendation of the Graduate Faculty
hereby confers upon

ARUN RAMNATH KHALKAR

the degree of

**Ph.D. in Science
(Nano Science)**

With all the rights, privileges and responsibilities thereto pertaining
Given at Sungkyunkwan University, Korea

This twenty fifth day of February in the year 2016

Soonwon Lee

LEE, SOON WON
Dean, Graduate School

Chung. Kyu Sang

CHUNG KYU SANG
President of the University