

**Photoluminescence investigation of
hydrothermally grown ZnO and 3d transition
metal (Mn/Co/Ni/Cu) doped ZnO
nanostructures**

Thesis submitted to
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
in partial fulfillment of the requirements
for the award of the degree of
DOCTOR OF PHILOSOPHY

Vinod. R

Department of Physics
Cochin University of Science and Technology
Cochin - 682 022, Kerala, India

April 2016

Photoluminescence investigation of hydrothermally grown ZnO and 3d transition metal (Mn/Co/Ni/Cu) doped ZnO nanostructures

Ph.D. thesis in the field of Physics

Author:

Vinod. R
Nano Functional Materials Laboratory
Department of Physics
Cochin University of Science and Technology
Cochin - 682 022, Kerala, India.
Email: vinod5cusat@gmail.com

Supervisor:

Prof. Junaid Bushiri
Nano Functional Materials Laboratory
Department of Physics
Cochin University of Science and Technology
Cochin - 682 022, Kerala, India.
Email: junaidbushiri@gmail.com

Front cover: SEM images of hydrothermally grown ZnO nanoflowers

April 2016