### Tuning the Morphology and Composition of Metal Based Nanostructures for Enhancing the Catalytic and Sensing Performance

A Thesis

Submitted by

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(Roll No: D12053)

for the award of the degree of

### **Doctor of Philosophy**



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Indian Institute of Technology Mandi

Mandi, Himachal Pradesh-175005

April 2018

With the blessings of Almighty God

Affectionately

Dedicated

### To

My loving family

Indian Institute of Technology Mandi, Mandi, Himachal Pradesh - 175005



#### **Declaration by the Research Scholar**

This is to certify that the thesis entitled **"Tuning the Morphology and Composition of Metal Based Nanostructures for Enhancing the Catalytic and Sensing Performance**", submitted by me to the Indian Institute of Technology Mandi for the award of the degree of Doctor of Philosophy is a bonafide record of research work carried out by me under the supervision of Dr. Prem Felix Siril. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

In keeping with the general practice of reporting scientific observation, due acknowledgements have been made wherever the work described is based on the findings of other investigators.

I.I.T. Mandi (H.P.) Date: Signature of Research Scholar

Mohit Chawla



#### **Thesis Certificate**

This is to certify that the thesis entitled **"Tuning the Morphology and Composition of Metal Based Nanostructures for Enhancing the Catalytic and Sensing Performance"** submitted by Mr. Mohit Chawla to the Indian Institute of Technology Mandi for the award of the degree of Doctor of Philosophy is a bonafide record of research work carried out by him under my supervision. The contents of this thesis, in full or in parts, have not been submitted to any other Institute or University for the award of any degree or diploma.

In keeping with the general practice of reporting scientific observation, due acknowledgements have been made wherever the work described is based on the findings of other investigators.



#### Acknowledgements

While pursuing my PhD degree, many seen and unseen hands pushed me forward, encouraged me during ups and downs and provided continuous support of their experience and knowledge throughout this journey. I shall remain grateful to all of them. I enjoyed this learning journey as a researcher.

First and foremost, I would like to express my deep gratitude and profound indebtedness to my PhD advisor Dr. Prem Felix Siril for his dexterous guidance, invaluable suggestions and perceptive enthusiasm which enabled me to accomplish the task of undertaking the present study. He sets an example of a world-class researcher for his passion on research. His wide knowledge and logical way of thinking has been a great asset for me. I could not have imagined having a better mentor for my doctoral study.

I also want to express my everlasting gratitude to the Doctoral committee members, Dr. S. Ghosh, Dr. V. Krishnan, Dr. C.K. Nandi and Dr. R. Vaish who continually conveyed a spirit of adventure in regard to research. I am grateful to wellknown Professors for reviewing the manuscripts and thesis in spite of their busy schedule.

I express my sincere thanks to The Director, IIT Mandi for his support and encouragements. The research facilities at Advanced Materials Research Center (AMRC), IIT Mandi is also gratefully acknowledged hereby. I am also grateful to DST and ICMR for the financial support during the tenure.

I would take this opportunity to thank our collaborators Dr. Jaspreet Kaur Randhawa (IIT Mandi), Dr. Chayan Kanti Nandi (IIT Mandi), Prof. Gurdip Singh (DDU Gorakhpur), Dr. Reena Dubey (DDU Gorakhpur) and Dr. Supriya Singh (DDU Gorakhpur) for lending their continuous support and expertise. I am also very much thankful to my research group members for their invaluable support and help during my research work. I would like to thank all my friends for their continuous support and encouragement. I would be failing in my duties if I do not thank my brotherly friends Navneet Singh and Sunil Kumar. You provided eternal optimism and encouragement in me. I also express my gratitude towards AMRC staff for their assistance in lab.

A special thanks for my eternal mentor Swami Dayanand Ji Maharaj, for his countless blessings, encouragement and support. This work would not have been possible without his companionship.

At last but not the least, I express my gratitude towards my loving wife Neha for her patience, inspiration, motivation and co-operation. I express profound sense of reverence to my parents for their untiring support and co-operation. I can never forget endless tolerance and constant encouragement from all my family members during the tough and happy moments of the journey.

Above all, all the praise is due to the Almighty God, the ultimate source of knowledge, a part of which He reveals to man and peace be upon all his Messengers throughout the world for success and guidance of mankind. I express my gratitude and indebtedness to the Almighty for countless blessings.

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