

1. **Full Name: Dr. Ravindra Devidas Ladhe**
2. **Education Qualification: M.Sc., Ph.D.**
3. **Area of Research/Expertise: Material Science**



(A) Basic Studies

- (1) Thin Film Physics: Inorganic/organic thin films
- (2) Nano-materials, Nano porous materials

(B) Synthesis Methods

Chemical Bath, Silar, Spin Coating, Spray Pyrolysis, Doctor Blend and Dip Coating

(C) Applications

- (1) Sensors : Gas sensor based on Organic/Inorganic heterojunction, IR-Sensor
- (2) Supercapacitor : Organic / Inorganic material
- (3) Solar cell : Dye sensitized solar cell, Quantum dot solar cell

4. Awards/Fellowships/prizes received:

- (1) **Awards:** Awarded by **MHRD and DST, Govt. of India** to participate in the meeting (December 8-14, 2010) of **“Nobel Laureates”** in **Indian Institute of Information Technology, Allahabad.**
- (2) **Project Fellow** on the UGC project entitled “Heterojunction based LPG Sensor”
Funding Agency- U.G.C., New Delhi, India.
- (3) **First Prize** in National conference on Material and Devices for Future Technology, held at North Maharashtra University, Jalgaon-2011

5. Contact Information (including Postal address, e-mail address (preferably NMU), Telephone number with extension, Fax number):

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North Maharashtra University, Jalgaon-425 001 (M.S.) India.

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6. Updated List of Research Publications (should be updated on 12/08/2013).

- (1) LPG sensor based on complete inorganic n-Bi₂S₃-p-CuSCN heterojunction synthesized by a simple chemical route.

R. D. Ladhe, P. K. Baviskar, W. W. Tan, J. B. Zhang, C. D. Lokhande and B. R. Sankapal, J. Phys. D: Appl. Phys 43 (2010) 245302(6 pp) Impact Factor 2.54

(2) p-PEDOT: PSS as a heterojunction partner with n-ZnO for detection of LPG at room temperature.

R. D. Ladhe, S. M. Pawar, K. V. Gurav, J. H. Kim and B. R. Sankapal, Journal of Alloys and Compounds, 515 (2011) 80–85 **Impact Factor** 2.39

(3) Room temperature chemical synthesis of highly oriented PbSe nanotubes based on negative free energy of formation.

R. D. Ladhe, D. B. Salunkhe, P. K. Baviskar, V. Gupta, S. Chand, B. R. Sankapal, Journal of Alloys and Compounds 509 (2011) 10066-10069 **Impact Factor** 2.39

(4) Ion Exchange Processed CdS Nanorods in Powder Form Using Cadmium Hydroxide Nanowires By Wet Chemical Route.

S. L. Patil, R. S. Chaudhari, **R. D. Ladhe**, P. K. Baviskar and B. R. Sankapal, Journal of Scientific Review, 2(2010) 91-95 Open access

(5) Nanocrystalline n-Bi₂S₃-p-PbS heterojunction towards room temperature liquefied petroleum gas (LPG) sensor.

R. D. Ladhe, S. m. Pawar, J. H. Kim and B. R. Sankapal, Sensor and Actuators B: Chem. (Submitted) **Impact Factor** 3.4

(6) Room Temperature Liquefied Petroleum Gas Sensor Based On n-Bi₂S₃ / p-PEDOT: PSS Heterojunction.

R. D. Ladhe, H. M. Pathan and, B. R. Sankapal, Sensor and Actuators B: Chem. (Submitted) **Impact Factor** 3.4

(7) Chemical synthesis of highly dispersed CdS quantum dots on TiO₂ substrate at room temperature.

D. B. Salunkhe, **R. D. Ladhe**, D.P. Dubal, W. B. Kim, B. R. Sankapal, J. Power Sources, (Submitted) **Impact Factor** 4.6

(8) Synthesis and the structural transformation of fcc to hcp in Ni (Graphene) nanocomposite by simple chemical route via sonication

N. K. Mahale, R. D. Ladhe, S. B. Attarde, S. T. Ingle Journal of Nanoparticles, (Published) **Open access**

7. Number of Patents: 01

Chemical synthesis of wide band gap n-TiO₂ and p-CuSCN as a heterojunction partners for detection of Liquefied Petroleum Gas (LPG) at room temperature.

Dr. R. D. Ladhe and Dr. B. R. Sankapal

Application No.: 3298/MUM/2010 Publication Date: 28/06/2013 Journal No. -
26/2013

8. Citation Index (h), Number of Citation till date: h= 3, C.I= 22, i10-index=1

9. Scientific collaborators (with Name of the collaborators and name of the institute/ University, country).

National

- (1) Dr. B. R. Sankapal, Department of Applied Physics, Vishveshwarya National Institute of Technology, Nagpur
- (2) Dr Vinay Gupta and Dr. S. Chand, National Physical Laboratory, New Delhi
- (3) Dr S. D. Sartale and Dr. H. M. Pathan, Department of Physics, Pune University, Pune
- (4) Dr C D Lokhande, Department of Physics, Shivaji University, Kolhapur

International

- (1) Dr. J. B. Zhang, and Dr. W. W. Tan, Chinese Academy of Sciences, Beijing, China
- (2) Dr. J. H. Kim, and Dr. K. V. Gurav, Department of Materials Science and Engineering, Chonnam National University, Gwangju, South Korea.
- (3) Dr. S. M. Pawar, Solar Cell Laboratory, LG Components R & D Center, South Korea.
- (4) Dr V Shinde International Center for Young Scientists (ICYS), National Institute for Materials Science (NIMS), Japan
- (5) Dr Rahul Salunkhe, Department of Chemical Engineering National Tsing Hua University. Hsin-Chu 30013, Taiwan
- (6) Dr. Deepak Dubal, Department of Electrochemistry, Technische Universität Chemnitz Institut für Chemie, Straße der Nationen 62 D-09111, Chemnitz, German

10. Any other activity done/going on:

Participate in S. Y. B.Sc & T. Y. B.Sc visiting program held at Department of Physics for gaining the information about the application of physics in future and world.