

# CURRICULUM VITAE

## Personal Information

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**Name** : Dr. Raut Siddheshwar Dadarao [Ph. D. (Physics)]

**Category** : OBC (Mali)

**Date of Birth** : 20/06/1989

**Gender** : Male

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**Permanent Address** : C/o, Mr. D. P. Raut, Adarsh Colony,  
near water tank, Partur, Dist. Jalna-431501.

**Corresponding Address** : C/o, Dr. Rajaram S. Mane, (Professor),  
School of Physical Sciences S. R. T M. University,  
Nanded, India-431606.  
Website:<https://sites.google.com/site/cnessps/home>



## Academic Qualification

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- **Ph.D. in Physics** from Department of Physics, Dr. B. A. M. University, Aurangabad  
Month/ Year of passing: **October 2018**
- **Master of Science in Physics** from School of Physical Sciences, Swami Ramanand  
Teerth Marathwada University, Nanded (India)  
Year of passing: **2012**  
Percentage: **67.56%**
- **Bachelor of Science** from B R Barwale College, Jalna.  
Year of passing: **2010**  
Percentage: **59.43%**

## Teaching /Technical Experience

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July 2019 - Present      **Lecturer** in Shri Guru Gobind Singhji Institute of Engineering  
and Technology, Nanded (MS), India. (contractual position)

- Aug. 2018 – Jun. 2019      **Guest faculty** in Shri Guru Gobind Singhji Institute of Engineering and Technology, Nanded.
- Jan. 2013 - Jul. 2016      **Lecturer** in Physics at Yadavrao Tasgaonkar Institute of Engineering and Technology, Karjat, Dist. Raigad.

### **Research Experience**

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- 11/2018~Present      **Collaborative work** with Dr. Nanasaheb Shinde, Department of Materials Science and Engineering, Pusan National University, San 30, Jangjeon -dong, Geumjeong-gu, Busan 609-735, Republic of Korea
- 10/2018~Present      **Research Fellow** at Center for nanomaterials and energy devices, School of physical sciences, S. R. T. M. University, Nanded (MS), India.  
**Advisor:** Prof. (Dr) Rajaram S. Mane
- 12/2014-10/2018      **Ph.D.** in Physics from Department of Physics, Dr. B. A. M. University, Aurangabad (MS), India.  
**Advisor:** Dr.(Mrs.) P. S. Ugile (Pawar)

### **Research Interests**

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- Applications of nanomaterials in the field of radiation protection and radiation dosimetry.
- Design and development of Unveil nanomaterials for applications in electrocatalyst, gas sensor as well as supercapacitor.
- Design and fabrication of **Battery Supercapacitor Hybrid (BSH) Device** with a high-capacity battery-type electrode and a high rate capacitive electrode, which has attracted enormous attention due to its potential applications in future electric vehicles, smart electric grids, and even miniaturized electronic/optoelectronic devices, etc.
- The research emphasis is to achieve novel properties for various applications through control of nanostructure and material science.

### **Experimental Techniques /Instruments used/Handled**

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➤ **Instruments Handled**

- ❖ Electrochemical Work station (IVIUM)
- ❖ UV-Visible Spectrophotometer (JASCO V-630)
- ❖ Potentiometer (Systronics)
- ❖ Gas sensor unit
- ❖ Scintillation counter

➤ **Experimental Techniques used**

- ❖ Successive Ionic Layer Adsorption Reaction [SILAR] Method
- ❖ Microwave Assisted Combustion Method
- ❖ Chemical Bath Deposition Method
- ❖ Sol-gel Auto-Combustion Method
- ❖ Hydrothermal Synthesis Method
- ❖ Spray Pyrolysis Method

**Publications**

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1.  $\gamma$ -irradiation induced zinc ferrites and their enhanced room-temperature ammonia gas sensing properties. **S. D. Raut**, Vishal V. Awasarmol, B. G. Ghule, S. F. Shaikh, S. K. Gore, R. P. Sharma, P. P. Pawar, R. S. Mane, (2018), Materials Research Express, 5(3), 035702.
2. Corrigendum:  $\gamma$ -irradiation induced zinc ferrites and their enhanced room-temperature ammonia gas sensing properties. **S. D. Raut**, Vishal V. Awasarmol, B. G. Ghule, S. F. Shaikh, S. K. Gore, R. P. Sharma, P. P. Pawar, R. S. Mane, (2018), Materials Research Express, 5(4), 049501.
3. Study of gamma ray energy absorption and exposure buildup factors for ferrites by geometric progression fitting method. **S. D. Raut**, Vishal V. Awasarmol, S. F. Shaik, B. G. Ghule, S. U. Ekar, R. S. Mane, P. P. Pawar, (2018), Radiation Effects and Defects in Solids. 173(3-4), 329-338.
4. Enhancement in room-temperature ammonia sensor activity of size-reduced cobalt ferrite nanoparticles on  $\gamma$ -irradiation. **S. D. Raut**, Vishal V. Awasarmol, B. G. Ghule, S. F. Shaik, S. K. Gore, R. P. Sharma, P. P. Pawar, R. S. Mane, (2018), Materials Research Express. Mater. Res. Express 5 (2018) 065035.

5. Comparative study of Effective Atomic Number and Electron Density for Nanomaterial in wide energy range ( $10^{-3}$  to  $10^5$  MeV). **S. D. Raut**, R. M. Lokhande, Vishal V. Awasarmol, R. R. Bhosale, C. V. More, P. P. Pawar, (2015), *Bionano Frontier*, Vol.8 Issue-3, 77-78.
6. Anti-candida and anti-adhesion efficiencies of zinc ferrite nanoparticles. R. P. Sharma, **S. D. Raut**, V. V. Jadhav, A. S. Kadam, and R. S. Mane, (2019), *Materials Letters* 237, 165–167.
7. Sol–gel auto-combustion mediated cobalt ferrite nanoparticles: a potential material for antimicrobial applications. R. P. Sharma, **S. D. Raut**, R. M. Mulani, A. S. Kadam, and R. S. Mane, (2019), *International Nano Letters*, 9:141–147.
8. Photon interaction study of organic nonlinear optical materials in the energy range 122 keV to 1330 keV. Vishal V. Awasarmol, D. K. Gaikwad, **S. D. Raut**, P. P. Pawar, (2017), *Radiation Physics and Chemistry*, Vol. 130, 343-350.
9. Gamma ray interaction studies of organic nonlinear optical materials in the energy range 122 keV-1330 keV. Vishal V. Awasarmol, D. K. Gaikwad. **S. D. Raut**, P. P. Pawar, (2017), *Results in Physics*, Vol. 7, 272-279.
10. Effective Atomic Numbers for Some Low Z Materials. R. R. Bhosale, D. K. Gaikwad P. S. Kore, **S. D. Raut**, Vishal V. Awasarmol, C. V. More, P. P. Pawar, M. N Rode, (2015), *Bionano Frontier*, Vol. 8, Issue-3, 90-92.
11. Studies on attenuation cross section parameters of some shape memory alloys in the energy range 356 keV to 1330 keV. G. P. Dapke, Vishal V. Awasarmol, D. K. Gaikwad, **S. D. Raut**, P. P. Pawar, (2017), *Indian Journal of Scientific Research*, Vol. 8 Issue 1, 23-30.
12. Gamma ray interaction studies on some shape memory alloys in the energy range 122 keV to 1330 keV. G. P. Dapke, Vishal V. Awasarmol, **S. D. Raut**, P. P. Pawar, (2017), *Scholarly Research Journal for Interdisciplinary Studies*, Vol. 4 Issue 36, 8018-8026, <https://doi.org/10.21922/srjis.v4i36.10194>.

13. Measurements of radiological data of some amino acids in the energy range 0.122-1.330 MeV. R. M. Lokhande, C. V. More, B. S. Surung, **S. D. Raut**. AIP Conference Proceedings (Vol. 1728, No. 1, p. 020207). AIP Publishing.
14. Analysis of half value layer (HVL), tenth value layer (TVL) and mean free path (mfp) of some oxides in the energy range of 122 keV to 1330 keV. P. Dahinde, G. Dapke, **S. Raut**, and P. Pawar. Indian Journal of Scientific Research 09 (2): 79-84, 2019.

### **Conferences/workshops Attended**

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1. International conference on Functional Materials and Microwaves (ICFMM-2015) organized by Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad on 28-30 December, 2015.
2. 13<sup>th</sup> DAE –BRNS Nuclear and Radiochemistry Symposium [NUCAR-2017] held during 6<sup>th</sup>-10<sup>th</sup> February, 2017 organized by Bhabha Atomic Research Center, Trombay, Mumbai and Indian Association of Nuclear Chemists and Allied Scientists (IANCAS).
3. Attended a NCPRE familiarization workshop on Photovoltaics, at IIT Bombay, November 30, 2017.
4. Attended INUP familiarization workshop on Nanofabrication Technologies at IIT Bombay, November 29-December 1, 2017.
5. Attended National Conference on Dielectric Relaxation and Spectroscopic Techniques (NCDRAST-2017) organized by School of Physical Sciences, S. R. T. M. University, Nanded, MS, India, December 2017.
6. Attended Author Workshop jointly organized by Knowledge Research Center (KRC), Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and Springer, November 4, 2015.
7. National Seminar on Materials Science, X-ray and Gamma Ray Spectroscopies organized by Department of Physics, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad held during 29-30 March-2017.
8. One Day Workshop on LATEX for Project, Seminar, Thesis Typesetting on 5 March 2016, held at Chemical Technology, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.
9. One Day Workshop on Intellectual Property Rights (IPR) on 22 August 2016 held at CFART Auditorium, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

10. Attended Short Term Training Program (STTP) for teachers at Y. T. I. E. T. Karjat, Raigad.

## **References**

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| <p><b>1. Dr. Rajaram S. Mane</b><br/>Professor<br/>School of Physical Sciences<br/>S. R. T. M. University,<br/>Nanded (India) - 431606<br/>E-mail: rajarammane70@gmail.com,<br/>Contact No: +91-7447295802</p>   | <p><b>2. Dr. Mrs. Pravina. S. Ugile (Pawar)</b><br/>Asso. Professor,<br/>Department of Physics,<br/>Dr. B. A. M. University, Aurangabad<br/>(India)-431004<br/>E-mail: pravinapawar4@gmail.com,<br/>Contact No: +91-9657079997</p>                                   |
| <p><b>2. Dr. Vijaykumar V. Jadhav</b><br/>Research Scientist<br/>Materials Science and Engineering Program<br/>Guangdong Technion-Israel Institute of<br/>Technology (GTIIT) China,<br/>E-mail: vijaykumar.jadhav@gtiit.edu.cn<br/>Tel: +353 (89) 942 0487</p> | <p><b>4. Dr. Nanasaheb M. Shinde,</b><br/>Research Professor<br/>Department of Materials Science and<br/>Engineering Pusan National<br/>University, Busan 609-735,<br/>Republic of Korea.<br/>E-mail: nanashinde2009@gmail.com<br/>Contact No.: +82 10-2624-2188</p> |

Date:     /     /2019

Place: Nanded

Dr. Raut S. D.