CURRICULUM VITAE

PERSONAL INFORMATION

Name: **MANOHAR KONDBARAO ZATE**

Address:SVKT Arts, Commerce & Science College, Deolali, Nashik, Maharashtra, India.

Tel.:+91-9975632732

Birth date: 10th July 1983.

Personal E-mail: manoharzate@gmail.com

Institutional E mail: zate.manohar@mvpsvktcollege.ac.in

Passport no: J9739266

Designation: Assistant Professor & HOD Physics Dept. at SVKT Arts, Commerce & Science College, Deolali, **Dist. Nashik**

ACADEMIC QUALIFICATION

- **Ph.D.** in Physics from School of Physical Sciences, S.R.T.M. University, Nanded, Maharashtra, India. Year 2015.
  Dissertation title: "Importance of Sprayed Ni, Mn and Ni-Mn composite ferrite Nanostructures in Electrochemical Supercapacitors"
- **CSIR –NET** Qualified.
- **MH- SET** Qualified.
- **M.Sc. in Physics (Materials Science) ['B+' grade]** from School of Physical Sciences, S.R.T.M. University, Nanded, Maharashtra, India. Year of Passing: June 2009.
- **B.Sc. ['B+' grade]** from *Adarsh College Hingoli*, affiliated to S.R.T.M. University, Nanded, Maharashtra, India.Year of Passing: June 2005.
- **B.Ed. ['B+' grade]** from *Govt. College of Education Nanded* , affiliated to S.R.T.M. University, Nanded, Maharashtra, India. Year of Passing: June 2006.

TEACHING EXPERIENCE

Assistant professor: 6 Year to UG and PG

RESEARCH EXPERIENCE

- 09/2010-10/2015 Ph.D. scholar in School of Physical Sciences, S.R.T.M.University, Nanded, Maharashtra, India. **Advisor**: Dr. R.S. Mane
- 06/2008-04/2009 **M.Sc. Research Project** at School of Physical Sciences, S.R.T.M. University, Nanded.

  Dissertation title: "Dielectric studies of binary liquids"
- h- Index 12
- Publications 23 and Citations score 483
- Journal Reviewer: J. of Nanoparticles, J. Analytical and Applied Pyrolysis

AWARDS & EXTRA-CURRICULAR ACTIVITIES

Maharashtra State Certificate in Information Technology (MS-CIT)

Computer Proficiency: MS Office, Origin 6.1, Origin 8.1, Chemdraw Ultra 2002-1, Impedance software eissa-0.1b, Photoshop, Basic programming,etc.

Rajiv Gandhi National Fellowship for M. Phil/ Ph.D. in Ph. D Tenure

RESEARCH INTERESTS

Design and development of organic, inorganic and organic/inorganic hybrid nanomaterials for the application in gas sensors, Biosensor supercapacitors and solar cells.

Processing techniques include chemical oxidative polymerization, in-situ polymerization, sol-gel processing, hydrothermal growth and electrochemical deposition.

The research emphasis is to achieve novel properties for various applications through control of nanostructure and atomic engineering of materials through processing and composition design.

INSTRUMENTS HANDLED /EXPERIMENTAL TECHNIQUES

Instruments Handled

- Spin Coater (APEX Instruments, Model: SCU 2007)
- UV-Visible spectrophotometer
- KEITHLEY 6514/2400 System Electrometer,
- Regaku table top X-ray diffractometer
- Impedance analyzer (WAYNE KERR, Model: 6500B)
- High temperature Furnaces
- Room and high temperature gas sensing measurement unit
- Hydrothermal unit
- Solar Simulator
- Potentiostat/Galvanostat (WPG 100e Won A Tech)
- IVIUM compactsat work station
- Computerized Spray pyrolysis machine

Experimental Techniques used

Chemical polymerization	Chemical bath deposition
Hydrothermal synthesis	Electrodeposition
Solid state synthesis	Dip coating
SILAR	Spray pyroplysis
Spray Pyrolysis	Sol-gel synthesis
Spin coating	CVD

Other techniques known and ability to interpreting results:

Transmission electron microscopy (TEM), Field Emission Scanning Electron Microscopy (FESEM), Fourier Transform Infrared Spectroscopy (FTIR), X-ray photoelectron spectroscopy (XPS), Contact Angle Meter, Energy dispersion of x ray spectroscopy (EDAX), X ray diffraction (XRD), Cyclic Voltammetry (CV), Electrochemical impedance spectroscopy measurment (EIS)etc.

PUBLICATIONS

Published papers

[1] **Manohar K. Zate**, Shoyeb Mohamad F. Shaikh, Vijaykumar V. Jadhav, Shivaji D. Waghmare, Rajaram S. Mane, Sung-Hwan Han, Oh-Shim Joo, *J. Nanoeng. Nanomanuf.* 4 **(2014)** 93.

[2] Kailas K. Tehare, **Manohar K. Zate**, Sambhaji S. Bhande, Supriya A. Patil, Sanjay L. Gaikwad, Seong Joon Yoon, Rajaram S. Mane, Soo-Hyoung Lee, Sung-Hwan Han, *J. Mater. Chem. A*, 2 **(2014)** 478.

[3] Shivaji D Waghmare, Dipak V Shinde, **Manohar K. Zate**, Ravinder Konda, Rajaram S Mane, Sung-Hwan Han,*Scripta Mater.*, 68 **(2013)** 735.

[4] Shoyeb Mohamad F. Shaikh, Ji-Yeon Lim, Rajaram S. Mane, **Manohar K. Zate**, Sung-Hwan Han and Oh-Shim Joo, *J. appl. Polymers*, 128 **(2013)** 3660.

[5] Vijaykumar V. Jadhav, Supriya A. Patil, Dipak V. Shinde, Shivaji D. Waghmare, **Manohar K. Zate**, Rajaram S. Mane, Sung-Hwan Han, *Sensors and Actuators B: Chemical* 188 **(2013)** 669.

[6] Vijaykumar V. Jadhav**,** Dipak V. Shinde, Supriya A. Patil, **Manohar K. Zate**,**Ahmed** AL-Osta, Rajaram S. Mane, Sung-Hwan Han**, J. Nanoeng. Nanomanuf., 4 (2014) 168.**

[7] ALO ahmed, Jadhav v.v., **Manohar K. Zate**, Rajaram S Mane,K.N. Hui, Sung-Hwan Han,*Scripta Mater.*, 99 (2015) 29

[8] S.K. Gore, R.S.Mane,M. Naushad, V.V. Jadhav, **Manoahar K. Zate**, ALO ahmed, *Dalton Transactions* 44(14)6384

[9] Vijaykumar S. jadhav,Sambhaji S. Bhande, **Manohar K. zate**, Sanjay L. Gaikwad, R.S. Mane ,S.H. Han *SRTMU's Research Journal of Science 08/2012; 1(2):30 - 37.*

[10] V V Jadhav, D V Shinde, S A Patil, M K **Manohar K. zate** Zate, S Pawar, A Al-Osta, RS Mane. *Journal of Nanoengineering and Nanomanufacturing 4 (2), 168-172.*

[11] V V Jadhav, **M K Zate**, S Liu, M Naushad, R S Mane, K N Hui, S H Han *Applied Nanoscience, 1-9*

[12] **Manohar K. Zate**, ShoyebMohamad F. Shaikh, Vijaykumar V. Jadhav, Kailas K. Tehare, S.S. Kolekar, Rajaram S. Mane, Mu. Naushad, Sung-Hwan Han and K. N. Hui *J. analytical and applied pyrolysis, 2015.*

[13] Ahmed, A. O., Jadhav, V. V., Zate, M. K., Mane, R. S., Hui, K. N., & Han, S. H. (2015). Electrochemical supercapacitors of anodized-brass-templated NiO nanostrutured electrodes. Scripta Materialia, 99, 29-32.

[14] Shirsat, S., Kadam, A., Mane, R. S., Jadhav, V. V., Zate, M. K., Naushad, M., & Kim, K. H. (2016). Protective role of biogenic selenium nanoparticles in immunological and oxidative stress generated by enrofloxacin in broiler chicken. Dalton Transactions, 45(21), 8845-8853.

[15] Shirsat, S., Kadam, A., Jadhav, V. V., Zate, M. K., Naushad, M., Pawar, B. N., ... & Kim, K. H. (2016). An eco-friendly physicocultural-based rapid synthesis of selenium nanoparticles. RSC advances, 6(54), 48420-48426.

[16] Jadhav, V. V., Zate, M. K., Liu, S., Naushad, M., Mane, R. S., Hui, K. N., & Han, S. H. (2016). Mixed-phase bismuth ferrite nanoflake electrodes for supercapacitor application. Applied Nanoscience, 6(4), 511-519.

[17] Shendkar, J. H., Zate, M., Tehare, K., Jadhav, V. V., Mane, R. S., Naushad, M., ... & Kim, K. H. (2016). Polyaniline-cobalt hydroxide hybrid nanostructures and their supercapacitor studies. Materials Chemistry and Physics, 180, 226-236.

[18] Zate, M. K., Jadhav, V. V., Gore, S. K., Shendkar, J. H., Ekar, S. U., Al-Osta, A., ... & Mane, R. S. (2016). Structural, morphological and electrochemical supercapacitive properties of sprayed manganese ferrite thin film electrode. Journal of Analytical and Applied Pyrolysis, 122, 224-229.

[19] Tehare, K. K., Zate, M. K., Navale, S. T., Bhande, S. S., Gaikwad, S. L., Patil, S. A., ... & Mane, R. S. (2017). Electrochemical supercapacitors of cobalt hydroxide nanoplates grown on conducting cadmium oxide base-electrodes. Arabian Journal of Chemistry, 10(4), 515-522.

[20] Zate, M. K., Raut, S. D., Shirsat, S. D., Sangale, S., & Kadam, A. S. (2020). Ferrite nanostructures: synthesis methods. Spinel Ferrite Nanostructures for Energy Storage Devices, 13.

[21] Dabhane, H., Zate, M., Bharsat, R., Jadhav, G., & Medhane, V. (2021). A novel bio-fabrication of ZnO nanoparticles using cow urine and study of their photocatalytic, antibacterial and antioxidant activities. Inorganic Chemistry Communications, 134, 108984.

[22] Dabhane, H., Ghotekar, S., Zate, M., Kute, S., Jadhav, G., & Medhane, V. (2022). Green synthesis of MgO nanoparticles using aqueous leaf extract of Ajwain (Trachyspermum ammi) and evaluation of their catalytic and biological activities. Inorganic Chemistry Communications, 138, 109270.

[23] Dabhane, H. A., Zate, M. K., Kalyankar, A., Ghotekar, S., Jadhav, G. R., & Medhane, V. J. (2022). Development of photoactive MgO nanoflakes using the sol–gel method for the removal of organic contaminants. Journal of Sol-Gel Science and Technology, 1-10.

Participated in Workshop/Conference/Seminar/Symposia/Congress

Sr. No.	Year	Level	Type	Venue	Theme
1	26/02/2012	State	Workshop	Maharashtra College Nilanga	Workshop on interdisciplinary nano science
2	14/11/2011	National	Workshop	Department of Physics, SRTMU, Nanded	National Workshop on Galaxies: Normal And Active
3	07/09/2012	National	Conference	Department of Physics, University of Mumbai	National conference on nano technology -2012
4	08/10/2012	National	Seminar	Mahatma College,	Developments in thin film processing and characterization technology

5	16/02/2012	National	Workshop	Department of Physics, BAMU, Aurangabad	national workshop on nanotechnology and intellectual properties rights and patents in science and technology from nanotechnology perspectives
6	17/08/2011	National	Workshop		nanostructured materials for energy devices and environments
7	18/01/2014	National	Seminar		National seminar on Recent Advances in material Science
8	21/03/2014	National	Symposia	School of Physical sciences, SRTMU, Nanded	National Symposium on Applied Spectroscopy in Science and Technology
9	08/11/2015	National	Workshop	School of Physical sciences, SRTMU, Nanded	national workshop on Astronomy with small telescopes
10	16/10/2016	National	Conference	S.P.H.J. Science College, Chandwad	National Conference on National Imperatives in the new millennium
11	07/01/2017	State	Seminar	Art's, Science, Commerce College Saikheda	Seminar on Renewable energy The need of hour
12	12/01/2018	International	Conference	KTHM College Nashik	International Conference on advances in functional materials