

CURRICULUM VITAE

DR. SHASHIKANT DATTATRAY SHINDE

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EDUCATION

- **Ph. D. (2008-2013)** Department of Physics, Savitribai Phule Pune University (Formerly University of Pune), Pune
- **Thesis Title** “Dopant Induced Modifications in Structural, Optical and Electrical Properties of Pulsed Laser Deposited Heteroepitaxial ZnO Thin Films”
- **M.Sc. (2004-2006)** Physics (Specialization: Energy Studies)
First class, GPA 6.8
- **B.Sc. (2001-2004)** Physics, First class with distinction 79.00%

CURRENT AND PREVIOUS EMPLOYMENT

- **Assistant Professor:** (March 2014 to till date)
Department of Physics, MES's Nowrosjee Wadia College,
Pune – 01
- **Post Doctoral Fellow:** (June 2013 to March 2014)
Dr. D. S. Kothari Fellow, UGC, Government of India
Department of Physics, IISc Bangalore
- **Lecturer:** (Sept 2006 to Nov 2009)
Department of Physics, S.P. College, Pune

AWARDS/RESEARCH FELLOWSHIPS/ACHEIVEMENTS

- **Dr. D. S. Kothari Post-doctoral Fellow** (June 2013 – March 2014) in Department of Physics, Indian Institute of Bangalore, under the guidance of Dr. P. S. Anilkumar, Associate Professor.
- **“Dr. R. K. Bhalla Prize”** for the **Best Research Student** of the year 2012 by Indian Physics Association (IPA), Pune chapter and Department of Physics, University of Pune. 5th Sept. 2012.
- **“Best Oral Presentation Award”** in **Raman Memorial Conference** (RMC2009), held in Department of Physics, University of Pune, during Feb. 2009

MEMBERSHIP IN PROFESSIONAL ORGANIZATION

- Life member of Material Research Society of India, Bangalore, Indian

AREAS OF RESEARCH INTEREST

- Synthesis and characterization of materials (Bulk and Thin films),
- Wide band gap semiconductors,
- Thin film growth,
- Thin Film Devices

EXPERIMENTAL SKILLS

- Expertise in using the Pulsed Laser Deposition and Spray Pyrolysis Deposition systems.
- Expertise in solid state reaction route.
- Familiarity in using X-ray diffraction, UV-visible spectroscopy, Photoluminescence, Raman spectroscopy, Four Probe Resistivity measurements.
- Good knowledge on analysis of thin film characterization like, XRD, UV-Visible Spectroscopy, Photoluminescence, Raman Spectroscopy, Electrical Resistivity, X-ray Photoelectron spectroscopy and Ultra-violet Photoelectron spectroscopy, Scanning Electron Microscopy, Transmission Electron Microscopy, Atomic Force Microscopy, Vibrating sample magnetometer.

RESEARCH PUBLICATIONS/PRESENTATIONS

I. JOURNAL ARTICLES

- 1) Luminescent behavior of pulsed laser deposited Pr doped ZnO thin films
A. Mandal, S. K. Adhi, B. P. Joshi, **S. D. Shinde**, A. G. Banpurkar, A. V. Limaye, K. P. Adhi, T. Sant and S. M. Jejurikar; ***Physica B: Condensed Matter* 618 (2021) 413202**
- 2) Role of Al doping in structural, microstructural, electrical and optical characteristics of as-deposited and annealed ZnO thin films
Shashikant D Shinde, S. K. Date, Alka V. Deshmukh, Amit Das, Pankaj Misra, L. M. Kukreja and K. P. Adhi; ***RSC Advances* 5 (2015) 24178**
- 3) Benzophenone doped polydimethylsiloxane: Self developable composite resist system for its use in a direct write laser lithography application
Madhshree G. Bute, **Shashikant D. Shinde**, Dhananjay Bodas, H Fouad, K. P. Adhi, S. W. Gosavi; ***J. Phys. D: Appl. Phys.* 48 (2015) 175301**
- 4) Surface studies on benzophenone doped PDMS microstructures fabricated using KrF excimer laser direct write lithography
Madhshree G. Bute, **Shashikant D. Shinde**, Dhananjay Bodas, K. R. Patil, V. G. Sathe, K. P. Adhi, S. W. Gosavi; ***Appl. Surf. Sci.* 314 (2014) 292-300**
- 5) Effect of ambient oxygen pressure on the structural, electrical and optical properties of pulsed laser deposited Eu doped ZnO thin films
Mandal A., Adhi S. K., **Shinde S. D.**, Adhi K. P.
Proceedings of the DAE-BRNS seventh national symposium on pulsed laser deposition of thin films and nano-structured materials (2013)
- 6) Highly conducting phosphorous doped *n*-type *nc*-Si:H films by HW-CVD for *c*-Si heterojunction solar cells

- V. S. Waman, M. M. Kamble, S. S. Ghosh, A. Mayabadi, V. G. Sathe, H. M. Pathan, **S. D. Shinde**, K. P. Adhi and S. R. Jadkar; *RSC Advances* **2 (2012) 9873**
- 7) Effect of Ga doping on micro/structural, electrical and optical properties of pulsed laser deposited ZnO thin films
S. D. Shinde, A. V. Deshmukh, S. K. Date, V. G. Sathe, K. P. Adhi; *Thin Solid Films* **520 (2011) 1212**
- 8) Pulsed laser deposited Ga doped ZnO/SiO_x/Si(100) thin films and their field emission behavior
S. D. Shinde, S. M. Jejurikar, S. S. Patil, D. S. Joag, S. K. Date, M. A. More, S. Kaimal, T. Shripathi, K. P. Adhi; *Solid State Sci.* **13 (2011) 1724**
- 9) Effect Of Eu Doping On The Structural, Optical And Electrical Properties Of ZnO Thin Films Deposited By PLD
S. M. Jejurikar, **S. D. Shinde**, V. G. Sathe and K. P. Adhi; *AIP Proceedings* **1391 (2011) 92**
- 10) Observation of electron tunneling induced photon emission in gallium (Ga) doped (1%) zinc oxide (ZnO) sample using scanning tunneling microscopy
Shirshendu Dey, **S. D. Shinde**, K. P. Adhi, and C. V. Dharmadhikari; *Appl. Phys. Lett.* **95 (2009) 063503**.

II. INTERNATIONAL CONFERENCES AND WORKSHOPS

- 1) OPTICS'11 an International conference on LIGHT, Organized by "The department of PHYSICS NIT Calicut", May 23-25, 2011 (**Oral Presentation**).
- 2) "OXIDE MATERIALS FOR ELECTRONIC APPLICATIONS", Summer school, *Satellite to TCM2010*, Organized by the "ORAMA" IP Consortium, 15th to 17th October 2010, Hotel Atlantica Sensatori, Caldera Palace, Analipsi, Hersonissos, Heraklion, Crete, Greece. (**Participation**)
- 3) 3rd International Symposium on Transparent Conductive Materials (TCM2010) during 17th to 21st October 2010, Analipsi, Hersonissos, Heraklion, Crete, Greece, (**Poster Presentation**).

III. NATIONAL CONFERENCES AND WOKSHOPS

1. First Indian Materials Conclave and 30th AGM of MRSI held at Indian Institute of Science, Bangalore, Feb 12-15, 2019, (**MRSI Prize for Best Poster**).
2. Presented proposal in the Thematic Workshop and Call for CRS Projects on Materials Science Research of Societal Relevance organized by Department of Physics, Savitribai Phule Pune University, Pune and UGC-DAE Consortium for Scientific Research, Indore, during May 25-26, 2017.
3. "New trend in Physics" held in New Arts Commerce and Science College, Parner, 8-9 Jan 2016. (**Oral presentation**)
4. "One week training program on computer interface experiments", held in New Delhi, IUAC, 21st to 27th Sept 2015. (**Participation**)
5. "Workshop on revision of S. Y. B. Sc. Physics Syllabus" organized by Nowrosjee Wadia College, Pune in association of BoS in Physics and sponsored by BCUD, University of Pune. 25th March 2014. (**Participation**)
6. "National conference on Functional Nanomaterials: Synthesis, Characterization and Applications", at Department of Physics, University of Pune. 31st-2nd Feb 2013. (**Oral presentation**)
7. Raman Memorial Conference 2013, at Department of Physics, University of Pune. 22nd – 23rd Feb. 2013. (**Oral presentation**)
8. Raman Memorial Conference 2012, at Department of Physics, University of Pune. 2nd – 3rd March 2012. (**Oral presentation**)

9. Workshop on “Thin Film Magnetism” at UGC-DAE CSR, Indore held during the period March 14-16, 2012. **(Participation)**
10. DAE-BRNS 6th National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials, (PLD-2011) November 9-11, 2011, held in Materials Research Centre, IISc, Bengaluru. **(Poster Participation)**.
11. National seminar on “Nanomaterials for Devices: Characterization and application”, organized by Department of Physics, University of Physics, Pune and Department of Applied Physics, Defence Institute of Advanced Technology, Pune. June 24-26, 2010. **(Participation)**
12. National seminar on “Recent Trends in Material Science”, organized by Department of Physics, New Arts, Commerce and Science College, Parner and sponsored by University Grants Commission. 21 – 22 Feb. 2010. **(Poster presentation)**
13. DAE-BRNS 5th National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials, (PLD-2009) December 2-4, 2009, held in IIT Madras, Chennai **(Poster Participation)**.
14. Raman Memorial conference (RMC2009), held in Department of Physics, University of Pune, Pune. 26th – 27th Feb 2009. **(Oral Presentation)**.
15. DAE-BRNS 4th National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials, (PLD-2007) December 2-4, 2011, held in Sourashtra University, Rajkot **(Poster Presentation)**.

INVITED LECTURES:

1. Invited as a resource person to deliver online lecture on ‘Science Day’ organized by New Arts, Commerce and Science College, Shevgaon, Ahmednagar, 28th February 2021.
2. Invited speaker for the National Conference on “Renewable Energy and Environment” held at Department of Physics, K. J. Somaiya College of Arts, Comm. And Science, Kopergaon (19-20 Jan 2018).
3. “Workshop on Smart Materials” held at Shree Dhokeshwar College, Takali Dhokeshwar College, Ahmednagar on 25th January 2018.
4. Invited as a chief guest for “Science Association” inaugural function. Delivered a lecture on Scope in Physics, in Shree Dhokeshwar College, Takali Dhokeshwar College, Parner, Ahmednagar, 29th Aug. 2016.
5. Delivered a lecture series on “Lasers” in Modern College, Pune, 16th and 17th March 2016.
6. Delivered a lecture on “Opportunities in Physics” in Shree Dhokeshwar College, Takali Dhokeshwar College, Parner, Ahmednagar, 9th Jan 2016.

RESOURCE PERSON

- o Invited as resource person for science exhibition at Department of Physics, S. P. College, Pune.

RESEARCH PROJECTS

1. A minor project sanctioned by BCUD, SPPU, Pune of amount Rs. 2,40,000/- **successfully completed** during 2016-2018.

2. A minor project **submitted** to BCUD, SPPU, Pune of amount Rs. 2,40,000/- for ASPIRE-2021 scheme.

RESEARCH COLLABORATIONS:

1. Department of Physics, SPPU, Pune
2. Department of Instrument Sciences, SPPU, Pune
3. Physical and Materials Chemistry Division, NCL, Pune
4. Department of Physics, IISc, Bangalore
5. RRCAT, Indore
6. UGC-DAE IUC CSR, Indore.

PROFESSIONAL COURSES:

1. NPTEL Online certification **FDP** course on “Chemistry and Physics of Surfaces and Interfaces” of 8 weeks (20 July 2021 - Sept 2021) organized by IIT Kanpur.
2. AICTE Training and Learning (ATAL) Academy Online Elementary **FDP** on “Electrospinning Nanofibers: Science, Technology and Applications” held at Indian Institute of Information Technology (IIIT) Nagpur (12 July 2021 to 16 July 2021).
3. NPTEL Online certification course (of 12 weeks) on “Experimental Physics-III” (Jan 2020 - April 2020) organized by Department of Physics IIT Kharagpur. **Score 72%.**
4. NPTEL Online certification course (of 12 weeks) on “Experimental Physics-II” (16 July 2019 - Oct 2019) organized by Department of Physics IIT Kharagpur.
5. "Refresher Course on Nanomaterials For Future Technologies”, held at UGC HRDC, Saurashtra University, Rajkot. **A grade.** (20th Dec 2017 to 10th Dec 2017)
6. One day faculty enrichment program held on 28th Nov 2017 at Atmiya Group of Institution, Rajkot, Gujrat.
7. Orientation Program of 27 days held in UGC, HRDC, Goa University. **A grade.** (Jan 2017 to Feb 2017).
8. “One Week Training Program on Computer Interfaced Science Experiments” conducted by IUAC, New Delhi from 21st Sept to 26th Sept 2015.

TEACHING

Post-graduate level:

1. Physics of Semiconductor Devices
2. Lasers

Under graduate level:

1. Atomic and Molecular Physics
2. Mechanics and Properties of Matter
3. Heat and Thermodynamics
4. Mathematical Methods in Physics

5. Waves and Oscillations
6. Optics
7. FY, SY, and TY Practical's

RECOGNITION

1. **Research guide recognition** for Physics subject for SPPU, Pune (Since November 2020).
2. **A post-graduation Physics teacher recognition** by SPPU, Pune (Since November 2020).

COMPUTER LANGUAGES KNOWN

FORTRON, C.

PERSONAL INFORMATION

Date of Birth	28 th Sept 1983
Languages Known	English, Hindi, and Marathi
Residential Address	25 KARAT-TOPAZ, CTS No 21/3, 21/4, Plot No 12+13, Mahadev Lomte Nagar, Off Talegaon Chakan Road, Vatan Nagar, Talegaon Dabhade – 410 507