



Shri Vile Parle Kelavani Mandal's Institute of Technology, Dhule

Mr. Girish Pandurang Patil

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Teaching Experience: 2 Years

Current Position Assistant Professor of Physics (Since 1st July 2017)

in SVKM's Institute of Technology (IOT), Dhule Campus, MH, INDIA.

Research Experience: 4 Years

2013 – 2017 Research Project Assistant, Department of Physics, School of Physical Sciences, North Maharashtra University, Jalgaon, MH, INDIA.

Title of Project: "Synthesis of Nanostructures of Semiconducting Chalcogenides and their Exploration as Photo-enhanced Field Emitters."

Educational Qualification:

2011 – 2013 **M. Sc. Physics (Material Science)**, 81 %, University Rank 1
Department of Physics, North Maharashtra University, Jalgaon, MH, INDIA.

2008 – 2011 **B. Sc. Physics**, 82.25 %, College Rank 2
K. J. Somaiya College, Pune University, Pune, MH, INDIA.

2006 – 2008 **Higher Secondary Examination Certificate (H.S.C.)**, 61%
Shri Saibaba Junior College, Shirdi, Pune Board, MH, INDIA.

2005 – 2006 **Secondary School Examination Certificate (S.S.C.)**, 68.13%,
Shri Sainath Madhyamik Vidyalaya, Shirdi, Pune Board, MH, INDIA.

Professional Recognition/ Awards:

- **"Best Student of the year 2011"** at B.Sc., K. J. Somaiya College, Kopergaon, Savitribai Phule Pune University.
- B.Sc. (Physics) **Second Rank holder**-2011, at K. J. Somaiya College, Kopergaon, Savitribai Phule Pune University.
- M.Sc. Physics (Material Science) **First Rank holder**-2013, North Maharashtra University, Jalgaon.
- **Second Prize** at University Level Avishkar-2014 in research student category for Research Poster presentation organized by North Maharashtra University, Jalgaon.

Memberships:

1. Life Member of ISRD (*International Society for Research and Development*)
 2. Life Member of TERA (*Teaching and Education Research Association*)
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Indian Patent:

3. Title: "Synthesis of Titanium Dioxide nanosprings by Anodization method"
(Application number: **758/MUM/2014**), P. G. Chavan, **Girish P. Patil**, Submitted: 26th Nov. 2014

List of Paper Published in International Peer-Reviewed Journals:

1. **Girish P. Patil**, Prashant K. Baviskar, Padmakar G. Chavan "Ultra Low Turn-On and Photo-Sensitive Field Emission from CdSe Nanotubes" Journal of Nanostructures 14 **(2019)** 470.
2. Chandradip D. Jadhav, Swapnil S. Karade, Babasaheb R. Sankapal, **Girish P. Patil**, Padmakar G. Chavan "Reduced turn-on field through solution processed MoS₂ nanoflakes anchored MWCNTs" Chemical Physics Letters 723 **(2019)** 146.
3. Vivekanand S. Bagal, **Girish P. Patil**, Malvika Sharma, Padmakar G. Chavan "Influence of Process Variables on Morphology and Field Emission Properties of Aligned 2D Cd(OH)₂ Nanosheets" Journal of Nanostructures 14 **(2019)**.
4. Vilas N Mahire, **Girish P Patil**, Amol B Deore, Padmakar G Chavan, Harishchandra D Jirimali, Pramod P Mahuliker "Sulfonated chitosan-encapsulated HAp@Fe₃O₄: an efficient and recyclable magnetic nanocatalyst for rapid eco-friendly synthesis of 2-amino-4-substituted-1,4-dihydrobenzo[4,5]imidazo[1,2-a]pyrimidine-3-carbonitriles" Research on Chemical Intermediates **(2018)** 1.
5. Prashant Baviskar, **Girish Patil**, Vivekanand Bagal, Babasaheb Sankapal, Padmakar Chavan "2D Porous ZnO Nanosheets: One Pot Synthesis with Low Turn-on Field" Journal of Nanostructures 8 **(2018)** 217.
6. **Girish P. Patil**, Dattatray J. Late, Mahendra A. More, D. S. Joag, Khemchand Dewangan, N. S. Gajbhiye, Padmakar G. Chavan, "Tapered V₂O₅ nanofibers for field emission application" Journal of Nanoelectronics and Optoelectronics, 12 **(2017)** 286-290.
7. Vivekanand S Bagal, **Girish P Patil**, Amol B Deore, Prashant K Baviskar, Dhammanand J Shirale, Padmakar G Chavan "Enhanced field emission properties from surface-modified 2D Cd(OH)₂ nanocoins" Applied Physics A 123 **(2017)** 125.
8. **Girish P. Patil**, Prashant K. Baviskar, Vivekanand S. Bagal, Ravindra D. Ladhe, Amol B. Deore, Mahendra A. More, Babasaheb R. Sankapal, Padmakar G. Chavan "Aligned 2D CuSCN nanosheets: a high performance field emitter", RSC Advances, 6 **(2016)**, 71958.
9. **Girish P. Patil**, Vivekanand S. Bagal, Chetan R. Mahajan, Vijay R. Chaudhari, Sachin R. Suryawanshi, Mahendra A. More, Padmakar G. Chavan "Observation of low turn-on field emission from nanocomposites of GO/TiO₂ and RGO/TiO₂" Vacuum 123, **(2016)**, 167.
10. **Girish P. Patil**, Vivekanand S. Bagal, Sachin R. Suryawanshi, Dattatray J. Late, Mahendra A. More, Padmakar G. Chavan "Observation of enhanced field emission properties of Au/TiO₂ nanocomposite" Applied Physics A 122 **(2016)** 560.



11. **Girish P. Patil**, Vivekanand S. Bagal, Dattatray J. Late, Mahendra A. More, Padmakar G. Chavan "Low turn-on field and high field emission current density from Ag/TiO₂ nanocomposite" Chemical Physics Letters 657 (2016) 167.
12. Shrikant S Raut, **Girish P. Patil**, Padmakar G Chavan, Babasaheb R Sankapal "Vertically aligned TiO₂ nanotubes: Highly stable electrochemical supercapacitor", Journal of Electroanalytical Chemistry 780 (2016), 197.
13. Vivekanand S. Bagal, **Girish P. Patil**, Amol B. Deore, Sachin R. Suryawanshi, Dattatray J. Late, Mahendra A. More and Padmakar G. Chavan, "Surface modification of aligned CdO nanosheets and their enhanced field emission properties" RSC Adv. 6 (2016) 41261.
14. Vivekanand S. Bagal, **Girish P. Patil**, Amol B. Deore, Prashant K. Baviskar, Sachin R. Suryawanshi, Mahendra A. More, Padmakar G. Chavan, "High current density and low turn-on field from aligned Cd(OH)₂ nanosheets" Chemical Physics Letters 650 (2016) 7.
15. Vivekanand S. Bagal, **Girish P. Patil**, Prashant K. Baviskar, Sachin R. Suryawanshi, Mahendra A. More, Padmakar G. Chavan "Simple way to deposit CdO nanowires for field emission application" Journal of Nanoelectronics and Optoelectronics 11 (2016) 484.
16. Khemchand Dewangan, **Girish P. Patil**, Ranjit V. Kashid, V. S. Bagal, M. A. More, D. S. Joag, N. S. Gajbhiye, Padmakar G. Chavan "V₂O₅ Precursor-Templated Synthesis of Textured Nanoparticles Based VN Nanofibers and their Exploration as Efficient Field Emitter" Vacuum 109, (2014) 223.
17. Vivekanand S. Bagal, **Girish P. Patil**, Sachin R. suryawanshi, Mahendra A. More, Padmakar G. Chavan "VLS assisted growth of CdTe nanowires and their field emission properties" IET Micro & Nano Letters 11 (3), 160.

International/National Conference Proceeding:

1. Vivekanand S Bagal, **Girish P Patil**, Chandradip Jadhav, Malvika Sharma, Sugam Shivhare, Padmakar G Chavan "Field electron extraction from surface modified Cd (OH) 2 nanowires", AIP Conference Proceedings, AIP Conference Proceedings 1942, 050032 (2018) (DOI:10.1063/1.5028663).
2. **Girish P. Patil**, Vivekanand S. Bagal, Amol B. Deore, Mahendra A. More, and Padmakar G. Chavan, "TiO₂ nanotubes decorated by Silver nanocubes: Extraction of high field emission current density", AIP Conference Proceedings, AIP Publishing 1832 (2017) 050004. (DOI:10.1063/1.4980237).
3. **Girish P. Patil**, Vivekanand S Bagal, Padmakar G. Chavan, Sachin R. Suryawanshi, M. A. More "Enhanced field emission study of SnS/TiO₂ nanocomposite" IEEE (2015) 116-117. (DOI:10.1109/IVNC.2015.7225553).

Research Skills:

- **Experimental hands on nanostructure synthesis:**
Two-probe Anodization technique, Electrodeposition technique, Thermal Evaporation technique, Spray Pyrolysis Deposition, Chemical Bath Deposition, Spin Coating Deposition, SILLAR Deposition, Field Emission Microscopy, Ultra-High Vacuum (UHV) Techniques.
- **Data analysis:**
Elemental mapping with Scanning Electron Microscopy, High Resolution Transmission Electron Microscopy (HRTEM), Selected Area Electron Diffraction (SAED), X-ray Photo Electron



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Spectroscopy (XPS), Photoluminescence (PL), UV-Visible spectroscopy, Raman spectroscopy

- **Other skills:**

Knowledge of research methodologies, Image processing tools: Image Tool, Image J, Others: CorelDRAW, MS Office, Data and information collection, Writing and presenting reports/articles with fluency

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Attended Events (Conferences/Workshops):

- 8th International Conference on Advanced Materials Development & Performance, **2017**, Department of Physics, Savitribai Phule Pune University, Pune (MH, INDIA).
- Faculty Induction Program, Dr. Babasaheb Ambedkar Technological University, **27th July 2017**, Lonere, Raigad (MH, INDIA).
- INUP Hands-on training Workshop on Nanofabrication Technologies, **2017**, IIT Bombay (MH, INDIA).
- 61st DAE Solid State Physics Symposium, at KIIT University, Bhubaneswar, **2016**, (Odisha, INDIA).
- INUP Familiarization Workshop on Nanofabrication Technologies, **2016**, IIT Bombay (MH, INDIA).
- Ph. D Teaching Program "Vacuum Techniques", **2016**, IUAC, (New Delhi, INDIA).
- Avishkar, **2014**, North Maharashtra University, Jalgaon (MH, INDIA).
- INUP Familiarization Workshop on Nanofabrication Technologies, **2014**, IIT Bombay (MH, INDIA).
- Manthan National Competition, **2013**, (New Delhi, INDIA).