Curriculum Vitae

Dr. Kinjal Patel

Assistant Professor,
Department of Physics,
Uka Tarsadia University,
Bardoli-394350, Gujarat.

Email: kinjal.kpatel@utu.ac.in; kinjal1707@gmail.com
Phone: +91 9974003014

ACADEMIC PROFILE

- **Ph.D.**, Department of Applied Physics, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, India - 2016

  Topic : **CZTS based Thin Film Solar Cells**

- **M.Sc.,** Department of Applied Physics, The M. S. University of Baroda, Vadodara, India - 2008
  Specialization : **Applied Physics**
- **B.Sc.,** Department of Physics, The M. S. University of Baroda, Vadodara, India - 2006
  Specialization : **Physics**

WORK EXPERIENCE

- **Assistant Professor** in Department of Physics, Uka Tarsadia University, Bardoli since ***February 2017.***

- **Assistant Professor** in Physics Deparment, HVHP Institute of PG Studies and Research, Kadi Sarva Vidyalaya Kelavani Mandal, Kadi from ***June 2016 to January 2017.***

- **Internship at Florida Solar Energy Center, University of Central Florida (UCF), USA** under Bhaskara Advanced Solar Energy (BASE) Fellowship Program of Department of Science and Technology, Govt. of India, and the Indo-U.S. Science and Technology Forum (IUSSTF). ***(15 July 2015 to 14th January 2016)***

- **Research Scholar** in Department of Applied Physics, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, India, *since* ***July-2009.***

SPONSORED PROJECTS

1. **Title:** Fabrication of Hydroelectric cell **(Completed)**
   Agency: Uka Tarsadia University, Bardoli, Gujarat, India, under B. U. Patel Research Promotion Scheme, 2019
2. **Title:** Low Cost Instrumentation for Physics laboratory **(Completed)**
   Agency: Uka Tarsadia University, Bardoli, Gujarat, India, under Student Startup and Innovation Policy (SSIP) - Idea fest 2018
3. **Title:** Study of binary sulphide nano-crystalline thin films **(Completed)**
   Agency: Uka Tarsadia University, Bardoli, Gujarat, India, under B. U. Patel Research Promotion Scheme, 2018

INVITED TALK

1. **"Probability, Permutations and Combinations"** in crash course for cracking IIT-JAM, JNU-CEEB entrance exam during 4^{th} – 15^{th} March, 2022 at C. G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Bardoli, Gujarat, India.
2. **"Fabrication of CZTS Thin Film Solar Cell using Chemical Method"** in International Conference on Smart Materials and Nanotechnology at International Conference on Smart Materials and Nanotechnology, Pandharpur during 2^{nd} – 4^{th} January, 2020.
3. **"Matrix and Probability"** in crash course for cracking IIT-JAM, JNU-CEEB entrance exam during 2^{nd} – 13^{th} January, 2020 at C. G. Bhakta Institute of Biotechnology, Uka Tarsadia University, Bardoli, Gujarat, India.
4. **"Thin film: growth and deposition"** in the workshop on Thin Film and Vacuum Technology (TFVT), organized by Department of Applied Physics, S. V. National Institute of Technology, Surat, during December 9-13, 2013.

WORKSHOP/ SEMINAR/ TRAINING PROGRAMME ORGANIZED

1. **"Non Destructive Testing (NDT) training in collaboration with ADS NDT & Inspection Services"** at Department of Physics, Uka Tarsadia University during 21^{st} January to 2^{nd} February 2021.
2. **"Physics Lab on Wheel for School Students"** at two schools named, The Mandvi High School and Shree V.F. Chaudhari Secondary School on 6^{th} and 7^{th} February 2020 respectively to make the students of school in learning the class 12 Physics Practicals.
3. **National Seminar on "Material Characterization Techniques and Data Analysis"** at Department of Physics, Uka Tarsadia University on 15 March 2019 sponsered by GUJCOST, DST and Govt. of Gujarat.
4. **Three day workshop on "Hands on training: Solar Photovoltaic and Nanotechnology"** at Department of Physics, Uka Tarsadia University during 15-17 May, 2017.

PRESENTATIONS IN WORKSHOPS/CONFERENCES

1. **Oral presentation** on *"Influence of annealing on structural and optical properties of Zinc Sulphide for the application of Hydroelectric Cell"* in International Conference on Renewable Energy at Centre for Non-Conventional Energy Resources (CNCER), University of Rajasthan, Jaipur in association with International Association for Hydrogen Energy (IAHE), USA & MRSI, Rajasthan Chapter, during Februry 25-27, 2022.
2. **Poster presentation** on *"Synthesis and characterization of a- MoO_3 nanoplates: A feasibility study to remove methylene blue from aqueous medium"* in 3rd International Conference on Trends in Material Science and Inventive Materials at JCT college of Engineering and Technology, Coimbatore, Tamilnadu, during March 12-13, 2021.
3. **Oral presentation** on "*Synthesis and Characterization of novel $CuSbS_2$ for solar cell application"* at Virtual International Conference On Physical sciences (ICPS – 2021), SVNIT, Surat during February 5-6, 2021.

   BEST ORAL PRESENTATION AWARD
4. **Poster presentation** on *"Study of Lead Sulphide (PbS) nano crystalline material by solid state reaction method"* in International Conference on Advanced Materials Science and Applications at M. S. Ramaiah Institute of Technology, Bangalore, Karnataka, India, during September 3-4, 2020.
5. **Oral presentation** on *"Study of $Cd_xPb_{1-x}S$ Thin film prepared by dip coating method"* in International Conference on Functional Materials and Simulation Techniques at Chandigarh University, Chandigarh during June 7-8, 2019.
6. **Poster presentation** on *"Influence of Carrier Concentration on the Performance of CIAS Solar Cell"* in International Conference on Nano-materials for Energy Conversion and Storage Applications at Pandit Deendayal Petrolium University (PDPU), Gandhinagar, Gujarat during January 29-31, 2018.
7. **Oral presentation** on *"Influence of deposition parameters on Cadmium Sulphide thin films grown by chemical bath deposition"* in 3rd International Conference on Nanotechnology at Bharti Vidyapeeth University, Pune, during October 14-15, 2014.
8. **Oral presentation** on *"Optical band gap tuning in $Cd_{1-x}Zn_xS$ thin fillms grown by chemical bath deposition"* in International Conference on Recent Trends in Engineering Science (ICRTES) at Shatabdi Institute of Technology, Nashik during November 23-24, 2013.
9. **Poster presentation** on *"Effects of Annealing on Structural Properties of Copper Zinc Tin Sulphide (CZTS) Material"* in International Symposium on Semiconductor Materials and Devices (ISSMD) at University of Jammu during January 31- February 2, 2013.
10. **Poster presentation** on *"Structural and optical properties of copper zinc tin sulphide (CZTS) material synthesized using binary sulphide precursors"* in 57th DAE-Solid State Physics Symposium organized at Indian Institute of Technology (IIT), Bombay during December 3-7, 2012.

11. **Oral presentation** on *"A Study on Synthesis of Copper Zinc Tin Sulphide (CZTS) Material using Binary Sulphide Precursors"* in 14th International Conference on Physical Science Interface with Humanity (CONIAPS-XIV) at Department of Applied Physics Department, Sardar Vallabhbhai National Institute of Technology (SVNIT), Surat, during December 22-24, 2011.

PUBLICATIONS

Book Chapter

1. Kinjal Patel, Neelkanth G. Dhere, Vipul Kheraj, Dimple Shah ***"Cu_2ZnSnS_4 Thin Film Solar Cell: Fabrication and Characterization"*** in *Electrical and Electronic Devices, Circuits and Materials: Technological Challenges and Solutions*
John Wiley & Sons, and Scrivener Publishing, ISBN: 978-1-119-75036-9 (2021)

2. Kinjal Patel, Jaymin Ray, Sweety Panchal ***"Fabrication and Characterization of Nano-Crystalline Lead Sulphide (PbS) Thin Film on Fabric for Flexible Photodetector"*** in *Electrical and Electronic Devices, Circuits and Materials: Design and Applications* **CRC Press, Taylor & Francis Group, ISBN-13: 978-0367564261 (2021)**

Refereed Journal Articles

1. Vishva Jain, **Kinjal Patel**, Dimple Shah, *Study of vanadium pentoxide thin film prepared by spin coating method*, **Materials Today: Proceedings**, 48 (2022) 706
2. V M Jain, D V Shah, **K K Patel**, Y Doshi, *Surfactant free synthesis and characterization of a- MoO_3 nanoplates: A feasibility study to remove methylene blue from aqueous medium*, **IOP Conf. Series: Materials Science and Engineering**, 1126 (2021) 012052
3. Jaymin Ray, **Kinjal Patel**, Keyur Patel, Gopal Bhatt, Usha Parihar, *Studies on Cu_2ZnSnS_4 (CZTS) powder and thin film prepared from Molecular ink*, **Materials Today: Proceedings**, 42 (2020)1723
4. Vishva Jain, Sweety Patel, Priyanshi Patel, **Kinjal Patel**, Dimple Shah, *Study of molybdenum trioxide thin film deposited using dip coating method*, **Materials Today: Proceedings**, 42 (2020)1700
5. V.M. Jain, D.V. Shah, **K. K. Patel,** M.S. Shah, *Surfactant Free Synthesis and Study of Vanadium Pentoxide Nanostructure*, **Journal of Nano- and Electronic Physics,** 12 (2020) 02018
6. **Kinjal Patel,** Jaymin Ray, *Influence of carrier concentration on the performance of CIAS solar cell*, **AIP Conference Proceedings,** 1961 (2018) 030029
7. Vanshika Soliya, Digisha Tandel, Chandani Patel, **Kinjal Patel,** *Effect of annealing time on optical and electrical properties of CdS thin films***, AIP Conference Proceedings,** 1961 (2018) 030025

8. Jaymin Ray, Tapas K. Chaudhuri, Chetan Panchal, **Kinjal Patel**, Keyur Patel; Gopal Bhatt, Priya Suryavanshi, *PbS-ZnO Solar Cell: A Numerical Simulation*, **Journal of Nano- and Electronic Physics,** 9 (2017) 03041
9. S. G. Deshmukh, S. J. Patel, **K. K. Patel**, A. K. Panchal & Vipul Kheraj, *Effect of Annealing Temperature on Flowerlike Cu_3BiS_3 Thin Films Grown by Chemical Bath Deposition*, **Journal of Electronic Materials**, 46 (2017) 5582–5588
10. **Kinjal Patel**, Vipul Kheraj, Dimple V. Shah, C.J. Panchal, Neelkanth G. Dhere, *Cu_2ZnSnS_4 thin-films grown by dip-coating: Effects of annealing*, **Journal of Alloys and Compounds**, 663 (2016) 842–847
11. **Kinjal K. Patel**, Dimple Shah, *Influence of deposition parameters on Cadmium Sulphide thin films grown by chemical bath deposition,* **Advanced Science Letters**, 22 (2016) 1071-1075
12. **Kinjal Patel**, Dimple V. Shah, and Vipul Kheraj, *Influence of Deposition Parameters and Annealing on Cu_2ZnSnS_4 Thin Films Grown by SILAR,* **Journal of Alloys and Compounds,** 622 (2015) 942–947
13. Vipul Kheraj, **K. K. Patel**, S.J.Patel, D.V.Shah, *Synthesis and characterisation of Copper Zinc Tin Sulphide (CZTS) compound for absorber material in solar-cells,* **Journal of Crystal Growth,** 362 (2013) 174–177.
14. **K. K. Patel,** D.V. Shah, Vipul Kheraj, *Effects of Annealing on Structural Properties of Copper Zinc Tin Sulphide (CZTS) Material*, **Journal of Nano- and Electronic Physics,** 5 (2013) 3pp.
15. **K. K. Patel**, D. V. Shah, and Vipul Kheraj, *Structural and optical properties of copper zinc tin sulphide (CZTS) material synthesized using binary sulphide precursors*, **AIP Conference Proceedings,** 1512 (2013) 1284.
16. **K. K. Patel**, D.V.Shah, Vipul Kheraj, *Optical band gap tuning in $Cd_{1-x}Zn_xS$ thin films grown by chemical bath deposition,* **Proceeding of International Conference on Recent Trends in Engineering Sciences, Published by Elsevier**, (2013) 37.