

Curriculum Vitae

Dr. Abhay Dasadia (M.Phil., Ph.D)

Assistant Professor

A. D. Patel Institute of Technology

New Vallabh Vidyanagar

Gujarat, INDIA

Phone no.: +919426017285

Email: abhi2physix@gmail.com

Date of Birth: 25/02/1985

Nationality:	Indian
Language skills:	English, Hindi, Gujarati
Computer program skills:	MS office, some programme of X-ray diffraction technique
Teaching Experience:	10 years (as on 1 st September 2019)
Scientific skills:	Crystal growth by vapor transport technique, Superconductivity, Magnetic Levitation, Energy Dispersive analysis of X-rays, Powder XRD, Single crystal XRD, High temperature four probe method for resistivity measurements, Hall Effect measurements, Thermoelectric power measurements, TGA/DTA, Optical properties measurements by UV-VIS-NIR spectroscopy, Raman spectroscopy, High pressure resistivity measurements, TEM/SEM and Optical microtopography
Technical expertise:	Operating dual zone horizontal furnace for growth of single crystals and polycrystalline materials using Vapor Transport Method, Operating Hydraulic Press (Lawrence & Mayo make, working up to 1000KN), Operating Carl Zeiss make Optical Microscope Operating Scanning UV-VIS-NIR Spectrometer
Publications in international peer-reviewed journals:	05

Publications in national journals:	05
Conference proceeding:	07
Presentation in conference:	07
Book publications:	05
Prizes and support Grants from international conference organizers:	03
Project to be proposed:	01
Teaching Experience:	10 years (as on 1 st September 2019)
Type of undergraduate and postgraduate courses those I would like to develop and/or teach at Institute:	<p>(a) Undergraduate courses</p> <p>Engineering Physics (Bullet Train, Ultrasonic, Laser, Superconductors, Magnetic materials, Architectural Acoustics, Fiber Optics, Advanced Engineering materials, Smart Materials), Basic Electronics</p> <p>(b) Post graduate courses</p> <p>Material Science, Thin film Technology, Nano technology</p>

Education Background

Doctor of Philosophy (Ph.D - 2009-2013)

Title of Thesis: Growth with characterization of ZrSTe, TiSTe and TiSeTe single crystals
Supervisor: Prof. A.R.Jani
Department Of Physics
Sardar Patel University
Vallabh Vidyanagar-388120
Gujarat
India

Master of Philosophy (M.Phil - 2009-2009)

Crystal Growth and characterizations- Experimental work
Department Of Physics
Sardar Patel University
Vallabh Vidyanagar-388120
Gujarat
India

Master of Science (M.Sc – 2006-2008)

Solid State Physics
Department Of Physics
Sardar Patel University
Vallabh Vidyanagar-388120
Gujarat
India

Detailed list of publication and scientific works

Achievements

- I. **Young Researcher Support** of **Euro 800** from European Material Research Society, International Union of Crystallography (IUCr), **Warsaw, Poland (2014)**.
- II. **Young Scientist award of Euro 1000** from International Union of Crystallography (IUCr), **DESY, Germany (2013)**
- III. **International Travel grant** from **Department of Science and Technology (DST)** to participate in conference at **Prague, Czech Republic (2012)**
- IV. **1st Prize in INNOVATION IN SCIENCE-SPU RESEARCH SCHOLARS MEET (ISSPURSM)** at Sardar Patel University, India.
- V. National award of Indian Association of Physics Teacher (IAPT) at graduation level, India

Membership

1. Life time member of Indian Society for Technical Education (ISTE)
2. Reviewer of the international Journal of Renewable and Sustainable Energy, American Institute of Physics (AIP) publishing
3. Reviewer of the international journal Cogent Physics, Taylor and Francis group

Research Papers published in International/ National Journals

- Determination of the mechanical properties of SnSe, a novel layered semiconductor
Caterina Lamuta, Davide Campi, Leonardo Pagnotta, **Abhay Dasadia**, Anna Cupolillo, Antonio Politano
Journal of Physics and Chemistry of Solids, **Elsevier** 116 (2018) 306–312
- Growth and structure determination of ZrSTe- A new ternary phase of transition metal chalcogenides
A.K. Dasadia, B. B. Nariya and A. R. Jani
Journal of crystal growth, **Elsevier**, Vol.426, 265 -269, 2015
- Growth and electrical properties of ZrSTe single crystals
A.K. Dasadia, B. B. Nariya and A. R. Jani
Optoelectronics and Advanced materials, Vol.7, Page No.70-73, 2013

- Growth, microtopography and effect of pressure on electrical resistance of DVT grown SnS and SnSe single crystals
B. B. Nariya, **A.K. Dasadia** and A. R. Jani
Optoelectronics and Advanced materials, Vol.7, Page No.53-57, 2013
- Electrical transport properties of SnS and SnSe single crystals grown by direct vapor transport technique
B. B. NARIYA, **A. K. DASADIA**, M. K. BHAYANI, A. J. PATEL AND A.R. JANI
Journal of Chalcogenide Letters Vol.6, Page No.10, October 2009.
- Structural characterization and transport properties of CVT grown ZrSe₃ and ZrS₃ crystals
A.K. Dasadia, B. B. Nariya and A. R. Jani
Prajna, Journal of Pure and Applied Sciences, Vol.19, 2011
- Optical Properties of Tin Monosulphide and Tin Monoselenide single crystals.
B. B. Nariya, **A.K. Dasadia** and A. R. Jani
Prajna, Journal of Pure and Applied Sciences, Vol.19, 2011
- Hall Effect, Resistivity and Thermoelectric Power of ZrSTe Crystals Grown By Direct Vapour Transport Method
A.K. Dasadia, B.B. Nariya, D.N. Bhavsar and A.R. Jani
“55th DAE- SSPS”, AIP Conf. Proc. **1349** (2011) 1089
- Optical properties of Cr doped ZnSe single crystals
B.B. Nariya, **A.K. Dasadia**, D.N. Bhavsar and A.R. Jani
“55th DAE- SSPS” AIP Conf. Proc. **1349** (2011) 1095
- Electrical properties of Zirconium Ditelluride single crystals
D.N. Bhavsar, B.B. Nariya, **A.K. Dasadia**, and A.R. Jani
“55th DAE- SSPS” AIP Conf. Proc. **1349** (2011) 1085

Seminars/ Conferences

- Effect of Chromium doping on the optical properties of ZnS
Abhay Dasadia, Brinda Nariya, M.K. Bhayani, A.J. Patel and A.R. Jani
IVth GSA-VVN CSC Annual Science Meet ‘Sci-Meet: 2009’ held at B. R. Doshi School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 1st Feb-2009
- Effect of Chromium doping on the optical preoperties of ZnSe
Brinda Nariya, **Abhay Dasadia**, M.K. Bhayani, A.J. Patel and A.R. Jani

IVth GSA-VVN CSC Annual Science Meet 'Sci-Meet: 2009' held at B. R. Doshi School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 1st Feb-2009

- Synthesis and determination of optical constants of $\text{Cr}_x\text{Zn}_{1-x}\text{Se}$ ($x = 0, 0.5, 1$) grown by Direct Vapor Transport Technique

M. K. Bhayani, **Abhay Dasadia**, Brinda Nariya, A. J. Patel and A.R. Jani

Gujarat Science Congress 2009 held at Veer Narmad South Gujarat University, Surat on 15th February-2009.

- Effect of Cr doping on the optical properties of ZnSe

Brinda Nariya, **Abhay Dasadia**, M. K. Bhayani, A. J. Patel and A.R. Jani

Gujarat Science Congress 2009 held at Veer Narmad South Gujarat University, Surat on 15th February-2009.

- Hall Effect, Resistivity and Thermoelectric Power of ZrSTe Crystals Grown By Direct Vapor Transport Method

A.K. Dasadia, B.B. Nariya, D.N. Bhavsar and A.R. Jani

“55th DAE- SSPS” held at Manipal University, Karnataka, India, 2010.

- Optical properties of Cr doped ZnSe single crystals

B.B. Nariya, **A.K. Dasadia**, D.N. Bhavsar and A.R. Jani

“55th DAE- SSPS” held at Manipal University, Karnataka, India, 2010.

- Electrical properties of Zirconium Ditelluride single crystals. D.N. Bhavsar, B.B. Nariya, **A.K. Dasadia**, and A.R. Jani

“55th DAE- SSPS” held at Manipal University, Karnataka, India, 2010.

- Transport Properties of ZrSTe Single Crystals Grown By Direct Vapor Transport Method

Abhay Dasadia, Brinda Nariya, D. N. Bhavsar, D.D. Patel and A.R. Jani

3rd National Conference on Condensed Matter and Materials Physics (CMMP-2012) Department of Physics, Sardar Patel University, Vallabh Vidyanagar during 3-5 March, 2012.

- Effect of pressure on electrical resistance of CVT grown ZrSe_3 and ZrS_3 single crystals.

Brinda Nariya, **Abhay Dasadia** and A. R. Jani

“XXVI – GUJARAT SCIENCE CONGRESS 2012” held on 26th February, 2012 at M.S. University, Baroda.

- Structural characterization and transport properties of CVT grown ZrSe_3 and ZrS_3 crystals

Abhay Dasadia, Brinda Nariya and A. R. Jani

4th EuCheMS Chemistry Congress, Prague, Czech Republic, 26 – 30 August 2012.

Book Publications

- **Crystal growth and characterizations**
Abhay Dasadia, Brinda Nariya and Ashvinkumar Jani
ISBN No. 978-3-659-43449-5
LAP LAMBERT Academic Publishing, AV Akademikerverlag GmbH & Co. KG
Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany
- **Growth of tin monosulphide and tin monoselenide single crystals**
Brinda Nariya, **Abhay Dasadia** and Ashvinkumar Jani
ISBN No. 978-3-659-41401-5
LAP LAMBERT Academic Publishing, AV Akademikerverlag GmbH & Co. KG
Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany
- **Experimental Techniques for Material Characterization Part-1**
Vanrajsinh Solanki, **Abhay Dasadia** and Pramita Mishra
ISBN No. 978-620-0-25440-5
LAP LAMBERT Academic Publishing, AV Akademikerverlag GmbH & Co. KG
Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany
- **Structure Determination of Transition Metal Chalcogenides**
Abhay Dasadia, Vanaraj Solanki and Brinda Nariya
ISBN No. 978-620-0-26714-6
LAP LAMBERT Academic Publishing, AV Akademikerverlag GmbH & Co. KG
Heinrich-Böcking-Str. 6-8, 66121, Saarbrücken, Germany

International Visits

- **Oral presentation** on “Structural characterization and transport properties of CVT grown $ZrSe_3$ and ZrS_3 crystals”.
The 4th Congress of the European Association for Chemical and Molecular Sciences,
26 – 30 August **2012** Prague, **Czech Republic**
- **Poster presentation** on “Effect of pressure on electrical resistance of CVT grown $ZrSe_3$ and ZrS_3 single crystals”.
Advances in Static and Dynamic High Pressure Crystallography, 8-11 September
2013, DESY, Hamburg, **Germany**.
- **Poster Presentation** on “Growth and structure of $ZrSTe$: A new ternary phase of transition metal chalcogenides”
European Material Research Society, Fall Meeting 2014, Warsaw University of
Technology, 15-19 September **2014**, Warsaw, **Poland**