

## BIO DATA



Name :- Dr. Vikram Parsottambhai Rathod

Address : - Renewable and Sustainable Energy Laboratory,  
Mechanical Engineering Department,  
Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat.

Position :- Assistant Professor

Date of Joining Institute : 14-05-2009

Date of Joining Present Position: 14-05-2009

Date/ year of Ph.D. degree: 2018

### **Qualification:**

Degree	University	Year	Specialization
B.E	South Gujarat University, S.V.R.C.E.T.	2000	Mechanical Engineering
M.E	S.V.N.I.T, Surat	2003	Mechanical- Turbomachines
Ph.D	S.V.N.I.T, Surat	2018	Mechanical Engineering

### **Experience : 21 Years**

University / College	Designation	Period
Sarvajanik College of Engg &Tech., Surat	Adhoc Lecturer	3 years
S.V.N.I.T., Surat	Teaching Assistant	7 months
Atmiya Institute of Technology and science., Rajkot	Lecturer	4 months
C.K.Pithawala college of Engg. & Tech., Surat	Lecturer	3 years
S.V.N.I.T., Surat	Assistant Professor	15 years

### **Research Publication :**

(No. of Research Publication Since Joining – Please attach list of Publications)

Publication	Numbers
National Conference	15
National Journal	
International Conference	9
International Journal	15

**No. of P.hD. Student currently under Supervision: 3**

**No. of M. Tech. / with details (Please attach list of Dissertation/ Thesis) : 27**

**Title of the M. Tech Dissertation guided:**

<b>Sr. No.</b>	<b>Name of the student</b>	<b>Title</b>	<b>Year</b>
1.	Mr.DHAMESHWAR SAH	DESIGN AND COMPUTATIONAL FLUID DYNAMICS (CFD) ANALYSIS OF UPWIND HORIZONTAL AXIS WIND TURBINE	2011
2.	Mr. PARAMVIR GULIA	“DESIGN AND PERFORMANCE OF SOLAR PARABOLIC DISH TYPE COLLECTOR”	2011
3.	Mr. HARDIK N. RABARI	DETERMINATION OF ACTUATION FORCES REQUIRED TO DRIVE THE SPEAR OF PELTON TURBINE USING CFD	2011
4.	Mr. BHAVIN N. RANA	SOLAR ADSORPTION REFRIGERATION SYSTEM	2011
5.	Mr. SALIL HARRIS	REDESIGN AND CFD ANALYSIS OF A MIXED FLOW COMPRESSOR	2011
6.	Mr. MAITRIK SHAH	FLOW PATH ANALYSIS OF AN IP STAGE OF SUPERCRITICAL STEAM TURBINE BY COMPUTATIONAL FLUID DYNAMICS (CFD) TECHNIQUE	2012
7.	Mr. BRIJESH NAIK	VIBRATION ANALYSIS OF HYDRAULIC TURBINE TEST RIG	2012
8.	Mr. Beladiya Bharathkumar B	DESIGN DEVELOPMENT AND ANALYSIS OF SOLAR PARABOLIC TROUGH COLLECTOR”	2014
9.	Mr. Pratik N. Chaudhri	DESIGN AND THERMAL ANALYSIS OF CENTRIFUGAL COMPRESSOR	2014
10.	Mr. Keshar Patel	DESIGN AND THERMAL ANALYSIS OF AXIAL FLOW COMPRESSOR	2014
11.	Mr. Vikas kumar	DESIGN AND THERMAL ANALYSIS OF AXIAL FLOW TURBINE	2014
12.	Mr. Tejaram Saini	DESIGN AND CFD BASED ANALYSIS OF CENTRIFUGAL PUMP IMPELLER	2015
13.	Mr. Patel Mayur Kumar	DESIGN, DEVELOPMENT AND ANALYSIS OF RADIAL FLOW TURBINE	2015
14.	Mr Himansh Vishwakarma	DESIGN AND NUMERICAL ANALYSIS OF A CENTRIFUGAL COMPRESSOR THROUGH A COMMERCIAL SOFTWARE	2016
15.	Mr. Nirav Savaliya	FORMULATION OF GENERALIZED CORRELATION FOR PREDICTION OF SOLAR RADIATION WORLDWIDE WITH CFD ANALYSIS AND EXPERIMENTAL STUDIES ON CYLINDRICAL PARABOLIC SOLAR TROUGH COLLECTOR	2017
16.	Mr. Lalsingh Raipuria	DESIGN AND PERFORMANCE ANALYSIS OF AXIAL FLOW TURBINE USING COMMERCIAL SOFTWARE	2018

17	Mr. Monukumar Mogra	EXPERIMENTAL INVESTIGATION ON CFD SIMULATION OF DIRECT SOLAR DRYER FOR FRUITS, VEGETABLES AND BIO PRODUCTS	2018
18	Mr. Piwal Amol Piwan	PERFORMANCE PREDICTION OF DARRIEUS TURBINE FOR HYDRODYNAMIC APPLICATION	2018
19	Mr. Vikas	BIO FUEL PELETISATION OF DIFFERENT BIOMASS AND ITS APPLICATION	2018
20	Mr. Deepak Jaiswal	Design and Simulation of Horizontal Axis Wind Turbine	2019
21	Mr. Rahul Kumar	Design and Simulation of Tubular Type Combustion Chamber	2019
22	Mr. Chandresh Chaudhari	PERFORMANCE ASSESSMENT OF LIGNITE FIRED 75MW THERMAL POWER PLANT	2020
23	Mr. Mayur Jadhav	SIMULATION STUDY OF FLUID STRUCTURE INTERACTION OF A WIND TURBINE	2020
24	Mr. Bheemalingeswara Reddy K	DESIGN AND OPTIMIZATION OF THE WATER ROTOR WITH NUMERICAL INVESTIGATIONS	2021
25	Mr. Shekh Irfan Mansuri	Performance Evaluation, Fact findings and Making suggestions for Improvement at large Scale Sewage Based Biogas Plant	2021
26	Mr. Patel Shreyas Ashokbhai	Analysis of VCR system using evaporative cooling pad coupled to the condenser	2022
27	Mr. Parwa Vishwesh Patel	Numerical and Experimental investigations of Water Vortex Turbine	2021

#### Ph.D. Research Supervision:

Sr. No.	Admission No	Name of Student	Title of Thesis/ Area of Research	Category (FIR/PES /FRS/ FSF etc.)	Role (Supervisor/ Co-supervisor)	Name of all other supervisor(s) , if any	Status: Ongoing/ Submitted/ Awarded
1	D19ME006	Pringal Patel	Solar Drying	FIR	Supervisor	-----	Ongoing
2	D19ME005	Chirag Patel	Inline turbine	FIR	Co Supervisor	Dr. Vimal Patel	Submitted
3	D21ME013	Jaykumar Patel	Hydrokinetic Turbine	FIR	Co Supervisor	Dr. Vimal Patel	Ongoing

## PUBLICATIONS:

### International Journal

Sr. No	Title	Journal	Year
1	Vikram Rathod, Purnanand V. Bhale, “Experimental Investigation on Biogas Reforming for Syngas Production over an Alumina Based Nickel Catalyst”.	<b>Energy Procedia</b> , Elsevier, Vol 54, 2014, 256-265.	<b>2014</b>
2	Vikas Kumar, Keshar Patel, Vikram P Rathod, Blade Stresses and CFD Analysis of Axial Gas Turbine	<b>Applied Mechanics and Materials</b>	<b>2014</b>
3	Vikram P Rathod, Purnanand V. Bhale, Experimental Investigation on Biogas Reforming to Hydrogen rich Syngas Production using Solar Energy.	<b>International Journal of Hydrogen Energy</b> , Elsevier.	<b>2015</b>
4	V. P. Rathod, P.V.Bhale, Biogas Production from Water Hyacinth in the Batch type Anaerobic Digester	<b>Materials Today: Proceedings</b>	<b>2018</b>
5	V Patel, V Rathod, C Patel, Experimental investigations on an inline low head axial flow turbine with hydrofoil shaped vanes	<b>Energy Sources, Part A: Recovery, Utilization, and Environmental Effects</b>	<b>2021</b>
6	Numerical investigation of M21 aerofoil and effect of plain flapper at various angle of attack	<b>Journal of Physics: Conference Series</b>	<b>2021</b>
7	Vimal Patel, Bheemalingeswara Reddy, Vikram Rathod, Ravi Patel, Effect of vane shape on the performance of the water rotor	<b>Springer Nature Singapore</b>	<b>2023</b>
8	C Patel, V Rathod, V Patel, Experimental Investigations of Hydrokinetic Turbine Providing Fillet at the Leading Edge Corner of the Runner Blades	<b>Journal of Applied Fluid Mechanics</b>	<b>2023</b>
9	Vimal Patel, Vikram Rathod, Chirag Patel, Optimal utilization of hydrokinetic energy resources through performance improvement of the darrieus turbine using concave and flat blocking plates	<b>Ocean Engineering</b>	<b>2023</b>
10	Pringal M Patel, Vikram P Rathod, Evolution of Solar Drying Technology—A Mini-Review	<b>Applied Solar Energy</b>	<b>2023</b>
11	Jaykumar S Patel, Vikram Rathod, Vimal Patel, Influence of Extension Ratio on the Performance of the Modified Savonius Hydrokinetic Turbine	<b>Journal of Energy Engineering</b>	<b>2023</b>

<b>12</b>	Chirag Patel, Vikram Rathod, Vimal Patel, Effect of blade count on the performance of shrouded axial flow turbines	<b>Sustainable Energy Technologies and Assessments</b>	<b>2024</b>
<b>13</b>	Chirag P Patel, Bhargav Rathod, Vikram P Rathod, Vimal Patel, Performance Enhancement of Hydraulic Axial Turbine Rotor Using Enclosure at Upstream and Downstream Side	<b>Journal of Energy Engineering</b>	<b>2024</b>
<b>14</b>	Pringal M Patel, Vikram P Rathod, Divyesh Patel, Drying Solanum lycopersicum (Tomatoes) in greenhouse solar dryer: An eco-environmental study	<b>Journal of Thermal Engineering</b>	<b>2024</b>
<b>15</b>	Pringal M Patel, Vikram P Rathod, Vimal K Patel, Development and enhancement in drying performance of a novel portable greenhouse solar dryer	<b>Journal of Stored Products Research</b>	<b>2024</b>

### International Conference

<b>Sr. No</b>	<b>Title</b>	<b>Conference</b>	<b>Year</b>
<b>1</b>	Rathod V. P, Ratnadhariya J. K. and Channiwala S. A. ‘“Design and development of downdraft venturi type gasifier”	International Conference on Mechanical Engineering, DHAKA, Bangladesh	<b>2003</b>
<b>2</b>	Vikas Kumar, Vikram P Rathod, “Blade Stresses and CFD Analysis of Axial Gas Turbine”	International Mechanical Engineering Congress, 2014 (IMEC 2014), Tiruchirappalli. I June 13-15, 2014.	<b>2014</b>
<b>3</b>	V.P. Rathod, P.V. Bhale, Biogas Production from Water Hyacinth in the Batch type Anaerobic Digester	5 <sup>th</sup> International Conference on Advances in Energy Research Indian Institute of Technology Bombay, Mumbai.	<b>2015</b>
<b>4</b>	Vikram P Rathod, Purnanand V. Bhale, Biogas Production from Water Hyacinth in the Batch type Anaerobic Digester.	Presented in International Conference on Advances on Energy and Research, Energy Science Department, Indian Institute of Technology, Bombay. 14 -17 December 2015.	<b>2015</b>
<b>5</b>	Vikram Rathod, Purnanand V. Bhale, “Analytical and Experimental analysis for Dry Reforming and Partial Oxidation of Biogas”.	Presented in Applied Energy conference at <b>Abu Dhabi</b> on 28-31 March 2015. Organize by <b>Applied Energy</b> , Elsevier	<b>2015</b>
<b>6</b>	Vimal K Patel, Kushal Shah and Vikram Rathod, “Performance Enhancement of Savonius	Proceedings of the 7th International Conference on	<b>2021</b>

	Hydrokinetic Turbine with a Unique Vane Shape: An Experimental Investigation”	Advances in Energy Research pp 1453–1463	
7	Vimal Patel, Vikram Rathod and Chirag Patel, “Numerical Investigation of M21 Aerofoil and Effect of Plain Flapper at Various Angle of Attack”	Second International Conference on Advances in Physical Sciences and Materials 2021(ICAPSM 2021) 12-13 August 2021, India (Virtual)	2021
8	Vimal K Patel, K Bheemalingeswara Reddy, Vikram Rathod, Ravi Patel, Hydrodynamic Performance Investigation of Horizontal Axis Water Rotors	Proceedings of the 26thNational and 4th International ISHMT-ASTFE Heat and Mass Transfer Conference December 17-20, 2021, IIT Madras, Chennai-600036, Tamil Nadu, India	2021
9	A paper presented on “Experimental Investigation for Drying Solanum Tuberosum (Potatoes) in Solar Air Dryer” at	9th International Conference on Advances in Energy Research (ICAER) organized by Indian Institute of Technology , Bombay on 12th – 14th December 2023.	2023

#### National Conferences:

Sr. No	Title	Conference/Journal	Year
1	Rathod Vikram P, “Experimental investigation on solar paraboloidal collector with different shapes of receivers”	National Conference on Thermal Fluid and Manufacturing science, CKPCET & Institute of Engineers	2012
2	Maitrik Shah, Rathod Vikram P, “Flow path analysis of an IP stage of supercritical steam turbine by computational fluid dynamics (CFD) technique”	Thirty Ninth National Conference on Fluid Mechanics and Fluid Power. FMFP (26), December 13-15, 2012, SVNIT Surat, Gujarat, India	2012
3.	Vikas kumar, keshar Patel, Vikram P Rathod, CFD Analysis and design of axial flow turbine with AxSTREAM	National Level Industry-Institute Symposium on Turbomachines during April 5-6, 2014 (NIST-2014), NIT Allahabad.	2014
4.	Keshar Patel, Vikas kumar, Vikram P Rathod, Blade design and simulation of axial compressor with AxSTREAM	National Level Industry-Institute Symposium on Turbomachines during April 5-6, 2014(NIST-2014), NIT Allahabad.	2014

5.	Pratik Chaudhri, Vikas Kumar, Vikram P Rathod, “Design and analysis of centrifugal compressor with AxSTREAM”	National Level Industry-Institute Symposium on Turbomachines during April 5-6, 2014(NIST-2014), NIT Allahabad.	2014
6.	Vikram P Rathod, Purnanand V. Bhale, Suyog Ghungrad, Investigation on Dry Reforming Reaction of Compressed Biogas for Syngas Production: Effect of Pressure Variation.	Presented in 24th National Conference on I. C Engines and Combustion organized by University of Petroleum & Energy Studies, Dehradun. Oct- 2015	2015
7	Vikram P. Rathod, Vimal K. Patel and Nirav A. Savaliya, “Statistical Analysis of Solar Radiation Data of Different Cities of India”	Presented in National Conference on Turbomachines, Energy and Combustion (NCTEC-2021), SVNIT, Surat during November 29-30,2021.	2021
8	Vikram P. Rathod, Vimal K. Patel and Adarsh Sunil, “Design and Analysis of All Wheel Driving”	Presented in National Conference on Turbomachines, Energy and Combustion (NCTEC-2021), SVNIT, Surat during November 29-30,2021.	2021
9	Chandresh Chaudharia, Vikram Rathod and Vimal Patel, “Performance Assessment of Lignite Fired 75MW Thermal Power Plant”	Presented in National Conference on Turbomachines, Energy and Combustion (NCTEC-2021), SVNIT, Surat during November 29-30,2021.	2021
10	Pringal M. Patel, Monu Mogra, and Vikram P. Rathod, “Experimental Investigation of Active-Passive Solar Drying Process”	Presented in National Conference on Turbomachines, Energy and Combustion (NCTEC-2021), SVNIT, Surat during November 29-30,2021.	2021
11	Pringal M. Patel, Vikram P. Rathod and Vimal K. Patel, “Use of Phase Change Material (PCMs) in Solar Drying – A Review”	Presented in National Conference on Turbomachines, Energy and Combustion (NCTEC-2021), SVNIT, Surat during November 29-30,2021.	2021
12	Vimal Patel, Vikram Rathod and Chirag Patel, “Investigation of the Performance of Darrieus Hydrokinetic Turbine at Different Angular	Presented in National Conference on Turbomachines, Energy and Combustion (NCTEC-2021),	2021

	Orientation of the Rotor using Experimental method”	SVNIT, Surat during November 29-30,2021.	
13	Pringal M. Patel, Dr. Vikram P. Rathod and Dr. Vimal K. Patel, “Analysis of Solar drying Parameters with Empirical models”	Presented in National conference on Advances in Mechanical Engineering, SVNIT, Surat during 27-28 May 2021.	2021
14	Vimal Patel, Bheemalingeswara Reddy, Ravi Patel and Vikram Rathod, “Performance Investigation of Three Bladed Savonius Horizontal Axis Hydrokinetic Turbine at Variable Load Conditions”	Presented in National conference on Advances in Mechanical Engineering, SVNIT, Surat during 27-28 May 2021.	2021
15	Vimal Patel, Margiv Trivedi, Chirag Patel and Vikram Rathod, “Performance Investigation of Four Bladed Horizontal Axis in Line Turbine at Variable Load Conditions”	Presented in National conference on Advances in Mechanical Engineering, SVNIT, Surat during 27-28 May 2021.	2021

#### Sponsored Research Projects:

Sr. No.	Title of Project	Duration		Sponsoring Agency	Amount [in Lakhs]	Role: PI/Co-PI	All other Investigators, if any	Status: Ongoing/ Completed
		From	To					
1	Investigation On flow Deflection About Savonius Hydrokinetic Turbines and its Design Evolution with Core Technical concept	2021	2024	SERB	20.24 Lakh	Co PI	Dr. Vimal K. Patel / PI	Completed
2	Design and Development of Active Green House Solar Dryer for Potential Food Products	2023	2026	GUJCOST	11 Lakh	PI	Dr. Vimal K. Patel / Co PI	Ongoing
3	Unnat Bharat Abhiyan	2023	2025	NCI Delhi	10 lakh	Co PI	Dr. K. A. Chauhan	Ongoing



**Conference/ Short Term Training Programs (STTP) organized:**

Sr No.	Institute /Organization	Title	Duration		
			From	To	Weeks /Days
1.	Anchor Institute, S.V.N.I.T., Surat.	“Pressure Vessels-Design, Inspection Repair & Alterations”	19-07-10	23-07-10	1 Week
2.	Anchor Institute, S.V.N.I.T., Surat.	“CNC Programming (FANUC: OM & OT)”	04-04-11	09-04-11	1 Week
3.	Anchor Institute, S.V.N.I.T., Surat.	“Pump and Valve Selection for Optimum System Performance.”	25-04-11	29-04-11	1 Week
4.	Anchor Institute, S.V.N.I.T., Surat.	“Lubrication of Rolling Element Bearing, Root Causes Bearing Damage Analysis-WE204”	25-05-11	29-05-11	1 Week
5.	S.V.N.I.T., Surat & IIT Kharagpur	“Fluid Mechanics”	20-05-14	30-05-14	2 Week
6.	S.V.N.I.T., Surat.	“Flow Energy and Combustion”	21-12-20	25-12-20	1 Week
7.	S.V.N.I.T., Surat.	“National Conference on Turbomachines, Energy and Combustion (NCTEC-2021)”	29-11-21	30-11-21	2 days

**Expert Lecture/Talk Delivered in CEP/ QIP/STTP/ Special Lectures:**

Sr. No.	Title of the Talk	Name of the Program in which the Talk is Delivered	Date of Talk	Organizer and Venue
1	Solar Thermal Collector and its applications	GUJCOAST Sponsored STTP	19/05/2021	SSASIT, Surat, Gujarat
2	Design and Analysis of Horizontal Axis Wind Turbine	Recent development in Renewable Energy, STTP	09/04/2021	GEC, Bharuch, Gujarat
3	Introduction to Gasifier and Its application	TEQIP-III sponsored FDP on “ <b>Alternative Fuels</b> ” from 4 <sup>th</sup> Sep- 5 <sup>th</sup> Sep 2020	5/09/2020	University Departments, Rajasthan Technical University, Kota,324010

**Book Chapter:**

<b>Sr. No</b>	<b>Title</b>	<b>Book</b>	<b>Year</b>
<b>1</b>	Vimal Patel, Shreyas Patel, Vikram Rathod, Experimental investigation about the thickness of evaporative cooling pad for performance enhancement of VCR cycle	Proceedings of the 28th national symposium on cryogenics and superconductivity: book of abstracts	<b>2022</b>
<b>2</b>	Vimal Patel, Bheemalingeswara Reddy, Vikram Rathod, Ravi Patel, Effect of vane shape on the performance of the water rotor	Recent Trends in Mechanical Engineering: Select Proceedings of PRIME 2021	<b>2021</b>
<b>3</b>	Jaykumar S Patel, Vimal K Patel, Vikram P Rathod, Influence of Negative Overlap Ratio on the Performance of Semicircular Savonius Rotor with Straight Edge Extension on Overlap Region	International Conference on Advances in Energy Research	<b>2022</b>