



HEMALKUMAR N LAKDAWALA

Assistant Professor
Mechanical Engineering Department,
Government Engineering College, Valsad
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EDUCATION

PhD in Mechanical Engineering (Pursuing) Admission year Winter-2018

Fluid science through hydraulic high head turbine bucket and development of low head water wheel
Sardar Vallabhbhai National Institute of Technology, Surat
Guide: Dr. V.K. Patel

ME in Energy Engineering 2018

Government Engineering College, Valsad

BE in Mechanical Engineering 2003

Sardar Vallabhbhai National Institute of Technology, Surat

Diploma in Mechanical Engineering 1997

Dr. S. & S.S Gandhi College of Engineering and Technology, Surat

TEACHING EXPERIENCE

Assistant Professor 2016-present

Government Engineering College, Valsad

Assistant Professor 2015-2016

L.D College of Engineering, Ahmedabad

Assistant Professor 2010-2015

Government Engineering College, Valsad

Lecturer 2005-2009

STBS college of Diploma Engineering, Surat

PROFESSIONAL EXPERIENCE

Engineer-SC 2009-2010

Diagnostic Neutral Beam (DNB) division
ITER-INDIA (Department of Atomic Energy)
Institute for Plasma Research, Bhat, Gandhinagar

FIELDS OF RESEARCH INTEREST

Aerodynamics: Aerodynamics of vehicles and airfoils of different types, Shape optimization of vehicle body and airfoil-based wing generators, Aerodynamic force estimation through wind tunnel testing

Renewable energy: Development of low head and ultra-low head hydraulic turbines, Gravity turbine, underwater cross helical and airfoil based tandem bladed harvester, airfoil based wind harvester, water wheels for canals

Computer Aided Engineering Analysis: CFD based single phase and multiphase flow analysis (CFX), Analysis of High speed jet like hydro demolition through constricted passage with Open foam, Hydraulic turbine bucket shape optimization

Optimization: Optimization through Stochastic and deterministic algorithm for structures and vehicle suspension systems and car body styles

TECHNICAL SKILLS

- Programming languages: Scilab, Matlab, C, C++, Open foam
- Computer Aided Design packages: AutoCAD, Catia, SolidWorks, NX design
- FEM and CFD: Ansys, CFX
- Other: Latex, Windows OS

PUBLICATIONS

Journal Papers

Singh, M.J., Bandyopadhyay, M., Rotti, C., Singh, N.P., Shah, S., Bansal, G., Gahlaut, A., Soni, J., Lakdawala, H., Waghela, H. and Ahmed, I., 2011. An Indian test facility to characterise diagnostic neutral beam for ITER. *Fusion Engineering and Design*, 86(6-8), pp.732-735.

Hemalkumar N Lakdawala, 2018, An aerodynamics performance estimation of linear motion Airfoil S1223 using Xfoil, *International Journal of Creative Research Thoughts* vol 6, ISSN:2320-2882

PATENTS

Patel, S., and Lakdawala, H. (Patent Pending). "Airfoil based linear motion wind harvester", Indian Patent Office, Application No.- 201821011548, date of filing - 28/03/2018.

WORKSHOP / TRAINING ATTENDED

- "Action Researches for improving Quality of Technical Education System" NITTR, Bhopal, 22-26 July 2019
- One day Workshop on "Wind tunnel experiments techniques and application", Parul University Vadodara, 17 March 2018
- "STTP on Essentials for NX design" Dr. S. & S.S Ghandhy Government Engineering College, Surat, 30/05/2016 to 04/06/2016
- "Managing Stress at work" NITTR Gujarat Extension Centre, Ahmedabad, 2/05/2016 to 06/05/2016
- "CATIA for Mechanical Engineers" NITTR Gujarat Extension Centre, Ahmedabad, 08/09/2014 to 12/09/2014
- "Karmayogi Residential Training for Quality Improvement Program in Technical Education" CTE, Gandhinagar, Shrimad Rajchandra Mission, Dharampur 21/11/2013 to 23/11/2013
- "International conference on Advances in Tribology and Engineering Systems" (ICATES 2013) GTU, Ahmedabad 15/11/2013 to 17/11/2013
- "Induction Phase-II" (A- View based), NITTR, Bhopal, Govrnment Polytechnic for Girls, Surat 11/03/2013 to 22/03/2013
- "Induction Phase-I" (IP-14), NITTR, Bhopal Govrnment Polytechnic for Girls, Surat 21/05/2012 to 01/06/2012
- ASME, "Overview of Welding", S. V. N. I. T , Suart 12/04/2011 to 13/04/2011
- ASME, "Welding and Brazing Qualifications", S. V. N. I. T , Suart 14/04/2011 to 16/04/2011
- STTP on "Computational Fluid Dynamics-Basics and Applications", Sardar Vallabhbai

National of Technology, Surat, 7-11 July 2008

- STTP on “Advances in CAM 2008”, Sardar Vallabhbhai National of Technology, Surat, 23-27 June 2008
- STTP on “Recent Trends in Manufacturing Technology (RTMT-2K6)”, Sankalchand Patel College of Engineering, Visnagar, 18-23 December 2006
- One day Workshop on “Efficient and safe Operation of Steam Generating System”, SVNIT, Surat, 5 August 2006
- One day Workshop on “Research Methodology in Engineering Education”, G.H. Patel College of Engineering & Technology, 22nd April 2006
- One day Workshop on “Power Plant Engineering”, SCET, Surat, 5th March 2005

PROFESSIONAL MEMBERSHIPS

- Life Member, Indian Society for a Technical Education (ISTE) LM62697, 2009
- Associate member, IE(India) ,Kolkata AM095812-6, 2008

HONORS AND AWARDS

Graduate College Dissertation Completion Award, SVNIT, SURAT **2003**

Post Graduate College Dissertation Completion Award, GTU, Ahmedabad **2018**

PORTFOLIOS

- Store Officer, GEC, Valsad **2016-present**
- GTU, Co-ordinator, GEC, Valsad **2012-2014**

SUBJECT TAUGHT

- Design of Machine Elements
- Machine Design
- Computer Aided Design
- Industrial Engineering
- Engineering Thermodynamics
- Control engineering
- Mechanics of solids
- Fluid power engineering
- Vehicle Dynamics
- Automobile Engineering
- Industrial Safety and maintenance Engineering
- Industrial Tribology
- Renewable Energy Engineering