

BIO-DATA

- (1) **Name in Full** : **VAKHARIA DIPAKKUMAR PRAVINCHANDRA**
- (2) **Present Position** : Professor (MED) & Registrar (In-Charge)
- (3) **Department Address** : Department of Mechanical Engineering,
S. V. National Institute of Technology,
Surat, Gujarat, India. Pin 395 007
Phone : **(M) 9879564861 (O) 0261- 220 1653**
E-mail : vakharia@med.svnit.ac.in
dpvakharia@yahoo.com

- (4) **Date of joining the Institute** : August 03, 1990

- (5) **Teaching Experience** : **Total Experience = 22 Years 02 Months**
- | | | | | | |
|-------------------------------|---|-----------|--------|-----------|------------------------|
| (i) Asst. Lecturer / Lecturer | : | <u>10</u> | Year/s | <u>09</u> | Month/s |
| (ii) Lecturer (Senior Scale) | : | <u>05</u> | Year/s | <u>00</u> | Month/s |
| (iii) Assistant Professor | : | <u>07</u> | Year/s | <u>07</u> | Month/s |
| (iv) Professor | : | <u>08</u> | Year/s | <u>06</u> | Month/s
(Till Date) |

- (6) **Qualifications** :

Examination or Degree or Diploma	University from which passed	Class/Division or Grade	Branch or Subject	Year of passing	No. of attempts
H.S.C.E.	GUJ. SEC. EDU. BOARD	FIRST CLASS	SCIENCE STREAM	1980	FIRST
B.E.	SAURASHTRA	FIRST CLASS WITH DIST.	MECHANICAL	1984	FIRST
M.E. (MECH.)	SAURASHTRA	FIRST CLASS WITH DIST	MACHINE DESIGN	1990	FIRST
Ph.D.	I.I.T. DELHI	-----	MECHANICAL	2001	-----

(7) Employment Record :

	Name of Employer and place of Employment	Designation of post held	Nature of work done	PERIOD		
				From	To	Year/s Month/s
1.	L.E. COLLEGE, MORVI	ASSISTANT LECTURER	TEACHING OF UG STUDENTS	02-07-'85	12-07-'89	4 Years 10 Days
2.	B.V.M. ENGG. COLLEGE, V.V.Nagar	LECTURER	TEACHING OF UG STUDENTS	14-08-'89	05-05-'90	8 Mts 23 Days
3.	S.V.R.C.E.T., SURAT	LECTURER	TEACHING OF UG AND PG STUDENTS	03-08-'90	02-08-'96	6 Years
4.	S.V.R.C.E.T., SURAT	SENIOR LECTURER	TEACHING OF UG AND PG STUDENTS	03-08-'96	02-08-'01	5 Years
5.	S.V.N.I.T., SURAT.	ASSISTANT PROFESSOR (CAS)	TEACHING OF UG, PG & PHD STUDENTS	03-08-'01	15-10-'06	5 Years 02 Mts 13 Days
6.	S.V.N. I.T., SURAT	ASSISTANT PROFESSOR	TEACHING OF UG, PG & PHD STUDENTS	16-10-'06	01-03-'09	2 Years 04 Mts 14 Days
7.	S.V.N. I.T., SURAT	PROFESSOR	TEACHING OF UG, PG & PHD STUDENTS	02-03-'09	ONWARD	8 Years 06 Mts

(8) Research Published (if any) :
(Refer Appendix - I)

Sr. No.	Title of Paper	Name of Journal / Conference / Publisher	Page Nos., Volume, Issue No. & Year

(9) **Publication of Books :**

Sr. No.	Title	Publisher	Edition	Month & Year of publication/s

(10) **Conference / Workshops / Seminar etc. attended :**

Sr. No.	Institute/ Organization	Title	Period		
			From	To	Days
1.	NID, Ahmedabad	Synergy 2002	25-01-02	25-01-02	01
2.	GUJCOST, Gandhinagar	Patent Awareness Workshop	25-02-02	25-02-02	01
3.	Bhavnagar University	Intellectual Property Rights	05-11-03	05-11-03	01
4.	Veer Narmad S.G.U.	Partial Diff. Equations	21-01-06	24-01-06	03

(11) **Awards / Honours / Patents :**

Filed Patent :

D. P. Vakharia and Dilip C. Patel, "Minimization of energy consumption in two-for one twister machine used in textile industry with automation and floating bush bearing", *Application No.1537/MUM/2009/A, Patent Official Journal, 21/08/2009, page No. 2221*

Best Research Paper Award :

International Conference

1. V. J. Savsani, R. V. Rao and D. P. Vakharia, "Biogeography-based Optimization for the Discrete Optimization of Speed Reducer", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2008, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, during Dec. 15-17, 2008, paper no. DD10, pp 404-408
2. Ashok Magar, Devang Patel and D P Vakharia, "A Numerical Solution of EHL Line and Point Contacts", Proc. of International Conference on Innovative Science & Engineering Technology, ICISSET 2011, held at V V P Engineering College, Rajkot, Gujarat, India, during April 8-9, 2011, pp 412-415

National Conference

1. C. Patel, N. P. Maniar, D. P. Vakharia and A. Andhare, "Experimental Method of Hydrogen Testing to Prevent Hydrogen Assisted Cracking (HAC) During Submerged Arc Welding (SAW) Process", Proceedings of the National Conference (ISTE approved) on Advancements & Futuristic Trends in Mechanical Engineering - AFTME '08, Department of Mechanical Engineering, Atmiy Institute of Technology & Science, Rajkot, Gujarat, India, November 20, 2008.

(12) **Dissertation Guided :** Ph. D. : 4 + 8 (Ongoing)
M.E./M. Tech. : 47 + 05 (Ongoing)

(13) **Conference/Workshops /Seminar/ Short term courses etc. organized :**

International Conference:

- Organized an International Conference on "Advances in Mechanical Engineering, ICAME - 2008, at Mechanical Engineering Department, SVNIT, Surat, during Dec. 15-17, 2008

Also act as a Chairman for three session nos. P1, D4 and D9 in ICMAE-2008

- Organizing an International Conference on "Advances in Mechanical Engineering, ICAME - 2009, at Mechanical Engineering Department, SVNIT, Surat, during August 3-5, 2009

Also act as a Chairman for two session nos. DD5 and DD6 in ICAME-2009

Act as a Chairman for two sessions for paper nos. DD1-DD08 and DD35-DD39 in ICMAE-2010

Act as a Chairman for two sessions for paper nos. DD1-DD12 in ICAME-2011 at Mechanical Engineering, SVNIT, Surat, during June 6-8, 2011

National Conference:

Organized a National Conference on "Emerging Trends in Mechanical Engineering, ETME-2007, under TEQIP, at Mechanical Engineering Department, SVNIT, Surat, during June 5-6, 2007

Act as a Chairman for one session in ETME-2011, organized by GCET, V V Nagar, Gujarat, during March 18-19, 2011

Act as a Chairman for one session in NCRTE-2011, organized by BVM Engineering College, V V Nagar, Gujarat, during May 13-14, 2011

Short Term Courses Organized:

Sr. No.	Title	Period		
		From	To	Weeks
1.	CAD for Unigraphics Software Usage, IIT, Delhi	06-12-97	13-12-97	1
2.	Industrial Tribology and Maintenance, SVRCET	15-01-02	17-01-02	3 Days
3.	CAD training programme on "AUTOCAD/IdeaS/Catia", at MED, SVNIT, Surat (54 contact Hrs.)	10-03-03	16-04-03	5-6
4.	CAD training programme on "AUTOCAD/IdeaS/Catia", at MED, SVNIT, Surat (54 contact Hrs.)	12-08-03	12-09-03	4
5.	CAD training programme on "AUTOCAD/IdeaS/Catia", at MED, SVNIT, Surat (54 contact Hrs.)	15-09-03	15-10-03	4
6.	Advanced Engineering Optimazation through Intelligent Techniques	16-06-08	20-06-08	1
7.	Advanced Engineering Optimazation through Intelligent Techniques	30-06-08	04-07-08	1

(14) Summer / Winter schools or other Training Courses attended :

Sr. No.	Institute	Title	Period		
			From	To	Weeks
1.	VASCSC, A'bad	Computer Oriented Numerical Methods (Module III)	02-02-88	12-03-88	6
2.	IIT, Madras	ISTE Summer school on Computer Graphics for Design and Manufacture	07-06-93	18-06-93	2
3.	IIT, Delhi	QIP short term course on Bearing Design & Analysis	08-12-96	14-08-96	1
4.	IIT, Delhi	QIP short term course on Bearing Design & Analysis	08-12-96	14-08-96	1
5.	TTTI, Bhopal	Acquiring ISO 9001 : 2000 Certification for a Technical Institute	03-06-02	14-06-02	2
6.	IIT, Delhi	QIP short term course on Machine Design Practices	16-06-03	18-06-03	2
7.	Engg. College, Kota	Finite Element Techniques: Fundamentals, Implementation and Applications	20-12-04	25-12-04	1
8	Infosys, Mysore	Product Life Management using CAD	22-06-09	26-06-09	1

(15) Sponsored Research Projects Undertaken :

Sr. No.	Degree Registered / Project under taken	Duration (date)		University / Sponsoring Authority	funds sanctioned	Present Status
		From	To			
1	Design and Performance Evaluation of Foil Bearing Configurations vide letter no. F-26-42002.TS.V dated 31-03-2003	31-03-03	31-09-07	MHRD	8.00 lac	Completed at IIT Delhi

(16) Thrust area & Modernization projects Undertaken :

Sr. No.	Title	Sponsoring agency	Fund sanctioned Lacs of Rs.	Duration (years)	Status
1.	Modernization of Vibration and Dynamics Lab.	MHRD	10.00	1992-95	Completed

(17) Expert Lectures Delivered :

International:

- Delivered lecture on “Antifriction Bearing Failures, Causes & Remedy”, in the Industrial Course on “Condition Monitoring Techniques in Maintenance Engineering”, Organized by Department of Mechanical Engineering, Tribhuvan University, Kathamandu, Nepal, during December, 16-19, 1996

National:

- Participated as a teaching faculty in ISTE summer school on “CAD in structural Engineering”, held at Applied Mechanics Department, S.V.R.C.E.T., Surat, during July, 17-30, 1993
- Visiting Faculty of MBA course, Full Time as well as Part Time, run by Department of Business and Industrial Management, South Gujarat University, Surat, during March 1992-July, 1995
- Participated as a teaching faculty in ISTE winter school on “CAD in Transportation Engineering”, held at Department of Civil Engineering, S.V.R.C.E.T., Surat, during 1994
- Delivered a lecture on “Maintenance of Rolling Element Bearings”, in the Industrial course on “Lubrication : Key to Bearing Survival”, held at Department of Mechanical Engineering, S.V.R.C.E.T., Surat, during January, 11-12, 1997
- Presented an expert lecture on “Integration of CAD/CAM in Design of Machine Elements” in the Short term training programme on CAD/CAM Technology to be held at Department of Mechanical Engineering, Nirma Institute of Diploma Studies, Ahmedabad, during June 4-15, 2001
- Delivered a lecture on “Maintenance of Rolling Element Bearing and its Failures, Causes & Remedy”, in a CEP Workshop on “Industrial Tribology and Maintenance”, held at Department of Mechanical Engineering, S.V.R.C.E.T., Surat, during January, 15-17, 2002
- Delivered a lecture series for CAD Training Programme on “AutoCAD/IdeaS and Catia”, held at Department of Mechanical Engineering, S.V.N.I.T., Surat, during March 10, 2003 –April 16, 2003
- Delivered a lecture series for CAD Training Programme on “AutoCAD/IdeaS and Catia”, held at Department of Mechanical Engineering, S.V.N.I.T., Surat, during August 12, 2003 –September 12, 2003

(8 of 33)

- Delivered a lecture series for CAD Training Programme on “AutoCad/IdeaS and Catia”, held at Department of Mechanical Engineering, S.V.N.I.T., Surat, during September 15, 2003 –October 15, 2003
- Delivered a lecture on “Integration of CAD/CAM in Design of Machine Elements”, in the AICTE-ISTE Short term training programme on Modern Design Practices in Mechanical Engineering (MDPME-2004) held during Nov. 22-Dec. 3, 2004, organized by Department of Mechanical Engineering, Nirma University, Ahmedabad.
- Delivered a lecture on “Computer Aided Design of Kinematic Layouts of Multi Speed Gear Boxes”, in the AICTE-ISTE Short term training programme on Modern Design Practices in Mechanical Engineering (MDPME-2004) held during Nov. 22-Dec. 3, 2004, organized by Department of Mechanical Engineering, Nirma University, Ahmedabad.
- Expert lecture on “Integration of CAD/CAM in Design of Machine Elements”, in the Short term training programme held during May 9-13, 2005, organized at Department of Mechanical Engineering, Sad Vidya Mandal Institute of Technology (SVMIT), Bharuch
- Expert lecture on “Computer Aided Design of Kinematic Layouts of Multi Speed Gear Boxes”, in the Short term training programme held during May 9-13, 2005, organized at Department of Mechanical Engineering, Sad Vidya Mandal Institute of Technology (SVMIT), Bharuch
- Expert lecture on “CAD in Mechanical Engineering”, in the COVERGENCE : 2005, a national level students’ symposium held during Sept. 30, 2005, organized by U. V. Patel College of Engineering, Ganapat Vidyanagar, Mehsana.
- Expert lecture on “Surface Modelling” in the Short term training programme on Computer Graphics in Mechanical Engineering held at Department of Mechanical Engineering, Nirma Institute of Technology, Ahmedabad, during June 16-21, 2008
- Expert lecture on “Product Data Exchange” in the Short term training programme on Computer Graphics in Mechanical Engineering held at Department of Mechanical Engineering, Nirma Institute of Technology, Ahmedabad, during June 16-21, 2008
- Expert lecture on “CAD in Mechanical Engineering”, in the AICTE sponsored Short Term Training Programme on “Advances in CAE” held during June 30-July 04, 2008, organized by Department of Mechanical Engineering, SVNIT, Surat
- Expert lecture on “Advances in CAD”, organized by Department of Mechanical Engineering, V V P Engineering College, Rajkot, on April 20, 2009
- Expert lecture on “Advances in CAD”, organized by Department of Mechanical Engineering, Polytechnique, Bardoli, on April 21, 2009

(9 of 33)

- Expert Lecture on “Customization of Auto CAD”, ” in the Short term training programme on Engineering Drawing using CAD, held at Civil Engineering Department, SVNIT, Surat, during Dec. 2009
- Expert Lecture on “CAD-CAM and Rapid Prototype” in the ISTE Short Term Training Programme on Modern Computing Techniques in Mechanical Engineering, held at Mechanical Engineering Department, B & B Institute of Technology, Vallabh Vidyanagar, Gujarat, Jan 4-8, 2010
- Expert Lecture in One Day Workshop on “Innovative Approach for Engineering Graphics”, held at Mechanical Engineering Department, INDUS Institute of Technology and Engineering, Ahmedabad, Gujarat, Jan 16, 2010
- Expert Lecture on “CAD for Engineers and its Application” in One Day Seminar for UG programmes, held at Mechanical Engineering Department, INDUS Institute of Technology and Engineering, Ahmedabad, Gujarat, Feb 24, 2011
- Expert Lecture on “Advances in CAD” organized by Mechanical Engineering Department, GARDI College of Engineering and technology, Rajkot, Gujarat, on March 5, 2011
- Expert Lecture on “Advances in CAD” organized by Mechanical Engineering Department, C. U. Shah College of Engineering and Technology, Vadhwani City, Surendranagar, Gujarat, on March 25, 2011
- Expert Lecture on “Advances in CAD” in the National Conference on Recent Trends in Engineering and Technology (NCRTEET-2011), organized by Mechanical Engineering Department, B. V. M. Engineering College, Vallabh Vidyanagar, Gujarat, on May 14, 2011
- Expert Lecture on “Use of CAD for Gear Design” organized by Mechanical Engineering Department, GARDI College of Engineering and technology, Rajkot, Gujarat, on July 30, 2011
- Expert Lecture on “Use of CAD for Gear Design” organized by Mechanical Engineering Department, Marwadi Edu. Foundation Group of Institutions, Rajkot, Gujarat, on August 1, 2011
- Expert Lecture on “Advances in CAD” organized by Mechanical Engineering Department, Atmiy Institute of Technology & Science, Rajkot, Gujarat, India, on March 4, 2013
- Expert Lecture on “Design of Gear-Boxes” organized by Mechanical Engineering Department, Nirma University, Ahmedabad, on March 19, 2013
- Expert Lecture on “Design of Gear-Boxes” organized by Mechanical Engineering Department, Tapi College of Engineering, Surat, Gujarat, on March 12, 2013

(18) Management and Institutional Development Work :

National Level

- Adviser, Board of Selection Committee, UPSC, New Delhi, for the Interview of Driller Incharge, held on March 16, 2011

State Level

- Member, Board of Studies for Mechanical Engineering, INDUS, Ahmedabad, 2011
- Member, Board of Studies for Mechanical Engineering, D D University, Nadiad, 2011 to 2013
- Subject Expert, Board of Selection Committee for Mechanical Engineering, D D University, Nadiad, 2010 to 2013
- Member, Review Committee for M. Tech. Mid Sem. Thesis Progress, Gujarat Technical University, Ahmedabad, April 2011, March 2012
- Examiner for M. Tech. Final Dissertation Exam., Gujarat Technical University, Ahmedabad, July 2011, July 2012
- Examiner, for M. Tech. Final Dissertation Exam., Nirma University, Ahmedabad, May 2011, May 2012, May 2013
- Subject Expert, Board of Selection Committee for Mechanical Engineering, BVM Engineering College, V V Nagar, Gujarat, Oct. 2011

S V National Institute of Technology, Surat

- Co-Chairman, Magazine Committee, Students' Council for year 2001-2002
- Faculty Advisor, MINDBEND 2002
- Warden, Gandhi Bhavan (Hostel No. 5), during 3-12-2000 to 10-10-2003.
- Member, Anti-Ragging Committee 2000-2005.
- Member, College Discipline Committee, 2000-2003
- Liaison Officer of MED for World Bank Project, NPIU, 2003-2004
- Member, Board of Studies (Mech. Engg.), S. G. University, Surat, 2003 -2006
- Faculty Convener, MINDBEND 2004
- Additional Chief Hostel Warden, From 13-04-2004 to 18-12-2005
- Member, Conversion to Credit System for Tech. Edu., S. G. University

(11 of 33)

- Coordinator, Discipline Committee, Sparsh 2005, SVNIT
- Member, Community Service Centre (Proposed), 2005, SVNIT, Surat
- **Dean Students Counselling**, SVNIT, From 19-12-2006 to 22-12-2008
- Member, Institute advisory body, Mahatma Gandhi Institute of Technology and Research Center, Navsari, from 2006 onward
- Member, Board of Studies (Mech. Engg.), S. G. University, Surat, 2006 -2009
- Performed duties frequently as an **In-charge-Registrar**, SVNIT, From Dec. 2006
- Performed duties frequently as an **In-charge-Director**, SVNIT, July-Dec, 2008
- Member Secretary, Institute level Selection Committee, SVNIT, July, 2008
- **Dean Academic**, SVNIT, From 06-05-2009 to 13-04-2010
- Chairman, Board of Under Graduate Studies, SVNIT, From 06-05-09 to 13-04-2010
- Chairman, Institute Discipline Committee, SVNIT, From 06-05-2009 to 13-04-2010
- Chairman, Academic Performance Review Committee (APRC), SVNIT, From 06-05-2009 to 13-04-2010
- Member, Institute Level Anti-Ragging Committee, 27-05-2009 to 13-04-2010
- Coordinator, First year B. Tech. programmes, SVNIT, 11-08-2009 to 13-04-2010
- Member, Institute Level Sixth Pay Fixation Committee, 2010 (O.O. 22-08-2009)
- Member Secretary, Institute Level CAS Scrutiny Committee, 2008 & 2010
- Member Secretary, Steering Committee for NIT Meghalaya, 2011
- Professor in Charge Security System, SVNIT, From 09-06-2011 onward
- Chairman, Stock verification Committee for Computer Engg. Dept. SVNIT, July 2011 and July 2012.
- Currently working as an In-Charge Registrar, S.V.N.I.T., Surat from Feb. 2015.

(19) Administrative duties performed at Department level :

- Worked as an In-charge of CAD laboratory of Department of Mechanical Engineering, S.V.R.C.E.T., Surat, from 15-10-91 to 22-7-95.
- Worked as a Co-coordinator, Central Assessment of B.E. I, held at Department of Mechanical Engineering, S.V.R.C.E.T., Surat, During August, 1999.
- Working as an In-charge of CAD laboratory of Department of Mechanical Engineering, S.V.R.C.E.T., Surat, from Nov. 1999 onwards.
- Worked as an In-charge of Simulation Laboratory of Department of Mechanical Engineering, S.V.R.C.E.T., Surat, from Nov. 2001-2004
- Worked as a Co-coordinator, Central Assessment of B.E. I, held at Department of Applied Science and Humanity, S.V.R.C.E.T., Surat, During March, 2001.
- Worked as a Superintendent of Examination for the Regular Examination of Dec 2003 (8-12-2003 to 22-12-2003) for B.Tech. I and BE II to IVth year.
- Working as a Coordinator of CAD Lab 1 of Department of Mechanical Engineering, SVNIT, Surat under the World Bank assisted project of TEQIP.
- Member, Selection Committee for M.Tech. (Mech.) Admission, 2004 & 2005
- Member, Selection Committee for Ph.D. (Mech.) Admission, 2004 & 2005
- Member, PG Time Table Committee, 2004
- Chairman, Time Table Committee, for academic year 2005-2006
- Member, Selection Committee for M.Tech. (Mech.) Admission, 2007 & 2008
- PG Incharge for M. Tech. CAD/CAM 2007 –Oct. 2008
- Sectional Head, Design and Dynamics Section, Mech. Engg. Dept., From Oct. 2008 onward
- Member, Selection Committee for Ph.D. (Mech.) Admission, 2009, 2010, 2011
- Member, Selection Committee, Teaching Asstt., MED, SVNIT, 2010, 2011, 2012
- Ph. D. Coordinator, MED, SVNIT, July 2011 onward
- Coordinator, M.Tech. admission, MED, SVNIT, Surat, July 2012
- In-charge CAD Lab-1 from Aug 2012 to till date.

(20) Testing & Consultancy Work :

Sr. No.	Title	Organization	Month & Year of Completion	Amount (Rs.)
1.	Development of Nozzle Openings on Shell Plates	L & T Ltd. Hazira	July, 1993	3000
2.	Conversion of AutoCAD Drawing Bill of Materials to Oracle Data Base System	L & T Ltd. Hazira	July, 1994	20000
3.	Design of non-metallic Ball Bearing Test Rig,	Novel Bearings Pvt. Ltd. Delhi	Dec, 1996	20000

(21) Membership of Technical Societies :

Sr. No.	Name of Association/Society	Category	Membership No.
1.	ISTE	Life Member	LM 3730
2.	TSI	Life Member	LM 3738

(22) Other services offered either to the institute or society & community : _____

- Extended the technical expertise to National Innovation Foundation (NIF), Ahmedabad, which is working for grass root innovators (during 2001-2004).
- A joint programme, SVNIT and MANTRA, is taken up for improvements/monitoring the process industries including the training to the employees of textile industries in Surat City under the umbrella of Institution of Engineers, Surat Chapter. (2005 onward)

(23) Present Basic Pay Rs. 51720 AGP Rs. 10000 D.A. Rs. 55548.
Present Pay Scale : **37400 – 67000**

(24) Additional Remarks if any / Other Activities :

(I) Area of Interest/Specialization : Machine Design, CAD/CAM, Tribology

(II) Ph. D. Supervision :

Ph. D. Awarded

Sr. No.	Name of Student	Title of Thesis	Year	Co-Supervisor
1.	V. J. Savsani	Design of Mechanical Elements using Advanced Engineering Optimization Techniques	2011	Dr. R. V. Rao
2.	Dilip C. Patel	Performance Analysis and Enhancement of Two-For-Machine used in Textile Industries	2012	
3.	P. H. Darji	Development of a Mathematical Model to Determine Optimum Hallowness in Hollow Cylindrical Roller Bearing	2014	
4.	Sandeep Soni	An Investigation into Steady State and Dynamic Properties of the Non-Circular Cylindrical Floating Ring Bearing in Laminar and Turbulent Flow Regime	2017	

Sr. No.	Name of Student	Title of Thesis	Year	Remarks
1.	Imran Jamadar	Numerical and Experimental Study of the Vibrations Caused By the Localized Structural Damage to the Raceways and Rollers of the Rolling Bearing Using Matrix Method of Dimensional Analysis	2017	Thesis Submitted
2.	Solanki Mitulkumar Thakorbbhai	Estimation of Static Load Carrying Capacity of a Layered Cylindrical Hollow Roller Bearing through Numerical and Experimental Techniques	2017	Thesis Submitted

Ph. D. Ongoing

Sr. No.	Name of Student	Title of Thesis	Year	Remarks
1.	Bhumi Shah	Performance analysis of machine components under damaged conditions	2011	
2.	Bhojawala V. M.	Closed form relation to predict static response of electrostatically actuated fixed-fixed beam under the effect of fringing field and van der Waals force	2012	
3.	Vinay Kumar	Analysis of journal bearing	2013	
4.	Ashok Magar	A general solution for stresses around holes in symmetric laminates under inplane loading	2014	
5.	Paresh Chhottani	Fatigue life analysis of cylindrical roller bearing	2016	
6.	Damania S. V.	Analysis of gearbox	2017	

(III) M.E./M. Tech. (Mech.) Dissertation Guidance

Sr. No.	Name of Student	Title of Thesis	Year	Co-supervisor
1.	Hiralal S. Patil	Optimization of Gear Box Design for Minimum Centre Distance	2001	S. A. Channiwala Rupesh Shah
2.	C. K. Desai	Investigations on Failure of Cylindrical Jet Dyeing Machine	2001	
3.	Jignesh Vaghasia	FEA of Pressure Distribution in Inclined Hydrodynamic Pad Bearings Using Matlab	2003	
4.	Kalpesh Mania	Optimization of Worm Gears for Minimum Centre Distance	2003	
5.	Bhavesh Patel	Wear analysis of Piston and cylinder of I.C. Engines through Experimental/theoretical methods	2005	
6.	R. L. Patel	Utilisation of CAD/CAM for non circular gears	2005	
7.	J. S. Talpada	Utilisation of CAD/CAM for non circular gears	2005	
8.	Niraj Nigothiya	Design and Development of Inclined Sector Type Pad Bearings.	2006	
9.	Sampath Mohguru	Design and Development of Foil Bearing Configuration	2006	
10.	Piyush Saxena	Hydrodynamic Journal bearing Pressure Distribution Using MATLAB”	2006	
11.	Nimesh Patel	Analysis of Magnetic Fluid Based Slider Plates Bearings	2007	
12.	Sachin Palav	Fatigue Analysis of Tall Columns for Wind Induced Vibration	2007	
13.	V. K. Mishra	Automation and Optimzation of Platform Design and Drawing for Pressure Vessel	2008	

14.	S. B. Sanawada	Performance Improvement of 2-stage Gear Box by Theoretical Method and Experimental Method	2008	
15.	B. P. R. Naik	Finite Element Analysis of Ship Unloader	2008	Mr. P. C. Tarey
16.	Saiganesh K. Iyer	Bearing Analysis of An Induced Draft Fan Using Experimental Methods (ESSAR)	2009	Mr. J. Dani
17.	Desai Bhavin V.	Design and Analysis of AGC Cylinder Change Mechanism used in Steel Industries (ESSAR)	2009	Mr. J. Dani
18.	Gujarati Paresh B.	Implemetation of ASME Section VIII Div. 2 Edition 2007 (L&T Hazira)	2009	Mr. K. N. Srinivasan
19.	Altaf Hussain G Momin	Design and Automatic Tool for Complex Space Craft Assembly Mux Component (ISRO A'bad)	2009	Mr. A. R. Srinivas
20.	Patel Sandip T.	Development of Knowledge Based Expert Cad System For Multi Stage Simple Planetary Gear Box	2009	
21.	U. Nagavardhani	Optimum Design of Pressure Plate used in Gear Pump	2009	
22.	Ansari Mohd. Farooq	Optimization of Maximum Span between Pipe Supports	2009	
23.	Kailash Kr. Mishra	Failure Analysis in Rolling Element Bearings	2009	
24.	Chothani Hardik	Design and Analysis of Long Vertical Thin-Walled Vessel for External Load Conditions	2009	
25.	Atulkumar I. Makwana	Design of a Robot for Bio-medical application	2009	
26.	Paresh B Gujarati	Implementation of ASME Section VIII Division 2 Edition 2007	2009	
27.	Nirav P. Maniyar	Design of 10 Operations Boring Fixture For Machinoing of Connecting Rod on VMC-640 (APC)	2010	

(18 of 33)

28	Gehani Vijaykumar S	Thermal & fluid hydraulic Design and Analysis for Large Fusion Reactor Vessel to International Standards (IPR)	2010	
29	Vachhani Darshan M	Development of Stewart Platform for Ground and Space Application (ISRO)	2010	Mr. Neeraj Mathur
30	Hingoo Chintan P	CFD analysis for cryogenics panels for operation at 4 kelvin	2010	
31	Ankur Jain	Theoretical Investigation of Waste Heat Recovery in Reheating Furnace Used in Hot Strip Mill (ESSAR Steels)	2010	Mr. J. Dani
32	Abuwala Ravi S	Design and Analysis of AGC System Change Mechanism For Hot Rolling Mill (ESSAR Steels)	2010	Mr. J. Dani
33	Damania S. V.	Optimum Design of Multistage Gear Box using MATLAB	2011	
34	Gundarneeeya T. P.	Performance Analysis of Journal Bearings using Theoretical and Experimental Methods	2011	
35	Magar Ashok B.	Numerical Analysis of the Pad Bearing and Elastohydrodynamic Line Contact Using MATLAB	2011	
36	Patel Devang A.	Numerical Analysis of Elastohydrodynamic Lubrication for Point Contact	2011	
37	Patel Mahesh N.	Failure Analysis of Slab Extractor Arm in Reheating Furnace (ESSAR Steels)	2011	
38	Palsanawala Vimal P	Synthesis and Analysis of Planner Kinematic Chains Using MATLAB	2012	
39	Paresh C Chhotani	Study of pressure Distribution in Hydrodynamic Journal Bearings	2012	
40	Kinnari S. Damania	Theoretical and Experimental Investigation of Effect of Water Emulsion in Oil on Temperature and Load Carrying Capacity of Journal Bearing	2012	
41	Animesh Kumar Jha	Design, Development and Optimization of the Temperature Compensation Mechanism for High Power Mutiplexure System	2012	

(19 of 33)

42	Mitul T. Solanki	Effective Use of Various Analytical Methods to Detect Isomorphism in Kinematic Chains	2012	
43	Bhatt Kunal Sunil	ISRO based Project	2013	Mr. A. R. Srinivas
44	Subhash P Pansuria	Customization of curves and surfaces in various CAD packages using Macros	2013	
45	Vishal T. Mahale	Performance Improvement of bearing Materials	2013	
46	Meghdeep A Dey	Design and vibration analysis of multi degree of freedom system	2013	
47	Nehe Manoj A.	Synthesis and Analysis of planner kinematic chain using MATLAB	2013	
48	Shinde AKash G	Design and Analysis of Pressure Vessels Using MATLAB		
49	Ragareman P	Failure Analysis Of Gear Box		
50	Jadhav Ninad N	Customization of AutoCAD for Diamond Industries		
51	Prajapati Parth P	Preview of Micro-Electro-Mechanical Systems (MEMS) used in Space Technology		
52	Patil Manish S	Computer aided design and analysis of die surface using Bezier surface and error minimization using Taguchi method		

(IV) Guided Under-Graduate Projects:

- Computer Aided Design of Helical Gears, 1991-92.
- Computer Aided Design of Bevel Gears, 1991-92.
- An Integration of CAD-CAM for Worm Gears, 1992-93.
- Computer Aided Design for Rating of Spur Gears, 1993-94.
- Optimization of Pressure Vessel Supports using FEM Analysis, 99-2000.
- Integration of CAD/CAM for SVR College Emblem, 2000-01.
- Hydrodynamic pressure distribution of pad bearings using MATLab, 2001-02
- Design and development of Cam Profile Recorder, 2001-02.
- Design and Fabrication of Portable Crane, 2001-02.
- Performance study of ball bearing of HDD at various speeds, 2002-2003
- Improvements in bicycle for reduction in rolling friction, 2003-2004
- Design and Development of rolling bearing test rig, 2003-04
- Design and development of Planetary gear drive, 2003-04
- Hydrodynamic pressure distribution of Point Contact using MATLab, 2003-04
- Journal bearing pressure distribution using Mat Lab, 2004-2005
- Design & development for Thrust pad bearing pressure distribution, 2004-05
- Integration of AutoCAD and Excel for machine elements, 2004-05
- Integration of CAD/CAM for non circular gears, 2004-05
- Improvements in experimental setup for thrust bearing test rig, 2005-06
- Design and development for Internal expanding shoe brake test rig, 05-06
- Design and development for fatigue test rig, 2005-06
- Integration of CAD/CAM for tube sheet layout used in heat exchangers, 05-06
- EHL of line contacts using MAT Lab, 2005-06
- Design and development for experimental setup for differential gears 06-07

(V) Research Experience:

Under the scheme of QIP/Ph.D. of MHRD and sponsored by SVRCET at Indian Institute of Technology, Delhi for a period of three and half years (24-07-1995 to 24-01-1999). During this period a rolling element test rig is designed and developed specifically to provide the following capabilities.

- Application of radial, axial or combined radial and thrust loads.
- Variation of test shaft rotational speed.
- Testing a variety of test bearing like deep groove ball bearings, roller bearings, taper roller bearings, etc.
- Variation of lubricant types - Grease/Oil.
- Measurement of dynamic load carrying capacity of rolling bearings.
- Variation of bearing sizes.

(VI) Laboratory Development:

Dynamics Laboratory, MED, SVNIT, Surat

- An experimental set up was designed and fabricated to record CAM profile for radial and cylindrical CAMS. (2001-2002)
- An experimental set up was designed and fabricated to study the different speeds of Planetary gears (2003-2004)
- An experimental set up is developed to study the rated life of Hard Disk Bearings under the influence of radial/axial loads (2003-2004)
- An experimental set up is developed to measure the rolling friction in existing Bicycle wheels under the influence of radial loads and the improvement to reduce the rolling friction (2003-2004)
- A working model of elliptical gears for different arrangements is developed using integration of CAD/CAM (2003-2004)
- An experimental set up is designed and developed to measure the hydrodynamic pressure distribution in thrust pad bearing at different sliding speeds (2004-2005)
- A working model of Non-Circular gears is developed using integration of CAD/CAM (2004-2005)
- A fatigue test rig is designed and developed to measure endurance limit of a work piece (2005-2006)
- An experimental set up is designed and developed to measure the coefficient of friction for braking materials (2005-2006)
- An experimental set up is designed and developed to demonstrate the working of differential Gears (2006-2007)
- An experimental set up is designed and developed to demonstrate the working of Two stage 6-speed Gear Box (2007-2008)

I. C. Engine Laboratory, MED, SVNIT, Surat

- In I. C. Engine Laboratory, manually operated portable crane of 1.5 ton lifting capacity was designed and developed for the Institute use. (2001-2002)

(VII) Industrial Training :

- Under QIP-92, short term training in Industries for teachers of Engineering College and Polytechniques. Letter no. F-31-3/92 QIP Guj., underwent training at Larsen & Toubro Ltd., Hazira, Surat. During this period, developed a software for cutouts of Pressure Vessels.
- Undergone an Industrial Training at Larsen & Toubro Ltd., Hazira, Surat, for a period of two months. During this period a sequential CAD modeling extensively on 3D of pressure vessel parts and its assembly was performed using I-DEAS software.

List of Research Papers Published

International Journals:

1. V. J. Savsani, R. V. Rao and D. P. Vakharia, “Multi-objective Design Optimization of Ball Bearings using a Modified Particle Swarm Optimization Technique”, International Journal of Design Engineering, (Inderscience Publishers, UK), Vol. 1, No. 4, 2008, pp. 412-433
2. D. P. Vakharia and Mohd. Farooq A., “Determination of Maximum Span between Pipe Supports using Maximum Bending Stress Theory”, International Journal of Recent Trends in Engineering, Vol. 1, No. 6, May 2009, pp 46-49
3. N. P. Maniar, D. P. Vakharia, A. Andhare and C. M. Patel, “Design of 28 Operations, 4 Axis – 360° Indexing Milling Fixture for CNC”, International Journal of Recent Trends in Engineering, [ISBN 978-952-5726-04-6 (Print); ISBN 978-952-5726-05-3 (CD-ROM)], Vol. 1, No. 5, May 2009, pp 129-131
4. P. H. Darji, D. P. Vakharia and V. P. Darji, “Distribution of Sub-Surface Stresses in Cylindrical Roller Bearing using MATLAB”, International Journal of Emerging Technologies and Applications in Engineering, Technology and Sciences (IJ-ETA-ETS), Vol. 2, No. 2, July-Dec 2009, pp. 25-28. (ISBN : 0974-3588)
5. R. V. Rao, V. J. Savsani and D. P. Vakharia, “Mechanical Engineering Design Optimization Using Modified Harmony Elements Algorithm”, International Journal of Design Engineering (Inderscience Publishers, UK),), Vol. 2, No. 2, 2009, pp 116-135
6. V. J. Savsani, R. V. Rao and D. P. Vakharia, “Discrete Optimization of a Gear Train Using Biogeography Based Optimization Technique”, International Journal of Design Engineering (Inderscience Publishers, UK), Vol. 2, No. 2, 2009, pp 205-223
7. N. P. Maniar, C. M. Patel and D. P. Vakharia, “Design & Manufacturing with Moulding, Dynamic Balancing and Finite Element Analysis of Rotary Fixture for CNC Turning Centre to Function as HMC”, ASME Early Career Technical Journal (ECTJ), 8, 2009, pp. 12.1-12.9
8. N. P. Maniar, C. M. Patel and D. P. Vakharia, “Design & Manufacturing with Modeling of Multi Component-Single Hydraulic Fixture with 10 Cylinders & Expandable Uniforce Clamp for Machining Earthing Terminal Block on CNC-VMC 430” ASME Early Career Technical Journal (ECTJ), 8, 2009, pp. 16.1-16.6
9. D. C. Patel and D. P. Vakharia, “Determination of Friction Coefficient In Floating Bush Bearings by Strain Gauge Method”, International Journal of Automation Technology, Vol. 4, No. 4, 2010, pp. 383-388

(23 of 33)

10. V. J. Savsani, R. V. Rao and D. P. Vakharia, "Optimal Weight Design of a Gear Train Using Particle Swarm Optimization and Simulated Annealing Algorithms", International Journal of Mechanism and Machine Theory, (Elsevier, USA), (Impact Factor 0.83), Vol. 45, No. 3, 2010, pp. 531-541
11. Nirav P. Maniar and D. P. Vakharia, "Comparative Study of Rotary Fixture Design – a Review", International Journal of Recent Trends in Engineering, [ISSN : 2158-5555 (print) : ISSN 2158-5563 (Online)] Vol. 05, No. 04, 2011, pp 49-51
12. P. H. Darji and D. P. Vakharia, "Fatigue Failure Analysis of Hollow Cylindrical Roller Bearings : A Critical Review" International Journal of Advances in Engineering Sciences, Vol. 1, No. 2, 2011, pp 22-26
13. D. C. Patel and D. P. Vakharia, "Performance Analysis and Enhancement of Two For One Twister Machine used in Textile Industries", International Journal of Product Design, Vol. 2, No. 1, 2011, pp 51-57
14. R. V. Rao, V. J. Savsani and D. P. Vakharia, "Teacher Teaching-Based Optimization (TTBO): A Novel Optimization Method for Continuous Non Linear Large Scale Problems", International Journal of Computer Aided Design (Elsevier, USA), Vol. 43, No. 3, 2011, pp 303-315
15. P. H. Darji and D. P. Vakharia, "A Current Investigations On Hollow Cylindrical Roller Bearings : A Critical Review" The Journal of Tribology and Surface Engineering (JoMTR), Vol. 2, No. 3/4, 2011, pp. 197-218
16. N. S. Patel, D. P. Vakharia and G. M. Dehri, "A Study on the Performance of a Magnetic Fluid Based Hydrodynamic Short Journal Bearing," The ISRN Mechanical Engineering, Vol. 2012 (2012), Article ID 603460, 7 Pages
17. R. V. Rao, V. J. Savsani and D. P. Vakharia, "Teaching-Learning-Based Optimization : An Optimization Method for Continuous Non-linear Large Scale Problems", International Journal of Information Sciences (Elsevier, USA), Vol. 183, 2012, pp. 1-15
18. Nirav P. Maniar and D. P. Vakharia, "Design and Development of Rotary Fixture for CNC", International Journal of Engineering and Science (IJESI) -(ISSN 2319-6734 (online) ISSN 2319-6726 (print)) Vol. 1, No. 1, Dec. 2012
19. N. P. Maniar and D. P. Vakharia, "Design & Development of Rotary Fixture for CNC with an Approach of Developing pre-mortem Tool for Mass Balancing", International Journal of Engineering Research * Technology (IJERT) (ISSN 2278-0181) Vol. 2, No. 1, Jan. 2013
20. P. H. Darji and D. P. Vakharia, "Evaluation of Contact Width for Elastic Hollow Cylinder and Flat Contact through Experimental Technique and Extending the Capabilities of Hertz Equation", International Journal of Surface Science and Engineering, Vol. 7, No. 1, 2013, pp. 27-50

21. N. P. Maniar and D. P. Vakharia, "Design Modelling & Analytical Analysis of Rotary Fixture for CNC with an Approach of Computer Aided Mass Balancing Method," International Journal of Engineering Inventions-(ISSN 2278-7461, p-ISBN : 2319-6491) Volume 2, No. 3, 2013, pp 10-21
22. Kunal S. Bhatt, Rahul Dev, A. R. Srinivas and D. P. Vakharia, "An Effective Kelvin Thermal Management Strategy For Infrared Imaging Spectrometer", International Journal of Mechanical Engineering and Technology (IJMET), (ISSN 0976-6340 (Print), ISSN 0976-6359 (Online)), Vol. 4, No. 2, March-April 2013, pp. 356-366
23. Nirav P. Maniar and D. P. Vakharia, "Design and Development of Fixture for CNC - Reviews, Practices and Future Directions," International Journal of Scientific and Engineering Research (IJSER) -(ISSN 2229-5518) Volume 4, No. 2, 2013.
24. Soni, Sandeep, & Vakharia, D. P. (2014). Performance Analysis of Short Journal Bearing under Thin Film Lubrication. ISRN Mechanical Engineering, Vol. 2014, Article ID 281021, 8 pages.
25. Soni, Sandeep & D. P. Vakharia. (2015). Static analysis of finite hydrodynamic journal bearing in turbulent regime with non-Newtonian lubricant. Tribology Online, Vol. 10 No. 4, pp. 246-261.
26. Imran Jamadar, D. P. Vakharia (2016). A Numerical Model for the Identification of the Structural Damages in Rolling Contact Bearings Using Matrix Method of Dimensional Analysis, ASME Journal of Tribology, Vol.138, pp.021106-1-12.
27. Imran Jamadar, D.P.Vakharia, (2016). A novel approach integrating dimensional analysis and neural networks for the detection of localized faults in roller bearings, Elsevier, Journal of Measurement, Vol.94, pp.77–185.
28. Imran Jamadar, D.P.Vakharia, (2016). An in-situ synthesized model for detection of defective roller in rolling bearings, Elsevier Journal of Engineering Science and Technology, Vol.19, pp.1488-1496.
29. Soni, Sandeep & Vakharia, D. P. (2017). A steady-state performance analysis of a non-circular cylindrical floating ring journal bearing. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, Vol. 231 No. 1, pp. 41-56.
30. Soni, Sandeep & Vakharia, D. P. (2017). Dynamic performance analysis of a noncircular cylindrical floating ring bearing. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, Vol. 231 No. 6, pp. 745-765.
31. Soni, Sandeep & Vakharia, D. P. (2017). Performance analysis of a finite noncircular floating ring bearing in turbulent flow regime. Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology, Vol. 231 No. 7, pp. 869-888.
32. Solanki, M. T., & Vakharia, D. (2017). A finite element analysis of an elastic contact between a layered cylindrical hollow roller and flat contact. Industrial Lubrication and Tribology, Vol. 69 No. 1, pp. 30-41.

33. Solanki, M. T., & Vakharia, D. (2017). Extending Hertz equation for an elastic contact between a layered cylindrical hollow roller and flat plate through an experimental technique. *Industrial Lubrication and Tribology*, Vol. 69 No. 2, pp. 312-324.
34. Bhojawala, V. M., & Vakharia, D. P. (2017). Closed-form relation to predict static pull-in voltage of an electrostatically actuated clamped–clamped microbeam under the effect of Casimir force. *Acta Mechanica*, pp. 1-20.

International Conference: (Abroad)

1. C. K. Desai, D. P. Vakharia and S. A. Channiwala, "Investigations on Failure of Cylindrical Jet Dying Machine", Proceedings of the International Conference on Mechanical Engineering 2003(ICME2003), Dhaka, Bangladesh, December 26-28, 2003, Paper No. ICME03-AM-04
2. P. H. Darji and D. P. Vakharia, "Stiffness Optimization of Hollow Cylindrical Rolling Element Bearing", Proc. of STLE/ASME International Joint Tribology Conference - IJTC2008, Oct. 20-22, 2008, Miami, Florida Paper No. IJTC2008-71009
3. P. H. Darji and D. P. Vakharia, "Determination of Optimum Hollowness for Hollow Cylindrical Rolling Element Bearing", Proc. of ASME International Mechanical Engineering Congress and Exposition –IMECE2008, Oct. 31-Nov. 06, 2008, Boston, Massachusetts, Paper No. IMECE2008-67294
4. D. C. Patel and D. P. Vakharia, "Analysis of Dynamically Loaded Floating Bush Bearing With Flexible Shaft in Flexible Anisotropic Bearing Used in Textile Application", Proc. of ASME International Mechanical Engineering Congress and Exposition –IMECE2008, Oct. 31-Nov. 06, 2008, Boston, Massachusetts, Paper No. IMECE2008-68401
5. N. P. Maniar, C. M. Patel and D. P. Vakharia, "Design & Manufacturing with Moulding, Dynamic Balancing and Finite Element Analysis of Rotary Fixture for CNC Turning Centre to Function as HMC", Proc. of International Conference on ASME-ECTC-2009, held at USA, Oct. 2-3, 2009
6. N. P. Maniar, C. M. Patel and D. P. Vakharia, "Design & Manufacturing with Modeling of Multi Component-Single Hydraulic Fixture with 10 Cylinders & Expandable Uniforce Clamp for Machining Earthling Terminal Block on CNC-VMC 430", Proc. of International Conference on ASME-ECTC-2009 held at USA, Oct. 2-3, 2009
7. P. H. Darji and D. P. Vakharia, "Extending the Capabilities of Hertz Equation through Theoretical and Experimental Methods", Proc. of the ASME 2009 International Mechanical Engineering Congress and Exposition-IMECE2009, Nov. 13-19, Lake Buena Vista, USA, Paper No. IMECE2009-11205, pp. 123-127
8. N. P. Maniar and D. P. Vakharia, "Design and Development of Rotary Fixture for CNC with Computer Aided Mass Balancing Method as Pre-mortem Tool", Proc. of 2nd International Conference on Innovations in Automation and Mechatronics Engineering, (ICIAME 2014), to be published by Elsevier. **Status:** Accepted for Presentation.
9. G. D. Bassan and D. P. Vakharia (2015) Theoretical and Experimental Analysis of Tapered Roller Bearing for Increasing Fatigue Life, Proceedings of 1st International Conference on Tribology, TURKEYTRIB'15, Istanbul, Turkey, Oct. 06-09, Paper ID- BET9.

10. N. S. Patel, D. P. Vakharia, G. M. Deheri (2015) Experimental Analysis of Hydrodynamic Journal Bearing Considering Different Geometric and Material Aspects, Proceedings of 1st International Conference on Tribology, TURKEYTRIB'15, Istanbul, Turkey, Oct. 06-09, Paper ID. BET3.
11. Sandeep Soni, D. P. Vakharia (2015) Analysis of Finite Journal Bearing in Turbulent Regime Considering Non-Newtonian Lubrication, Proceedings of 1st International Conference on Tribology, TURKEYTRIB'15, Istanbul, Turkey, Oct. 06-09, Paper Id. BET7.
12. Mitul T. Solanki, D. P. Vakharia (2015) FE Analysis of an Elastic Contact between a Layered Cylindrical Hollow Roller and Flat Plate, Proceedings of 1st International Conference on Tribology, TURKEYTRIB'15, Istanbul, Turkey, Oct. 06-09, Paper Id. FFW08.

International Conference: (India)

1. Y. R. Reddy, D. P. Vakharia, K. Athre, and S. Biswas, "Rolling Element Bearing Temperature Prediction", Proc. Of International Conference on Industrial Tribology, Calcutta, December, 2-5, 1997, pp. 115-120.
2. J. H. Dani, D. P. Vakharia and N. M. Vora, "Design for Improved Single Cylinder Single Acting Reciprocating Compressor for Improvement of Volumetric as well as Overall Efficiency of the Reciprocating Compressor", Proc. of 33rd National and 3rd International Conference on Fluid Mechanics and Fluid Power (NCFMFP2006), IIT Bombay, December, 7-9, 2006, Paper No. 1907
3. J. S. Talpada and D. P. Vakharia, "Utilization of CAD/CAM for Non-Circular Gear", Proc. of International Conference on Advances in Machine Design and Industry Automation (ICAMDIA 2007), held at Department of Mechanical Engineering, College of Engineering, Pune, January 10-12, 2007, pp.583-588.
4. J. H. Dani, D. P. Vakharia, Nilesh Vora and Mayur Kevat, "Design Modifications on Multi Stage Reciprocating Air Compressors for Improvement of Overall and Volumetric Efficiency", 3rd International Conference on Thermal Science and Applications, held at Amman, Jordan, May 23-25, 2007
5. P. V. Savsani, H. J. Nagarsheth and D. P. Vakharia, "Review on Human Limbs Like Robot Mechanisms", Proc. of the 1st International Conference on Emerging Technologies and Applications in Engineering, Technology and Sciences – ICETATS 2008, held at Computer Science Department, Saurashtra University, Rajkot, India, Jan. 13-14, 2008, pp 283-297
6. V. J. Savsani, D. P. Vakharia and R. V. Rao, "Cost Optimization of A Long Column Using Genetic Algorithm", Proc. of the 1st International Conference on Emerging Technologies and Applications in Engineering, Technology and Sciences – ICETATS 2008, held at Computer Science Department, Saurashtra University, Rajkot, India, Jan. 13-14, 2008, pp 315-320
7. P. H. Darji and D. P. Vakharia, "Numerical and Finite Element Analysis of Rolling Element Bearing", Proc. of the 1st International Conference on Emerging Technologies and Applications in Engineering, Technology and Sciences – ICETATS 2008, held at Computer Science Department, Saurashtra University, Rajkot, India, Jan. 13-14, 2008, pp 2041-2046
8. N. P. Maniar, A. Andhare, D. P. Vakharia and C. Patel, "Design & manufacturing of 10 operations boring fixture for machining connecting rod on VMC (APC)", Proc. of International Conference on Total Engineering, Analysis & Manufacturing Technologies - TEAM TECH 2008, held at I. I. Sc., Bangalore, India, Sep. 22-24, 2008, pp. 138 (11 pages)
9. P. H. Darji and D. P. Vakharia, "An Investigation of Alternate Hollow Cylindrical Rolling Element Bearing - A New Generation", 6th International Conference on Industrial Tribology, – ICIT 2008, held at New Delhi, India, Nov. 6-8, 2008, paper no. 042

10. V. J. Savsani, R. V. Rao and D. P. Vakharia, "Biogeography-based Optimization for the Discrete Optimization of Speed Reducer", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2008, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Dec. 15-17, 2008, paper no. DD10, pp 404-408 (**Awarded Best Research Paper**)
11. Y. H. Cui, R. Guo, V. J. Savsani, R. V. Rao and D. P. Vakharia, "Harmony Element Algorithm – A Naïve Initial Searching Range", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2008, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Dec. 15-17, 2008, paper no. DD23, pp 479-484
12. V. J. Savsani, R. V. Rao, D. P. Vakharia, Y. H. Cui and R. Guo, "Modified Harmony Elements for the Optimization of Mechanical Engineering Design", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2008, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Dec. 15-17, 2008, paper no. DD34, pp 545-550
13. P. H. Darji and D. P. Vakharia, "Numerical and Experimental Study of Elastic Contact Analysis for Cylinder or Flat Configuration", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2008, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Dec. 15-17, 2008, paper no. DD38, pp 570-576
14. P. B. Gujarati, D. P. Vakharia and P. B. Kiri, "Implementation of ASME Section VIII Division 2 Edition 2007", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2009, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, August 5-7, 2009, paper no. DD29, pp 608-612
15. P. H. Darji and D. P. Vakharia, "An Analysis of Influence of Internal Radial clearance on Fatigue Life of Cylindrical Roller Bearing", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2009, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, August 5-7, 2009, paper no. DD30, pp 613-617
16. V. J. Savsani, R. V. Rao and D. P. Vakharia, "Minimum Cost Design of a Welded orthogonally stiffened cylindrical shell using Imperialist Competitive Algorithm", Proc. of International Conference on Advances in Mechanical Engineering – ICAME 2009, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, August 5-7, 2009, paper no. DD52, pp 722-726
17. P. H. Darji and D. P. Vakharia, "A Finite Element Study of Elastic Contact Behavior of Hollow Cylinder and Flat Contact", Proc. of 3rd International Conference on Advances in Mechanical Engineering – ICAME 2010, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Jan. 4-6, 2010, paper no. DD32, pp 613-617

(30 of 33)

18. V. J. Savsani, R. V. Rao and D. P. Vakharia, "ABC – WPGE : A Hybrid Artificial Bee Colony algorithm with Particle Swarm Guided Employed Bees for Global Numerical Optimization", Proc. of 4th International Conference on Advances in Mechanical Engineering – ICAME 2010, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Sept. 23-25, 2010, paper no. DD40
19. D. C. Patel and D P Vakharia, "A review of vibration measurement methods for defects detection in floating bush bearings." Proc. of International Conference on Innovative Science & Engineering Technology, ICISSET 2011, held at V V P Engineering College, Rajkot, Gujarat, India, April 8-9, 2011, pp 304-309
20. Ashok Magar, Devang Patel and D P Vakharia, "A Numerical Solution of EHL Line and Point Contacts", Proc. of International Conference on Innovative Science & Engineering Technology, ICISSET 2011 [ISBN 978-81-906377-5-6], held at V V P Engineering College, Rajkot, Gujarat, India, April 8-9, 2011, pp 412-415, **(Awarded Best Research Paper)**
21. Nirav P Maniar and D P Vakharia, "Design & development of 8 cylinder hydraulic fixture for VMC", Proc. of International Conference on Innovative Science & Engineering Technology ICISSET 2011 [ISBN 978-81-906377-5-6], held at V V P Engineering College, Rajkot, Gujarat, India, April 08 & 09, 2011, pp. 500 – 504
22. R. V. Rao, V. J. Savsani and D. P. Vakharia, "TLBO : An Efficient Optimization Technique for Mechanical Design", Proc. of 5th International Conference on Advances in Mechanical Engineering – ICAME 2011, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, June, 05-06, 2011, pp 250-253
23. Bhumi Shah and D. P. Vakharia, "Performance Analysis of the MEMS Accelerometer-A review" Proc. of 5th International Conference on Advances in Mechanical Engineering – ICAME 2011, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, June, 05-06, 2011, pp835-839
24. T. P. Gundarneeeya and D. P. Vakharia, "Theoretical Study on Pressure Distribution and Experimental Investigation of Effect of Water Emulsion on Pressure of Hydrodynamic Journal Bearing" Proc. of 5th International Conference on Advances in Mechanical Engineering – ICAME 2011, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, June, 05-06, 2011, pp979-983
25. Bhumi Shah and D. P. Vakharia, "A review on Damage detection methodology for shaft", Proc. of the 1st International Conference on Industrial Engineering – ICIE 2011, held at Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, India, Nov. 17-19, 2011

26. N. S. Patel, D. P. Vakharia, G. M. Deheri and H. C. Patel, "The Performance Analysis of a Magnetic Fluid-Based Hydrodynamic Long Journal Bearing", Proc. of International Conference on Advances in Tribology and Engineering Systems (ICATES-2013), held at L D College of Engineering, Ahmedabad, Gujarat, India, during Oct.15-17, 2013, pp.117-126
27. Nirav P. Maniar and D. P. Vakharia, "Design and Development of Rotary Fixture for CNC with Tribology Considerations of Mechanics Analysis and Dynamic Balancing as Pre-mortem Tool", Proc. of International Conference on Advances in Tribology and Engineering Systems (ICATES-2013), held at L D College of Engineering, Ahmedabad, Gujarat, India, during Oct.15-17, 2013, pp.225-267
28. P. C. Chhotani and D. P. Vakharia, "Effect of Elliptical Shaft Geometry on Non-dimensional Pressure and Load in Hydrodynamic Journal Bearings", Proc. of International Conference on Advances in Tribology and Engineering Systems (ICATES-2013), held at L D College of Engineering, Ahmedabad, Gujarat, India, during Oct.15-17, 2013, pp.285-296.
29. Sandeep Soni, D. P. Vakharia, Steady state behaviors of an elliptical journal bearing, ASIATRIB-2014, Agra (India), February 17-20, 2014, Vol. 1, Abstract Ref. No.- TSI - 914693.
30. Imran Jamadar, D. P. Vakharia, (2015), Model Development For Investigation of Localized Defects In Taper Roller Bearings Using Matrix Method Of Dimensional Analysis, 12th International Conference on Vibration Problems (ICOVP), December, 14-17, 2015, Indian Institute of Technology, Guwahati, India. Published in Elsevier Journal of Procedia Engineering, 2016, Vol.144, pp.751 – 758.
31. Mitul T. Solanki, and D. P. Vakharia. (2016) Current investigation in layered cylindrical hollow roller bearing using elastic finite element analysis. Proceedings of International Conference on Recent Trends in Engineering and Materials Science, ICEMS-2016, Jaipur, Rajasthan, March 17-19. Paper Id. 2-IC-1713.

National Journals:

1. V. S. Konnur, B. K. Murali, and D. P. Vakharia, "Computer Aided Design of Kinematic Layouts for Multispeed Gear Boxes", Engineering Design and Research Forum, Institution of Engineers, India, April-June 1993, Vol. XXIV No. 2, pp. 13-18
2. N. S. Patel, G. M. Dehri, D. P. Vakharia and H. C. Patel, "Analysis of Magnetic Fluid based Hydrodynamic Slider Bearing", Indian Journal of Tribology, Jan-July, 2008, Vol. 3, No. 1, pp. 21-24
3. P. H. Darji and D. P. Vakharia, "Numerical Analysis for Development of Hertz Contact Stresses in Cylindrical Roller Bearing and Its Distribution using MATLAB", ICFAI University Journal of Mechanical Engineering, Hyderabad, India: May, 2010
4. P. H. Darji and D. P. Vakharia, "Comparison of Strength to Weight Ratio for Cylindrical Solid and Hollow Rolling Element Bearing", Indian Journal of Tribology, Vol. 6, No. 1, Jan-Dec, 2012, pp. 49-54.

National Conference:

1. V. S. Konnur, B. K. Murali, and D. P. Vakharia, "Computer Aided Design of Kinematic Layouts for Multispeed Gear Boxes", NACOMM-91 conference held at IIT Madras, Dec. 1991
2. K. Madhusudhan, S. Sridhar, and D. P. Vakharia, "Recent Trends in CAD/CAM", Society of Mechanical Engineers, PINNACLE 94, National Seminar held at College of Engineering, Guindy, Madras, April, 8, 1994
3. A. M. Shah, V. S. Konnur, and D. P. Vakharia, "Optimum Design of Multi-Stage Speed Reducers Using Dynamic Programming", National Seminar on Design Engineering, Dept. of Mech. Engg., IIT, Madras, held on June, 25, 1994
4. Y. R. Reddy, D. P. Vakharia, K. Athre, and S. Biswas, "Computer Aided Selection of Rolling Element Bearings", Proc. Of the XII th National Seminar on Emerging Trends in Design Engineering, Organized by the Institution of Engineers, Allahabad Centre, MNR Engineering College, January, 31-February 2, 1997, Vol. I, pp. III 32 – III 43
5. D. P. Vakharia, S. Biswas, and K. Athre, "The Isothermal Lubrication of Rigid Cylinders", Proc. XI th ISME Conference, Indian Institute of Technology, New Delhi, February, 3-5, 1999
6. D. P. Vakharia, Ajoy Raj and Gibu Chako, "Application of CAD/CAM for Pressure Vessel Fabrication Industry", Proceedings of 19th AIMTDR Conference IIT, Madras, Dec. 2000, pp. 383-388

7. Deepak Gupta and D. P. Vakharia, "An Application of CAD/CAM for Design and Manufacture of Cams", Proceedings of 17th National Convention of Mechanical Engineers, The Institution of Engineers (India), Indore Local Centre, Indore and S. G. S. Institute of Technology and Science, Indore, Nov. 26-27, 2001, pp 43-48
8. N. Tandon, K. Athre and D. P. Vakharia, "Vibration and Noise Assessment of Computer Hard Disk Drive Spindles", Proceedings of National Symposium on Acoustics, Pune, Oct. 31 – Nov. 1, 2003, Paper No. NSA2003-02
9. C. K. Desai, D.P. Vakharia and S. A. Channiwala, "Failure Analysis of Cylindrical Jet Dying Machine Using Finite Element Methods", Proceedings of the National Conference on Advances in Mechanical Engineering NAME-2004, J N N College of Engineering, Shimoga, Karnataka, February 12-14, 2004
10. K. D. Maniya, and D. P. Vakharia, "Formulation of Optimal Design Problem for Worm Gear", Proceedings of National Conference on Recent Trends in Mechanical Engineering RTIME-2004, SRESCO, Kopergaon, July 23-24, 2004, Paper No. R-TIME/303/P.
11. K. D. Maniya, and D. P. Vakharia, "Optimization of Worm Gear for Minimum Centre Distance", Proceedings of National Conference on Recent Trends in Mechanical Engineering RTIME-2004, SRESCO, Kopergaon, July 23-24, 2004, Paper No. R-TIME/304/P.
12. D. C. Patel, C. K. Desai and D. P. Vakharia, "Comparative Performance Assessment of Twisting and TFO Machine use in Textile Industries", Proceedings of National Conference on Precision Manufacturing, NCPM-04, SHSL-CIET Longowal, Sangrur, December 11-12, 2004, Paper No. 120
13. K. D. Maniya, C. K. Desai and D. P. Vakharia, "Optimization of Helical Gear for Minimum Centre Distance", Proceedings of National Conference on Advances in Engineering Design AED2005, Bannari Amman Institute of Technology, Sathyamangalam April, 29-30, 2005, Paper No. 078
14. K. D. Maniya, H. K. Dave and D. P. Vakharia, "Formulation of Optimal Design Problem for Worm Gear for Minimum Centre Distance", Proceedings of National Conference on Advances in Engineering Design AED2005, Bannari Amman Institute of Technology, Sathyamangalam April, 29-30, 2005, Paper No. 062
15. D. C. Patel, N. K. Javeri and D. P. Vakharia, "Control of DC motor for reciprocating motion of ball screw in textile machine", Proceedings of National Conference on Advances in Mechanical Engineering, AIM-2005, Vasavi College of Engineering, Hyderabad, May 13-14, 2005, Paper No. D190
16. J. G. Vaghasia, R. D. Shah and D. P. Vakharia, "Estimation of Pressure Distribution in Inclined Pad Bearings using MATLAB with Finite Element Analysis", Proceedings of the National Conference on Advances in Mechanical Engineering ECKAME-2006, Engineering College, Kota, Rajasthan, March, 18-19, 2006, (ECKAME-2006-D-08), pp 170-175.

17. Jignesh H. Dani and D. P. Vakharia, "Effect of Design Alterations on the Volumetric Efficiency of the Reciprocating Compressors" Proc. of the National Conference on Advances in Mechanical Engineering ECKAME-2006, Engineering College, Kota, Rajasthan, March, 18-19, 2006, (ECKAME-2006-T-22), pp 133-138.
18. V. M. Daiya, K. N. Mistry and D. P. Vakharia, "Thermal Effect in a Rotary Squeeze Film Bearing" Proceedings of the National Conference on Advances in Mechanical Engineering (AAQMENT 2006), Engineering College, Erode, March, 21-24, 2006, Paper No. J-01
19. V. M. daiya, D. P. Vakharia and K. N. Mistry, "An Experimental Analysis of Steady State Hydro-dynamic Journal Bearing", Proc. of the National Conference on Recent Developments and Future Trends in Mechanical Engineering, Department of Mechanical Engineering, NIT, Hamirpur (HP), November 3-4, 2006, pp. 435-438.
20. M. A. Bulsara, D. P. Vakharia and K. N. Mistry, "Application of Squeeze Film Damper for Vibration Attenuation in High Speed Turbo-Machinery", Proc. of the National Conference on Current Trends in Technology (NUCONE 2006), Department of Mechanical Engineering, Nirma Institute of Technology, Nirma University, Ahmedabad, December 22-24, 2006, Paper No. 38, pp. 141-143
21. P. H. Darji and D. P. Vakharia, "Fracture Analysis of Pressure Vessel and Steam Turbine Rotor", Proc. of the National Conference on Recent Advances in Design Engineering (RADE 2007), Department of Mechanical and Manufacturing Engineering, Manipal Institute of Technology, Manipal, February 22-24, 2007, Paper No. FME-01, pp 312-322
22. P. H. Darji, V. P. Darji and D. P. Vakharia "Design and Finite Element Analysis of Supports for Verical Pressure Vessel", Proc. of the 22nd National Convention of Production Engineers and National Seminar on Recent Trends in Manufacturing Vis-à-vis Mechatronics and Robotics, Organized by The Production Engineering Division of The Institution of Engineers (India), College of Engineering, Jabalpur Local Centre, June 02-03, 2007, pp. 98-103
23. S. S. Palav, D. P. Vakharia and F. N. Choksi, "Fatigue Analysis of Tall Column for Wind-Induced Vibration", Proc. of the National Conference on Emerging Trends in Mechanical Engineering (ETME 2007), Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, June 04-05, 2007, Paper No. DE35
24. P. H. Darji, V. P. Darji and D. P. Vakharia "Design and Finite Element Analysis of Bracket Supports", Proc. of the National Conference on Emerging Trends in Mechanical Engineering (ETME 2007), Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, June 04-05, 2007, Paper No. DE47

25. J. H. Dani, D. P. Vakharia and Darshan Shah, "100% Dynamic Balancing of Reciprocating Engines", Proc. of the National Conference on Emerging Trends in Mechanical Engineering (ETME 2007), Department of Mechanical Engineering, S. V. National Institute of Technology, Surat, June 02-03, 2007, Paper No. DE48
26. C. Patel, N. P. Maniar, D. P. Vakharia and A. Andhare, "Experimental Method of Hydrogen Testing to Prevent Hydrogen Assisted Cracking (HAC) During Submerged Arc Welding (SAW) Process", Proc. of the National Conference (ISTE approved) on Advancements & Futuristic Trends in Mechanical Engineering - AFTME '08, Department of Mechanical Engineering, Atmiy Institute of Technology & Science, Rajkot, Gujarat, India, November 20, 2008 (**Awarded Best Research Paper**)
27. N. P. Maniar and D. P. Vakharia, "Design of fixture for face milling of support plate on CNC", Proc. of the National Conference (ISTE approved) on Advancements & Futuristic Trends in Mechanical Engineering - AFTME '08, Department of Mechanical Engineering, Atmiy Institute of Technology & Science, Rajkot, Gujarat, India, November 20, 2008
28. V. T. Mahale, P. M. Patare and D. P. Vakharia, "Studies on Wear Resistance of PTFE Filled with MoS₂ Particles Based on Taguchi Technique, National Conference on Recent Trends in Mechanical Engineering, Held by S. R. E. S. College of Engineering, Kopergaon, Maharashtra, India, March 25, 2013.