Faculty Profile



1. Name of Faculty: Dr. Santosh Gulabsing Taji

2. Present Position: Head of Department, Mechanical Engineering

3. Address : Government Polytechnic, Mumbai

4. Mobile No. : **9970288348**

5. E-Mail Id : hodme1@gpmumbai.ac.in

6. Date of joining (Govt of Maharashtra) : 26th August 2016

(Govt. Poly. Mumbai): 13th September 2023

7. Total Teaching Experience in years: 20

8. Memberships of professional organizations/Bodies: Life Member, Indian Society for

Technical Education (ISTE)

QUALIFICATIONS: (Graduation and Onwards)

Degree	Institute/University		Class	Date of
			Award	passing
Ph. D Mechanical	College of Engineering, P		11th June 2014	
(Heat Transfer)	Savitribai Phule Pune Univ			
MEMI	C. A. F	E' (0 Nov. 2001	
M. E. Mechanical	Govt. Engineering Colleg	First	9-Nov-2001	
(Heat Power)	Shivaji University, Kolhap			
B. E. Mechanical	Govt. Engineering	College,	First	28 July 1998
	Aurangabad			
	Dr. BAMU			

PhD Project: "Experimental and numerical study of heated horizontal rectangular fin arrays under mixed Convection", under the Guidance of **Dr. G. V. Parishwad and Dr. N. K. Sane** (Research Center: Govt. College of Engg., Pune).

ME Dissertation: "Design and Testing of Carburetor for Producer Gas Application" Under the Guidance of Prof. Dr. G.V. Parishwad (Govt. College of Engg., Karad) & Prof. Dr. N.K.S.Rajan (CGPL, Indian Institute of science, Banglore).

BE Project: "Material Cutting Machine" Under Guidance of Prof. Dr. Shrivastava (Govt. College of Engg., Aurangabad).

CAREER DETAILS:

CAREER DETAILS: From To D					
Name of The Organization	From	10	Designati on	Role & responsibilities	
Govt. Polytechnic Mumbai	13/09/2023	Till Date	HOD Mech	Teaching and Administrative	
Regional Office, MSBTE, Mumbai	14/08/2021	07/07/2023	Dy. Secretary	Administrative	
Govt. Polytechnic Ahmednagar	26/08/2016	13/08/2021	HOD	HOD and Institute NBA Co- ordinator	
MIT Academy of Engg, Alandi, Pune	17/06/2015	25/08/2016	Professor	R& D Coordinator Workshop Seminar I/C	
G. H. Raisoni College of Engineering & Management Wagholi Pune	15/07/2014	16/06/2015	Professor	International Conference coordinator, Research Center Coordinator	
PES Modern College of Engineering Pune-05	16/08/2005	14/07/2014	Assistant Professor	Research Centre Coordinator, Carrying out research (BCUD), ME Co-ordinator, Taught UG & PG students.	
PES Modern College of Engineering Pune-05	07/08/2003	15/08/2005	Lecturer	Organizing guest lectures and industrial visits, BE Project co-ordinator, MESA Incharge, Laboratory Development, Taught UG students.	
Pimpri Chinchwad College of Engg., Pune-44	July 2002	June 2003	Lecturer	Taught UG Laboratory Development	
G.S. Moze College of Engg., Pune-45	July 2001	July 2002	Lecturer	Taught UG Laboratory Development	
I I Sc B'lore	Sept 2000	Feb 2001	Research Assistant	Worked on Lambda correction – NCER Combustion and Gasification Lab, Aerospace Engg Dept., IISc B'lore.	
Govt. College of Engg., Karad	July 1999	June 2000	Lecturer	Taught UG FE/TE/BE	
Digambar Electricals Pune.	June 1998	July 1999	Maintenan ce Engineer	Handling Hydraulics and Pneumatic Systems	

TRAINING COURSES ATTENDED:

Title	Conducting Organization	Date
Teachers Training	NITTR Bhopal, Pune centre	Dec 2003 (One week)
Steam Engineering	Forbes Marshall Pvt Ltd, Pune	Sept 2009 (One week)
MISSION 10X	Wipro Pvt. Ltd. Pune	2012 (One Week)
International Ws on		
Challenges		

Research Publication Details:

1. International Journals & Conferences

- S.G. Taji, Dr. G.V. Parishwad and N. K. Sane, "Enhanced performance of horizontal rectangular fin array heat sink using assisting mode of mixed convection", Int. Journal of Heat and Mass Transfer, Elsevier, HMT-D-13-00565 Vol 72 C, 2014, 250-259. (2.5 Impact factor, SCI)
- S.G. Taji, Dr. G.V. Parishwad and N. K. Sane, Experimental investigation of heat transfer and flow pattern from heated horizontal rectangular fin array under natural convection, Int. Journal of Heat and Mass Transfer, University of Kassel, Germany, Springer, DOI 10.1007/s00231-014-1308-2, HT-077. (0.91 Impact factor, SCI)
- 3. S.G. Taji, Dr. G.V. Parishwad and N. K. Sane, Experimental investigation of heated horizontal rectangular fin array under mixed convection, Int. Review of Mechanical Engineering (I.RE.M.E.), Praise Worthy Prize, Italy, Vol. 6, N. 1, ISSN 1970-8734, January, (2012) pp.104-112. (5.2 Impact factor)
- 4. S.G. Taji, G.V. Parishwad and N. K. Sane, Computational Analysis of Heated Horizontal Rectangular Fin Array under Natural Convection, Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.48-53 (1.0807 Impact factor).
- 5. Wankhede, S. G. Taji, Experimental Investigation of Heat Transfer from Inverted Notch Fin Arrays (INFA) Under Natural and Forced Convections IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE) ISSN(e): 2278-1684, ISSN(p): 2320-334X, PP: 14-22 www.iosrjournals.org Second National Conference on Recent Developments in Mechanical Engineering.

- Mohammad Amin S, S G Taji, Dr. A S Padalkar, Theoretical Analysis Of A Finned-Tube Condenser For A Residential Air-Conditioner Using R-161, International Journal of Engineering Research & Technology (IJERT) Vol. 2 Issue 8, August – 2013, ISSN: 2278-0181.
- 7. Vinod M. Wankar, S.G. Taji, Experimental Investigation of Flow Pattern on Rectangular Fin Arrays under Natural Convection International Journal of Modern Engineering Research (IJMER) www.ijmer.com Vol.2, Issue.6, Nov-Dec. 2012 pp-4572-4576 ISSN: 2249-6645
- 8. Shashank Chaudhary, SG Taji, Experimental studies on effect of coil wire insert on heat transfer enhancement and friction factor of double pipe heat exchanger, Int Journal of Computational Engineering research, Vol. 3,Issue No 5, May 2013.ISSN:2250-3005.
- 9. HN Deshpande, SG Taji, Experimental Study of Heat Transfer from Horizontal Rectangular Fins with Perforation sunder Natural Convection, International Journal of Engineering Research & Technology (IJERT) Vol. 3 Issue 2, February 2014, ISSN: 2278-0181.
- 10. R. Kumar, SG Taji "Deployment of scroll compressor in an Air conditioning system of an SUV", Int Jr. of Engineering and advanced Technology. ISSN: 2249-8958.
- 11. S.S. Pachegaonkar, S.G. Taji, N K Sane, Performance Analysis of Double Pipe Heat Exchanger with Annular Twisted Tape Insert, **International Journal of Engineering and Advanced Technology**, ISSN: 2249-8958 (2014).
- 12. A. R. Patil, Prof. S. G. Taji, "Effect of Oxygenated Fuel Additive on Diesel Engine Performance and Emission: A Review" IOSR Journal of Mechanical and Civil Engineering, April 2013, ISSN (p): 2320–334X, PP: 30-35.
- 13. A. R. Patil, Prof. S. G. Taji, Need of Composite Additives for Diesel Fuel: A Review" IJERT, Vol.2 Issue 11, November 2013, (Impact factor 5.2, International).
- 14. A. R. Patil, Prof. S. G. Taji, Experimental Investigation of effect of composite additives on Multicylinder diesel engine performance and emission", submitted to international journal IJMP, (Impact factor 2.5, International).
- 15. A. L. Pawar, S.G. Taji, An experimental investigation of perforated horizontal rectangular fin array under natural convection, Bulletin of marine science and technology (ISSN: 0974-8474), Vol. 8, 2013.
- 16. Prasad Deshpande, Santosh Taji, Energy saving opportunities in glass fiber industries: A case study, Bulletin of marine science and technology (ISSN: 0974-8474), Vol. 9, 2014.
- 17. S.G. Taji, Ram Deshmukh, Combined Convection of heat transfer from horizontal rectangular fin array, Proceedings of International Conference on "Business, Engineering and Industrial Applications", (ICBEIA) Hotel President, Pune, India, Vol. 1, 22nd September, (2011).

- 18. S.S. Kulkarni, SG Taji, Finite Element Model evaluation in Heat Transfer Analysis of high Temperature Reformer Nozzle "Business, Engineering and Industrial Applications", (ICBEIA) Hotel President, Pune, India, Vol. 1, 22nd September, (2011).
- 19. Y. M. Kalke, SG Taji, Analysis of steam control valve using CFD Technique, "Business, Engineering and Industrial Applications", (ICBEIA) Hotel President, Pune, India, Vol. 1, 22nd September, (2011).
- 20. Ram Deshmukh, S. G. Taji, "Optimization of Heat transfer Through HRFA Under Combined Convection", International Conference on "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 21. H. N. Deshpande, S. G. Taji, "Experimental study of Heat Transfer fro perforated Horizontal Rectangular Fins Under Forced convection dominating mode of mixed Convection", International Conference on "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 22. Y. M. Kalke, S. G. Taji, "Analysis of Steam Control Valve using CFD Technique", International Conference on "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 23. Birajdar Sachin, Anurang Suke, S. G. Taji, "Experimental study of Vertical Tappered and Stepped Fin Array Under Natural Convection", International Conference on "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 24. S. G. Taji, "Lambda Correction for Controlling A/F Ratio of Gaseous Fuelled SI Engine "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 25. Amit R. Patil, S. G. Taji, "Enhancement of CI Engine Performance and emission by use of Composite additives", International Conference on "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 26. N. D. Shikalgar, S.G. Taji "Case Study on Economic and Energy Analysis of Ecofriendly Heat Pump System", International Conference on "Recent Advances in Mechanical Engineering" (ICRAME-2015) 26th to 28th Feb, 2015.
- 27. Ram Deshmukh, S. G. Taji, "Optimization of Heat transfer Through HRFA Under Combined Convection", Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.76-83(1.0807 Impact factor).
- 28. H. N. Deshpande, S. G. Taji, "Experimental study of Heat Transfer from perforated Horizontal Rectangular Fins Under Forced convection dominating mode of mixed Convection", Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.29-34 (1.0807 Impact factor).

- 29. Birajdar Sachin, Anurang Suke, S. G. Taji, "Experimental study of Vertical Tapered and Stepped Fin Array Under Natural Convection", Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.70-75 (1.0807 Impact factor).
- 30. Anurag B. Suke, **Santosh G. Taji**, N.K.Sane, Experimental investigation of vertical stepped fin arrays under natural convection, www.ierjournal.org International Engineering Research Journal (IERJ) Special Issue 2 Page 5284-5289, ISSN 2395-1621, 22 Nov 2015.
- 31. Amit R. Patil, S. G. Taji, "Enhancement of CI Engine Performance and emission by use of Composite additives", Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.17-23 (1.0807 Impact factor).
- 32. N. D. Shikalgar, S.G. Taji "Case Study on Economic and Energy Analysis of Ecofriendly Heat Pump System", Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.192-195 (1.0807 Impact factor).
- 33. Shaji Koshy, Santosh G. Taji "Failure Analysis of a Gear" Vandana Publications, International Journal of Engineering and Management Research (IJEMR), ISSN (ONLINE): 2250-0758, ISSN (PRINT):2394-6962, June 2015 pp.7-11 (1.0807 Impact factor).
- 34. Dr. S. G. Taji, Vishal Kumar, Prof. Baban P. Londhe, Process optimization, design and analysis of horizontal Indexing cage fixture, International Journal of Science, Engineering and Technology Research (IJSETR), 2015-16
- 35. Dr. S. G. Taji, Indranil H. Zagade, B. P. Londhe, Quantifying the Role of Ellipsoidal Inclusion Spacing on the Performance of Particulate Composite, International Journal of Science, Engineering and Technology Research (IJSETR), Volume 4, Issue 9, ISSN: 2278 7798 September 2015.
- 36. Dr. S. G. Taji, Pankaj D. Lad, Prof. Baban B. Londhe, Vinay S. Patil, Optimization of Concentric Pipe Heat Exchanger as Per ASME Code using Finite Element Analysis, International Journal on Recent Technologies in Mechanical and Electrical Engineering (IJRMEE), Impact factor: 2.084, 2015-16.
- 37. Dr. S. G. Taji, Ashish A. Deshmukh, H. S. Bawiskar, Finite Element Analysis of the Effects of Length Increment on the Performance Characteristics of a Ligament, International Journal of Science, Engineering and Technology Research (IJSETR), 2015-16
- 38. Dr. S. G. Taji, NB Totla, P R Hatte, Comparative study of temperature distribution along different types of fins mounted on horizontal surface, 2nd International Conference on Science, Technology and Management (ICSTM-15), 2015-16

- 39. Dr. S. G. Taji, Dhanashree D. Ambekar, Vinaay G. Patil, Design and Analysis of Emergency Shut Off Valve by Using Finite Element Analysis International Journal on Recent Technologies in Mechanical and Electrical Engineering (IJRMEE).
- 40. Pushpa Khot, Dr. **S. G. Taji**, H. S. Bawiskar, Quantifying the Role of Stiffener Rings in Pressure Vessels using FEA, International Journal of Science, Engineering and Technology Research (IJSETR), Volume 5, Issue 1, January 2016, ISSN: 2278 7798, pp 332-335.
- 41. Dr. S. G. Taji, Design and contact stress analysis of disc braking system, Fourth International Conference on Energy systems and Development held on February 24, 2017 in Trinity COE & Research, Pune 48, India.
- 42. Dr. S. G. Taji, Optimization of load carrying bracket, Fourth International Conference on Energy systems and Development held on February 24, 2017 in Trinity COE & Research, Pune 48, India.
- 43. Dr. S. G. Taji, NB Totla, P R Hatte "Comparative study of temperature distribution along different types of fins mounted on horizontal surface" 2nd International Conference on Science, Technology and Management (ICSTM-15) 2015-16.
- 44. **V Kumar, SG Taji,** BP Londhe, <u>Process optimization, design and analysis of horizontal Indexing cage fixture</u>, International Journal of Science, Engineering and Technology Research (IJSETR), ISSN: 2278 7798, Volume 4, Issue 9, September 2015.
- 45. DD Ambekar, SG Taji, VG Patil, <u>Design and Analysis of Emergency Shut Off Valve by Using Finite Element Analysis</u>, International Journal on Recent Technologies in Mechanical and Electrical Engineering (IJRMEE) ISSN: 2349-7947 Volume: 2 Issue: 9 049 053.
- 46. HN Deshpande, SG Taji, Experimental Study of Heat Transfer from Perforated Horizontal Rectangular Fins for Richardson Number Less than 0.1, ISSN (ONLINE): 2250-0758, ISSN (PRINT): 2394-6962, International Journal of Engineering and Management Research (IJEMR) PP 29-34, 2015.
- 47. PD Lad, SG Taji, BB Londhe, VS Patil, Optimization of Concentric Pipe Heat Exchanger as Per Asme Code using Finite Element Analysis, International Journal on Recent Technologies in Mechanical and Electrical Engineering (IJRMEE) ISSN: 2349-7947 Volume: 2 Issue: 10 032 038, IJRMEE, October 2015.
- 48. Pratap S. Kamble, Dr. S. G. Taji, A. B, Verma "Effect of Residual Stresses on the Strength of Material of Pipe Due to Welding Operation" International Journal of Emerging Technology and Advanced Engineering Website: www.ijetae.com (ISSN 2250-2459, UGC Approved List of Recommended Journal, Volume 8, Issue 4, April 2018) pp 251-260.

2. National Conferences & Journals

- S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Experimental and numerical study heated horizontal rectangular fin array under assisting mode of mixed convection, Innovations and Emerging trends in Engineering and Technology, 37th Annual Technical Journal, The Institution of Engineers, ISBN-978-81-924990-1-7, Pune, 26th October 2013.
- 2. S. D. Redkar, S. G. Taji, Thermal analysis of the single pass and double pass sinusoidal shaped inner tube in tube in tube heat exchanger, Annual Technical Journal, I E, Pune, Oct 2013.
- 3. S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Review paper on Mixed convection heat transfer from horizontal rectangular fin array, 37th National Conference on Fluid Mechanics and Fluid Power (FMFP), College of Engineering, Pune, India, 17 19 December, (2009).
- 4. S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Review paper on Natural convection heat transfer from horizontal rectangular fin array, National Conference on Thermal Fluid and Energy Engineering (TFEE), MAE Alandi, Pune, 23-24 November, (2009).
- 5. S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Design and development of laminar flow meter and it's testing for lower flow rates, Proceedings of the 38th National Conference on Fluid Mechanics and Fluid Power (FMFP), MANIT, Bhopal, M.P., India, 15-17 December, (2011).
- S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Experimental study of mixed convection for narrow band of Richardson number, Proceedings of the 38th National Conference on Fluid Mechanics and Fluid Power (FMFP), MANIT, Bhopal, India, 15-17 December (2011).
- 7. S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Mixed convection from horizontal rectangular fin array, Regional Research Conference, University of Pune, BCUD, at P.D.V.V.P.C.O.E., Ahmednagar, India, 21-22 March, INNOVATION (2012).
- 8. S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, Experimental and numerical study of mixed convection from horizontal rectangular fin array, Regional Research Conference, University of Pune, BCUD, at RSCOE, India, 18-19 April, INNOVATION (2013).
- 9. S.G. Taji, Dr. G.V. Parishwad and Dr. N. K. Sane, "Mixed Convection Heat Transfer from Horizontal Rectangular Fin Array" 36th National conference on Fluid Mechanics and fluid power, 17-19 Dec. 2009.
- 10. S.G. Taji and N. K. Sane, "Natural convection Heat Transfer from Horizontal Rectangular Fin Array" National conference on Thermal, fluid and Energy Engineering, MAE Alandi, 23- 24 Nov. 2009.
- 11. S.G. Taji, Dr. N.K.S. Rajan and Dr. G.V. Parishwad "An Electronic controlled A/F ratio of

- gaseous fuelled engine" National conference, REC Suratkal, Dec. 2001.
- 12. S.G. Taji, Dr. N.K.S. Rajan, and Dr. G.V. Parishwad "Design and testing of carburetor for producer gas application" National conference, RIT Sakharale, June 2001.
- 13. S.G. Taji, Dr. N.K.S. Rajan and Dr. G.V. Parishwad "Design aspect of carburetor for producer gas application" National conference, Institute of Engineers at Bhopal 2001.
- 14. AL. Pawar, S.G. Taji, An Experimental Investigation On Perforated Horizontal Rectangular Fin Array Under Natural Convection, National Conference Sinhagad, Lonawala.
- 15. A. R. Patil, Prof. S. G. Taji, Experimental Investigation of effect of oxygenated additives on Multicylinder diesel engine performance and emission", RDME -14, National Conference

Total Research Papers Published is as below:

- 1. **International Journals & Conferences: 49** (36 Int. Journals + (13 International Conference)
- 2. National Conferences & Journals: 15 Total papers published are: 64

Workshop attended:

Title	Conducting Organization	Date
Teachers Training	NITTR Bhopal, Pune centre	Dec 2003 (One week)
Steam Engineering	Forbes Marshall Pvt Ltd, Pune	Sept 2009 (One week)
MISSION 10X	Wipro Pvt. Ltd. Pune	2012 (One Week)

Worked as Principal Investigator for following Research Project:

Project Title	From to	Grant Received	Funding Agency	Duration	Status
Mixed convection from HRFA	1st April 2011 to 31st March 2013	2 Lacs	University of Pune (BCUD/OSD/390-2010)	2 Years	Completed

Portfolios handled at Department and Institute level:

- PG Approved Teacher of University of Pune till Superannuation.
 Guided 16 ME Heat Power and 5 ME Design students so far for their Dissertation works.
- 2) An International Conference on Recent advances in Mechanical Engineering was organized on 26th 27th & 28th Feb 2015. This was funded by BCUD, SPPU for academic Year 2014-15 (Rs. 3 Lacs).
- 3) MSCIT, Certification in Japanese Language JLPT Level 4 JLPT Yonkyuu,

- 4) Subject Chairman for Advance Heat Transfer, Advance fluid mechanics, Industrial pollution, NCER of ME Mech (Heat Power) (2010-11), IFP BE Mech (2010)
- 5) Recipient of INDO Global Engineering Excellence Award -2015
- 6) Subject Expert (Trainer) MSBTE I Scheme Syllabus for Mechanical Engineering
- 7) Organized following workshops in MITAOE:
 - 1. Two Days National Workshop on "Optimization Techniques for Engineering"
 - 2. Two Days Workshop on "Active Learning" 27^{th} & 28^{th} Oct 2015.
 - 3. One Day workshop on "Personality Development" on 31st Oct 2015.
 - **4.** Two Days National Workshop on "Electro-Hydro-Dynamics" on 18th & 19th Dec. 2015.
 - Two Days FDP on "Mathematical Modeling & Modern Optimization Tools" on 21st & 22nd
 Jan. 2016.
 - **6.** International Workshop on "QMS and Project Management" on 15th -17th Feb. 2016.

Book Publication: "Natural and Mixed Convection Heat Transfer",

An experimental and numerical study

Publisher: LAP LAMBERT Academic Publishing

ISBN No: 978-3-330-02965-1

Specialization/ Area of Interest: Thermal Engineering

(Dr. Santosh Gulabsing Taji)