

# Padmakar A. Deshmukh

deshmukhpadmakar@gmail.com



## Professional Profile

---

- PhD (Mechanical Engineering) from Dr. B. A. M. University, Aurangabad, (M.S.) (Government College of Engineering, Aurangabd)
- 20 years of approved teaching experience.
- 9 international journal and 7 international conference publications.
- Reviewer for reputed international journal.
- Conducted and coordinated faculty development programs and workshops.
- Worked on BCUD, University of Pune sanctioned and funded research project.

## Education

---

Sr. No.	Education	Specialization/ Year of Passing	Board/ University	% of Marks	Class Obtained
1	PhD Mechanical	Heat Power 2014	Dr. BAMU, Aurangabad (MS)	--	Awarded, 2014
2	ME - Mechanical	Heat Power 2006	Shivaji University, Kolhapur (MS)	72.80	First Class with Distinction
3	BE	Mechanical 1997	Dr. BAMU, Aurangabad (MS)	71.01	First Class with Distinction
4	HSC	Science 1993	Aurangabad (MS)	86.50	First Class with Distinction
5	SSC	1991	Aurangabad (MS)	88.57	First Class with Distinction

**PhD Thesis Title:** *Thermal Performance of Elliptical Pin-fin Heat Sink in Mixed Convection*

The effect of assisted mixed convection air cooling on the thermal performance of fully shrouded circular and elliptical profiled pin-fin heat sinks are studied analytically and experimentally. A theoretical model coupled with the experimental measurement technique is used to predict the influence of fin spacing, aspect ratio and fin layout on the overall thermal resistance of the heat

sink. The experiments are performed for a Prandtl number of 0.7 and Reynolds Number ranging from 50 - 250 in the mixed convection regime for the heat sink geometry. The thermal performance characteristics are obtained for various parameters with inline and staggered layout of the pin fin heat sinks resulting in optimum heat sink void fraction ( $\alpha$ ) and pin fin aspect ratio ( $\gamma$ ). Generalized empirical correlations are developed based on experimental data for the range of fin geometry, air flow and heat sink parameters.

## Publications

---

### International Journals

1. P. A. Deshmukh, K. A. Sorate, Ravi Warkhedkar (2011), 'Modeling and Analysis of Rectangular Fin Heat Sinks under Natural Convection for Electronic Cooling' *International Journal of Engineering Research and Technology*, ISSN 0974-3154, Volume 4, Number1 (2011), pp. 67-74.
2. P. A. Deshmukh, K. A. Sorate (2011), 'Experimental Investigation for Blended Jatropha Bio-diesel as an alternative Fuel in Compression Ignition Engine', *International Journal of Engineering Research and Technology*, ISSN 0974-3154, Volume 4, Number 3 (2011), pp. 343-349.
3. P. A. Deshmukh, R. M Warkhedkar (2011), 'Thermal Performance of Pin Fin Heat Sinks- A Review of Literature', *International Review of Mechanical Engineering*, ISSN 1970 – 8734, Volume 5. N. 4 (May 2011) pp.-726-732. (Impact Factor- 6.46).
4. S. B. Mane-Deshmukh, P. A. Deshmukh, (2011) 'Parametric Analysis and Comparative Study of Pin Fin Heat Sink in Natural and Mixed Convection', *International Journal of Engineering Research and Technology*, ISSN 0974-3154. (Aug 2011), pp- 1849-1856.
5. S. M. Jadhav, P. A. Deshmukh, (2012) 'Experimental Investigation for Optimising Pin Fin Heat Sinks in Combined Natural and Force Convection', *International Journal of Engineering Studies*, ISSN 0975-6469, Volume 4, Number 2 (2012), pp. 113-126.
6. P. A. Deshmukh, R. M. Warkhedkar, (2013), "Thermal Performance of Elliptical Pin-fin Heat Sink under Combined Natural and Forced Convection", *Elsevier journal of Experimental Thermal and Fluid Science*, 50, (2013), pp. 61-68. (Impact Factor: 2.12)
7. Pooja Patil, P. A. Deshmukh, (2014), "Numerical Study of Flow and Heat Transfer in Circular Tube With Almond Shape Dimple", *International Journal of Engineering Research & Technology*, e-ISSN: 2278-0181, Vol. 3 - Issue 8 (August - 2014), pp. 21-29.

8. Vishwajeet Khalipe, Padmakar Deshmukh, (2015) “Experimental Study of Evacuated Tube Two Phase Closed Thermo-syphon (TPCT) Solar Collector with Nano-fluid”, *IOSR Journal of Mechanical and Civil Engineering*, e-ISSN :2278-1684, pp. 156-161.
9. N.P.Talwekar, P.A.Deshmukh, (2016), “Experimental Validation for Heat Transfer Enhancement by using Square Cut Circular Ring Insert” *International Journal for Scientific Research & Development*, Vol. 4, Issue 03, 2016, pp. 1974-1980.

### **National and International Conferences**

1. Padmakar A. Deshmukh (2005), ‘Mathematical Modeling of Convective Heat Transfer in Combined Radiation Convection Furnace’, *Proceedings of 1<sup>st</sup> National Conference on Recent Developments in Mechanical Engineering*, Yantra-2005, organized by College of Engineering, Pandharpur, December 2005.
2. P. A. Deshmukh ,Dr. S. B. Barve, H. B. Tambat, P. R. Baviskar, and M. J. Sable, (2011) ‘Karanja Oil (Biodiesel) as an Alternate Fuel to Diesel Engine’, *Proceedings of National Conference* organized by Indira College of Engineering & Management, Pune, January 2011.
3. S. J. Kamble, P. A. Deshmukh; (2011) “ Nanofluids: From Vision to Reality Through Research” *International Conference on Business, Engineering and Industrial Application*, organized by Choice Institute of Management Studies and Research, Pune on 22<sup>nd</sup> Sept 2011.
4. P. A. Deshmukh, R. M. warkhedkar, (2012) ‘Predicting the thermal performance characteristics of elliptical pin fin heat sinks under combined natural and force convection’, *Proceedings of The 3<sup>rd</sup> TSME International Conference on Mechanical Engineering* , October 2012, Chiang Rai, Thailand.
5. Deshmukh, P. A., Warkhedkar, R. M., (2013), “Comparison of Thermal Performance of Circular and Elliptical Pin-fin Heat Sinks in Assisting Mixed Convection”, *Proceedings of IEEE International Conference on ‘Energy Efficient Technologies for Sustainability’*, April 2013, Kanyakumari, India.
6. Deshmukh, P. A., Warkhedkar, R. M., (2013) “Predicting the influence of design parameters on the overall thermal performance of the elliptical pin-fin heat sink in mixed

convection”, *Proceedings of International Conference on Advances in Mechanical Engineering*, May 2013, College of Engineering, Pune, India.

7. S. J. Kamble, P. A. Deshmukh, “Comparative analysis of heat transfer and frictional characteristics in a circular tube fitted with V-nozzle turbulators”, *Proceedings of International Conference on Recent Advances in Mechanical Engineering* (ICRAME-2015), February 2015, Rasoni College of Engineering, Pune, India.

## Work Experience (20 Years)

- Presently working as a **Professor** in Mechanical Engineering Department, **PCET’s Pimpri Chinchwad College of Engineering**, Nigdi, Pune, since July 2016.

Sr. No.	Name of Employer	Position Held	Tenure		Total Experience	University Approval
			From	To		
1	Greaves India Ltd., Aurangabad	Trainee Engineer	1 <sup>st</sup> Sept. 1997	1 <sup>st</sup> March 1998	7 Months	
2	PDVVP College of Engineering, Ahmednagar	Lecturer	2 <sup>nd</sup> March 1998	31 <sup>st</sup> July 2006	8.5 Years	YES
3	JSPM’s Rajarshi Shahu College of Engineering, Pune	Lecturer	1 <sup>st</sup> August 2006	30 <sup>th</sup> June 2007	1 year	YES
4	JSPM’s Rajarshi Shahu College of Engineering, Pune	Asst. Professor	1 <sup>st</sup> July 2007	31 <sup>st</sup> Dec. 2014	7.5 Years	YES
5	JSPM’s Rajarshi Shahu College of Engineering, Pune	Associate Professor	01 <sup>st</sup> January 2015	31 <sup>st</sup> June 2015	6 Months	
5	JSPM’s Rajarshi Shahu College of Engineering, Pune	Professor	01 <sup>st</sup> July 2015	18 <sup>th</sup> July 2016	1 Years	YES
6	PCET,s Pimpri Chinchwad College of Engineering, Pune	Professor	19 <sup>th</sup> July 2016	Till Date	1 Years	YES

## Administrative Experience

---

Responsibilities Handled	Period
1. NAAC Coordinator, PCCOE	August 2016 to till date
2. NBA Coordinator, RSCOE	August 2014 to July 2016
3. ME Heat Power Coordinator, RSCOE	August 2013 to July 2016
4. Dean, Academics, RSCOE	July 2010 to July 2012.
5. Academic Coordinator, Mech. Dept. RSCOE.	July 2008 to June 2010.

## Member of Professional Society

---

1. Life Member of ISTE
2. Member of ISHRAE

## ME Students Guided

---

Sr. No.	Year	Name of Student	Title of Dissertation
1	2010-12	Sagar B. Mane-Deshmukh	Parametric analysis and comparative study of elliptical pin fin heat sink in natural, forced and mixed convection
2	2010-12	Sahadeo M. Jadhav	Optimization of pin fin heat sink in mixed convection
3	2011-13	Kamble D. P.	Heat transfer enhancement of circular heat pipe with $ai_2O_3$ -cuo/water hybrid Nano fluid
4	2012-14	Pooja A. Patil	An experimental and numerical study of flow and heat transfer in almond shape dimple tube
5	2012-14	Bhosale R. D.	Thermal analysis of motor bike exhaust silencer for ensuring reduction in hot spots through design enhancement
6	2013-15	Vishwajeet Vijay Khalipe	Experimental study of evacuated tube two phase closed thermo syphon ( TPCT) solar collector with Nano fluid
7	2013-15	Shubhangi J. Kamble	Comparative analysis of heat transfer and friction characteristics in a circular tube fitted with V-Nozzle tarbulators
8	2013-15	Ritesh Kumar	Experimental and Numerical Investigation of Performance of Pipe-in-Pipe Helical Coil Heat Exchanger

9	2014-16	Rahul Sunil Chavan	Heat Transfer studies on straight tube and swirl tape tube geometries of CuCrZr plasma facing components (PFC)
10	2014-16	Barbole Dadasaheb	Development of Emission Models by using conventional methods and Artificial Neural Network for VCR DI engine using Eco-Diesel (Plastic oil)
11	2014-16	Khote Mahesh Apparao	Reduction of NOx emission and performance characteristics analysis of waste cooking oil from diesel engine using exhaust gas recirculation
12	2015-17	Priyanka Sanjay Mahajan	Thermal design of shell and tube heat exchanger for waste heat recovery
13	2015-17	Sayali P. Kavitate	Numerical investigation of elliptical pin fin heat sink under mixed convection
14	2015-17	Sunil P. Patil	Simulation of Double Fin and Tube Heat Exchanger for Analyzing the Coolant Boiling
15	2015-17	Nikita P. Patil	Numerical simulation of viscous fan test rig

## Personal Information

---

Date of Birth : 18/ 01/ 1975  
 Languages Known : Marathi, English and Hindi  
 Cell No. : +91-9422239532  
 E-mail : desh mukh padmakar@gmail.com  
 Mailing Address : Flat No. 12A, E-Building, Wing-II, Indraprabha,  
 Vikasnagar, Dehu Road, Pune-412101.

Date: 6<sup>th</sup> June 2017

Dr. P. A. Deshmukh