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## Personal Profile

Name: Dr. Sandipkumar Balasaheb Sonawane  
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Sex: Male  
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## Education

Degree	Institute/University	Class and percentage	Year of passing
Ph. D. (Mechanical Engineering) Specialization: Thermal and Fluid Engineering	Indian Institute of Technology Bombay	First Class (63.4%)	2014
M.E. (Mechanical – Heat Power Engineering)	Shivaji University, Kolhapur	First class (67.89%)	2009
B.E. (Mechanical Engineering)	University of Pune, Pune	First class (61.06%)	2002

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## Thesis/dissertation

<b>Degree</b>	<b>Supervisors</b>	<b>Title</b>
Ph.D.	Prof. U.V.Bhandarkar Prof. B.P.Puranik	Characterization of heat transfer augmentation in internal flows using aviation turbine fuel based nanofluids (Funded by ISRO, Valiamala)
M.E	Prof. A.M.Patil	Design optimization of horizontal, multitubular, shell type fire tube boiler (Sponsored by M.B.Sugars and Pharmaceuticals Ltd., Malegaon, Nashik)

## Professional experience details

**Total experience as on 4<sup>th</sup> March 2022: 18.5 years**

<b>Organization/institute</b>	<b>Department</b>	<b>Post</b>	<b>From</b>	<b>To</b>	<b>Experience</b>
MVPS's KBT College of Engineering, Nashik (NAAC Accredited 'A' grade institute)	Mechanical Engineering	Associate Professor & Dean (R & D)	14/8/2015	Currently working	6.5 years
GES's R. H. Sapat College of Engineering, Management Studies and Research, Nashik (NAAC Accredited institute)	Mechanical Engineering	Assistant Professor	16/07/2012	13/08/2015	3 years
Indian Institute of Technology, Bombay, Mumbai	Mechanical Engineering	Research scholar	16/07/2009	15/07/2012	3 years
SNJB's College of Engineering, Chandwad, Nashik (MS) (NAAC Accredited 'A' grade institute)	Mechanical Engineering	Lecturer	02/01/2006	18/06/2009	3.5 years
K.K.Wagh College of Agricultural Engineering & Technology, Nashik	Mechanical Engineering	Lecturer	25/01/2005	03/01/2006	1 year
Mungi Engineers Pvt. Ltd, MIDC Ambad	Production Department	Press Shop Incharge	16/06/2004	24/01/2005	7.5 months
Hindustan Aeronautical Ltd. Aircraft Division, Nashik (MS)	Customer Service	Customer Service Engineer	16/06/2003	15/06/2004	1 year

## Publications

Total publications: 16

## Patent

Sr. No.	Name of inventor (s)	Title of inventor	Application No./Patent No.
1	Dr. Sandipkumar Sonawane	Nanotechnology process for improvement of various performances without fouling for any type of fluid for coolant, lubricant, fuel applications using nano-oxide of any basic element	IN 329390 (Granted on 14/1/2020)
2	Dr. Sandipkumar Sonawane	Energy saving multilayer removable thermal insulation jacket/cover/sleeve	201821017055 (Published) Hearing is attended on 27 <sup>th</sup> July 2021, expected to grant in next month

## Journal Papers & Conference Proceedings

- **Sandipkumar Sonawane**, Suyash Pawar, Gayatri Shirsat, Premraj Joshi, COP improvement in ice plant using brine based metal oxide nano-refrigerants, Journal of The Institution of Engineers (India): Series C (Springer), responses to the reviewer's comments have been submitted.
- **Sandipkumar Sonawane**, Premraj Joshi, Experimental investigation of heat transfer performance of brine based nanofluids for ice plant applications, Fluid Mechanics Research International Journal, Volume 3 Issue 2 – 2019.
- Yogesh Kokate, **Sandipkumar Sonawane**, Investigation of particle size effect on thermal conductivity enhancement of distilled water-Al<sub>2</sub>O<sub>3</sub> nanofluids, Fluid Mechanics Research International Journal, Volume 3 Issue 2 – 2019.
- **Sandipkumar Sonawane**, Upendra Bhandarkar, Bhalchandra Puranik, Modelling forced convection nanofluid heat transfer using an Eulerian-Lagrangian approach, Journal of

Thermal Science and Engineering Applications (**ASME Journal**), 8(2016) 031001-1 to 8.

- **Sandipkumar Sonawane**, Upendra Bhandarkar, Bhalchandra Puranik, Investigation of turbulent heat transfer characteristics of aviation turbine fuel based multi-wall carbon nanotube nanofluid, Proceedings of the 23<sup>rd</sup> National Heat and Mass Transfer Conference and 1<sup>st</sup> International ISHMT-ASTFE Heat and Mass Transfer Conference 17-20 Dec. 2015, Trinendrum, Kerala, India, hosted by Liquid Propulsion Systems Centre, **ISRO**.
- **Sandipkumar Sonawane**, Upendra Bhandarkar, Bhalchandra Puranik, S. Sunil kumar, Experimental characterization of Aviation Turbine Fuel-metal Oxide nanofluids for internal forced convection heat transfer enhancement, Journal of Thermophysics and Heat Transfer (**AIAA Journal**), 26 (2012) 619-628.
- **Sandipkumar Sonawane**, Kaustubh Patankar, Ankit Fogla, Upendra Bhandarkar, Bhalchandra Puranik, S. Sunil kumar, An experimental investigation of thermo-physical properties and heat transfer performance of Al<sub>2</sub>O<sub>3</sub>-Aviation Turbine Fuel nanofluids, Applied Thermal Engineering (**Elsevier Journal**), 31(2011) 2841-2849.
- **Sandipkumar Sonawane**, Upendra Bhandarkar, Bhalchandra Puranik, S. Sunil kumar, Assessment of Aviation Turbine Fuel-TiO<sub>2</sub> nanofluid for heat transfer augmentation in rocket engines, International Journal of Micro-Nano Scale Transport (**Multi-Science Publishing**), 3(1+2) 2012.
- **Sandipkumar Sonawane**, Upendra Bhandarkar, Bhalchandra Puranik, S. Sunil kumar, Effect of particle size in Aviation Turbine Fuel-Al<sub>2</sub>O<sub>3</sub> nanofluid for heat transfer application, International Journal of Aerospace and Mechanical Engineering, 5(9) 2011.
- **Sandipkumar Sonawane**, Review of thermal conductivity enhancement with nanofluids, Journal of Research- Swayamprakash (**ISSN: 2249-9016**), 8(2013) 60-69.
- **Sandipkumar Sonawane**, Avinash Patil, Analysis of fire tube boiler influenced by dissolved solids in feed water, Journal of applied science in the thermodynamics and fluid mechanics (**ISSN 1802-9388**), vol. 2, No. 2/2008, ISSN 1802-9388.
- **Sandipkumar Sonawane**, Avinash Patil, Improvement in thermal efficiency of fire tube boiler using reverse osmosis water, Proceedings of International Conference on Fascinating Advancement in Mechanical Engineering (FAME 2008), December 11-13, 2008, Sivakasi, Tamilnadu, India.

- **Sandipkumar Sonawane**, Avinash Patil, Underfloor Air Distribution, Proceedings of national conference on Recent Trends in Mechanical Engineering Sciences, February 23-24, 2008, Tumkur, Karnataka, India.
- **Sandikumar Sonawane**, Vikas Khalkar, LPG as Refrigerant, Proceedings of national conference on Trends in Mechanical Engineering, February 8-9, 2008, Chandigarh Engineering College, Landran, Mohali, India.

## Book publication

Sr. No.	Name of Author	Title of Book	Publisher	ISBN
1	Dr. Sandipkumar Sonawane	Heat Transfer in Aviation Turbine Fuel based Nanofluids	Lambert Academic Publishing, Germany	978-620-2-66933-7 (Published in June 2020)

## Reviewer for Journal

- Chemical Engineering Communications, Taylor and Francis

## Research projects (Ongoing/completed) and other funding received

Sr. No.	Title of Project/scheme	Period	Funding agency	Amount (in lakhs)	Role
1	Heat transfer enhancement using brine based nanofluids (Completed)	23/8/2016 to 22/8/2019	Science & Engineering Research Board, Department of Science & Technology, Govt. of India	19	Principal Investigator
2	Characterization of heat transfer enhancement in internal flows using aviation turbine fuel based nanofluids (Completed)	16/7/2009 to 15/7/2012	Liquid Propulsion System Centre, ISRO, Valiamala	17	Research Scholar

3	Implantation of AICTE-Prerana Scheme (Ongoing)	July 2019 to March 2022	AICTE, New Delhi	9.5	Coordinator
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## NPTEL /Coursera Courses completed

- Elements of Solar Energy Conversion
- Convective Heat Transfer
- NBA Accreditation and Teaching-Learning in Engineering
- Photovoltaic solar energy
- Trading algorithms

## Subject taught

Sr. No.	Institute	Subjects
1	MVPS's KBT College of Engineering, Nashik	Heat Transfer, Refrigeration and Air Conditioning, Turbo-Machines Research Methodology
2	GES's R. H. Sapat College of Engineering, Management Studies and Research, Nashik	Heat Transfer Refrigeration and Air Conditioning Energy Audit and Management Turbo Machines Advanced Fluid Mechanics
3	SNJB's College of Engineering, Chandwad, Nashik (MS)	Heat Transfer Fluid Machinery Refrigeration and Air Conditioning Gas Turbines and jet Propulsion Basic Mechanical Engineering

## Administrative work and technical activities

Sr. No.	Institute	Activities
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1	MVPS's KBT College of Engineering, Nashik (NAAC Accredited 'A' grade institute)	<ul style="list-style-type: none"> <li>• Dean (R &amp; D)</li> <li>• Nodal Officer – NIRF 2018, 2019</li> <li>• Incharge, Heat Transfer &amp; Refrigeration &amp; Air Conditioning Laboratory</li> <li>• Incharge, Project Laboratory</li> <li>• Incharge, Library Advisory Committee</li> <li>• Member: Design &amp; Innovation centre</li> <li>• Teacher representative: College Development Committee.</li> <li>• Associate Editor, MVP Journal of Engineering Sciences</li> <li>• Convener: Two days state level workshop (4<sup>th</sup> &amp; 5<sup>th</sup> Feb. 2016) on 'Emerging Trends in Heat Transfer Engineering' funded by BCUD, SPPU</li> <li>• Coordinator- Avishkar Level 2 competition of Savitribai Phule Pune University, Pune</li> </ul>
2	GES's R. H. Sapat College of Engineering, Management Studies and Research, Nashik	<ul style="list-style-type: none"> <li>• Seminar Coordinator-T.E.(Mech.) students</li> <li>• Member, organizing committee, Two days national seminar on 'Emerging new dimensions of higher education in India' (20<sup>th</sup> and 21<sup>st</sup> Feb. 2015)</li> </ul>
3	IIT Bombay	<ul style="list-style-type: none"> <li>• Worked as Research Scholar on ISRO funded research project titled 'Study of heat transfer using aviation turbine fuel based nanofluids'</li> <li>• Conducted practicals of Heat Transfer, I.C. Engine of B.Tech. Mechanical Engineering students</li> </ul>
4	SNJB's College of Engineering, Chandwad, Nashik	<ul style="list-style-type: none"> <li>• Coordinator, Mechanical Engineering Students' Association (MESA)</li> <li>• Student Chapter Coordinator-ISHRAE</li> <li>• Coordinator-Industrial Visits</li> <li>• Project Coordinator- B.E. (Mech.) students</li> <li>• Set-up and development of Heat Transfer Lab, Fluid Machinery Lab., Refrigeration &amp; Air Conditioning Lab.</li> <li>• Coordinator, MECH-ERA 09 technical Event.</li> </ul>
5	Mungi Engineers Pvt. Ltd., Ambad, Nashik (MS)	<ul style="list-style-type: none"> <li>• Press shop Incharge: administered planning, production and human resource management activities for manufacturing of 'Maxx PIK UP' and 'Flat Bed Cargo models' of M/S Mahindra &amp; Mahindra, Nashik.</li> <li>• Achieved record monthly production of Maxx PIK UP (2141 Nos.) and Flat Bed Cargo (240 Nos.) in Dec 2004 by implementing TS – 16749 and KANBAN systems.</li> </ul>
6	Hindustan Aeronautical	<ul style="list-style-type: none"> <li>• Worked on Mechanical Control Systems</li> </ul>

Ltd. Aircraft Division, Nashik (MS)	<ul style="list-style-type: none"> <li>Assisted to Aircraft Service Engineers in on-site repairs.</li> <li>Part of repairs management team – Diagnosis of the problem, planning the repairs strategy, deputation of competent technical personnel and getting feedback.</li> <li>Compiling weekly and monthly Site Repair Reports for corporate office.</li> </ul>
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## Professional Membership

- Associate Member (AM: 095104-0) - Institution of Engineers, Kolkata (India).
- Life Member (LM 53462) - ISTE, New Delhi.
- Member (64562) - International Association of Engineers (IAENG), London.

## Lectures delivered in seminar/workshop/STTP

Sr. No.	Topic	Event & institute	Date
1	Heat Transfer enhancement using nanofluids	Workshop on 'Heat Transfer' organized by K.K.Wagh Institute of Engineering Education & Research, Nashik	Sept. 2020
2		Workshop on 'Heat Transfer' organized by K.K.Wagh Institute of Engineering Education & Research, Nashik	Sept. 2019
3	Heat Transfer enhancement using nanofluids	STTP organized by Nirma University, Ahmedabad	17/9/2018
4		STTP organized by Nirma University, Ahmedabad	22/06/2018
5		Organized by IQAC cell of PVG's College of Engineering, Nashik	16/03/2018
6	Research project grant proposal writing	Organized by KVN Naik College of Engineering, Nashik	8/9/2018
7	Research grants/schemes	G.N.Sapkal College of Engineering, Nashik	25/8/2018
8	Recent development in vapour absorption refrigeration machines	STTP organized by Govt. Polytechnic, Nashik	13/01/2017
9	Centrifugal Pump	Organized by KVN Naik College of Engineering, Nashik	29 <sup>th</sup> & 30 <sup>th</sup> March 2016



10	Gas Turbines	Sandip Institute of Technology & Research, Nashik	22/02/2014
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## **Conferences / Seminars / Workshops participated**

- Participated in Short Term Course on “Multiphase Flow in Miniature Systems : Flow Modeling & Applications” during : June 04 – 08, 2018, organized by IIT Roorkee.
- Participated in 2<sup>nd</sup> National Teachers’ Congress held at MIT-World Peace University Compus, Pune, India (10<sup>th</sup> – 12<sup>th</sup> January 2018)
- Participated in Two days National level Workshop on ‘Condition Monitoring of Rotating Machinery’ held at MVPS’s KBT College of Engineering, Nashik (7<sup>th</sup> – 8<sup>th</sup> Feb. 2017)
- Participated in Two days State level Workshop on ‘Emerging Trends in Heat Transfer Engineering’ held at NDMVPS’s KBT College of Engineering, Nashik (4<sup>th</sup> – 5<sup>th</sup> Feb. 2016)
- Participated in National Conference on ‘Recent trends in nanoscience techniques and applications for life sciences’ 19<sup>th</sup> -20<sup>th</sup> December 2014, organized by HPT Arts & RYK Science College Nashik (MS).
- Participated in Five-day ISTE Workshop for Coordinators On Heat Transfer Under the National Mission on Education (MHRD, Govt. of India) 12-16 Sept. 2011, organized by Indian Institute of Technology Bombay, Mumbai.
- Participated in two day national workshop on “Current trends in heat transfer & heat exchanger design” organized by IPS academy, Indore (MP), 11-12 Apr’08.
- Participated in one day workshop on “Computational Fluid Dynamics, Research and Industrial Applications” organized by Maharashtra Academy of Engineering, Alandi, Dist. Pune in association with Zeus Numerix, Mumbai, Feb’08.
- Participated in a state level workshop on “Non Conventional Energy Resources” Organized by University of Pune, Pune and Department of Mechanical Engineering, Sir Visvesvaraya Memorial Engg. College, Chincholi, Sinnar, Dist. Nashik, Feb’07.
- Attended International Seminar on “Wine – Technological and Business Co-operation between Asia & EU”, Organized by Indo- Italian chamber of Commerce & Industry, on June 2006 at Taj Residency, Nashik.

- Participated in the one-day seminar on “Supply Chain Management” Organized by the Department of Mechanical Engg. K.K.Wagh I.E.E. & R. Nashik Sponsored by University of Pune on 18<sup>th</sup> Feb 06 at K.K.Wagh I.E.E. & R., Nashik.
  - Participated in the two day workshop on “Entrepreneurship Development” organized by I.S.T.E Students’ Chapter, Nashik & Udyogwardhini, Nashik, held on 23-24 March 2002 at K. K. Wagh College of Engineering, Nashik.
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## **Awards**

- **Shiksha Bharati Award – 2021-21**, Indian Achiever’s Forum, New Delhi.
- **International Scientist Award on Engineering, Science and Medicine 2020**, VDGGOOD Professional Association
- **National level IEI Young Engineer Award 2015-16** – Institution of Engineers, India
- **Promising Engineer Award 2014** – Institution of Engineers (NLC), India
- **Ph. D. research fellowship** (2009 – 2012), IIT Bombay

## **Declaration**

I consider myself familiar with Mechanical Engineering Aspects. I am also confident of my ability to work in a team. I hereby declare that the information furnished above is true to the best of my knowledge.

**Place: Nashik (Maharashtra State)**

**(Dr. Sandipkumar B. Sonawane)**