

## CURRICULUM VITAE

### Address:

#17, SUCHI, Reflex Layout  
5<sup>th</sup> Main, Opposite JSSATE,  
Uttarahalli - Kengeri Main Road  
Srinivasapura, RR Nagar  
Bangalore-60



- 1) Name : **Dr. RUDRA NAIK**  
2) Father's Name : Krishna Naik  
3) Date of Birth : 12<sup>th</sup> December 1970

### 4) Employment Details:

Designation	From	To	Institution/Industry
Professor and Principal	2021	Till date	B.M.S. Evening College of Engineering
Professor and Head	2019	2022	Dept. of Mechanical Engineering, BMSCE
Professor	2013	2019	Dept. of Mechanical Engineering, BMSCE
Associate Professor (Promotion)	2006	2013	Dept. of Mechanical Engineering, BMSCE
Assistant Professor (DR)	2003	2006	Dept. of Mechanical Engineering, BMSCE
Lecturer (DR)	1999	2003	Dept. of IEM, BMSCE
Production Supervisor	1994	1996	A S Electronics, Goa
Workshop Superintendent	2017	2020	Dept. of Mechanical Engg.

## 5) Educational Qualification:

Graduation & above	Subject	Class	Year	University
Ph.D.	Mechanical Engineering sciences	NA	2013	VTU, Belgaum
M.Tech.	Production Engg. & System Technology	FCD	1999	Kuvempu University
B.E.	Industrial Production Engg.	FCD	1993	Kuvempu University

## 6) Membership of Professional Bodies:

- Member, Indian Society for Technical Education (**ISTE**), Since 1999 (Membership Number: **LM 32808**)
- Member, Indian Society of Heating Refrigerating and Air-conditioning Engineers (**ISHRAE**), Since 2020. (Membership Number: **58062**)

## 7) Research Areas:

- Evaporative Cooling:** The research is centered on optimizing Heat and Mass Exchangers (HMX) used in Indirect Evaporative Cooling systems (IECs) operating on the Maisotsenko Cycle (M-cycle). This entails conducting thorough numerical studies on various flow configurations within HMX, complemented by experimental validation of the findings. The system employs water as the working fluid and includes only one power-consuming component: the fan. Notably, the power consumption of this system is six times lower compared to conventional Vapor Compression Refrigeration (VCR) systems. Success in this project holds the potential for a substantial reduction in electricity usage by air conditioning systems. This project worth Rs. 25,00,000/- was sponsored by SERB, New Delhi in the year 2019.
- Heat Pipes:** The doctoral research conducted at the Mechanical Engineering department research center of B.M.S. College of

Engineering, under Visveswaraya Technological University, focused on an experimental and theoretical study of Heat Pipes. Specifically, the study examined the heat transfer and fluid flow characteristics of Pulsating Heat Pipes, including various types such as Wick Assisted, Grooved, and conventional Pulsating Heat Pipes. Extensive experimental studies were undertaken to analyze the heat transfer and fluid flow behaviors under different operating conditions, including variations in working fluids, orientation, fill ratio, and heat loads. Theoretical investigations also explored the potential application of Pulsating Heat Pipes as substitutes for the condenser section in vapor compression refrigeration systems. The research garnered acclaim from evaluators for its substantial contributions to Heat Pipe Technology.

- c. Nano abrasive materials:** B.M.S. College of Engineering is conducting both theoretical and experimental studies on Nano abrasive materials as part of its advanced materials research initiative. The college has established an MOU with M/s Sical Abrasives, a prominent manufacturer of grinding wheels. Currently, experimental investigations are ongoing to assess the practicality of Nano abrasive materials in grinding applications. This project is in its experimental phase, and the theoretical study is anticipated to complement and influence its outcomes upon completion.

### 8) Research Projects Submitted / Executed

Sl. No	Title	Funding Agency	Cost in Lakhs	Year	Role	Status
1	Thermal Management of Space Electronics Using PHP	TEQIP II	7	2016	Principal Investigator	Completed
2	Optimization of Heat and Mass Exchanger Used in The Indirect Evaporative Cooling System Working on Maisotsenko Cycle	SERB-EEQ (DST)	24.74	2019	Principal Investigator	Completed

3	Financial Assistance to Organize International Conference	AICTE	4	2020	Organizing Secretary	Completed
4	" Investigation of the performance of an indirect Evaporative cooling system using Deep learning Techniques working on Maisotsenko cycle technology for Air conditioning and cooling applications".	DME-NRT-VTU	40	2023	Principal Investigator	Submitted
5.	Comparative studies of Pebble Absorber Solar Thermal Collector with Conventional Absorber Solar Thermal Collector	VGST	30	2024	Principal Investigator	Submitted

### 9) Consultancy Projects Executed

Sl. No	Title of the consultancy work	Funding Agency	Cost in Lakhs	Year	Members	Status
1	Technical Details of Solid Waste Management Vehicles	BWSSB	1.25	2015-16	<b>Dr. Rudra Naik</b> Dr. Guruprasad Dr. B S Suresh Dr Ramachandra M	Completed

### 10) Ph.D. Students

Student Details	Guide Type	Full-time/ Part-time	Status
<b>SHIVASHANKARA</b> (USN: 1BM15PMJ01) VTU, Belagavi ADVANCED MATERIALS	Supervisor	<b>Part-time</b>	Awarded – 2024

<b>DEEPAK C</b> (USN:1BM19PME02) (AICTE-NDF), VTU, Belagavi THERMAL ENGINEERING	Supervisor	<b>Full-time</b>	Awarded - 2024
<b>ATMANAND ANIKIVI</b> (USN: BL16PHME032) VTU, Belagavi THERMAL ENGINEERING	Supervisor	<b>Part-time</b>	Comprehensive Viva completed
<b>NAVEEN B</b> (USN: ETR171783) VTU, Belagavi THERMAL ENGINEERING	Supervisor	<b>Part-time</b>	Course work completed
<b>DEVARAJ K</b> (USN:1BM21PME02) VTU, Belagavi THERMAL ENGINEERING	Supervisor	<b>Part-time</b>	Course Work completed

**11) i) Patent granted on 28.02.2024, Design No.409054-001**

**Title: FOOTSTEP-POWERED ENERGY GENERATION DEVICE.**

**Authors:** Dr. Channa Keshava Naik N, Dr. Prasad Naik Hamsavath, Dr. Rudra Naik.

**Granted by:** The Controller General of Patents, Designs & Trade Marks, Kolkata, Govt. of India.

**ii) Patent filed on 09.06.2024, Application No. 419457-001, CBR No. 209969**

**Title: MULTI WINGLET FOR UNMANNED AERIAL VEHICLES**

**Applied to:** The Controller General of Patents, Designs & Trade Marks, Kolkata, Govt. of India.

## 12) P.G (M. Tech.) Projects Guided

- i) Design Modification and Development of Modified Main Rotor Blade Fork Assembly in Hingeless Semi Rigid Rotor of a Helicopter
- ii) Conceptual Design of Spare Tyre Handling Mechanism
- iii) Structural Analysis of Combustor Liner of an Aero Engine for Robust Design
- iv) Conceptual Development and Fabrication of Multifunctional Walking Stick.
- v) Development of multistage cooling system for 224 kW Eddy current Dynamometer
- vi) Design and Development of a dust removal device for Solar panels
- vii) Design and Development of a Digital Indicator for an LPG cylinder
- viii) Design and Development of a Mobile Kitchen System
- ix) Modeling of loading on flat plates Peel Strength Characterization of Sandwich panel using climbing drum Peel test
- x) Process modeling of cutting Load Effects in Machining.
- xi) Experimental investigation of heat pipe based indirect evaporative cooler
- xii) Quantifying the error in simulation model of automobile USB charger and impact of design modifications on critical component temperatures
- xiii) Study of Thermal Aspects for Hull Mounted Sonar Transmitter Cabinet
- xiv) Design Modification and Development of Blade fork assembly in Hinge less Semi–Rigid Main Rotor of a Helicopter.

**13) National / International Conferences Organized:**

<b>Sl. No.</b>	<b>Events name</b>	<b>Position</b>	<b>Date</b>	<b>Year</b>
1	International Conference on Vibration Engineering and Technology of Machinery (VETOMAC-2021)	Organizing Secretary	16 <sup>th</sup> -18 <sup>th</sup> December	2021
2	National Aerospace Propulsion Conference (NAPC – 2020)	Co-Chairman	Dec 17 <sup>th</sup> -19 <sup>th</sup> 2020	2020
3	International Conference On ‘Remote Engineering and Virtual Instrumentation (REV 2019)	Co-ordinator	03 <sup>rd</sup> to 06 <sup>th</sup> February	2019
4	International Conference on Advanced Materials and Applications (ICAMA 2016)	Co-ordinator	15-17 <sup>th</sup> June	2016
5	National Conference on Energy Systems & Energy Issues(ESEI)	Convener	18-19 <sup>th</sup> Feb	2011

**14) Workshops / FDP's Organized**

<b>Sl. No.</b>	<b>Events name</b>	<b>Position</b>	<b>Date</b>	<b>Year</b>
1	AMMT-2023	Patron	9 <sup>th</sup> -14 <sup>th</sup> January	2023
2	Outcome Based Education	Patron	16 <sup>th</sup> -20 <sup>th</sup> August	2022
3	Police Constable Examination (Civil & KSRP)	Assistant Nodal Officer	17 <sup>th</sup> Nov & 1 <sup>st</sup> Dec	2019
4	Two Week FDP On Mechatronics and AI	Organizing Chair	29 <sup>th</sup> July to 10 <sup>th</sup> August	2019
5	One Week FDP On Deep Dive Sessions on Industrial Automation Systems and Controls	Convener	29 <sup>th</sup> July to 02 <sup>nd</sup> August	2019
6	One-Week FDP on Contact and Non-Contact Measurement	Organizing Chair	22 <sup>nd</sup> to 27 <sup>th</sup> July	2019

7	One-Week Skill Development Program for Technical Staff on Advanced Manufacturing Techniques	Organizing Chair	15 <sup>th</sup> to 20 <sup>th</sup> July	2019
8	Police Constable Examination (Civil & KSRP)	Assistant Nodal Officer	17 <sup>th</sup> Nov & 1 <sup>st</sup> Dec	2019
9	Two Weeks Faculty Development Programme on 'Advanced Manufacturing'	Co-ordinator	16 <sup>th</sup> to 27 <sup>th</sup> July	2018
10	One Week Technical Staff Development Programme on 'Machine Tool Maintenance'	Convener	18 <sup>th</sup> to 22 <sup>nd</sup> June	2018
11	Meditation and Yoga for All	Co-ordinator	June	2018
12	Machine Tool Maintenance for Technical Staff (Mech.)	Co-ordinator	18-22 June	2018
13	3M-Modeling, Materials and Manufacturing	Co-ordinator	13 <sup>th</sup> -23 <sup>rd</sup> December	2016
14	CAMD With SOLIDWORKS and GD&T	Co-ordinator	08-12 <sup>th</sup> August	2016
15	Skill Improvement Program for Technical Staff of Mechanical Engineering Dept.	Co-ordinator	1-12 <sup>th</sup> June	2015
16	Two-Day National Workshop on Renewable Energy	Convener	8-9 <sup>th</sup> March	2015
17	One-Week Workshop on Micro Electro Mechanical Systems (MEMS) And Nano Technology	Program Co-ordinator, BMSCE	Aug 28 & 29	2013
18	Kreedostav	Organizing Chairman	Oct 11-12 <sup>th</sup>	2011
19	National Conference on Energy Systems and Energy Issues -ESEI	Convener, BMSCE	Feb 18 <sup>th</sup> & 19 <sup>th</sup>	2011
20	UTSAV	Organizing Secretary	April 10 <sup>th</sup> -12 <sup>th</sup>	2010

21	South Zone Inter University Table Tennis	Organizing Secretary	9-12 <sup>th</sup> Oct	2006
22	Dynamech-2005	Co-ordinator, BMSCE	April 8 <sup>th</sup>	2005
23	Mechanical Engineering Association	Coordinator	2003 to 2007	

### 15) Conference / Workshops Participated:

Sl. No.	Events Name	Funding Agency	Venue	Date & Year
1	International Conference on 'Remote Engineering and Virtual Instrumentation (REV 2019)	TEQIP III	BMSCE, Bangalore	03 <sup>rd</sup> to 06 <sup>th</sup> February 2019
2	One day Workshop on 'Curriculum Revision, Outcomes & Attainment'	TEQIP III	BMSCE, Bangalore	11 <sup>th</sup> August 2018
3	Two Weeks Faculty Development Programme on 'Advanced Manufacturing'	TEQIP III	BMSCE, Bangalore	16 <sup>th</sup> to 27 <sup>th</sup> July 2018
4	3M-Modeling, Materials and Manufacturing	TEQIP III	BMSCE, Bangalore	13 <sup>th</sup> -23 <sup>rd</sup> December 16
5	CAMD with SOLIDWORKS and GD & T	TEQIP II	BMSCE, Bangalore	08-12 <sup>th</sup> August 2016
6	Fatigue and Fracture Mechanics	TEQIP II	BMSCE, Bangalore	25 July-5 August 2016
7	Computer Aided Engineering Analysis	ISTE-TEQIP II	Madgao, Goa	04-08 Jan 2016
8	International Conference on IMEC 2014	NIT, Trichy	NIT, Trichy	13-15 June 2014

9	Gas Turbine Technology and Current Challenges	TEQIP-II	BMSCE, Bangalore	21-23th April 2014
10	MEMS & Nanotechnology	TEQIP-II	BMSCE, Bangalore	19-24 <sup>th</sup> Aug 2013
11	Biostatistics and Bio Modeling Using Software	TEQIP-II	BMSCE, Bangalore	22-26 <sup>th</sup> July 2013
12	Recent advances and Challenges in Energy	Manipal University	MIT, Manipal	4 <sup>th</sup> -6 <sup>th</sup> Jan 2012
13	Transport Phenomena in Phase-Change and Reacting Systems	CDTE	IIT, Kanpur	10 <sup>th</sup> -14 <sup>th</sup> Jan 2011
14	Frontiers in Mechanical Engineering	NITK, Surathkal	NITK, Surathkal	20 <sup>th</sup> -22 May 2010
15	Futuristic Trends in Mechanical Engineering	SUSCIT, Tangori, Punjab	SUSCIT, Tangori, Punjab	13-14 Sept 2007
16	Performance Improvement through Optimization Models	MSRIT, Bangalore	MSRIT, Bangalore	9 <sup>th</sup> -10 <sup>th</sup> March, 2007
17	National Symposium on Acoustics	Acoustical Society of India	NPL-New Delhi	16 <sup>th</sup> -17 <sup>th</sup> Nov 2006
18	Computer Aided Engineering Drawing	TEQIP-I	BMSCE, Bangalore	4 <sup>th</sup> -6 <sup>th</sup> Sept 2006
19	Role Analysis and Effectiveness	TEQIP-I	BMSCE, Bangalore	1-2 Sept 2006
20	Computational fluid Dynamics	TEQIP-I	SIT, Tumkur	13 <sup>th</sup> -14 <sup>th</sup> Jan 2006

21	Aluminum Alloy Composite Materials	TEQIP-I	BMSCE, Bangalore	17 <sup>th</sup> -18 <sup>th</sup> Feb 2005
22	National Conference on Energy and Fuel Issues of Future	PIET, Pune	PIET, Pune	5-6 <sup>th</sup> Nov 2004
23	Recent Advances in Materials and Manufacture of Thermal Systems	AICTE-ISTE	BIET, Davangere	16 <sup>th</sup> -27 <sup>th</sup> Aug-2004
24	Foundations of Global Supply Chain Management	ORSI, Bangalore chapter	IISc Bangalore	27 <sup>th</sup> 2003
25	Indo-German workshop on automotive engineering	RWTH, Aachen	RVCE, Bangalore	27 <sup>th</sup> – 1 <sup>st</sup> March 2003
26	Strength of Materials	QIP	IIT, Mumbai	24 <sup>th</sup> -28 <sup>th</sup> 2002
27	Simulation Modeling and Analysis	RVCE, Bangalore	RVCE, Bangalore	5 <sup>th</sup> -6 <sup>th</sup> April 2002
28	Object Oriented Programming	ISTE	BMSCE, Bangalore	7 <sup>th</sup> -21 <sup>st</sup> Jan 2002
29	ISO 9000:2000	AICTE	BMSCE, Bangalore	5-7 <sup>th</sup> Nov 2001
30	Supply Chain and Logistics Management	ISTE	BMSCE, Bangalore	4 <sup>th</sup> May 2001
31	Short term course on Mechatronics	VTU, Belgaum	BMSCE, Bangalore	19-22 Dec 2000
32	Enterprise Resource Planning	AICTE	BMSCE, Bangalore	30 <sup>th</sup> April- 13 <sup>th</sup> May 2000

33	Orientation Programme for NSS Officers	University of Mysore	JNNCE, Shimoga	01 -10 Feb 2000
34	Recent Trends in Information Technology	AICTE	BMSCE, Bangalore	18 <sup>th</sup> Sept-02 Oct-1999

### 16) Additional Responsibilities handled

SL. No.	RESPONSIBILITIES	Organization	DATE
1	<b>Principal</b>	B.M.S. Evening College of Engineering, Bengaluru	2021 to till date
2	<b>BOG Member</b>	BMSCE, Bengaluru	2021 to till date
3	<b>Subject Expert for KPSC</b>	Mechanical Engineering	15 <sup>th</sup> June 2024.
4	<b>BOS Member</b>	SNS College of Technology, Coimbatore, Tamil Nadu	20 <sup>th</sup> June 2024 to till date
5	<b>Member, Advisory Committee</b>	VTU, Belagavi for SC/ST and OBC cell	7 <sup>th</sup> Feb 2023 to till date
6	<b>DAC Member</b>	Mechanical Engg. Dept. BMSCE	2010-2012 & 2015 to till date
7	<b>Chairman</b>	ISTE, BMSCE Chapter	2016 to till date
8	<b>BOG Member</b>	BMSIT, Bengaluru	2021 to 2023
9	<b>BOE member</b>	Dept. of Mechanical Engg. UVCE, Bengaluru	2018 to 2023
10	<b>External Expert</b>	‘Departmental Promotion Committee’ DOS/ISRO	14 <sup>th</sup> Dec 2022
11	<b>Member, Faculty of Engineering</b>	Bangalore University	7 <sup>th</sup> Dec 2022

12	<b>Session Chair</b>	<b>ICRAES, MSRIT,</b> Bengaluru	13 to 14 <sup>th</sup> Oct 2022
13	<b>Judge</b>	<b>PRADARSHANA -2022</b> Project exhibition at MSRIT, Bangalore-54	6 <sup>th</sup> to 7 <sup>th</sup> July 2022
14	<b>Professor &amp; Head</b>	Dept. of Mechanical Engg., BMSCE, Bengaluru	09 <sup>th</sup> May 2019 to 20 <sup>th</sup> Feb 2022
15	<b>BOS Chairman</b>	Dept. of Mechanical Engg., BMSCE, Bengaluru	09 <sup>th</sup> May 2019 to 20 <sup>th</sup> Feb 2022
16	<b>BOE Chairman</b>	Dept. of Mechanical Engg., BMSCE, Bengaluru	Mar 2018 to May 2022
17	<b>BOE member</b>	Dept. of Mechanical Engg., Dr. AIT Bengaluru	Mar 2019 to May 2022
18	<b>DPC Member</b>	Dept. of Mechanical Engg., BMSCE	2010-2012 & 2015 to 2022
19	<b>Expert lecture</b>	“Energy Efficient Cooling Systems” at Dept. of Mechanical Engg., BMSCE	15 <sup>th</sup> Feb 2022.
20	<b>External Expert</b>	‘Departmental Promotion Committee’ DOS/ISRO	1 <sup>st</sup> Dec 2021
21	<b>Workshop Superintendent</b>	Dept. of Mechanical Engg., BMSCE	2017 to 2019
22	<b>Reviewer</b>	International Journal of Thermal analysis and calorimetry, Springer publications.	Since 2018
23	<b>Lab Incharge</b>	I.C. Engines Lab, BMSCE	June 2013 to 2018

24	<b>BOS Member</b>	Dept. of Mechanical Engg., BMSCE	2008 to 2011 & 2015 to 2017
25	<b>Reviewer</b>	International Journal of Heat and Mass Transfer, Elsevier publications.	2016
26	<b>Vice President</b>	ISTE, BMSCE	2013 to 2016
27	<b>Member</b>	Board of Governance, BMSCE	Jan 2014 to Aug 2016
28	<b>Chairperson</b>	International Conference on advanced materials and its applications (ICAMA- 2016)	15 <sup>th</sup> -17 <sup>th</sup> June 2016
29	<b>Judge</b>	<b>PRADARSHANA-2015</b> Project exhibition at MSRIT, Bangalore-54	13 <sup>th</sup> May 2015
30	<b>Panel Expert</b>	Jnana Vikas Institute of Technology., BIDADI, Ramanagara (Dist.)	9 <sup>th</sup> July 2014
31	<b>Panel Exam member</b>	Staff selection committee, Koramangala, Bangalore	Nov-2013
32	<b>Presented an Expert Lecture</b>	Optimization techniques to Technical personnel of M/s Scania Commercial Vehicles Pvt. Ltd.	10 <sup>th</sup> June 2013
33	<b>Co-ordinator,</b>	BMS Quiz club	2011 to 2012
34	<b>Sports and Cultural Committee Member</b>	BMSCE	2006 to 2012.
35	<b>BOE Member, BMSCE</b>	Mechanical Engg. Dept.,	2008-2011.

36	<b>Co-ordinator</b>	Mechanical Engineering Association	2003 to 2006.
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### 17) Sports Achievements

- ❖ **Winner**, Inter-college staff cricket, SPHYGMUS 2000-2001 held at Jyothi Nivas College, Bangalore.
- ❖ **Runner-up**, Cricket, Annual Sports and Games Competition-2011, BMSCE.
- ❖ **Winner**, Cricket, Annual Sports and Games Competition-2013, BMSCE.

### 18) Subjects Taught (UG & PG)

Computer Concepts & C Programming	Elements of Mechanical Engineering
Engineering Graphics/ EED	Software Engineering,
Basic Thermodynamics	Applied Thermodynamics
Materials Management	CAD/CAM
Computer Integrated Manufacturing	Industrial Robotics
Industrial Management	Simulation Modeling and Analysis
Automation in Manufacture	Operations Management
Production and Operations Mngt.	Project Management
Heat and Mass Transfer	Operations Research
Financial Management	Quality and Reliability Engg.
Non-Conventional Energy Sources	Engineering Economics

### 19) Publications:

#### a. Book Chapters

- i) Anand K Joshi, **Rudra Naik**, “**Enhancing Heat Transfer Analysis in Phase Change Materials Using Artificial Intelligence**”, in the edited

book **Futuristic Trends in Mechanical Engineering**, Volume 3, Book 6, Part 5 chapter 5, IIP Series e-ISBN:978-93-5747-709-3

ii) Channa Keshava Naik, **Rudra Naik**, “**Development of Fused Deposition Modelling (FDM) 3D Based Foldable Printer**” in **Futuristic Trends in Mechanical Engineering**, IIP Book Chapter Series, ISBN 978-93-5747-622-5 IIP Series, Volume 3, Book 2, Part 5, Chapter 2.

iii) Deepak, C., **Naik, R.**, Prashanth, H.K. (2022). “**Experimental Study on Heat and Mass Exchanger of a Dew Point Indirect Evaporative Cooler**”, **Recent Advances in Manufacturing, Automation, Design and Energy Technologies**. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-16-4222-7\\_96](https://doi.org/10.1007/978-981-16-4222-7_96)

#### **b. International Journals**

i) Aneesh Jose; Channa keshava Naik; **Rudra Naik**; Sudesh Bekal; G Sameer; Hasan Sh. Majdi; Abduljabar H. Ali (2024), "Computational fluid dynamics simulations of variant designs of the bipolar plate flow fields for proton exchange membrane fuel cell" Journal of The Institution of Engineers (India): Series C, Springer Journals (Under review)

ii)M Ravikumar, **Rudra Naik**, YS Rammohan, S Raghavendra, R Suresh, (2024), “Evaluation of Mechanical, Wear and Fracture Behavior of Silicon Carbide Particulates Reinforced Al7075 Composites using Response Surface Methodology Technique”, Journal of Materials and Engineering Structures, Vol. 10 (4), pp. 601-613.

iii)Channa Keshava Naik, **Rudra Naik**, Aneesh Jose, Sudesh Bekal (2024), “Computational Fluid Dynamics Simulations of Variant Designs of the Bipolar Plate Flow Fields for Proton Exchange Membrane Fuel Cell”, Engineering Reports, Wiley publications, (Under review)

- iv)Gaurav Seshadri, **Rudra Naik**, Amit Kumar, Devaraj K (2024),” Thermal Aspects in Sonar Cabinets for Data processing”, Journal of thermal analysis and calorimetry (Under review).
- v)Channa Keshava Naik, **Rudra Naik**, Aneesh Jose, Sudesh Bekal (2024), “A Multifaceted Approach to Injection Mold Design, Analysis and Manufacturing” Scientific Reports, Springer Nature (Under Review).
- vi) Channa Keshava Naik, **Rudra Naik**, Aneesh Jose, Sudesh Bekal (2024), “Investigation of BZT Based PVDF Polymer and Rochelle salt, A Piezo Materials: Microcrystalline, Morphological and its Electrical Behaviour”, American Chemical Society-Omega (Under review)
- vii) **Rudra Naik**, Jasine C, Sangamesh Godi, Chidanand (2024), “Experimental and numerical investigations on the thermal performance for different automobile USB chargers”, Energy sources Part A (Taylor and Francis, (Under review).
- viii)Deepak, C., **Rudra Naik.**, Prashanth, H.K. (2022). Experimental Study on Heat and Mass Exchanger of a Dew Point Indirect Evaporative Cooler. Recent Advances in Manufacturing, Automation, Design and Energy Technologies. Lecture Notes in Mechanical Engineering. Springer, Singapore. [https://doi.org/10.1007/978-981-16-4222-7\\_96](https://doi.org/10.1007/978-981-16-4222-7_96).
- ix)**Rudra Naik**, Deepak C, Sangamesh Godi, Chidanand “Thermal Performance Analysis of a Mixed-Flow Indirect Evaporative Cooler”, Applied Thermal Engineering 217 (2022) 119155.
- x)Deepak C, **Rudra Naik**, Abhinav M, Sangamesh C. Godi, Chidanand K. Mangrulkar., Experimental Investigations on Heat Pipe based Indirect Evaporative Cooler with Diethyl ether as working fluid, under second

revision in Journal titled” Part C: Journal of Mechanical Engineering Science”

xi) **Rudra Naik**, Ravikumar M “Impact of Nano Sized Sic and Gr on Mechanical Properties of Aerospace Grade Al7075 Composites”, *Frattura ed Integrita Structures*”, *Frattura ed Integrità Strutturale*, 62 (2022) 439-447; DOI: 10.3221/IGF-ESIS.62.30.

xii) M Ravikumar, **Rudra Naik**, Reddappa H N. “Assessment of Mechanical and Tribological Properties of Mono and Hybrid Composite by Statistical Technique”. *Research Square*, 2022, doi:10.21203/rs.3.rs-1558111/v1. PPR: PPR489732.

xiii) M Ravikumar, **Rudra Naik**, Suresh R, Chethana KY, “A study of mechanical and wear behavior of SiC-CeO<sub>2</sub> reinforced Al7075 hot rolled hybrid composites”, *Archives of Metallurgy and Materials*, 2022, Accepted for Publication.

xiv) M Ravikumar, **Rudra Naik**, Vinod BR, “Study on nano sized Al<sub>2</sub> O<sub>3</sub> and Al<sub>2</sub>O<sub>3</sub>-SiC on mechanical, wear and fracture surface of Al7075 composites for soil anchoring applications”, *Materials Physics and Mechanics*, 2023, Vol. 51 (6), pp. 24-41.

xv) **Rudra Naik**, Shivashankara and M.G. Patil. 2022. “Influence of Internal Grinding Wheel Using Aluminum Oxide-Al<sub>2</sub>O<sub>3</sub> With Boron Nitride and Relation with Dressing and Surface Roughness”, *Int. J. Vehicle Structures & Systems*, 14(4), 530-534, 2022; doi:10.4273/ijvss.14.4.22

xvi) **Rudra Naik**, Shivashankara and M.G. Patil. 2022. “The Effect of Aluminium Oxide-Al<sub>2</sub>O<sub>3</sub> With Boron Nitride Grinding Wheel on Surface

Roughness with Finishing of EN-8 Steel”, *Int. J. Vehicle Structures & Systems*, 14(4), 535-539, 2022.

xvii) **Rudra Naik**, Praveen T Hunashikatti et.al. Undergraduate students’ knowledge, utilization, perception and willingness to adopt renewable energy: A case study From Karnataka, India. *Gyanodaya - The Journal of Progressive Education*, Accepted and to be published in forthcoming issue (April-2021)

xviii) **Rudra Naik**, Atmanand Anikivi, and K Rama Narasihma “Investigation of copper-water loop heat pipe for different filling ratios” *IOP Conf. Series: Materials Science and Engineering* 872 (2020) 012070. doi:10.1088/1757-899X/872/1/012070

xix) **Rudra Naik**, Dr. K Rama Narasimha and Atmanand Anikivi, “Comparative Investigation and Operational Performance Characteristics of a Wick Assisted and Axially Square Grooved Heat Pipe” *IOP Conf. Series: Materials Science and Engineering*, 346 (2018) 012082 doi:10.1088/1757-899X/346/1/012082.

xx) **Rudra Naik**, Swagata Bhowmik, Tushar Anand, “Comparative Studies on Composition of Internal Vitrified Grinding Wheels” *International Conference on Composite Materials: Manufacturing, Experimental Techniques Modeling and Simulation (ICCMEMS-2018)*. 2214-7853 © 2018 Elsevier Ltd.

xxi) **Rudra Naik** and N. Narendra Babu, ‘Heat Transfer Performance of a Closed Loop Pulsating Heat Pipe for higher Heat Loads’ *International Conference on Advances in Design and Manufacturing (ICAD&M 2014)* ISBN 978-93-84743-12-3 © 2014 Bonfring. pp 316-319.

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xxvi) **Rudra Naik**, Venugopal Varadarajan, G Pundarika “Design, Fabrication and Performance evaluation of axially grooved wick assisted heat pipe”, International Journal of Emerging Trends in Engineering and Development, Issue 1, Vol. 2, Oct- 2010, pp 25-39.

### **c.International Conferences**

i) **Rudra Naik**, Deepak C and Prashanth H K, Experimental study on “Heat and Mass Exchanger of a Dew point Indirect Evaporative cooler”, ICoFT 2020, NITPY.

ii) **Rudra Naik**, Venkatesh T Lamani, ‘Use of magnetic nanoparticles for effective hyperthermia of liver tumor’ submitted to IHMTC-2019, IIT Roorkee

iii) **Rudra Naik**, Venkatesh T Lamani, Ravi L ‘Analysis of Fire Ventilation System in an Underground Car Park’ submitted to IHMTC-2019, IIT Roorkee.

iv) **Rudra Naik**, Venkatesh T. Lamani, Adithya U. Baliga M., “Optimum Injection Timings for Bioethanol-Diesel Blends and Its Effect on Tail Pipe Emission in Common Rail Diesel Engine” International Conference on

Advance Trends in Mechanical & Aerospace Engineering 7<sup>th</sup> – 9<sup>th</sup> November 2019, AIP Conference Proceedings 2316 (1), 030031

v)**Rudra Naik**, Shivashankara, M.G Patil “Hardness Characteristics of Grinding Wheel Using Al<sub>2</sub>O<sub>3</sub> with boron Nitride, 2<sup>nd</sup> International Conference on Innovations in Mechanical Engineering (ICIME – 2019) Springer publications on 4<sup>th</sup> and 5<sup>th</sup> January 2019 at Guru Nanak Institutions.

vi)**Rudra Naik**, Swagata Bhowmik, “Selection of Abrasive Materials for Manufacturing Grinding Wheels” ICAMA 2016, Materials Today: Proceedings 5 (2018) 2860–2864

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vii)**Rudra Naik**, Linford Pinto, G Pundarika, Rama Narasimha K “Theoretical studies on the application of pulsating in vapour compression refrigeration system” International Mechanical Engineering Congress-2014, 13-15 June 2014, NIT Tiruchirappalli, Tamil Nadu, India.

viii)**Rudra Naik**, Narendra Babu N “Experimental Investigation and Performance evaluation of a Multi turn pulsating heat pipe” International Mechanical Engineering Congress-2014, 13-15 June 2014, NIT Tiruchirappalli, Tamil Nadu, India.

ix)**Rudra Naik**, Pundarika G “Experimental investigation on characterisation of heat pipe”. International conference in Frontiers in mechanical Engg. 20-22 May 2010. NITK ,Surathkal.

x)**Rudra Naik**, Bheemsha, Pundarika.G and Ramesh Nayak “Thermodynamic Analysis of Gas Turbine Cogeneration System” International conference on recent development in mechanical engineering. 23-25 Jan 2008 SUSCET, Mohali, Chandigarh.

xi)**Rudra Naik**, Bheemsha., Pundarika.G, and Suresh S.M. Design of Heat exchanger For Thermoacoustic Refrigerator International conference on

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xii) **Rudra Naik**, Ramesh Nayak, Bheemsha, Pundarika.G “Production of Jatropha Oil and Performance Characteristics of A Twin Cylinder Diesel Engine Using Jatropha-Diesel Blend. International conference on I.C. Engines and combustion Dec 6-9 JNTU, Hyderabad.

xiii) **Rudra Naik.**, Bheemsha., Hithesh Shah., Pundarika G., “Design and Theoretical construction of Thermoacoustic Refrigeration” International Conference on theoretical, Applied Computational and Experimental mechanics. Dec 28-30 2004. IIT, Kharagpur.

#### **d.National Conferences/ Symposiums**

- i) **Rudra Naik**, Venkatesh T Lamani, , Ravi L, L. Ravikumar, and Bheemsha Arya, “CFD Analysis of N- Butanol - Diesel Blends and Low Temperature Combustion in CRDI Engine ” 3rd National Aerospace Propulsion Conference (NAPC 2020), 17th – 19th , December, 2020.
- ii) **Rudra Naik**, Venkatesh Lamani, Ravi L, Bheemsha Arya, R S Verma, Rohan C, Srikanth P, Rajashekharegowda M D, “State of art technologies in agriculture and recommendation to improve farmer’s economy through solar tree concept” National Conference on Biotechnology and Sustainable Agriculture 5<sup>th</sup> – 7<sup>th</sup> September 2019.
- iii) **Rudra Naik**, Vignesh B Balaji,Vishnu Swaroop B.T , Venkatesh T. Lamani, Dr. Ravi L,“A review on electric mobility” National Conference at SRMIT , 22nd February 2018 .
- iv) **Rudra Naik** Pundarika.G. Ramesh Nayak. B., Bheemsha.. Production of biodiesel From jatropha for Diesel engines National seminar on Advances in automobile engineering Pune 23&24 May 2009
- v) **Rudra Naik**, Bheemsha., Suresh S.M, Pundarika.G “Selection of transducer for thermoacoustic refrigerator” National conference on

- emerging technologies in Mechanical engineering. Krishna institute of Engineering and Technology Ghaziabad New Delhi, 27&28 June 2008.
- vi) **Rudra Naik**, Bheemsha, Suresh S.M, Pundarika.G “Design of resonator for thermoacoustic refrigerator” National conference on emerging technologies in Mechanical engineering. Krishna institute of Engineering and Technology Ghaziabad New Delhi, 27&28 June 2008.
  - vii) **Rudra Naik.**, Bheemsha., Ramesh Nayak, Pundarika.G Air-conditioning of Cars Using Waste Heat Driven Absorption System” has been accepted for the National conference on futuristic trends in mechanical Engineering 13<sup>th</sup> & 14<sup>th</sup> of Sept.2007 SUSCET Mohali, Chandīgarh.
  - viii) **Rudra Naik**, Pundarika.G.,, Bheemsha., Ramesh Nayak, Structural Analysis Of Chip Substrate Assembly” has been accepted for the National conference on futuristic trends in mechanical Engineering 13<sup>th</sup> & 14<sup>th</sup> of Sept.2007 SUSCET Mohali, Chandighar.
  - ix) **Rudra Naik.**, Pundarika.G., Bheemsha., Sheshadri T.S., “Experimental Study of Supersonic Impinging Jet on Flat Plate” National Symposium on Acoustics National Physical Laboratory New Delhi,15-17 Nov 2006.
  - x) **Rudra Naik.**, Pundarika.G., Suresh. S. M., Sheshadri T.S., “Design and Testing of a Contoured Convergent – Divergent Nozzle for Jet Acoustic Experiments” National Symposium on Acoustics National Physical Laboratory New Delhi,15-17 Nov 2006.
  - xi) **Rudra Naik** ., Bheemsha ., Suresh S.M , Pundarika.G Numerical Study On Supersonic Jet Noise National conference On advances in Mechanical engineering. Jamia Milia Islamia Central University, New Delhi, 21&22 Jan 2006
  - xii) **Rudra Naik** ., Bheemsha ., Suresh S.M ., Pundarika.G “Design of Stack for Thermo acoustic Refrigerator” National conference on recent advances in Mechanical Engineering.1-3<sup>rd</sup> Dec 2005. P. A. College of Engineering Mangalore.

- xiii) **Rudra Naik**, Pavankumar S.S., Thyagaraj., C.K.Chandrababu, G.Pundarika Use of Honge Oil as Alternative For Compression Ignition Engine. First National Conference on Energy and Fuel Issues of Future., Nov.5-6, 2004.

**20) Achievements as HOD, Department of Mechanical Engineering, BMSCE**

<b>No.</b>	<b>Particulars</b>	<b>Year/Duration</b>
1	<b>Two patents</b> have been published under my tenure and Two are in progress. Patent No. 351498(2020) and Patent No.318441 (2019)	2019, 2020
2	<b>VOLVO India</b> donated a six-cylinder Diesel Engine Worth <b>Rs.20Lakh</b> for academic purpose	2020-21
3	Hosted a National Aerospace Propulsion Conference ( <b>NAPC</b> )	17-19 Dec- 2020.
4	Organized an International conference in association with <b>IIT, Kanpur</b> and <b>IIT, Guwahati, VETOMAC- 2021</b>	16-18 Dec-2021
5	Established state of the art <b>CNC Lab.</b> for R&D and Academics	2019-20
6	Started <b>PG Program</b> in Thermal Engineering	A. Y 2019-20
7	Established <b>CFD</b> Laboratory for both UG/PG students	A.Y 2021-22
8	Established state of the art <b>CAED</b> Laboratory for First year students	A.Y 2021-22
7	PG program in <b>Manufacturing Science and Engineering</b> got accredited by <b>NBA</b> for 3 years	w.e.f. 2020 to 2023
8	Played a major Role in design and development and release of commercial product “ <b>Instant Heat Pump of 1 kW Capacity</b> ” and Established a <b>Laboratory on Heat Pump</b>	2020
9	<b>Four R&amp;D MOUs</b> signed and three are in progress	2019 to 2021

<b>No.</b>	<b>Particulars</b>	<b>Year/Duration</b>
10	Guided two R&D projects funding worth <b>Rs.17 Lakhs</b> and received from DASSULT SYSTEMS Pvt. Ltd.	2019 to 2021
11	Submitted 11 R&D Proposals worth <b>Rs.212 Lakhs</b>	A.Y.2019-20
12	Submitted 08 R&D Proposals worth <b>Rs.108 Lakhs</b>	A.Y.2020-21
13	During my tenure 50 National / International Journals and 40 National / International conference papers have been published.	2019 to 2021
14	Initiated and successfully conducted coaching for GATE exams and <b>14 students</b> have been Qualified in <b>GATE-2020 &amp; 2021.</b>	2019 to 2020
15	Released Department Magazine <b>Yantra-2019-2020.</b>	2020
16	Released <b>Consultancy</b> and <b>R&amp;D</b> Brochure.	2020
17	Received grant of Rs. 5 Lakh under <b>GIAN</b> Program.	2020
18	Initiated Two <b>International University collaborations</b> (MOU'S) with regard to Research, Academics and Internships: <b>Toulouse University, France</b> and <b>Purdue University, USA.</b>	2020 to 2021
19	Initiated R&D MOUs with <b>VOLVO India Ltd, Altair Engineering and Dassault systems.</b>	2021
20	Facilitated two value added courses on <b>ANSYS</b> and <b>Python Programming.</b>	2019 to 2020
21	Department placed first (winner) in the inter departmental cricket event.	2021

Place: Bengaluru

Date: 25, June 2024

**Dr. Rudra Naik**