|  |  |
| --- | --- |
| **Sathyabhama A**Associate Professor Door No.17-40/3 PUNYADept. of Mech. Engg. Ganeshanagar PadreNITK Surathkal Srinivasnagar PO, SurathkalSrinivasnagar, Mangalore-575025 Mangalore-575025 DK, Karnataka, India | bhama72@gmail.comsathyabhama@nitk.edu.in+91-824-2473683 (O)+91-9448134433(M) |

**Education:**

PhD (Mechanical Engineering) – 2012

NITK Surathkal

Thesis: “Experimental investigation of bubble point temperature and boiling heat transfer coefficient for ammonia-water and ammonia-water-salt mixtures”

M.Tech (Heat Power Engineering) – 1998

KREC Surathkal

Thesis: “Optimisation of Shell and Tube Heat Exchangers”

B.E (Mechanical Engineering) - 1994

PESCE Mandya

Project: “Fabrication of a critical aircraft component using NC technology”

**Professional Experience:**

|  |  |  |  |
| --- | --- | --- | --- |
| Positions held | Employer/place of work | Duration | Area/nature of work |
| Associate Professor | NITK Surathkal | 16/05/2018 to till date | Teaching UG/PG students, Guiding UG/PG/PhD project works, Organising conference/workshops, Development of Laboratories, handling Consultancy/R&D projects |
| Assistant Professor | NITK Surathkal | 19/11/2012 to 15/05/2018 | Teaching UG/PG students, Guiding UG/PG/PhD project works, Organising conference/workshops, Development of Laboratories, handling Consultancy/R&D projects |
| Associate Professor | MSRIT, Bangalore | 15/05/2012 –17/11/2012 | Teaching UG students, Guiding UG project works, Organising conference/workshops, handling Consultancy/R&D projects |
| Assistant Professor | MSRIT, Bangalore | 23/10/2000-14/05/2012 | Teaching UG students, Guiding UG project works, Organising conference/workshops, handling Consultancy/R&D projects |
| Asst. Engineer | TCE, Bangalore | 1.5 years (1998 March-1999 Sept) | Consultants in Power plant equipments, preparing Specification of turbine and auxiliaries, checking the design data from the manufacturer |
| Asst. Lecturer | NITK, Surathkal | 1.5 years (1994 Dec- 1996 July) | Teaching UG students, Guiding UG project works |

**Guidance to Students (PG and Ph. D)**

PhD: Completed-09, Ongoing-04

PG: Completed- 19 Ongoing-03

**Funded projects:**

* Principal investigator of project titled “**Investigation of enhanced pool boiling methods for cooling of micro-electronic devices**” sponsored by **DST SERB,** Sanction orderSR/S3/MERC-0009/2010 Amount: Rs. 19.9 lakh (Completed 2010-2015)
* Principal investigator of project titled “**Visualization of boiling heat transfer on grooved surface**” sponsored by **CSIR** Sanction order22/661/14/EMR-II Amount Rs. 20 lakh (Completed 01/10/2014-30/09/2017)
* Principal investigator of project titled “**Experimental and Numerical Investigation of Effect of Leading edge Protuberances on the Performance of Wind Turbine Blade**” sponsored by **DST SERB** Sanction orderEMR/2015/000879 Amount Rs. 66 lakh (Completed May 2016-May 2020)
* Principal Investigator of project titled “Development of ternary mixture based solar absorption refrigeration system” funded by KSTePS, VGST Karnataka grant order KSTePS/VGST/2021-22/K-FIST(L1)/GRD-1048/117/2022-23/13 Amount 15 lakhs (March 2023- March 2025)
* Principal investigator of project titled “Investigation into the effect of water on the boiling heat transfer coefficient of NH3/LiNO3 mixture” sponsored by DST SERB, Sanction order CRG/2023/003920**,** Amount: Rs. 47.08 lakh (2024-2027)

**Publications:**

International Journal

1. Sathyabhama A, Rupam Kumar Sinha, C. Jayapal Reddy, Numerical and Experimental Investigation into the Effect of Leading-Edge Protuberances on the Aerodynamic Performance of Wind Turbine, International Journal of Fluid Mechanics Research,

DOI: 10.1615/InterJFluidMechRes.2025055704

1. Jeena Joseph, Surya Sridhar, A. Sathyabhama, Jayakrishnan Radhakrishnan, “Analyzing dynamic stall on tubercle mounted VAWT blades: A simplistic experimental approach using an oscillating rig, Sustainable Energy Technologies and Assessments 71 (2024) 103962

 https://doi.org/10.1016/j.seta.2024.103962

1. Ganesh Kolapkar, A. Sathyabhama, “Effect of salt on the performance of ammonia absorption refrigeration cycle: A simulation study” International Communications in Heat and Mass Transfer, 157 (2024) 107730,

[doi.org/10.1016/j.icheatmasstransfer.2024.107730](https://doi.org/10.1016/j.icheatmasstransfer.2024.107730)

1. A.V.V.R. Prasad Yandapalli, Sathyabhama A, Sarada Kuravi, Krishna Kota, “Liquid-infused surfaces for mitigation of corrosion and inorganic scaling”, Materials Today Communications 39 (2024) 108865

<https://doi.org/10.1016/j.mtcomm.2024.108865>

1. K. Madan, A. Sathyabhama “Effect of RIBS/FINS and Aspect Ratio on Flow Boiling Characteristics in Conventional Channels”, ASME Journal of Thermal Science and Engineering Applications March 2024, Vol. 16 / 031001-1 to 031001-9

<https://doi.org/10.1115/1.4064168>

1. Rajan Jaswal, A. Sathyabhama, Kuldeep Singh, A.V.V.R. Prasad Yandapalli, “Experimental and numerical investigation of pool boiling heat transfer from finned surfaces”, Applied Thermal Engineering 233 (2023) 121167

<https://doi.org/10.1016/j.applthermaleng.2023.121167>

1. Addisu Frinjo Emma, A. Sathyabhama, Ajay Kumar Yadav, “Extraction and characterization
of biodiesel derived from the coffee husk and its effect on diesel engine performance and emission
characteristics”, International Journal of Energy for a Clean Environment 24(6):19–40 (2023)

DOI: 10.1615/InterJEnerCleanEnv.2022043949

1. A.V.V.R. Prasad Yandapalli, Erick Moreno Resendiz, Sarada Kuravi, Sathyabhama Alangar,
Krishna Kota, “Enhanced boiling heat transfer of water on a liquid-infused surface” Applied Thermal Engineering 226 (2023) 120219

<https://doi.org/10.1016/j.applthermaleng.2023.120219>

1. Suhas Badakere Gopalakrishna, Chidanand Kishor Mangrulkar, Kiran Kumar Kapse Umashankar and Sathyabhama Alangar, “Numerical investigation on subcooled boiling heat transfer coefficient of water ethanol mixture by CISCAM technique”, Journal of Mechanical Science and Technology 37 (4) 2023 pp: 2055-2067

DOI 10.1007/s12206-023-0341-9

1. C. Jayapal Reddy and A. Sathyabhama “Comparative Study on the Effect of Leading Edge
Protuberance of Different Shapes on the Aerodynamic Performance of Two Distinct Airfoils”, *Journal of Applied Fluid Mechanics*, Vol. 16, No. 1, pp. 157-177, 2023

 https://doi.org/10.47176/jafm.16.01.1334

1. Ganesh Kolapkar, A. Sathyabhama, “Aspen Plus simulation of NH3-H2O-NaOH and NH3-H2O-KOH ternary cycles”, International Communications in Heat and Mass Transfer 138 (2022) 106422

<https://doi.org/10.1016/j.icheatmasstransfer.2022.106422>

1. Madan Krishnegowda, Sathyabhama Alangar, “Experimental investigation on flow boiling characteristics of the ethanol–water mixture in conventional channels”, Heat and Mass Transfer (2023) 59, pp; 779-802

https://doi.org/10.1007/s00231-022-03295-y

1. A. Sathyabhama, Aditi Marathe, Shyam Rangapure, & Alok Potadar “Aerodynamic analysis of wing with leading edge protuberances using Prandtl’s lifting line theory”, International Journal of Fluid Mechanics Research, 49(4):31–48 (2022)
2. Jeena Joseph, A. Sathyabhama, Surya Sridhar “Experimental and numerical analysis of
humpback whale inspired tubercles on swept wings” Aircraft Engineering and Aerospace Technology, 94/10 (2022) 1577–1592

DOI 10.1108/AEAT-04-2021-0114

1. Addisu Frinjo Emma, Sathyabhama Alangar, Ajay Kumar Yadav “Extraction and characterization of coffee husk biodiesel and investigation of its effect on performance, combustion, and emission characteristics in a diesel engine” Energy Conversion and Management: X 14 (2022) 100214
2. A. Sathyabhama, B. K. Sreejith, “Numerical Investigation on the Effect of Leading-Edge
Tubercles on the Laminar Separation Bubble” Journal of Applied Fluid Mechanics, Vol. 15, No. 3, pp. 767-780, 2022

https://doi.org/10.47176/jafm.15.03.32914

1. Jeena Joseph, A. Sathyabhama, “Leading edge tubercle on wind turbine blade to mitigate problems of stall, hysteresis, and laminar separation bubble”, Energy Conversion and Management,255 (2022) 115337

https://doi.org/10.1016/j.enconman.2022.115337

1. Pranali Waghare, A. Sathyabhama, “Performance analysis of ammonia-based vapour absorption refrigeration system” Materials Today: Proceedings, [Volume 51, Part 3](https://www.sciencedirect.com/journal/materials-today-proceedings/vol/51/part/P3), 2022, Pages 1503-1509

https://doi.org/10.1016/j.matpr.2021.10.279

1. Jeena Joseph, A. Sathyabhama, “Experimental study on the effect of tubercle on aerodynamic characteristics of swept wing at low Reynolds number”, Iranian journal of science and technology, transactions of Mechanical Engineering, available online 07 Oct 2021

https://doi.org/10.1007/s40997-021-00455-z

1. A Sathyabhama, AM Rajiv, IS Sandeep, SS Kumar, CH Akash “[Experimental and Computational Analysis of Bio-Inspired Winglets for Micro Air Vehicles](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=f7ytAjsAAAAJ&cstart=20&pagesize=80&citation_for_view=f7ytAjsAAAAJ:JV2RwH3_ST0C)” Journal of Applied Fluid Mechanics 14 (5), 1363-1376, 2021 Rating Q2

doi.org/10.47176/jafm.14.05.32224

1. Sreejith B. K, Sathyabhama Aand Sandeep Kumar S, “Comparative study on the aerodynamic performance of airfoil with boundary layer trip of various geometrical shapes” Journal of Physics: Conference Series 1854 (2021) 012003 IOP Publishing

doi:10.1088/1742-6596/1854/1/012003

1. Jeena Joseph, A. Sathyabhama, **“**Numerical Study on the Effect of Leading Edge Tubercle on
Symmetrical Airfoil at Low Reynolds Number” The International Journal of Engineering and Science (IJES) 23-19 – 1805, PP 65-71, 2020
2. Rashmi P. Shetty, A. Sathyabhama, P. Srinivasa Pai, “An efficient online sequential extreme learning machine model based on feature selection and parameter optimization using cuckoo search algorithm for multi-step wind speed forecasting” Soft Computing, 25:1277–1295, 2021, https://doi.org/10.1007/s00500-020-05222-x
3. B. K. Sreejith, A. Sathyabhama, “Experimental and numerical study of laminar separation bubble formation on low Reynolds number airfoil with leading‑edge tubercles”, Journal of the Brazilian Society of Mechanical Sciences and Engineering (2020) 42:171

doi.org/10.1007/s40430-020-2229-2 (SCIE)

1. B.G. Suhas, A. Sathyabhama, Kavadiki Veerabhadrappa, R. Suresh Kumar and U. Kiran Kumar “A wallheat flux partitioning analysis for subcooled flow boiling of water-ethanol mixture in conventional channel”, Frontiers in Heat and Mass Transfer (FHMT), 13, 16 (2019), pp. 1-8

DOI: 10.5098/Hmt.13.16

1. Avdhoot Walunj, Alangar Sathyabhama, “Experimental Investigation on Transient Pool Boiling Heat Transfer from Rough Surface and Heat Transfer Correlations”, International Journal of Heat and Technology Vol. 37, No. 2, June, 2019, pp. 545-554

doi.org/10.18280/ijht.370223 (Scopus)

1. Rashmi P. Shetty, A. Sathyabhama, P. Srinivasa Pai, “Efficient modelling and simulation of wind power using online sequential learning algorithm for feed forward networks”, Journal of Mechanical Engineering Research & Developments (JMERD) 42(1) (2019) 109-115

DOI: http://doi.org/10.26480/jmerd.01.2019.109.115(Scopus)

1. Avdhoot Walunj A. Sathyabhama, “Bubble dynamics and enhanced heat transfer during high pressure pool boiling on rough surface”, Journal of Thermophysics and Heat Transfer, 2019, 33:2, pp. 309–321

DOI: 10.2514/1.T5495 (SCI)

1. A. Sathyabhama, “Boiling of saturated water on grooved surface”, Thermal Science-International scientific journal, 23,2B, (2019) 1095-1104

doi.org/10.2298/TSCI180105203S

1. Rashmi P. Shetty, A. Sathyabhama, P. Srinivasa Pai, “Comparison of modeling methods for wind power prediction: a critical study”, Front. Energy, 2020, 14(2): 347–358

Doi.org/10.1007/s11708-018-0553-3 (SCIE)

1. Walunj A, Sathyabhama A, Transient CHF enhancement in High Pressure Pool Boiling on Rough Surface, *Chemical Engineering and Processing*, 127, (2018) 145-158

doi.org/10.1016/j.cep.2018.03.025 (SCI/Scopus)

1. B. K. Sreejith, A. Sathyabhama, “Numerical study on effect of boundary layer trips on aerodynamic performance of E216 airfoil”, Engineering Science and Technology, an International Journal, 21 (2018) 77–88

 doi.org/10.1016/j.jestch.2018.02.005 (Scopus)

1. Avdhoot Walunj, A. Sathyabhama, “Comparative Study of Pool Boiling Heat Transfer from Various Microchannel Geometries” Applied Thermal Engineering, 128 (2018) 672-683

DOI: <http://dx.doi.org/10.1016/j.applthermaleng.2017.08.157> (Scopus)

1. Suhas B.G, Sathyabhama A, “Experimental study on forced convective and subcooled flow boiling heat transfer coefficient of water-ethanol mixtures: an application in cooling of heat dissipative devices”, *Heat Mass Transfer,* 54 (2018) 277-290

DOI 10.1007/s00231-017-2122-4 (SCI/Scopus/SCIE)

1. A Sathyabhama, S. P. Prashanth, “Bubble dynamics and boiling heat transfer from a vibrating heated source”, ELK Asia Pacific Journal of Applied Thermal Engineering, 3(1) 2017
2. Sathyabhama, A., Prashanth S. P., “Effect of surface vibration on boiling heat transfer from a copper flat circular disc” Journal of Enhanced heat transfer, 23(4):299–314 (2016)

DOI: 10.1615/JEnhHeatTransf.2017013393

# A Sathyabhama, Athul Dinesh, “Effect of compound enhancement technique on pool boiling heat transfer coefficient”, Heat Pipe Science and Technology, 7(3−4) 251−264 (2016)

# DOI: 10.1615/HeatPipeScieTech.2017019384

1. Suhas B.G, Sathyabhama A, “Heat transfer and force balance approaches in bubble dynamic study during subcooled flow boiling of water-ethanol mixture” Experimental Heat Transfer A Journal of Thermal Energy Generation, Transport, Storage, and Conversion 31(1), (2018), 1-21

DOI: 10.1080/08916152.2017.1328469 (SCIE)

1. A Sathyabhama, Athul Dinesh, “Augmentation of heat transfer coefficient in pool boiling using compound enhancement techniques”, Applied Thermal Engineering, Elsevier Publication, 119 (2017) 176–188

DOI: 10.1016/j.applthermaleng.2017.03.029 (Scopus)

1. Suhas B.G, Sathyabhama A , “Experimental investigation of heat transfer coefficient and correlation development for subcooled flow boiling of water-ethanol mixture in conventional channel”, *Journal of Thermal Science and Engineering Applications*, ASME, 9(2017) 041003-1- 041003-11

DOI:10.1115/1.4036202 (Scopus)

1. Suhas B.G, Sathyabhama A , “Bubble dynamics of water-ethanol mixture during subcooled flow boiling in a conventional channel”,[Applied Thermal Engineering](http://www.sciencedirect.com/science/journal/13594311), Elsevier publication [Volume 113](http://www.sciencedirect.com/science/journal/13594311/113/supp/C), 25 February 2017, Pages 1596–1609

 DOI:10.1016/j.applthermaleng.2016.11.126 (Scopus)

1. Sathyabhama A, “Effect of boiling surface vibration on heat transfer” Heat Mass Transfer, *Springer-link publication*, 53, pp: 73-79, 2017

DOI: 10.1007/s00231-016-1803-8 Impact factor: 0.946 (SCI/Scopus/SCIE)

1. Sathyabhama A, “Nucleate pool boiling heat transfer from a flat-plate grooved surface”, Journal of Enhanced heat transfer, Begell house publication 22(3), 2015, pp: 247-265

DOI: 10.1615/JEnhHeatTransf.2015014319 Impact factor: 0.244

1. Sathyabhama A, Prashanth S P, “Enhancement of boiling heat transfer using surface vibration”, Heat transfer asian research, *Wiley Publication,* 46(1) 2017,pp: 49-60

DOI: 10.1002/htj.21197

1. Suhas B.G, Sathyabhama A, “Numerical analysis of single phase pressure drop and forced convective heat transfer coefficient of water-ethanol mixture: An application in cooling of HEV Battery module” Heat transfer asian research *Wiley Publication* **45** (7), 2016, pp: 680–698,

DOI 10.1002/htj.21183

1. Avdhoot Walunj, A. Sathyabhama, “Dynamic Pool Boiling Heat Transfer due to Exponentially Increasing Heat Input-A Review, Procedia Technology 25 (2016) 1137 – 1145

DOI: 10.1016/j.protcy.2016.08.229

1. Sathyabhama A, “Effect of salt on boiling heat transfer of ammonia-water mixture”, Heat Mass Transfer, *Springer-link publication*, 48(3), 2012, pp: 497-503

DOI: 10.1007/s00231-011-0898-1 (SCI/Scopus/SCIE)

1. Sathyabhama A, T.P. Ashok Babu, “Experimental investigation of pool boiling heat transfer in ammonia/water/lithium nitrate solution” Experimental Heat Transfer, A Journal of Thermal Energy Generation, Transport, Storage, and Conversion, *Taylor & Francis Publication,* 25:2, 2012, pp: 127-138

**DOI:**10.1080/08916152.2011.582568 (SCIE)

1. Sathyabhama A, “Prediction of boiling heat transfer coefficient of ammonia/water mixture” EJEST, *SERC Publication, 10(1) 2011, pp.31-41*
2. Sathyabhama A, T.P. Ashok Babu, “Nucleate pool boiling heat transfer measurement and flow visualization for ammonia-water mixture”, Journal of Heat Transfer, *ASME Publication*, 133(10), 101506, October 2011

DOI:10.1115/1.4004258 (Scopus/SCIE)

1. Sathyabhama A, T. P. Ashok Babu "Vapour Liquid Equilibrium of Ammonia-Water-Lithium Nitrate Solutions" Heat Transfer-Asian Research, *Wiley Publication*, 40(6), 2011, pp: 483-494

DOI: 10.1002/htj.20351

1. Sathyabhama A, T.P. Ashok Babu, “Experimental investigation in pool boiling heat transfer of ammonia/water mixture and heat transfer correlations”, International Journal of Heat and Fluid Flow, *Elsevier Publication*, 32(3), June, 2011, pp: 719-729

DOI: 10.1016/j.ijheatfluidflow.2011.02.007 (Scopus)

1. Sathyabhama A, T.P. Ashok Babu, “Experimental study of nucleate pool boiling heat transfer to ammonia–water–lithium bromide solution” Experimental Thermal and Fluid Science, *Elsevier Publication*, 35 (6), (Sept. 2011) pp: 1046-1054.

DOI: 10.1016/j.expthermflusci.2011.02.007 (Scopus)

1. Sathyabhama A. T.P. Ashok Babu "Vapour Liquid Equilibrium of Ammonia-Water-Lithium Bromide Solution" IJMAE, *SERC Publication* 10(1), 2010, pp. 16-23
2. Sathyabhama A, Ramakrishna N. Hegde “Prediction of nucleate pool boiling heat transfer coefficient” Thermal Science: International scientific journal Year 2010, Vol. 14, No. 2, pp. 353-364

DOI: 10.2298/TSCi1002353S

1. Sathyabhama A, T.P. Ashok Babu “Assessment of mixture boiling correlation for ammonia/water mixture” Heat Transfer-Asian Research, *Wiley Publication* Volume 38, Issue 7(2009) page 401-408

DOI: 10.1002/htj.20262

1. Sathyabhama A, T.P. Ashok Babu “Thermodynamic simulation of Ammonia/water Absorption Refrigeration System”, Thermal Science-International scientific journal, vol. 12(2008) No.3 pp.45-53

DOI: 10.2298/TSCI0803045S

**National Journal**

1. A. Sathyabhama, Pranali Waghare, “Optimization of absorption refrigeration system using Taguchi method” Air conditioning and refrigeration journal, Vol. 25, No. 5, Sept-Oct 2022, pp. 76-81
2. Sathyabhama A, Laksmi Pranathi M, "CFD analysis of effect of forced vibration on heat transfer in laminar flow", Journal of Thermal Engineering and Applications Vol 2, Issue 1, 2015
3. Sathyabhama A, “Heat transfer in pool boiling of H2O/LiBr mixture”, Journal of Thermal Engineering and Applications, Vol.1, Issue 1, 2014, pp. 7-12

**International conference**

* + - 1. Sathyabhama A, Harshavardhan Sai, Jayapal Reddy C, Ramakrishna N Hegde, “Aerodynamic Performance of Wing with Leading Edge Protuberances under Static and Dynamic Conditions”, proceedings of Symposium on Applied Aerodynamics and Design of Aerospace Vehicle (SAROD 2024), December 12-14, 2024, VSSC, ISRO, Thiruvananthapuram, India, pp 64-69
			2. Sathyabhama A, Pranali Waghare, Ramakrishna N Hegde, “ASPEN PLUS simulation of NH3/H2O and NH3/LiNO3 vapour absorption refrigeration systems”, Proceedings of the 27th National and 5th International ISHMT-ASTFE Heat and Mass Transfer Conference December 14-17, 2023, IIT Patna, Patna-801106, Bihar, India, pp 103-108

DOI: [10.1615/IHMTC-2023.180](http://dx.doi.org/10.1615/IHMTC-2023.180)

* + - 1. Guhan Sidharth M, Sathyabhama A, Ramakrishna N Hegde “Design of Small Scale Vertical Axis Wind Turbine with Passive Blade Pitch Control” Proceedings of the 10th International and 50th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 20-22, 2023, IIT Jodhpur, India, pp. 177-190
			2. Sambit Senapati, Vighnesh Prasad, Anil Dubey, Satyabhama A, “Discrepancy in predicted head loss of non-Newtonian aqueous suspension of fly ash with two different Yield stress values obtained from Rheological data”, Proceedings of the 9th International and 49th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 14-16, 2022, IIT Roorkee-247667, Uttarakhand, India. <https://doi.org/10.1007/978-981-99-5755-2_43>
			3. Sathyabhama A and Balakrishna L, “Numerical Analysis of Dynamic Stall of a tubercled Airfoil” 48th National Conference on Fluid Mechanics and Fluid Power (FMFP 2021) held during 27th -29th December at BITS Pilani, Pilani Campus, Rajasthan, India, Fluid Mechanics and Fluid Power (Vol. 1), Lecture Notes in Mechanical Engineering, pp: 429-430

<https://doi.org/10.1007/978-981-19-7055-9_72>

* + - 1. A V V R Prasad Y, A Sathyabhama, “Recent trends in pool boiling enhancement – A qualitative approach” Proceedings of conference on Advances in Thermal-Fluid Engineering (ATFE 2021) 25-26 March 2021 Pandit Deendayal Energy University Knowledge Corridor, Raisan Village, Gandhinagar Gujarat 382 426, India
			2. G V Kolapkar, A Sathyabhama, “Ammonia based working fluids for absorption refrigeration system – A review” Proceedings of conference on Advances in Thermal-Fluid Engineering (ATFE 2021) 25-26 March 2021 Pandit Deendayal Energy University Knowledge Corridor, Raisan Village, Gandhinagar Gujarat 382 426, India
			3. Sreejith B. K., A. Sathyabhama, Sandeep Kumar S, “Aerodynamic performance study of airfoil with boundary layer trip of various geometrical shapes” Proceedings of 2nd International Conference on Fusion of Engineering Systems and Technology FEST-2020, 18-19 Dec. 2020, Greater Noida
			4. Sathyabhama A, Akshat Dwivedi, Shailesh Kumar “Effect of Tubercles on the Performance of Small Horizontal Axis Wind Turbine” Proceedings of International Conference - RARE 2020 *February 7-9, 2020, National Institute of Technology Karnataka, India*
			5. Addisu Frinjo Emma, A Sathyabhamaand Ajay Kumar Yadav, “Coffee Husk Biofuel as an alternate fuel for Internal Combustion Engine – A Review”, Proceedings of International Conference - RARE 2020 *February 7-9, 2020, National Institute of Technology Karnataka, India*
			6. Rashmi P Shetty, Sathyabhama A and Srinivasa Pai P., “Wind power prediction and modelling-A comparison of feed forward neural networks” Proceedings of the Global Conference on Advanced Smart and Sustainable Technologies in Engineering (GCASSTE-2020), 30th and 31st Jan 2020, at MITE Mangalore
			7. Jayapal Reddy C, Sathyabhama A, “Numerical and experimental investigation of aerodynamic performance of two distinct airfoils with leading edge triangular protuberances” Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019), December 28-31, 2019, IIT Roorkee, Roorkee, India.
			8. B. K. Sreejith, A. Sathyabhama “Experimental study on effect of boundary layer trip on aerodynamic performance of low Reynolds Number airfoil E216” Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019), December 28-31, 2019, IIT Roorkee, Roorkee, India.
			9. Jeena Joseph, A. Sathyabhama, “Experimental study on the effect of leading-edge tubercle on
			high swept wing at low Reynolds number” Proceedings of the 25th National and 3rd International ISHMT-ASTFE Heat and Mass Transfer Conference (IHMTC-2019), December 28-31, 2019, IIT Roorkee, Roorkee, India.
			10. Sathyabhama A, “Semi-analytical model for bubble departure diameter prediction for triangular grooved surface”, Proceedings of 12th International conference on Thermal Engineering: Theory and Applications (ICTEA 2019), PDPU, Gandhinagar, Gujarat Feb. 23-26, 2019
			11. Avdhoot Walunj, A. Sathyabhama, “Effect of Surface Roughness on Pool Boiling Characteristics under Variable Heat Supply”, Proceedings of 12th International conference on Thermal Engineering: Theory and Applications (ICTEA 2019), PDPU, Gandhinagar, Gujarat Feb. 23-26, 2019
			12. Raghavendra S, Sathyabhama A, Jayapal Reddy C, “Effect of Leading Edge Slots on the Performance of Distinct Airfoil Profiles at Low Reynolds Numbers”, Proceedings of Asian Joint Workshop on Thermophysics and Fluid Science, (AJWTF 7), November 21-24, 2018, Trivandrum, India, 689-693
			13. Rashmi P Shetty, Sathyabhama A and Srinivasa Pai P., Wind speed Forecasting in different seasons using ELM batch learning algorithm in Indian context, In proceedings of International conference on Emerging Trends in Engineering, NMAM, Institute of Technology, Nitte, Karnataka, May 14−15 2018, Published in International Journal of Engineering and Technology, Vol 7, 705-709.
			14. Avdhoot Walunj, A. Sathyabhama,” Bubble Dynamics in Pool Boiling on Rough Surface Under Exponential Heat Supply”, 3rd Thermal and Fluids Engineering Conference (TFEC) at Nova Southeastern University, Florida, 4-7 March 2018, pp. **329-337**
			15. Avdhoot Walunj, A. Sathyabhama,” Influence of Surface Roughness on Pool Boiling Heat Transfer”, 2nd International Conference on Advances in Mechanical Engineering at S.R.M. Institute of Science and Tech., Chennai, 22-24 March 2018 (IOP Conf. Series: Materials Science and Engineering 402 (2018) 012081)

doi:10.1088/1757-899X/402/1/012081

* + - 1. Rashmi P Shetty, Srinivas Pai P, Sathyabhama A, “Wind power optimization: A comparison of Meta-heuristic algorithms” International conference on Advances in Manufacturing, Materials and Energy Engineering, IconMME 2018 during 2-3rd March 2018 held at MITE, Mangalore IOP Conf. Series: Materials Science and Engineering 376 (2018) 012021

doi:10.1088/1757-899X/376/1/012021

* + - 1. Avdhoot Walunj, A. Sathyabhama,” Effect of surface roughness on pool boiling heat transfer due to exponential step heat input”, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass transfer conference (IHMTC-2017), Dec 27-30, 2017, BITS Pilani, Hyderabad, India. 393-399
			2. Avdhoot Walunj, A. Sathyabhama, “Transient pool boiling heat transfer from smooth surface due to exponential heat input”, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass transfer conference (IHMTC-2017), Dec 27-30, 2017, BITS Pilani, Hyderabad, India, 1861-1866
			3. Sreejith B K, Sathyabhama A, “Numerical study and performance analysis of E216 airfoil for low Reynolds number application”, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass transfer conference (IHMTC-2017), Dec 27-30, 2017, BITS Pilani, Hyderabad, India, 1067-1072
			4. Jayapal Reddy C, Raghavendra S, Sathyabhama A, “Lift enhancement of an airfoil using leading edge triangular protuberances for small scale wind turbine blades”, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass transfer conference (IHMTC-2017), Dec 27-30, 2017, BITS Pilani, Hyderabad, India, 1019-1024
			5. Pushkar kumar, Suhas B.G, and Sathyabhama A, “Investigation on subcooled flow boiling heat transfer to water-ethanol mixture”, Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass transfer conference (IHMTC-2017), Dec 27-30, 2017, BITS Pilani, Hyderabad, India, 2417-2423
			6. Sathyabhama A and Satyajit Malode, “Bubble dynamics and pool boiling heat transfer from triangular and rectangular grooved surfaces” Proceedings of the 24th National and 2nd International ISHMT-ASTFE Heat and Mass transfer conference (IHMTC-2017), Dec 27-30, 2017, BITS Pilani, Hyderabad, India, 351-359
			7. Raghavendra S, Jayapal Reddy C, Sathyabhama A, “Computational evaluation of aerodynamic performance of leading edge slots at low Reynolds numbers” Proceedings of 6th Asian symposium on computational heat transfer and fluid flow, ASCHT 2017, 10-13 Dec 2017, IIT Madras, Chennai, India, pp: 41-47
			8. Sreejith B K, Pratik B Maniya, Ravi N Patel, Sathyabhama A, “Effect of different shapes of boundary layer trips on aerodynamic performance of E216 airfoil profile” Proceedings of 6th Asian symposium on computational heat transfer and fluid flow, ASCHT 2017, 10-13 Dec 2017, IIT Madras, Chennai, India, pp: 354-362
			9. Suhas B.Gand Sathyabhama. A, “Investigation of heat transfer coefficient and Bubble dynamics of ethanol during subcooled flow boiling”, Proceedings of 6th International Engineering Symposium-IES 2017, March 1-3, 2017, Kumamoto University, Japan pp: M3-6-1 to M3-6-6
			10. Suhas B.G, Pushkar kumar and A. Sathyabhama, “Numerical investigation of forced convective heat transfer coefficient of water-ethanol mixture in a horizontal rectangular channel”, Proceedings of the 6th International and 43rd National conference on fluid mechanics and Fluid power, December 15-17, 2016, MNNITA, Allahabad, U.P., India, pp-65
			11. Rashmi P Shetty, Srinivas Pai P, Sathyabhama A, A. Adarsh Rai, “Optimized Radial Basis Function Neural Network model for wind power prediction” proceedings of Second International Conference on Cognitive Computing and Information Processing (CCIP), August 12-13, 2016 held at Mysuru pp:1-6. **DOI:** [10.1109/CCIP.2016.7802846](https://doi.org/10.1109/CCIP.2016.7802846)
			12. Sreejith B K, Sathyabhama A, “Design of small scale wind turbine blade for low wind potential areas” WEENTECH Proceedings in Energy - Volume 4, National Institute of Technology, Patna, Bihar, March 4 − 6 2016
			13. Rashmi P Shetty, Srinivas Pai P, Sathyabhama A, “Prediction of wind turbine power using ANN” WEENTECH Proceedings in Energy - Volume 4, National Institute of Technology, Patna, Bihar, March 4 − 6 2016, 50-55.
			14. Athul Dinesh, Sathyabhama A, “Augumentaion of heat transfer coefficient in pool boiling using compound enhancment technique”, Proceedings of 23rd National Heat and Mass Transfer Conference and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference IHMTC2015, 17-20 December, 2015, Thiruvananthapuram, India
			15. Sathyabhama A, Prashanth S P “Experimental Investigation on Boiling Heat Transfer Coefficient Enhancement Using Grooves for Cooling of Electronic Devices”, Proc. of 14th IEEE ITHERM conference held during May 27-30, 2014 at Orlando, FL, USA pp:466-474
			16. Sathyabhama A “Correlation for boiling heat trasnfer coefficient of ammonia/water mixture”, Proc. of Minnamata Int. Symposium on Energy and Environment (MISSON 2013) held during Dec. 4-6, 2013, at Kumamoto Japan
			17. Sathyabhama A “Bubble point temperature of NH3-H2O, NH3-H2O-LiNO3 and NH3-H2O-LiBr mixtures” proceedings of International conference on Challenges and Opportunities in Mechanical Engineering, Industrial Engineering and Management studies ICCOMIM held on 11-13th July 2012 in MSRIT, Bangalore
			18. R. N. Hegde, Sathyabhama A “Heat transfer performance of a newly designed compact heat exchanger using alumina nanofluid”, Proceedings of International Conference On Design and Advances in Mechanical Engineering, ICDAAME-2011, SKP Engineering College, Tiruvannamalai, Tamilnadu, December 16 - 17, 2011
			19. Sathyabhama A, T.P. Ashok Babu,” Effect of Salt on Vapour Liquid Equilibrium of Ammonia-Water Mixture”, Proceedings of International Conference on Thermal Energy and Environment (INCOTEE) March 24-26, 2011, Kalasalingam University, Tamilnadu
			20. Sathyabhama A, T.P. Ashok Babu “Vapour-Liquid Equilibrium of Ammonia-Water Mixture” proceedings of International Conference on Advanced Materials, Manufacturing, Management and Thermal Sciences [AMMMT – 2010] November 18th& 19th, 2010 at SIT, Tumkur
			21. Sathyabhama A, T.P. Ashok Babu “Boiling Heat Transfer In ammonia/Water Mixture And Their Pure Components”, Proc. of the International Conference on Emerging Research and Advances in Mechanical Engineering, ERA 2009, Velammal Engineering College, Chennai – 600 066, Tamil Nadu, India pp142-148

**National conference**

1. Jeena Joseph, Surya S, A. Sathyabhama, “A Comparison on the Effect of Leading Edge Tubercle on Straight and Swept Wing at Low Reynolds Number Proceedings of the 46th National Conference on Fluid Mechanics and Fluid Power (FMFP) December 9-11, 2019, PSG College of Technology, Coimbatore, India
2. Jeena Joseph, A. Sathyabhama, “Numerical study on the effect of leading edge tubercle on symmetrical airfoil at low Reynolds number, Proceedings of the National Conference on Computational Modeling of Fluid Dynamics Problems (CMFDP-2019) NIT Warangal, India, Jan 18-20, 2019
3. Raghavendra S, Jayapal reddy C, Sathyabhama A, “A Review on the Effect of Leading Edge Protuberances on the Performance of Wind Turbine Blade” Proceedings of the National Conference on Advances in Thermal Engineering September23-24, 2016, Jadavpur University, Kolkata, India pp: 5-7
4. Rashmi. P. Shetty, A. Sathyabhama, and Srinivasa. Pai. P, “Wind turbine power optimization studies using Particle swarm optimization”, Proceedings of 8th National Conference on Advances in Energy Conversion Technologies, held at Manipal Institute of Technology, Manipal during January 28 – 30, 2016, pp. 1-5
5. Suhas B.G and A. Sathyabhama, "Influence of operating parameters on the battery module cooling in hybrid electric vehicles", Proceedings of FMFP 2014 held at IIT Kanpur during Dec. 12-14, 2014
6. Krishnan V, Sathyabhama A, “Study of enhanced boiling heat transfer using extended surfaces for applications in cooling of electronic devices” Proceedings of NCEDAR 2012 “National Conference on Electronic Design Assembly and Reliability 2012”  organized by IPC India on Dec 5th& 6th 2012 at the J N Tata Auditorium, IISC campus Bangalore.
7. Sathyabhama A, Krishnan V. “Pool boiling heat transfer to water/lithium bromide mixture” Proceedings of National conference on “Innovations and Emerging trends in Mechanical Engineering” IETME 2012 at Nagarjuna college of Engineering and Technology, Bangalore, pp. 113-116.
8. Sathyabhama A, T.P. Ashok Babu “Theoretical performance analysis of ammonia/water vapour absorption refrigeration system” Proceedings of national conference on ETIMES-2007(Dec. 19-20,2007) held at BIT, Sathyamangalam, page 274-279
9. Sathyabhama A, T.P. Ashok Babu “Effect of salt on vapour pressure of ammonia-water solutions” Proceedings of National conference on ‘Trends in Mechanical Engg.’TIME-2007(Sept. 5-6, 2007) held at A.G.Awate college of Engg. Hadaspur, Pune, page 95-100
10. Sathyabhama A, R.N. Hegde “New working fluid combinations for vapour absorption refrigeration system” Proceedings of National conference on RDFTME-2006 held at NIT Hamirpur,3-4 Nov.2006, page 183-187
11. Sathyabhama A, R.N. Hegde “Thermal applications of ionic liquids-A review“, Proceedings of National conference on TAME at YMCA Inst. of Engg. Faridabad, Haryana Dec.9-10 2006
12. R.N. Hegde, Sathyabhama A “Application of nanofluids as heat transport agents-A review” Proceedings of national conference held at SIT Tumkur

 **Book chapter**

1. Madan, K., Singh, K., Sathyabhama, A. (2023). Modelling of Subcooled Boiling in Corrugated Pipes. In: Banerjee, J., Shah, R.D., Agarwal, R.K., Mitra, S. (eds) Recent Advances in Fluid Dynamics. Lecture Notes in Mechanical Engineering. Springer, Singapore. https://doi.org/10.1007/978-981-19-3379-0\_12

**Patent filed**

|  |  |
| --- | --- |
| Patent Number | 515403 |
| Filing date | 10/10/2017 |
| Grant date  | 26/02/2024 |
| Title | A PASSIVE LEADING EDGE MICRO PROTUBERANCE STRIP |
| Inventors | 1.      Sathyabhama A2.      Raghavendra S |

 **Professional Association:**

* Life Member ISTE (LM 31183)
* Life Member ISHMT (861)
* Editorial member of Journal of Thermal Engineering and Applications
* Reviewer for many journals

# Awards & Citations received

* Distinguished Women in Engineering, 2017, by Venus International foundation, Chennai.
* Award for research publication (ARP) by KSTePS, VGST Karnataka for the year 2017-18 issued on 24th November 2018 by Bharat Ratna Prof. C.N.R. Rao., FRS at JNCASR, Jakkur, Bengaluru
* IREDA-NIWE award for best research work in wind energy by NIWE, MNRE, Govt. of India for the year 2020 issued on 15th June 2022 by Sri. R K Singh, honorable minister for Power at Atal Akshay Urja Bhavan, MNRE, New Delhi

**Any other relevant information**

* Received DST Travel grant to present paper in The Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (IEEE - ITHERM 2014) at **Walt Disney World Swan & Dolphin Hotel, Lake Buena Vista (Orlando), FL USA,** From 27/05/2014 To 30/05/2014
* Visited Department of Mechanical and Aerospace Engineering, University of California, Los Angeles, USA for research interaction with Prof. Vijay Dhir for a period of 09 days (from June 27, 2016 to July 05, 2016). Also visited University of Southern California, Los Angeles, USA.
* Certified energy manager from BEE, India