



BALACHANDAR. C

Permanent Address

1/45, AGRAHARAM, VISHNAMPETTAI, THIRUKKATTUPALLI,
THANJAVUR -613 105, TamilNadu, India
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PROJECT EXPERIENCE

- **Numerical Heat Transfer**
(Under the guidance of Dr M Venkatesan, SAP, SASTRA University, 1 Year)
 - Heat transfer in Fins
 - Hollow cylindrical pin fins
 - Compartment fins (Rectangular fins with closed top)
 - Artificial Neural Network based heat transfer prediction and optimization
- **Computational Fluid Dynamics in Two Phase Flows**
(Under the guidance of Dr Nanda Kishore, Associate Professor, IIT Guwahati, 2 months)
 - Characterization of bubble dynamics in Vertical Column Reactors
- **Fluid flow measurement and Heat Transfer**
(Under the guidance of Dr M Venkatesan, SAP, SASTRA University, 1 Year)
 - Multiphase flow sensor: Infrared sensor
 - Flow pattern Identification using LASER
 - Fuzzy logic based intelligent identification of flow patterns
 - Experimental heat transfer analysis in fins

WORK EXPERIENCE

- **Assistant Engineer, Caterpillar India Private Ltd.,**
 - **Section Manager, Frame Fabrication – Off Highway Truck, Jan'16 – Dec'16**
 - Caterpillar Production System (CPS) 6 Sigma Green Belt.
 - Achievement:**
 - Received Best performer award from Process Excellence team for successfully leading a Rapid Improvement Workshop to improve the velocity of the Hardware fit-up and welding process – 43% reduction in cycle time
 - **Production Analyst, Demand & Orders, Hydraulic Excavator (HEX) and Underground Mining (UGM) Division-Jan'17-Jan'18**
 - **Order to Delivery** of the HEX and UGM Division for After-market requirements
 - Achievement:**
 - 100% order promise date hit for the HEX Division and 100% Supplier Shipment Performance hit for UGM Division from Jan'17-Jan'18

ACADEMIC DETAILS

Program	Institution	%/CGPA	Year of passing
B.Tech Mechanical	SASTRA University, Thanjavur	9.11	2015
XII Std	Dr. G S Kalyanasundaram Matric Higher Secondary School, Kuttalam, Mayiladuthurai	95.4%	2011
X Std	Dr. G S Kalyanasundaram Matric Higher Secondary School, Kuttalam, Mayiladuthurai	92.8%	2009

AREAS OF INTEREST

- Heat transfer in Fins
- Computational Fluid Dynamics
- Multiphase flows
- Image processing
- Neural networks
- Mechanical Sensors and interfacing

TECHNICAL QUALIFICATIONS

- Programming in C, C++
- Modelling packages: AutoCAD, Pro-E, ANSYS Workbench
- Analysis Packages :
 - MATLAB (Image Processing , Neural Network)
 - ANSYS Fluent (Computational Fluid Mechanics and Heat transfer)

CONFERENCE AND JOURNAL PUBLICATIONS

1. **Balachandar C**, Arunkumar S, Venkatesan M, “**Numerical Studies on Natural convection Heat transfer – Fins with Closed top**”, International Mechanical Engineering Congress (IMEC 2014), NIT Tiruchirapalli, Applied Mechanics and Materials, vol.592-594, pp 1682-1686, DOI:10.4028/www.scientific.net/AMM.592-594.1682, 2014
2. Pragadeesh M, Shanmuga Sundaram. M, **Balachandar. C**, Venkatesan M, "**Heat transfer in Fins with Closed Top under Forced Convection Part I – Numerical Analysis**", ICFTET 2015, International Journal of applied engineering research, 10 (39), 29518-29522, 2015
3. Arunkumar S, **Balachandar C**, Venkatesan M, "**Hybrid Genetic Algorithm – Neural Network – Genetic Algorithm Based Multi-Objective Optimization Technique For Design Of Heat Fins**", 23rd National Heat and Mass Transfer Conference and 1st International ISHMT-ASTFE Heat and Mass Transfer Conference, IHMTC2015, 17-20 December, 2015, LPSC – ISRO, India
4. R Madumitha, S Arunkumar, **C Balachandar** and M Venkatesan, "**Numerical Heat transfer analysis of Pin fin with Ellipsoidal beads**", Sixth International congress on Computational Mechanics and Simulation, IIT Bombay, Powai, Mumbai, 27 June – 1 July, 2016

5. **Balachandar C**, Arunkumar S, Venkatesan M, “**Computational Heat transfer Analysis and combined ANN – GA Optimisation of Hollow Cylindrical pin fin on a Vertical Base Plate**”, Sadhana, 40 (6), 2015, 1845–1863 (IF 2014 – 0.476) SCIE, (Springer)
6. Pragadeesh M, Shanmuga Sundaram M, **Balachandar C**, Venkatesan M, "ANN-GA Optimisation of Rectangular fin array with closed top plate under forced convection", Progress in Computational Fluid Dynamics, Accepted for publication 2016
7. **Balachandar C**, Madhumitha R, Arunkumar S, and Venkatesan M, "Computational Heat Transfer analysis and Genetic Algorithm – Neural Network –Genetic Algorithm based Multi-objective Optimization of Rectangular Perforated plate fins", IEEE transactions on components, packaging and manufacturing technology, 7(2), 208-216, 2017
8. **Balachandar C**; Arunkumar S; Madhumitha R; venkatesan muniyandi, "MANFIS-GA Heat transfer analysis and optimization of fins with elliptical perforation" Iranian Journal of Science and Technology, Transactions of Mechanical Engineering, Under review.
9. Navisa J, **Balachandar C**, Arunkumar S, Venkatesan, M "Characterization of Gas-Liquid Two phase Flows using LASER patterns" , Canadian journal of Chemical Engineering, 93(9),1678-1685 (IF 2013 – 1.313), SCI, (Wiley publishers)
10. **Balachandar C**, Arunkumar S, Venkatesan M, "Bubble Trajectory in a Bubble Column reactor using Combined Image Processing and Artificial Neural Network", International Journal of Chemical Reactor Engineering, 2016, In Press (IF 2014 - 0.592), Degruyter, SCIE, 15 (1), 1-10, 2017 DOI: 10.1515/ijcre-2015-0186
11. **Balachandar C**, Arunkumar S, Venkatesan M, “**Fuzzy Logic based Intelligent Flow Regime Identification in Two phase flows using Pressure sensor**”, International Conference on Intelligent Computing and Data Science, ICICDS, Paper ID: 1147, SASTRA University, 2014
12. Adhavan. J, **Balachandar. C**, Arunkumar. S, Venkatesan. M, "Determination of Two phase flow Slug Velocity and Length using Infrared Sensor", 5th International and 41st National Conference on Fluid Mechanics and Fluid Power, 12-14th December 2014, IIT Kanpur, India. Lecture Notes in Mechanical Engineering pp 1011-1017 Link

SCHOLASTIC ACHIEVEMENTS

- School topper from (I to VII std)
- Secured school 3rd in X std
- Dean’s Lister (Top 10 %) In First year (2011-12), SASTRA University
- Dean’s Lister (Top 10 %) In Second year (2012-13), SASTRA University
- Dean’s Lister (Top 2 %) In Third and Fourth year (2013-15), SASTRA University
- Presented a paper in INTERNATIONAL MECHANICAL ENGINEERING CONGRESS (IMEC)-2014 at National Institute of Technology- Tiruchirappalli, TamilNadu, India, titled ”Numerical Study Of Natural Convection Heat Transfer – Fins With Closed Top”
- Received **Summer Research Fellowship** from **INDIAN ACADEMY OF SCIENCE (IAS) – BANGALORE, India** to do project at **Indian Institute of Technology (IIT) Guwahati, India.**

EXTRA-CURRICULAR ACTIVITIES

- Received RASHTRAPATHI Award (BHARATH SCOUTS AND GUIDES)
- Attended workshop on ‘Activating Youth Leadership and Entrepreneurship’ conducted by AIESEC
- Participated in ‘Author Workshop’ jointly organized by Springer and SASTRA University

PERSONAL INFORMATION

Name : C Balachandar
Father : C Chidambaram
DOB : 13-12-1993
Nationality : Indian
Address : 1/45, Agraharam, Vishnampettai, Thirukkattupalli,
Thanjavur-613105
Religion : Hindu
Mother Tongue : Tamil
Languages known :

	READ	WRITE	SPEAK
English	✓	✓	✓
Tamil	✓	✓	✓
Hindi	✓	✓	✓

HOBBIES

- Pencil sketching
- Singing
- Gardening