

National Institute of Technology, Tiruchirappalli:  
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**Curriculum Vitae**



Dr. AR. Veerappan graduated in Mechanical Engineering from Madurai Kamaraj university in the year 1992. He completed his masters degree in Design and Production of Thermal Power Equipment from Regional Engineering College Tiruchirappalli (REC, Trichy) in 1994. He obtained his Ph.D. degree from National Institute of Technology Tiruchirappalli.

He joined National Institute of Technology Tiruchirappalli (NITT)-formerly known as Regional Engineering College-Tamilnadu, as Lecturer in the department of Mechanical Engineering in the year 1999. He is now working as Professor in the department of Mechanical Engineering at NITT. His fields of research include Mechanical Engineering design, failure analysis in pressure vessels and solar thermal energy engineering. He has published about 45 papers in refereed international and national journals and about 25 papers in international and national conferences.

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|-----------------------------------|---|
| 1. Name                           | <b>AR. Veerappan</b>  |
| 2. Designation:                   | <b>Professor</b>  |
| 3. Office Address:                | <b>Department of Mechanical Engineering, National Institute of Technology, Tiruchirappalli - 620015</b> |
| 4. Telephone (Direct) (Optional): |   |
| Telephone :                       | Extn (Optional):  |
| Mobile (Optional):                | <b>+91 9443995121</b>   |
| 5. Email (Primary):               | <b>aveer@nitt.edu</b>   |
|                                   | Email (Secondary) :<br><b>aveer70@gmail.com</b>   |
| 6. Field(s) of Specialization:    | <b>Thermal Power Engg, Failure analysis in pressure vessels, Solar energy</b>                           |

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**7. Employment Profile**

<b>Job Title</b>	<b>Employer</b>	<b>From</b>	<b>To</b>
Research Assistant	The Principal, R.E.C., Tiruchy	31/12/93	2/9/1994
Faculty member	The Principal, R.E.C., Tiruchy	3/9/1994	2/9/1999
Lecturer	The Director, N.I.T., Tiruchy	3/9/1999	2/9/2004
Senior lecturer	The Director, N.I.T., Tiruchy	3/9/2004	5/11/2008
Assistant Professor (5th CPC)	The Director, N.I.T., Tiruchy	6/11/2008	5/11/2011
Associate Professor	The Director, N.I.T., Tiruchy	6/11/2011	11/03/2018
Professor	The Director, N.I.T., Tiruchy	12/03/2018	Till date

**8. Academic Qualifications (From Highest Degree to High School):**

<b>Examination</b>	<b>Board / University</b>	<b>Year</b>	<b>Subjects</b>
Ph. D.	NITT	2008	Failure analysis in Pressure Vessels
M.E.	R.E.C., Trichy	1994	Design and production of Thermal Power Engineering
B.E.	Madurai Kamaraj University	1992	Mechanical Engineering

**9. Academic/Administrative Responsibilities within the University**

<b>Position</b>	<b>Faculty/Department/ Centre/Institution</b>	<b>From</b>	<b>To</b>
PAC Chairman	Mechanical Engineering, NITT	19-06-2017	31-12-2017
Lab-in-Charge- Thermal Lab	Mechanical Engineering, NITT	20-07-2016	Till Date
PAC Chairman	Mechanical Engineering, NITT	22-01-2016	31-05-2016
Faculty Advisor	Mechanical Engineering, NITT	22-01-2016	31-05-2016
PAC Chairman	Mechanical Engineering, NITT	09-02-2015	31-12-2015
Coordinator , BoS	Mechanical Engineering, NITT	22-05-2015	31-05-2016
Member, Guide Allotment Committee	Mechanical Engineering, NITT	05-06-201	Till Date

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**10. Academic/Administrative Responsibilities outside the University**

<b>Position</b>	<b>Institution</b>	<b>From</b>	<b>To</b>
Expert Member, BoS	National Institute of Technology, Puducherry	2014	2017
Expert Member, Quality Audit Circle	Karpagam Academy of Higher Education	2016	

**11. Awards, Associateships etc.**

<b>Year of Award</b>	<b>Name of the Award</b>	<b>Awarding Organization</b>
2008	Gold Medal for Ph.D Thesis	NIT, Trichy

**12. Fellowships**

<b>Year of Award</b>	<b>Name of the Fellowship</b>	<b>Awarding Organization</b>	<b>From (Month/Year)</b>	<b>To (Month/Year)</b>

**13. Details of Academic Work**

**(i) Curriculum Development**

**(ii) Courses taught at Postgraduate and Undergraduate levels**

**PG:**

- ❖ Boilers, Auxiliaries and Performance Evaluation.
- ❖ Installation, Testing & Operation of Boilers.
- ❖ Analysis of Thermal Power Cycles.
- ❖ Advanced Fluid Mechanics
- ❖ Fluid Mechanics of Turbomachinery.
- ❖ Project work Phase-I
- ❖ Project work Phase-II

**UG:**

- ❖ Fluid Mechanics.
- ❖ Hydraulic Machinery.
- ❖ Thermodynamics.
- ❖ Thermal Engineering.
- ❖ Power Plant Engineering.
- ❖ Basic Mechanical Engineering.
- ❖ Engineering Graphics.
- ❖ Branch Specific Course
- ❖ Thermal Engineering Laboratory
- ❖ Metrology Laboratory
- ❖ Comprehensive viva-voce

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**(iii) Projects guided at Postgraduate level**

<b>S. No</b>	<b>Project Title</b>	<b>Student's Name</b>	<b>Year</b>
1.	Design, Fabrication and Testing of Atmospheric Fluidised Bed Gasifier	M Selvakumar	Dec 96
2.	Analysis of a 210 MW Boiler Drum Downcomer Nozzle Joint Using FEM	M Gurunathan	Dec 96
3.	Analysis of a 210 MW reheater Link Subjected to Water Hammer	P Rajan	Dec 96
4.	Determination of Suspended Solids Heat Transfer to Water Walls in CFBC	K Ramanathan	Jan 98
5.	Heat Rate Improvement in PC Fired Power Plants	M Muthu Kumar	Jan 98
6.	Impact of Ash Deposition on Boiler Heat Transfer	G Vimalraj	Jan 98
7.	Integrated Boiler Design for Bagasse Fired Cogeneration Sugar Mills	R Arularasan	Jan 01
8.	Occupational Health & Safety Management System	C Venkatesh	Jan 01
9.	Analysis and Modified Design of Bagasse Fired Boiler in Sugar Plant	T Sukumar	Jan 02
10.	Deposit Formation on Furnace Tubes in Indian High Ash Coal Fired Boilers-Theory and Correlations	M AshokKumar	Jan 02
11.	Finite Element Analysis of Multi mitred Pipe Bends	N Kulasekharan	Jan 03
12.	Analysis of Multimitred Pipe Bends Subjected To In-Plane Bending Moment with Internal Pressure	P Sivamurugan	Jan 03
13.	Analysis and Performance Improvement of 110 MW Combined Cycle Power Plant	B Mohan Kumar	Dec 04
14.	Analysis of Flow Area and effect of Bend Radius on Ovality and Thinning of Pipe During Bending Operation	G Murali	Dec 04
15.	Analysis of Boiler Tube Bends Subjected to In-Plane Forces and Moments	M V Hari	Dec 04
16.	Life Estimation of Pipe Bends	S Rajasekaran	Jun 04
17.	Risk Analysis of Acetic Acid Plant	N Sankar	Jun 05
18.	Development of Fire and Safety Manual For Tamilnadu Petroproducts Limited	T Sori Muthu Iyanar	Jun 05
19.	Finite Element Based Stress Concentration Factors for Pipes with Local Wall Thinning	Murali	Jun 05
20.	Plastic Collapse of Pipe Bends under Combined Internal Pressure and In-Plane Bending	Kishore Vara	Jun 06
21.	Dependence of Flow Area on Pipe Bend Parameters	K.Veerabhadra Rao	Dec 06
22.	Determination of Stress Distribution in Non-Circular Pipe Bends	K.Punnagaicherppi	May 07
23.	Analysis of Fluid Flow and Heat Transfer Through Pipe Bends	K.Veerabhadra Rao	May 07
24.	Performance Comparison of 360 <sup>0</sup> And 90 <sup>0</sup> Pipe Bends with Ovality And Thinning	I. Venkata Durga Prasad	Dec 07

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25	Numerical Simulation of Effect of Baffle Spacing In Shell and Tube Heat Exchanger	I. Venkata Durga Prasad	May 08
26.	Determination of Allowable Pressure Ratio Limit in Pipe Bends with Shape Imperfections	V.A.K. Sudheer	Dec 08
27.	Fatigue Analysis in Pipe Bends with Shape Imperfections	C.K. Yashwanth	Dec 08
28.	Assessment of Stresses Induced in 2D & 3D Pipe Bends with Ovality and Thinning.	V. Amruta Krishna Sudheer	May 09
29.	3D analysis of Fluid Flow in 90° Pipe Bends with Ovality – Numerical Investigation	C. K. Yashwanth	May 09
30.	Determination of Allowable Pressure in Pipe Bends with Semi-Elliptic Cross-Section	Sarang S. Nikhar	Dec 09
31.	Effect of Pipe Factor, Thickness and Ovality on Stresses of 90 Degree Pipe Bends Under Internal Pressure	Vinod Singh Rajput	Dec 09
32.	Effect of Bend Characteristic on Stress Analysis of Pipe Bends with Semi-Oval Cross Section Under Internal Pressure and Axial Load	Sarang S. Nikhar	May 10
33.	Analysis of Solar Parabolic Dish Concentrator using Sun Trapping Methods	Arvind Ajit	Dec 11
34.	Analysis of Solar Parabolic Dish Concentrator using Sun Trapping Methods	Arvind Ajit	May 12
35.	Structural & Thermal Stresses Analysis in Solar Parabolic Dish Collector	Pranay Nanaji Pantawane	Dec 12
36.	Stress Analysis of Pipe Bends Subjected to Internal Pressure and In-Plane Closing Bending Moment with Ovality and Thinning	K. Jisah	Dec 12
37.	Performance Analysis of an Industrial Electrostatic Precipitator in Steel Industry	Samudram Pradeep	Dec 12
38.	Prediction of Discharge Coefficient for Circular/Non-Circular Orifices	K. Jisah	May 13
39.	Analysis in Pipe Bends with Circumferential Crack	Pranay Nanaji Pantawane	May 13
40.	Analysis on Safety Grounding Techniques on Petrol Refilling Stations	Samudram Pradeep	May 13
41.	Collapse Load Analysis of Circumferentially Cracked Pipe Bends with Shape Imperfections	C. Bharat Ramesh	Dec 13
42.	Collapse Load Analysis of Circumferentially Cracked Pipe Bends with Shape Imperfection under In-Plane Bending and Internal Pressure	C Bharat Ramesh	May 14
43.	A Study on Turbulent Flow Heat Transfer in Curved Pipe with Ovality	Akhilesh Kumar Sahu	Dec 14
44.	Comparison of Elliptic and Semi-Oval Cross Sections in Pipe Bends with Ovality and Thinning	Rajesh Bisen	Dec 14
45.	FTA-LOPA Integrated Approach for Risk Assessment of Storage Facility	Arun K Thomas	Dec 14
46.	Analysis and Optimization of Temperature Rise in	Akhilesh Kumar	May 15

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	Subcomponent of Moulded Case Circuit Breakers	Sahu	
47.	Numerical Investigation of Turbulent Flow Heat Transfer in Pipe Bends with Ovality and Thinning	Rajesh Bisen	May 15
48.	Analysis of Direct Entry Type Stub Header Configuration in Utility Boilers	Ravi Shankar K	Dec 16
49.	Experimental Studies on Thermoelectric Generator for Stand Alone Power Generation	Robin George	Dec 16
50.	Experimental Studies on Spherical Solar Power Generator	Ravi Shankar K	May 17
51.	Design of Labyrinth Seals for Centrifugal Compressors	Robin George	May 17

(iv) Other contribution(s)

**14. Details of Major R&D Projects**

Title of Project	Funding Agency	Duration		Status
		From	To	Ongoing/ Completed
Modernization of Metrology and Quality Control Laboratory, Lr.F.28-1/2004-TSV dt. 31-3-2005, ₹15 lakhs	MHRD	31-3-2005	31/3/2007	Completed

**15. Number of PhDs guided**

Name of the PhD Scholar	Title of PhD Thesis	Role(Supervisor/ Co-Supervisor)	Year of Award
T. Christo Michael	On Plastic Loads in Shape-Imperfect Pipe Bends Subjected to Internal Pressure and In-Plane Closing Bending Moment	Supervisor	2013
A. Buckshumiyam	Determining Plastic Collapsibility of Pipe Bends Subject to Internal Pressure and In-Plane Opening and Out-of-Plane Moment	Supervisor	2015
S. Sumesh	In Silico Analysis on Structural Deformations of Critically Cracked Pipe Bends Under External Loads	Supervisor	2017

**16. Participation in Workshops/ Symposia/ Conferences/ Colloquia /Seminars/ Schools etc. (mentioning the role)**

S.No.	Title	Duration	Organization/Place
1.	ISTE Workshop on Engineering Thermodynamics	11 <sup>th</sup> to 21 <sup>st</sup> December, 2012	Indian Institute of Technology Bombay

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2.	Quantitative Research Techniques for Engineers and Researchers	21 <sup>st</sup> December 2009 – 2 <sup>nd</sup> January 2010	Department of Mechanical Engineering, National Institute of Technology Tiruchirappalli
3.	Applied Mechanical Measurements	29 <sup>th</sup> June 2009 – 11 <sup>th</sup> July 2009	Department of Mechanical Engineering, National Institute of Technology Tiruchirappalli
4.	Recent Advances in Modeling and Simulation of Joining of Materials	29 <sup>th</sup> December 2008 – 10 <sup>th</sup> January 2009	Department of Mechanical Engineering, National Institute of Technology Tiruchirappalli
5.	Advances in Materials Processing	30 <sup>th</sup> June – 12 <sup>th</sup> July, 2008	Department of Production Engineering, National Institute of Technology Tiruchirappalli.
6.	Fuzzy Logic: Theory and Engineering Practices.	16-28 June, 2008	Department of Production Engineering, National Institute of Technology Tiruchirappalli.
7.	Recent Advances in Industrial Engineering.	7-11 April, 2008	Department of Production Engineering, National Institute of Technology Tiruchirappalli.
8.	Recent Advances in Numerical Techniques to Solve Engineering Problems.	8-19 March, 2004	Department of Mechanical Engineering, National Institute of Technology Calicut.
9.	Dimensional Engineering. And Tolerance Analysis.	12-23 May, 2003	Department of Production Engineering, Regional Engineering College, Tiruchirappalli.
10.	Performance Appraisal and Development System.	28-30 June, 1995	Department of Chemistry, Regional Engg. College, Tiruchirappalli.
11.	ISTE Summer School on Fluidised Bed Combustion.	1-6 May, 1995	Department of Mechanical Engg., REC, Tiruchirappalli.

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**17. Workshops/ Symposia/ Conferences/ Colloquia/Seminars Organized (as Chairman/  
Organizing Secretary/ Convenor / Co-Convenor)**

<b>Title of Activity</b>	<b>Level of Event (International/ National/ Local)</b>	<b>Date (s)</b>	<b>Role</b>	<b>Venue</b>
A Workshop on a solar power		14,15 June 2013	Coordinator	NIT, Trichy
A Work shop on a Engineering pipe bends		20, 21 Dec 2013	Coordinator	NIT, Trichy



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21. Publications

(A) Refereed Research Journals:

Author(s)	Title of Paper	Journal	Volume (No.)	Page numbers	Year	Impact Factor of the Journal
S.Balakrishnan, AR. Veerappan and S.Shanmugam	Effect of cross section on B2 stress index for Nuclear Pipe Bends subjected to Closing Bending Materials	Materials Today: Proceedings.	Vol. 5	pp. 11941–11949	2018	
S.Balakrishnan, AR. Veerappan and S.Shanmugam	Determination of Ovality and Wall Thinning Effects on B2 Stress Indices for Pipe Bends Under In-Plane Closing Bending Moment	Transactions for the Society for Modeling and Simulation.			2018	0.94
T. Christo Michael, AR. Veerappan and S. Shanmugam	Suitability of Assumed Cross Sections to include Ovality in the Limit Analysis of Pipe Bends under In-Plane Closing moment and internal Pressure, Thin-Walled Structures	Thin-Walled Structures	Vol. 122	pp. 545–553	2018	1.749
Sumesh S, AR. Veerappan and S. Shanmugam	Structural Deformations on Critical Cracked Pressurised Pipe Bends: Implication on the Von Mises Stresses	Materials Today: Proceedings	Vol 4	pp 10163-10168	2017	
Sasidharan Sumesh, Veerappan AR, Shanmugam S	Determination of Critical Angle of Circumferential Through wall Crack for Structurally Distorted 90° Pipe Bends under Bending Moment without and with Internal Pressure	Journal of Materials: Design and Applications, Proceedings of the iMeche, Part L			2017	1.281
Sumesh S, AR. Veerappan and	Evaluation of Postulated Cross Sections with Ovality and Thinning for 90° Pipe	Engineering Failure Analysis	Vol 75	pp 82-91	2017	2.157

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S.Shanmugam	Bends with Circumferential Through wall Cracks Subjected to In-plane Closing Bending					
Sumesh S, <b>AR. Veerappan</b> and S. Shanmugam	Ramifications of Structural Deformations on Collapse Loads of Critically Cracked pipe Bends under In-plane Bending	Nuclear Engineering and Technology	Vol 49	pp 254-266.	2017	1.655
Sumesh S, <b>AR. Veerappan</b> and S. Shanmugam	Assessment of plastic loads of critical through wall circumferentially cracked pipe bends with structural distortions under in-plane bending, Thin-Walled Structures	ARN Journal of Engineering and Applied Sciences	Vol. 104	pp. 144–151	2016	
T. Christo Michael, P. A. Diliprao and <b>AR. Veerappan</b>	Collapse loads of pipe bends with assumed and actual cross sections under in-plane and out-of-plane moments, ARPN Journal of Engineering and Applied Sciences	International Journal of Applied Engineering Research,	Vol. 11			
Sumesh S, <b>AR. Veerappan</b> and S. Shanmugam	Influence of Structural Distortions on Type 304 Stainless Steel 90° Pipe Bends with Critical Circumferential Through wall Cracks under Bending Moment and Internal Pressure	International Journal of Applied Engineering Research	Vol. 10	pp. 21200 – 21204	2015	
T. Christo Michael, <b>AR. Veerappan</b> , S. Shanmugam	Finite Element Analysis of Shape-Imperfect Pipe Bends under In-Plane Closing Moment	Journal of Electronic Materials	Vol. 10		2015	1.579
G. Muthu, S. Shanmugam, <b>AR. Veerappan</b>	Numerical Modeling of Year-Round Performance of a Solar Parabolic Dish Thermoelectric Generator	Journal of Electronic Materials	Vol. 44	pp. 2631 – 2637	2015	1.579

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G. Muthu, S. Shanmugam, <b>AR.Veerappan</b>	Mathematical Modeling of Thermoelectric Generator with Solar Parabolic Dish	Applied Mechanics and Materials	Vols. 669	pp. 558 – 563	2015	
G. Muthu, S. Shanmugam, <b>AR.Veerappan</b>	Solar Parabolic Dish Thermoelectric Generator with Acrylic Cover, Energy Procedia	Energy Procedia	Vol. 54	pp. 2 – 10.	2014	
A.Buckshumiyan, <b>AR.Veerappan</b> , S. Shanmugam	Determination of collapse loads in pipe bend with ovality and variable wall thickness under internal pressure and in-plane opening moment	International Journal of Pressure Vessels and Piping	Vol. 123 - 124	pp. 1 – 9	2014	1.543
S. Shanmugam, P. Kumar, <b>AR.Veerappan</b>	Thermal performance of solar dryer with oscillating-bed for drying of non-parboiled paddy grains,energy resources.	Recovery, Utilization, and Environmental Effects	Vol. 36 (17)	pp.1877 – 1885	2014	0.555
S. Shanmugam, <b>AR.Veerappan</b> , M. Eswaramoorthy	Experimental evaluation of energy and exergy efficiency of solar parabolic dish thermoelectric power generator, Energy Sources	PartA: Recovery, Utilization, and Environmental Effects	Vol. 36 (17)	pp. 1865 – 1870	2014	0.555
Sumesh Sasidharan, <b>Arunachalam Veerappan</b> and Subramaniam Shanmugam	Study on Effect of Shape Irregularities on Collapse Loads of Pipe Bends with Critical Circumferential Throughwall Crack Under In-plane Closing Bending	Applied Mechanics and Materials	Vols. 592-594	pp. 980-984	2014	
A. Buckshumiyan, <b>AR.Veerappan</b> , S. Shanmugam	Effect of shape imperfections on thin-walled pipe bends under out-of plane moment and internal pressure	Applied Mechanics and	Vols.	pp. 1050-1054	2014	

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		Materials	592-594			
G.Muthu, S.Shanmugam, , <b>AR.Veerappan</b>	Energy and Exergy Analysis of Solar Parabolic Dish Thermoelectric Generator	Applied Mechanics and Materials	Vols. 592-594	pp. 2437-2441	2014	
S. Shanmugam, M. Eswaramoorthy, <b>AR. Veerappan,</b>	Modeling and analysis of solar parabolic dish thermoelectric generator, Energy Sources	Part A: Recovery, Utilization, and Environmental Effects	Vol. 36	pp. 1531 – 1539	2014	0.555
A. Buckshumiyan, <b>AR. Veerappan, S. Shanmugam</b>	Plastic collapse loads in shape-imperfect pipe bends under in-plane opening bending moment	International Journal of Pressure Vessels and Piping	Vol. 111 - 112	pp. 12 – 26	2013	1.543
T. Christo Michael, <b>AR. Veerappan, S. Shanmugam</b>	Effect of internal pressure and shape imperfections on plastic loads of pipe bends under in-plane closing moment	Engineering Fracture Mechanics	Vol. 105	pp. 1 – 15	2013	2.580
S. Shanmugam, Kumar, <b>AR. Veerappan</b>	Modeling and Experiment Studies on Oscillating Inclined-Bed solar dryer	Journal of Solar Energy Engineering			2013	1.367
T. Christo Michael, <b>AR. Veerappan, S. Shanmugam</b>	Comparison of Plastic Limit and Collapse Loads in Pipe Bends with Shape Imperfections under In-Plane Bending and an Internal Pressure	International Journal of Pressure Vessels and Piping	Vol. 99 - 100	pp. 23 – 33	2012	1.543

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T. Christo Michael, <b>AR. Veerappan</b> , S. Shanmugam	Effect of ovality and variable wall thickness on collapse loads in pipe bends subjected to in-plane bending closing moment	Engineering Fracture Mechanics	Vol. 79	pp. 138 – 148	2012	2.580
T. Christo Michael, <b>AR. Veerappan</b> , S. Shanmugam	Effect of cross section on collapse load in pipe bends subjected to in-plane closing moment	International Journal of Engineering Science and Technology	Vol. 3	pp. 247-256	2011	
V. Malleswararao, <b>AR. Veerappan</b> , T. Christo Michael	Design and analysis of mixing sphere in start-up system of supercritical boilers	International Journal of Applied Research in Mechanical Engineering		pp. 37 – 43	2011	
S. Shanmugam, P. Kumar, <b>AR. Veerappan</b>	Evaluation of thermal efficiency of oscillating-bed solar dryer through drying of sunflower seeds	Journal of Renewable and Sustainable Energy		pp. 043116-1 - 043116-8	2011	
<b>AR. Veerappan</b> , S. Shanmugam	Correlation between pipe bend geometry and allowable pressure in pipe bends using artificial neural network	International Journal of Engineering, Science and Technology	Vol. 3	pp. 284-296	2011	
S. Shanmugam, <b>AR. Veerappan</b> , S. Sakthivel	Determination of furnace temperature and aspect ratio of dry back boilers using computational fluid dynamics	International Journal of Applied Engineering Research	Vol. 6	pp. 935 – 945	2011	
T. Christo Michael, <b>AR. Veerappan</b> , S.	Comparison Between Elliptic and Semi Elliptic Cross Sections in Pipe Bend	International Journal of	Vol. 6	pp. 881 – 889.	2011	

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Shanmugam	with Shape Imperfections,	Applied Engineering Research				
P. Kumar, S. Shanmugam; <b>AR. Veerappan</b>	An Experimental Study on Drying of Non-parboiled Paddy Grains Using an Oscillating Bed Solar Dryer	Energy Engineering		pp. 69 – 80	2011	
S. Sakthivel, S. Shanmugam, <b>AR. Veerappan</b>	Determination of Heating Surface Area in Small Capacity Wood-Fired Boilers	International Journal of Applied Engineering Research	Vol. 6	pp. 401 – 408	2011	
T. Christo Michael, <b>AR. Veerappan</b> , S. Shanmugam	A Study on the Effect of Cross Section Approximation on the Behaviour of Pipe Bends with Ovality and Thinning	International Journal of Advanced Engineering Sciences and Technologies	Vol. 2	pp. 133 – 139	2011	
S. Shanmugam, M. Eswaramoorthy and <b>AR. Veerappan</b>	Mathematical modeling of thermoelectric power generator driven by solar parabolic dish collector	Applied Solar Energy	Vol.47	pp. 31 – 35	2011	0.53
S. Shanmugam, P. Kumar, <b>AR. Veerappan</b>	Pick-Up Efficiency of Air in Oscillating-Bed Solar Dryer for Sunflower Seeds	International Journal of Industrial Engineering and Technology	Vol. 2	pp. 373 – 382	2010	
M. Eswaramoorthy, S. Shanmugam, and <b>AR. Veerappan</b>	Feasibility Analysis of Solar Parabolic Dish Thermoelectric Generator	International Journal of Integrated Energy Systems	Vol. 2		2010	
M. Eswaramoorthy, S. Shanmugam, and <b>AR. Veerappan</b>	A Review on Application of Thermoelectric Power Generation	International Journal of	Vol. 2		2010	

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<b>Veerappan</b>		Integrated Energy Systems				
<b>AR. Veerappan</b> and V. A. K. Sudheer	Determination of Pressure Ratio Limit in Pipe bends with Surface Roughness	International Journal of Advanced Engineering Applications	Vol. 3		2010	
<b>AR. Veerappan, S. Shanmugam, S. Soundrapandian</b>	The Accepting of Pipe Bends with Ovality and Thinning Using Finite Element Method	ASME Journal of Pressure Vessel Technology	Vol. 132		2010	1.182
<b>AR. Veerappan, S. Shanmugam</b>	Analysis for Flexibility in the Ovality and Thinning Limits of Pipe Bends	ARPJ Journal of Engineering and Applied Sciences	Vol. 3		2008	
<b>AR. Veerappan, S. Shanmugam</b>	Effect of Shape Imperfections and Geometry on the Performance of Pipe Bends	International Journal of Applied Engineering Research	Vol. 2		2007	
<b>AR. Veerappan, S. Shanmugam</b>	Stress Analysis of Pipe Bends Subjected to Internal Fluid Pressure using the Finite Element Technique	J. Strain Analysis	Vol. 41		2006	1.320
<b>AR. Veerappan, S. Shanmugam</b>	Transient Thermo-Mechanical Analysis for Life Estimation of Steam Distribution Pipes in Thermal Power Plants	Journal of Institution of Engineers (India)	Vol. 89		2009	
<b>AR. Veerappan, S. Shanmugam</b>	Life Estimation of Boiler straight Pipes under Creep and Fatigue Loads	Journal of Central Power	Vol. 3		2007	

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		Research Institute				
<b>AR. Veerappan, S. Shanmugam</b>	Static and Transient Analysis of Power Generating Boiler Tube Bends Subjected to Internal Fluid Pressure	Journal of Institution of Engineers (India)	Vol. 87		2006	

**(B) Conferences/Workshops/Symposia Proceedings**

Author(s)	Title of Abstract/ Paper	Title of the Proceedings	Page numbers	Conference Theme	Venue	Year
S.Balakrishnan, AR. Veerappan, and S. Shanmugam	Effect of cross section on B2 stress index for nuclear pipe bends subjected to closing bending	International Conference on Materials, Manufacturing and modelling	p100	International Conference on Materials, Manufacturing and modelling	VIT University	2017
Sumesh S, AR. Veerappan, and S Shanmugam	Shape Deformation Induced Stress Variation in Throughwall Critical Cracked Pipe Bends Loaded by Internal Pressure	Proceedings of the World Congress on Engineering	pp. 1097-1101	Proceedings of the World Congress on Engineering	London, U.K	2015
Christo Michael T, AR. Veerappan, and S. Shanmugam	Finite Element Analysis of Shape-Imperfect Pipe Bends under In-Plane Closing Moment	International Conference on Advances in Design and Manufacturing (ICAD&M'14)	pp 1822-1827	International Conference on Advances in Design and Manufacturing (ICAD&M'14)		2014
Sumesh. S, AR. Veerappan, and S. Shanmugam	Influence of Structural Distortions on Type 304 Stainless Steel 90° Pipe Bends	International Conference on Advances in Design and Manufacturing	pp 1359-1363	International Conference on Advances in Design		2014



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	with Critical Circumferential Throughwall Cracks under Bending Moment and Internal Pressure	(ICAD&M'14)		and Manufacturing (ICAD&M'14)		
Buckshumiyam A, AR. Veerappan, and S. Shanmugam	Effect of shape imperfections on thin-walled pipe bends under out-of-plane moment and internal pressure	Int. Mechanical Engineering Congress		Int. Mechanical Engineering Congress	NIT Tiruchirappalli	2014
Sumesh. S, AR. Veerappan, and S. Shanmugam	A Study on effect of shape irregularities on collapse loads of pipe bends with critical circumferential through wall crack under in-plane closing bending	Int. Mechanical Engineering Congress		Int. Mechanical Engineering Congress	NIT Tiruchirappalli	2014
G. Muthu, S. Shanmugam, and AR. Veerappan	Energy and exergy analysis of solar parabolic dish thermoelectric generator	Int. Mechanical Engineering Congress		Int. Mechanical Engineering Congress	NIT Tiruchirappalli	2014
A. Buckshumiyam, <b>AR. Veerappan</b> , S. Shanmugam	Finite Element Limit Analysis in Pipe Bends Subjected to In-Plane Opening Moment and Internal Pressure	International Conference on Computer Aided Engineering	pp. 133 – 136	International Conference on Computer Aided Engineering	Indian Institute of Technology Madras, Chennai	2013
G. Muthu, S. Shanmugam, and AR. Veerappan	Solar parabolic dish thermoelectric generator with acrylic cover	4th Int. Conf. on Advances in Energy Research	p 9	4th Int. Conf. on Advances in Energy Research	IIT Bombay, Maharashtra	2013
G. Muthu, S. Shanmugam, <b>AR. Veerappan</b>	Mathematical Modeling of Thermoelectric Generator with Solar Parabolic Dish	3 <sup>rd</sup> International Conference and Exhibition on Sustainable Energy and		3 <sup>rd</sup> International Conference and Exhibition on	Melaka International Trade Center,	2013

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		Advanced Materials (ICE-SEAM 2013)		Sustainable Energy and Advanced Materials (ICE-SEAM 2013)	Malaysia	
V. Malleswararao, <b>AR. Veerappan</b> , C. Kathirvelu	Design and Analysis of Mixing Tee in Start-up System of Supercritical Boiler	2nd International Conference on Advances in Engineering and Technology (ICAET2012)	pp. 1 - 6	2nd International Conference on Advances in Engineering and Technology (ICAET2012)	E G S Pillai Engineering College, Nagapatinam	2012
V. Malleswararao, <b>AR. Veerappan</b> , T. Christo Michael, C. Kathirvelu	Design and Analysis of Mixing Sphere in Start-up System of Supercritical Boilers	2 <sup>nd</sup> International Conference on Advanced Research in Mechanical Engineering		2 <sup>nd</sup> International Conference on Advanced Research in Mechanical Engineering	IIMT, Bhubaneswar	2011
M.Eswaramoorthy, S. Shanmugam, <b>AR. Veerappan</b>	An Analytical Equation to Estimate Heat Loss for Perfectly Insulated Receiver of Solar Parabolic Dish Thermoelectric Generator	International conference on Frontiers in Mechanical Engineering		International conference on Frontiers in Mechanical Engineering	National Institute of Technology Karnataka, Surathkal	2010
Christo Michael T, <b>AR. Veerappan</b> , S. Shanmugam	Effect of Bend Angle on Induced Stresses In Pipe Bends – Numerical Investigation	International conference on Frontiers in Mechanical Engineering	92 – 98	International conference on Frontiers in Mechanical Engineering	National Institute of Technology Karnataka, Surathkal	2010
<b>AR. Veerappan</b> &	Thermal Fatigue Analysis of Pipe Bends with Surface	Proceedings of the International conference on		Proceedings of the International	Kalasalingam University	2009

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C. K. Yashwanth	Roughness	Advanced Manufacturing and Automation		conference on Advanced Manufacturing and Automation		
<b>AR. Veerappan &amp; V. A. K. Sudheer</b>	Determination of Pressure Ratio Limit in Pipe Bends with Surface Roughness	Proceedings of the International conference on Advanced Manufacturing and Automation		Proceedings of the International conference on Advanced Manufacturing and Automation	Kalasalingam University	2009
R. Prathap Raj, <b>AR. Veerappan</b> and S. Shanmugam	Transient Thermo Mechanical Analysis of Boiler Pipes	Proceedings of the International Conference on Global Manufacturing and Innovation		Proceedings of the International Conference on Global Manufacturing and Innovation	CIT Coimbatore	2006
	Analysis of Boiler Tube Bends with Shape Imperfections Subjected to In-Plane Forces and Moments	<i>Proceedings of ICMPPM 2005</i>	397-403.	<i>Proceedings of ICMPPM 2005</i>	Bannari Amman Institute of Technology	2005
G. Muthu, S. Shanmugam, <b>AR. Veerappan</b>	Solar Parabolic Dish Thermoelectric Generator with Acrylic Cover	Proceedings of the 1 <sup>st</sup> National Conference on Advances in Mechanical Engineering		Proceedings of the 1 <sup>st</sup> National Conference on Advances in Mechanical Engineering	T. John Institute of Technology, Bangalore	2014
<b>AR. Veerappan &amp; C. K. Yashwanth</b>	3D Analysis of Fluid Flow in 90° and 180° Pipe Bends with Ovality – Numerical Investigation	<i>National Conference on Modern Trends in Power Engineering and Power Plants</i>		<i>National Conference on Modern Trends in Power Engineering and Power Plants</i>	College of Engineering, Trivandrum & KSEB PGEA	2009
<b>AR. Veerappan &amp; V. A. K. Sudheer</b>	Assessment of Stresses in 2-D and 3-D Pipe Bends with Ovality and Thinning,	<i>National Conference on Modern Trends in Power Engineering and Power Plants</i>		<i>National Conference on Modern Trends in Power Engineering and Power Plants</i>	College of Engineering, Trivandrum & KSEB PGEA	2009

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S. Rajasekaran, <b>AR. Veerappan</b> , K. Velmuguran	Stress Analysis in Non Circular Pipe Bends	<i>National Conference on Advances in Engineering Design</i>	605-611	<i>National Conference on Advances in Engineering Design</i>	Bannari Amman Institute of Technology	2005
S. Rajasekaran, <b>AR. Veerappan</b> , K. Velmuguran, S. Gopalakannan	Analysis of Thinning and Thickening Limits in Pipe Bends	<i>National Conference on Latest Trends in Mechanical Engineering</i>	76 – 79	<i>National Conference on Latest Trends in Mechanical Engineering</i>	Dr. Mahalingam College of Engineering and Technology, Pollachi	2005
S. Shanmugam, <b>AR. Veerappan</b>	Failure Analysis of Waste Heat Recovery Boiler Tube Bundles Using Finite Element Technique	<i>Sixteenth National Convention of Mechanical Engineers and National All India Seminar on Future Trends in Mechanical Engineering</i>	288-292	<i>Sixteenth National Convention of Mechanical Engineers and National All India Seminar on Future Trends in Mechanical Engineering</i>	University of Roorkee	2000
<b>AR. Veerappan</b> , S. Shanmugam	Computer Aided Stress Analysis on 210 MW Boiler Downcomer Nozzle Using Finite Element Technique	<i>Proceedings of XVI National Convention of Mechanical Engineers and National All India Seminar on Future Trends in Mechanical Engineering</i>	293-297.	<i>Proceedings of XVI National Convention of Mechanical Engineers and National All India Seminar on Future Trends in Mechanical Engineering</i>	University of Roorkee	2000
<b>AR. Veerappan</b> , S. Shanmugam	Computer Aided Design and Drafting of Centrifugal Blowers	<i>Proceedings of the National Conference on Intelligent Manufacturing Systems</i>	D2.1 – D2.7	<i>Proceedings of the National Conference on Intelligent Manufacturing Systems</i>	CIT, Coimbatore	1998

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(C) **Books & Monographs**

<b>Author(s)</b>	<b>Title of Book/Monograph</b>	<b>Name of Publishers</b>	<b>Year of Publication</b>	<b>ISSN/ISBN Number</b>
S. Sumesh, <b>AR Veerappan</b> , and S. Shanmugam	Contributed full Chapter 7 in the book Modelling and Simulation Techniques in Structural Engineering	IGI Global Pennsylvania, USA	August 2016	ISBN13: 9781522505884 ISBN10: 1522505881

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