

M. Vivekanandan M.E.,(CAD/CAM)

Founder & CEO, TryCAE Industrial Engineering Pvt Ltd.,
Adjunct Faculty, National Engineering College, Kovilpatti



Biography

A Post Graduate Engineer having area of expertise on Design Automation, CFD, FEA, Piping Stress analysis, Pressure Vessel Design and Heat Exchanger Thermal Design, A consolidated 18 Years of experience in Academic and Industrial sector. Currently working CEO in TryCAE Industrial Engineering Pvt Ltd., As CEO executed various CFD & FEA projects for NTPC, Atomic power plants, NIOT and Defense Sector. A Bureau of Energy Efficiency Certified Energy auditor, Certified Solid Works Professional and Solid Works Accredited Educator from Dassaults Systems, United States. Done numerous energy audit in power, process plants, cold storages and in buildings

Academic Qualifications

Degree	Board / University	Discipline/Specialization	Year of Passing
Ph.D.	NIT Trichy	CFBC Boiler / Energy	Pursuing
M.Tech.	Anna University	CAD/CAM	2015
B.Tech.	SASTRA University	Mechanical Engineering	2009

Professional Experience

Organization	Designation	From	To
TryCAE Industrial Engineering Pvt Ltd	CEO	September 2016	Till date
Uttam Industrial Engg. Trichy	DGM Design (R&D)	January 2016	August 2016
Uttam Industrial Engg. Trichy	Senior Manager – Design & R&D	January 2013	December 2015
Uttam Industrial Engg, Trichy	Manager – Design (Head)	January 2009	December 2012

Professional Qualifications

Sl.No	Certification Name	Certificate No & year	Conducted By
1	Certified Energy manager as well as Energy Auditor	EA – 19216 (2014)	Bureau of Energy Efficiency, Ministry of Power, Government of India
2.	Certified Solid Works Associate	C-AJHVCNCXJEA Jan 2017	Dassault Systemes, United States
3.	Solid Works Technology Educator Competency	C-9VVSXV2Db7 Mar 2017	Dassault Systemes, United States
4.	Solid Works Accredited Educator	C-4354NYT7CZ Mar 2017	Dassault Systemes, United States
5.	Certified Solid Works Professional	C-KKUZZH7SM5 April 2017	Dassault Systemes, United States
6.	Advanced Drawing Professional in Solid Works	C-C553326DLH Nov 2019	Dassault Systemes, United States
6.	Advanced Sheet Metal Professional in Solid Works	C-69HNW755AV March 2019	Dassault Systemes, United States
7.	Advanced Weldment Professional in Solid Works	C-MJ5TPCZSDN May 2019	Dassault Systemes, United States
8.	Advanced Surfacing Professional in Solid Works	C-FVU8ARS7XQ July 2019	Dassault Systemes, United States

Professional Achievements

- Executed Physical modelling of ESP for NTPC 500 mW Farakka Power Plant
- CFD analysis of DRDO missile components
- Solved CFD & FEA analysis of industrial problems
- Design automated (Knowledge Based Engineering) (Industry 4.0) sugar equipment and boiler equipment,
- Implemented Piping Stress analysis and Pressure Vessel design.
- Formed a manual heat exchanger design procedure and validated that with HTRI Suite software
- Created an excel-VBA application for BOM creation for equipment, a detailed BOM will be created within a minute by filling out form.
- Created 3D animated Erection Sequence and animated process flow chart
- Published 26 international journal papers
- 8 Patents published
- Assisted four CFD Ph.D., work and currently assisting two

Areas of Interest

- Boilers
- Process equipment Design Thermal
- CFD, FEA
- Piping, Pressure Vessel Design , Heat Exchanger Design

Selected Publications

Sl. No	Title of the paper	Authors	Name, Volume and year of journal
01.	Effect of Shielding Gas on Weldmetal Properties In Flux Cored Arc Welding	B.Kumaragurubaran, T.Senthilkumar, M.Vivekanandan , V.Balasubramanian	SAE international Journal No: 2008 – 01,2253
02	Analysis of Flow in Calandria Type Evaporator Using CFD	Murali K., Vivekanandan M. , Kalaiarasan A., Gokul Prasath, Joseph Manickam	Journal of Refrigeration, Air Conditioning, Heating and Ventilation, Volume 2, Issue 1 2015, 55 – 65
03	Theoretical and Experimental Study of an Integrated Collector – Storage Type Movable Flat Absorber Plate Solar Water Heater	R. Sivakumar, V. Sivaramakrishnan, M.Vivekanandan	International Journal of Mechanical & Mechatronics Engineering, Vol: 15 Issue: 01, 56-60(2015)
04	CFD Study of an Integrated Collector – Storage Type Flat Plate Solar Water Heater Without and with Fins, Dimples and V-grooves in Absorber Surface	R. Sivakumar, V. Sivaramakrishnan, M.Vivekanandan	International Journal of Mechanical & Mechatronics Engineering, Vol: 15 Issue: 02, (2015), 30 – 35
05	Transient flow analysis in air box of fluidized bed combustion using computational fluid dynamics	R.Ramkumar J.Sathishkumar A.Manzuraligan M.Vivekanandan	International Journal of Applied Engineering Research, Volume 10, Number 19 (2015), 14541-14545
06	CFD Analysis and Evaluation of Flow Resistance Coefficient of a Quick Closing Non Return Valve(QCNRV)	Gokul Prasath B Kalaiarasan R Vivekanandan M Joseph Manickam A	International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015, 399-407
07	CFD Simulation of the Fluid Flow, Pressure Drop and Turbulence Parameters in a Standard Cyclone Separators	Kalaiarasan R Vivekanandan M Gokul Prasath B Muthupandy P Karthikeyan N	International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015, 378-382
08	Experimental Studies on the Effect of Suction Opening Orientation on the Inclination of Solar Chimney	A.L.Madan Ananda Kumar Dr.V.Sivaramakrishnan, Dr.(Mrs.)M.Premalatha M.Vivekanandan	International Journal of Mechanical & Mechatronics Engineering, 56-62
09	3D CFD simulation of a circulating fluidized bed boiler Riser and cyclone	Vivekanandan M , Mercy Vasam, Gopalakrishnan V	International Journal of Scientific & Engineering Research, Volume 6, Issue 4, April-2015
10	Experimental and simulation studies on the effect of suction opening orientation on solar vertical chimney	L. Madan Ananda Kumar V. Sivaramakrishnan M. Premalatha M. Vivekanandan	International Journal of Sustainable Energy, 2015, 1-14
11.	Experimental study on depth of paraffin wax over floating absorber plate in built-in storage solar water heater	R Sivakumar V Sivaramakrishnan M Vivekanandan	Advances in Mechanical Engineering 2015, Vol. 7(11),1-11
12.	Interpretation on results of directions of suction opening on solar chimney Coherent with Building	L M Kumar V Sivaramakrishnan M.Vivekanandan	Journal Scientific and Industrial Research Vol. 75, March 2016, (194-199)
13.	Comparison of Shell and Tube Heat Exchanger using Theoretical Methods, HTRI, ASPEN and SOLIDWORKS simulation softwares	Aniket Shrikant R. Sivakumar M. Vivekanandan	Int. Journal of Engineering Research and Application, Vol 6, Issue 3 Part -5, March 2016, pp99- 107
14.	Comparison of CFD Simulation of a Hyundai I20 Model with Four Different Turbulence Models	M. Vivekanandan R. Sivakumar**, Aashis. S. Roy***	Int. Journal of Engineering Research and Application, ISSN : 2248-9622, Vol. 6, Issue 7, (Part - 1) July 2016, pp.47-53
15.	CFD simulation study of shell and tube heat exchangers with different baffle segment configurations	Aniket Shrikant Ambekar M. Vivekanandan	Applied Thermal Engineering 108 (2016) 999–1007

16	Predicting Tool for Cyclone Separator with Simple Mathematical Model using RSM	A. Mercy Vasan; V.Gopalakrishnan N. Prasanna M. Vivekanandan	Asian Journal of Research in Social Sciences and Humanities Vol. 6, No. 10, October 2016, pp. 601-614.
17	CFD investigation of the cold hydrodynamics of a laboratory scale CFB furnace	A.Mercy Vasan, N.Prasanna, M.Vivekanandan, V.Gopalakrishnan	Journal for Advances in chemistry, Volume12, September 2016, Pg.No 4330-4340
18	Experimental studies on the performance of a large-scale Solar Greenhouse dryer for banana in India – A case study	Ramesh C Sivakumar R Premalath M Vivekanandan M	Journal for Advances in chemistry, Volume12, November 2016, Pg.No 4681-4691
19	Attainment of fully developed Flow in air distribution duct of Boiler using CFD analysis	P.Devakumaran C.Balakrishnan S.Chandran C.Azhagurajan B.Veluchamy M.Vivekanandan	International Journal of Advance Research and Innovative Ideas in Education, Vol-4 Issue-2 2018, 1021-1025
20	AGILE PRODUCT DESIGN OF PUMPS	S.R. Devadasan1, V.M. Rajavel Muthaiah M. Vivekanandan	International Journal of Operations System and Human Resource ManagementVol. 1, Nos. 1-2, January-December 2011, pp. 23–27;
21	Pressure Vessel Design using PV-ELITE Software with Manual Calculations and Validation by FEM	M. Vivekanandan 1, R.Venkatesh2, T.Sathish3, S.Dinesh4, M.Ravichandran5,V.Vijayan6	Journal of Engineering Technology (ISSN. 0747-9964) Volume 8, Issue 1, Jan. 2019, PP.425-433
22	Erosion Reduction and Enhancement in Performance of A Novel Cyclone Separator Using CFD Analysis	Vivekanandan M1, Premalatha, M1, and Anantharaman, N1,2	Journal of Engineering Technology April 2019, PP. 129-138
23	The Hydrodynamics Studies on Loop Seal in CFBC Boiler Using CFD Analysis	M. Vivekanandan1 / N. Anantharaman1,2 / M. Premalatha1	Chemical Product and Process Modeling. 2019; 20190031

Patents

Sl.No	Title	Application No	Publication date	Journal No.
01.	APPARATUS AND INTERMEDIATE SYSTEM FOR MEASURING POWER IN SINGLE PHASE ELECTRICAL CIRCUITS	201741025406 A	28/07/2017	30/2017
02.	PROCESS AND EQUIPMENT FOR ABSORBING HYDROGEN SULFIDE IN BIOGAS USING ACTIVATED CARBON AS ABSORBER	201741040518 A	24/11/2017	47/2017
03.	A NOVEL APPROACH IN SOLAR WATER HEATER INLET HEADER TO IMPROVE UNIFORM FLOW DISTRIBUTION IN VERTICAL TUBES	201841031925 A	31/08/2018	35/2018
04.	A NOVEL APPROACH FOR INCREASING THE EFFICIENCY OF SOLAR AIR HEATER BY IMPROVING FLOW DISTRIBUTION USING GUIDE VANES AND FLOW RESTRICTION	201841031928 A	31/08/2018	35/2018
05.	FINE DUST COLLECTOR, A NOVEL METHOD OF COLLECTING PARTICULATE MATTER USING WET SCRUBBING TECHNIQUE	201941014227 A	17/05/2019	20/2019
06.	HELICAL COIL HEAT EXCHANGER WITH FLOWER SHAPED BAFFLE PLATES TO IMPROVE RESIDENCE TIME INSIDE SHELL	201941036699 A	20/09/2019	38/2019
07.	PORTABLE TUBE BENDER FOR SPIRAL AND HELICAL GEOMETRY	201941036681 A	20/09/2019	38/2019
08.	A NOVEL METHOD TO IMPROVE HEAT TRANSFER EFFICIENCY IN THE SOLAR WATER HEATER BY EMPLOYING THE PERFORATED PLATE AT THE INLET HEADER	201941036684 A	20/09/2019	38/2019

Contact

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