



**Name** : Dr. Pothukuchi Venkata Durga Prasad

**Designation** : Associate .Professor

**Academic Qualifications:** Ph.D in Mechanical Engineering (JNTUH, Hyderabad, 2015).

**Thesis Title:** Experimental Investigation of Heat Transfer Enhancement with Different Inserts for Al<sub>2</sub>O<sub>3</sub> Nanofluids In a Double Pipe U-Tube Heat Exchanger.

M.Tech in Thermal Engineering (JNTUH, Hyderabad, 2004)

A.M.I.E in Mechanical Engineering from Institution of Engineers (India), Calcutta, 1990.

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**Teaching Experience:** 18 years

**Industry Experience:** 8 years

**Area of Specializations** : Thermal Engineering & Heat Transfer

**Dr. P. V. Durga Prasad**, M.Tech, Ph. D, is a Mechanical Engineering graduate of 1990 batch from the Institution of Engineers (India). He obtained his Master degree in Thermal Engineering in the year 2004 from JNT University, Hyderabad. He has concurrent Teaching, Research experience spanning more than ten years. He had served in many Institutions at various capacities as Assistant Professor& Associate Professor. He had published more than 7 research papers in International Journals and presented 27 papers in National and International Conferences. His area of interest includes Heat Transfer, thermal engineering, dynamics of machines, etc.

### **Subjects handled at Under Graduate Level:**

Thermal Engineering, Applied Thermodynamics, Engineering Mechanics, Power Plant Engineering, Heat Transfer, Refrigeration & Air-Conditioning, Dynamics of Machines, Kinematics of Machines and Engineering Graphics

### **Additional Responsibilities:**

Department Level:

1. I/c of Engineering Workshop from December' 2016.
2. Coordinator, Autocognizence' 2017
3. Coordinator, Gokarting' 20-23<sup>rd</sup>, March'2017.
4. Coordinator for Student Counseling
5. Coordinator for one week training programme on "Mat Lab in Engineering Applications" from 2-29, June'2018.
6. Coordinator for Placements of AE & ME Students.

### **Professional Bodies Memberships:**

1. Life Member Indian Society for Technical Education (ISTE) LM-81879
2. Member of The Institution of Engineers (India)-M-130198-5

### **Guest Lectures:**

1. Invited Keynote Speaker at the International Conference on Innovative Methods and Upcoming Trends in Multi-Disciplinary Approach on **Recent Trends in Extended 'Tube' Heat Exchanger** at Daman, Daman and Diu, in 22<sup>nd</sup> October, 2017, organized by JJT University, Rajasthan.

**Book Reviewed:** Heat Transfer 9th Edition (In SI Units) by J.P.Holman

**FDP / Workshops attended:** 27

**Research Articles Reviewed:** 12

**AWARDS:** Received state centre prize for the best paper presented at the 68<sup>th</sup> ATS, Institution of Engineers (India), Hyderabad in Oct' 2006.

**Research Publications:** 27 (National & International Conferences) and 7 Journals

### **INTERNATIONAL JOURNALS:**

1. **P.V.Durga Prasad**, A.V.S.S.K.S.Gupta and L.Syam Sundar, "*Heat transfer enhancement by using twisted tape inside a double pipe U-bend heat exchanger*" International Journal of Thermal Science and Engineering, vol.2, No.2, pp.1-8, 2012.
2. **P.V.Durga Prasad** and A.V.S.S.K.S.Gupta, "*Augmentation of Heat Transfer and Pressure Drop Characteristics Inside a Double Pipe U-Tube Heat Exchanger by using Twisted Tape Inserts*" Springer India , pp. 33-45, 2012.
3. **P.V. Durga Prasad**, A.V.S.S.K.S. Gupta and M. Sreeramulu, et.al., "*Thermal Performance of Al<sub>2</sub>O<sub>3</sub> nanofluid in a double pipe U-bend heat exchanger with longitudinal strip inserts*" Journal of Nanofluids, Vol. 4, No.3, pp. 1-9, 2015.
4. **P.V. Durga Prasad**, A.V.S.S.K.S. Gupta and L. Syam Sundar, et.al., "*Experimental study of heat transfer and friction factor of Al<sub>2</sub>O<sub>3</sub> nanofluid in U-tube heat exchanger with helical tape inserts*" Experimental Thermal and Fluid Science. Elsevier, Vol.62,(2015), pp.141-150
5. **P.V. Durga Prasad**, A.V.S.S.K.S. Gupta and K. Deepak, "*Investigation of trapezoidal-cut twisted tape insert in a double pipe U-tube heat exchanger using Al<sub>2</sub>O<sub>3</sub> nanofluid*" Procedia Materials Science, Elsevier, Vol. 10 ( 2015 ),pp. 50 – 63.

6. **P.V.Durga Prasad** and A.V.S.S.K.S. Gupta, “*Experimental investigation on enhancement of heat transfer using  $Al_2O_3$  / water nanofluid in u-tube with twisted tape inserts*” International Communications in Heat and mass Transfer, Elsevier, Vol.75, July 2016, pp.154-161.
7. K.P.V. Krishna Varma, P.S. Kishore and P.V. DurgaPrasad “*Enhancement of Heat Transfer Using  $Fe_3O_4$  / Water Nanofluid with Varying Cut-Radius Twisted Tape Inserts*” International Journal of Applied Engineering Research ISSN 0973-4562 Volume 12, Number 18 (2017) pp. 7088-7095.

#### **INTERNATIONAL CONFERENCE:**

1. **P.V.Durga Prasad**, L.Syam Sundar and Ch.Venkatrao, “*Thermal Stress analysis of Clam Shell heat exchanger by using Finite Element Method*” , Proceedings of the International Conference on Advances in Machine Design and Industry Automation (ICAMDIA, 2007) at College of Engineering, Pune, pp-24-29, January'10-12, 2007.
2. M.Sreeramulu, L.Syam Sundar, **P.V.Durga Prasad** and Ch.Venkatrao, “*Model Analysis of Low Pressure Boiler sleeve with different Metal Coatings by using FEM*”, Proceedings of the International Conference on Advances in Machine Design and Industry Automation (ICAMDIA, 2007) at College of Engineering, Pune, pp-591, January'10-12, 2007
3. M.Sreeramulu, L.Syam Sundar, **P.V.Durga Prasad** and Ch.Venkatrao, “*Model Analysis of Low pressure Boiler sleeve with different metal coatings by using FEM*”, Proceedings of the 8<sup>th</sup> international conference on Vibration Problems (ICOVP-2007) at Bengal Engineering and Science University, Shibpur, Howrah, January 30 - February 3, 2007.
4. L.Syam Sundar, S.Ramanathan, K.V.Sharma and **P.V.Durga Prasad**, “*Experimental Investigation of Thermal Conductivity of  $Al_2O_3$  Nano fluid*” Proceedings of the International Conference on Modeling and Simulation (CITICOMS 2007) at Coimbatore Institute of Technology, Coimbatore. Aug 27-29, 2007.
5. **P.V.Durga Prasad**, A.V.S.S.K.S.Gupta, K.V.Sharma, L.Syam Sundar and K.Venkat Rao “*CFD Analysis of Laminar Flow in a Horizontal tube with Longitudinal Strip Inserts*” Proceedings of the 19th National & 8th ISHMT-ASME Heat and Mass Transfer Conference at JNTUH, Hyderabad, January 3 - 5, 2008.
6. **P.V.Durga Prasad**, A.V.S.S.K.S.Gupta and L.Syam Sundar “*Heat Transfer Enhancement by using Twisted Tape inside a Double Pipe U-Bend Heat Exchanger*” Proceedings of the in International Conference on Recent Advances in Mechanical Engineering (INCROME 2012) at MGR University, Chennai, April 19-20, 2012.
7. **P.V.Durga Prasad** and A.V.S.S.K.S.Gupta “*Augmentation of Heat Transfer and Pressure Drop Characteristics inside a Double Pipe U-Tube Heat Exchanger by using Twisted Tape Inserts*” Proceedings of the International Conference on emerging trends in Science, Engineering and Technology (INCOSSET 2012) at JJ College of Engineering and Technology, Tiruchirappalli, Tamil Nadu, December 13-14, 2012.
8. **P.V.Durga Prasad**, A.V.S.S.K.S.Gupta and M.Sreeramulu “*Turbulent flow heat transfer and pressure drop in a double pipe u-tube heat exchanger with helical tape swirl generators*” Proceedings of the International Symposium on Recent Advances in Integrated Energy and Energy Conservation (RAIEEC-2012) at JNTUH, Hyderabad, pp.1-9, December19-20, 2012.
9. M.Sreeramulu, A.V.S.S.K.S.Gupta and **P.V.Durga Prasad**, “*Thermodynamic Analysis of Methane Fed Molten Carbonate Fuel Cell-Gas Turbine Combined Cycle Power Plant*” Proceedings of the International Symposium on Recent Advances in Integrated Energy and Energy Conservation (RAIEEC-2012) at JNTUH, Hyderabad, pp.1-9, December19-20, 2012.

10. **P.V. Durga Prasad**, A.V.S.S.K.S. Gupta and K. Deepak, "*Investigation of trapezoidal-cut twisted tape insert in a double pipe U-tube heat exchanger using Al<sub>2</sub>O<sub>3</sub> nanofluid*" Proceedings of the 2<sup>nd</sup> International Conference on Nanomaterials and Technologies (CNT-2014) at Vardhaman College of Engineering, Hyderabad, pp.19, October 17-18, 2014.
11. **P.V.Durga Prasad**, A.V.S.S.K.S. Gupta, R.Haranath and B.Ram Kishore Babu, "*Comparative Study on Thermal Performance of Turbulators in Turbulent Flow Using Al<sub>2</sub>O<sub>3</sub>/Water Nanofluids in a U-Tube Heat Exchanger*" Proceedings of the International Conference on Advances in Manufacturing & Thermal Engineering (ICOMATE 2016) at Mar Athanasius College of Engineering, Kothamangalam, Kerala, pp.59-72, February 8-9, 2016.
12. **P.V.Durga Prasad** and S.Ramanathan, "Numerical and Experimental Investigations on Effect of Blade Shape on the Performance of Vertical Axis Wind Turbine" Proceedings of the International Conference on Trends and Advanced Research in Green Energy Technologies (ICTARGET-2017) at V.I.T.University, Vellore, Tamilnadu, PP-77, March 30-31, 2017.
13. P.V.Durga Prasad and L.Syam Sunder, "Nanocomposites in Biomedical Applications" Proceedings of the International Conference on Nanoscience and Nanotechnology (ICONN-2017) at SRM University, Chennai, August 9-11, 2017.
14. P.V.Durga Prasad and Ch.Venkat Rao, "Model Analyses of Gas Turbine Blade with Different Metals by Using Finite Element Method" (ICMSEA-2017) at Baba Institute of Technology & Sciences (BITS), Visakhapatnam on 22-24<sup>th</sup> December- 2017.
15. G.Niranjan, P.V.Durga Prasad and R.Venkateawar Rao, "Optimization of Al<sub>2</sub>O<sub>3</sub>Nanofluid Flow rate in a U-Tube Heat Exchanger Using Taguchi Method" (ICADMMES-2018) at Malla Reddy Engineering College, Hyderabad on 15<sup>th</sup> September-2018.

#### **NATIONAL CONFERENCE:**

1. **P.V.Durga Prasad** and L.Syam Sunder, "*Analysis of lead screws in static and dynamic load aspects*" Proceedings of the 68 AGM at Institutions of Engineers (India), Hyderabad, pp-5-9, Oct 29, 2005.
2. **P.V.Durga Prasad**, L.Syam Sundar and V.Shravan Kumar, "*Failure Analysis of Aluminium remelting furnace crucible by using Finite Element Method*" Proceedings of the 68 AGM at Institution of Engineers (India), Hyderabad, pp-10-14, Oct 29, 2005.
3. L.Syam Sundar, V.Sridhar Patnaik and **P.V.Durga Prasad** et.al, "*A FEM based analysis of Aluminium remelting furnace crucible with different materials*" Proceedings of the National Conference on Computer Applications in Mechanical Engineering (CAME-2005) at JNTU College of Engineering, Ananthapur, pp-131-134, Dec 21, 2005.
4. L.Syam Sundar, A.V.S.S.K.S.Gupta, and **P.V.Durga Prasad**, "*Thermal analysis of 250MW steam turbine casing by using Finite Element Method*" Proceedings of the National Conference on Computer Applications in Mechanical Engineering (CAME-2005) at JNTU College of Engineering, Ananthapur. pp-220-226, Dec 21, 2005.
5. **P.V.Durga Prasad** and L.Syam Sundar et.al, "*Thermo-structural analysis of low pressure boiler sleeve with different coatings by using Finite Element Method*" Proceedings of the National Conference on CAD/CAM (NCCAD/CAM 2006) at JNTU College of Engineering, Kakinada , pp-13-17, Feb 27 -28, 2006.
6. L.Syam Sundar, M.Basaveswara Rao, and **P.V.Durga Prasad** et.al "*Thermal Analysis of 26.82 MW Gas Turbine Casing by using Finite Element Method*" Proceedings of the National Conference on

CAD/CAM (NCCAD/CAM 2006) at JNTU College of Engineering, Kakinada, pp-62-66, Feb 27 - 28, 2006.

7. L.Syam Sundar, **P.V.Durga Prasad**, A.V.S.S.K.S.Gupta and V.Sridhar Patnaik, “A FEM based Structural analysis of AISI 4340 (EN 24) Material With Poly Crystalline Cubic Boron Nitride (P.C.B.N) Cutting Tool” Proceedings of the National Conference on CAD/CAM (NC CAD/CAM 2006) at JNTU College of Engineering, Kakinada, pp-67-72, Feb 27 - 28, 2006.
8. **P.V.Durga Prasad**, L.Syam Sundar and A.V.S.S.K.S.Gupta, “Thermal Design and Analysis of a Finned Tube Air Cooled Heat Exchanger of Thermal Power Plant” Proceedings of the National Conference on State of Art of Mechanical Engineers (NCSAME-2006) at JNTU College of Engineering, pp-7, Hyderabad, May 5-6, 2006.
9. L.Syam Sundar, **P.V.Durga Prasad** and P.Srinivasa Rao, “Exhaust Gases Treatment of Single Cylinder Diesel Engine by Using 'CATCON' for Reducing Emissions” Proceedings of the National Conference on State of Art of Mechanical Engineers (NCSAME-2006) at JNTU College of Engineering, Hyderabad, pp-67-72, May 5-6, 2006.
10. **P.V.Durga Prasad** and L.Syam Sundar, “Fatigue Life and Thermal Stress analysis of Clam Shell Heat Exchanger” Proceedings of the 69 AGM at Institution of Engineers (India), Hyderabad. pp-43-48, Oct 30, 2006.
11. **P.V.Durga Prasad** and L.Syam Sundar, “Rheological Behavior of Suspended  $Al_2O_3$  Nanoparticles Dispersed in Distilled Water” Proceedings of the 72 AGM at Institution of Engineers (India), Hyderabad, Nov' 30, 2009.
12. K.P.V.Krishna Varma, P.S.Kishore, **P.V.Durga Prasad**, K.Siva Satya Mohan, “Effect of Shape of Cut in Twisted Tape Turbulators on Enhancement of Heat Transfer Characteristics” Proceedings of the 2-Day National Conference on Technological Advancements in Mechanical Engineering (TAME 16) at University College of Engineering, JNTUK, Kakinada, pp 374-382, July 22-23, 2016.