



About Director - R&D

Dr. P H V Sesa Talpa Sai
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Brief Profile:

Dr. P H V Sesa Talpa Sai, Professor and Director -R&D, and Coordinator, Centre for Innovation, Incubation & Entrepreneurship (CIIE), is a dynamic and multi talented personality with research orientation. He obtained his B.Tech degree from SV University, M.E degree from Osmania University, and Doctoral degree from JNTU, Hyderabad. He is having 16 years of industry experience in reputed organizations and varied exposure in the fields of Automobile, Design and Fabrication of SPM's, Plastic injection and blow moulding technologies, Machine Tool Design, Design of jigs and fixtures etc. He is having association with industries such as HAL, BDL, BHEL, etc during his industrial carrier. He is also having 15 years of Teaching and Research experience. He is visiting faculty to Lincoln University College (LUC), Malaysia. He is guiding four Ph.D Scholars from different Universities. He

has 52 International and National Publications/Conference proceedings to his credit and guided many PG and UG students' projects. He also organized and participated in number of National & International Seminars/Conferences and Workshops. He is the principle investigator of the proposed DST sponsored project entitled "Synthesis and Characterization of Nano Composites as Anti Reflection Coatings on mc-Si Solar Cell for Enhanced Conversion Efficiency." He is instrumental in obtaining MSME-DI recognized Business Incubation cell and at present student innovative ideas amounting to Rs.46.50 lacs are being executed under this incubator. One patent (Application No.201841015551 A) entitled "SYNTHESIS AND CHARACTERIZATION OF HYBRID NI-SIO₂ NANO-PARTICLES IN WATER –GLYCERIN BASE LIQUIDS FOR HEAT TRANSFER APPLICATIONS" is applied and under consideration for award. He compiled a book "KINEMATICS OF MACHINERY"-Mc GRAW HILL EDUCATION. He is a Chartered Engineer and Approved valuer for Plant and Machinery. He is life member of Solar Energy Society of India (SESI), Institute of Engineers (India), Institute of Valuers, SAE and ISTE. His research interests are Nano Composite materials for Solar Energy Conversion and Storage, Bio fuels and Lubricants, Nano composites in heat transfer applications etc.

Research Areas:

Design & Manufacturing, Thermal Systems, Nano Materials for Energy and Heat Transfer Applications, Solar Energy Conversion, Thin film coatings on Photovoltaic cells, Biodiesel Production using Nano Catalyst.

Journals /Publications:

1. Haridasanayak, N. Krishnamurthy, M. S Murali & PHV Sessa Talpa sai , 'Wear Behavior of Plasma Sprayed Alumina And Yttria-Stabilized Zirconium Functionally Graded Composite Coatings on The Al-6061 Substrate', International Journal of Mechanical and Production Engineering Research and Development (IJMPERD),ISSN (P): 2249-6890; ISSN (E): 2249-8001Special Issue, Jun 2018, 38,
2. MLR Chaitanya Lahari, K. Bicha, PHV Sessa Talpa Sai3& K. S. Narayanaswamy " Design And Analysis Of Double Pipe Heat Exchanger With Copper Nano Fluid" International Journal of Mechanical and Production Engineering Research and Development (IJMPERD), ISSN (P): 2249- 6890; ISSN (E): 2249-8001 Special Issue, Jun 2018, 85-9
3. G. V. D. V Chandra Kanth,K. Naga Raj , P H V Sessa Talpa Sai "Performance Investigation Of Tesla Turbine Using Cfd and Structural analysis" International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)ISSN (P): 2249-6890; ISSN (E): 2249-8001Special Issue, Jun 2018, 106-113

4. T. Divya, D. Damodara Reddy, Dr.P. H. V. Sessa Talpa Sai "Design Optimization And Analysis Of Cooling Fan For Air Craft Engine By Using Fe Analysis" International Journal of Mechanical and Production Engineering Research and Development (IJMPERD),ISSN (P): 2249-6890; ISSN (E): 2249-8001Special Issue, Jun 2018, 182-18
5. Dr. P.H.V. Sessa Talpa Sai, Abhinav, N. Krishnamurthy, Ranjana Jain "An Elucidation on Adhesive Strength of Al₂O₃and ZrO₂CaO Composite Coatings Applied On Al-6061 & CI Substrates", International Journal of Mechanical and Production Engineering Research and Development (IJMPERD),ISSN (P): 2249-6890; ISSN (E): 2249-8001Special Issue, Jun2018, 91-98
6. Dr. P.H.V. Sessa Talpa Sai ,Anne Sai Seetha Ram,Srikanth Sikhakoli, "Fluid Structure Interaction Analysis of Wing by Numerical Simulations". International Journal of Mechanical and Production Engineering Research and Development (IJMPERD),ISSN (P): 2249-6890; ISSN (E): 2249-8001Special Issue, Jun2018,
7. Dr. P.H.V. Sessa Talpa Sai ,Modeling and Finite Element Analysis of Composite Fan Blade , International Journal of Mechanical and Production Engineering Research and Development (IJMPERD),ISSN (P): 2249-6890; ISSN (E): 2249-8001Special Issue, Jun2018,
8. Dr. P.H.V. Sessa Talpa Sai , Design Static and Dynamic Analysis and Weight Optimization of Car Chassis by Using Fea Method, International Journal of Research, e-ISSN: 2348-6848, p-ISSN: 2348-795X, p-ISSN: 2348-795X, January 2018,PP-111-125
9. Dr. P.H.V. Sessa Talpa Sai, Design and Structural (Buckling and Failure Analysis) of Missile container. International Journal & Magazine of Engineering, Technology, Management and Research, Volume No: 5, Issue No. 1 ,January -2018, ISSN No. 2348-4845.PP-52-56
10. Dr. P.H.V. Sessa Talpa Sai , Design and Analysis of Hair Pin Heat Exchanger using TiC,MgO,Ag/Water-Glycerin Nano Fluids, International Journal of Research & Technology(IJMPERD) ,ISSN: 2278-0181, Volume No. 7, Issue 01,January 2018,PP-182-188.
11. Dr. P.H.V. Sessa Talpa Sai, "Finite Element Analysis of Al – Si Metal Matrix Composite for Engine Valves", International Journal & Magazine of Engineering, Technology, Management and Research, Volume No: 4, Issue No. 8 ,August -2017, ISSN No. 2348-4845.
12. Dr. P.H.V. Sessa Talpa Sai ,Fluid Structural Analysis of Centrifugal FAN Using FEA, ", International Journal & Magazine of Engineering, Technology, Management and Research, Volume No: 4, Issue No. 8 ,August -2017, ISSN No. 2348-4845.
13. Dr. P.H.V. Sessa Talpa Sai, N.Veerawamy, M.L.R.Chaitanya Lahari "Development and Evaluation of Solar Based Vapour Compression Refrigeration System" International

Journal of Scientific Engineering and Technology Research, (JSETR) Volume No. 05, Issue No. 31 October -2016, ISSN 2319-8885

14. Dr. P.H.V.Sesha Talpa Sai, Response Surface Analysis of A Torch Igniter for Gas Turbine Combustor, International Journal of Scientific Engineering and Technology Research, Volume .05, Issue.35, ISSN 2319-8885, PP 7239-7242, Oct-2016.
15. Dr. P.H.V.Sesha Talpa Sai, Thermal Analysis of an Exhaust Valve of an IC Engine using Different Materials, International Journal of Scientific Engineering and Technology Research, Issue 26, Volume 05, ISSN 2319-8885, PP 5213-5218, Sep-2016.
16. Dr. P.H.V.Sesha Talpa Sai, Design and Analysis of Mechanism for Dynamic Characterization of Power Transmission System, IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), Volume 12, Issue- 6, Ver.1 (Nov-Dec. 2015) PP 29-33 e-ISSN: 2278-1684, p-ISSN: 2320-334X.
17. Dr. P.H.V.Sesha Talpa Sai, GO-TiO₂ Nano Composites for Silicon PV Cell Application, Materialstoday Proceedings, Volume-2, Issue -9, Page 4557-4562, 2015
18. Dr. P.H.V.Sesha Talpa Sai, Thermal Load Effect on Valve by Using Conventional and Mixed Fuels , International Journal of Emerging Trends in Technology and Sciences, Volume – 06, Issue – 01, November-2015, ISSN : 2348-0246.
19. Dr. P.H.V.Sesha Talpa Sai, Fluid Structure Interaction on Journal Bearings at Different L/D and Eccentricity Ratios, International Journal of Science, Engineering and Technology Research (IJSETR) , Volume – 4, Issue – 11, November-2015, ISSN: 2278-7798.
20. Dr. P.H.V.Sesha Talpa Sai, Thermal Analysis of Engine by Changing Fluid and Thickness of Fins, International Journal of Emerging Trends in Technology and Sciences , Volume-06, Issue-01, November, 2015, ISSN – 2348-0246
21. Dr. P.H.V.Sesha Talpa Sai, Impact of Emulsified Water & Diesel Mixture on Engine Performance and Environment, International Organization of Scientific Research Community of Researchers, Volume 12, Issue 5 (Sep-Oct. 2015)
22. Dr. P.H.V.Sesha Talpa Sai, Design and Analysis of Steam Turbine Balde using FEA, International Journal of Scientific Engineering and Technology Research, Volume 4, Issue 29, Aug-2015, ISSN 2319-8885.
23. Dr. P.H.V.Sesha Talpa Sai, Design, Selection, Installation and Commissioning of Clean Room and HVAC Facility for Operation Theatre, International Journal of Scientific Engineering and Technology Research, Volume 4, Issue 34, Aug-2015, ISSN 6791-6794.
24. Dr. P.H.V.Sesha Talpa Sai, Investigation of Heat Sink Capacity of N-Heptane Fuel for Scramjet Application, International Journal of Advanced Technologies, Engineering and Management Sciences (IJASTEMS), Volume 1, Issue 2, July-2015, ISSN 2454-356X.

25. Dr.P.H.V.Sesha Talpa Sai, Design and Dynamic Analysis of Locomotive Wheel Axle, International Journal of Scientific Engineering and Technology Research, Volume 4, Issue 6, June-2015, PP 2293-2302, ISSN. 2278-7798.
26. Dr.P.H.V.Sesha Talpa Sai, Structural Design and Analysis of Self propelled Device for Vehicles, International Journal of Engineering Research & Technology, Volume 4, Issue 7, July-2015, ISSN 2278-0181.
27. Dr. P.H.V.Sesha Talpa Sai, Design Optimization and Contact Analysis on Dual joints, International Journal of Science, Engineering and Technology Research (IJSETR), Volume 4, Issue 7, July-2015, PP 2485 -2493, ISSN 2278-7798.
28. Dr. P.H.V.Sesha Talpa Sai, Solar Tracking and Panel Position System, International Journal & Magazine of Engineering, Technology, Management and Research, Volume 2, Issue 7, July-2015, PP 2220-2225, ISSN 2348-4845
29. Dr. P.H.V.Sesha Talpa Sai, Design Evaluation and Optimization of Helical Gears using CREO, International Journal of Scientific Engineering and Technology Research, Volume 4, Issue 21 July 2015,ISSN 2319-8885
30. Dr. P.H.V.Sesha Talpa Sai, Stress and Buckling Analysis of Compression Loaded Composite Cylindrical Shell, International Journal of Scientific Engineering and Technology Research, Volume 4, Issue 21 July 2015, ISSN 2319-8885.
31. Dr.P.H.V.Sesha Talpa Sai, Evaluation of Effect of Initiator on Endothermicity for Hypersonic Application, International Journal of Scientific Engineering and Technology Research, Volume 4, Issue 23 July 2015, PP 4486-4490,ISSN 2319-8885
32. Dr.P.H.V.Sesha Talpa Sai, Design and Detection of Bevel Gear Teeth by Using Artificial Neural Networks, International Journal of Science, Engineering and Technology Research(IJSETR), Volume 4, Issue No 18, June – 2015,ISSN 2319-8885.
33. P.Nagaraju, Dr. P.H.V.Sesha Talpa Sai, Y. Vijay Kumar, C.Udayakiran, Design of Hybrid Suspension System for Automotive Applications, IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), Volume 11, Issue 6 Ver. V (Nov- Dec. 2014), PP 17-21.
34. B.Sandhya Rani, Dr.P.H.V.Sesha Talpa Sai, Y. Vijay Kumar, C.Udayakiran, Structural Design and Analysis of Trailer System for Photo Voltaic Cells, IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), Volume 11, Issue 6 Ver. V (Nov- Dec. 2014), PP 22-25.
35. Dr.P.H.V.Sesha Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma, Modelling and Simulation of Solar Module Under Non-Uniform Conditions and Parametric Study of TiO₂ Coated Solar Cell, International journal of Engineering Research and Technology, 2, (11) (2013) 2991-2995

36. Dr.P.H.V.Sesha Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma, Preparation and Characterization of TiO₂-SiO₂ Sol-Gel Anti Reflection Coatings on Multi Crystalline Silicon Solar Cell, International Journal of Engineering and Advanced Technology, 3, (2013), 396-399.

Conferences /Proceedings:

1. Haridasanayak, N. Krishnamurthy, M. S Murali & PHV Sesha Talpasai , 'Wear Behavior Of Plasma Sprayed Alumina And Yttria-Stabilized Zirconium Functionally Graded Composite Coatings on The Al-6061 Substrate', 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
2. MLR Chaitanya Lahari, K. Bicha,PHV Sesha Talpa Sai& K. S. Narayanaswamy “ Design And Analysis Of Double Pipe Heat Exchanger With Copper Nano Fluid” 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
3. G. V. D. V Chandra Kanth1,K. Naga Raj , P H V Sesha Talpa Sai “Performance Investigation Of Tesla Turbine Using Cfd and Structural analysis” ” 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
4. T. Divya, D. Damodara Reddy, Dr.P. H. V. Sesha Talpa Sai ”Design Optimization And Analysis Of Cooling Fan ForAir Craft Engine By Using Fe Analysis” ” 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
5. Dr. P.H.V. Sesha Talpa Sai, Abhinav, N. Krishnamurthy, Ranjana Jain “An Elucidation on Adhesive Strength of Al₂O₃and ZrO₂CaO Composite Coatings Applied On Al-6061 & CI Substrates”, ” 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
6. Dr. P.H.V. Sesha Talpa Sai ,Anne Sai Seetha Ram,Srikanth Sikhakoli, “Fluid Structure Interaction Analysis of Wing by Numerical Simulations”. 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
7. Dr. P.H.V. Sesha Talpa Sai ,Modeling and Finite Element Analysis of Composite Fan Blade , 4th International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2018),
8. Dr. P.H.V. Sesha Talpa Sai, MLR Chaitanya Lahari, K.Bicha, Dr. K.S. Narayanaswamy Design and Analysis of Double Pipe Heat Exchanger with Copper Nano Fluid
9. Dr. P.H.V. Sesha Talpa Sai, N.Veerawamy, M.L.R.Chaitanya Lahari “Development and Evaluation of Solar Hybrid Air Conditioning System” International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2016), , ISBN 978 93 83038 45 PP -175, Dec-2016
- 10 Dr. P.H.V.Sesha Talpa Sai, A. Naga Raju , “Thermal and CFD Analysis of Discharge Valve used in a Reciprocating compressor” , International Conference on Emerging Technologies in Mechanical Sciences (ICEMS-2016), , ISBN 978 93 83038 46 6 PP -168, Dec-2016.

11. B Karthik Goud, Dr. P.H.V. Sessa Talpa Sai, J.V Ramana rao, Devarayapalli K.C, Ch Shilpa Chakra, "Synthesis and Characterization of GO/TiO₂ Nano Composites as an Antireflection Coating for Solar Cells" ICEMS-2014, 26-27th December, 2014.
12. Dr. P.H.V.Sessa Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma, "GO-TiO₂ Nano Composites for Silicon PV Cell Application" ICONSEA-2014, 26-28th June, 2014
13. Dr. P.H.V.Sessa Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma, Nano Materials Coated Photovoltaic Device for Enhanced Solar Energy Conversion, International Congress on Renewable Energy (ICORE-2013), 27-29 November, 2013, KIIT University, Bhubaneswar, Odisha
14. Dr. P.H.V.Sessa Talpa Sai, J.V.Ramana Rao, Devarayapalli K.C., K.V.Sharma, Nano-Material Coated Solar Panel For Enhanced Solar Energy Conversion Under Non-Uniform Conditions, 1st International Conference on Nanotechnology and Functional Materials, January, 4-7, 2012, SNIST, Hyderabad.
15. "Structural Design of Passive Stabilization System in ship borne antennas" – published in RTMT-09 of Anna University.
16. " Structural Design and Dynamic Analysis of Air borne antennas"- presented in NNEX-09
17. " Concurrent Engineering" – Published in Spoorthy-09

Patents: (Application No.201841015551A)

entitled "SYNTHESIS AND CHARACTERIZATION OF HYBRID NI-SIO₂ NANO-PARTICLES IN WATER –GLYCERIN BASE LIQUIDS FOR HEAT TRANSFER APPLICATIONS"

Books: "KINEMATICS OF MACHINERY"-Mc GRAW HILL EDUCATION

Projects:

1. MSME-DI recognized Business Incubation cell and at present student innovative ideas worth Rs.46.50 lacs are being executed under this incubator

PROJECTS HANDLED:

The following Projects sanctioned by MSME-DI, Govt. of India, under Business Incubator.

1. Sauroorja-Affordable Solar Mobile Charger cum Lamp - (Rs. 5.00 Lakhs)
2. Segway –A Self Balancing Robot - (Rs. 7.25 Lakhs)
3. Biodiesel Production Using Nano Catalyst - (Rs. 6.00 Lakhs)
4. Heat Transfer Enhancement through Nano-Fluids - (Rs. 7.25 Lakhs)
5. Clauditis- Smart Door Lock - (Rs. 7.25 Lakhs)
6. Improvised Explosive Device Disposal Robot - (Rs. 7.25 Lakhs)
7. EES-Easy emergency Services - (Rs. 7.25 Lakhs)

Conferences /Workshops / Seminars Organised:

1. 4th International Conference on Emerging Trends in Mechanical Sciences is organized during 22-23rd June, 2018 in Association with IJMPERD Journal (Scopus Indexed)
2. Three Day Faculty Development Program on Industry 4.0: Academia Initiatives in Mechanical Engineering is organized during 12-14th June, 2018
3. YANTROTSAV 2K18- A students Technical Symposium is organized on 2nd – 3rd February, 2018
4. Two Day Workshop on AutoCAD for B.Tech I Year Students is scheduled to be on 19- 20th January, 2018
5. Two Day Workshop on 3D PRINTING is being organized on 11-12th January, 2018
6. Two Day Faculty Development Program on FEA using ANSYS was organized on 13-14th October, 2017
7. INGENIUM-Engineers Day was organized in 15th September, 2017
8. Pledge for Rivers, RALLY FOR RIVERS, was organized on 16th September, 2017
9. Guest Lecture about the Nuclear Fuel Complex was organized on 6th September, 2017
10. Three Day Workshop on CATIA for B.Tech III year students was organized on 4-6th September, 2017
11. Three day Workshop on Advanced AutoCAD for B.Tech II year Students was organized on 31st Aug-2nd September, 2017
12. Nine Day Workshop on ANSYS Software for B.Tech IV year Students was organized during June 26th – July 1st, 2017
13. AutoCAD- Two Day Workshop, 6-7th March, 2017

14. Organizing Secretary, ICEMS – 2015, 2016
15. One day training Workshop of the MSME Govt. of India, 7-01-2017
16. Technical innovations in mechanical engineering, 05-11-2016
17. One Day Workshop on 3D Printing, 11-09-2015
19. Guest Lecture on Product Life Cycle Management (PLM), Mr. Hari Adavalli Discipline Chief Cyient Limited, Hyderabad, 14-09-2015
18. One Day Workshop on Fusion 360, Dr. Ramesh Pudale Manager-MFG RCE, World Wide Education, Bangalore ,06-10-2015
19. Organised 7 days FDP and MDP by MSME, Balanagar
20. Organised 3 days workshop on Solar Technologies, 2015
21. Organised 3 days workshop on 3D Printing,2014
22. Participated in conferences on Rapid Prototyping and Nano Materials. (2-3days each)
23. Participated in workshop on Engineering Mechanics (2 weeks) conducted by IIT, Mumbai.
24. Participated in workshop on Engineering Thermodynamics (2 weeks) conducted by IIT, Mumbai.

Awards & Fellowships:

- Member of Academic Council –MRCET
- Chartered Engineer (India) (M-131415-1)
- Member Institute of Valuers (India) – Life Member
- Fellow-Institute of Valuers, New Delhi –Life Member
- Approved Valuer- Plant & Machinery (F-15422)
- Life Member, Iste (LM-61032)
- Life Member, Solar Energy Society of India (SESI) Lm/1560/2011
- Faculty Member, SAE, India.(7120410122)