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Patents

1. Shukla, M., Mayookh, M., Saraswati S. and Agarwal, P. K., "A Portable Diagnostic System for a Medical Condition using X-Ray Imaging of Lungs", Publication Number 39/2020, Publication Date 25/09/2020 (**Technology Transfer and License Agreement wth Allengers Medical Systems Ltd, Chandigarh**)

Publications

(A) Web of Science indexed Journals

1. SP Verma, **Samir Saraswati**, "Experimental study of the thermal management system of an air-cooled Li-ion battery pack with triangular spoilers." *Journal of Electrochemical Energy Conversion and Storage, ASME*, Vol. 21(4): 041008, 2024, <https://doi.org/10.1115/1.4064350> (**Impact factor 2.5**)
2. Garima Kushwaha, **Samir Saraswati** and Bireswar Paul, "Modelling and Parameter Identification of Spark Plug Deposit formation mechanism for Different Fuel/Lubricant Combination" *Journal of Energy Resources and Technology, ASME*, 2023 Paper No: JERT-23-1335 <https://doi.org/10.1115/1.4064356> (**Impact factor 3.0**)
3. SP Verma, **Samir Saraswati**, "Numerical and experimental analysis of air-cooled Lithium-ion battery pack for the evaluation of the thermal performance enhancement," *Journal of Energy Storage, Elsevier Publications, Volume 73, Part B*, 2023, <https://doi.org/10.1016/j.est.2023.108983>. (**Impact factor 9.4**)
4. PK Singotia, and **Samir Saraswati**. "Cyclic variability analysis of an engine fuelled with gasoline/natural gas using return maps and symbol sequences." *Journal of Energy Resources and Technology, ASME, Vol. 145/121703-1*, 2023, *doi: 10.1115/1.4062927* (**Impact factor 3.0**)
5. Syed Abbas Ali, and **Samir Saraswati**, "Control Oriented Observer for Cylinder Pressure Estimation of SI Engine using Frequency Response Function." *International Journal of Modeling Identification and Control, Inderscience Publications*, Vol. 39 (2), 138-149, 2021 (**Impact Factor: 0.7**)
6. Garima Kushwaha, **Samir Saraswati** and Bireswar Paul, "Characterisation of spark plug deposits of an SI engine fuelled with gasoline-ethanol blends." *International Journal of Ambient Energy, Taylor and Francis*, Vol. 43(1), 5309-5317, 2021.
7. Jitendra N. Gangwar, and **Samir Saraswati**, "Stability of dual (diesel-alcohol) and triplicate (diesel-alcohols-ethers) fuel blends." *Biofuels, Taylor and Francis*, Vol. 12(1), 71-79, 2021 (**Impact Factor: 2.73**)
8. Garima Kushwaha, **Samir Saraswati**, and Bireswar Paul, "Effect of different lubricating oil on the adsorption/desorption process of fuel in oil layer in an SI engine." *Lubrication Science, Wiley*, Vol. 29(2):73-91, 2017 (**Impact Factor: 1.9**).
9. Syed Abbas Ali, and **Samir Saraswati**, "A comparison of sliding mode and FRF-based observers for cylinder pressure estimation of spark ignition engine." *Transactions of the Institute of Measurement and Control, SAGE Publications*, Vol. 39(2):163-172, 2017 (**Impact Factor: 1.8**).
10. M Manikandan, **Samir Saraswati**, and Ananthkrishnan, "CFD analysis of fluid flow inside a pentroof combustion chamber with different piston shapes." *International Journal of Vehicle Design, Inderscience Publications*, Vol. 73(4): 281-299, 2017 (**Impact Factor: 0.757**).
11. Syed Abbas Ali, and **Samir Saraswati**, "Cycle by cycle estimation of IMEP and peak pressure using

crankshaft speed measurements.” *Journal of Intelligent & Fuzzy Systems*, Vol. 28(6):2761-2770, 2015, **(Impact Factor: 2.0)**

12. Syed Abbas Ali and **Samir Saraswati**, “Cycle by cycle prediction of cylinder pressure and indicated torque using crankshaft speed fluctuations.” *Transactions of the Institute of Measurement and Control, SAGE Publications*, Vol. 37(6):813-825, 2015 **(Impact Factor: 1.8)**.
13. Prasenjit Mondal, Bikash Mohanty, Chandrajit Balomajumder, and **Samir Saraswati**, “Modeling of the removal of arsenic species from contaminated groundwater: A neural network based approach.” *Clean-Soil Air and Water, Wiley*, Vol. 40(3):285-289, 2012 **(Impact Factor: 2.404)**.
14. **Samir Saraswati**, Praveen Kumar Agarwal, and Satish Chand, “Neural Networks and Fuzzy Logic based Spark Advance Control of SI Engines.” *Expert Systems with Applications, Elsevier, Elsevier Publications*, Vol. 38(6):6916-6925, 2011 **(Impact Factor: 8.5)**.
15. **Samir Saraswati**, and Satish Chand, "Reconstruction of cylinder pressure for SI engine using Recurrent Neural network". *Neural Computing and Applications, Springer*, Vol. 19(6):935-944, 2010 **(Impact Factor: 6.0)**
16. **Samir Saraswati**, and Satish Chand, “On-line Linearization Based Neural Predictive Control of Air-Fuel Ratio in SI Engines with PID Feedback Correction Scheme.” *Neural Computing and Applications, Springer*, Vol. 19 (6):919-933, 2010 **(Impact Factor: 6.0)**.
17. **Samir Saraswati**, and Satish Chand, "Neural Network Models for Multi-step ahead Prediction of Air-Fuel Ratio in SI Engines." *International Journal of Modeling Identification and Control, Inderscience Publications*, Vol. 7(3):263-274, 2009. **(Impact Factor: 0.7)**
18. **Samir Saraswati**, and Satish Chand, "Identification of One-Zone Heat release parameters of SI engine." *International Journal of Modeling Identification and Control, Inderscience Publications*, Vol. 6(4):287-300, 2009. **(Impact Factor: 0.7)**
19. **Samir Saraswati**, and Satish Chand, "Application of neural network for air-fuel ratio identification in SI engine." *International Journal of Computer Application in Technology, Inderscience Publications* Vol. 32(3):206-215, 2008. **(Impact Factor: 1.1)**

(B) Others Journals

20. PK Singotia, and **Samir Saraswati**, "Cycle-by-cycle variations in a spark ignition engine fueled with gasoline and natural gas." *IOP Conference Series: Materials Science and Engineering*, Vol 691 (1), 012061, 2019.
21. Jitendra N. Gangwar, and **Samir Saraswati**, “Design and numerical simulation of partial flow isokinetic dilution tunnel for diesel particulate measurement.” *International Journal of Engineering Research in Mechanical and Civil Engineering (IJERMCE)*, Vol. 1(8), December 2016.
22. Khushbu Yadav, and **Samir Saraswati**, “Novel PI control strategy to control turbocharged diesel engine.” *International Journal of engineering research and technology*, ISSN:0974-3154, Vol. 6(4):282-286, 2013.
23. Ashish Agrahari, and **Samir Saraswati**, “Investigation of in-cylinder flow for SI engine using CFD” *International Journal of engineering research and technology*, ISSN:0974-3154, Vol. 6(4):287-291, 2013.

(C) International Conferences

24. Ankur Pratap Singh, Anurag Gupta, Amit Gupta, Archit Chaudhary, Bhuvan Jhamb, Mohd Sahil, and **Samir Saraswati** "Architecture and Algorithms for a Pixhawk based Autonomous Vehicle", *International Conference on Robotics, Control and Computer Vision (ICRCCV) 2022*
25. Satya Prakash Verma and **Samir Saraswati**, "Thermal performance evaluation of aligned and staggered battery cell configurations for Li-ion battery pack.", *4th International Conference on Recent Advancements*

in Mechanical Engineering, 3-5 February, 2023.

26. Ali, S. and Saraswati, S., "Estimation of Gasoline Engine Emissions from Cylinder Pressure Parameters: Artificial Neural Network Approach," SAE Technical Paper 2021-01-1014, 2021, <https://doi.org/10.4271/2021-01-1014>.
27. Garima Kushwaha, **Samir Saraswati** and Bireswar Paul, "Effect of ethanol-gasoline blends on adsorption/desorption process in SI engine." SAE Technical Paper 2021-01-1184, 2021.
28. Jitendra N. Gangwar, **Samir Saraswati**, and Shivam Agarwal, "Performance and Emission Improvement Analysis of CI Engine Using Various Additive Based Diesel Fuel" published in IEEE International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS-2017) held during February 3-5, 2017 at MNNIT Allahabad.
29. Garima Kushwaha, Chandra Kishore, Bireswar Paul, and **Samir Saraswati**, "Effect of engine oil properties on exhaust hydrocarbon emission." Proceedings of the 1st International and 18th ISME Conference, February 23-25, 2017, NIT Warangal, Warangal, 2017.
30. Pawan Kumar Singotia, and **Samir Saraswati**, "Study of Cycle-by-cycle Variations for SI Engine Using Nonlinear Dynamic System Theory." Proceedings of the 1st International and 18th ISME Conference, February 23-25, 2017, NIT Warangal, Warangal, 2017.
31. Garima Kushwaha, and **Samir Saraswati**, "Effect of different fuels on the unburned HC emission from SI Engine: A Theoretical Study." SAE Technical Paper 2016-28-0148, 2016, doi:10.4271/2016-28-0148.
32. Garima Kushwaha, and **Samir Saraswati**, "Air Path Identification of Turbocharged Diesel Engine using RNN." IEEE International Conference on Industrial Instrumentation and Control-2015(ICIC-2015), COEP Pune, India, May 28-30, 2015.
33. Syed Abbas Ali, and **Samir Saraswati**, "Reconstruction of Cylinder Pressure using Crankshaft Speed fluctuations." IEEE International Conference on Industrial Instrumentation and Control-2015(ICIC-2015), COEP Pune, India, May 28-30, 2015.
34. Syed Abbas Ali, and **Samir Saraswati**, "Identification of flame development and rapid burning angle for SI engine." IEEE student conference-on engineering and systems (SCES-2014), MNNIT Allahabad, India. ISBN:978-1-4799-4938-0, May 28-30, 2014.
35. **Samir Saraswati**, and Satish Chand, "an optimization algorithm for neural predictive control of air-fuel ratio in SI engines." Proc. of IEEE 2010 International Conference on Modelling, Identification and Control, Okayama, Japan, July 17-19, 2010.
36. R Yadav, Sunil Kumar Jumhare, Pradeep Kumar, and **Samir Saraswati**, "Thermodynamic analysis of intercooled gas-steam combined and steam injected gas turbine power plants." Proceedings of ASME Turbo Expo 2004, GT2004-54097, Vienna, Austria, June, 14-17, 2004.
37. R Yadav, Pawan Krishan Dwivedi, Pradeep Kumar, and **Samir Saraswati**, "Thermodynamic evaluation of humidified air turbine (hat) cycles." Proceedings of ASME Turbo Expo 2004, GT2004-54097, Vienna, Austria, June, 14-17, 2004.
38. R Yadav, Pradeep Kumar, and **Samir Saraswati**, "Comparative thermodynamic analysis of combined and steam injected gas turbine cycles." Proceedings of IJPGC, ASME, 2003, IJPGC2003-40118, Atlanta, Georgia, June 16-19, 2003.
39. R Yadav, Priyesh Srivastava, and **Samir Saraswati**, "Thermo-economic analysis of combined cycles", Proceedings of IJPGC, ASME, 2003, IJPGC2003-40118, Atlanta, Georgia, June 16-19, 2003.
40. R Yadav, NP Yadav, and **Samir Saraswati**, "Thermodynamic evaluation of hydrogen fueled combustion turbine cycle for power generation." Proceedings of International Conference on Energy and Environment, Shanghai, China, December 2003.
41. **Samir Saraswati** and Satish Chand, "Air-Fuel Ratio and Spark Advance Control in Modern SI Engines", Published as Keynote Lecture in the Proceedings of NCAME, February 2009, MIT Moradabad .

42. **Samir Saraswati** and Satish Chand, "Engine Management for Spark Ignition Engine", Published as Keynote Lecture in the Proceedings of NSITMAE, January 5-6, 2007, ITM Gurgaon.
43. **Samir Saraswati** and Satish Chand, "A Virtual Air-Fuel Ratio Sensor for Spark Ignition Engine", Proceedings of NSITMAE, January 5-6, 2007, ITM Gurgaon. (Best Paper Award *for this Paper*).

(D) Book chapters in the book published by reputed international publishers

44. Pawan Kumar Singotia, and **Samir Saraswati**, " Study of Cycle-by-Cycle Variations for SI Engine using a Nonlinear Dynamic System Theory", Mechanical Engineering for Sustainable Development State-of-the-Art Research, Apple Academic Press/CRC Press (Taylor and Francis Group), 2018, ISBN/ISSN No. 9781771886819