



### PH.D VIVA-VOCE COMPLETED

1. V.K.Gobinath, Research Scholar, Department of Mechatronics Engineering defended his thesis entitled Surface engineering of zinc aluminium oxide and zinc aluminium sulphide films for improving the performance of polycrystalline silicon solar cells on 19.01.2021 under the guidance of Dr.P.Senthil Velmurugan / Mechanical Engineering.

### R&D PROJECTS SACTIONED (2020-2021)

1. Dr.R.Baskar, Food Technology, Dr.C.Maheswari, Mechatronics Engineering and Dr.T.Manikandan, Chemistry received research grant of Rs.10,11,137/- for the project entitled Developing electrical discharge non-thermal plasma (EDNP) based treatment process to achieve environmental compatibility in selected process industry wastewater remediation under AICTE RPS scheme on 20.03.2020, Ref.No.8-208/RIFD/RPS (POLICY-1)/2018-19
2. Dr.B.Meenakshipriya, Dr.R.Parameshwaran and A.Balaji of Mechatronics Engineering received grant of Rs.16,57,016/- for the project entitled Modernization of robotics and machine vision laboratory for artificial intelligence and deep learning applications with robot operating system (ROS) platform from AICTE-MODROB scheme on 16.05.2020, Ref.No.84-68/RIFD/MODROB /Rural/Policy-1/2019-20
3. Dr.V.Chitra Devi, Dr.R.Baskar, and R.Sorna Prema of Food Technology received grant of Rs.10,57,016/- for the project entitled Modernization of food analysis and quality control laboratory from AICTE-MODROB scheme on 16.05.2020, Ref.No.8-208/RIFD/RPS (POLICY-1)/2018-19
4. Dr.S.Vijayachitra, Dr.U.S.Ragupathy, Dr.M.Ponnibala, Dr.S.J.Suji Prasad and C.Aravind of Electronics and Instrumentation Engineering received grant of Rs. 11,96,667/- for the project entitled Development of intelligent automation systems with integration of wireless sensor networks and internet of things (Industry 4.0) from AICTE-MODROB scheme on 16.05.2020, Ref. 84-69/RIFD/MODROB/Rural/Policy-1/2019-20.
5. Dr.C.Maheswari, Mechatronics Engineering received research grant of Rs.2,50,000/- for mentoring the industry project entitled Prototyping for measuring hardness indentation of casted components through machine vision system from EDII under IVP scheme on 27.07.2020, Ref.No. Lr.No.2270/EDII/JD/2018

6. Dr.R.Selvakarathi, Electronics and Instrumentation Engineering and Dr.P.Shanmugam, Chemical Engineering received research grant of Rs.2,43,000/- for mentoring the industry project entitled Waterless dyeing machine from EDII under IVP scheme on 27.07.2020, Ref.No. Lr.No.2270/EDII/JD/2018
7. Dr.M.Karthick, Dr.S.Usha and P.Karthikeyan of Electrical and Electronics Engineering received research grant of Rs.18,66,667/- for the project entitled An investigation into the maneuvering performance of Proton Exchange Membrane (PEM) fuel cell for its recoverable degradation of electrical behavior under extreme humidification and membrane hydration conditions from AICTE under RPS scheme on 14.08.2020, Ref. No.8-55/FDC/PRS(POLICY-1)/2019-20.
8. R.P.Karthick of Electronics and Communication Engineering received research grant of Rs.2,65,000/- for mentoring the industry project entitled Intelligent assistive device for people with vision impairment from EDII under IVP scheme on 29.08.2020, Ref.No. Lr.No.2270/EDII/JD/2018
9. Dr.N.Senthilnathan and P.Sethupathi of Electrical and Electronics Engineering received research grant of Rs.6,79,000/- for the project entitled Design and development of novel submersible line start permanent magnet assisted synchronous reluctance motor for agricultural water pumping from DST under TDT scheme on 30.09.2020, Ref.No.DST/TDT/AGRO35/2020 (G).
10. Dr.K.Gomathi of Mechatronics Engineering received research grant of Rs.2,50,000/- for mentoring the industry project entitled Design and fabrication of PVC conduit pipe bending machine from EDII under IVP scheme on 17.11.2020, Ref. No. Lr.No.2270/EDII/JD/2018.
11. Dr.C.Maheswari of Mechatronics Engineering received research grant of Rs.2,50,000/- for mentoring the industry project entitled Fabrication of sesame oil extraction machine using direct press method from EDII under IVP scheme on 22.12.2020, Ref. No. Lr.No.2270/EDII/JD/2018.
12. Dr.M.Srinivasan of Electrical and Electronics Engineering received research grant of Rs.18,30,000/- for the project entitled Investigation on partial discharge characteristics and dissolved gas analysis of punga oil from SERB under TARE scheme on 15.12.2020, Ref.No. TAR/2020/000149.
13. Mr.M.S.Kamalesh of Electrical and Electronics Engineering received research grant of Rs.18,30,000/- for the project entitled Development and validation of semi-centralized DC-microgrid model for indian residential DC-home from SERB under TARE scheme on 22.12.2020, Ref.No. TAR/2020/000221.

### REFERRED JOURNAL PUBLICATIONS

1. Ganeshprabhu, P., Chandrasekaran, P., and Sheerin Farzana, A., (2021). Engineering behavior of sustainable concrete with steel mill scale. *Polish Journal of Environmental Studies*, Vol.30(2), pp.1129- 1137.
2. Kavya, K., Keerthana, S., and Pradeep, T., (2021). Effect of green corrosion inhibitors on the properties of mortar and concrete. *Lecture Notes in Civil Engineering*, Vol.78, pp.395-405.

3. Balaji, A., Mithil, J., and Gousanal, J., (2021). Design and analysis of universal gripper for robotics applications. *IOP Conference Series: Materials Science and Engineering*, Vol.1012, pp.012006.
4. Balaji, A., Shanthini, E.R., Rooshan, M.J., and Sivaram, V., (2021). Robust design of smart lawn cutter for gardening companion. *IOP Conference Series: Materials Science and Engineering*, Vol.1012, pp.012005.
5. Balaji, A., Mithil, J., and Gousanal, J., (2021). Design of dual copter for surveillance applications. *IOP Conference Series: Materials Science and Engineering*, Vol.1012, pp.012021.
6. Priyanka E.Bhaskaran., Maheswari, C., Thangavel, S., Ponnibala, M., Kalavathidevi, T. and Sivakumar, N.S., (2021). IoT Based monitoring and control of fluid transportation using machine learning. *Computers & Electrical Engineering*, Vol.89, pp.106899.
7. Thakur, A., Ahmed, M., Oh, G., Kang, H., Jeong, Y., Prabakaran, R., Vikram, M.P., wafa Sharshir, S., Kim, J. and Hwang, J.Y., (2021). Advancement in graphene-based nanocomposites as high capacity anode materials for sodium-ion batteries. *Journal of Materials Chemistry A*. Vol.9, pp.2628-2661.
8. Gnanavel, C., Albert Alexander, S., Ramani Kannan, K., and Geetha Mani., (2021). Investigation and Validation of Eleven Level Symmetric Modular Multilevel Inverter using Grey Wolf Optimization and Different Evolution Control Algorithms for Solar PV Applications. *Circuit World*, Vol.47(1), pp.117-127.
9. Surendar, V., and Ragupathy, U.S., (2021). Modeling and Design of High Performance Converters for Optimal Utilization of Interconnected Renewable Energy Resources to Micro Grid with GOLRS Controller. *International Journal of Control, Automation, and Systems (IJCAS)*, Vol.19(1), pp.63-75.
10. Suresh, M., Meenakumari, R., (2021). Optimum utilization of grid connected hybrid renewable energy sources using hybrid algorithm. *Transactions of the Institute of Measurement and Control*, Vol.43(1), pp.21-33.
11. Dinesh Komarasamy., Gokuldhv, M., Jenita Hermina,J., Gokulapriya, M., and Manju,M., (2021). Review for Detecting Smoke and Fire in Forest using Different Technologies. *IOP Conference Series: Materials Science and Engineering*, Vol.993, pp.1-13.
12. Geetha Muthusamy., and Suganthe Ravi Chandran., (2021). Cluster-based Task Scheduling Using K-Means Clustering for Load Balancing in Cloud Datacenters. *Journal of Internet Technology*, Vol.22(1), pp. 121-130.
13. Anitha, S., Jayanthi, P. and Chandrasekaran, V., (2021). An intelligent based healthcare security monitoring schemes for detection of node replication attack in wireless sensor networks. *Measurement*, Vol.167, pp.108272.
14. Jayaprakash, M., and Devi Priya Rangasamy., (2021). Load Balancing in Software-Defined Networks Using Spider Monkey Optimization Algorithm for the Internet of Things. *Wireless Personal Communications*, Vol.116(1), pp.23-43.
15. Kamalesh, M.S., Chokkalingam, B., Jeevanantham, A., Sengottaiyan, G., Subramani, S. and Shah, M.A., (2021). An Intelligent Real Time Pothole Detection and Warning System for Automobile Applications Based on IoT Technology. *Journal of Applied Science and Engineering*, Vol.24(1), pp.77-81.
16. Chitra Devi, V., Mothil, S., Sathish Raam, R., Kirankumar, S., and Parthiban, K.T., (2021). Optimization Studies on Subcritical Water Extraction of Fuels and Fine Chemicals from *Prosopis juliflora*: An Invasive Weed Tree. *Periodica Polytechnica Chemical Engineering*, Vol.65(1), pp.105-115.
17. Navaneethakrishnan, S., Chokkalingam, P., and Malarkodi, P., (2021). Enhancement of mechanical properties of PFC by chemically modified areca fine fibers. *Tierärztliche Praxis*, Vol.41, pp.81.
18. Maheshwari, T., Tamilarasn, K., Selvasekarapandian, S., and Chitra, R., and Kiruthika, S., (2021). Investigation of blend biopolymer electrolytes based on dextran-PVA with ammonium thiocyanate. *Journal of Solid State Electrochemistry*, Vol.25, pp.755-765.
19. Balraj, C., Balaji, S., and Karthikeyan, M., (2021). Systematic measurements of charge transfer complexes caused from 1-phenyl-1, 2, 3, 4-tetrahydroisoquinoline and 4-aminoacetanilide with series of  $\pi$ -acceptors (BQ, DDQ, TCNQ). *Spectrochimica Acta Part A: Molecular Spectroscopy*, Vol. 245, pp.118931.
20. Nirmaladevi, S., and Palanisamy, P.N., (2021). Adsorptive behavior of biochar and zinc chloride activated hydrochar prepared from *Acacia leucophloea* wood sawdust: Kinetic equilibrium and thermodynamic studies. *Desalination and water Treatment*, Vol.209, pp.170-181.
21. Vanitha, C.N., Suwathika, S., Mathura, A., and Saranyadevi, P., (2021). Facial Recognition Processing using Uniform Pattern Histogram with AI in Multimedia Applications. *Solid State Technology*, Vol.64(2), pp. 788-798.
22. Dishore, S.V., and Albert Alexander, S., (2021). Grid Integration of Modular Multilevel Inverter with Improved Performance Parameters. *International Transactions on Electrical Energy Systems*, Vol.31(1), pp.1-34.

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