List of Publications

Journals:

1. **Shalu Rani**, Gaurav Khandelwal, Sanjay Kumar, Suresh C. Pillai, George K. Stylios, Nikolaj Gadegaard, Daniel M. Mulvihill, "Flexible self-powered supercapacitors integrated with triboelectric nanogenerators", *Energy Storage Materials*, vol. 74, 103977, 2024, DOI: https://doi.org/10.1016/j.ensm.2024.103977. **(IF: 18.9)**
2. Mohit Kumar Gautam, Sanjay Kumar, **Shalu Rani**, Ioannis Zeimpekis, and Dimitra G. Georgiadou, "2D MoS2 Monolayers Integration with Metal Oxide-based Artificial Synapses", *Frontiers in Nanotechnology-Nanoelectronics*, vol. 6, 2024, DOI: 10.3389/fnano.2024.1400666. **(IF: 4.1)**
3. Abhinav Tandon, **Shalu Rani**, Yogesh Sharma, "A Flexible One-dimensional Woven Supercapacitor for Low-power Smart Electronic Textiles", *Batteries & Supercaps*, 2024, e202400176, DOI: https://doi.org/10.1002/batt.202400176. **(IF: 5.7)**
4. Sanjay Kumar, Mayank Dubey, Megha Nawaria, Mohit Kumar Gautam, Mangal Das, Ritesh Bhardwaj, **Shalu Rani**, and Shaibal Mukherjee, "Investigation of Filament Formation and Surface Perturbation in Nanoscale-Y_2O_3 Memristor: A Physical Modelling Approach", *Journal of Electronic Materials*, vol. 53, pp. 2965–2972, 2024, DOI: https://doi.org/10.1007/s11664-024-10967-4. **(IF: 2.1)**
5. **Shalu Rani**, Yogesh Sharma, "Fabrication of Binder-free and High energy density Yarn Supercapacitor for Wearable Electronics", *IEEE Transactions on Power Electronics*, vol. 37, no. 11, pp. 13022–13029, 2022, DOI: https://doi.org/10.1109/TPEL.2022.3186958. **(IF: 6.1)**
6. Abhinav Tandon, **Shalu Rani**, Yogesh Sharma, "Designing the Binder-Free Conversion-Based Manganese Oxide Nanofibers as Highly Stable and Rate Capable Anode for Next-Generation Li-Ion Batteries", *ACS Applied Energy Materials*, vol. 5, no. 6, pp. 6855–6868, 2022, DOI: https://doi.org/10.1021/acsaem.2c00487. **(IF: 6)**
7. **Shalu Rani**, Nagesh Kumar, Yogesh Sharma, "Fabrication of Binder-Free TiO_2 Nanofibers@Carbon Cloth for Flexible and Ultra-Stable Supercapacitor for Wearable Electronics", *Advanced Electronic Materials*, vol. 8, no. 9, 2200108, 2022, DOI: https://doi.org/10.1002/aelm.202200108. **(IF: 7.2)**
8. **Shalu Rani**, Nagesh Kumar, Abhinav Tandon, Yogesh Sharma, "Electrophoretic Grown TiO_2-Based Interdigitated Microsupercapacitor: Device Fabrication and Characterization for Flexible Electronics", *IEEE Transactions on Electron Devices*, vol. 68, no. 1, pp. 5263-5268, 2021, DOI: https://doi.org/10.1109/TED.2021.3105373. **(IF: 2.9)**
9. **Shalu Rani**, Nagesh Kumar, Yogesh Sharma, "Recent progress and future perspective for the development of micro-supercapacitors for portable/wearable electronics applications", *IOP Journal of Physics: Energy*, vol. 3, no. 3, pp. 032017, 2021, DOI: https://doi.org/10.1088/2515-7655/ac01c0. **(IF: 5.9)**
10. **Shalu Rani**, Nagesh Kumar, Abhinav Tandon, Yogesh Sharma, "Fabrication of Binder-free TiO_2 Nanofiber Electrodes via Electrophoretic Deposition for Low-Power Electronic Applications", *IEEE Transactions on Electron Devices*, vol. 68, No. 1, pp. 251-256, 2020, DOI: https://doi.org/10.1109/TED.2020.3039948. **(IF: 2.9)**
11. **Shalu Rani**, Ravindra Mukhiya, C.C. Tripathi, B.D. Pant, Ram Gopal, "Design and Simulation of MEMS-based Z-axis Capacitive Accelerometer", *International Journal of Scientific Research in Science and Technology*, vol. 1, no. 4, pp. 112-115, 2015. **(IF: 3.5)**

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1. Abhinav Tandon, **Shalu Rani**, Yogesh Sharma, "Temperature Dependent Dielectric Properties of Spinel $MgMn_2O_4$ Nanofibers for LIB Anode", *2022 6th IEEE International Conference on Emerging Electronics (ICEE)*, IISC Bangalore, December 2022, DOI: https://doi.org/10.1109/ICEE56203.2022.10118075.
2. **Shalu Rani**, Nagesh Kumar, Abhinav Tandon, Yogesh Sharma, "Fabrication of Binder-free TiO_2 Nanoparticle Electrodes for Supercapacitor in Low-Power Electronic Applications", *2020 5th IEEE International Conference on Emerging Electronics (ICEE)*, IIT Delhi, November 2020, DOI: https://doi.org/10.1109/ICEE50728.2020.9776669.
3. **Shalu Rani,** Nagesh Kumar, Abhinav Tandon, Yogesh Sharma, "Investigating the Effect of Electrophoretic Deposition Voltage on the Supercapacitor Performance of Binder-free TiO_2 Nanoparticles Electrodes", *13th National Conference on Solid State Ionics (NCSSI-13)*, IIT Roorkee, December, 2019.
4. **Shalu Rani**, Ravindra Mukhiya, C.C. Tripathi, B.D. Pant, Ram Gopal, "Design and Simulation of MEMS

Capacitive Accelerometer", *2nd National Conference on Converging Technologies Beyond 2020 (2CTB-2020)*, UIET, KUK, Nov 2014.

Book Chapters:

1. **Shalu Rani**, Sanjay Kumar, Ruchi Singh, and Pawan Kumar, "Surface Engineered 2D TMD Materials for Advanced Wearable Biosensors", *2D Materials: Sensing Applications*, Springer Nature, 2024, DOI: 10.1007/978-981-97-6258-3.
2. Pawan Kumar, **Shalu Rani** and Sanjay Kumar, "Smart Solid Electrolyte Materials in Energy Storage Devices: Batteries", *Smart Materials for Science and Engineering*, John Wiley & Sons, Inc., pp. 173-189, 2023, DOI: 10.1002/9781394186488.ch10.
3. **Shalu Rani,** Sanjay Kumar and Ritesh Bhardwaj, "Role of Carbon Nanotube for Flexible Supercapacitor Application", *Carbon Nanotubes - Recent Advances, New Perspectives and Potential Applications*, INTECHOPEN LIMITED, 2022, ISBN: 978-1-83968-887-4, DOI: https://doi.org/10.5772/intechopen.108022.
4. **Shalu Rani**, Pawan Kumar, Sanjay Kumar, "Carbon Nanotubes: A Superior Material for Future Electronics Devices", *Semiconductor Materials (volume-1),* AkiNik Publication, pp. 47-62, 2020, ISBN: 978-93-90420-46-9, DOI: https://doi.org/10.22271/ed.book.946.