Prof Rakesh Vaid

List of Publications during January 01, 2018 upto December 31, 2023

1. Ashish Singh Sambyal, Deepak Anand, **Rakesh Vaid**, Nandu B Chaure. Synthesis and characterization of power efficient triboelectric nanogenerator based on contact-separation mode using spray pyrolysis" Journal of Materials Science: Materials in Electronics, Vol **34**, 1458 (2023). https://doi.org/10.1007/s10854-023-10891-z **Impact factor: 2.8** (**Springer US**).

2. Deepak Anand, Ashish Singh Sambyal, **Rakesh Vaid** "A critical review on the material aspects of triboelectric nanogenerators (TENG)" Facta Universitatis, Series: **Electronics and Energetics** Vol. 36, No 3, September 2023, pp. 411-426 https://doi.org/10.2298/FUEE2303411A **Impact Factor: 0.6**

3. Deepak Anand, Ashish Singh Sambyal, **Rakesh Vaid**, Nandu B Chaure, ―Structural and electrical characterization of gold nanoparticles-based flexible triboelectric nanogenerator‖ Journal of Materials Science: Materials in Electronics, Vol. **34**, no. 4, pp. 266 Jan 2023, doi: **https://doi.org/10.1007/s10854-022-09715-3** **Impact factor: 2.8** (**Springer US**).

4. Richa Gupta, Arighna Basak, **Rakesh Vaid**, Papiya Debnath, Manash Chanda, Hafizur Rahman, **―Application of nanoscale devices in circuits: Nanoelectronics: Physics, Materials and Devices, pp. 359-384, Jan 2023 https://doi.org/10.1016/B978-0-323- 91832-9.00017-8 (Elsevier)**

5. **Rakesh Vaid**, Richa Gupta, Devi Dass, Vijay K Arora, **―Physical properties of carbon nanotubes and nanoribbons: Graphene, Nanotubes and Quantum Dots-Based Nanotechnology" pp. 305-332, July 2022 https://doi.org/10.1016/B978-0-323-85457- 3.00036-0 (Woodhead Publishing)**

6. Ashish Singh Sambyal, Deepak Anand, **Rakesh Vaid**, Dulen Saikia, Nandu B Chaure, and Ajit Khosla, ―Synthesis and Characterization of a Transparent PMMA Based Triboelectric Nanogenerator for Wearable Electronic Applications‖ ***ECS Meeting Abstracts*, *Volume MA2022-01*, *Z04: 1D/2D/3D/4D Materials and Systems + Soft Robotics (4D|MS+SoRo)***

7. Deepak Anand, Ashish Singh Sambyal, **Rakesh Vaid**, and Ajit Khosla, ―Fabrication of a Low Cost Triboelectric Nanogenerator (TENG) for Wearable Devices‖ ***ECS Meeting Abstracts*, *Volume MA2022-01*, *Z04: 1D/2D/3D/4D Materials and Systems + Soft Robotics (4D|MS+SoRo)***

8. Deepika Jamwal, Nandu B Chaure, **Rakesh Vaid,** ―Amorphous ZrOx anti-reflective coating for improved performance of silicon solar cell devices‖ Journal of Materials Science: Materials in Electronics, Vol. **32**, no. 14, pp. 19579–19593 July 2021, doi: https://doi.org/10.1007/s10854-021-06478-1 **Impact factor: 2.8**.

9. Deepak Anand, Ashish Singh Sambyal, **Rakesh Vaid**, ―Triboelectric Nanogenerators (TENG): Factors affecting its efficiency and applications‖ Facta Universitatis, Series: Electronics and Energetics, Vol. 34, issue 2, pp. 157-172, 2021. https://doi.org/10.2298/FUEE2102157A **Impact Factor: 0.6**

10. Richa Gupta and **Rakesh Vaid**, "Structural and Electrical Characteristics of ALD- TiO2/SiON/n-Si Gate-Stack for Advanced CMOS Device Applications," in *IEEE Transactions on Electron Devices*, vol. 68, no. 6, pp. 2625-2632, June 2021, doi: https://doi.org/10.1109/TED.2021.3075394 **Impact factor: 3.1**

11. **Rakesh Vaid** and Renu Rajput, ―Impact of post-annealing of tunnel oxide on the electrical characteristics of Pt–Ti/HfO 2/TiN/SiON/n-Si capacitor for flash memory applications‖Journal of Materials Science: Materials in Electronics, vol. 31, no. 18, pp. 15267–15276, 2020. https://doi.org/10.1007/s10854-020-04091-2. **Impact factor: 2.8**.

12. Renu Rajput and **Rakesh Vaid**, ―Flash memory devices with metal floating gate/metal nanocrystals as the charge storage layer: a status review‖ Facta Universitatis, Series: Electronics and Energetics 33 (2), 155-167, 2020. https://doi.org/10.2298/FUEE2002155R **Impact Factor: 0.6**

13. Renu Rajput, Richa Gupta, Rakesh K Gupta, Ajit Khosla, **Rakesh Vaid,** ―Fabrication and characterization of n-Si/SiON/metal gate structure for future MOS technology‖ Microsystems Technologies, 24 (10), 4179-4185, Springer Berlin Heidelberg, 2018 **[ISSN No: 0946-7076] https://doi.org/10.1007/s00542-017-3703-3 Impact factor: 2.276**.

14. Deepika Jamwal, Rakesh K Gupta, Ajit Khosla, **Rakesh Vaid**, ―Spin-coated single walled carbon nanotubes confirms p–n junction diode behavior‖ Microsystems Technologies, 24 (10), 4211-4215, Springer Berlin Heidelberg, 2018 **[ISSN No: 0946-7076] https://doi.org/10.1007/s00542-018-3713-9 Impact factor: 2.276**.

15. Richa Gupta and **Rakesh Vaid, "**Structural and Electrical Characteristics of Oxygen Annealed ALD-ZrO2/SiON Gate Stack for Advanced CMOS Devices‖ ***ECS Transactions***, vol. 85, no. 13, pp. 1481-1487, 2018. **doi:10.1149/08513.1481ecst Impact Factor:0.59**

Prof Parveen Kumar Lehana

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1	N. Sandotra, P. Mahajan, P. Abrol, and P. K. Lehana, "Analyzing performance of deep learning models under the presence of distortions in identifying plant leaf disease," International Journal of Informatics and Communication Technology (IJ-ICT), vol. 12, no. 2, p. 115, Aug. 2023, doi: 10.11591/ijict.v12i2.pp115-126.	NA
2	N. Karlupia, P. Mahajan, P. Abrol, and P. K. Lehana, "A genetic algorithm based optimized convolutional neural network for face recognition," International Journal of Applied Mathematics and Computer Science 33 (1), 21-31, 2023.	2.157
3	A. Abrol, N. Kapoor, and P. K. Lehana, "Identification and classification of schizophrenic speech using convolutional neural network for medical healthcare," International Journal of Medical Engineering and Informatics 15 (6), 540-548, 2023.	0.168
4	P. Mahajan, N. Karlupia, P. Abrol, and P. K. Lehana, "Analyzing Performance of Masked R-CNN Under the Influence of Distortions," Lecture Notes in Networks and Systems, pp. 339–351, 2023, doi: 10.1007/978-981-99-2602-2_26.	NA
5	P. K. Lehana, Chaahat, A. Abrol, P. Rajput, and Parul, "Machine Learning for Rural Healthcare," Swarm Intelligence and Machine Learning, pp. 71–94, Jul. 2022, doi: 10.1201/9781003240037-5.	NA
6	P. Rajput and P. K. Lehana, "Automatic Control of Microfluidic Flow Using Natural H ydrogels," Indian Journal of Science and Technology, vol. 15, no. 23, pp. 1151–1158, Jun. 2022, doi: 10.17485/ijst/v15i23.52.	NA
7	A. Abrol, N. Kapoor, and P. K. Lehana, "Fractal-Based Speech Analysis for Emotional Content Estimation," Circuits, Systems, and Signal Processing, vol. 40, no. 11, pp. 5632–5653, May 2021, doi: 10.1007/s00034-021-01737-2.	2.3
8	P. Mahajan, N. Karlupia, P. Abrol, and P. K. Lehana, "Identifying COVID-19 Pneumonia using Chest Radiography using Deep Convolutional Neural Networks," 2021 62nd International Scientific Conference on Information Technology and Management Science of Riga Technical University (ITMS), Oct. 2021, doi: 10.1109/itms52826.2021.9615328.	NA
9	Chaahat, N. Kumar Gondhi, and P. Kumar Lehana, "An Evolutionary Approach for the Enhancement of Dermatological Images and Their Classification Using Deep Learning Models," Journal of Healthcare Engineering, vol. 2021, pp. 1–13, Jul. 2021, doi: 10.1155/2021/8113403.	3.822
10	P. Mahajan, V. Jakhetiya, P. Abrol, P. K. Lehana, B. N. Subudhi, and S. C. Guntuku, "Perceptual Quality Evaluation of Hazy Natural Images," IEEE Transactions on Industrial Informatics, vol. 17, no. 12, pp. 8046–8056, Dec. 2021, doi: 10.1109/tii.2021.3065439.	11.648
11	Akshita Abrol, Nisha Kapoor, and Parveen Kumar Lehana,	NA

	"Parametric Analysis of Schizophrenic Speech," International Journal of Scientific and Technical Advancements, Volume 6, Issue 4, pp. 121-124, 2021.	
12	Priti Rajput and Parveen Kumar Lehana, "Fabrication of Smart Bandage Structure," International Journal of Scientific and Technical Advancements, Volume 6, Issue 4, pp. 111-114, 2020.	NA
13	P. Mahajan, P. Abrol, P. K. Lehana "Scene Based Classification of Aerial Images using Convolution Neural Networks," Journal of Scientific & Industrial Research, vol. 79, no. 12, Dec. 2020, doi: 10.56042/jsir.v79i12.36671.	NA
14	C. Gupta, N. K. Gondhi, and P. K. Lehana, "Gray Level Co-Occurrence Matrix (GLCM) Parameters Analysis for Pyoderma Image Variants," Journal of Computational and Theoretical Nanoscience, vol. 17, no. 1, pp. 353–358, Jan. 2020, doi: 10.1166/jctn.2020.8674.	0.173
15	P. Mahajan, P. Abrol, and P. K. Lehana, "Effect of Blurring on Identification of Aerial Images Using Convolution Neural Networks," Proceedings of ICRIC 2019, pp. 469–484, Nov. 2019, doi: 10.1007/978-3-030-29407-6_34.	NA
16	J. B. Singh and P. K. Lehana, "Emotional speech analysis using harmonic plus noise model and Gaussian mixture model," International Journal of Speech Technology, vol. 22, no. 3, pp. 483–496, Aug. 2018, doi: 10.1007/s10772-018-9549-y.	0.394
17	C. Gupta, N. K. Gondhi, and P. K. Lehana, "Analysis and Identification of Dermatological Diseases Using Gaussian Mixture Modeling," IEEE Access, vol. 7, pp. 99407–99427, 2019, doi: 10.1109/access.2019.2929857.	3.476
18	P. Rajput and P. Lehana, "Investigations of the Approximate Percentage of Noise Required to Perceive Hindi Phonemes using HNM," Indian Journal of Science and Technology, vol. 12, no. 15, pp. 1–14, Apr. 2019, doi: 10.17485/ijst/2019/v12i15/116614.	NA
19	N. Karlupia, P. Sambyal, P. Abrol, and P. K. Lehana, "BFO and GA based Optimization of Illumination Switching Patterns in Large Establishments," IEEE 6th International Conference on Computing for Sustainable Global Development (INDIACom), 2019.	NA
20	R. Singh, A. Kumar, and P. K. Lehana, "Comparing the Imitating Capabilities of Parrots and Crows with Human Beings Using COMSOL Multiphysics," Current Science, vol. 114, no. 11, p. 2343, Jun. 2018, doi: 10.18520/cs/v114/i11/2343-2352.	1.69
21	J. B. Singh and P. Lehana, "STRAIGHT-Based Emotion Conversion Using Quadratic Multivariate Polynomial," Circuits, Systems, and Signal Processing, vol. 37, no. 5, pp. 2179–2193, Sep. 2017, doi: 10.1007/s00034-017-0660-0.	2.3
22	J. B. Singh and P. K. Lehana, "Separation of PCG signal from Mixture of Speech and PCG Signals with Genetic Algorithm-Based Filter Banks," 2018 5th International Conference on Signal Processing and Integrated Networks (SPIN), Feb. 2018, doi: 10.1109/spin.2018.8474161.	NA

23	Preeti Digra, Pawanesh Abrol, Parveen Lehana, “Design and Development of Distributed Image Acquisition and Recording System for Network Based Applications,” International Journal of Scientific and Technical Advancements, Volume 4, Issue 3, pp. 1-8, 2018.	NA

Prof. Susheel Kumar Sharma and Dr. Rockey Gupta

1. Mohd Javed, **Rockey Gupta and Susheel Sharma**, IMPLEMENTATION OF LOW VOLTAGE DIGITAL GATES USING BULK-DRIVEN TECHNIQUES, Industrial Engineering Journal ISSN: 0970-2555 Volume : 52, Issue 12, No. 2, December 2023.

2. Ayush Tara, Vishal Bharti, Himanshu Dixit, Susheel Sharma, and **Rockey Gupta**, "Performance evaluation of all-inorganic cesium-based perovskite solar cell with BaSnO3 as ETL", *Journal of Nano Particle Research (Springer)*, 25: 184 (2023) https://doi.org/10.1007/s11051-023-05830-2 (IF=2.5)

3. Ayush Tara, Vishal Bharti, Susheel Sharma, and **Rockey Gupta**, "Harnessing the Role of Charge Transport Layers for Efficient Design of PBDBT/ITIC-OE Based Organic Solar Cell" *Transactions on Electrical and Electronic Materials (Springer)*, https://doi.org/10.1007/s42341-023-00456-6, May 2023 (IF=1.9)

4. Ayush Tara, Vishal Bharti, Susheel Sharma, and **Rockey Gupta**, "Theoretical optimization of defect density and band offsets for $CsPbI_2Br$ based perovskite solar cells" *Materials Today Communications* (*Elsevier*), 33 (2022): 104546, September 2022 (IF=3.8)
5. Ayush Tara, Vishal Bharti, Susheel Sharma, and **Rockey Gupta**, Computational approach to explore suitable charge transport layers for all inorganic $CsGeI_3$ perovskite solar cells, *Optical Materials* (*Elsevier*), 128 (2022): 112403, April 2022 (IF=3.9)

6. Ayush Tara, Vishal Bharti, Susheel Sharma, and **Rockey Gupta**, "Device simulation of $FASnI_3$ based Perovskite Solar cell with $Zn(O_{0.3}, S_{0.7})$ as electron transport layer using SCAPS-1D" *Optical Materials* (*Elsevier*), 119 (2021): 111362, Accepted in July 2021 (IF=3.9).

7. Roshani Gupta, **Rockey Gupta** and Susheel Sharma, "A High Speed, Low power, and Area Efficient FGMOS-Based Full Adder" *IETE Journal of Research* published by Taylor & Francis https://doi.org/10.1080/03772063.2019.1700833 December, 2019. (IF=1.5).

8. Harjeet Kour, **Rockey Gupta** and Susheel Sharma, "Log Domain Integrator using Quasi Floating Gate MOSFET", *Recent advances in Electrical and Electronic Engineering*, vol. 10, pp. 142-148, 2018. (IF=0.6).

9. Roshani Gupta, **Rockey Gupta** and Susheel Sharma, "Application of Floating Gate MOSFET in the design of Bulk driven current mirror", *Researcher Journal, University of Jammu*, vol. XIV no. 1, ISSN 2278-9022, pp. 20-32, 2018.

Papers in conference proceedings:

1. Mohammed Javed, Rockey Gupta, Susheel Sharma, "Bulk-driven inverter configuration and its application for implementing ring oscillator". In 2023 *IEEE International Students' Conference on Electrical, Electronics and Computer Science* (SCEECS) 2023 Feb 18 (pp. 1-8)

Book Chapter:

1. Ayush Tara, Vishal Bharti, Susheel Sharma, and **Rockey Gupta**, "Computational Study of $CH_3NH_3PbI_{3-x}$ perovskite solar cell with record efficiency of 33.19%", Book chapter in Book titled Smart Energy and Advancement in Power Technologies, select proceedings of ICSEAPT 2021, Volume 2 ISSN: 1876:1100. ISBN: 978-981-19-4974-6