

List of Publications

Journal Articles:

1. **G. Konwar** et al., "Flexible InGaZnO Thin-Film Transistors with Gelatin Gate Dielectric for Non-Volatile Memory," in *IEEE Journal on Flexible Electronics*, doi: 0.1109/JFLEX.2025.3528306. (Accepted for publication)
2. **G. Konwar**, and S. P. Tiwari, "Flexible devices for eco-sustainable electronics: Natural polysaccharide as gate dielectric in organic transistors," *Memories - Materials, Devices, Circuits and Systems*, vol. 7, pp. 100102, 2024, doi: 0.1016/j.memori.2024.100102.
3. **G. Konwar**, V. Raghuwanshi, P. Saxena, S. Rahi, S. Bhattacharjee, and S. P. Tiwari, "Solution Processed Organic Transistors on Paper Substrate for Sustainable Electronics," *IEEE Transactions on Electron Devices*, vol. 71, no. 1, pp. 762-768, 2024, doi: 10.1109/TED.2023.3332069.
4. **G. Konwar**, S. Rahi, and S. P. Tiwari, "Decomposable Flexible Organic Transistors with a Cellulose-Based Gate Dielectric and Substrate for Biodegradable Electronics," *ACS Applied Materials and Interfaces*, vol. 15, no. 29, pp. 35261-35271, 2023, doi: 10.1021/acsami.3c06199.
5. **G. Konwar**, S. Rahi, and S. P. Tiwari, "Exploration of a Cellulose Based Biocompatible Gate Dielectric for Low Voltage Organic Transistors," *IEEE Journal on Flexible Electronics*, pp. 1-1, 2023, doi: 10.1109/JFLEX.2023.3266414.
6. **G. Konwar**, P. Saxena, S. Rahi, and S. P. Tiwari, "Edible Dielectric Composite for the Enhancement of Performance and Electromechanical Stability of Eco-Friendly Flexible Organic Transistors," *ACS Applied Electronic Materials*, vol. 4, no. 10, pp. 5055-5064, 2022, doi: 10.1021/acsaelm.2c01082.
7. **G. Konwar**, P. Saxena, V. Raghuwanshi, S. Rahi, and S. P. Tiwari, "Low-voltage flexible organic transistors based on a water-soluble natural gate dielectric exhibiting high-performance and stability," *Flexible and Printed Electronics*, vol. 7, no. 2, pp. 025004, 2022, doi: 10.1088/2058-8585/ac691e.
8. **G. Konwar**, P. Saxena, V. Raghuwanshi, S. Rahi, and S. P. Tiwari, "Multifunctional Flexible Organic Transistors with a High- k /Natural Protein Bilayer Gate Dielectric for Circuit and Sensing Applications," *ACS Applied Electronic Materials*, 2022, doi: 10.1021/acsaelm.2c00303.
9. S. Bhattacharjee, **G. Konwar**, A. Dwivedi, & Tiwari, S. P. (2025). "Flexible Organic Transistors for Color Recognition and Nature-Inspired Synaptic Function Simulation: Performance and Stability," *ACS Applied Electronic Materials*, vol. 7, pp. 2065-2074, doi: 10.1021/acsaelm.4c02332.
10. S. Rahi, V. Raghuwanshi, P. Saxena, **G. Konwar** and S. P. Tiwari, "High Performance Flexible Transistors with Polyelectrolyte/Polymer Bilayer Dielectric," *IEEE Transactions on Electron Devices*, vol. 69, no. 4, pp. 2002-2008, April 2022, doi: 10.1109/TED.2022.3148700.
11. S. Rahi, **G. Konwar** and S. P. Tiwari, "Optimization of Polyelectrolyte and Polymers in Inorganic/Organic Hybrid Gate Dielectrics for Flexible OFETs," *IEEE Journal on Flexible Electronics*, vol. 2, no. 4, pp. 323-330, July 2023, doi: 10.1109/JFLEX.2023.3308082.
12. S. Rahi, **G. Konwar**, and S. P. Tiwari, "Performance and Stability of Flexible Low-Voltage Organic Transistors on Paper Substrates," *ACS Applied Polymer Materials*, vol. 5, no. 7, pp. 5122-5129, 2023, doi: 10.1021/acsapm.3c00488.
13. S. Rahi, V. Raghuwanshi, **G. Konwar** and S. P. Tiwari, "High-Performance Flexible Solution-Processed Organic Nonvolatile Memory Transistors," *IEEE Transactions on Electron Devices*, vol. 70, no. 8, pp. 4338-4344, Aug. 2023, doi: 10.1109/TED.2023.3283346.
14. S. Rahi, V. Raghuwanshi, P. Saxena, **G. Konwar** and S. P. Tiwari, "Lamination of Flexible Organic Transistors on Fabric for E-Textile," *IEEE Transactions on Electron Devices*, vol. 69, no. 9, pp. 5144-5148, Sept. 2022, doi: 10.1109/TED.2022.3192423.

Conference Publications

1. **G. Konwar** and S. P. Tiwari, "Investigation of Silk Fibroin Natural Protein as a Gate Dielectric in Flexible Organic Field-Effect Transistors," *IEEE Nanotechnology Materials and Devices Conference (NMDC)*, Salt Lake City, UT, USA, 2024, pp. 180-183, doi: 10.1109/NMDC58214.2024.10894312.
2. **G. Konwar**, F. S. Kim and S. P. Tiwari, "Demonstration of 3V-Operation in Flexible Organic Transistors with Solution-Processed Cyanoethyl Cellulose in a Hybrid Gate Dielectric," *IEEE International Flexible Electronics Technology Conference (IFETC)*, Bologna, Italy, 2024, pp. 1-3, doi: 10.1109/IFETC61155.2024.10771862.
3. **G. Konwar**, S. Bhattacharjee, S. Rahi and S. P. Tiwari, "Investigation of Highly Soluble Polyvinylpyrrolidone as Biocompatible Polymer Gate Dielectric for Organic Transistors," *IEEE Nanotechnology Materials and Devices Conference (NMDC)*, Paestum, Italy, 2023, pp. 239-242, doi: 10.1109/NMDC57951.2023.10343601.
4. **G. Konwar**, S. Rahi and S. P. Tiwari, "Organic Transistors with Biopolymer Gate Dielectric for Circuit and Photo-Sensing Applications," *IEEE Electron Devices Technology & Manufacturing Conference (EDTM)*, Seoul, Korea, Republic of, 2023, pp. 1-3, doi: 10.1109/EDTM55494.2023.10103060.
5. **G. Konwar**, S. Rahi and S. P. Tiwari, "Flexible Organic Transistors with Hybrid Gate Dielectric Consisting Albumen as an Edible Component," *IEEE International Conference on Emerging Electronics (ICEE)*, Bangalore, India, 2022, pp. 1-4, doi: 10.1109/ICEE56203.2022.10117996.
6. **G. Konwar**, P. Saxena, V. Raghuwanshi, S. Rahi and S. P. Tiwari, "Solution-processed biopolymer dielectric based organic field-effect transistors for sustainable electronics," *IEEE Electron Devices Technology & Manufacturing Conference (EDTM)*, Oita, Japan, 2022, pp. 107-109, doi: 10.1109/EDTM53872.2022.9798041.
7. **G. Konwar**, P. Saxena, V. Raghuwanshi, S. Rahi and S. P. Tiwari, "High Performance Flexible Organic Transistors with Biodegradable Natural-Protein based Gate Dielectrics," *International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD)*, Kyoto, Japan, 2022, pp. 190-193, doi: 10.23919/AM-FPD54920.2022.9851285.
8. **G. Konwar**, P. Saxena, V. Raghuwanshi, S. Rahi and S. P. Tiwari, "Flexible Organic Field-Effect Transistor Using Natural Protein as a Gate Dielectric for Green Electronics," *The Physics of Semiconductor Devices, IWPSD 2021*. Springer Proceedings in Physics, vol 306, doi:10.1007/978-981-97-1571-8_46.
9. V. Raghuwanshi, **G. Konwar** and S. P. Tiwari, "An Organic Transistor on Paper for Real-time Breath Monitoring," 2024 IEEE International Flexible Electronics Technology Conference (IFETC), Bologna, Italy, 2024, pp. 1-3, doi: 10.1109/IFETC61155.2024.10771839.
10. S. Rahi, **G. Konwar** and S. P. Tiwari, "Exploration of Organic Transistors for Circuit and Light Sensing Applications," *IEEE Electron Devices Technology & Manufacturing Conference (EDTM)*, Bangalore, India, 2024, pp. 1-3, doi: 10.1109/EDTM58488.2024.10511960.
11. S. Bhattacharjee, S. Rahi, **G. Konwar** and S. P. Tiwari, "Exploration of Solution Processed OFETs with Poly (4-vinyl phenol) (PVP) / Poly (3-hexylthiophene-2,5-diyl) (P3HT) interface for Synaptic Behavior Emulation," *IEEE Electron Devices Technology & Manufacturing Conference (EDTM)*, Bangalore, India, 2024, pp. 1-3, doi: 10.1109/EDTM58488.2024.10511939.
12. S. Rahi, **G. Konwar** and S. P. Tiwari, "Solution Processed High-k/Low-k Bilayer Gate Dielectrics for Flexible Organic Transistors," *IEEE International Conference on Emerging Electronics (ICEE)*, Bangalore, India, 2022, pp. 1-4, doi: 10.1109/ICEE56203.2022.10117578.
13. S. Rahi, V. Raghuwanshi, P. Saxena, **G. Konwar** and S. P. Tiwari, "Exploration of Promising Polymers and Polyelectrolyte in Inorganic-Organic Bi-layer Gate Dielectrics for Flexible OFETs," *IEEE International Flexible Electronics Technology Conference (IFETC)*, Qingdao, China, 2022, pp. 1-2, doi: 10.1109/IFETC53656.2022.9948507.
14. S. Chattaraj, A. Dwivedi, **G. Konwar**, A. Lodhi, S. Saini and S. P. Tiwari, "High-Performance Bio-Memristive Devices with Natural Egg Albumen as a Switching Layer," *International Workshop on Active-Matrix Flatpanel Displays and Devices (AM-FPD)*, Kyoto, Japan, 2022, pp. 181-184, doi: 10.23919/AM-FPD54920.2022.9851302.

15. S. Rahi, V. Raghuwanshi, P. Saxena, **G. Konwar** and S. P. Tiwari, "Effect of Annealing on Low-Voltage Organic Field-Effect Transistors with P(VDF-TrFE) Gate Dielectric," *IEEE International Conference on Flexible and Printable Sensors and Systems (FLEPS)*, Manchester, United Kingdom, 2021, pp. 1-4, doi: 10.1109/FLEPS51544.2021.9469854.
16. V. Raghuwanshi, A. K. Mahato, P. Saxena, S. Rahi, **G. Konwar** and S. P. Tiwari, "Low Voltage Organic Field-Effect Transistors with Room Temperature Deposited Dielectric Layer," *IEEE International Conference on Flexible and Printable Sensors and Systems (FLEPS)*, Manchester, United Kingdom, 2021, pp. 1-4, doi: 10.1109/FLEPS51544.2021.9469826.

Book Chapter

1. **G. Konwar**, and S. P. Tiwari, "Contact and Interconnect Considerations for Organic and Flexible Electronics," *Interconnect Technologies for Integrated Circuits and Flexible Electronics*, Springer Nature Singapore, 2024, pp. 181-202, doi: 10.1007/978-981-99-4476-7_11.

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