# List of Publications

## Journals: -

(1) **Ashok Kumar**, Suraj Barala, Akash Popat Gutal, Atul G. Chakkar, Pradeep Kumar, Manikandan Paranjothy, and Mahesh Kumar. "Silver-atom catalysts boosted nitrogen-doped $MoS_2$ for chemiresistive $NO_2$ gas sensor." *Sensors and Actuators B: Chemical* (2025): 137839.

(2) **Ashok Kumar**, Atul G. Chakkar, Chayan Das, Pradeep Kumar, Satyajit Sahu, Michael Saliba, and Mahesh Kumar. "Self-Powered Broadband Photodetectors Based on WS2-Anchored $MoS_2$ with Enhanced Responsivity and Detectivity." *Small*: 2502900.

(3) **Ashok Kumar**, Akash Popat Gutal, Neelu Sharma, Deepu Kumar, Ge Zhang, Hyunah Kim, Pradeep Kumar, Manikandan Paranjothy, Mahesh Kumar, and Michael S. Strano. "Investigations of vacancy-assisted selective detection of $NO_2$ molecules in vertically aligned $SnS_2$." *ACS sensors* 8, no. 3 (2023): 1357-1367.

(4) **Ashok Kumar**, Neelu Sharma, Akash Popat Gutal, Deepu Kumar, Pradeep Kumar, Manikandan Paranjothy, and Mahesh Kumar. "Growth and $NO_2$ gas sensing mechanisms of vertically aligned 2D $SnS_2$ flakes by CVD: Experimental and DFT studies." *Sensors and Actuators B: Chemical* 353 (2022): 131078.

(5) **Ashok Kumar**, Ali Mirzaei, Myoung Hoon Lee, Zahra Ghahremani, Tae-Un Kim, Jin-Young Kim, Monika Kwoka, Mahesh Kumar, Sang Sub Kim, and Hyoun Woo Kim. "Strategic review of gas sensing enhancement ways of 2D tungsten disulfide/selenide based chemiresistive sensors: Decoration and composite." *Journal of Materials Chemistry A* (2024).

(6) **Ashok Kumar**, and Mahesh Kumar. "Recent Progress in Emerging Two-dimensional Transition-metal dichalcogenides based Gas Sensors: A review." *IEEE Sensors Journal*, vol. 24, no. 16, pp. 25221-25226, 15 Aug.15, 2024.

(7) **Ashok Kumar**, Mustaque A. Khan, and Mahesh Kumar. "Recent advances in UV photodetectors based on 2D materials: A review." *Journal of Physics D: Applied Physics* 55, no. 13 (2021): 133002.

(8) Wadhwa, Riya, **Ashok Kumar**, Ranjini Sarkar, Prajna Parimita Mohanty, Deepu Kumar, Sonia Deswal, Pradeep Kumar et al. "Pt nanoparticles on vertically aligned large-area $MoS_2$ flakes for selective $H_2$ sensing at room temperature." *ACS Applied Nano Materials* 6, no. 4 (2023): 2527-2537.

(9) Biswas, Arpita, **Ashok Kumar**, Amit Kumar, Monika Kwoka, Gaurav Bassi, Mukesh Kumar, and Mahesh Kumar. "High performance Pt-anchored $MoS_2$ based chemiresistive ascorbic acid sensor." *Nanotechnology* (2024).

(10) K Das, Chayan, **Ashok Kumar**, Suresh Kumar, Neha V. Dambhare, Mahesh Kumar, Arup K. Rath, and Satyajit Sahu. "Photogating induced high sensitivity and speed from heterostructure of few-layer $MoS_2$ and reduced graphene oxide-based photodetector." *Physical Chemistry Chemical Physics* 25, no. 44 (2023): 30419-30427.

(11) Kumar, Suresh, **Ashok Kumar**, Amit Kumar, Atul G. Chakkar, Atanu Betal, Pradeep Kumar, Satyajit Sahu, and Mahesh Kumar. "Catalytic synergy of $WS_2$-anchored $PdSe_2$ for highly sensitive hydrogen gas sensor." *Nanoscale* 16, no. 19 (2024): 9593-9602.

(12) Kumar, Amit, **Ashok Kumar**, Monika Kwoka, Meng Gang, and Mahesh Kumar. "IoT-enabled surface-active Pd-anchored metal oxide chemiresistor for $H_2S$ gas detection." *Sensors and Actuators B: Chemical* 402 (2024): 135065.

(13) Das, Surajit, **Ashok Kumar**, Jitendra Singh, and Mahesh Kumar. "Fabrication and modeling of laser ablated NiO nanoparticles decorated $SnO_2$ based formaldehyde sensor." *Sensors and Actuators B: Chemical* 387 (2023): 133824.

(14) Bhati, Vijendra Singh, **Ashok Kumar**, Manila Ozhukil Valappil, Subbiah Alwarappan, and Mahesh Kumar. "Phosphorene oxide quantum dots decorated ZnO nanostructure-based hydrogen gas sensor." *IEEE Sensors Journal* 21, no. 6 (2020): 7283-7290.

(15) Kumar, Sumit, Rahul Mitra, Suraj Barala, **Ashok Kumar**, Monika Kwoka, Krishnau Biswas, and Mahesh Kumar. "Resistance-driven low power $H_2S$ sensors based on MWCNT@CuO heterojunction." *Journal of Applied Physics* 136, no. 7 (2024).

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