

### Journals: -

1. **Neeraj Goel**, Rahul Kumar, Mirabbos Hojamberdiev, and Mahesh Kumar. "Enhanced Carrier Density in a MoS<sub>2</sub>/Si Heterojunction-Based Photodetector by Inverse Auger Process." *IEEE Transactions on Electron Devices* 99 (2018): 1-6.
2. **Neeraj Goel**, Rahul Kumar, Monu Mishra, Govind Gupta, and Mahesh Kumar. "Determination of band alignment at two-dimensional MoS<sub>2</sub>/Si van der Waals heterojunction." *Journal of Applied Physics* 123, no. 22 (2018): 225301.
3. **Neeraj Goel**, Rahul Kumar, Basanta Roul, Mahesh Kumar, and S. B. Krupanidhi. "Wafer-scale synthesis of a uniform film of few-layer MoS<sub>2</sub> on GaN for 2D heterojunction ultraviolet photodetector." *Journal of Physics D: Applied Physics* 51, no. 37 (2018): 374003.
4. **Neeraj Goel**, Rahul Kumar, Shubhendra Kumar Jain, Saravanan Rajamani, Basanta Roul, Govind Gupta, Mahesh Kumar, and S. B. Krupanidhi. "A high-performance hydrogen sensor based on a reverse-biased MoS<sub>2</sub>/GaN heterojunction." *Nanotechnology* 30, no. 31 (2019): 314001.
5. Rahul Kumar, **Neeraj Goel**, and Mahesh Kumar. "UV-activated MoS<sub>2</sub> based fast and reversible NO<sub>2</sub> sensor at room temperature." *ACS sensors* 2, no. 11 (2017): 1744-1752.
6. Rahul Kumar, **Neeraj Goel**, Monu Mishra, Govind Gupta, Mattia Fanetti, Matjaz Valant, and Mahesh Kumar. "Growth of MoS<sub>2</sub>-MoO<sub>3</sub> hybrid microflowers via controlled vapor transport process for efficient gas sensing at room temperature." *Advanced Materials Interfaces* 5, no. 10 (2018): 1800071.
7. Rahul Kumar, **Neeraj Goel**, and Mahesh Kumar. "High performance NO<sub>2</sub> sensor using MoS<sub>2</sub> nanowires network." *Applied Physics Letters* 112, no. 5 (2018): 053502.
8. Rahul Kumar, **Neeraj Goel**, Ramesh Raliya, Pratim Biswas, and Mahesh Kumar. "High-performance photodetector based on hybrid of MoS<sub>2</sub> and reduced graphene oxide." *Nanotechnology* 29, no. 40 (2018): 404001.
9. Kanika Arora, **Neeraj Goel**, Mahesh Kumar, and Mukesh Kumar. "Ultrahigh performance of self-powered β-Ga<sub>2</sub>O<sub>3</sub> thin film solar-blind photodetector grown on cost-effective Si substrate using high-temperature seed layer." *ACS Photonics* 5, no. 6 (2018): 2391-2401.
10. Rahul Kumar, **Neeraj Goel**, Abhay Vivek Agrawal, Ramesh Raliya, Saravanan Rajamani, Govind Gupta, Pratim Biswas, Mukesh Kumar, Mahesh Kumar. "Boosting Sensing Performance of Vacancy-Containing Vertically Aligned MoS<sub>2</sub> using rGO Particles." *IEEE Sensors*, doi: 10.1109/JSEN.2019.2932106.
11. Adarsh Nigam, **Neeraj Goel**, Thirumaleshwara N. Bhat, Md Tawabur Rahman, Surani Bin Dolmanan, Qiquan Qiao, Sudhiranjan Tripathy, and Mahesh Kumar. "Real time detection of Hg<sub>2</sub><sup>+</sup> ions using MoS<sub>2</sub> functionalized AlGaN/GaN high electron mobility transistor for water quality monitoring." *Sensors and Actuators B: Chemical* 309 (2020): 127832.
12. Rahul Kumar, **Neeraj Goel**, Mirabbos Hojamberdiev, and Mahesh Kumar. "Transition Metal Dichalcogenides-Based Flexible Gas Sensors." *Sensors and Actuators A: Physical* (2020): 111875.

### Proceedings: -

1. **Neeraj Goel**, Rahul Kumar, and Mahesh Kumar. "Enhanced sensing response with complete recovery of MoS<sub>2</sub> sensor under photoexcitation." In *AIP Conference Proceedings*, vol. 1942, no. 1, p. 050060. AIP Publishing, 2018.
2. **Neeraj Goel** and Mahesh Kumar "Multifunctional High-Performance MoS<sub>2</sub>/GaN Heterojunction: The Futuristic Optical and Gas Sensors." In *MRSI AGM 2019*.
3. **Neeraj Goel**, Rahul Kumar, and Mahesh Kumar. "Highly Efficient Photodetector Based on Vertically Standing MoS<sub>2</sub>/Si Heterojunction." In *ICONSAT 2020*.
4. Rahul Kumar, **Neeraj Goel**, and Mahesh Kumar. "NO<sub>2</sub> sensing at room temperature using vertically aligned MoS<sub>2</sub> flakes network." In *AIP Conference Proceedings*, vol. 1942, no. 1, p. 060006. AIP Publishing, 2018.

5. Rahul Kumar, **Neeraj Goel**, and Mahesh Kumar. "Ultraviolet photodetector based on chemical vapor deposition grown MoO<sub>3</sub> microplates." In **IEEE IEMECON 2019**.
6. Rahul Kumar, **Neeraj Goel**, Ramesh Raliya, Pratim Biswas, and Mahesh Kumar. "High-performance ultraviolet detector employing out-of-plane rGO/MoS<sub>2</sub> PN heterostructure." In **IEEE ICEE 2018**.

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