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- (1) **Shukla, N.**; Verma, D. K.; Singh, A. K.; Kumar, B.; Kavita; Rastogi, R. B. Ternary Composite of Methionine-Functionalized Graphene Oxide, Lanthanum-Doped Yttria Nanoparticles, and Molybdenum Disulfide Nanosheets for Thin-Film Lubrication. *ACS Appl. Nano Mater.* **2020**, 3 (8), 8012–8026.
- (2) **Shukla, N.**; Singh, A. K.; Verma, D. K.; Kumar, B.; Kavita; Rastogi, R. B. Heterolamellar Bi<sub>2</sub>Se<sub>3</sub>/Bi<sub>2</sub>WO<sub>6</sub> and Bi<sub>2</sub>Se<sub>3</sub>/N-Doped Bi<sub>2</sub>WO<sub>6</sub> Nanosheet Composites as Potential Antifriction and Antiwear Agents. *ACS Appl. Energy Mater.* **2023**
- (3) Verma, D. K.; Prajapati, S.; Sahu, M.; Singh, S.; Kumar, B.; Singh, A. K.; **Shukla, N.**; Kavita; Rastogi, R.B. Superlubricity of Nanocomposites of Polyaniline-Functionalized Reduced Graphene Oxide with Yttrium and Vanadium-Codoped Zinc Oxide Nanoparticles. *ACS Appl. Energy Mater.* **2024**.
- (4) Kavita; Singh, A. K.; **Shukla, N.**; Kumar, B.; Verma, D. K.; Maurya, J. L.; Singh, S.; Rastogi, R. B. Improvement of Tribo-Active Behavior of g-C<sub>3</sub>N<sub>4</sub> Nanosheets Using m-LaVO<sub>4</sub> Nanoparticles. *Colloids Surf. Physicochem. Eng. Asp.* **2023**, 663, 131031.
- (5) Singh, A. K.; **Shukla, N.**; Kavita, Verma, D. K.; Kumar, B.; Mandal, K. D.; Rastogi, R. B. Reinforcement of nanoporous lanthanum-doped zinc borate by vanadium selenide nanosheets for improved tribological activity, *RSC Advances*, **2022**, 12(29), 18685-18696
- (6) Kavita, Singh, A. K.; **Shukla, N.**; Verma, D. K.; Kumar, B.; Singh S.; Rastogi, R. B. Polyaniline intercalated vanadium pentoxide nanosheets for the

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- improvement of lubricity of base oil. *Colloids Surf. A Physicochem. Eng. Asp.* **2022**, *642*, 128644.
- (7) Singh, A. K.; **Shukla, N.**; Verma, D. K.; Kavita, Kumar, B.; Rastogi, R. B. Enhancement of Triboactivity of Nanolamellar Graphitic-C<sub>3</sub>N<sub>4</sub> by N-Doped ZnO Nanorods *ACS Ind. Eng. Chem. Res.* **2021**, *60*(2), 864-874.
- (8) Kumar, B.; Verma, D. K.; **Shukla, N.**; Singh, A. K.; Kavita, Rastogi, R. B. Ionic liquid stabilized Ag@C composite for improvement of triboactivity. *J. Mol. Liq.* **2020**, *307* (113012).
- (9) Verma, D. K.; Kuntail, J.; Kumar, B.; Singh, A. K.; **Shukla, N.**; Kavita; Sinha, I.; Rastogi, R. B. Amino Borate-Functionalized Reduced Graphene Oxide Further Functionalized with Copper Phthalocyanine Nanotubes for Reducing Friction and Wear. *ACS Appl. Nano Mater.* **2020**, *3* (6), 5530–5541.
- (10) Verma, D. K.; **Shukla, N.**; Kumar, B.; Singh, A. K.; Shahu, K.; Yadav, M.; Rhee, K. Y.; Rastogi, R. B. Synergistic Tribo-Activity of Nanohybrids of Zirconia/Cerium-Doped Zirconia Nanoparticles with Nano Lamellar Reduced Graphene Oxide and Molybdenum Disulfide. *Nanomaterials* **2020**, *10* (4), 707.
- (11) Kavita, Verma, P.; Verma, D. K.; Kumar, B.; Singh, A. K.; **Shukla, N.**; Srivastava, V.; Rastogi, R. B. Tetrahydropyrazolopyridines as antifriction and antiwear agents: experimental and DFT calculations, *RSC Adv.* **2020**, *10*, 10188-10196.
- (12) Kavita, Kuntail, J.; Verma, D. K.; Kumar, B.; Singh, A. K.; **Shukla, N.**; Sinha, I.; Rastogi, R. B. “Theoretical and experimental studies of pyranopyrazoles

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and their tribological compatibility with a borate ester. *Colloids Surf. A Physicochem. Eng. Asp.* **2020**, 606, 125497.

- (13) Kumar, B.; Verma, D. K.; Singh, A. K.; Kavita, **Shukla, N.**; Rastogi, R. B. Nanohybrid Cu@C: synthesis, characterization, and application in enhancement of lubricity, *Compos. Interfaces.* **2019**, 6440.

### Conferences

- (1) Shukla, N.; Singh, A. K.; Tiwary, D.; Rastogi, R. B. Potential Application of Heterolamellar Bi<sub>2</sub>Se<sub>3</sub>/Bi<sub>2</sub>WO<sub>6</sub> Nanosheet Composite as Antifriction and Antiwear Agents. International Conference on Tribology (ICT), National Institute of Technology (NIT) Srinagar, 5-7 October 2023. **Oral**
- (2) Shukla, N.; Singh, A. K.; Tiwary, D.; Rastogi, R. B. Evaluation of Tribological Activity of Manganese Vanadate Nanosheets in the Boundary Lubrication Regime. 11<sup>th</sup> International Conference on Industrial Tribology (ICIT), Indian Institute of Technology Delhi, 12-14 December 2022. **Oral**
- (3) Shukla, N.; Verma, D. K.; Singh, A. K.; Kumar, B.; Kavita; Rastogi, R. B. "Copper doped titania nanoparticles of varying size in boundary lubrication" IndiaTrib-2019, IISc. Bangalore, India, December. 1-4, 2019. **Oral**
- (4) Shukla, N.; Rastogi, R. B. Synthesis and Tribological behavior of ZnO@MoS<sub>2</sub> Nanocomposite. National Symposium on contemporary Trends and Future Prospects of Functional Materials (CTFM-2019), BHU, Varanasi, 29-30 November 2019. **Poster**

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- (5) Singh, A. K.; Shukla, N.; Verma, D. K.; Kumar, B.; Kavita; Rastogi, R. B. “Tribological behavior of zinc oxide nanoparticles, g-C<sub>3</sub>N<sub>4</sub> and the nanocomposite ZnO@g-C<sub>3</sub>N<sub>4</sub>”. IndiaTrib-2019, IISc. Bangalore, India, December. 1-4, 2019. **Oral**
- (6) Verma, D. K.; Shukla, N.; Kumar, B.; Singh, A. K.; Kavita; Rastogi R.B. “Binary nanohybrids of ZrO<sub>2</sub>/ Ce-ZrO<sub>2</sub> nanoparticles with rGO as energy efficient lubricant additives”, International Conference on Ultrasonics and Material Sciences for Advanced Technology (ICUMSAT-2019) Jaunpur, VBSPU, Jaunpur, November 16-18, 2019. **Oral**

### Workshop/Training Programme

- (1) 14<sup>TH</sup> SUMMER SCHOOL IN TRIBOLOGY, Indian Oil Institute of Petroleum Management (IIPM), Gurugram, 14-18 JUNE 2022.
- (2) AICTE SPONSORED SHORT TERM TRAINING PROGRAMME ON RECENT ADVANCES IN TRIBOLOGY AND SURFACE ENGINEERING, Tribology Of Machine Components And Applied Tribology, Department of Mechanical Engineering Saintgits College of Engineering, Kottayam Kerala, 14-19 September 2020.
- (3) AICTE SPONSORED SHORT TERM TRAINING PROGRAMME ON RECENT ADVANCES IN TRIBOLOGY AND SURFACE ENGINEERING, Nano-Tribology, Bio-Tribology, Space-Tribology, Biomimetics And Tribology In Industry, Department of Mechanical Engineering Saintgits College of Engineering, Kottayam Kerala, 12- 17 October 2020.

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- (4) AICTE SPONSORED SHORT TERM TRAINING PROGRAMME ON RECENT ADVANCES IN TRIBOLOGY AND SURFACE ENGINEERING, Surface Characterization And Treatments In Tribology, Department of Mechanical Engineering Saintgits College of Engineering, Kottayam Kerala, 23-28 November 2020.