Curriculum Vitae

Name: Dr. Pawan Kumar
Designation: Assistant Professor
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Academic Qualifications

Degree	Discipline	Institution	Year of Completion
Ph.D.	Materials Science and Nanotechnology	Deenbandhu Chhotu Ram University of Science and Technology, Murthal, Haryana	2020
M.Tech	Nanoscience and Nanotechnology	Guru Jambheshwar University of Science and Technology, Hisar, Haryana	2014
B. Pharmacy	Pharmacy	Kurukshetra University, Kurukshetra, Haryana	2012
D. Pharmacy	Pharmacy	Govt. Polytechnic, Mandi Adampur, Haryana	2008

Professional Experience

Position	Institution/Organization	Duration
Assistant Prof.	Maharaja Ranjit Singh Punjab Technical University	19 Sept 2023 Onwards
Assistant Prof.	South Point College of Pharmacy, Murthal, Haryana	1 June 2021 to 31 July 2022
Junior Research Fellow	Guru Jambheshwar University of Science and Technology, Hisar, Haryana	15 May 2018 to 03 March 2020

Research Interests

- Nano-Biomaterials and Tissue Engineering
- 3D Bioprinting and Biofabrication

- Regenerative Medicine and Nanotechnology
- Drug Delivery Systems

Publications

[1] **P. Kumar**, Shamim, et al., "Fused Deposition Modeling 3D-Printed Scaffolds for Bone Tissue Engineering Applications: A Review". Ann Biomed Eng 52, 1184–1194, 20242024.

[2] A. Gabli, M Kezzar, H Berrehal, R Kumar, **P Kumar** et al., "Irreversibility of Al2O3-Ag hybrid nanoparticles in mixture base fluid on microchannel with variable viscosity, buoyancy forces, and suction/injection effects: An analytical study," Int. J. Heat Fluid Flow, vol. 107, p. 109341, 2024.

[3] **P Kumar**, P Chugh, et al. Trends of Nanobiosensors in Modern Agriculture Systems. Appl Biochem Biotechnol, 2024.

[4] **P. Kumar**, B. S. Dehiya, A. Sindhu, R. Kumar, C. I. Pruncu, and A. Yadav, "Fabrication and characterization of silver nanorods incorporated calcium silicate scaffold using polymeric sponge replica technique," *Mater. Des.*, p. 109026, 2020.

[5] **P. Kumar,** M. Saini, B. S. Dehiya, A. Umar, A. Sindhu, H. Mohammed, Y. Al-Hadeethi, Z. Guo, "Fabrication and in-vitro biocompatibility of freeze-dried CTS-nHA and CTS-nBG scaffolds for bone regeneration applications," *Int. J. Biol. Macromol.*, vol. 149, pp. 1–10, 2020.

[6] **P. Kumar,** M. Saini, B. S. Dehiya, A. Sindhu, V. Kumar, R. Kumar, L. Lamberti, C. I. Pruncu, R. Thakur, "Comprehensive survey on nanobiomaterials for bone tissue engineering applications", *Nanomaterials* , vol. 10, no. 10. 2020.

[7] **P. Kumar**, V. Kumar, R. Kumar, and C. I. Pruncu, "Fabrication and Characterization of Ceftizoxime-Loaded Pectin Nanocarriers," *Nanomaterials* , vol. 10, no. 8. 2020.

[8] **P. Kumar**, B. S. Dehiya, and A. Sindhu, "Synthesis and characterization of nHA-PEG and nBG-PEG scaffolds for hard tissue engineering applications," *Ceram. Int.*, vol. 45, no. 7, pp. 8370–8379, 2019.

[9] **P. Kumar**, V. Kumar, R. Kumar, R. Kumar, and C. I. Pruncu, "Fabrication and characterization of ZrO2 incorporated SiO2–CaO–P2O5 bioactive glass scaffolds," *J. Mech. Behav. Biomed. Mater.*, vol. 109, p. 103854, 2020.

[10] **P. Kumar** *et al.*, "Polyethylene Glycol (PEG) Modified Porous Ca5(PO4)2 SiO4 Bioceramics: Structural, Morphologic and Bioactivity Analysis," *Coatings*, vol. 10, no. 6, p. 538, 2020.

[11] M. Saini *et al.*, "Synthesis and electrochemical properties of Ge4+ ions-modified VO2(paramontroseite)," *J. Mater. Sci. Mater. Electron.*, vol. 31, pp. 3795–3802, 2020.

[12] **P. Kumar** *et al.*, "Micro-plasma assisted synthesis of ZnO Nanosheets for the efficient removal of Cr6+ from the aqueous solution", *Crystal* 2020.

[13] **P. Kumar** *et al.*, "Removal of Cr (VI) from Aqueous Solution Using VO2(B) Nanoparticles," *Chem. Phys. Lett.*, p. 136934, 2020.

[14] S. Kadiyan, B. S. Dehiya, RK Garg, **P. Kumar**, M. Saini, "A Statistical Method to Predict the Hardness and Grain Size After Equal Channel Angular Pressing of AA-6063 with Intermediate Annealing", *Arabian Journal for Science and Engineering*, 2020.

[15] R. Kumar, R. Mangalapuri, M. H. Ahmadi, D.-V. N. Vo, R. Solanki, and **P. Kumar**, "The role of nanotechnology on post-combustion CO2 absorption in process industries," *Int. J. Low-Carbon Technol.*, vol. 15, no. 3, pp. 361–367, Mar. 2020.

[16] **P. Kumar**, B. S. Dehiya, and A. Sindhu, "Ibuprofen-Loaded CTS/nHA/nBG Scaffolds for the Applications of Hard Tissue Engineering," *Iran. Biomed. J.*, vol. 23, no. 3, pp. 190–199, 2019.

[17] **P. Kumar**, B. S. Dehiya, and A. Sindhu, "Comparative study of chitosan and chitosan–gelatin scaffold for tissue engineering," *Int. Nano Lett.*, vol. 7, no. 4, pp. 285–290, 2017.

[18] **P. Kumar**, "Nano-TiO(2) Doped Chitosan Scaffold for the Bone Tissue Engineering Applications," *Int. J. Biomater.*, vol. 2018, p. 6576157, Sep. 2018.

[19] **P. Kumar**, B. S. Dehiya, A. Sindhu, and V. Kumar, "Synthesis and Characterization of Nano Bioglass for the Application of Bone Tissue Engineering," *J. Nanosci. Technol.*, vol. 4, no. 5, pp. 471–474, 2018.

[20] Meenu, **P. Kumar**, and B. S. Dehiya, "One Step Hydrothermal Synthesis of Nanostructured VO2(B) for Photocatalytic Application," *J. Nanosci. Technol.*, vol. 5, no. 1, pp. 584–586, 2019.

[21] **P. Kumar**, B. S. Dehiya, and A. Sindhu, "Bioceramics for Hard Tissue Engineering Applications: A Review," *Int. J. Appl. Eng. Res.*, vol. 13, no. 5, pp. 2744–2752, 2018.

[22] D. B. S., **P. Kumar**, Meenu, and A. Sindhu, "Green synthesis of silver nanoparticles using Grevillea robusta," 2019, p. 060008.

[23] Meenu, **P. Kumar**, and B. S. Dehiya, "Effect of surfactant on hydrothermal synthesis of VO2 (B) nanostructures for energy saving applications," 2019, p. 140026.

Book Chapters

[24] **P. Kumar** and A. Sindhu, "Materials for Tissue Engineering," in **Advances in Animal Biotechnology and its Applications**, 2018, pp. 357–370, Springer.

[25] **P. Kumar,** V. Kumar, R. Kumar and R. Kumar, "Nanomaterials and their synthesis," in **Smart Nanotechnology with Applications,** 2020, Tylor and Francis.

[26] A. Kumar, B.A. Kumar, R.D. Kumar, A. Behera, **P. Kumar** and R. Kumar, "Fundamental Concepts of Bamboo: Classifications, Properties and Applications," in **Bamboo Fiber Composites**, 2020, Springer.

[27] R. Kumar, M. Hossein Ahmadi, A. Bewoor, R. Alayi, R., **P. Kumar**, (2021). Post-combustion of Carbon Capture Technologies: Advancements in Absorbents and Nanoparticles. In: **Advances in Carbon Capture and Utilization. Energy, Environment, and Sustainability**. Springer

[28] R Kumar, A Baldi, **P Kumar** et al., "Applications of Bioscaffolds in Plastic surgery" in **Natural Product Inspired Scaffolds: Applications in Tissue Engineering**, 2024, Springer.

Books

[1] H. Kumar, R. Kumar, A. Debnath & **P. Kumar**: A Textbook **Pharmacotherapeutics**, published in Pritam Publication Pvt. Ltd.

Conferences

[1] Poster presentation in International Conference on **"Advanced Materials"** organized and sponsored by the Ras Al Khaimah Centre for Advanced Materials (RAK CAM) in Fab, 2019, **United Arab Emirates (UAE).**

[2] Oral presentation (Short Invited Talk) in **International Conference** on "**Macromolecules: Synthesis, Morphology, Processing, Structure, Properties and Applications (ICM-2016)**" on May 13-15, 2016, **Kottayam (Kerala),** India.

[3] Oral presentation (Short Invited Talk) in **National Conference** on **"Trends in Nanobiotechnology**" (NCTN-2016) being organized by **CCS Haryana Agricultural University**, Hisar on Nov 28 – 29, 2016.

[4] Oral presentation (Short Invited Talk) in **National Conference** on "**Biodiversity & Sustainable Utilization of Plant Resources**" being organized by Department of Botany, **Kurukshetra University**, Kurukshetra on February 17-18, 2017.

[5] Paper presentation in **"Global congress on biotechnology, nanotechnology, energy and environment" held** at DCR university of Science and Technology, Murthal, Murthal on April 25-26, 2018.

[6] Poster presentation in **National Conference** on **"Advances in Multidisciplinary Aspects of Science & Engineering**" (AMASE – 2016) at DCR university of Science and Technology, Murthal on November 23, 2016.

[7] Paper presentation *in* the International Conference on "**Engineering Technology, Science and Management Innovation**" held at IETE, New Delhi at July 16, 2017.

Workshops

[1] Attended National Workshop on "**UV- Vis, FTIR, XRD, FE-SEM and TEM Techniques**" held on April 25-30, 2016 in the department of Dr. S. S. B, University Institute of Chemical Engineering and Technology, Punjab University, Chandigarh.

[2] Attended short-term course on **"Recent Advances in Energy Sources and Environment Protection"** on Feb 6-10, 2017 in the department of Chemical Engineering, DCRUST Murthal, (Haryana).

[3] Attended Faculty Development Programme on "**Current Trends in Heating, Ventilation, Air conditioning and Refrigeration (HVAC&R) Engineering**" held from February 8-12, 2016 (one week) in the Department of Mechanical Engineering, DCRUST (Murthal).

[4] Attended the Workshop on "**Bioprocess Technology**" held on Feb. 01-03 at Guru Jambheshwar University of Science & Technology (Hisar).

[5] Attended National Workshop on "**Electron Microscopy & Allied Techniques (NWEMAT-2015)**" held on Dec. 21-23, 2015 at University Delhi University (Delhi).

[6] Attended 5 days GIAN workshop on **"Nanotechnology: Nanoparticle synthesis and conjugation chemistry for bioapplications"** held on 16-20 July 2018 at Guru Jambheshwar University of Science & Technology (Hisar).

[7] Attended 3 days' workshop on **"Leadership and Team building"** organized by Rajiv Gandhi National Institute of Youth development Regional Centre, Chandīgarh in collaboration with Deenbandhu Chhotu Ram University of Science and Technology, Murthal on 21-23 Nov. 2017.

[8] **Coordinated** a one-week training **workshop & campaign for promoting digital economy in the university adopted villages** organized by department of student welfare under NSS, held on 03-07 March 2017 at DCRUST, Murthal.