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M.Sc. PhD (PGIMER) Postdoc (ICMR)
Assistant Professor
Department of Medical Laboratory Sciences,
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Professional experience:

- **Assistant Professor (Since Oct. 2025)**
Department of Medical Laboratory Sciences, *Regional Institute of Paramedical and Nursing Sciences Ministry of Health & Family Welfare, Govt of India* Zemabawk, Aizawl, Mizoram -796 017.
- **Former Research Scientist**, (Origin Life) Diagnostic Center, Department of Clinical, Embryology and Reproductive Genetics, Rayat Bahra University, Punjab, Kharar +918872521900.
- **QuantumUniversity, Roorkee, Uttarakhand** (U.K) India. (D.O.J) 08.08.2023 to left 14. Sep. 2023 due to some personal reasons and family issues. Selected as an **Associate Professor**.
- **Assistant Professor**, Department of Medical Laboratory Technology, Chandigarh University (Dec. 2022 to 7th August 2023), left due to a better offer and Associate Professor, Ruraki. Roorkee- Dehradun Highway (NH-73), Roorkee-247667 (Uttarakhand) India
- **Postdoctoral Fellow**, ICMR-Regional Medical Research Center, Gorakhpur (2019-2021)
- **Assistant Professor**, Chandigarh University (2018-2019)
- **PhD in Medical Parasitology**, PGIMER, Chandigarh (2012-2018)
- **M.Sc. in Microbiology**, Himachal Pradesh University, Summer Hill, Shimla (2009-2011)
- **B.Sc. Medical Sciences**, Govt. College Sector-11, Chandigarh. (PU) (Zoology, Botany, Chemistry) (2006-2009).
- **Worked in International BPO full-time** (As a sales executive in the outbound process) at UCIL, Manimajra, and Chandigarh.
- Science Teacher, at Physics Academy SSAD academy, Under Mr. Amit Dixit, M.Sc. IITKanpur UP.

Research publications and Book Chapters:

- Advancing in Clinical Embryology and Reproductive Genetics: Paperback, ASIN : B0F6F8X3N3, HSRA PUBLICATIONS. by **Dr. Sunil Kumar** (Author), Dr. Surjeet Kumar Bhatia (Author), Ms. Dipneet Kaur (Author), Dr. Surekha Manhas (Author), Ashwani Kumar (Author). <https://www.amazon.in/dp/B0F6F8X3N3>.
- Asokan, S., Damilare, I. I., **Kumar, S.**, Pandey, R. K., Verma, G., Banerjee, N., Radhamanalan, G., Vijayan, S., Jacob, T., & Rajeswary, D. (2026). From pandemic influenza to novel coronaviruses: emerging infectious diseases of the 21st century. Diagnostic microbiology and infectious disease, 114(4), 117277. <https://www.sciencedirect.com/science/article/abs/pii/S0732889326000271?via%3Dihub>
- Samtiya, M., **Kumar, S.**, Dhewa, T, (2022). **Multifunctional Edibles and Their Applications in Food Industry**. In: Poonia, A., Dhewa, T. (eds) Edible Food Packaging. Springer, Singapore. https://doi.org/10.1007/978-981-16-2383-7_19.
- **Sunil Kumar**, Vivek Kumar Garg, Vamsi Kumar Attuluri and Neelam Goel, Introduction to social neuroscience. Emotional AI and Human-AI Interactions in Social Networking. ISBN: 978-0-443-19096-4, <https://doi.org/10.1016/B978-0-443-19096-4.00010-9>
- ¹ **Sunil Kumar***, ² Vamsi Kumar Attuluri, ³ Labishetty Sai Charan, ³ Logesh Babu, ⁴ Ranjay Kumar, Choudhary, ⁵ Vineet Kumar. **Enhancing Science Education through the National Education Policy 2020: A Conceptual Overview**. (As Book Chapter).
- **Kumar S**, Malhotra S. The Role of Pseudomonas aeruginosa DsbA-1 in Bacterial Pathogenesis: Current Research and Future Prospects [Internet]. **Pseudomonas aeruginosa - New Perspectives and Applications [Working Title]**. Intech Open; 2022. Available from: <http://dx.doi.org/10.5772/intechopen.108072>.
- Vineet Kumar, Nitesh Kumar, Manu Vineet Sharma, **Sunil Kumar**, and Attuluri Vamsi Kumar., Ferrite Nanoparticles for Hyperthermia Treatment Application. ISSN 2524-5384 ISSN 2524-5392 (electronic). Materials Horizons: From Nature to Nanomaterials ISBN 978-981-99-2582-7 ISBN 978-981-99-2583-4 (eBook) <https://doi.org/10.1007/978-981-99-2583-4>
- **Sunil Kumar**, Attuluri Vamsi Kumar, and Hardeep Kaur, Clinical Applications of Nanovaccine Formulation Technology Market Research. © The Author(s), under exclusive license to Springer Nature Switzerland AG 2023 K. Pal (ed.), Nanovaccinology, https://doi.org/10.1007/978-3-031-35395-6_17
- Kumar, A.V., **Kumar, S.**, Garg, V.K., Goel, N., Hoang, V.T., Kashyap, D. (2023). **Future Perspectives for Automated Neurodegenerative Disorders Diagnosis: Challenges and Possible Research Directions**. In: Koundal, D., Jain, D.K., Guo, Y., Ashour, A.S., Zaguia, A. (eds) Data Analysis for Neurodegenerative Disorders. Cognitive

Technologies. pringerS, Singapore, https://doi.org/10.1007/978-981-99-2154-6_15.

- Nsangou, S.P., Fondjou, C.M., Mandou, C.N., **Kumar, S.**, Emmanuel, M.N., Njyou, F.N., Sehgal, R. and Moundipa, P.F. (2023) **Hydro-Alcoholic Leaf Extract and Fractions of *Codiaeum variegatum* (var. *Mollucanum*) Exhibited an Improved Anti-Amoebic and Moderate Anti-Oxidant Potential.** American Journal of Plant Sciences, 14, 339-356, <https://doi.org/10.4236/ajps.2023.143023>

- Vineet Kumar^{*1}, Nitesh Kumar², **Sunil Kumar**³, Attuluri Vamsi Kumar⁴, **Implication of Computer-Based Strategies in Biodiversity Conservation: A Review**, IOSR Journal of Pharmacy and Biological Sciences (IOSR-JPBS) e-ISSN:2278-3008, p-ISSN:2319-7676. Volume 18, Issue 1 Ser. I (Jan.-Feb. 2023), PP 19-27. www.Iosrjournals.Org
- Khatira Nazari¹ and **Sunil Kumar**² Screening of Anemic Status of Adolescent Girls from Kharar Attending a Private Hospital. Indian Journal of Natural Sciences. IJONS Vol.13 / Issue 74 / October / 2022.
- Lalit¹, Vivek Kumar Gargl^{*}, **Sunil Kumar**^{1***}**An Overview-Haematological Variations in Alcohol and Drug Addiction Problems. Journal of Xidian University.** ISSN No: 1001-2400. VOLUME 16, ISSUE 8, 2022.

<https://doi.org/10.37896/jxu16.8/042>

Sunil Kumar PhD. *¹, Kamran Zaman², Aditya Gupta³, K. S. Rana. Fish model how to write research proposals, research articles and research topics: scientific writing. European journal of pharmaceutical and medical research. www.eipmr.com.

Dinesh Kumar¹ · Goma Bajaj² · Savarna³ · Anupama Bhorla⁴ Sudipta Banerjee⁵, Pawan Yadav⁶, **Sunil Kumar**⁷ · Davinder Kumar⁸, Randhir Singh⁹, Sunil Kumar Madaan¹⁰ · Jitender Singh¹¹. The Manifestation of Anxiety as Repercussion of COVID-19: A Survey of Medical Practitioner's Opinion. Arabian Journal for Science and Engineering. <https://doi.org/10.1007/s13369-021-05686-5>.

Sunil Kumar, Hardeep Singh Manhas, Prem Lata et al./Overuse of Drugs and Antibiotics for Common Cold: Survey Study on Young Population/Journal of Global Medical Education and Research. 2020; 3 (2):45-50.

Rachna Chandel **Sunil Kumar**, Tina Sharma Current status of forensic science: an overview. Journal of Multidisciplinary Research in Healthcare 8(4):126-137 ISSN NO: 2394-2886.

Ms. Akriti Sharma, **Sunil Kumar**, Solid Waste Management System overview in Chandigarh. Suraj Punj Journal for Multidisciplinary Research. ISSN NO: 2394-2886. March 2021

Hardeep Kaur, Jasdeep Kaur, Dr Shiv Kumar, **Sunil Kumar**, Current status of Medical Lab Technology in India and its Future Prospective. International Journal of Information Science and Computing 5(8):144-15. March 2021

Talwar A, **Kumar S**. Application of pulsed-field gel electrophoresis for molecular characterization of vancomycin-resistant *Staphylococcus aureus* isolates from hospitals. Journal of Environmental Biology. 2020 Mar 1; 41(2):202-6. 10.22438/jeb/41/2/MRN-

1173.

Gaurav Sharma, Sunil Kumar, Megha Sharma, Navneet Upadhyay, **Sunil Kumar**, Zabeer Ahmed, and Neeraj Mahindroo. Anti-Diabetic, Anti-Oxidant, and Anti- Adipogenic Potential of Quercetin Rich Ethyl Acetate Fraction of Prunus Persica,. Pharmacognosy Journal,10(3): 463-469 DOI: 10.5530/pj.2018.3.76.

- Zaman K, Mewara A, **Kumar S**, Goyal K, Khurana S, Tripathi P, Sehgal R. Seroprevalence of human cystic echinococcosis from North India (2004–2015). Trop Parasitol 2017;7:103-6. (Pubmed).
- Sameer Bhandari, Vikram Bhandari, Jatin Sood, **Sunil Jaswal**, Vikas Rana, Neena Bedi, Rakesh Sehgal, Ashok K. Tiwary. Improved pharmacokinetics and pharmacodynamics attributes of artemether–lumefantrine-loaded solid SMEDDS for oral administration. Journal of Pharmacy and Pharmacology. Volume 69, Issue 11 November 2017. Pages 1437–1446. (Impact Factor 2.5-3).
- Ashok Kumar, Ankita Muwalia, **Sunil Kumar**, Himani, Sumit Sharma. **Microbial Analysis of Medicinal Waste Collected from Industrial Region of Punjab** International Journal of Research in Biological Sciences 2011; 1 (2): 18-21. (Non-Indexed).

Abstract published international: online available

- **Sunil Kumar**, Rakesh Sehgal, Jagat Kanwar, “Antimalarial efficacy of synthetic peptides and bovine iron lactoferrin loaded nanoparticles” Vienna, Austria, 22-25 April 2017. (Ph.D. Work)
- Rakesh Sehgal, **Sunil Kumar**, Alka Sehgal. Bikash Medhi, Shubham Misha. Effect of probiotics (Lactobacillus casei) on Trichomonas vaginalis in vitro. Oral presentation at NZMS Conference Dunedin 26-29 November 2012; 51st Annual Scientific Meeting of the New Zealand Microbiological Society. (DBT Project).
- **Sunil Kumar**, Sumeer Singh Thakur, and Ashok Kumar. “Biosorption of Heavy Metals by Aspergillus niger: a Trained Fungus for Heavy metal Detoxification” In Proc. of International Conference on New Horizons in Microbial Biotechnology and Pharmaceutical Sciences held on 24-25th April 2011 at HILS Paonta Shaib-173025(HP) INDIA No. 52 (P) Pp: 153. (During Master)

Abstract presented at national conferences:

- **Sunil Kumar**, Presented Oral Presentation in 30th National Congress of Parasitology & global Summit on Malaria Elimination (NCP-GSME 2019) September 26-28, 2019 Jawaharlal Nehru University, New Delhi, India. Abstract book OP 17 Page Number 175.

(Ph.D. Work)

Sunil Kumar, Shubham Misra, Alka Sehgal, Bikash Medhi, Rakesh Sehgal. Abstract “***In-vitro* investigations of Antiparasitic potential of probiotic *Lactobacillus casei* (Sonicated supernatant protein) against *Giardia lamblia*” VIIth National conference of the Indian Academy of Tropical Parasitology (IATP) “TROPACON-2013” 6th-8th September 2013. Souvenir cum abstract book by Sanjay Gandhi Postgraduate Institutf Medical Sciences, Luckhnow. Page No. 68. Poster No. P-35.**

Laboratory skills:

- **Expert in handling of Parasite cultures**, *Plasmodium berghei*, *Plasmodium falciparum*, *Trichomonas vaginalis*, *Giardia lamblia*.
- **Expert in Animal handling** of Mice, Rats and Rabbits in oral dose experimentations. Also expert in dissection of experimental mice.
- **Expert in Pathological studies histopathological** examination and section cutting, staining, and grafting of mice tissues for ultra-structural changes, and also expert in Immunohistochemistry-IHC and other molecular techniques.
- **Expert in Electron microscopic examination of tissue** slides as well as from cultures of *Giardia* and *Trichomonas*.
- **Expert in Floctyrometric** examination of the cells by different florescence dyes. DCFH. 3 days flowcytometric traning JNU delhi.
- **Expert in Data Analysis** on Graph Pad Prism version
- **PCR techniques**, Real time PCR, RT PCR, Rota Evaporator, Distillation unit, handled all equipment related to Molecular biology.
- **Expert in Sterilization techniques** , environmental monitoring , Isolation of antibiotic producing Bacteria,
- **Expert in Water testing**, Wine production , Testing of Raw Materials , Handling of UV Spectrophotometer, Dissolution apparatus, DT, Biochemical identification of microorganisms, Fermenter Handling.
- **Expert in Estimation of Protein**, SDS –PAGE, Gel Electrophoresis, Gel Doc, pH monitoring, culture techniques, axenic culture technique, poly axenic culture techniques.
- **Expert in Protein estimation**, Bradford method, isolation of protein from the *lactobacillus casei*, and identification of organisms by biochemical methods.

- **Expert in molecular techniques:** Western blotting, ELISA Reader, Spectrophotometer, Column, Chromatography, TLC.
- **Also have experience in DNA isolation:** By manual Method, also performed Fermentation techniques.

In Process:

- Kumar, S., et al. "In vitro antimalarial activity of synthetic peptides against *Plasmodium falciparum*."XXX.XX,XXX. .
- Kumar, S., et al. "Bovine iron loaded nanoparticles: an effective delivery system for antimalarial drugs." Nanomedicine. Under communication
- Kumar, S., et al. "Probiotic and prebiotic effects on the gut microbiota." Journal of Clinical Microbiology. Under communication.

References:

1. Professor, Rakesh Sehgal, Ex Dean PGIMER Chandigarh, PhD Mentor MBBS MD DNB, Microbiology, PGIMER Chandigarh.
2. Professor Jagat Rakesh Kanwar, AIIMS- Bhopal, Professor of Biochemistry, PhD mentor provided the Nano-formulations for the malaria treatment an alternative treatment therapy.
3. Dr. Kamran Zaman, Scientist E, ICMR-Regional Medical Research Center Belagavi, Worked under him as Postdoc fellow,