

DEPARTMENT OF MEDICAL BIOTECHNOLOGY, SMIMS, SMU

Publications by Faculty

Dr. Arundhati Bag

Research papers: National: 16, International: 11

Book: 03 (01 authored; 02 edited)

Book chapter: 05

Research papers (Recent five):

1. Byahut A, **Bag A**, Sherpa ML, 2024. *In vitro* evaluation of anti-hyperglycaemic activity of medicinal plants traditionally used in Sikkim, North East India. *Current Science*, 127: 735-740.
2. Byahut A, **Bag A**, 2022. An update on medicinal plants traditionally used to treat diabetes in southeast Sikkim, India. *Proc Indian Natl Sci Acad* 88, 186–196. <https://doi.org/10.1007/s43538-022-00074-5>
3. **Bag A**, Byahut A, Khandelwal B, 2022. Medicinal plants with kidney-protecting effect in diabetic nephropathy. *Current Science*, 123: 542-553.
4. Jaiswal S, Dey R, **Bag A**, 2021. Effect of heavy metal cadmium on cell proliferation and chromosomal integrity in *Allium cepa*. *Natl Acad Sci Lett* 45(1), 35–37. <https://doi.org/10.1007/s40009-021-01072-9>
5. Bag N and **Bag A**, 2019. Antimetastatic property of tea polyphenols. *Nutr Cancer*;72(3):365-376. doi:10.1080/01635581.2019.1638426.

Dr. Anil Bhattarai

- 1) Sironmani, T.A. and **Bhattarai, A.**, Patho-physiological studies of human blood with kidney dysfunction and therapeutics of albumin functionalized silver nanoparticles in mice kidney cells in vitro. *Trends in Medicine*. 2018 February. DOI: 10.15761/TiM.1000128.
- 2) **Bhattarai A**, Emerson IA. Dynamic conformational flexibility and molecular interactions of intrinsically disordered proteins. *Journal of Biosciences*. 2020 Dec 1;45(1):29.
- 3) **Bhattarai A**, Emerson IA. Computational investigations on the dynamic binding effect of molecular tweezer CLR01 toward intrinsically disordered HIV-1 Nef. *Biotechnology and Applied Biochemistry*. 2020 May 24.
- 4) **Bhattarai, A.** and Emerson, IA. Exploring the conformational dynamics and flexibility of intrinsically disordered HIV-1 Nef protein using molecular dynamic network approaches. *3 Biotech*. 2021 March 4 (Impact factor: 2.893).

- 5) Rirwa, RK., **Bhattarai, A.**, and Tamang BM., 2023. Draft genome sequence of *Lactiplantibacillus plantarum* DMR09 isolated from spontaneously fermented dahi, *Microbiology Resource Announcements, ASM Journal*
- 6) **Bhattarai A**, Priyadharshini A, Emerson IA. Investigating the binding affinity of andrographolide against human SARS-CoV-2 spike receptor-binding domain through docking and molecular dynamics simulations. *Journal of Biomolecular Structure and Dynamics*. 2023 Dec 29;41(22):13438-53
- 7) Tamang B, Das R, **Bhattarai A**, Karn R. Unveiling the Molecular Dialogue between Monkeypox E8 Protein and Punicalagin: Pioneering the New Era of Natural Drugs. *Authorea Preprints*. 2023 Aug 30
- 8) Das R, **Bhattarai A**, Karn R, Tamang B. Computational investigations of potential inhibitors of monkeypox virus envelope protein E8 through molecular docking and molecular dynamics simulations. *Scientific Reports*. 2024 Aug 23;14(1):19585

Dr. Chamma Gupta

Research papers (09):

1. **Gupta C**, Sherpa ML, Lucksom PG, Pradhan A, Chettri MN (2024). Evaluating different samples & techniques for hr-HPV DNA genotyping to improve the efficiency of risk profiling for oral & cervical cancers in Sikkim, India. *Indian J Med Res* 160 (2), 226-235. DOI: 10.25259/ijmr_877_23 [October 22, 2024]
2. **Gupta C**, Dolma KG, Sherpa ML, Bag A, Byahut A (2024). Human Papillomavirus (HPV) Vaccine: Success and Challenges. *JBSC-D-23-00722* (Accepted : September 2024)
3. Sherpa ML, **Gupta C**, Bhutia Y. et al. (2024). Genomic DNA Extraction from Different Human Tissue Sample: Urine, Oral Gargle, Blood, and Cervical for Real Time Amplification by qPCR. *Ind J Clin Biochem*, 39: 1,1-9. <https://doi.org/10.1007/s12291-023-01168-7>
4. Sherpa ML, Jha BK, Singh JK, Dahal BK, **Gupta C** (2022) Physiological and biochemical parameters of smokers and alcohol consuming adults from Terai region of Nepal using cross-sectional study. *Int J Clin Biochem Res* 2022;9(3):1-5.
5. Dolma, KG, Khatri R, Paul AK, Rahmatullah M, de Lourdes Pereira M, Wilairatana P, Khandelwal B, Gautam D, **Gupta C**, et al. Virulence Characteristics and emerging Therapies for biofilm-forming *Acinetobacter baumannii*: A review. *Biology* 2022, 11, 1343. <https://doi.org/10.3390/biology11091343>
6. Lucksom PG, Sherpa ML, Pradhan A, Lal S, **Gupta C**. Advances in HPV Screening Tests for Cervical Cancer—A Review-The Journal of Obstetrics and Gynaecology of India , 2021 Oct 13:1-6, ISSN:0975-6434/09719202
7. Jha BK, Sherpa ML, Dahal BK, Singh JK, **Gupta C**. Demographic and Biochemical Parameters of Community Survey Participants with Metabolic Syndrome from Terai Region of Nepal. *Journal of Clinical & Diagnostic Research*, Oct 2021,15(10) p36-39. 4p 15.

8. Das S, Chakraborty S, **Gupta C**, Lamichaney R, Rahman H. Effect of Umbilical Cord Ferritin Level on Auditory Brainstem Response Threshold in Newborns. Iran J otorhinolaryngol. 2020; 32(2);73-78. Doi:10.22038/ijorl.2019.35305.2163, PMID: PMC7085929, PMID: 32219072
9. **Gupta C**, Deb Roy A, Bhuyan NN. An evaluation of irregular antibody profile in voluntary blood donors and blood transfusion recipients in and around Gangtok, India [AMJ 2019;12(9):246-250] <https://doi.org/10.35841/1836-1935.12.9.246-250>

Book chapters (16):

1. Khandelwal B., **Gupta C.**, Byahut A. (2024). Chapter 15: Impaired Glucose Metabolism and Oxidative Stress of Diabetes Mellitus in Causation of Breast Cancer, Diabetes and Breast Cancer: An Analysis of Signaling Pathways. Bentham Science Publisher; 1: 135. <https://doi.org/10.2174/9789815256024124010011>
2. Khandelwal, B., **Gupta, C.** (2024). Chapter 258: Good, Bad and Ugly of Artificial Intelligence in health care. Medicine Update, Volume 24, 1321-1324.
3. **Gupta, C.**, Byahut, A., Deka., C, Bag, A., Khandelwal, B. (2024) Chapter 3: The Gut-Brain Axis and the Human Microbiome. Microbial Ecology: Microbiomes, Viromes, and Biofilms, CRC Press, 56-75. ISBN-13:9781032506050.
4. Dolma, K.G., Sundar S.S., **Gupta, C.**, Nissapatom, V. (2024). Chapter 8: The Effect of Microbiome Exchange on Humans and Animals, Microbial Ecology: Microbiomes, Viromes, and Biofilms, CRC Press, 186-201. ISBN-13:9781032506050.
5. **Gupta, C.**, Byahut, A., Khandelwal, B. (2024). Chapter 41: Genetic Approaches to hypertension: reverence to human hypertension. Manual of Hypertention (Hypertension Society of India), APICON 2024, Jaypee publication, 339-348. ISBN:97889356968349
6. **Gupta, C.**, Byahut, A., Dolma, K.G (2024). Chapter 20: Metabolic Syndrome and hypertension: Manual of Hypertention (Hypertension Society of India), APICON 2024, Jaypee publication, 167-173. ISBN:97889356968349
7. Khandelwal, B., **Gupta, C.** (2024). Chapter 5: Matrix metalloproteinases and the extracellular matrix. Manual of Hypertention (Hypertension Society of India), APICON 2024, Jaypee publication, 42-51. ISBN:97889356968349
8. Dolma, K.G., **Gupta, C.**, Gupta, Madhu. (2024). Chapter 28: Hypertension in Elderly. APICON 2024, Jaypee publication, 224-236. ISBN:97889356968349
9. Khandelwal, B., **Gupta, C.** (2023). Chapter 2: Leading Causes of Death and Disability Among the Global Aging Community. In: Lama, P. (eds) The Ageing Population. Springer, Singapore. https://doi.org/10.1007/978-981-99-5772-9_2. ISBN: 978-981-99-5771-2 978-981-99-5772-9
10. Khandelwal B, **Gupta C**, Byahut A. Chapter 60: Diabetes Mellitus and Pancreatitis (2023) Medicine Update, Evolution and Revolutions in Medicine, Girish Mathur, Jaypee Publication, (3);301-304. ISBN:9789354656811
11. **Gupta, C.**; Byahut, A.; Dolma, K.G. (2023). Chapter 3: An Introduction to Molecular Biology Techniques. Life Sciences: Trends and Technology; Scieng Publication, (1)17-28. ISBN: 978-93-94766-25-9

12. B. Khandelwal, Byahut, A, **Gupta, C.** (2022) Hyperuricemia in Diabetes: When to Intervene 2022/11; NEDSCON-Diabetes Update; Editorial Board and Northeastern Diabetes Society Guwahati, Assam; 5:103-108.
13. Khandelwal, B.; Bag, A.; **Gupta, C.;** and Byahut, A. (2022). Chapter 10: Future Challenges in the Use of Biomolecules Microbial and Natural Origin. Microbial Systematics: Biomolecules and Natural Macromolecules Applications; CRC press, Taylor & Francis group; 2022: 204-222. ISBN: 978-1-032-30983-5 (hbk), ISBN: 978-1-032-31025-1 (pbk), ISBN: 978-1-003-30767-9 (ebk), DOI: 10.1201/9781003307679
14. **Gupta, C.;** Byahut, A.; Dolma, K.G and Sherpa, M.L. (2022). Chapter 4: Biomolecules for Treatment of Communicable Diseases. Microbial Systematics: Biomolecules and Natural Macromolecules Applications; CRC press, Taylor & Francis group; 2022: 56-73. ISBN: 978-1-032-30983-5 (hbk), ISBN: 978-1-032-31025-1 (pbk), ISBN: 978-1-003-30767-9 (ebk), DOI: 10.1201/9781003307679
15. Khandelwal **B, Gupta C,** Dolma KG, Dey R, Bhutia R et al., 2022. Chapter 1: Free Radical Biology of Endocrine, Metabolic & Immune Disorders. Role of free radical biology in diabetes mellitus. Bentham books, Editor: Asis Bala. ISBN: 978-981-5049-23-7 eISBN: 978-981-5049-22-0
16. Khandelwal. B, **C, Gupta.** (2020). Chapter 7: Matrix metalloproteinases and the extracellular matrix. Manual of Hypertention (Hypertension Society of India). Jaypee publication, 2nd Edition 2020;61-68. ISBN: 9789352707089

Mrs. Sunaina Lal

1. Akhtar MN, Mishra M, Yadav V, Yadav M, Gujar R, **Lal S,** et al. Runx proteins mediate protective immunity against Leishmania donovani infection by promoting CD40 expression on dendritic cells. PLOS Pathog [Internet]. 2021 Dec 28;16(12):e1009136. Available from: <https://doi.org/10.1371/journal.ppat.1009136>
2. Lucksom, PG., Sherpa, M, Pradhan, A, **Lal, S.** et al. Advances in HPV Screening Tests for Cervical Cancer—A Review. *J Obstet Gynecol India* (2021). <https://doi.org/10.1007/s13224-021-01569-9>
3. Sherpa, M.L., Gupta, C., Bhutia, Y. et al. Genomic DNA Extraction from Different Human Tissue Sample: Urine, Oral Gargle, Blood, and Cervical for Real Time Amplification by qPCR. *Ind J Clin Biochem* (2024). <https://doi.org/10.1007/s12291-023-01168-7>
4. Argente-Martínez, L., Peñuelas-Rubio, O., Herrera-Sepúlveda, A. et al. Biotechnological advances in plant growth-promoting rhizobacteria for sustainable agriculture. *World J Microbiol Biotechnol* 41, 21 (2025). <https://doi.org/10.1007/s11274-024-04231-4>

BOOK CHAPTER

1. B Pratheesh PT, **Lal S,** Tuvikene R, Manickam S, Sudheer S. Chapter 2 - The contribution of microbial biotechnology to sustainable development in agriculture and allied sectors. In: Rastegari AA, Yadav AN, Yadav NBT-N and FD in MB and

B, editors. Elsevier; **2020**. p. 17–28.

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