School: **Interdisciplinary Education and Research**
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Name: **Dr. Dhananjay Shukla**
Designation: **Assistant Professor**
Qualifications: **Ph.D. (Biotechnology)**
Defense Institute of Physiology and Allied Sciences, (DRDO), Delhi
Area of Interest/Specialization: **Cancer Biology, Cardiovascular Diseases**

Experience: **12 Years**

- **Assistant Professor** **2013 – Present**
  Department of Biotechnology
  Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh, India
- **Assistant Professor** **2012 – 2013**
  Department of Biotechnology
  GITAM Institute of Science, GITAM University, Visakhapatnam, AP, India
- **Assistant Professor** **2012 – 2012**
  Department of Biotechnology
  Dr. D.Y. Patil Biotechnology and Bioinformatics Institute, Tathawade, Pune, India
- **Postdoctoral Fellow** **2010 - 2012**
  Lunderberg-Kienlen Lung Biology and Toxicology Laboratory
  Centre for Veterinary Health Sciences, Physiological Sciences Department
  Oklahoma State University, OK, USA
- **Postdoctoral Fellow** **2009 - 2010**
  Laboratory of Cell Signalling
  Centre for DNA Fingerprinting and Diagnostics (CDFD), Hyderabad, AP, India
- **Senior Research Fellow** **2006 - 2009**
  Defence Institute of Physiology and Allied Sciences,
  Defence Research and Development Organization (DRDO), Delhi, India
- **Junior Research Fellow** **2004 - 2006**
  Defence Institute of Physiology and Allied Sciences,
  Defence Research and Development Organization (DRDO), Delhi, India

Awards and Honors:

- Best paper Award, IQAC, Guru Ghasidas Vishwavidyalaya for the year 2021.
- *Postdoctoral Fellowship* Awarded by Department of Biotechnology for the year 2009 – 2010.
- *Senior Research fellowship* Awarded by University Grant Commission for the year 2006 – 2009.
- *Junior Research Fellowship* Awarded by University Grant Commission for the year 2004 - 2006.
- *Junior Research Fellowship* Awarded by Indian Council of Medical Research for the year 2004.
- Qualified *National Eligibility Test* (CSIR-NET) for Lecturership conducted by Council of Scientific and Industrial Research in year 2004.
- Qualified *Graduate Aptitude Test in Engineering* (GATE) conducted by Indian Institute of Technology in year 2004.

Research Projects:

- DST Fast-Track Proposal for young investigator "Role of GPNMB in pathogenesis of bronchopulmonary dysplasia" **Role: Principal Investigator.**
- UGC Major Research proposal "Therapeutic approach for Hutchinson Gilford Progeria Syndrome using antioxidant and mitochondrial biogenesis enhancer". **Role: Principal Investigator.**
- Seed grant proposal entitled "Role of microRNA-150 in the pathogenesis of bronchopulmonary dysplasia" Awarded by research advisory committee, Centre for Veterinary Health Sciences, Oklahoma State University, Oklahoma, USA (2011-2012). **Role: Principal Investigator.**

International Collaboration/Consultancy:

Best Peer Reviewed Publication: h-Index: 21 I Index:25 Citations: 1190

2022

1. Suresh Thakur, Shalitha Sasi, Sindhu Gopinathan Pillai, Ayantika Nag, Dhananjay Shukla, Ritu Singhal, Sameer Phalke and G. S. K. Velu. SARS-CoV-2. Mutations and Their Impact on Diagnostics, Therapeutics and Vaccines. Frontiers in Medicine (2022) 9; 1-16.

2021

2. Arundhati Mehta, Yashwant Kumar Ratre, Krishna Sharma, Vivek Kumar Soni, Atul Kumar Tiwari, Rajat Pratap Singh, Mrigendra Kumar Dwivedi, Vikas Chandra, Santosh Kumar Prajapati, Dhananjay Shukla and Naveen Kumar Vishvakarma. Interplay of Nutrition and Psychoneuroendocrineimmune Modulation: Relevance for COVID-19 in BRICS Nations. Frontiers in Microbiology (2021) 12; 1-23.
3. Vinit Singh Baghel, Sapnita Shinde, Vibha Sinha, Sanjay Kumar Pandey, Sudhakar Dwivedi, Nikita Singh, Atul Kumar Tiwari, Saurabh Saxena, Naveen Kumar Vishvakarma, Dhananjay Shukla, Prashant Bhatt. Post-COVID–19 complication and its effect on acute kidney injury. Journal of Renal Endocrinology (2021) 7: e18: 1-5.
4. Vivek Kumar Soni, Arundhati Mehta, Yashwant Kumar Ratre, Vikas Chandra, Dhananjay Shukla, Ajay Kumar, Naveen Kumar Vishvakarma. Counteracting Action of Curcumin on High

Glucose-Induced Chemoresistance in Hepatic Carcinoma Cells. Frontiers in Oncology (2021) 11, 738961.
5. Saxena Saurabh, Shukla Dhananjay. The pursuit of therapy for progeria. Aging (2021) 13, 15697-98.
6. Mrigendra Kumar Dwivedi, Dhananjay Shukla, Atul Kumar Tiwari. Evaluation of carcinogenic potential of Surface adsorbed Hazardous chemicals on vegetables and fruits Research. Journal of Agriculture Science (2021) 12(3): 801–806.
7. Vivek Kumar Soni, Arundhati Mehta, Krishna Sharma, Yashwant Kumar Ratre, Mrigendra Dwivedi, Navneet Chaturvedi, Dhananjay Shukla, Ashwini Kumar Dixit, Alok Kumar Singh, Naveen Kumar Vishvakarma. Immunity boosters in COVID-19: Reality or myth? Medicine India (2021)1, 1-10.
8. Arundhati Mehta, Vivek Kumar Soni, Krishna Sharma, Yashwant Kumar Ratre, Dhananjay Shukla, Alok Kumar Singh, Naveen Kumar Vishwakarma. Finding Horcrux of psychiatric symptoms in COVID-19: Deficiencies of amino acids and vitamin D. Asian Journal of Psychiatry (2021) 55, 102523.

2020

9. Vivek Kumar Soni, Krishna Sharma, Arundhati Mehta, Yashwant Kumar Ratre, Sujeet Kumar **Dhananjay Shukla**, Naveen Kumar Vishvakarma. A physiological link for psychiatric symptoms in COVI-19: role of amino acid deficiency. *Asian Journal of Psychiatry* (2020) 102426.
10. Vivek Kumar Soni, Arundhati Mehta, Yashwant Kumar Ratre, **Dhananjay Shukla**, Sujeet Kumar, Naveen Kumar Vishvakarma. Fight COVID-19 Depression with immunity booster: Curcumin for psychoneuroimmunomodulation. *Asian Journal of Psychiatry* 53 (2020) 102378.
11. Vivek Kumar Soni, Arundhati Mehta, Yashwant Kumar Ratre, Atul Kumar Tiwari, Ajay Amit, Rajat Pratap Singh, Navneet Chaturvedi, **Dhananjay Shukla**, Naveen Kumar Vishvakarma. Curcumin, a traditional spice component, can hold the promise against COVID-19?. *European Journal of Pharmacology* 886 (2020) 173551.
12. Vibha Sinha, Sapnita Shinde, Saurabh Saxena, Suresh Thakur, Tamanna Walia, Dixit V, Atul Kumar Tiwari, Naveen Kumar Vishvakarma, **Dhananjay Shukla**. A comprehensive review on Diagnostic and Therapeutic strategies for the management of Pancreatic cancer. *Critical Review in Oncogenesis* 25; 4 (2020) 381-404.
13. Sapnita Shinde, Saurabh Saxena, Vineeta Dixit, Atul Kumar Tiwari, Naveen Kumar Vishvakarma, Dhananjay Shukla. Epigenetic modifiers and their potential application in colorectal cancer diagnosis and therapy. *Critical Review in Oncogenesis*. 25; 2 (2020) 95-109.
14. SKJ Magani, SD Mupparthi, BP Gollapalli, **D Shukla**, AK Tiwari, J Gorantala, NS Yarla, S Tantravahi. Salidroside-Can it be a multifunctional drug? *Current Drug Metabolism* 21; 7 (2020) 512-524.
15. Soni V, **Shukla D**, Kumar A, Vishvakarma N. Curcumin circumvent Lactate induced chemoresistance in hepatic cancer cell line through modulation of hydroxycorboxylic acid receptor-1. *The International Journal of Biochemistry and Cell Biology 123*; (2020) 105752.

2018

16. Yadav NK, Tiwari AK, **Shukla D**, Saxena S. Prevalence of bacterial infection in blood among the patients in gurgaon, haryana and their antibiotic susceptibility pattern. *International Journal of Research and Analytical Reviews* 5; (2018) 265-271.

17. P Kumari, V Dixit, AK Tiwari, S Saxena, NK Vishvakarma, **D Shukla**. Computer assisted drug designing of traizole derivatives of noscapine as tubulin binding anticancer drug. *Asian Journal of Pharmaceutical and Clinical Research* 11; (2018) 69-57. (Impact Factor: 0.48)

2016

18. Saurabh S, **Dhananjay S**, Anju B. Expression of monocorboxylate transporter isoforms in rat skeletal muscles under hypoxic preconditioning and endurance training. *High Altitude Medicine and Biology*17; (2016) 32-42. (Impact Factor: 1.27) Citations: 8

2015

19. Yogie G, Emily H, Chunling Z, **Shukla D**, Weng T, Lin L. Platelet-derived Wnt antagonist Dickkopf-1 is implicated in ICAM-1/VCAM-1-mediated neutrophilic acute lung inflammation. *Blood* 126; (2015) 2220-2229**.** (Impact Factor**: 16.56**) Citation: 44

20. Singh SK, Naik PK, Vishwakarma NK, Dixit V, Tiwary AK, **Shukla D**. Identification and Ligand-based Virtual screening of 1,4-Dihydropyridine Analogues as Novel Calcium Channel Blockers. *International Journal of Research Studies in Biosciences 08; (2015) 107-115.*

21. Narasaraju T, **Shukla D**, More S, Huang C, Zhang L, Xioa X, and Lin L. Role of miR-150 and glycoprotein non metastatic melanoma protein B in angiogenesis during hyperoxia induced neonatal lung injury. *American Journal of Respiratory Cell and Molecular Biology* 52; (2015)253-261. (**Equal Authorship**) (Impact Factor: **4.3)** Citation: 28

2013

22. Somadri G, **Dhananjay S**, Suman Komjeti, Jothi L, Manorama R, Satish K, Rashna Bhandari. Inositol hexakisphosphate kinase 1 maintains hemostasis in mice by regulating platelet polyphosphate level. *Blood* 122; (2013) 1478-1486. (Impact factor**: 16.56)** Citation:**78**

23. Mrinalini S, Pauline T**, Dhananjay S**, Rajkumar T, Saurabh S, Anju B. Effect of subchronic hypobaric hypoxia on oxidative stress in rat heart. *Applied Biochemistry and Biotechnology* 169; (2013) 2405-2419. (Impact factor**:** 1.42) Citation: **24**

2012

24. Saurabh S, **Dhananjay S**, Anju B. Augmentation of aerobic respiration and mitochondrial biogenesis in skeletal muscles by hypoxic preconditioning with cobalt chloride. *Toxicology and Applied Pharmacology* 264; (2012) 324-334. (Impact factor**:** 3.97) Citations: **39**

2011

25. **Dhananjay S**, Yasmin A, Iti G, Narendra KS, Saurabh S, Vineeta KM, Kalpana B. Identification of Haptoglobin and Apolipoprotein A-1 as biomarkers of high altitude pulmonary edema. *Functional and Integrative Genomics* 11; (2011) 407-417. (Equal Authorship)

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26. **Dhananjay S**, Saurabh S, Jayamurthy P, Kalpana Shrivastava, Shirish Shukla, Mrinalini S, Swatantra KJ, Anju B. Hypoxic preconditioning with cobalt ameliorates hypobaric hypoxia induced pulmonary edema in rat. *European Journal of Pharmacology* 656; (2011) 101-109. (Impact factor**:** 3.17) Citations: **47**

27. Pauline T, Anju B, Mrinalini S, **Dhananjay S**, Saurabh S. Preconditioning effect of Cobalt chloride supplementation on hypoxia induced oxidative stress in male albino rats. *Biomedicine and PreventiveNutrition* 1; (2011) 84-90. Citation: **09**

2010

28. Mrinalini **S, Dhananjay S**, Thomas P. Saurabh S, Anju B. Hypoxic preconditioning facilitates acclimatization to hypobaric hypoxia in rat heart.*Journal of Pharmacy and Pharmacology* 62; (2010) 1729-39. (Impact factor**:** 2.4) Citations: **23**

29. Saurabh S, **Dhananjay S**, Shashank S, Yasmin AK, Mrinalini S, Anju B, Sairam M, Swatantra KJ. Hypoxic preconditioning by cobalt chloride enhances endurance performance and protects skeletal muscles from exercise induced oxidative damage in rats. *ActaPhysiologica*200; (2010) 249-263. (Impact factor**:** 5.93) Citations:**53**

30. Himadri P, Sarda SKS, Chitaranjan M, **Dhananjay S**. Role of oxidative stress and inflammation in hypoxia induced cerebral edema: a molecular approach. *High Altitude Medicine and Biology* 11; (2010) 231-244. (Impact factor**:** 1.49) Citations: **60**

2009

31. **Dhananjay S**, Saurabh S, Jayamurthy P, Sairam M, Mrinalini S, Swatantra KJ, Anju B, Ilavazhagan G. Hypoxic preconditioning with cobalt attenuates hypobaric hypoxia induced oxidative damage in rat lung. *High Altitude Medicine and Biology* 10; (2009) 57-69. Citations:**45**

32. Nadeem K, **Dhananjay S**, Anju B, Sairam M, Ilavazhagan G. Immunogenecity and protective efficacy of GroEL (hsp 60) of *Streptoccocuspneumonie* against lethal infection in mice. ***FEMS** Immunology and Medical Microbiology* 56; (2009) 56-62. (Impact factor**:** 2.44) Citations: **44**

33. Jayamurthy P, Geetha S, **Dhananjay S**, Harinath K, Ratan K, Sawhney RC, Arumughan C. Modulation of hypoxia induced pulmonary vascular leakage in rats by Seabuckthorn (Hippophaerhamnoides L.). *Evidence Based Complementary and Alternative Medicine* 8: (2009) 1-13. [Impact factor**:** 2.02] Citations: **32**

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34. Kalpana S, **Dhananjay S**, Anju B, Lily G, Sairam M. Cobalt chloride attenuates hypobaric hypoxia induced vascular leakage in rat brain: Molecular mechanism of action of cobalt chloride. *Toxicology and Applied Pharmacology* 231; (2008) 354-363. [Impact Factor: **3.97** Citations:**38**

35. Kalpana S, **Dhananjay S**, Anju B, Ilavazhagan G, Sairam M, and Banerjee PK; Neuroprotective effect of cobalt chloride on hypobaric hypoxia induced oxidative stress. ***Neurochemistry International*** 52; (2008) 368-375. [Impact Factor: **3.99]** Citations: **43**

36. Jayamurthy P, Geetha S, **Dhananjay S**, Himani J, Harinath K, Rajesh K, Sawhney RC. Modulatory effects of sebuckthorn (Hippophaerhamnoids L) in hypobaric hypoxia induced cerebral vascular injury. *Brain Research Bulletin* 77; (2008) 246-252. [Impact factor**:** 3.44] Citations: **51**

2006

37. Nadeem K, Anju B, **Dhananjay S**, Piyush P, Sarada SKS, Sairam M, Pratul KB. Immunogenicity and protective efficacy of Dnaj of *Streptococcus pneumoniae* in mice. *Vaccine* 24; (2006) 6225-6231. [Impact factor**:** 3.26] Citations: **47**
38. Badri NP, Sarma HD, **Dhananjay S** and Kaushal PM. Low dose radiation induced modification of ROS and apoptosis in thymocytes of whole body irradiated mice. *International Journal of Low Radiation* 2; (2006) 111-118. Citations: **16**

Edited Books:

1. Colon Cancer Diagnosis and Therapy Vol-1. Editor: Nagaraju GP, Dhananjay Shukla, Naveen Vishvakarma. Publisher: Springer Nature. 2020 (ISBN 978-3-030-63368-4)
2. Colon Cancer Diagnosis and Therapy Vol-2. Editor: Nagaraju GP, Dhananjay Shukla, Naveen Vishvakarma. Publisher: Springer Nature. 2020 (ISBN 978-3-030-64667-7)
3. Colon Cancer Diagnosis and Therapy Vol-3. Editor: Shukla, Dhananjay; Nagaraju, Ganji Purnachandra; Vishvakarma, Naveen Kumar. Publisher: Springer Nature. 2020 (ISBN 978-3-030-72701-7)

Book Chapters:

1. Vineeta Dixit, **Dhananjay Shukla**. Plants and Microbes Diversity at High Altitude. *Plants and Microbes in Ever Changing Environment* (2017) 343-363. Editor: SS Singh, Nova_Science Publishers, New York, USA. [ISBN: 978-1-53610-3].
2. Arundhati Mehta, Vivek Kumar Soni, **Dhananjay Shukla**, Naveen Kumar Vishvakarma. Cyanobacteria: a potential source of anticancer drugs. *Advances in Cyanobacterial Biology* (2020) 360-384. Editor: PK Singh, Elsevier, Academic Press, USA [ISSN: 9780128193112].
3. Sapnita Shinde, Saurabh Saxena, Atul Kumar Tiwari, Vineeta Dixit, Naveen Kumar Vishvakarma, **Dhananjay Shukla**. Therapeutic options for the management of cervical cancer. Editor: Nagaraju GP (Series Ed.) *A Theranostic and Precision Medicine Approach For Female Specific Cancers*. Elsevier. USA [In Press- ISSN:978-0-12-822009-2] 2020
4. Manju, Tiwari AK, **Shukla D**, Saxena S**.** Mechanisms of Antimicrobial Resistance. Editor: Prabhakar PK, Mishra VK. (eds.) Antimicrobial Resistance: Opportunities and Challenges. *Nova Science Publishers***,** New York, USA. [ISBN:978-153617-9439] 2020.
5. **Shukla D**, Saxena S, Prabhakar PK. Recent Development in the biomarkers for the gastric cancer. Editor: Nagaraju GP (Series Ed.) Diagnostic and Therapeutic Advances in GI Malignancies. Springer Nature, Singapore Pri Ltd**.** [ISBN:978-981-1554-7118] 2020
6. Vibha Sinha, Saurabh Saxena, Sanjay Kumar Pandey, Sudhakar Dwivedi, Suresh Thakur, Alexzendar Asia, Ashwini Kumar Dixit, Vineeta Dixit, Naveen Kumar Vishvakarma, **Dhananjay Shukla.** Current Challenges for the Effective Management of Covid-19 Pandemic. Advances in Experimental Medicine and Biology. (2021) 1353, 131-149.
7. Mehta A. et al. (2021) Short-Chain Fatty Acids as Therapeutic Agents in Colon Malignancies. In: Nagaraju G.P., Shukla D., Vishvakarma N.K. (eds) Colon Cancer Diagnosis and Therapy. Springer, Cham. https://doi.org/10.1007/978-3-030-63369-1_10

8. Gupta V. et al. (2021) Targeting Angiogenesis for Colorectal Cancer Therapy. In: Nagaraju G.P., Shukla D., Vishvakarma N.K. (eds) Colon Cancer Diagnosis and Therapy. Springer, Cham. https://doi.org/10.1007/978-3-030-63369-1_11
9. Merlin M., Prabhakar P.K., Shukla D., Tiwari A.K., Saxena S. (2021) Extracellular Vesicles in Colorectal Cancer Progression, Metastasis, Diagnosis, and Therapy. In: Vishvakarma N.K., Nagaraju G.P., Shukla D. (eds) Colon Cancer Diagnosis and Therapy. Springer, Cham. https://doi.org/10.1007/978-3-030-64668-4_17
10. Ratre Y.K. et al. (2021) Therapeutic Targeting of Glutamine Metabolism in Colorectal Cancer. In: Vishvakarma N.K., Nagaraju G.P., Shukla D. (eds) Colon Cancer Diagnosis and Therapy. Springer, Cham. https://doi.org/10.1007/978-3-030-64668-4_15
11. Shinde S. et al. (2021) Dietary Habits and Global Incidence of Colon Cancer. In: Vishvakarma N.K., Nagaraju G.P., Shukla D. (eds) Colon Cancer Diagnosis and Therapy. Springer, Cham. https://doi.org/10.1007/978-3-030-64668-4_2

Research Supervision:

P.G. Dissertations: 33
Ph.D. (Registered): 03

Administrative Responsibilities:

1. Member-Board of Studies, Department of Biotechnology (2019-2022)
2. Member-Departmental Research Committee (2014-2020)
3. Member-Anti-Ragging Cell (2018-2022)
4. Departmental Placement Co-ordinator (2016-2022)
5. Departmental Sports Co-ordinator (2016-2022)

Additional Information: