



School: Interdisciplinary Education and Research

Department: Forensic Science

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Qualifications: Ph.D.

Area of Interest/Specialization: DNA Forensics, Synthetic Biology, Recombinant DNA Technology, Infection Biology, DNA aptamers-based Sensors

Experience: Research-10 years,

Teaching: 6 years

Awards and Honors:

1. Research Associate in DBT funded project “Exploiting temporal transcription profile, computational analysis and post transcriptional gene silencing to identify and intercept interaction between host and dormant and actively replication *Mycobacterium tuberculosis*” (April 2014- January 2018)
2. Senior Research fellow in CSIR project “Metabolic engineering of *Enterobacter asburiae* PSI3 for sucrose dependent mineral phosphate solubilization (MPS) phenotype”. (September 2007-May 2010).
3. Qualified for Junior Research fellowship for Doctoral Thesis Council of Scientific and Industrial Research – university grant commission (CSIRUGC) NET examination (2005)
4. Received scholarship from Department of Biotechnology during M.Sc. For clearing all India biotechnology exam conducted by “JNU New Delhi” (July 2002-May 2004)

Research Projects: 1. UGC Start UP ongoing (2022-2024)

International Collaboration/Consultancy: None

Best Peer Reviewed Publication (up-to 10)

1. Theranostic application of a novel g-quadruplex-forming DNA aptamer targeting malate synthase of *Mycobacterium tuberculosis*. Abhijeet Dhiman, **Chanchal Kumar**, Subodh Kumar Mishra, Kriti Sikri, Ishara Datta, Pradeep Sharma, Tej P. Singh, Sagarika Haldar, Neera Sharma, Anjali Bansal, Yusra Ahmad, Amit Kumar, Tarun Kumar Sharma, and Jaya Sivaswami Tyagi, **Molecular Therapy Nucleic Acid.**, ISSN: 2162-2531 (2019), 18: 661-672, DOI: 10.1016/j.omtn.2019.09.026. **(I.F.-7.02)**
2. Cognate sensor kinase-independent activation of *Mycobacterium tuberculosis* response regulator DevR (DosR) by acetyl phosphate: Implications in anti-mycobacterial drug design, Saurabh Sharma, Priyanka Kumari, Atul Vashist, **Chanchal Kumar**, Malobi Nandi and Jaya Sivaswami Tyagi **Molecular Microbiology.**, ISSN: 1365-2958 , (2019), 111 (5): 1182-1194, DOI: 10.1111/mmi.14196. **(IF- 3.8)**
3. Multifaceted remodeling by vitamin C boosts sensitivity of *Mycobacterium tuberculosis* subpopulations to combination treatment by anti-tubercular drugs, Kriti Sikri, Priyanka Duggal, **Chanchal Kumar**, Sakshi Dhingra Batra, Atul Vashist, Ashima Bhaskar, Kritika Tripathi, Tavpritesh Sethi, Amit Singh and Jaya Sivaswami Tyagi, **Redox Biology.**, ISSN:2213-2317, (2018), 15: 452-466, DOI: 10.1016/j.redox.2017.12.020. **(IF- 7.12)**
4. Sucrose dependent mineral phosphate solubilization in *Enterobacter asburiae* PSI3 by heterologous overexpression of periplasmic invertases, **Chanchal Kumar**, Jitendra Wagh, G. Archana, G. Naresh Kumar, **World Journal of Microbiology and Biotechnology.**, ISSN: 0959-3993 , (2016), 32 :194 , DOI: 10.1007/s11274-016-2153- x. **(IF-2.1)**
5. Inoculation of genetically modified endophytic *Herbaspirillum seropedicae* Z67 endowed with gluconic and 2-ketogluconic acid secretion, confers beneficial effects on rice (*Oryza sativa*) plants, Jitendra Wagh, **Kumar Chanchal**, Shah Sonal, Bhandari Pravena, G. Archana, G. Naresh Kumar, **Plant and Soil.**, ISSN: 0032-079X, (2016), 409 (1):51-64, DOI: www.jstor.org/stable/44245215, **(IF- 3.26)**
6. Artificial citrate operon and *Vitreoscilla* hemoglobin gene enhanced mineral phosphate solubilizing ability of *Enterobacter hormaechei* DHRSS, Kavita Yadav, **Chanchal Kumar**, G. Archana, G. Naresh Kumar, **Applied Microbiology and Biotechnology.**, ISSN: 0175-7598, (2014), 98: 8327–8336, DOI: 10.1007/s00253-014-5912-3. **(IF-3.34)**

7. *Pseudomonas fluorescens* ATCC 13525 containing an artificial oxalate operon and *Vitreoscilla* hemoglobin secretes oxalic acid and solubilizes rock phosphate in acidic alfisols, Kavita Yadav*, **Chanchal Kumar***, G. Archana, G. Naresh Kumar, Plos One., ISSN: 1932-6203, (2014), 9 (4), e92400, DOI: 10.1371/journal.pone.0092400. **(IF- 3.23) *Equal contribution**
8. 2-Ketogluconic acid secretion by incorporation of heterologous gluconate dehydrogenase (*gad*) operon in *Enterobacter asburiae* PSI3 improves mineral phosphate solubilization, **Chanchal Kumar**, Kavita Yadav, G. Archana and G. Naresh Kumar, **Current Microbiology.**, ISSN: 0343-8651, (2013), 67 (3) 388-394, DOI: 10.1007/s00284-013-0372-z. **(IF- 1.36)**

Recent Books/Book Chapters/Monographs etc.

1. Abhijeet Dhiman, Harleen Kaur, **Chanchal Kumar**, Yusra Ahmad, Tarun Kumar Sharma (2019) Application of aptasensors in health care. Biosensors: Materials and Applications:1-50
2. **Chanchal Kumar**, Rajat Pratap Singh, Mrigendra Kumar Dwiwedi & Ajay Amit (2021) Immunomodulating Mediators of Colon Cancer as Immuno-therapeutic: Mechanism and Potential. In: Nagaraju, G.P., Shukla, D., Vishvakarma, N.K. (eds) Colon Cancer Diagnosis and Therapy Vol. 1. pp 271–308 Springer
3. Ajay Amit, Sudhir Yadav, Rajat Pratap Singh, **Chanchal Kumar** (2022) Development of RNABased Medicine for Colorectal Cancer: Current Scenario. In: Shukla, D., Vishvakarma, N.K., Nagaraju, G.P. (eds) Colon Cancer Diagnosis and Therapy Vol. 3. pp 339–360 Springer
4. Vivek Kumar Soni, Arundhati Mehta, Yashwant Kumar Ratre, **Chanchal Kumar**, Rajat Pratap Singh, Abhishek Kumar Srivastava, Navaneet Chaturvedi, Dhananjay Shukla, Sudhir Kumar Pandey, Naveen Kumar Vishvakarma (2022) Antineoplastic Effects of Curcumin Against Colorectal Cancer: Application and Mechanisms. In: Shukla, D., Vishvakarma, N.K., Nagaraju, G.P. (eds) Colon Cancer Diagnosis and Therapy Vol. 3. Pp-383–426 Springer

Research Supervision: None

Administrative Responsibilities: Nodal Officer: Physically Abled Cell