



**Centre/School/Special Centre:** School of Interdisciplinary Education and Research  
**Department:** Department of Biotechnology  
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## **Dr. Vikas Chandra**

**Qualifications:** M.Sc., Ph.D.

**Area of Interest/Specialization:** Cancer Biology, Genomics, Chemotherapy Response of Neoplastic Cells, Medicinal Plants, Abiotic Stress Response of Plants

**Experience:** Teaching: 4 years, Research: 11 years

### **Awards and Honors**

- Junior Research Fellowship (JRF) from Department of Biotechnology (DBT) (2011-2013)
- Senior Research Fellowship (SRF) from Department of Biotechnology (DBT) (2013-2016)
- Qualified CSIR-UGC NET (JRF+LS) held in December 2009 in Life Sciences subject and secured 127<sup>th</sup> rank under CSIR scheme of fellowship.
- Qualified CSIR-UGC NET (JRF+LS) held in June 2011 in Life Sciences subject and secured 17<sup>th</sup> rank under CSIR scheme of fellowship.
- Qualified CSIR-UGC NET (JRF+LS) held in June 2013 in Life Sciences subject and secured 40<sup>th</sup> rank under CSIR scheme of fellowship.
- Qualified GATE Biotechnology - 2010 with score 664 and secured 38<sup>th</sup> rank.
- Qualified Biotechnology Eligibility Test 2010 for Junior Research Fellowship conducted by Department of Biotechnology, Government of India. (DBT-JRF BET 2010).
- Qualified Biotechnology Eligibility Test 2011 for Junior Research Fellowship conducted by Department of Biotechnology, Government of India. (DBT-JRF BET 2011).

## **Research Projects**

UGC-BSR Research-Start-Up-Grant: 8 Lakh Sanctioned as per sanction letter No.F.30-551/2021(BSR) dated 30<sup>th</sup> November 2021

## **International Collaboration/Consultancy**

NA

## **Best Peer Reviewed Publications**

Mehta, A., Kumar Ratre, Y., Sharma, K., Soni, V. K., Tiwari, A. K., Singh, R. P., Dwivedi, M. K., Chandra, V., Prajapati, S. K., Shukla, D., & Vishvakarma, N. K. (2021). Interplay of Nutrition and Psychoneuroendocrine-immune Modulation: Relevance for COVID-19 in BRICS Nations. *Frontiers in microbiology*, 12, 769884. <https://doi.org/10.3389/fmicb.2021.769884>

Soni, V. K., Mehta, A., Ratre, Y. K., Chandra, V., Shukla, D., Kumar, A., & Vishvakarma, N. K. (2021). Counteracting Action of Curcumin on High Glucose-Induced Chemoresistance in Hepatic Carcinoma Cells. *Frontiers in oncology*, 11, 738961. <https://doi.org/10.3389/fonc.2021.738961>

Makhdoomi, M. J., Ali, S. A., Chandra, V., Rashid, R. & Qureshi, I. (2020). HbA1c is a risk factor for cardiovascular disease patients with type 2 diabetes mellitus. *Journal of Global Biosciences*, 9(6): 7484-7495. [www.mutagens.co.in/jgb/vol.09/06/090603.pdf](http://www.mutagens.co.in/jgb/vol.09/06/090603.pdf). ISSN: 2320-1355.

Chinnaswamy, S., Bhushan, A., Behera, A. K., Ghosh, S., Rampurkar, V., Chandra, V., Pandit, B., & Kundu, T. K. (2016). Roles for Transcription Factors Sp1, NF- $\kappa$ B, IRF3, and IRF7 in Expression of the Human IFNL4 Gene. *Viral immunology*, 29(1), 49–63. <https://doi.org/10.1089/vim.2015.0076>

Chandra, V., Das, T., Gulati, P., Biswas, N. K., Rote, S., Chatterjee, U., Ghosh, S. N., Deb, S., Saha, S. K., Chowdhury, A. K., Ghosh, S., Rudin, C. M., Mukherjee, A., Basu, A., & Dhara, S. (2015). Hedgehog signaling pathway is active in GBM with GLI1 mRNA expression showing a single continuous distribution rather than discrete high/low clusters. *PloS one*, 10(3), e0116390. <https://doi.org/10.1371/journal.pone.0116390>

Chandra, V., Biswas, N. K., Sarkar-Roy, N., Das, T., Bhattacharya, R. N., Tripathy, L. N., Basu, S. K., Kumar, S., Das, S., Chatterjee, A., Mukherjee, A., Basu, P., Maitra, A., Chattopadhyay, A., Basu, A., & Dhara, S. (2015). Variant allele frequency enrichment analysis in vitro reveals sonic hedgehog pathway to impede sustained temozolomide response in GBM. *Scientific reports*, 5, 7915. <https://doi.org/10.1038/srep07915>

Sarkar Roy, N., Biswas, N., Chandra, V., Das, T., Chatterjee, A., Bhattacharya, R. N., Tripathy, L., Basu, S., Maitra, A., Basu, P., Basu, A., & Dhara, S. (2013). Abstract 3430: How important is the “post TMZ-treatment recovery” of GBM neoplastic cells. *Cancer Research*, 73 (8\_Supplement): 3430. <https://doi.org/10.1158/1538-7445.AM2013-3430>

Das, T., Chatterjee, U., Ghosh, S. N., Deb, S., Saha, S. K., Gulati, P., Rote, S., Chandra, V., Mukherjee, A., & Dhara, S. (2013). Abstract 5587: An objective clustering of GBM patients to identify clinically relevant subgroup with hedgehog pathway activity. *Cancer Research*, 73 (8\_Supplement): 5587. <https://doi.org/10.1158/1538-7445.AM2013-5587>

## **Recent Books/Book Chapters/Monographs etc.**

### **Book Chapters (International Publishers)**

Chandra, V., Tiwari, A., Pant, K.K., Bhatt, R. (2022). Animal Cell Culture: Basics and Applications. In: Verma, P. (eds) *Industrial Microbiology and Biotechnology*. Springer, Singapore. [https://doi.org/10.1007/978-981-16-5214-1\\_24](https://doi.org/10.1007/978-981-16-5214-1_24)  
pp 691–719

Chandra, V., Tiwari, A., Singh, R.P., Desai, K.V. (2022). Therapeutic Intervention of Signaling Pathways in Colorectal Cancer. In: Shukla, D., Vishvakarma, N.K., Nagaraju, G.P. (eds) *Colon Cancer Diagnosis and Therapy Vol. 3*. Springer, Cham. [https://doi.org/10.1007/978-3-030-72702-4\\_8](https://doi.org/10.1007/978-3-030-72702-4_8)  
pp 143–171

Soni, V. K., Amit, A., Chandra, V., Singh, P., Singh, P. K., Singh, R. P., Patel, G.K., Singh, R. P. (2022). Role of Food Additives and Intestinal Microflora in Colorectal Cancer. In: Shukla, D., Vishvakarma, N.K., Nagaraju, G.P. (eds) *Colon Cancer Diagnosis and Therapy Vol. 3*. Springer, Cham. [https://doi.org/10.1007/978-3-030-72702-4\\_14](https://doi.org/10.1007/978-3-030-72702-4_14)  
pp 307–324

Jha, H., Chandra, V. (2019). Lignin-based Biocomposites and Biomaterials: A Review on Industrial Applications. In: Sarangi, P. K., Nanda, S. (eds) *Biotechnology for sustainable energy and products*. I.K. International Publishing House Pvt. Ltd., New Delhi, India. ISBN: 978-93-86768-63-6

### **Book Chapters (Indian Publishers)**

Garg, P., Loveleen, L., Chandra, V. (2021). Respiratory Disease-Causing Viruses. In: Sharma, L. K. (eds) *Impact & Challenges of Covid-19 on Health, Livelihoods, Environment & Education*. Excel Publications, Bhopal, India. ISBN: 978-93-91257-63-7

Chandra, V. (2020). Physical Stress due to Overuse of Digital Devices. In: Sharma, L. K. (eds) *Digital Stress Management*. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-54-5

Chandra, V., Pant, K. K. (2020). Long Term Effects of Excessive Use of Mobile Phones on Human Health. In: Sharma, L. K. (eds) Digital Stress Management. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-54-5

Chandra, V., Yadav, S. (2020). Physical Stress due to Persistent Use of Computers, Laptops and Mobile Phones. In: Sharma, L. K. (eds) Digital Stress Management. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-54-5

Chandra, V., Tiwari, A. (2020). Psychological Responses of Students towards Online Teaching Learning during Lockdown of Educational Institutes due to Covid-19 Pandemic. In: Sharma, L. K. (eds) Digital Stress Management. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-54-5

Patel, P., Tiwari, A., Chandra, V. (2020). Effects of Pollution on Aquatic Biodiversity. In: Sharma, L. K., Chandra, V. (eds) Environment & Sustainable Development. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-67-5

Chandra, A., Chandra, V. (2020). National Education Policy 2020: A Step towards Change and Progress. In: Sharma, L. K. (eds) Perspectives toward India's New National Education Policy 2020. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-53-8

Chauhan, Y., Chandra, V. (2020). National Education Policy 2020: New Landmarks in the Promotion of Indian Languages in Education System. In: Sharma, L. K. (eds) Perspectives toward India's New National Education Policy 2020. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-53-8

Kumar, V., Chandra, V., Sharma, L. K. (2020). Consumer Preference towards Eco Friendly Products: A Study of University Students. In: Sharma, L. K. (eds) The Psychology of Marketing. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-59-0

Chandra, V., Sharma, L. K., Kumar, V. (2020). Financial Stress among Indians during Nationwide Lockdown due to COVID-19 Pandemic. In: Sharma, L. K. (eds) Impact of COVID-19 on Indian Economy. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-47-7

Chandra, V. (2020). Increased Expectations of Students from Teachers and Education System during Covid-19 Pandemic. In: Sharma, L. K. (eds) Dynamics of Educational Psychology. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-46-0

### **Book Edited (Indian Publisher)**

Sharma, L. K., Chandra, V. (2020) Environment & Sustainable Development. Asian Press Books, Kolkata, India. ISBN: 978-93-90238-67-5

## **Research Supervision**

**Ph.D.:** 1 Ongoing

**M.Sc. Dissertation:** 13 (Completed); 7 (Ongoing)

**B.Sc. Dissertation:** 19 (Completed)

## **Administrative Responsibilities**

- Member of the committee for organizing quiz competition for celebration of National Science Day – 2022
- Cultural Coordinator (2019 – till date), Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur
- Member of the committee for preparation of Annual Report of Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur (2019 – till date)
- Member of the Admission Committee (Session: 2020 – 2021), Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur
- Member of the Admission Committee (Session: 2021 – 2022), Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur
- Training and Placement Coordinator (Session: 2021 – 2022) of Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur

## **Additional Information**

- Gave an invited talk entitled “Cell Proliferation Assay: CFSE Based Strategy” in “National Workshop on Animal Cell Culture: Techniques and Applications (ACCTA-2022)” organized by Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh from 16<sup>th</sup> to 22<sup>nd</sup> February, 2022.
- Gave an oral presentation on “Analyzing transcriptome for choosing better chemotherapy” in the conference — “International Conference on Emerging Researches in Bioscience (ICERB-2018)” held at Department of Zoology, Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh from 28<sup>th</sup> to 30<sup>th</sup> October, 2018.
- Presented a poster entitled — “Gene expression profiling in TMZ-resistant versus TMZ sensitive GBM neurospheres” in the conference — “Frontiers in Modern Biology, 2015” held at Department of Biological Sciences, Indian Institute of Science Education and Research, Kolkata from 5<sup>th</sup> to 6<sup>th</sup> December, 2015.
- Presented a poster entitled — “MAPK1 as a potential therapeutic target to overcome temozolomide (TMZ) resistance in glioblastoma (GBM)” in the conference — “International Conference on Cancer Research: New Horizons” held at National Centre for Cell Science, Pune from 19<sup>th</sup> to 21<sup>st</sup> November, 2015.

- Successfully completed 1-Week Online Training Program on “Statistical Data Analysis using "R" Software” organized by Science Tech Institute (Run by: Manraj Kuwar Singh Educational Society) Lucknow (U.P.), India from 21<sup>st</sup> to 27<sup>th</sup> December, 2021.
- Successfully completed and obtained A grade in UGC sponsored 2-Week Online Refresher Course on “Recent Advance in Life Science for Sustainable Development (Interdisciplinary)” for faculties in Universities/Colleges/Institutes of Higher Education organized by UGC-HRDC, Guru Ghasidas Vishwavidyalaya, Bilaspur (C.G.) from 2nd August, 2021 to 14th August, 2021.
- Successfully participated in the "Biology Class XI, Part-1 course" offered by the National Council of Educational Research & Training, New Delhi from April, 2021 to September, 2021 on swayam portal.
- Successfully participated in the "Biology Class XII, Part-1 course" offered by the National Council of Educational Research & Training, New Delhi from April, 2021 to September, 2021 on swayam portal.
- Successfully completed 9-Day National Level Online Faculty Development Program on “Foregrounding the Spectrum of Character Building in Modern Human Life” organized by Department of Humanities & Sciences, Balaji Institute of Technology & Science (affiliated to Jawaharlal Nehru Technological University, Hyderabad), Warangal, Telangana from 25<sup>th</sup> June to 3<sup>rd</sup> July, 2021.
- Successfully completed 3-Week Online Faculty Development Programme on “Educational Management and Leadership for Sustainable Environment” Organized by Centre for Academic Leadership and Education Management (CALEM), Department of Education, Panjab University, Chandigarh under the Aegis of PMMMMNMTT, Ministry of Education, Govt. of India in collaboration with Department of Gandhian and Peace Studies, Institute of Educational Technology and Vocational Education, Department of Political Science & University Institute of Applied Management Sciences, Panjab University, Chandigarh from 10<sup>th</sup> to 30<sup>th</sup> December, 2020.
- Successfully completed and obtained A+ grade in 2-Week Online Faculty Development Programme on “Managing Online Classes and Co-Creating MOOCs 3.0” for faculties in Universities/Colleges/Institutes of Higher Education organized by Teaching Learning Centre & Research Development and Services Cell, Ramanujan College, University of Delhi from 25<sup>th</sup> July to 10<sup>th</sup> August, 2020 under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMMNMTT) Scheme of Ministry of Human Resource Development (MHRD), Government of India.
- Successfully completed and obtained A+ grade in 4-Week Online Induction Training/Orientation Programme for faculties in Universities/Colleges/Institutes of Higher Education organized by Teaching Learning Centre & Research Development and Services Cell, Ramanujan College, University of Delhi from 4<sup>th</sup> June to 1<sup>st</sup> July, 2020

under Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) Scheme of Ministry of Human Resource Development (MHRD), Government of India.

- Successfully completed hands-on training program on “Quality Control of Biologicals” from 9<sup>th</sup> to 20<sup>th</sup> December, 2019 at National Institute of Biologicals (NIB), Noida under Pradhan Mantri Kaushal Vikas Yojana (PMKVY) scheme. I had also been deputed by order of competent authority to accompany 30 students of M.Sc. Biotechnology III Semester (Session 2019-20) of Guru Ghasidas Vishwavidyalaya, Bilaspur for this training program.
- Along with other faculty, coordinated the Industrial Visit Tour to Tifra Sirgitti Industrial Area organized by the Department of Biotechnology, Guru Ghasidas Vishwavidyalaya, Bilaspur for the students of M.Sc. Biotechnology III Semester (Session 2019-20) on 19<sup>th</sup> October, 2019. In this one day tour we had visited five companies viz. Jai Durga Oil Extraction Pvt. Ltd., Black Diamond Motors Pvt. Ltd., BEC Fertilizers Ltd., Narmada Drinks Pvt. Ltd. and Anshu Cold Storage.
- Successfully completed University of Toronto’s online course on “Statistics: Making Sense of Data” in Coursera platform from May to June, 2013.