**Dr. Anil Kumar**

Professor

Department of Biotechnology

1. **Personal Details**

Name : **Anil Kumar**

Nationality : Indian

Date of Birth : 18/09/80

Gender (M/F) : Male

Designation : Professor

Address : Department of Biotechnology,

GJUST, Hisar (Haryana) 125001

Department : Biotechnology

Institute/University : Guru Jambheshwar University of Science

Technology, Hisar (Haryana) 125001

Contact Number : 01662-253106, Mobile No: 09416533004,

E-mail : [bhankhar@gmail.com](mailto:bhankhar@gmail.com), [akumar@gjust.org](mailto:akumar@gjust.org)

**Area of Specialization** : Molecular Biology, Microbiology and

Bioremediation

1. **Educational Qualifications:**

Educational Qualifications (Starting from Graduation onwards): **M. Sc, Ph. D**

Details of professional training and research experience, specifying period: **19 years**

**C. Professional Activities**

**D. Position and Honours:**

**Position and Employment** (Starting with most recent employment)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Position** | **From** | **To** | **Institution Place** | **Nature of duties** |
| **Professor** | Oct 31,2022 | Till Date | GJUS&T, Hisar | PG Teaching & Research |
| **Associate Professor** | Oct 31,2019 | Oct 31,2022 | GJUS&T, Hisar | PG Teaching & Research |
| **Assistant Professor** | Oct. 31, 2005 | Oct. 31, 2019 | GJUS&T, Hisar | PG Teaching & Research |

# **Membership of Professional Organization:**

* 1. Life Member, Society for Sustainable Agriculture and Resource Management, India
  2. Life Member, Association of Microbiologist of India

**Administrative Assignments:**

* **Chairperson of Department of Biotechnology**
* **Chairperson of Department of Allied Health Sciences**
* **Program coordinator DBT supported PG Teaching Program**
* Completed the term of three years as **Program Coordinator** of **NSS** and 9 years as **Program officer** of **NSS**
* **Associate DSW**
* Member of **BOS** in **SGT University Gurgaon**
* Completed the term of two years as member of **Academic Council of University**
* Completed the term of two years as member of **University Court**

# **No. of Student Guided:**

**Ph.D**.: 04 Awarded, 08 in Progress **M. Tech**.: 02 **M.Sc.**: 130

**Academic Foreign visits:** Spain, France

**List of Projects**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S. No.** | **Title of Project** | **Duration** | **Funding Agency** | **Amount** |
| **1.** | Molecular characterization and genetic divergence in chickpea (*Cicer arietinum* L) using molecular markers [As Co-PI] | 3 years | HSCS&T,  Chandigarh | 7.55 Lacs |
| **2.** | Molecular characterization of major candidate genes associated with milk quality in Egyptian and Indian buffaloes [As Co-PI] | 3 years | DST, Govt. of India | 6.6 Lacs |
| **3.** | Molecular characterization of major candidate genes associated with milk fat percentage in Indian buffalo | 3 years | UGC, New Delhi | 10.05 Lacs |
| **4.** | Production, extraction and purification of pigments isolated from bacteria and their application | 1 year | UGC, New Delhi | Minor Project |
| **5.** | Isolation, Screening and characterization of Monocrotophos degrading Genes in bacterial isolates. | 1year | UGC, New Delhi | Minor Project |
| **6.** | Synthesis of nanoparticles using citrus fruit extract and evaluation of its antimicrobial, antioxidant and anti-cancerous activity | 2 years | DST-PURSE | 1 Lac |
| **7** | Isolation, screening and optimization of *Serratiopeptidase* enzyme producing bacteria | 1 year | University Grant | 1,24,000 |
| **8** | Isolation, screening and characterization of lignocellulose degrading bacteria from soil sample | 1 year | University Grant | 1,20,000 |

**LIST OF PUBLICATIONS**

**BOOK**

* Chhokar V and **Kumar A** (2009). **A Text Book of Immunology**, Arihant Publishers, New Delhi
* Chhokar V and **Kumar A** et.al. (2018). “**Proceedings of the International Conference on Bio & Nano Technologies for Sustainable Agriculture, Food, Health, Energy and Industry**” Research Reports, Vol. 2, 2018.

**BOOK CHAPTER**

* **Anil Kumar “Proteins of the immune system”** In Pan Stanford Publishing, 2018, USA
* Prachi, **Anil Kumar,** Vikash Beniwal, Vinod Chhokar **"Bioremediation of Tannery Wastewater "**in "Advances in Environmental Biotechnology" published by Springer Publishers, USA.
* Pradeep Dhanwal, **Anil Kumar,** Shruti Dudeja **"Recent Advances in Phytoremediation Technology"** in "Advances in Environmental Biotechnology" published by Springer Publishers, USA.
* Jagdish Parshad, **Anil Kumar,** Ajay Kumar Kuldeep Singh, Neel Kamal Ravinder Kumar and Renu Munjal (2022) Emerging issues and their solution related to use of sewage sludge in waste treatment. Biodiversity and climate change: Trends in present Context.

**LIST OF RESEARCH ARTICLES**

1. Chhokar V, Beniwal V, **Kumar A.** and Rana J.S. (2008). Lipid content and fatty acids composition of mustard (*Brassica juncea* L.). The Asian Journal of Experimental Chemistry, **3**:6-9. [ISSN: 0973-4783] Refreed but not indexed.
2. ChhokarV,Katiyar S, Beniwal V, **Kumar A.** and Rana J.S. (2008). Immobilization of tannase for commercial use in food industries. *Asian Journal of Bioscience* **3** (2): 275-278. [ISSN: 0973-4899] Impact factor- 0.934.
3. Chhokar V, Seema, Beniwal V, Salar R K, Nehra K S, **Kumar A** and Rana J S (2010). Purification and characterization of extracellular tannin acyl hydrolase from *Aspergillus heteromorphus* mtcc 8818. *Biotechnology and Bioprocess Engineering.* 15 (5):793-799. [ISSN 1226-8372] Impact factor- 3.386.
4. Aggarwal, H., Rao, A., Rana, J. S., Singh, J., **Kumar, A**., Chhokar, V., & Beniwal, V. (2011). Inter simple sequence repeats reveal significant genetic diversity among chickpea (Cicer arietinum L.) genotypes. *Journal of Plant Sciences*, *6*(5), 202. [ISSN: 1816-4951] Impact factor-5.363.
5. Sandhu, S. S., Sharma, A. K., Beniwal, V., Goel, G., Batra, P., **Kumar, A.,** ... & Malhotra, S. (2012). Myco‐biocontrol of insect pests: factors involved, mechanism, and regulation. *Journal of pathogens*, *2012*(1), 126819. [ISSN: 2090-3065] Impact factor-4.531.
6. **Kumar A**, Beniwal V, Samuchiwal S K, Kala S N, Raut A A, Chhokar V, Mishra A (2012). Expression of pluripotency determining stem cell marker in Sox-2 in umbilical cord blood of buffalo.  *Journal of Animal Science Advance*. 2(10): 841-846. [ ISSN:2251-7219] Refreed and indexed.
7. **Kumar A**, Kumar R, Beniwal V, Kala S.N., Mishra A, Raut A.A., Naik P.K., and Chhokar, V, (2012). Molecular differentiation of Glycerol-3-phosphate acyltransferase (Mitocondrial) among different breeds of *Bubalus bubalis*. *International Journal of Pharma and Biosciences*. 3(4): 685 – 694. [ISSN 0975-6299].
8. **Kumar A,** Kumar R, Beniwal V, Kala S.N., Mishra A, Raut A.A., Naik P.K., and Chhokar, V(2012). Molecular differentiation of Peroxysome proliferator activated receptor coactivator-1 among different breeds of *Bubalus bubalis.* Bioinformation 8(13): 600-606. [ISSN: 0973-2063]
9. Raut AA, **Kumar A,** Kala S N, ChhokarV, Rana N, BeniwalV, Jaglan S, Samuchiwal S K, Singh J K and MishraA (2012). Identification of novel SNPs in DGAT1 gene of buffalo by PCR-SSCP. *Genetics and Molecular Biology*. **35**(3): 610-613. [ISSN 1415-4757] Impact Factor-2.087.
10. Beniwal, V., Yogi, R., Goel, G., A., **Kumar, A.,** and Chhokar, V. (2012). Production of tannase through solid state fermentation using Indian Rosewood (Dalbergiasissoo) sawdust: a timber industry waste. *Annals of Microbiology.* **63**(2):583-590 [ISSN 1590-4261] Impact Factor-3.168.
11. Beniwal, V, **Kumar A**, Goel G, Chhokar V. (2013). A novel low molecular weight acido-thermophilic tannase from *Enterobacter cloacae* MTCC 9125. *Biocatalysis and Agricultural Biotechnology*. 2(2): 132 – 137 [ISSN: 1878-8181] Impact factor- 0.636.
12. [Vikas Beniwal](http://www.hindawi.com/57184635/), [**Anil Kumar**](http://www.hindawi.com/59294857/), Jitender Sharma and Vinod Chhokar (2013). Recent Advances in Industrial Application of Tannases: A Review. *Recent Patents on Biotechnology,* **7**, 228-233 ISSN [1872-2083] Impact factor-0.317.
13. Aggarwal, H., Rao, A., **Kumar, A**., Singh, J., Rana, J. S., Naik, P. K., & Chhokar, V. (2015). Assessment of genetic diversity among 125 cultivars of chickpea (Cicer arietinum L.) of Indian origin using ISSR markers. *Turkish Journal of Botany*, 39(2), 218-226.
14. Kumar M, Chhokar V, **Kumar A**, Sarla, Beniwal V and Aggarwal H (2014). A comparative study of genetic diversity in chickpea based upon touchdown and non-touchdown PCR using ISSR Markers. *Chiang Mai J. Sci*. 41(X): Impact factor-0.507.
15. TPK S Kumar, V Beniwal, N Kumar, **A Kumar,** V Chhokar (2015) [Biochemical characterization of immobilized tannase from Aspergillus awamori](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&citation_for_view=mw_Q5P0AAAAJ:ULOm3_A8WrAC). *Biocatalysis and Agricultural Biotechnology* 4 (3), 398-403 Impact factor-0.636
16. Aggarwal, H., Rao, A., **Kumar, A**., Singh, J., Rana, J. S., Naik, P. K., & Chhokar, V. (2015). Evaluation of genetic divergence and phylogenetic relationship using sequence-tagged microsatellite (STMS) sequences in Chickpea (Cicer arietinum L.) genotypes. *African Journal of Biotechnology*, *14*(45), 3051-3061.
17. V Chhokar, V Beniwal, H Aggarwal, **A Kumar** (2015). [Lipid content and fatty acid change in the developing silique wall of mustard (Brassica juncea L.)](https://scholar.google.co.in/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&citation_for_view=mw_Q5P0AAAAJ:Zph67rFs4hoC) *Biocatalysis and Agricultural Biotechnology* 4 (1), 122-125 Impact factor-0.636.
18. Mukesh R jangra, **Anil Kumar,** Ashwin A Raut, Anamika Mishra and Vinod Chhokar (2015). Partial characterization of Exon 5 of Stearoyl-Coa Desaturase (SCD) gene in buffalo using PCR-RFLP. *Progressive research- an International Journal* 10*-*1987-89.
19. Sunena, Dinanath Mishra, Shailendra Kumar Singh, **Anil Kumar** (2016). Development and characterization of zolmitriptan thiolated chitosan nanoparticles. *The Pharma Innovation* Impact factor-2.538.
20. Sunena, Dinanath Mishra, Shailendra Kumar Singh, **Anil Kumar** (2016). Synthesis, Characterization and Ex vivo Evaluation of Muco-adhesive potential of Thiolated chitosan. *The International journal of Pharma Professional’s Research”.*
21. Mor, S., Nagoria, S., **Kumar, A**., & Kaushik, C. P. (2016). QSAR studies and design of some tetracyclic 1, 4-benzothiazines as antimicrobial agents. *Drug research*, 436-443. Impact factor- 0.326.
22. Sunena, Dinanath Mishra, Shailendra Kumar Singh, **Anil Kumar** (2016). Formulation and optimization of mucoadhesive Galantamine loaded nanoparticles. *Der pharmaceutica letter.* Impact factor-31.09.
23. Kumar, R., Naik, P. K., Kumar, A., Aggarwal, H., **Kumar, A**., & Chhokar, V. (2016). A combined approach using RAPD, ISSR and bioactive compound for the assessment of genetic diversity in Aloe vera (L.) Burm. f. Impact factor- 0.615.
24. Manju, **Anil Kumar**, Mukesh Kumar and Narsi R. Bishnoi (2016). Kinetic Study of Methylene Blue Removal on Immobilized Biomass Left after Enzyme Production Using Response Surface Methodology. *Journal of Applied Life Sciences International* ***6****(3): 1-9*.
25. **Anil Kumar,** Vinod Chhokar, Ravinder Kumar, Himanshu Aggarwal and Vikas Beniwal (2016). Molecular characterization of acyl CoA: Diacylglycerol acyl transferase (DGAT1) in sheep and its comparison with other ruminants. American. *Journal of Biochemistry and Molecular Biology* Impact factor-2.7.
26. Pooja, A., Shruti, D., Rohit, C., Hemalata, S., Vikas, B., Vinod, C., & **Anil, K.** (2016). Antimicrobial activity of ethno-medicinal plants against cariogenic pathogens. *Journal of Medicinal Plants Studies*, *4*(3), 283-290. Impact factor-0.70
27. Yadav, P., Lal, K., Rani, P., Mor, S., **Kumar, A**., & Kumar, A. (2017). Efficient synthesis and antimicrobial evaluation of 2-(1-substituted-1 H-1, 2, 3-triazol-4-yl)-1-naphthaldehydes and their oxime derivatives. *Medicinal Chemistry Research*, *26*, 1469-1480. Impact factor-2.351.
28. Pradeep, D., Shruti, D., Abhishek, K., Rohit, C., Suman, R., **Anil, K**., & Vinod, C. (2017). Qualitative phytochemical analysis of leaves, stem and root extracts of selected medicinal plants. *Annals of Biology*, *33*(2), 186-190. Impact factor-0.122.
29. Abhishek, K., Pradeep, D., Ghawari, S. P., Shruti, D., Vinod, C., Vikas, B., & **Anil, K**. (2017). Isolation, screening and estimation of enzyme activity of xylanase producing bacteria. *Annals of Biology*, *33*(2), 199-203. Impact factor-0.122.
30. Shruti, D., Pradeep, D., Abhishek, K., Rohit, C., Yamini, G., **Anil, K**., & Vinod, C. (2017). Optimization of methyl parathion biodegradation through response surface methodology by fungi isolated from contaminated soil and water.  *Annals of Agri Bio Research*, *22*(2), 139-143. Impact factor-0.121.
31. Pradeep, D., Shruti, D., Abhishek, K., Rohit, C., Manendar, S., **Anil, K**., & Vinod, C. (2017). Isolation and screening of endophytic bacteria isolated from various fruits for plant growth factors. *Annals of Agri Bio Research*, *22*(2), 144-149. Impact factor-0.121.
32. Monga, S., Dhanwal, P., Kumar, R., **Kumar, A**., & Chhokar, V. (2017). Pharmacological and physico-chemical properties of Tulsi (Ocimum gratissimum L.): An updated review. *Pharma. Innovation*, *6*, 181-186. Impact factor-2.538.
33. Aggarwal, H., Singh, J., Beniwal, V., **Kumar, A**., & Chhokar, V. (2017). Quantification of genomic DNA of 125 chickpea (cicer arietinum L.) genotypes. *MOJ Biol Med*, *1*(5), 143-146.
34. Lal, K., Yadav, P., Kumar, A., **Kumar, A**., & Paul, A. K. (2018). Design, synthesis, characterization, antimicrobial evaluation and molecular modeling studies of some dehydroacetic acid-chalcone-1, 2, 3-triazole hybrids. *Bioorganic chemistry*, *77*, 236-244. Impact factor-5.307.
35. Dhanwal, P., Kumar, A., Dudeja, S., Badgujar, H., Chauhan, R., **Kumar, A**., & Beniwal, V. (2018). Biosorption of Heavy Metals from Aqueous Solution by Bacteria Isolated from Contaminated Soil: Dhanwal et al. *Water Environment Research*, *90*(5), 424-430. Impact factor-3.306.
36. Lal, K., Kumar, L., Kumar, A., & **Kumar, A.** (2018). Oxazolone–1, 2, 3-triazole hybrids: Design, synthesis and antimicrobial evaluation. *Current Topics in Medicinal Chemistry*, *18*(17), 1506-1513. Impact factor-3.57.
37. Choudhri, P., Rani, M., Sangwan, R. S., Kumar, R., **Kumar, A**., &Chhokar, V. (2018). De novo sequencing, assembly and characterization of Aloe vera transcriptome and analysis of expression profiles of genes related to saponin and anthraquinone metabolism. *BMC genomics*, *19*, 1-21. Impact factor-4.558.
38. Chaudhary, P., Chhokar, V., Choudhary, P., **Kumar, A**., & Beniwal, V. (2017). Optimization of chromium and tannic acid bioremediation by Aspergillus niveus using Plackett–Burman design and response surface methodology. *AMB Express*, *7*(1), 1-12. Impact factor-4.126.
39. AK Jaya Devi, Manju Yadav, **Anil Kumar** (2018). [Synthesis, characterization, biological activity and QSAR studies of transition metal complexes derived from piperonyl amine schiff bases](javascript:void(0)). *Chemical Papers.* Impact factor. 2.41 Impact factor-2.146.
40. Yadav, P., Lal, K., Kumar, L., Kumar, A., **Kumar, A**., Paul, A. K., & Kumar, R. (2018). Synthesis, crystal structure and antimicrobial potential of some fluorinated chalcone-1, 2, 3-triazole conjugates. *European journal of medicinal chemistry*, *155*, 263-274. Impact factor-7.088.
41. Mor, S., Sindhu, S., Nagoria, S., Khatri, M., Garg, P., Sandhu, H., & **Kumar, A**. (2019). Synthesis, biological evaluation, and molecular docking studies of some N‐thiazolyl hydrazones and indeno pyrazolones. *Journal of Heterocyclic Chemistry*, *56*(5), 1622-1633. Impact factor-2.035.
42. Chaudhary, P., Beniwal, V., Kaur, R., Kumar, R., **Kumar, A**., & Chhokar, V. (2019). Efficacy of Aspergillus fumigatus MCC 1175 for bioremediation of tannery wastewater. *CLEAN–Soil, Air, Water*, *47*(6), 1900131. Impact factor-2.404.
43. Hemlata, B., **Kumar, A**., & Chokkar, V. (2019). Optimization of Pseudomonas aeruginosa for chlorpyrifos degradation using response surface methodology. *J Microbiol Mod Tech*, *4*, 101. Impact factor-2.1.
44. L Kumar, K Lal, A Kumar, AK Paul, **A Kumar** (2020). [Pyrazoline tethered 1, 2, 3-triazoles: Synthesis, antimicrobial evaluation and in silico studies](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:AvfA0Oy_GE0C). *Journal of Molecular Structure,* 131154. Impact factor-3.841.
45. VB Hemlata, **Anil Kumar**, Vinod Chhokar (2020). [Optimization of physical parameters for chlorpyrifos degrading bacterial strain using Box-Behnken Model](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:vDijr-p_gm4C). *Indian Journal Environmental Protection* 40 (9), 985-990. Impact factor-0.137.
46. Lal, K., Poonia, N., Rani, P., **Kumar, A**., & Kumar, A. (2020). Design, synthesis, antimicrobial evaluation and docking studies of urea-triazole-amide hybrids. *Journal of Molecular Structure*, *1215*, 128234. Impact factor-3.841.
47. S Dudeja, V Chhokar, H Badgujjar, R Chauhan, S Soni, V, Beniwal, **A Kumar** (2020). [Isolation and screening of antibiotic producing fungi from solid-state waste](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:tzM49s52ZIMC). *Polymorphism* 4, 59-71.
48. R Kumar, RK Salar, PK Naik, M Yadav, **A Kumar**, A Kumar, R Yogi, (2021). [Elucidation of genetic diversity and population structure of sixty genotypes of Aloe vera using AFLP markers](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:uWiczbcajpAC). *South African Journal of Botany*. Impact factor-3.65.
49. Ravinder Kumar, Rajesh Yogi, Mohit Kumar, Harshita Bansal, Jagdish Parshad, Sweeta Soni, **Anil Kumar**, Shailja and Pawan Jalwal (2020). Synthesis and characterization of zinc oxide nanoparticle by using Aspergillus niger and their antimicrobial activity*.* [*International Journal of Chemical and Biological Sciences*](https://www.chemicaljournal.org/archives/2020.v2.i2.A.51/synthesis-and-characterization-of-zinc-oxide-nanoparticle-by-using-aspergillus-niger-and-their-antimicrobial-activity)
50. S Dudeja, V Chhokar, V Beniwal, H Badgujjar, R Chauhan, S Soni, **A Kumar** (2021). [Optimization and Production of antimicrobial compounds by Aspergillus flavus MTCC 13062 and its Synergistic studies](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:zLWjf1WUPmwC). *Biocatalysis and Agricultural Biotechnology,* 102065. Impact factor-0.636.
51. L Deswal, V Verma, D Kumar, A Kumar, M Bhatia, Y Deswal, **A Kumar** (2021). [Development of novel anti-infective and antioxidant azole hybrids using a wet and dry approach](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:ipzZ9siozwsC). *Future Medicinal Chemistry* 13 (11), 975-991. Impact factor-4.767.
52. **A Kumar**, N Luhach, R Chauhan, H Badgujar, S Soni, V Chhokar (2021). [Synthesis and Characterization of Silver Nanoparticles Using Citrus Fruit Juice for Evaluation of Anticancer Activity Against Colo-205 Cell Lines](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:uc_IGeMz5qoC). *Journal of Nano science and Nanotechnology* 21 (6), 3580-3587. Impact factor-1.70.
53. P Chaudhary, V Beniwal, A Umar, R Kumar, P Sharma, **A Kumar** (2021). [In vitro microcosm of co-cultured bacteria for the removal of hexavalent Cr and tannic acid: A mechanistic approach to study the impact of operational parameters](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:ZuybSZzF8UAC). *Ecotoxicology and Environmental Safety* 208, 111484. Impact factor-7.129.
54. S Dudeja, V Chhokar, V Beniwal, **A Kumar** (2022). [Antimicrobial Activity of Fungi isolated from Manikaran Hot Spring](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:9c2xU6iGI7YC). *Annals of Agri-Bio Research* 27 (1), 12-16. Impact factor-0.121.
55. A Kumar, K Lal, N Poonia, A Kumar, **A Kumar** (2022). [Synthesis, antimicrobial evaluation and docking studies of fluorinated imine linked 1, 2, 3-triazoles](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:WJVC3Jt7v1AC). *Research on Chemical Intermediates*, 1-16. Impact factor-3.134.
56. S Soni, V Chhokar, V Beniwal, RM Jangra, **A Kumar** (2022). [Statistical optimization of medium components and growth conditions to enhance Polyhydroxy butyrate yield by Bacillus endophyticus MTCC 13038](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:QYdC8u9Cj1oC). *Research Journal of Biotechnology* Vol. 17, 6. Impact factor-0.30.
57. N Poonia, K Lal, A Kumar, **A Kumar**, S Sahu, ATK Baidya, R Kumar (2022). [Urea-thiazole/benzo thiazole hybrids with a triazole linker: synthesis, antimicrobial potential, pharmacokinetic profile and in silico mechanistic studies](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:p__nRnzSRKYC). *Molecular Diversity* 26 (5), 2375-2391. Impact factor-3.364.
58. S Mor, M Khatri, S Sindhu, R Punia, S Nagoria, **A Kumar** (2022). [Synthesis, Antimicrobial Activity, α-Amylase Inhibitory Tests and Molecular Docking Studies of Thiazole Based Hydrazones Derived from 2-acyl-(1H)-indene-1, 3 (2H)-diones](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:IUKN3-7HHlwC). *Pharmaceutical Chemistry Journal* 56 (7), 925-934. Impact factor-1.063.
59. P Yadav, CP Kaushik, M Kumar, **A Kumar** (2022). [Phthalimide/Naphthalimide containing 1, 2, 3-triazole hybrids: Synthesis and Antimicrobial Evaluation](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=mw_Q5P0AAAAJ&sortby=pubdate&citation_for_view=mw_Q5P0AAAAJ:OTTXONDVkokC). *Journal of Molecular Structure*, 134688. Impact factor-3.841.
60. Singh, Kuldeep & Gera, Rajesh & Sharma, Nidhi & Parshad, Jagdish & Singh, Sushil & **BhanKha**r, **Anil Kumar**. (2022). Sole carbon source utilization (SCSU) pattern of nodule forming rhizobia of Sesbania species. Ecology, Environment and Conservation. S511-S515. 10.53550/EEC.2022.v28i04s.078.
61. Soni, S., Chhokar, V., Beniwal, V., Kumar, R., Badgujjar, H., Chauhan, R., & **Kumar, A.** (2023). Cost effective media optimization for PHB production by Bacillus badius MTCC 13004 using the statistical approach. *International Journal of Biological Macromolecules*, *233*, 123575. Impact factor- 8.025.
62. Goyal, S., Beniwal, V., Kumar, R., Kumar, R., Chhokar, V., & Umar, **A., Kumar** (2021). Molecular typing of Multidrug resistant uropathogenic Escherichia coli by Restriction fragment length polymorphism. *Engineered Science*, *18*, 204-216.Impact factor-16.13.
63. Priyanka, **Anil Kumar**, Vinod Chhokar, & Vikas Beniwal (2023). Understanding the role of bacterial genes and enzymes in organophosphate degradation: a step towards enhanced bioremediation *International Journal of Biological Innovations* Impact factor- 0.562.
64. Dhull, P., Lohchab, R. K., Kumar, S., Kumari, M., Shaloo, & **Bhankhar, A. K.** (2024). Anaerobic digestion: Advance techniques for enhanced biomethane/biogas production as a source of renewable energy. *BioEnergy Research*, *17*(2), 1228-1249. Impact factor- 3.1.
65. Kaur, N., Kumar, R., Alhan, S., Sharma, H., Singh, N., Yogi, R., & **Kumar, A**. (2024). Lycium shawii mediated green synthesis of silver nanoparticles, characterization and assessments of their phytochemical, antioxidant, antimicrobial properties. *Inorganic Chemistry Communications*, *159*, 111735. Impact factor-4.4
66. Kumar, V., Lal, K., Kumar, R., **Kumar, A.**, Mathpati, R. S., Singh, M. B., & Kumari, K. (2023). Click synthesis, antimicrobial, DNA photocleavage and computational studies of oxindole-tethered 1 H-1, 2, 3-triazoles. *Future Medicinal Chemistry*, *15*(13), 1115-1131. Impact factor- 4.2
67. Sihag, S., **Kumar, A**., Jangra, A., Sharma, G., Naik, P. K., Rushdi, H. E., & Chhokar, V. (2023). Investigation of Polymorphic Variations in the Alpha-Lactalbumin Gene and their Association Analysis to Milk Characteristics in River Buffalo. Current Journal of Applied Science and Technology, 42(44), 38-47.
68. Sihag, S., Rushdi, H. E., **Kumar, A**., Jangra, A., Hassanane, M. S., Hamdy, A. S., & Chhokar, V. (2023). Polymorphic variants analysis in Peroxisome proliferator-activated receptor gamma coactivator 1-alpha (PPARGC1A) Gene of Indian and Egyptian buffaloes. *Indian Journal of Animal Research*, *57*(11), 1474-1479. Impact factor-0.4
69. Malik, C., Dwivedi, S., Rabuma, T., Kumar, R., Singh, N., **Kumar, A**., & Chhokar, V. (2023). De novo sequencing, assembly, and characterization of Asparagus racemosus transcriptome and analysis of expression profile of genes involved in the flavonoid biosynthesis pathway. *Frontiers in Genetics*, *14*, 1236517. Impact factor-2.8
70. Parshad, J., Kumar, R., Chhokar, V., Patil, N., Beniwal, V., Singh, N., & **Kumar, A**. (2024). Paddy straw management: alternative strategies and emerging technology for sustainable ecosystem. *Pedosphere*. Impact factor-5.2
71. Dhull, P., Lohchab, R. K., Kumari, M., Singh, K., & **Bhankhar, A. K**. (2024). A Facile Method for Synthesis of α-Fe2O3 Nanoparticles and Assessment of Their Characterization. *Nature Environment & Pollution Technology*, *23*(1).
72. Dhull, P., Singh, K., **Bhankhar, A. K**., & Lohchab, R. K. (2024). Characterization of Rice Straw and Biogas Production under Mesophilic Conditions. *Annals of Agri-Bio Research* 29 (1): 8-16, Impact score- 0.28

**Conference/Workshop/Training Organized:**

* A 65th AMI Annual International Conference on “Perspectives of Microbes for Human Welfare” from November 14-17, 2024, GJUS&T, Hisar.
* An International Conference on “International Conference on Global Challanges in Environment, Food and Biotechnology for Sustainable Development (ICEFB 24)” from February 21-23, 2024, GJUS&T, Hisar.
* One Week Webinar Series on “Diverse Areas of Biotechnology” from August 25-31, 2020, sponsored by the Department of Biotechnology Govt. of India New Delhi.
* Two Weeks GIAN workshop on “Genome Manipulations, Editing and Interference by VIGS, CRISPR and RNAi” from March 5-14, 2019, under GIAN-MHRD, Government of India. [In Collaboration with Foreign Faculty: Marcos Egea Gutiérrez-Cortines, Director Institute of Plant Biotechnology, Technical University of Cartagena,Spain].
* Two days Workshop in Bioinformatics on “National Workshop on Computational System Biology and Bioinformatics ”during February 25-26, 2019, under the BIF program sponsored by the Department of Biotechnology Govt. of India NewDelhi.
* An International Conferenceon “Bio and Nano Technologies for Sustainable Agriculture, Food, Health, Energy and Industry (ICBN-2018)” from February 21-23, 2018, GJUS&T, Hisar.
* Two days workshop on “Statistical Application in Research Data Analysis” on February 24-25, 2017, under the aegis of the TEQIP-II program of the University, using BIF Facilities supported by the Department of Biotechnology Govt.of IndiaNewDelhi.
* Three days of Hands-on training in Bioinformatics on “Drug Discovery Technology: A Molecular Modelling Approach” on March 28- 30, 2016, under the BIF program sponsored by the Department of Biotechnology Govt. of India New Delhi.
* A National workshop on “Role of Statistics in Biological Research” from March 24-28, 2015, Department of Bio and Nano Technology, GJUS&T, Hisar.
* Two Days of Hands-onTraining on“Bioinformatics Tools for Genomics Problem Solving” from March 19-20, 2015, Department of Bio and Nano Technology, GJUS&T, Hisar.
* Interactive Programme-cum-Workshop on Research Methodology, for Ph.D. Scholarin Science & Engineering, February 22-28,2014 at Academic Staff College, GJUS&T, Hisar.
* Two Days Hands on Training on “Bioinformatics Tools & Techniques for Gene and Protein Analysis” from March 6-7, 2014, GJUS&T, Hisar.
* One Day National Workshop on “Emerging Trends in Nano Science and Biotechnology ”on August 19, 2014, GJUS&T, Hisar.
* Hands-on Training on “Basics of Bioinformatics for Biology Teachers” March 28-29, 2008, GJUS&T, Hisar.
* Training on “Application of Bioinformatics in Environment and Biodiversity”, Oct 3-7, 2008, GJUS&T, Hisar.

# **Innovations/Contribution to Higher Education:**

# As the Member Board of Studies and Research, designed and updated the course curriculum of the following academic programs as per the New Education Policy (2020):-

* 1. M.Sc. (Biotechnology)
  2. M.Sc. (Microbiology)
  3. Dual DegreeB.Sc.(Hons) Biotechnology-M.Sc. (Biotechnology)
  4. B.Sc. (Medical Group with Biotechnology)
  5. B.Sc. General (Medical Group) Botany