

# Curriculum Vitae

SUSHIL KUMAR SINGH

## Objective

I aspire to join an organization that provides me with adequate challenges and opportunities to grow as a person while applying my knowledge, skills and innovativeness towards the fulfillment of the organization goals.

## Research Interests

Advanced and Applied Microbiology, Bioremediation, Environmental Biotechnology, Animal Tissue Culture, Cancer Biology and Therapeutics, Stem Cell Biology, Molecular Biology, Recombinant DNA Technology, API Formulation and Development

## Past Experiences

Presently, working as **Assistant Professor** with Dr. Ambedkar Institute of Technology for Handicapped a UP State Govt. sponsored Institute. Prior to joining AITH, Kanpur I had worked with **SR Institute of Management & Technology, Lucknow**, and **Seth Vishambhar Nath Institute of Engineering & Technology, Barabanki, UP** affiliated to Dr. AKTU on the same position. Along with this I am also working as **Senior Scientist** for a startup named "**Lifevision Maser Private Limited.**" The aim of LVM is to explore the potentials of Microwave Technology in other domains apart from radio signaling, radio communications, using its thermal potentials, etc. LVM also wishes to develop new technologies for the hospital facilities.

Prior to joining LVM, I worked at **SS Medical Systems India Pvt. Ltd as Sr. Research Associate**, my role in the organization was to carry out the RnD work for the company's premier product "Optimaser" i.e Development and Up-gradation of Microwave based Disinfection and Sterilization System. The RnD facility of the organization was run in collaboration at Centre of Innovation and Translational Research **CSIR: Indian Institute of Toxicology Research**. The development and optimization of the product is being carried out under the guidance of Scientists of CSIR: IITR.

I had also worked with **Birla Institute of Technology and Sciences - Pilani Hyderabad Campus (BPHC)** on a project which focused on: Genomic analysis of RA (Rheumatoid Arthritis) Patients. At the same time I also assist my colleagues on the development of Point of Care Devices for UTI assessment, Glucose Level Detector and Hemoglobin Detector.

I had joined BPHC on Aditya Birla Group funded project on Waste Water and Effluent treatment of industrial effluent to bring down COD (Chemical Oxygen Demand) levels to permitted discharge levels. The COD was brought down to permitted levels by isolating bacterial strains those were capable of reducing the COD levels in waste water and were

optimized to reduce COD levels at lab scale. I have also worked on cyanobacteria for production of lipids that can be used as a Biofuel after Trans-esterification.

In M.Tech I took a project which focused on Antibiotic resistivity and tried study the degrading potentials of *Pleurotus florida*, an edible fungus on the antibiotic Ciprofloxacin as it is one of the widely prescribed medicine round the globe. This project was undertaken as there is rise in AMR and the world needs to focus on the methods to stop the rise of AMR as rampant use of antibiotics cannot be stopped.

I had also worked on isolation of Hydrocarbon degrading bacterial strains and at the same time production of industrially important Lipase enzyme which can serve as a possible potential for bioremediation of hydrocarbons and at the same time one can also produce Lipase which is not only used on food or pharma industry but also in paints plastic industry.

Before Joining BPHC, I had also worked with an **International Publishing Company** which is plus point for my Research career as working there gave me knowledge how to write good research papers and perform good research.

## Educational Qualifications

Sr No.	Class	Board /University	School / college	Year of passing
1.	Master in Public Health	Himalayan Garhwal University	Himalayan Garhwal University	2020
2.	M. Tech (Biotech)	Lovely Professional University	Lovely Professional University	2015
3.	B. Tech (Biotech)	RTM Nagpur University	Priyadarshini Institute of Engineering and Technology	2013
4.	Intermediate	CBSE	K.V.No. 1, Udhampur, J & K	2008
5.	High School	CBSE	K.V.No. 1, Bathinda, Punjab.	2006

## Training and Projects

- 2 months Molecular Biology training from DNA Labs India, Hyderabad, AP.
- 2 days workshop on Molecular Biology organized by Himedia Lab. Pvt. Ltd.
- Major projects
  1. Lipase Production from Hydrocarbon Contaminated Soil Sources.
  2. Study of degradation of ciprofloxacin by edible fungi *Pleurotus ostreatus*

3. To develop a method for COD reduction of textile industry effluent for STP and ETP
4. To improve the efficacy of fastest antibiotic finder RightBiotic
5. To explore the potentials of Microwaves for disinfection of hospital waste and its management.

### **Faculty Development Programs**

- Three Days Faculty Development Program on "Outcome Based Education" organized by SR Institute of Management and Technology in association with Inpods, Pune, India
- Five Days ATAL Faculty Development Program on "Waste Technology" organized by IILM College of Engineering & Technology, from 2021-1-27 to 2021-1-31.
- Five Days ATAL Faculty Development Program on "Application of Computers in Biology" organized by Galgotias University, from 2021-06-07 to 2021-06-11.
- Five Days ATAL Faculty Development Program on "Recent Advances in Biosimilars Development" organized by Recent Advances in Biosimilars Development from 2021-07-05 to 2021-07-09.
- Five Days ATAL Faculty Development Program on "Waste Technology: Emerging Strategies in Waste Management Solutions" organized by Dr. Ambedkar Institute of Technology for Handicapped, from 23/08/2021 to 27/08/2021.

### **Key Skills**

- Microsoft Office.
- Lab Instruments such as FTIR, Colorimeter, UV- Vis Spectrophotometer, Thermocycler, Electrophoresis, Autoclave, Cold Centrifuge, Microscopy, etc.
- Techniques: DNA Isolation (Blood and Bacteria), Microbiology, Molecular Biology, PCR, GC, HPLC, etc.
- Bioinformatics Tools: NCBI, BLAST, Rasmol, Argus Lab, PDB, UniProtKB/Swiss-Prot., Drugbank, etc

### **Additional Skills**

- Good communication and interpersonal skills.
- Quick learner who can rapidly master all aspects of job.
- Ability to perform as an individual as well as a team.
- Hard working, punctual, honest.
- Regularly upgrading my skills.

## Conferences and Workshops

- Sudheer Chand Azad, Ranjana Pandey, Priyanka Pandey, M S Rajput, **Sushil Kumar Singh**. Mycoremediation of Amoxicillin Using a White Rot Fungus *Phanerochaete Chrysosporium*. International Conference on Biotechnology for Sustainable Agriculture, Environment and Health, Jointly Organized By Malaviya National Institute of Technology, Jaipur and The Biotech Research Society, India at Jaipur, India During April 04-08, 2021.
- Presented a poster on “Antiproliferative Activities of Water Soluble Polysaccharides Isolated from Traditional African Medicine” in conference on “Drug Discovery India 2017” held at Bangalore.
- Attended workshop on “Winter Institute in Global Health, 2017” held at BITS Pilani, Hyderabad Campus.
- Presented a poster on “Induction of lipid biosynthesis in algal strains by nitrogen deprivation conditions for biofuel production” in conference on “World Congress on Biotechnology 2016.”
- Presented poster on “Lipase Production from Hydrocarbon Contaminated Soil Sources” in conference on “Exploring Basic Applied Sciences” held at Lovely Professional University in 2014.
- Attended National conference on “Chemistry for the protection of Environment”, PIET, Nagpur in 2009.

## Research Papers and Book Chapters

- **Sushil Kumar Singh**, Robinka Khajuria and Loveleen Kaur (2017) **Biodegradation of Ciprofloxacin by White Rot Fungus *Pleurotus ostreatus***. 3 Biotech 7:69 (PMID: 28452015) (Citations: 17)
- Shailendra Kumar Singh, **Sushil Kumar Singh**, Suman Kapur and Shanthi Sundaram (2018) **Algae Based CO<sub>2</sub> Sequestration : Sustainable Route For Greenhouse Gas Mitigation. The Role of Photosynthetic Microbes in Agriculture and Industry**. Nova Science Publishers.
- **Sushil Kumar Singh**, Sakshi Singh, Ashutosh Singh Gautam, Virendra Kumar, Ravish Singh Rajput and Manish Singh Rajput (2021) **Nanoparticles: Novel Approach to Mitigate Environmental Pollutants**. IntechOpen.

## Students Mentored

- Mentored 3 B.Tech Student in BITS Pilani Hyderabad Campus in completion of Lab Oriented Project (LOP) titled “Induction of lipid biosynthesis in 3 algal strains by nitrogen deprivation conditions for biofuel production” and “Use of microbes in biological crack filling in flyash bricks.”
- Mentored 6 B.Tech Student at AITH Kanpur for completion of their B.Tech Thesis.

## Curricular Activities and Achievements

- Team Member for **National Award Winning Team** by **TDB, Department of Science & Technology** for 2018 Best Technology Start up.
- 2 of the **Written Projects** for SS Medical Systems India Pvt. Ltd were selected for Final Round of Presentation for Grant at **BIRAC** in 2018 (**BIG and SBIRI**).
- Committee member in conference on “Exploring Basic Applied Sciences” held at Lovely Professional University
- Participated in Athletics and Sports at school level.
- Participated in Regional Science Exhibition, Chandigarh Region at School level.
- Participated in Cluster Level Social Science Exhibition, Chandigarh Region at School level.
- Good academic record in M. Tech.
- Participation in All India Essay Writing Competition at school level.

## Personal Details

<b>Name</b>	Sushil Kumar Singh
<b>Email id</b>	<a href="mailto:sushilkumarsingh1989@gmail.com">sushilkumarsingh1989@gmail.com</a>
<b>Mo. No.</b>	+91-9041687480
<b>D.O.B</b>	22 June 1990
<b>Sex</b>	Male
<b>Marital status</b>	Married
<b>Languages known</b>	English, Hindi
<b>Nationality</b>	Indian
<b>Address</b>	S/o Hon Sub Maj (Retd.) Ram Kripal Singh, Sunita Sadan, H. No. 696/1-B, Sanjeev Nagar, Ahirwan, Kanpur, Uttar Pradesh
<b>Hobbies</b>	Reading books Listening music Photography Trekking and excursions Social work

## References

- **Mr. Monish Bhandari, ED**, SS MEDICAL SYSTEMS (I) PVT. LTD., Lucknow.  
E-mail id : [monish@ssmedworld.com](mailto:monish@ssmedworld.com)
- **Prof. Suman Kapur**, Dean, International Programmes and Collaborations, Shri B. K. Birla and Shrimati Sarala Birla Chair Professor, Senior Professor, Head of the Department of Biological Sciences, BITS, Hyderabad Campus, Email: [skapur@hyderabad.bits-pilani.ac.in](mailto:skapur@hyderabad.bits-pilani.ac.in) ; [mssuman@gmail.com](mailto:mssuman@gmail.com)
- **Dr. Vivek Sharma, Assistant Professor** Department of Biological Sciences, A-103, BITS Pilani-Hyderabad Campus Jawahar Nagar, Shameerpet Mandal, Hyderabad-500 078, Telangana. Email: [viveksharma@hyderabad.bits-pilani.ac.in](mailto:viveksharma@hyderabad.bits-pilani.ac.in)
- **Dr. Loveleen Kaur**, Regulated Canadian Immigration Consultant, Former Assistant Professor @ Lovely Professional University, Punjab.  
Email- [loveleensays@gmail.com](mailto:loveleensays@gmail.com)