

Sesha Charan Pasupuleti

www.linkedin.com/in/charan-pasupuleti (443) 825-8810 spasupu1@jhu.edu Baltimore, MD

SUMMARY

A Graduate student at the Johns Hopkins University with a unique combination of Biotechnology and chemical engineering with 5 years of research experience. Seeking an internship and a co-op program in the field of drug development and biotechnology.

EDUCATION

JOHNS HOPKINS UNIVERSITY, Whiting School of Engineering

Baltimore, MD, USA

Master of Science in Engineering - Chemical and Biomolecular Engineering, GPA: 3.3/4.0

Graduating December 2020

Coursework: Metabolic systems biotech, Python, Machine learning, Adv. transport phenomena,

Adv. Thermodynamics, Product design, Kinetics

AMITY UNIVERSITY, Institute of Biotechnology

New Delhi, India

Bachelor of Technology – Biotechnology, GPA: 9.02/10

November 2018

Coursework: Biostatistics, Microbiology, Plant & Animal Biotech, Immunotechnology, Recombinant DNA Tech,

Enzymology, Bioinformatics, Bioprocess Technology, Downstream Processing, Genomics & Proteomics & Biomaterial science.

INDUSTRIAL WORK EXPERIENCE

Electrochemical Biosensors R&D Intern

February 2018-April 2018

Wrig Nanosystems Pvt. Ltd.

New Delhi, India

- Accelerated product development process of a novel point of care lipid profiling device up to 20% with a team of 3 by designing and performing optimization experiments to get consistent and accurate results.

Forensic Research Intern

April 2017-June 2017

Forensic Science Laboratory, Govt of New Delhi.

New Delhi, India

- Established a method to chromatographically analyze pepper spray residue found at the site of crime.
- Achieved an increase in detection efficiency and reduced work time by 50% in solving criminal cases.

RESEARCH EXPERIENCE

Oncology Research Assistant

September 2019-present

Dr. Gilkes's Lab, Johns Hopkins University School of Medicine

- Analyzing regulation of expression of critical oncogenes due to chronic hypoxia in 4 knockdown breast cancer cell lines through rt-PCR and western blotting.

Algal Research Assistant

November 2014-April 2017

Dr. Nigam's lab, Amity University

- Boosted algal performance to decolorize textile effluents by 35% by modifying different experimental parameters.
- Conceptualized 20 designs to integrate multiple applications of microalgae in a cost-effective manner.
- Filed a patent method (Indian patent office), published an article and wrote a book chapter in reputed journals.

MDR-Bacterial Research Assistant

July 2017-February 2018

Dr. Bhagat's Lab, Amity University

- Screened 150 different bacterial species from sewage drains across New Delhi, India.
- Characterized and published 4 multi-drug resistant (MDR) novel bacterial strains in NCBI nucleotide database.
- Presented our findings in both national and international conferences and awarded 3rd prize for best poster presentation.

Bioinformatics Research Trainee

May 2016-August 2016

Bioinformatics and Computational Biology Lab, Amity University

- Trained on 3D structure prediction of proteins, in-silico drug discovery and drug-protein docking studies.
- Published 3 first authored articles on in-silico homology modelling and docking studies of a few rare amyloid forming diseases.

SKILLS & CERTIFICATIONS

- Programming skills:** Java, Python, MATLAB and Excel.
- Laboratory skills:** Cell culture, Western blotting, rt-PCR, GCMS, HPTLC, Fluorescent microscopy, Flow cytometry, Immuno assays, Cryopreservation, RNA extraction, UV-Vis Spectrophotometry, Cyclic Voltammetry etc.
- Certified Six Sigma Green Belt** from British Standards Institution (BSI), United Kingdom.
- Specializing in ArcGIS (Geo information systems).
- Intellectual Property Rights certification from EnnobleIP Pvt. Ltd.

AWARDS AND ACHIEVEMENTS

- Best all-round student trophy** - Awarded to 27 out of 15000 Amity graduands for the year 2018 on Graduation ceremony.
- Best organization skills** – trophy received out of 300 students from Amity Institute of Biotechnology.
- Best poster presentation** - Awarded 3rd at the National symposium on Emerging diseases, IGIB, New Delhi.

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LEADERSHIP ROLES

- **Executive Assistant:** Hopkins Spring Fair 2020, a 3-day largest student run festival in the United States.
- **Committee Member:** Hopkins Robotics Cup 2020 for Baltimore school students by VEX Robotics and Northrop Grumman.
- **Campus Recruitment Coordinator:** Amity University, managed 300 students and collaborated with 30 biotech companies.
- **Organizing Team Member:** ‘Voice for BT’, a North India wide debate competition, with 50 participants and 200 audience size.

ACTIVITIES & SOCIETIES

- Content editor for Johns Hopkins School of Education, edited and reviewed 10 online courses.
- Peer Instructor for Life Design lab at Hopkins, mentoring and assisting students in resume writing, networking skills & cover letter drafting.
- Manuscript reviewer of the Journal of Medicinal Chemistry Research, Springer.
- Participated in Medhacks, a medical hackathon by Johns Hopkins School of Medicine in September 2019 attended by people across the world.
- Active member of the NGO, Inspire to Change, and American Society of Chemical Engineers(AIChE).
- Organised workshops and quizzes under Environmental club of Amity University attracting a minimum of 30 people.
- Volunteered in Amity Youth fest 2017 and Blood donation camps.

ADDENDUM

Publications, Patent, Book Chapter, Poster Presentations & NCBI database submissions.

- Kannikka Behl, Pasupuleti Sesha Charan, Monika Joshi, Mahima Sharma, Ashish Mathur, Mukul Suresh Kareya, Pannaga Pavan Jutur, Amit Bhatnagar, Subhasha Nigam (2020). Multifaceted applications of isolated microalgae *Chlamydomonas* sp. TRC-1 in wastewater remediation, lipid production and bioelectricity generation. *Bioresource Technology*, 304, 122993. <https://doi.org/10.1016/j.biortech.2020.122993>
- P Sesha Charan and P Narad (2017). Insilico analysis and docking studies of semenogelin-1 targeting senile seminal vesicle amyloidosis (SSVA), *wjpmr*, 3(8), 182-186.
- P Sesha Charan and P Sindhu (2018). Computational approach in the treatment of aorta medial amyloidosis (AMA) by in silico analysis and docking studies of lactadherin, *ejbps*, 5(2), 554-559.
- Sesha Charan Pasupuleti (2018). In-silico Analysis, Homology Modelling And Docking Studies Of Essential Proteins Of *Mycobacterium Leprae* For Effective Treatment Of Leprosy. *RES J PHARM BIOL CHEM SCI*, 9(4), 321.
- A complete patent filed on “Novel method for biosynthesis of green algae mediated Titanium Oxide (TiO₂) Nanoparticles with high yield”, CRN no: CRN2466 as a co-inventor at the Indian Patent Office.
- Behl Kannikka, Pasupuleti Sesha Charan, Nigam Subhasha (2018). Chapter 9: Bioremediation by microalgae. The Role of Photosynthetic Microbes in Agriculture and Industry Ed. K Tripathi, Ed. N Kumar, Ed. G Abraham. New York: Nova Science Publishers Inc., 2018, 151-172. ISBN: 978-1-53614-032-3.
- Submitted 16s rRNA gene sequences of 4 novel Multi-Drug Resistant bacterial strains to the NCBI nucleotide database having accession numbers MG515410, MG457734, MG430202, MG457731.
- Presented my work on “Screening of Carbapenem resistant bacteria from various sewage sites across Delhi-NCR” at a National Symposium on emerging diseases and drug delivery at the Institute of Genomics and Integrative Biology, CSIR, Govt of India.
- Presented my findings on “Comparative analysis of effect of various mobile phases in forensic examination of pepper spray residue by HPTLC” at the International Science Conference (ISC-2017), Royal University of Bhutan, Bhutan.