MANAV VANGA

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# PROFESSIONAL SUMMARY

* Research Associate with expertise in organoid culture, assay development, and quality control for advanced in vitro models.
* Skilled in generating reproducible liver and brain organoids from iPSCs, optimized for high-throughput applications.
* Experienced in production, validation, and quality control of pillar/perfusion plate platforms for drug discovery and disease modeling.
* Proficient in functional assays (viability, proliferation, hepatotoxicity) and co-culture systems for cancer and immune cell studies.
* Experienced in developing and standardizing SOPs to ensure reproducibility and regulatory compliance.
* Published researcher with peer-reviewed contributions on organoid-based platforms and assay systems.
* Collaborative team member with experience in academia–industry partnerships, advancing translational research and commercialization.
* Adept in applying molecular biology and biotechnology techniques to strengthen organoid research and assay validation pipelines.

# CORE COMPETENCIES

* Organoid Culture (Liver, Brain, Tumor Spheroids) & 3D Bioprinting Applications
* iPSC Differentiation & Co-culture Assays
* Molecular Biology: PCR, qPCR, ELISA, Immunofluorescence
* Phenotypic & Functional Assays (Viability, Proliferation, Hepatotoxicity)
* Imaging & Cytometry: Confocal Microscopy, Flow Cytometry, ImageJ
* Data Analysis & Statistics: GraphPad Prism, FlowJo
* Bioprocessing & Quality Control (Vaccine & Biologics Testing)
* SOP Development and Scale-Up for Organoid Platforms

# RESEARCH EXPERIENCE

**Research Associate | Bioprinting Laboratories Inc., TX | Jan 2024 – Present**

* Support production and optimization of pillar/perfusion plates for liver and brain organoid culture.
* Establish assays for liver cancer spheroid–immune cell co-culture, enabling drug response studies.
* Oversee mass production and quality control to ensure scalability and reproducibility.
* Validate organoid platforms using phenotypic and functional assays.
* Prepare technical documentation and content to support commercialization efforts.

**Assistant Researcher | Bioprinting Lab, University of North Texas | Feb 2023 – Dec 2023**

* Generated reproducible human liver organoids from iPSCs using microarray 3D bioprinting.
* Performed molecular and functional analyses (immunofluorescence, ELISA, qPCR, viability assays).
* Optimized integrated plate platforms (micro-pillar/well, 36Pillar/Perfusion, 384-pillar).
* Contributed to publications on regenerative liver organoids and dynamic culture systems.

**Co-op Quality Control Specialist | Biological E Limited, India | Nov 2020 – Mar 2021**

* Conducted quality control tests for tetanus antitoxin and COVID-19 vaccines.
* Performed pH, conductivity, and toxicity assays to ensure vaccine safety compliance.
* Collaborated with senior scientists to support regulatory and GMP standards.

# EDUCATION

M.S., Biomedical Engineering | University of North Texas, USA | 2023 | GPA: 3.25/4.0

B.Tech., Biotechnology | K L University, India | 2021 | GPA: 7.8/10

# SELECTED PUBLICATIONS

* Lekkala, V. K. R., Kang, S. Y., Liu, J., Shrestha, S., Acharya, P., Joshi, P., … Vanga, M. G., et al. (2024). A pillar/perfusion plate enhances cell growth, reproducibility, throughput, and user friendliness in dynamic 3D cell culture.
* Shrestha, S., Lekkala, V. K. R., Acharya, P., Kang, S. Y., Vanga, M. G., & Lee, M. Y. (2024). Reproducible generation of human liver organoids (HLOs) on a pillar plate platform via microarray 3D bioprinting.
* Joshi, P., Kang, S. Y., Lee, M., Vanga, M. G., et al. (2024). Dynamic culture of bioprinted liver tumor spheroids in a pillar/perfusion plate for predictive screening of anticancer drugs. Biotechnology & Bioengineering (submitted).

(Additional publications available on [Google Scholar](https://scholar.google.com/scholar?hl=en&as_sdt=0%2C44&q=manav+goud+vanga&btnG=))

# CERTIFICATIONS

* Good Clinical Practices – International Conference Harmonization (Nidatraining.org)
* Clinical Data Management in Medical Devices – Cavaxion Clinical Research
* Cell Culture Technologies – NPTEL
* DNA Decoded – Coursera
* Industrial Biotechnology – Coursera
* Whole Genome Sequencing of Bacteria – Coursera
* The Science of Stem Cells – Coursera