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# Work / Education:

Jawaharlal Nehru Technological University Hyderabad, India

Assistant Professor on contract basis (September 2009 – till date): Teaching theory and practical sessions of Cell biology, Animal cell science and Technology, Bioanalytical techniques, and Tissue engineering to post-graduate students of M.Tech Biotechnology, M.Sc Biotechnology and M.Sc Microbiology

Jawaharlal Nehru Technological University Hyderabad, India Ph.D in Biotechnology (2011-2018)

Jawaharlal Nehru Technological University Hyderabad, India M.Tech in Biotechnology (2005-2009)

Kakatiya University, Warangal, India M.Sc in Biotechnology (2003-2005)

Kakatiya University, Warangal, India B.Sc in Biotechnology (2000-2003)

# Research experience:

**Assisted in research work and grant writing for Research projects** funded by TEQIP (Technical Education Quality Improvement Programme), Govt. of India at Jawaharlal Nehru Technological University Hyderabad, India (July 2018 - till date)

* **Evaluating the role of Kaempferol in enhancing cisplatin's effect on different cancer cells through promoting apoptosis** (Procs.No.TEQIP-III-IST-JNTUH/280/2019): Maintenance and preservation of cell lines (HeLa,MDA MB 231, MCF 7, HEK 293, HCT- 15, HCT-115) Screening cytotoxicity of phytochemical and chemotherapeutic drugs on cancer cell lines, Combination studies to analyze the interactions between the combined compounds, Morphological analysis of cells, Analysis of cellular DNA damage by fluorescent microscopy.
* **Studies on secondary metabolites of *Heritiera fomes buch*. and its application in anti- microbial and anti-oxidant activity** (Proc.No.TEQIP-III-IST-JNTUH/293/2019): Preparation of crude extract of *Heritiera fomes Buch*., Screening of whole plant extract for its bioactive compounds, Study its effect on both gram-positive and gram-negative bacteria, To study its antioxidant activity.
* ***In vitro* evaluation of antimicrobial and antioxidant activity of *Anethum graveolens***

(Procs.No.TEQIP-III-IST-JNTUH/129): Solvent extraction, Total Phenolic activity & Anti-

oxidant Activity, Antibacterial & antifungal activity Minimum Inhibitory Concentration (MIC) & Minimum Bactericidal Concentration (MBC)

**Supervisor** for M.Tech & M.Sc student’s dissertation projects since 2019:

* Effect of Turmeron on inflammation associated with IL-6, IL-10, TNF-α study on HEK cells (October 2022-April 2023).
* Anti-Inflammatory effect of secretome on nucleus pulposus cells ( October 2022- April 2023).
* Evaluation of Bioactive properties of Indian Sundarban Mangrove associate *Saueda Monoica* (August 2021-January 2022).
* Combating cancer using combination therapy: Effect of *Heritiera fomes* plant extracts and chemotherapeutic drug combinations on different cancer cell lines (Sept 2020- Sept 2021).
* Biosynthesized gold nanoparticles conjugated with β carotene and curvularin against lung and oral cancer – An *invitro* study (July 2020-December 2021).
* Biosynthesized gold nanoparticles conjugated with Curcumin and Paclitaxel against lung and oral cancer – An *Invitro* study (July 2020-December 2021).
* Comparative study on the effect of phytochemicals; Naringin and Naringenin conjugated with gold nanoparticles against oral and lung cancer (July 2020-December 2021).
* Insights into the role of synthetic and semi-synthetic small molecules in apoptosis-resistant cancer (September 2020-January 2021).
* Genetic transformation of the CRISPR/Cas9 expression construct to the Sorghum (*Sorghum bicolor L*.) (September 2020-January 2021).
* Preparation of lignin nanoparticles for dye degradation in textile industry (September 2020- January 2021).
* Screening of antimicrobial extracts from different plants *Butea monosperma, Delonix regia, Spathodea campanulata* (June 2019-November 2019).
* Screening of antimicrobial and antioxidant activity of *Heritiera fomes* against pathogens (July 2019-December 2019).

Jawaharlal Nehru Technological University Hyderabad, India

**Graduate researcher**: Animal cell culture Lab, 2011-2018

* Investigated the anti-proliferative activity of kaempferol alone and in combination with conventional anticancer drugs doxorubicin and cisplatin on human cancer cell lines HCT- 15 and MDA MB 231.
* Investigated the molecular mechanisms responsible for the chemotherapeutic and potentiation effect of kaempferol on anticancer drugs, by evaluating molecular pathways
* Proinflammatory signaling pathway
* Proapoptotic signaling pathway

# Awards:

* Elite-Gold certification in FDP Cell culture technologies conducted by NPTEL 2020.

# Areas of interest:

* Cell culture, Cancer Biology, Stem cell technology, Immunology, Cell and Molecular biology

# Research publications:

* **Kalyani Chepuri**, Tulasi C D S L N, L.Saida “Exploring the antioxidant, antimicrobial and anticancer activities of Delonix regia flower extracts” (2023) (Accepted)
* Aakanksha, **Kalyani Chepuri,** Suresh Babu Bastipati. “*In silico* Comparative study on the Structural Assessment of CFTR Gene and its Mutations” (2023) (Accepted)
* Dunna, M., Kailasa, S., Saida, L., Babu, T. G., **Chepuri, K.,** & Rao, K. V. (2023). Cytotoxicity against Human Cancer cells and Lymphocytes based on Cerium Oxide Nanostructures. Inorganic Chemistry Communications, 110899.
* Allaka, T. R., Kummari, B., Polkam, N., Kuntala, N., Chepuri, K., & Anireddy, J. S. (2022). Novel heterocyclic 1, 3, 4-oxadiazole derivatives of fluoroquinolones as a potent antibacterial agent: Synthesis and computational molecular modeling. Molecular Diversity, 26(3), 1581- 1596.
* Saida, L., & **Kalyani, C** (2021). Cytoprotective effect of kaempferol against H2O2 induced human blood mononuclear cells. Research Journal of Biotechnology 16 (1), 76-82.
* **Kalyani, C.,** Naga Tulasi, C. D., Sudarshan, S., Geetha, A., Narasu, M., & Saida, L. (2020). Screening of Antimicrobial and Antioxidant Activity of Acetone Extracts of Heritiera fomes Whole Plant against Pathogens. International Journal of Pharmaceutical Investigation, 10(4), 564-568.
* Ashwitha K, Waseequr Rahman Md, Ranjith Siva K, Suresh Babu B, **Kalyani Ch**, (2020) “Novel Corona Virus (Covid-19) Outbreak - A Review”, Asian Journal of Microbiology BiotechnologyEnvironmental Science, Vol. 22, No. (3) 129-135.
* **Chepuri Kalyani,** Mangamoori Lakshmi Narasu, Yumnum Priyadarshini Devi (2017) Synergistic growth inhibitory effect of flavonol–kaempferol and conventional chemotherapeutic drugs on cancer cells. Int J Pharm Pharm Sci 9(2), 122-127.
* Malthum, S., Polkam, N., Allaka, T. R., **Chepuri, K.,** & Anireddy, J. S. (2017). Synthesis, characterization and biological evaluation of purine nucleoside analogues. Tetrahedron Letters, 58(44), 4166-4168.
* **Chepuri Kalyani,** Mangamoori Lakshmi Narasu, Yumnam Priyadarshini Devi A (2016) Comparative study of the activity of Kaempferol on cancer cells and normal cells. Discovery 52 (247), 1539-1545.
* Venkataramireddy, V., Shankaraiah, M., Rao, A. T., **Kalyani, C**., Narasu, M. L., Varala, R., & Jayashree, A. (2016). Synthesis and anti-cancer activity of novel 3-aryl thiophene- 2- carbaldehydes and their aryl/heteroaryl chalcone derivatives. Chemistry, 9(1), 31-39.
* B Suresh Babu, M Lakshmi Narasu, B Venkanna, **CH Kalyani,** CH Narmada (2016) Screeningof antimicrobial and antioxidant activities of the plant extracts of *Elytraria acaulis.* Discovery52 (247), 1547-1552.
* B Suresh Babu, M Lakshmi Narasu, B Venkanna, Kodaparthi Ashwitha, **CH Kalyani,** CH Narmada (2016) Evaluation of Antimicrobial and Antioxidative Activities of the Aerial Plant Extracts of Elytraria acaulis. Int. J. Curr. Microbiol. App. Sci 5(8), 20-29.
* **Chepuri Kalyani**, Mangamoori Lakshmi Narasu, Yumnum Priyadarshini Devi (2015) Effect of phytochemical kaempferol on HCT-15 and lymphocytes. Indian Journal of Applied Research5(10), 452-454
* Yumnam Priyadarshini Devi, Addepally Uma, Mangamoori Lakshmi Narasu and **Chepuri Kalyani** (2015) A Comparative Study of the Effect of Gallic Acid on Cancer Cells and Normal Cells. Research Journal of Pharmaceutical, Biological and Chemical Sciences 6(4) 460-464.
* Parsharamulu Rayam, Jaya Shree Anireddy, Naveen Polkam, Tejeswara Rao Allaka, **Kalyani Chepuri** and Mukharjee Nadendla (2015) Synthesis of biological activity of novel acyl hydrazone derivatives of 3-(4,5-diphenyl-1,3-oxazol-2-yl) propanoic acid as anticancer, analgesic and anti-inflammatory agents. Journal of Pharmacy Research 9(2), 157-164.
* Devi YP, Uma A, Narasu ML and **Kalyani C**. (2014) Anticancer activity of gallic acid on cancer cell lines, HCT15 and MDA MB 231. International Journal of Research in Applied, Natural andSocial Sciences 2(5), 269-272.

# Book chapters:

* Manikantha, D., Tulasi, C. D. S. L. N., & **Kalyani Chepuri\*** (2023). Cellular and Animal Toxicities of Micro-and Nanoplastics. Micro and Nanoplastics in Soil: Threats to Plant-Based Food, 261.
* C D S L N Tulasi, D Manikantha, Rajesh Abhinav Bokinala, **Kalyani Chepuri\*** (2023). Future prospects towards catalytic defence against microbial pathogens using nanozymes. Emerging Environmental applications of nanozymes, ISBN 979-8-88697-552-9.

DOI: [10.52305/RFFX4767](https://doi.org/10.52305/RFFX4767).

* Antimicrobials for sustainable food storage; Ashwitha Kodaparthi, Akella Sree Vidya Keerthana, Kotkojwal Sandhya, **Kalyani Chepuri**\*. Submitted to CRC Press for the book entitiled” Natural Antimicrobials, Their Soruces and Food Safety” 2023 (Accepted)
* Green sustainable technological application in food processing; Ashwitha K and **Kalyani Chepuri\*.** Submitted to Springer Nature for the book entitled “Prevention, Diagnosis, and Understanding mechanisms of the Complex Diseases” 2023 (Accepted)
* Integrated QQ with nano-techniques – a potent antibacterial therapy; **Kalyani Cheuri,** Tulasi C D S L N, Manikantha D, Shivani. Submitted to Royal Society of Chemistry for the book entitled “Quorum Quenching: A chemical Biological Approach for Biofilm Mitigation and Drug Development Chemical Biology” 2023. (Accepted)
* Toxicity of metallic nanoparticles: Assessment and impacts; **Kalyani Cheuri,** Tulasi C D S L N, Manikantha D, Ch. Shilpa Chakra. Submitted to Taylor and Francis CRC Press for the book entitled “Emerging Roles of Metallic Nanocarriers for Health and Environment” 2023. (Accepted)
* The Role of Bioactive Compounds and Associated Nanoparticles in Regulation of ROS-An

Innovative Strategy In Cancer Therapy; Satish Kumar Vemuri, **Kalyani Chepuri** \*, C D S L N Tulasi, D Manikantha, Gurava Reddy AV. Submitted to Nova science publishers for the book entitled “ The Role of Reactive Oxygen Species in Health and Disease” 2023. (Accepted).

# Conferences/FDPs/Workshops:

* Delivered expert lectures and conducted lab sessions in TSCOST-DBT sponsored Faculty Development Programme, “Animal Cell line Technology” conducted at Centre for Biotechnology, JNTUH, Hyderabad from 7th to17th March 2022.
* Delivered an expert lecture on “Basics in cell culture and top trends in cell culture” in a webinar organized by the Department of Biotechnology, Little flower Degree College, Hyderabad on 31st March 2021.
* Delivered a guest lecture “Basics in animal cell culture” at a 3-day workshop organized by the Centre for Biotechnology, IST, JNTUH on March 18-20; 2021.
* Faculty Development Programme on Cell culture technologies conducted by NPTEL, April 2020.
* Faculty Development Programme on Tissue Engineering conducted by NPTEL, September 2020.
* Faculty Development Programme on Interactive session on Living Integrity conducted by Department of Mechanical Engineering of J.B. Institute of Engineering & Technology, 27th& 28th June 2020.
* Faculty Development Programme on Research methodology and software tools in research on 28-29 July 2020 by St.Pious X Degree & PG College for Women.
* Volunteered as a Co-chairperson (Technical session) and as a member (Local advisory committee) in “International Conference on Biotechnology and Bioengineering Trends” (2017), CBT, JNTUH, Hyderabad.
* Voluntarily involved in “National Workshop on Recent Advances in Science & Technology” (2014),JNTUH, Hyderabad.
* Poster presentation in “Internal conference on Biotechnology in Human Welfare” (2013), Kakatiya University, Warangal.
* Active participation in “Indo US bilateral Workshop on Pancreatic Islets-Isolations to Transplantation” (2012), Hyderabad.

# References:

1. Dr. Mangamoori Lakshmi Narasu Professor (Retired)

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