

**Dr. Varsha Jayakar, M.Sc., Ph.D.**  
**Coordinator & Assistant Professor, Department of Biochemistry**  
**GSS College (Autonomous), Belagavi, Karnataka, India**



**RESEARCH AREAS:** Cancer Biology, Nanotechnology, Nano-medicine

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## **PERSONAL INFORMATION**

**Current Address:** Department of Biochemistry, GSS College (Autonomous), Belgaum, Karnataka, India-590006

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## **EDUCATION**

**2018-2022** **Ph.D. in Biochemistry**, from Mangalore University, Mangalagangothri, Karnataka, India.

**Ph.D. Thesis:** “Bioinspired Synthesis and Characterization of Metal Oxide Nanoparticles from Garcinia Species and Evaluation of Anticancer Activity”.

**Guide:** Prof. Manjula Shantaram, Mangalore University, Mangalagangothri, Karnataka, India.

**2014-2016** **Master of Biochemistry**, from Karnataka University Dharwad, Karnataka, India.

**2011-2014** **Bachelor of Science in Chemistry, Zoology, and Microbiology (CZM)**  
Karnataka Science Dharwad, Karnataka, India

## **ACADEMIC AND ADMINISTRATIVE EXPERIENCE**

**Dec, 2022 – Present** **Coordinator & Assistant Professor**, Department of Biochemistry, GSS College (Autonomous), Belgaum, Karnataka, India.

**April, 2018 - Oct, 2022** **Ph.D. candidate** at Mangalore University, Karnataka, India.

**Aug, 2017- April, 2018** **Graduate Assistant**, SUJULA III project, Bidar, India.

## RESEARCH OUTCOMES

### PEER REVIEWED PUBLICATIONS

Total Citations - **205**, h-index - **7**, i10-index – **6**

<https://scholar.google.com/citations?hl=en&user=MoLLev4AAAAJ>

1. **Varsha Jayakar**, Vinayak Lokapur, Manjula Shantaram\*. Identification of the volatile bioactive compounds by GC-MS analysis from the leaf extracts of *Garcinia cambogia* and *Garcinia indica*. Medicinal Plants-International Journal of Phytomedicines and Related Industries. 2020; 12(4): 580-90. Print ISSN: 0975-4261. DOI: 10.5958/0975-6892.2020.00070.2
2. **Varsha Jayakar**, Vinayak Lokapur, Manjula Shantaram\*. “*In-vitro* antioxidant and selective cytotoxicity of *Garcinia cambogia* and *Garcinia indica* leaf extracts on human kidney cancer cell line”. International Journal of Research in Pharmaceutical Sciences. 2021; Vol. 12(3): 1718-1728. (ISSN: 0975-7538). DOI: <https://doi.org/10.26452/ijrps.v12i3.4773>
3. **Varsha Jayakar**, Vinayak Lokapur, Nityasree B. R., Raju Krishna Chalannavar, Lyned D. Lasrado, Manjula Shantaram\*. Optimization and green synthesis of zinc oxide nanoparticle using *Garcinia cambogia* leaf and evaluation of their antioxidant and anticancer property in kidney cancer (A498) cell lines. Biomedicine. 2021 Jul 7; 41(2): 206-22. ISSN: 0970 2067. DOI: <https://doi.org/10.51248/.v41i2.785>
4. Vinayak Lokapur, **Varsha Jayakar**, Manjula Shantaram\*. Preliminary phytochemical screening, physicochemical analysis, and *in-vitro* antioxidant activity of selected *Holigarna* species-Endemic plant species of Western Ghats. Biomedicine. 2020; 40(4): 460-6. ISSN: 0970 2067. DOI: <https://doi.org/10.51248/.v40i4.319>.
5. Vinayak Lokapur, **Varsha Jayakar**, Raju Krishna Chalannavar, Lyned D. Lasrado, Manjula Shantaram. ZnO nanoparticles with spectroscopically controlled morphology, bioinspired from *Holigarna grahamii* (Wight) Kurz and delving its antioxidant and anticancer potential on A498 cell line. Materials Today Communications. 2022: 103338. DOI: <https://doi.org/10.1016/j.mtcomm.2022.103338> (Impact factor: 3.383).  
Vinayak Lokapur, **Varsha Jayakar**, Manjula Shantaram\*. Phytochemical Investigation, Chemical composition and *In-vitro* antioxidant activities of various extracts of *Holigarna ferrugenia* Marchand. Medicinal Plants-International Journal of Phytomedicines and Related Industries. 2022: 14(1); 72-83.
6. Maji Jose, Vengal Ipe Varghese, **Varsha Jayakar**, Vinayak Lokapur, Srinivasa, K., Manjula Shantaram\*. Evaluation of antioxidant activities and free radical scavenging properties in Mango Leaves, Husks of Areca and Coconut. Research Journal of Pharmaceutical, Biological and Chemical Sciences (RJPBCS) 2018; 9(4):1607-1619. ISSN: 0975-8585.
7. Maji Jose, Vengal Ipe Varghese, **Varsha Jayakar**, Vinayak Lokapur, Srinivasa, K., Manjula Shantaram\*. Analysis of oxidative stress induced by different tobacco samples and the protective effect by certain plant extracts. World Journal of Pharmaceutical Research (WJPR) 2018; 7(15): 734-769. ISSN: 2277-7105. DOI: 10.20959/wjpr201815-13003. SJIF Impact factor-8.074.
8. Maji Jose, Vengal Ipe Varghese, **Varsha Jayakar**, Vinayak Lokapur, Srinivasa, K., Pratap, G.K., Manjula Shantaram\*. An Exploration on Cytotoxicity Induced by Tobacco Products

and Cyto-Protective Effects of Certain Plant Extracts. International Journal of Current Research (IJCR) 2018; 10(7):71149-71155.ISSN:0975-833X. DOI: <https://doi.org/10.24941/ijcr.31307.07.2018>.

9. Maji Jose, Vengal Ipe Varghese, **Varsha Jayakar**, Vinayak Lokapur, Srinivasa, K., Ali Mohammed Abdullah Bawazir, Manjula Shantaram\*. Tobacco Induced Apoptosis in Cultured Oral Epithelial Cells and Protective Effect of Selected Plant Extracts. International Journal of Advance Pharmaceutical Sciences (IJAPS).
10. Maji Jose, Vengal Ipe Varghese, **Varsha Jayakar**, Vinayak Lokapur, Srinivasa K., Manjula Shantaram\*. A study on geno-toxicity induced by tobacco products and antigenotoxic effects of plant extracts. International Journal of Pharma and Biosciences (IJPBS). UGC approved Journal. 2019 (January - March); 10(1): 44-56. ISSN: 0975-6299.
11. Bernhardt GV, Shivappa P, Shantaram M\*, **Varsha Jayakar**, Vinayak Lokapur, RT J. Phagocytic and oxidative burst activity of neutrophils in type 2 diabetic patients with foot ulcers. Biomedicine. 2021; 41(4):776-80.
12. Seema Kamble, Sushma Nadgoudar, Nayana Deshapande, **Varsha Jayakar**, Keshata Gaikwad, Ambarish Sindagi, Anmol Kurthkoti, Archana Kulkarni, Sadashiv S. O, Chandrashekhar Unakal. An *In-vitro* Study on Antibacterial activity of *Mimosa pudica*, *Cynodo dactylon* and *Impatiens balsamina*. World Journal of Pharmaceutical Research (WJPR); Volume 3(1), pp739-748, 2013 (ISSN 2277 – 7105).

### **BOOK CHAPTERS**

1. **Varsha Jayakar**, Vinayak Lokapur, Manjula Shantaram\*. “The Role of Nanotechnology in Food Processing and Food Packaging Industries”. 2020. Book: Nanotechnology in Food Industry: Applications, Challenges, and Opportunities, Chapter-2. Page number: 17-84; Publishers: Daiichi Books. **Published.**
2. **Varsha Jayakar**, Vinayak Lokapur, Manjula Shantaram\*. (2020) "Nano-based Nutraceuticals and Their Applications: Food Safety, Regulation, and Challenges" Book: Functional Foods for Health Maintenance: Understanding their Role in Cancer Prevention. Chapter-17. Page number: 406-423. Publishers: Bentham Science Publications. **Published.**
3. Pratap G. K., **Varsha Jayakar**, Vinayak Lokapur, Manjula Shantaram\*. “Role of Functional Foods in the Amelioration of Alzheimer’s and Related Diseases”. Book: Functional Foods for Health Maintenance: Understanding their Role in Cancer Prevention. Chapter-18. Page number: 433-444. Publishers: Bentham Science Publications. **Published.**

### **AWARDS AND HONOURS**

**Best Paper Award** (Dr. Yellapragada Subbarao Memorial Award).

Vinayak Lokapur, **Varsha Jayakar**, Manjula Shantaram. Preliminary phytochemical screening, physicochemical analysis, and in-vitro antioxidant activity of selected Holigarna species- Endemic plant species of Western Ghats. 42nd International Conference of IABMS on ‘Recent Trends and Advances in Biomedical Sciences-An Integrated Approach’ organized by Nitte (Deemed to be University), Mangalore on 25th - 27th November 2021.

## WORKSHOPS/SEMINARS ATTENDED/ CONFERENCE PRESENTATIONS

- ❖ **Varsha Jayakar**, Vinayak Lokapur, Manjula Shantaram. “A Perception of Radiation Effects Among the Individuals of Jnana Kaveri Campus-A Survey” during the International Conference on Radiation Biology under the auspices of Indian Society of Radiation Biology theme being “Advances in Radiation Biology-Radiotherapy and Radiation Countermeasures” held from 4th to 6th October 2018 at K S Hegde Medical Academy, Deralakatte, Mangaluru.
- ❖ **Varsha Jayakar**, Manjula Shantaram. “A Review on Stem Cells from Umbilical Cord Blood” during the International Conference on “Current concepts on the role of Indian medicine and Phytoceuticals in maintenance of health” under the auspices of 39th Annual Summit of Indian Association of Biomedical Scientists (IABMS) held from 15-17th November 2018 at Jnana kaveri Post Graduate Centre of Mangalore University Chikka Aluvara, Kodagu.
- ❖ **Varsha Jayakar**, Manjula Shantaram. Poster presentation on “Evaluation of free radical scavenging in different leaf extracts of *Garcinia cambogia* and *Garcinia indica*” during the 40th Annual Conference of Indian Association of Biomedical Scientists (IABMS) on “Biomedical research and innovation to enhance Quality of life” held from 31st Oct-2nd November 2019 at Chettinad Hospital and Research Institute (CHRI) Kelambakkam, Chennai.
- ❖ Seema Kamble, Sushma Nadgoudar, Nayana Deshapande, **Varsha Jayakar**, Keshata Gaikwad, Ambarish Sindagi, Anmol Kurthkoti, Archana Kulkarni, Sadashiv S. O, Chandrashekhara Unakal. “Biotechnological Prospecting in Herbal Anti-Viral and Anti-Cancerous Drug Development” held by the Department of Post Graduate Studies in Biotechnology (UGC Sponsored National Conference), SDM College, Ujire on 17-02-2012.
- ❖ Participated as Delegate in the National Conference organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
- ❖ Participated in the DBT Ministry of Science and Technology, New Delhi Sponsored Ten Days National workshop on “Plant Microbial Interaction for the production of the Therapeutic Compounds” held from 17th to 26th October 2019 at Kuvempu University Jnanasahyadri Shankaraghatta, Shimoga District Karnataka.
- ❖ Participated in the Dr. Sarada Subramaniam Preconference workshop on Handling of laboratory animals & Zebra fish in biological research” in the 40th Annual Conference of Indian Association of Biomedical Scientists (IABMS) on “Biomedical research and innovation to enhance quality of life” held from 31st October 2019 at Chettinad Hospital and Research Institute (CHRI) Kelambakkam.
- ❖ Participated in the Interactive Workshop on “Areca nut and Human Health” held during 24th to 25th July 2018 at Central Plantation Crops Research Institute, Kasaragod, Kerala.
- ❖ Participated in Two Day Lecture Series in Molecular Genetics held on 24th and 25th August 2018 at K. S. Hegde Medical Academy, Deralakatte, Mangaluru in association with Karnataka Science and Technology Academy (KSTA).
- ❖ Participated in workshop on “Basics of cell culture and application in drug discovery” during the International Conference on “Current concepts on the role of Indian medicine and phytoceuticals in maintenance of health” under the auspices of 39th Annual Summit of Indian Association of Biomedical Scientists (IABMS) held from 15th to 17th November

2018 at Jnana Kaveri Post Graduate Centre of Mangalore University Chikka Aluvara, Kodagu.

- ❖ Participated in workshop on “DNA Damage Studies” at International Conference on Radiation Biology under the auspices of Indian Society of Radiation Biology theme being “Advances in Radiation Biology-Radiotherapy and Radiation Countermeasures” held on 4th October 2018 at K. S. Hegde Medical Academy, Deralakatte, Mangaluru.

**BOE/BOS member of University and Academic Council member**

- ❖ **Board of Examination** member in Biochemistry for MSc under Rani Channamma University from 2023-24.
- ❖ Chairperson, **Board of Examination**, PG Department of Biochemistry, GSS College (Autonomous), Belagavi
- ❖ Chairperson, **Board of Studies**, PG Department of Biochemistry, GSS College (Autonomous), Belagavi
- ❖ **Member of Academic Council**, GSS College (Autonomous), Belagavi

**RESEARCH GUIDANCE:**

**ONGOING MSc PROJECT CANDIDATES LIST:**

Sl. No.	Title of the Project	Name of the students	Registration No.	Status
01	Studies on phytochemical screening, GCMS, antioxidant and anticancer activity of <i>Embelia tsjeriam-cottam</i> stem extract and spectrophotometrically controlled facile green synthesis of its metal oxide nanoparticles in biological applications.	Ms. Manisha Kapase	P15BL22S020002	Ongoing
		Ms. Akanksha patil,	P15BL22S020003	
02	Chemical profiling, antioxidant activity and cytotoxic efficacy of leaf extracts of underexplored <i>Embelia tsjeriam-cottam</i> and its metal oxide nanoparticles in pharmacological applications	Ms. Akanksha Desai,	P15BL22S020008	Ongoing
		Ms Suvidha Sonarwadkar	P15BL22S020005	
03	GC-MS analysis and screening of antioxidant and anticancer potential of leaf extract of <i>Mallotus philippensis</i> and its laboratory-controlled biogenesis of oxides of copper and zinc nanoparticles in biological applications.	Mr. Rajat Tineghatkar	P15BL22S020011	Ongoing
		Ms. Aditi Majagaonkar	P15BL22S020004	

## STUDENTS POSTER PRESENTATION AT NATIONAL / INTERNATIONAL CONFERENCES

1. Suvidha Sonarwadkar, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Phytochemistry and pharmacology of a promising nutraceutical plant: *Syzygium cumini*” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
2. Shweta Desai, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Medicinal importance of poisonous plants” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
3. Samruddhi Suresh Akkole, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Recurring outbreaks of viral infections in India” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
4. Rajat Tineghatkar, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Herbal micro-sponge: A cost effective sunscreen gel for dermatological disorders: during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
5. Manisha H. Kapase, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Second cancer: Growing incidence and risk factors in children and adults” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
6. Bhavana Medikanal, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Impact of passive smoking on neurological conditions” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
7. Chaitra B. Antyal, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Alternatives for salt and sugar: Two white poisons” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
8. Ratna, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Neurodegenerative diseases and Shatavari-Queen of herbs” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
9. Vijayakumar N. Bhavi, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Misconceptions of herbal cigarettes and herbal hookahs-A threat to the future generation” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
10. Abhishek U. Tegur, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Nano-cosmeceuticals and its recent advances” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
11. Parvat Patil, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Applications of nanotechnology in agriculture and food industry” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.

12. Archana Shiragave, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Complications of cardiovascular disease during pregnancy” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
13. Gayatri Kulkarni, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Role of obesity on endometrial cancer” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
14. Prabhu Mural, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Recent advances on Senna alata and its Pharmacological importance” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
15. Basavamma V. Latti, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Overlooked side of Veganism and its effects on health” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
16. Siddharth Ajay Mutakekar, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Role of medicinal plants in treating Asthma” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
17. Prajakta R. Zende, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Role of ferroptosis and its applications in various diseases” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
18. Nikita K. Sambrekar, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Insights of carbohydrate-based drug development and its recent advances” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
19. Akanksha Patil, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Role of nutraceuticals in the management of hypertension” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
20. Akanksha Patil, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Role of Drug metabolizing enzymes in cancer” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
21. Amruta Maruti Gaikwad, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Role of algae in cancer management” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
22. Aditi Kedari Majagaonkar, **Varsha Jayakar**, Vinayak Lokapur, Santoshkumar Jayagoudar. “Advances in nano-agrochemicals for sustainable agriculture” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
23. Chaitra B. Vantamuri, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. “Association of tobacco smoking and cancers” during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.

24. Dharmaprasad, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. "Panchgavya: boon to human health" during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.
25. Kiran, Vinayak Lokapur, **Varsha Jayakar**, Santoshkumar Jayagoudar. "Role of earthworms for sustainable agriculture" during the National Conference Organised by PG Department of Biochemistry, Karnatak University, Dharwad on 24th-25th January, 2024.

### **RESPONSIBILITIES AS COORDINATOR OF PG DEPARTMENT OF BIOCHEMISTRY:**

#### **EVENTS ORGANISED:**

1. Organized a One-Day Seminar on "**Indian Food Habits/System and Scientific Analysis** (ಭಾರತೀಯ ಆಹಾರ ಪದ್ಧತಿ: ವೈಜ್ಞಾನಿಕ ವಿಶ್ಲೇಷಣೆ)" under the auspices of PG Department of Biochemistry, GSS College, Belagavi in association with Viveka Vedike on 20<sup>th</sup> July, 2024 at 10:30 am in K.M. Giri Hall, GSS College campus, Belagavi.
2. Organized a Lecture Series on "**Research Methodology**" under the auspices of PG Department of Biochemistry, GSS College, Belagavi on 22<sup>nd</sup> August, 2024 at 10:30 am in K.M. Giri Hall, GSS College campus, Belagavi.
3. Organized a Guest lecture on "**Opportunities, Importance and Functioning of Pharma Industries**" under the auspices of Department of Biochemistry, GSS College (Autonomous), Belagavi on 1<sup>st</sup> September, 2024 at 11:00 am in the PG Department of Biochemistry, GSS College, Belagavi.

#### **STUDY TOURS AND INSTITUTIONAL VISITS ORGANIZED:**

1. **Two-day Educational tour** to CSIR- National Institute of Oceanography, Dona Paula, Goa and Goa University, Goa organized by the Department of Biochemistry, GSS College, Belagavi on 21<sup>st</sup> and 22<sup>nd</sup> March 2024.
2. **One-day Research Institute visit** to KLE's Dr. Prabhakar Kore Basic Science Research Center (BSRC), Belagavi, organized by the Department of Biochemistry, GSS College, Belagavi on 26<sup>th</sup> March 2024.
3. **One-day Industrial visit** to Karnataka Milk Federation (KMF), Belagavi, organized by the Department of Biochemistry, GSS College, Belagavi on 29<sup>th</sup> June 2024.
4. **One-Day National institute visit** to ICMR-National institute of Traditional Medicine, Belagavi organized by the Department of Biochemistry, GSS College (Autonomous), Belagavi on 30<sup>th</sup> August, 2024.

**Place:** Belagavi

Date Prepared- 19/September/2024

**Dr. Varsha Jayakar**