PROFILE



Name: Dr. Kalli Sai Bhavani

Educational Qualifications: MSc, PhD

Designation: Assistant Professor

Department: Chemistry

Date of joining Maris Stella: 02-06-2025

I Academics

Degree	Institution/University	Year
B.Ed	Sri Krishnaveni College, Gannavaram	2025
PhD in Chemistry	K L University	2021
MSc (Organic Chemistry)	Vignan Degree College, Guntur	2016
BSc (MPC)	Andhra Loyola College, Vijayawada	2014
Inter (MPC)	Siddhartha Mahila Kalasala, Vijayawada	2011
SSC	Sri Srinivasa High School, Vijayawada	2009

II Professional Experience

Position Held	Institution	Year
Assistant Professor	Andhra Loyola College, Vijayawada	2020-2024

III Academic & Administrative Roles at Maris Stella

- Member of BoS in Chemistry

IV Academic Contributions to other Institutions

- Reviewer for Journal of Applied Electrochemistry and Scientific Reports
- External examiner for practicals in Chemistry for other institutions.
- Assistant examiner in chemistry for Theory & practical for Board of Intermediate Education.
- Paper setter for all semesters in chemistry theory other institutions.
- Evaluator for all semesters in chemistry theory for other institutions.

V Professional Memberships

- Life Member, Indian Council of Chemists (ICC): 2018

VI Refresher Courses / Orientation Courses / Short Term Courses Done

1. Participated in the Malaviya Mission **Teacher Training Programme** on “NEP 2020 Orientation & Sensitization Programme”: MMC-01-2024-OCT-A-02601 organised by the

National Institute of Educational Planning and Administration, New Delhi, held online from 01-11 October 2024.

VII Workshops / FDPs / Training Programmes Attended

1. Participated in two day **National conference** on AI and machine learning for life sciences (AIMLS)Organised by SRR & CVR govt degree college, Vijayawada held on 14.11.2025 & 15.11.2025.
2. Participated and presented a paper in the two-day **international conference** on chemistry innovation: current developments, challenges &future perspectives (ICCI-25) organised by the Bishop Haber college, St. Joseph's college & Christ college on 15.09.2025 & 16.09.2025, Tiruchirappalli.
3. Participated in making eco friendly Ganesh idols held on 26.08.2025 organised by Maris Stella college.
4. Participated in a two-day **workshop** on advancements in chemistry and hands in training using chem draw, MathType &origin in scientific research organised by LBRCE during 16.07.2025 & 17.07.2025.
5. Participated in the one-week National level online **FDP** on " Innovative and Effective Teaching Techniques" during 19-25th June 2025 organised by the Hi Learn Edutech Institute in collaboration with the SIDVI Foundation", Bijapur, Karnataka.
6. Participated in the one-week National level **FDP** on "Current Trends in Nanomaterials and its Application" during 13-18th March 2023 organised by the Department of Science and Humanities, Vijaya Institute of Technology for Women, Vijayawada.
7. Participated in the one-day **workshop** on "Need for quality and context in Engineering and Sciences Research" organised by the centre for advanced energy studies (CAES), K L University, Vaddeswaram held on 29th september 2018.

VIII Research Contribution

(i) **Area(s) of Research:** Alcohol Oxidation in Fuel Cells.

(ii) Research Projects Done: 0

(iii) Research Papers Published:

1. K. S. Bhavani, T. Anusha, P. K. Brahman. Fabrication and characterization of gold nanoparticles and fullerene-C60 nanocomposite film at glassy carbon electrode as potential electro-catalyst towards the methanol oxidation. International Journal of Hydrogen Energy 44 (47) (2019) 25863-25873

2. K. S. Bhavani, T. Anusha, J. V. S. Kumar, P. K. Brahman. Enhanced electrocatalytic activity of methanol and ethanol oxidation in alkaline medium at bimetallic nanoparticles electrochemically decorated fullerene-C60 nanocomposite electrocatalyst: An efficient anode material for alcohol fuel cell applications. Electroanalysis 32 (2020) 1-15
3. K. S. Bhavani, T. Anusha, P. K. Brahman. Platinum nanoparticles decorated on graphitic carbon nitride-ZIF-67 composite support: An electrocatalyst for the oxidation of butanol in fuel cell applications. International Journal of Hydrogen Energy 46 (13) (2021) 9199-9214
4. K. S. Bhavani, T. Anusha, P. K. Brahman. Synthesis and characterization of palladium nanoparticles-corannulene nanocomposite: An anode electrocatalyst for direct oxidation of methanol in alkaline medium. Journal of Electroanalytical Chemistry 900 (2021) 115654-115665
5. K. S. Bhavani, T. Anusha, P. K. Brahman. Electrochemical synthesis of PdNPs@MnO2-PPy nanocomposite and its electrocatalytic application towards glycerol oxidation. Electrochimica Acta 399 (2021) 139394-139407
6. T. Anusha, K. S. Bhavani, J. V. S. Kumar, P. K. Brahman. Designing and fabrication of electrochemical nanosensor employing fullerene-C60 and bimetallic nanoparticles composite film for the detection of vitamin D3 in blood samples. Diamond and Related Materials 104 (2020) 107761-107770
7. T. Anusha, K. S. Bhavani, J. V. S. Kumar, A. Bonanni, P. K. Brahman. Fabrication of handmade paper sensor based on silver-cobalt doped copolymer-ionic liquid composite for monitoring of vitamin D3 level in real samples. Micro chemical Journal 161 (2021) 105789-105823
8. T. Anusha, K. S. Bhavani, J. V. S. Kumar, P. K. Brahman. Synthesis and characterization of novel lanthanum nanoparticles-graphene quantum dots coupled with zeolitic imidazolate framework and its electrochemical sensing application towards vitamin D3 deficiency. Colloids and Surfaces A: Physicochemical and Engineering Aspects 611 (2021) 125854-125894
9. T. Anusha, K. S. Bhavani, J. V. S. Kumar, P. K. Brahman, R. Y. A. Hassan. Fabrication of electrochemical immunosensor based on GCN-β-CD/Au nanocomposite for the monitoring of vitamin D deficiency. Bioelectrochemistry 143 (2022) 107935-107950.
10. T. Trinadh, H. Khuntia, T. Anusha, K. S. Bhavani, J.V. S. Kumar, P. K. Brahman. Synthesis and characterization of nanocomposite material based on graphene quantum dots and lanthanum doped zirconia nanoparticles: An electrochemical sensing application towards flutamide in urine samples. Diamond and Related Materials 110 (2020) 108143-108176
11. H. Khuntia, K. S. Bhavani, T. Anusha, T. Trinadh, M. Stuparu. Synthesis and characterization

of corannulene-metal-organic framework support material for palladium catalyst: An excellent anode material for accelerated methanol oxidation. Colloids and Surfaces A: Physicochemical and Engineering Aspects 615 (2021) 126237-126249

12. Ferrocene tagged primary antibody generates electrochemical signal: An electrochemical immunosensing platform for the monitoring of vitamin D deficiency in clinical samples. International Journal of Biological Macromolecules 239 (2023)
13. Eco‑friendly green synthesis of Ag@ Cu bimetallic nanoparticles: Evaluation of their structural, morphological and electrochemical characterizations. Vietnam Journal of Chemistry 61 (2023) 220-226
14. Citrus fruit peel extract mediated eco-friendly synthesis of Ag@ Co bimetallic nanoparticles and study of their optical and structural characterizations. Materials Today: Proceedings (2023)
15. Efficient electro catalytic performance of palladium nanoparticles assisted on bi-composite material (GRNPs-GCN) for electro chemical oxidation of methanol in alkaline media. Chemical Physics Letters 829 (2023) 140764
16. Incorporation of bimetallic nanoparticles in Zeolitic Imidazolate Framework‑67 (ZIF‑67) for use as a catalyst for ethanol oxidation. Chemistry Select 09 (45) (2024) 02866
17. A review on electrochemical detection of cervical cancer biomarkers: Current progress and future perspectives. Clinica Chimica Acta 567 (2025) 120103
18. Biosynthesis of CeO_2 Nanoparticles from Ficus Racemosa Leaves: Exploring Antimicrobial and Electrochemical Activities. Chemistry Select 10 (29) (2025) 02297

IX Research Papers Presented:

1. Participated and presented a paper in the two day **international conference** on FPCBS-2025, Organised by AKNU on 5.12.2025 & 6.12.2025.
2. Participated and presented a paper on Incorporation of bimetallic nanoparticles in Zeolitic Imidazolate Framework‑67 (ZIF‑67) for use as a catalyst for ethanol oxidation in "A two day National Conference on Frontiers in Chemical Sciences" organized by Department of Chemistry, Andhra Loyola College, Vijayawada, India, held on January 23th and 24th 2024.
3. Participated and presented a paper on Efficient electro catalytic performance of palladium nanoparticles assisted on bi-composite material (GRNPs-GCN) for electro chemical oxidation of methanol in alkaline media in "A two day National Conference on Recent Trends in Materials Science (RTMS-2K23)" organized by Department of Chemistry, Andhra Loyola College, Vijayawada, India, held on February 13th and 14th 2023.
4. Participated and presented a paper on citrus fruit peel extract mediated eco-friendly synthesis of Ag@Co bimetallic nanoparticles and study of their optical and structural characterizations

in " A two day International conference on Recent Advances in Materials and Manufacturing (ICRAMM 2022)" organized by Department of mechanical engineering, Velalar college of Engineering and Technology, Erode, Tamilnadu, India, held on 8th and 9th December 2022.

5. Participated and presented a paper on Eco‑friendly green synthesis of Ag@ Cu bimetallic nanoparticles: Evaluation of their structural, morphological and electrochemical characterizations in **"**Three-day National Seminar on GREEN TECHNOLOGIES FOR SUSTAIN ENVIRONMENT (GTSE-2K22)" organized by Department of Chemistry, Andhra Loyola College, Vijayawada, India, held on 22nd-24th March 2022.
6. Participated and presented a paper on Enhanced electrocatalytic activity of methanol and ethanol oxidation in alkaline medium at bimetallic nanoparticles electrochemically decorated fullerene-C60 nanocomposite electrocatalyst: An efficient anode material for alcohol fuel cell applications in " A two day International conference on Pure and Applied Chemistry (IconPAC-2019), K L University, Vaddeswaram, India, held on 8th & 9th March 2019.
7. Participated and presented a paper on Fabrication and characterization of gold nano particles and fullerene-C60 nanocomposite film at glassy carbon electrode as potential electro-catalyst towards the methanol oxidation in " vvv", organized by Indian Council of Chemists, NIT Suratkal, Karnataka, India, held on 12-14th December 2018

X Books / Chapters in Books Published: 0

XI Research Guideship:

No. of students guided for MPhil: 0

No. of students awarded MPhil: 0

No. of students guided for PhD: 0

No. of students awarded PhD: 0

XII Consultancy: Nil

XIII Certificate Courses Done: Nil

XIV Workshops / Conferences / Seminars Organised:

Organized a Two-Day Online National **Workshop** on "ChemDraw, Origin & MathType: Empowering Research & Teaching" on 17 and 18 September 2025 through Google Meet.

XV Awards & Recognitions

- **Young Scientist Award** in 37th National Conference of Indian Council of chemists,2018.

XVI Patents:

S. No.	Title of the Patent	Application Number	Agency which has awarded the patent	Year

1.	An efficient electrocatalyst for the hydrogen evolution reaction using palladium nanoparticles supported on Nafion-Functionalized Vulcan carbon black	202641052367 A	Govt. Of India , Patent Office	2026