

CURRICULUM VITAE

Dr. YOGENDRA KUMAR GAUTAM
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ACADEMIC QUALIFICATIONS:

Degree & Year	University/Board	Division/Marks	Subject
Ph.D. (2014)	C.C.S.Uni., Meerut	-	Botany
M.Phil. (2008)	C.C.S.Uni., Meerut	I (68.75%)	Botany
M.Sc. (2007)	C.C.S.Uni., Meerut	I (71.79%)	Botany

Title of **Ph.D.** Thesis:

“In vitro studies on some medicinal plants showing antioxidant activity”,

Supervisor: **Prof. Y. Vimala**, Department of Botany, C.C.S.University, Meerut-250004 (UP)
- India.

AWARDS AND SCHOLARSHIPS:

- Awarded **UGC-RGNFs (JRF/SRF)** in 2007-08 for M.Phil. & Ph.D.
- Qualified **CSIR-UGC NET** in December 2009.

EXPERIENCE:

Teaching

Under Graduate Level

S.No.	Name of College	Designation	Basis	From	To
1	Sri Venkateswara College	Assistant Professor	Ad-hoc	20.07.15	30.12.22
2	Sri Venkateswara College	Assistant Professor	Guest	10.02.23	08.07.23
3	Sri Venkateswara College	Assistant Professor	Guest	04.09.23	27.11.23
4	Sri Venkateswara College	Assistant Professor	Guest	01.02.24	19.03.24

P.G. level

- Teaching from 2009 to 2013, Department of Botany, CCS University Meerut as research scholar.

- Guest faculty for session 2014-2015, Department of Seed Science and Technology, CCS University Meerut.
- **Guest Faculty, Department of Biotechnology, Delhi Technological University Delhi (August,2024 to till date)**

Research

- Mentor In House project, SRI-VIPRA 2022 on Microscopic and chemical evaluation of some herbal crude drugs from June to October 2022.
- Work at National Research Centre on Plant Biotechnology, LBS Building IARI (PUSA), New Delhi (from November 24, 2014 to July17, 2015).

Summary of research work:

Some selected medicinal plants (*Tinospora cordifolia*, *Tribulus terrestris* and *Physalis peruviana*) were explored tissue culturally and biochemically. We first standardized the callus induction protocol and compared their biochemical status with salt (NaCl) stressed callus for ascorbic acid, flavonoids, nitrogen, protein, phenolics, proline, sugars, assay for peroxidase and catalase. Thin layer chromatography (TLC) were performed to assay the antioxidant activity of methanol extracts of callus and explants for ascorbic acid, gallic acid and sapogenins viz. β -sitosterol and diosgenin. UV-Vis spectrums were also analyzed for absorbance maxima. Research work was extended to quantified main antioxidant compound through HPLC. The selected plants were found to be rich alternative sources of diosgenin especially in *Tribulus terrestris* and *Physalis peruviana*. *Tinospora cordifolia* and *Physalis peruviana* are recorded as rich alternative sources for ascorbic acid and gallic acid. This work was done under the supervision of Prof. **Y. Vimala**, Department of **Botany**, C.C.S. University Meerut.

At NRC on Plant Biotechnology, IARI, Pusa New Delhi.

Gluten was extracted manually from flour of selected wheat varieties and estimated by Lowry's method. Gluten fractionation was carried out by column chromatography for different polypeptides. For transcriptomic analysis of gluten gene(s), RNA isolation and cDNA preparation was done from the seeds of selected wheat varieties at various stage of endosperm maturity.

TECHNIQUE STUDIED / HANDELED:

- Spectroscopy, Centrifugation (handling of Table Top Centrifuge and other Centrifuge Machines).
- Standardization of plant tissue cultures media for medicinal plant and secondary metabolites production.
- Biochemical analysis of plant material and callus.
- Extraction of secondary metabolites (alkaloids, steroids and flavonoids) using Soxleht apparatus.
- Separation of secondary metabolites by HPLC and TLC.
- Isolation and purification of plant DNA & RNA, preparation of cDNA, amplification by PCR and agarose gel electrophoresis.
- Isolation and purification of proteins by column chromatography, native & SDS-PAGE and gel documentation.

- Good keyboard skills, familiar with MS Word, Excel, Power Point, Adobe Photoshop, use of internet for literature search, Google meet, Google classroom, bioinformatics software and R- package for statistical analysis.

OTHER CONTRIBUTIONS:

- **FDP-1**
(ATAL Faculty Development Program on “Healthcare and MedTec: Inovations, Challenges and Future Directions” from December 9th to December 14th, 2024.
- Number of **Abstracts** published in Conferences/ Symposia/ Seminars = 8
- **Oral Presentations** in Symposia/ Conferences = 3
 - Effect of Different PGRs on callus induction and shoot multiplication in *Physalis peruviana* L. XXXI All India Botanical Conference and international symposium on “Plant biology and environment: Changing scenario”. Allahabad UP, India
 - Callus development and polypeptide profile of *Tinospora cordifolia* (Willd.) Miers ex Hook. F. & Thoms. XXXIV All India Botanical Conference on “Biodiversity and Reproductive Plant Biology: Abiotic and Biotic Challenges”. Lucknow UP, India
 - *In vitro* estimation of potential antioxidant compounds in *Tinospora cordifolia*. International Conference on Global IPR System and WTO Issues. Meerut UP, India
- **Poster Presentation** in Symposia/ Conferences = 1
 - *In vitro* studies on biochemical accumulation in some medicinal plants under salt stress. ISCA Haridwar Chapter National Conference on Innovations in Science and Technology for Inclusive Development. Meerut UP, India.
- **Membership** of professional societies = 1 (ISCA)
- Number of **Conferences/ Symposia/ Seminars** attended = 11
- **Workshop** attended = 8

PUBLICATIONS:

1. **Gautam YK**, Rani R and Vimala Y (2011). *In vitro* accumulation of active metabolites in *P. peruviana* callus. *Vegetos* (UGC-care listed), 24(1): 58-60.
2. Rani R, **Gautam YK**, Tomar V and Vimala Y (2012). Physico- Chemical Markers of Salt Stress in *Mucuna pruriens* seedlings. *Vegetos* ((UGC-care listed), 25(1): 134-137.
3. Singh I, **Gautam YK** and Vimala Y (2013). Detection and isolation of diosgenin from *Costus speciosus* callus raised from non-germinable seeds. *Int. J. Chem. Life Sci.* (IF-0.75) (ISSN: 2287-6898), 2(10), 1240-1242.
4. **Gautam YK**, Singh I and Vimala Y (2014). *In vitro* estimation of potential antioxidant compounds in *Tinospora cordifolia* by Chromatography. *Impact: Int. J. Res. Engineering Tech.* (IF-1.95), ISSN (Print): 2347-4599; ISSN (Online): 2321-8843, Vol.2 (1), 31-36.
5. **Gautam YK** and Vimala Y (2014). Antioxidant activity and RP-HPLC analysis of Diosgenin from the callus of *Tribulus terrestris* Linn. *Int. J. Res. Ayurveda Pharm.* (IC Value 2012- 6.33), ISSN (online) 2229-3566 ISSN (Print) 2277-4343, 5(3), 343-346.
6. Jan N, **Gautam YK** and Vimala Y (2015). Higher salt tolerance of *Physalis peruviana* L. callus with reduced peroxidase activity compared to its in vitro raised seedlings. *Int. J. Res. Ayurveda Pharm.* (IC Value 2012- 6.33), ISSN (online) 2229-3566 ISSN (Print) 2277-4343, 6(2): 272-276.
7. Saluja S. and **Gautam YK** (2019) गिलोय (टीनोस्पेरा कार्डीफोलिया): प्रकृति का अमृत. **Vigyan Garima Sindhu**. ISSN:2320-7736, OCT-DEC Vol.111:108-111.

8. Saluja S. and **Gautam YK** (2023). Plant profile, phytochemistry, pharmacology and genetic diversity of *Saraca asoca*: a vulnerable medicinal tree of India. *J. Indian bot.Soc.* e ISSN:2455-7218,ISSN:0019-4468.

REFERENCE:

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I hereby declare that the entries in this form are true to the best of my knowledge/ belief.

(Dr. Yogendra Kumar Gautam)