



Dr. S. MARGRAT SHEELA, M. Sc, M. Phil, Ph.D with NET.

Assistant professor,
PG & Research Department of Chemistry,
Holy Cross College (Autonomous),
Tiruchirappalli – 620 002.

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Date of Joining : 16.11.2009 (Mgt), 18.06.2015 (Aided)

Dedicated and resourceful educator with over ten years of experience. Commitment to the academic growth and whole person development of each student in the class. Open to new technologies and quick learner, ability to deal with people diplomatically.

Ph.D Thesis Title : “Identification, Separation, Characterization of Anthocyanin Pigments from *Pseuderanthemum reticulatum* Leaves and its Potential Applications as Indicator, Dyeing Agent, Pharmacological Agent and Reductant in the Synthesis of Silver Nanoparticles”

AREA OF RESEARCH

- Natural dyeing
- Nano particle synthesis
- Phytochemistry

EDUCATION

B.Sc., - 2006, Holy Cross College (Autonomous),

Affiliated to Bharathidasan University, Tiruchirappalli-2, Tamil Nadu.

M.Sc., - 2008, St. Joseph’s College (Autonomous),

Affiliated to Bharathidasan University, Tiruchirappalli-2, Tamil Nadu.

M.Phil., - 2009, St. Joseph’s College (Autonomous),

Affiliated to Bharathidasan University, Tiruchirappalli-2, Tamil Nadu.

Ph.D -2022, Bharathidasan University, Tiruchirappalli, Tamil Nadu, India.

HONORS/ AWARDS

- i. Qualified Joint **CSIR - UGC NET** Examination held on **June 2012** and secured **37th rank**.
- ii. Qualified Graduate Aptitude Test in Engineering (**GATE**), **2012**, (All India Rank: 1837), an all-India competitive examination for doing Ph. D./M.Tech. in IITs.
- iii. Received INSC Young Achiever Award -2023.

PROFESSIONAL CAREER

- Assistant Professor of Chemistry in PG and Research Department of Chemistry, Holy Cross College (Autonomous), Tiruchirappalli, Tamil Nadu, India. (**November 2009 to till date**)
- Project student (M.Phil.) - **Central Electro Chemical Research, Institute, (CSIR)**, Karaikudi, Tamil Nadu, India. (March 2009 to August 2009).
- Project student (M.Sc.) - **Central Electro Chemical Research, Institute, (CSIR)**, Karaikudi, Tamil Nadu, India. (April 2007 to July 2007).

RESEARCH GRANT RECEIVED

- **SEED GRANT** (2019-20) Rs.10,000/- received for the Project entitled “Dyeing of cotton fabrics using Eco-friendly Natural dye derived from *Pseuderanthemum reticulatum*”
- **SEED GRANT** (2020-21) Rs.15,000/- received for the Project entitled “Identification of Anthocyanins Present in *Pseuderanthemum reticulatum* and Evaluation of their Antioxidant Activity”

RESOURCE PERSON

- Workshop on preparation of chemical reagents and laboratory safety measures for newly recruited staff and non-teaching staff. Organized by the PG & Research department of chemistry, Holy Cross College (Autonomous), Trichy on 28th June 2024
- A lecture on Miracle Millets! “A Healthy Outside starts from the inside” organized by the Department of B.Voc. software Development, Holy Cross College (Autonomous), Tiruchirappalli on 20th March 2023.
- **Free online Chemistry CSIR –Gate Coaching** on “Transition elements and coordination compounds” organized by IQAC and PG & Research Department of Chemistry, Government Art College, Trichy on 4th and 6th April 2022.
- National Workshop on “Green **Techniques in Chemistry Laboratory Experiments** (GTCLT- 2013)”, (9th, January, 2013)
- Resource Person During the Training Programme for Higher Secondary School Teachers on “**Samacheer Kalvi**” on 27th August, 2011.

ORGANIZE A SEMINAR/CONFERENCE/WORKSHOP

- Organized an Intercollegiate competition -CHEM FEST'17 on 8th December,2017

POSITIONS / RESPONSIBILITIES HELD

- Internal Test committee Core Member (2016-19)
- Admission committee Core Member (2016-18)
- Co- Ordinator of Internal Test committee (2019-21)
- ICNRI Core Committee Member (2018-19)
- NAAC -Student Support and progression - Dept. In-charge (2009) onwards
- NAAC -Teaching Learning committee Core member 2022-2023
- Department Association Vice-President (2016-17)
- Department Association Vice-President (2024-25)

ORIENTATION / REFRESHER COURSES ATTENDED

Name of the Course	Academic Staff College, University	Duration in Days
UGC-Sponsored 10 th Online Faculty Induction Programme.	UGC- HRDC, Bharathidasan University, Tiruchirappalli.	30 days 01.06.2022 - 30.06.2022
UGC-Sponsored Online Refresher Course in Chemistry “Recent Trends in Chemistry”.	UGC- HRDC, Madurai Kamaraj University, Madurai.	14 days 07.10.2022 - 20.10.2022
Online Induction/Orientation Programme for “Faculty in Universities/Colleges/Institutes of Higher Education”.	Teaching Learning Centre, Ramanujan College, University of Delhi.	30 days 20.04.2022- 19.05.2022

BOOK PUBLICATION

- Co-Author in the “Lab Manual” for Chemistry Students
- Co-Author in the book titled “Industrial Chemistry Study Resources”

RESEARCH PUBLICATIONS

1. Exploring the Therapeutic Potential of *Pergularia daemia*: Synthesis and Characterization of Zinc Oxide Nanoparticles Agila, A., Dakshayani, R., Vimala, Rosaline, Bharathy, M., Margrat Sheela, S, Vimala, S., Nivetha, S. (2024), **Oriental Journal of Chemistry**. 40. 1061-1066. 10.13005/ojc/400417
2. Green synthesis of *paspalum scrobiculatum* mediated copper oxide nanoparticles and its anti-bactericidal activities Aranganathan Agila, Dayana Jeyaleela, Stella Bharathy, Rosaline Vimala, Margrat Sheela, Sivasangu Vimala and Kasirajan Gayathri, **Asia Pacific Journal of Sciences and Technology**. (2023), 28 (01), 1-8.

3. Inhibitory effect of *Basella alba*-Mediated zinc oxide nanoparticles against the infection-causing bacteria. Agila, A., Jeyaleela, G. D., Vimala, J. D. R., Bharathy, M. S., & S. Margrat Sheela, **Biomedical and Biotechnology Research Journal (BBRJ)**, (2022), 6(3), p-353.
4. In vitro Pharmacological Activities of Delonix Elata Extract Mediated Zinc Oxide Nanoparticles, Agila, A., Jeyaleela, G. D., Vimala, J. R., Bharathy, M. S., & Margrat Sheela.S, **Oriental Journal of Chemistry**, (2022), 38(4).
5. Proximate analysis, Antioxidant Property and Cytotoxicity Assessment of *Pseuderanthemum reticulatum* Leaves, S. Margrat Sheela and J. Rosaline Vimala, **Oriental Journal of Chemistry**, **2021**, Vol. 37, No. (4): Pg. 984-990, ISSN: 0970-020 X
6. Comparison of anti-inflammatory activities of biogenic gymnema sylvestre-and panicum sumatrense-mediated titanium dioxide nanoparticles, Bharathy, M. S., Jeyaleela, G. D., Vimala, J. D. R., Agila, A., and S. Margrat Sheela (2021). **Biomedical and Biotechnology Research Journal (BBRJ)**, (2021), 5(4), p- 405.
7. *Pseuderanthimum reticulatum*: A New Green Source for Dyeing of Cotton Fabric, S. Margrat Sheela, J. Rosaline Vimala, M. Stella Bharathy, A. Agila, **Asian Journal of Chemistry**, **2020**, Volume 32, No. 10, p 2585-2588, ISSN: 0970-7077
8. Biofabrication of Zinc oxide nanoparticles using the isolated flavanoid from *Combretum ovalifolium* and its Anti-oxidative Ability and Catalytic Degradation of Methylene Blue Dye, Dr. J. Rosaline Vimala, Ms. G. Dayana Jeyaleela, S. Margrat Sheela, Dr. M. Stella Bharathy and Dr. A. Agila, **Oriental Journal of Chemistry**, (2020), 36(4), p 655-664, ISSN: 0970-020X
9. An ecofriendly natural indicator from musa-acuminata fruit peel extract for acid -base titration S. Margrat Sheela, J Rosaline Vimala, N.V. Mahalakshmi and T. Uma Maheshwari, **International Journal of Scientific Research and Review**, **2019** 8(5), p 338-344.
10. Biosynthesis of Silver Nanoparticles by *Melia Dubia* Leaf Aqueous Extract and its Antibacterial Activity J. Rosaline Vimala, S. Margrat Sheela, G. Dayana Jeya Leela and S. Irudaya Monisha, **World Journal of Pharmaceutical Research**, (2015), 5(3), p. 973-981, ISSN 2277-7105
11. Optimization of the process parameters for the removal of boron from drinking water by electrocoagulation - a clean technology, **Journal of Chemical Technology and Biotechnology** (July 2010), Volume 85, Issue 7, Pages: 926 - 933., Publisher: **Wiley Inter Science** - Society of Chemical Industry.
12. Studies on the Removal of Phosphate from Drinking Water by Electro coagulation Process, **Industrial & Engineering Chemistry Research** (2008), Volume: 47, Issue: 6, Pages: 2018-2023, Publisher: **American Chemical Society**.

BOOK CHAPTER PUBLISHED

1. PHYTO SYNTHESIS OF ZINC OXIDE NANOPARTICLES MEDIATED BY FLAVONOID FRACTION EXTRACTED FROM MELIA DUBIA BARK AND ITS ANTIOXIDANT, ANTICANCER AND PHOTOCATALYTIC ACTIVITY, *Futuristic Trends in Chemical Material Sciences & Nano Technology* Edition: Volume 3, Book 16, 2024, IIP Series

REVIEWE DETAILS

Reviewed articles in

- Asian Journal of Food Research and Nutrition
- Journal of Advances in Food Science & Technology
- Asian Journal of Research in Biosciences
- Current Journal of Applied Science and Technology

FDP AND WORKSHOPS ATTENDED

1. Attended One-Week Online National Faculty Development Program on “MOOCS AND E-CONTENT DEVELOPMENT” organized by Holy Cross College, Tiruchiappalli and Guru Angad Dev Teaching Learning Centre under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) of Ministry of Education, SGTB Khalsa College, University of Delhi. (29th April to 05th May 2023)


2. Attended five days International FDP on “Smart Materials for New Technology” organized by Department of Physics & Marian Star Centre, St. Mary ' s College (Autonomous), Thoothukudi. (18th February to 23rd February 2022)
3. Attended One-Week Online National Faculty Development Program on “Recent Advances in Chemistry” organized by Vellore Institute of Technology, Chennai and Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) of Ministry of Education, (30th March to 5th April 2022)
4. Attended Seven Days Hand- on Training on ChemDraw and Chems sketch Software organized by PSMO College and Spark Institute of Advanced Science in association with Perkin Elmer, USA.(19th-25th June 2021) (Online)
5. Attended Two Days workshop on “Techniques in Phytochemical Analysis” Organized under UGC-CPE scheme, Holy Cross College (Autonomous), Tiruchirappalli. (31st January and 1st February 2019)
6. Attended National Level Workshop on “Nuclear Magnetic Resonance spectroscopy” (WNMRS-2018) Organized by the Gandhigram Rural Institute, Gandhigram. (8th and 9th March 2018)
7. Attended One-Day International Seminar on “Chemical Biology” organized by CRD, PRIST University, Thanjavur. (29th December 2016)
8. Attended Three days Lecutre-cum- Workshop on Interpretation of Spectral, Chromatographic, Crystallographic and Computational Data of Chemical Systems. (28th, 29th and 30th January 2016)
9. Attended National work shop on “Appications of radiation and radio isotopes”(NWARRI-2008), St.Joseph’s college, Trichy.

REFERENCES

1. Dr. A. Leema Rose
HOD and Associate professor of Chemistry
Holy Cross College (Autonomous)
Tiruchirappalli- 620 002.
2. Dr. M. Prema
Dean of Humanities and Assistant Professor of Tamil
Holy Cross College (Autonomous)
Tiruchirappalli-620 002.

DECLARATION

I herewith declare that the information furnished above is true to the best of my knowledge.



S. Margrat Sheela