

ಮೈಸೂರು ವಿಶ್ವವಿದ್ಯಾನಿಲಯ UNIVERSITY OF MYSORE

# DEPARTMENT OF STUDIES IN CHEMISTRY

Manasagangotri Mysuru- 570 006

#### GENESIS

CHEMISTRY

The Department of Studies in Chemistry located in Manasagangotri Campus, University of Mysore, Mysuru was established in 1960 to provide opportunities for post-graduate studies and research in Chemistry. Presently, the department has seven erudite faculty members fully engaged in teaching and research activities. The department is engaged in the following academic activities:

- 1. Promotion of higher learning in the areas of Chemistry.
- 2. Research in thrust areas of National and International relevance.
- 3. Refresher courses in Chemistry for College and University teachers.
- 4. Deputing teachers to take part in National and International seminars, conferences and workshops for updating their knowledge.
- 5. Conducting seminars, symposia and conferences to provide platform for one to-one discussion for mutual benefit.
- 6. Encouraging faculty members for higher studies and post-doctoral research in advanced countries.
- 7. Inviting experts from academic institutions and industries for interaction with students and staff members.
- 8. Interdisciplinary research programme within and out-side the Department.
- 9. Extending research facilities and expertise available within the Department and industries through the University-Industry Interaction Centre as a part of its consultancy program.
- 10. Writing books and popular scientific articles in English and Kannada to popularize Chemistry among the general public.
- 11. Conducting various academic and cultural activities under the auspices of the Chemical Society to keep the students and staff, abreast of the latest developments in Science.

### ACADEMIC PROGRAMMES

M. Sc. Degree Program: About ninety students are admitted to the four Semester-two year M. Sc. Degree Program under Choice Based Credit System (CBCS). The admission is through a Post Graduate Common Entrance Examination (PGCET). The students are put thorough intensive training in theory and practicals. The department has designed its courses with the requisite cognitive and action components to inculcate innovative, critical and analytical thinking. The program has well defined Program Outcome (PO), Program Specific Outcome (PSO), Course Outcome (CO) with an emphasis on practical, internship, project work with higher credit weightage built into the curriculum. The study courses include Analytical, Inorganic, Organic and Physical Chemistry during the four semester's period. The advanced courses offered include separation techniques, electro analytical methods, optical methods of analysis, analysis of foods, fuel, environmental pollutants, pharmaceuticals and related compounds. Applications of group theory and molecular spectroscopy, advanced coordination chemistry, organo-transition metal chemistry, bioinorganic chemistry and polymer chemistry are also in the curriculum. Advanced thermodynamics and statistical mechanics, photochemistry, nuclear and radiation chemistry, advanced chemical kinetics, quantum chemistry, stereochemistry and reaction mechanism, organic synthesis, chemistry of natural products and applied organic chemistry, heterocyclic, bioorganic and medicinal chemistry are the other courses offered. The students are motivated to research through a dissertation work in the final semester. which also forms a part of evaluation for the Master Degree.

Twenty four Gold Medals and Seven Cash Prize awards are instituted to encourage the meritorious students. In recent years, campus interviews are being arranged by the department in collaboration with various industries to place the students in suitable employment.

In 2007, the department started M. Sc., Degree Programme in Organic Chemistry to meet the demands in industry and institutions for specialized graduates. In 2020, this programme was shifted to new building in the same campus.

**Ph. D Degree Program:** The Department offers a Ph. D. program through entrance examination conducted by the University that prepares promising students for a career in research, teaching and industry in various areas of Chemistry.

#### THRUST AREAS OF RESEARCH

- 1. Bio-organic and Medicinal Chemistry
- 2. Novel therapeutics for treating cancer
- 3. Coordination compounds: Investigations of metal based therapeutics
- 4. Heterocyclic compounds of biological significance
- 5. Chemistry of biologically active peptides
- 6. Synthesis of podophyllotoxin derivatives as anticancer drugs
- 7. Photocatalytic degradation of organic matter
- 8. Materials, Crystal and molecular structure studies
- 9. Kinetics, analysis, structure reactivity correlations and mechanism of biologically active substrates by various oxidants
- 10. Drug protein interactions
- 11. Pharmacokinetics and stability studies of pharmaceuticals
- 12. Pharmaceutical, food and trace element analysis
- 13. Development of new reagents for organic synthesis
- 14. Total synthesis of natural products
- 15. Development of nanohybrids and nanocomposites for anti-corrosion and electrochemical applications.
- 16. Corrosion inhibition studies of metals using synthesized compounds.

#### **Research facilities**

The Department has reasonably well equipped laboratory facilities to carry out research in the areas of all branches of Chemistry. Research students and faculty members have access to a variety of instruments such as UV-Vis spectrophometer, FT-IR, Gouy balance, HPLC, Electro-Chemical workstation, GM- counter gamma-ray counter, Deckameter, heavy duty steam sterilizer, flame photometer, nephelometer, polarimeter and pulse polarograph.

Department has well equipped **Computer Laboratory** for both M. Sc and research students. The **Department Library** with good number of reference as well as textbooks is also established in the department.

Achievements: The number of Ph.D. Degrees awarded and the Department's research publications are a testimony to the academic excellence of the Department. About **350 students have been awarded Ph.D. Degree** and around **3500 research papers** have been published in National and International journals of repute. The distinguished achievements of the faculty members include patents, awards, books, review articles, memberships to academic bodies and fellowships add to the academic standard of the department.

#### Academic achievements of Faculty Members

The faculty members are involved in collaborative research programmes with National and International laboratories. The research activities of the Department have been funded by Department of Science and Technology (DST), Department of Atomic Energy (DAE), Department of Biotechnology (DBT), Indian Council of Medical Research (ICMR), University Grants Commission (UGC), UGC-SAP-III Phase, UPE, All India Council of Technical Education (AICTE), Council of Industrial Research (CSIR) and University of Mysore (UOM). Further, the Department of Chemistry has entered into collaborations with several International Institutes or departments in Japan, Korea, France, Russia, UK, South Africa, Poland, Italy, China, Malaysia, and Switzerland. The International Scientific Organizations have also supported the research activities of the department. The faculty members have been serving as reviewers and members in the editorial boards of reputed scientific journals, and are also involved in framing the syllabi of Chemistry and allied subjects under UGC programme. Some of the faculty members have acted as experts in peer review committees of assessing major and minor research projects submitted by scientists to major funding agencies at the National level.

#### **FACULTY PROFILE**

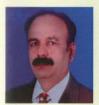
The department has an experienced and dedicated group of faculty members with decades of teaching experience at various levels, and all are equally competent in frontier areas of chemical research. This rich and vibrant intellectual pool will transfer the budding and ambitious post-graduates into professional



Dr. Y. B. BASAVARAJU, Ph. D

chemists, research scholars and inspiring teachers.

Professor **Research publications:** 60; **h-index:** 08 **Ph. D. Guided:** 11; **M.Phil:** 04; **PDF:** 01 Phone: 0821-2419652 ; 9480441804 E-mail: basavaraju\_yb@yahoo.co.in; ybb2706@gmail.com **Research field of Interest:** Organic Synthesis; Bioorganic and Medicinal chemistry; Natural Products.



Dr. NAGARAJA NAIK, Ph. D

Professor **Research publications:** 88; **h-index:** 20 **Ph. D. Guided:** 15; **M.Phil:** 04; **PDF:** 02 Phone: 0821-2419655; 9482959088 E-mail: drnaik\_chem@yahoo.co.in; drnaikchem@gmail.com **Research field of Interest:** Coordination Chemistry, Bioinorganic Chemistry, Synthetic Organic Chemistry, Bioorganic and Medicinal Chemistry.



Dr. H. D. REVANASIDDAPPA, Ph. D Professor

Research publications: 183; h-index: 25 Ph. D. Guided: 17; M.Phil: 03; PDF: 01 Phone: 0821-2419669; 9449271137 E-mail: hdrevanasiddappa@yahoo.com; revanasiddappa1066@gmail.com Research field of Interest: Coordination chemistry, Catalysis, Spectroscopic and Analytical Techniques, Protein interactions with bio-active materials.

## **Faculty Profile**



#### Dr. K. N. MOHANA, Ph. D Professor

Research publications: 145; h-index: 23 Ph. D. Guided: 14; M.Phil: 03; Patent: 01 Phone: 0821-2419654; 9449627573 E-mail: drknmohana@gmail.com

Research field of Interest: Development of nanohybrids and nanocom-

posites for anti-corrosion and electrochemical applications. Synthesis of compounds for corrosion inhibition studies



Dr. M. P. SADASHIVA, Ph. D Associate Professor Research publications: 60; h-index: 14 Ph. D. Guided: 09 Phone: 0821-2419652; 9480441804 E-mail: mpsadashiva@gmail.com Research field of Interest: Chemical Biology, Bioorganic and Medicinal Chemistry







Dr (Mrs). B. S. PRIYA, Ph. D Associate Professor Research publications: 56; h-index: 12 Ph. D. Guided: 05 Phone: 0821-2419657; 9743921122 E-mail: priyabs\_chem@yahoo.com Research field of Interest: Bioorganic and Medicinal Chemistry

Dr. K. MANTELINGU, Ph. D Associate Professor Awards: Sir C. V. Raman Young Scientist; Merck Millipore India Innovation and VGST Best Publication awards. Research publications: 110; h-index: 19 Ph. D. Guided: 10; Patent: 04 Phone: 0821-2419497; 9743708962 E-mail: kmlingu@gmail.com; kmantelingu@yahoo.com Research field of Interest: Synthetic Organic Chemistry and Chemical Biology.

#### **UGC-BSR Faculty Fellow**

- 1. Prof. K. Basavaiah (2014-2017)
- 4. Prof. H. S. Yathirajan (2018-2021)
- 2. Prof. D. Channe Gowda (2015-2018)
- 5. Prof. S. Ananda (2018-2021)
- 3. Prof. K. S. Rangappa (2017-2020)
- 6. Prof. S. Shashikanth (2018-2021)



Contact The Chairperson Department of Studies in Chemsitry Manasagangotri, Mysuru – 570 006

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