



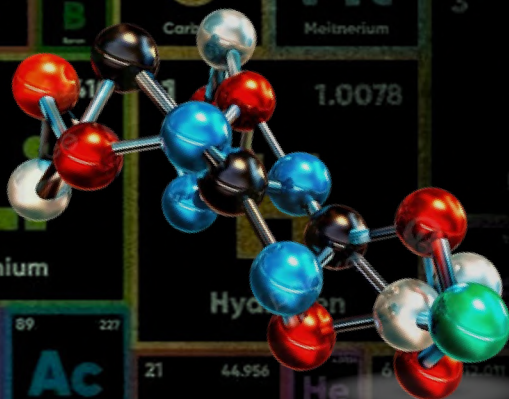
सरदार वल्लभभाई राष्ट्रीय प्रौद्योगिकी संस्थान,
सूरत-395007, गुजरात

Sardar Vallabhbhai National Institute of
Technology, Surat-395007, Gujarat

समाचार पत्रिका NEWS LETTER

May 2025 | ISSUE 3

रसायनिकी विभाग Department of Chemistry



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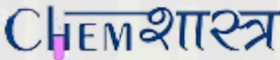
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DEPARTMENT OF CHEMISTRY

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The Department of Chemistry is a dynamic multidisciplinary research centre for research work in all field of Chemical Sciences that includes Computational Chemistry, Surfactants, Polymer Chemistry, Organic synthesis, Natural products, Organometallics, Metal Clusters, Nanomaterials Organic inorganic Hybrid materials, Coordination Chemistry, Biophysical Chemistry, Catalysis, Spectroscopy, Nano-Biomaterials, Quantum Chemistry, Supramolecular Chemistry and Green Chemistry. Department of Chemistry has two academic programmes: Integrated Master of Science in Chemistry and Ph.D. The Department of Chemistry at SVNIT over a period of me, has acquired many advanced analytical equipment such as NMR, ESI Mass spectrometer, surface tensiometer, ATR FT-IR, UV-Vis, HPLC, DSC, TGA, Fluorescence spectrometer etc. Department takes this privilege to publish the highest number of research articles of high repute amongst all the other department in the institute.

VISION

The Department of Chemistry aspires to be a globally recognized center of excellence in chemical research, education, and innovation, producing leaders who will contribute to the advancement of society through the application of chemistry.

MISSION

The Department of Chemistry is dedicated to fostering intellectual curiosity, creativity, and innovation in chemistry by offering a dynamic learning and research environment. In order to confront the complex difficulties facing society, we want to provide our graduates with a solid foundation in chemistry, and a capacity to uphold the highest ethical and professional standards.

Integrated M.Sc in Chemistry

The aim of Five Years Integrated Course of M.Sc Chemistry at the Department of Chemistry, SVNIT Surat is to provide the key knowledge in Chemistry and laboratory resources to go on to multifarious career paths including academia, chemical industry, research lab, government, testing -quality assurance labs as well as other fields. This programme was introduced in 2007 and the course consists of ten semesters with continuous evaluation of the students. Curriculum of Five Years Integrated Course of M.Sc Chemistry covers various branches of Chemistry including Inorganic Chemistry, Organic Chemistry, Materials Chemistry, Industrial Chemistry, Computational Chemistry, Physical Chemistry, Analytical Chemistry, and Spectroscopy. Hands-on training opportunities offer the students a future in professional research and development, further studies in Ph.D programme or chemist/scientist jobs in various sectors including chemical, pharmaceutical textile, and petrochemical industries. Currently, the programme accommodates 40 students with the laboratory classes running in batches. The curriculum is kept up-to-date by revision in every 5-7 years. Presently, the students are admitted into this programme on the basis of Joint Entrance Examination main (JEE main), a national level common entrance examination and the students are selected from all over India. Students receive outstanding experience by doing summer internships and short-term research fellowships at various reputed National and International Research Laboratories. Further, graduates of this programme have been admitted into Ph.D programmes in various reputed National and International Universities and Institutes. From a humble beginning with a handful of motivated students, Five Years Integrated Course of M.Sc Chemistry at the Department of Chemistry, SVNIT Surat has grown from strength to strength into a deep-rooted, fruit-bearing tree that is currently nurtured by highly qualified and dedicated faculty members. It will hopefully continue to grow and provide an excellent foundation for any kind of career of scientific leadership in academia and industry, which help to meet society's pressing needs towards a better future to the community.

B.Tech. in Industrial Chemistry

Scientific disciplines are the backbone of technological advancement, playing a key role in national growth and development. Recent scientific progress has been remarkable, and the expansion of chemical industries, along with the training of professional chemists and engineers, has significantly impacted both human life and national progress. The development of industrial corridors from Mumbai to Delhi is essential for the country's sustained economic growth and overall development, with the potential to create new industries, boost exports, and increase employment opportunities. In response to rapid industrial growth, a four-year B. Tech. in Industrial Chemistry has been started by the Department of Chemistry, SVNIT Surat in 2024 to address the high demand for skilled engineers in this field. This program offers a comprehensive blend of academic knowledge and industry-focused training, equipping graduates with expertise in applied chemistry and technology for careers in various chemical industries. Graduates are prepared to work in sectors such as chemical and allied industries, oil and gas, dyes, pharmaceuticals, polymers, fertilizers, agrochemicals, petrochemicals, fine chemicals, food and beverages, research institutes, academia, or even as entrepreneurs, thereby contributing to national development. Currently, the program accommodates 30 students. The students are admitted into this program on the basis of the Joint Entrance Examination (JEE main).

PhD. Programme in Chemistry

The PhD programme in chemistry in the Department of Chemistry, SVNIT Surat provides students with the training they need to solve nano- and molecular-scale problems and to be successful independent scientists who can address the current challenges in chemical industries and societal issues. The Department of Chemistry's Ph.D programme offers to carry the research work in various branches of chemistry (synthetic organic, inorganic, catalysis, natural products, materials, ionic liquids, surface chemistry, bioinorganic, nanochemistry, supramolecular and computational chemistry, and C-H activation). The Department of Chemistry is an internationally recognized center of teaching and research in allied sciences. Currently, over 60 students pursuing their Ph.D in a wide range of research themes of chemistry. The Department is housed in spacious, modern laboratories, which are well equipped with state-of-the-art facilities. The Department offers a vibrant atmosphere to students and faculty to nurture the spirit of scientific inquiry and pursue cutting-edge research in a highly encouraging environment.



Dr. Bharatkumar Dholakiya

Head of the Department

I am delighted to welcome you on behalf of the Department of Chemistry, SVNIT, Surat, as we unveil our 2025 newsletter. I would like to extend my heartfelt congratulations to our students for their dedication and perseverance in their academic pursuits. I would also like to express my gratitude to our faculty and staff for their unwavering commitment to excellence in teaching, research, and service. Your contributions are invaluable in shaping the future of our department and preparing our students for success in their chosen fields. I encourage everyone to stay engaged and involved in the exciting initiatives and opportunities like participating in research projects and internships, attending seminars and workshops, or simply fostering a sense of community within our department. Your involvement is key to our collective success and thank you for your continued support and dedication to the field of chemistry. As the Head of the Department, it's my pleasure to share with you the latest innovations, breakthroughs, and insights of the department. Our department is committed to advancing scientific knowledge, fostering interdisciplinary collaborations, and preparing the next generation of chemists to tackle the world's most pressing challenges. The Department of Chemistry offers Five Year Integrated M. Sc. and Ph. D. program in Chemistry. In addition, from 2024-25 onwards Department of Chemistry, SVNIT became the first to offer B. Tech in Industrial Chemistry among all the NITs.

I invite you to explore the exciting world of chemistry with us and witness how our collective efforts are shaping the future. Together, let's ignite curiosity, inspire discovery, and make meaningful contributions to society through the transformative power of chemistry.



Dr. Arup Kumar Ghosh & Dr. Suban K. Sahoo

Newsletter Coordinators



On behalf of Department of Chemistry (DoC), SVNIT we heartily welcome all the readers of our annual newsletter and present this May-2025 issue. We are proud to announce the third issue of this newsletter which highlights the achievements of the DoC in the last academic year 2024-25. In this period, we are pleased to announce the initiation of a B. Tech. in Industrial Chemistry programme. Additionally, several faculties of the department have secured projects and patents which have included next. The students of the department have also contributed to the growth of the department by their representation in multiple national and international organizations. With this, we would like to encourage the readers to follow the details provided in this issue of the newsletter.

ABOUT DOC FACULTIES

4



डॉ. स्मिता जौहरी
Dr. Smita Jauhari

Professor, Ph. D.

Date of joining: 30/11/2006

Area of research: Corrosion, Polymers and Wastewater treatment

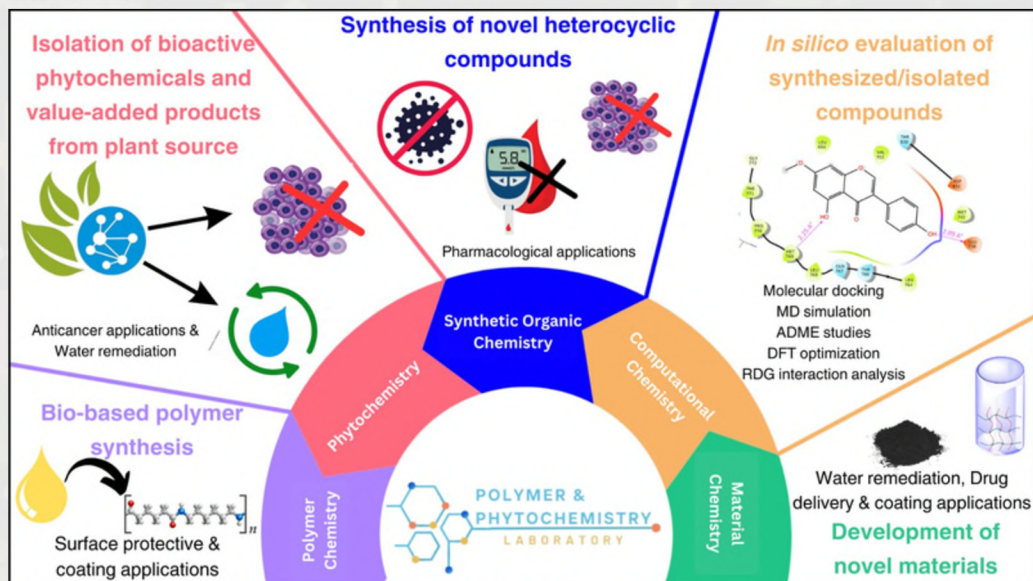
Selected Articles:

1. Design and synthesis of novel 1, 2, 3-triazole linked hybrids: Molecular docking, MD simulation, and their antidiabetic efficacy as α -Amylase inhibitors AR Zala, HN Naik, I Ahmad, H Patel, S Jauhari, P Kumari *Journal of Molecular Structure* 1285, 135493
2. Dilip C. Kanjariya, Hem N. Naik, Meet J. Sherashiya, Yogesh T. Naliapara, Iqar Ahmad, Harun Patel, Dhanji Rajani, Smita Jauhari " α -amylase and mycobacterium-TB H37Rv antagonistic efficacy of novel pyrazole-coumarin hybrids: An in vitro and in silico investigation", *Journal of Biomolecular Structure & Dynamics* (Published), IF-4.4

Profile page : <https://www.svnit.ac.in/facup/sj.pdf>

Office email : sj@chem.svnit.ac.in

Graphical Abstract:



Total Publications till date: 77 ; **h-index:** 15 ; **Patents:** 1

No. of Ph.D. Awarded: 8 ; **No. of Ph.D. Ongoing:** 6



डॉ. भरतकुमार धोलकिया Dr. Bharatkumar Dholakiya

Professor, Ph. D.

Date of joining: 13/03/2009

Area of research: Polyester resin for specialty applications, Biofuels-Ultra efficient biodiesel manufacturing

Selected Articles:

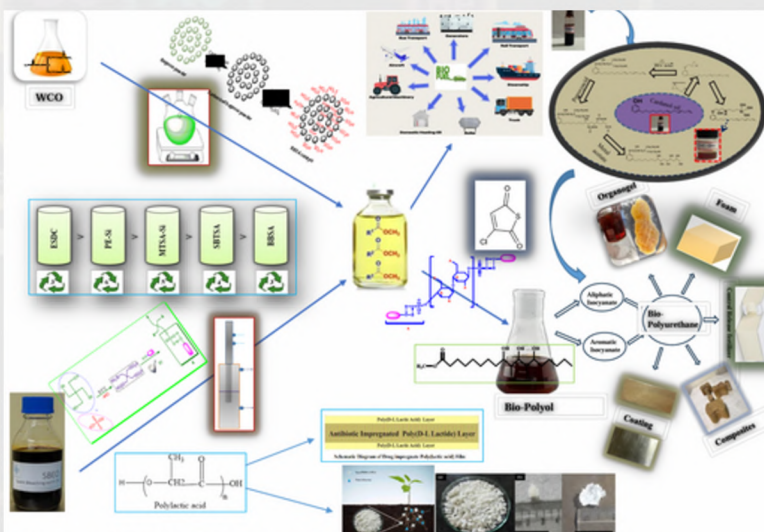
1. Meenakshi Paswan, Swati Patel, Vimal Prajapati, Bharatkumar Z. Dholakiya, Preparation and characterization of slow-release fertilizers loaded guar gum-g-poly methylmethacrylate-cl-poly(lactic acid (Gg-g-PMMA-cl-PLA) hydrogel and its effect on wheat growth, International Journal of Biological Macromolecules, 253(4), 126979, 2023.
2. Meenakshi Paswan, Vimalkumar Prajapati, Bharatkumar Z. Dholakiya, Optimization of biodegradable cross-linked guar-gum-PLA superabsorbent hydrogel formation employing response surface methodology, International Journal of Biological Macromolecules, 223(A), 652-662, 2022.

Profile page : <https://www.svnit.ac.in/facup/bzd.pdf>

Office email : bzdholakiya@chem.svnit.ac.in

Google Scholar: <https://scholar.google.co.in/citations?hl=en&user=SnevgooAAAAJ>

Graphical Abstract:



Total Publications till date: 125 ; **h-index:** 22 ; **Patents:** 8

No. of Ph.D. Awarded: 8 ; **No. of Ph.D. Ongoing:** 8

ABOUT DOC FACULTIES

6



डॉ. सुरेश कुमार कैलासा
Dr. Suresh Kumar Kailasa

Associate Professor, Ph. D.

Selected as
Brainpool
Scientist,
Department
of Chemistry,
Chung-Ang
University,
South Korea

Date of joining: 27/03/2009

Area of research: Miniaturized Extraction Techniques and Capillary Electrophoresis, Functional Nanomaterials, MALDI- and ESI- Mass Spectrometry, Plasmonic and Fluorescent Nanosensors, Biosensing, Bioimaging and Drug Delivery, Green and Environmental Chemistry

Selected Articles:

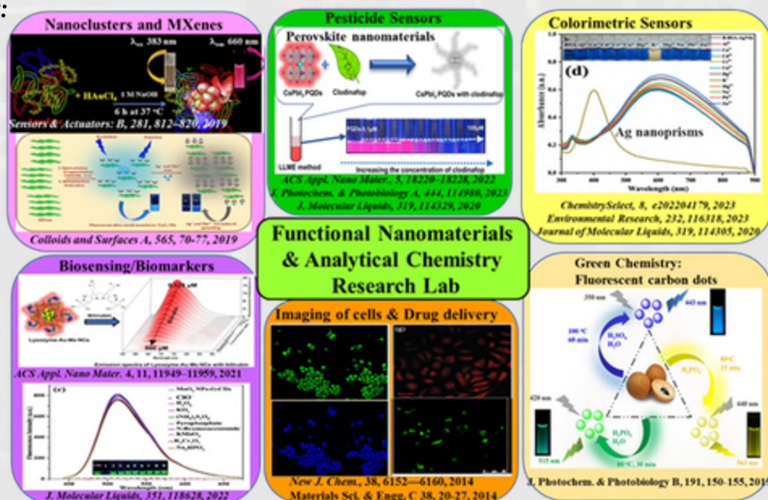
1. Kailasa, S. K.; Koduru, J. R.; Desai, M. L.; Park, T. J.; Singhal, R. K.; Basu, H. Recent progress on surface chemistry of plasmonic metal nanoparticles for colorimetric assay of drugs in pharmaceutical and biological samples, *TrAC Trends in Analytical Chemistry* 105, 2018, 106-120.
2. Mehta, V. N.; Jha, S.; Basu, H.; Singhal, R. K.; Kailasa, S. K. One-step hydrothermal approach to fabricate carbon dots from apple juice for imaging of mycobacterium and fungal cell, *Sensors and Actuators B: Chemical* 213, 2015, 434-443.

Profile page : <https://www.svnit.ac.in/facup/sk.pdf>

Office email : skk@chem.svnit.ac.in

Google Scholar: <https://scholar.google.com/citations?hl=en&user=ybF8xZYAAAAJ>

Graphical Abstract:



Total Publications till date: 280 ; **h-index:** 59 ; **Patents:** 0

No. of Ph.D. Awarded: 11 ; **No. of Ph.D. Ongoing:** 8

ABOUT DOC FACULTIES

7



डॉ. सुबन के.साहू
Dr. Suban K. Sahoo

Associate Professor, Ph. D.

Date of joining: 20/03/2009

Area of research : Inorganic, Supramolecular Chemistry and Molecular Modeling

Selected Articles:

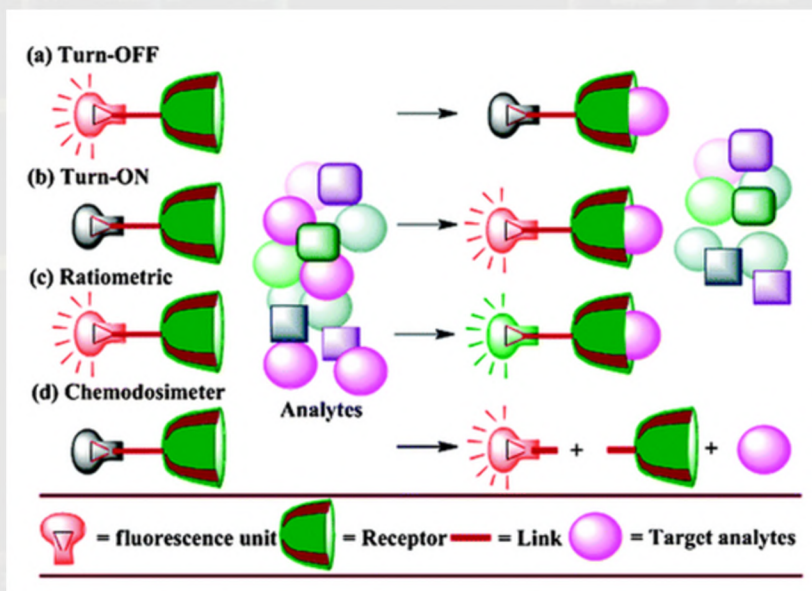
1. Fluorescent ovalbumin-functionalized gold nanocluster as a highly sensitive and selective sensor for relay detection of salicylaldehyde, Hg(II) and folic acid. Rajanee Nakum , Arup K. Ghosh , Bigyan Ranjan Jali , Suban K. Sahoo
2. Detecting Moisture in Building Materials and Commercial Food adducts by 2-Hydroxy-naphthaldehyde Derived Chromo-Fluorogenic Chemosensor

Profile page : <https://www.svnit.ac.in/facup/sks.pdf>

Office email : sks@chem.svnit.ac.in

Google Scholar: <https://scholar.google.co.in/citations?hl=en&user=P7GKHgcAAAAJ>

Graphical Abstract:



Total Publications till date: 290 ; **h-index:** 47 ; **Patents:** 0

No. of Ph.D. Awarded: 6 ; **No. of Ph.D. Ongoing:** 8

ABOUT DOC FACULTIES

8



डॉ. नावेद आई. मालेक
Dr. Naved I. Malek

Associate Professor, Ph. D.

Awarded BRNS
project worth Rs.
33.7 Lakhs on
Waterless Anti-
freezing
Eutectogel: De
Novo Platform for
the Protection of
Skin against Cold
- Induced Injury.

Date of joining: 08/07/2008

Area of research : Synthesis and Physical Properties of Polymers

Selected Articles:

1. Nildhara Parsana, Hiral Ukani, Omar A El Seoud, Azza Al-Ghamdi, Naved Malek, Deep eutectic solvent based self-healable, stretchable and injectable eutectogels: A versatile platform for breast cancer treatment, Chemical Engineering Journal, 488, (2024), 150703
2. Muzammil Kuddushi, Sargam Rajput, Ankit Shah, Jitendra Mata, Arvind Kumar, Vinod K Aswal, Omar El Seoud, Naved I. Malek, Stimuli Responsive, Self- Sustainable and Self-Healable Functionalized Hydrogel with Dual Gelation, Load-Bearing and Dye Adsorbing Properties, ACS Applied Materials & Interfaces, 11 (21) 19572-19583, 2019

Profile page : https://www.svnit.ac.in/facup/Dr.Naved_Malek-2019-1.pdf **Office email :** navedmalek@chem.svnit.ac.in

Google Scholar : <https://scholar.google.co.in/citations?hl=en&user=qAFNptwAAAAJ>

Graphical Abstract:



Total Publications till date: 170 ; **h-index:** 37 ; **Patents:** 0

No. of Ph.D. Awarded: 9 ; **No. of Ph.D. Ongoing:** 8

ABOUT DOC FACULTIES

9



डॉ. कल्पना सी. महेरिया
Dr. Kalpana C. Maheria

Associate Professor, Ph. D.



Date of joining: 23/07/2007

Area of research : Synthesis of materials, Ion-exchange, Waste water treatment and Catalysis

Selected Articles:

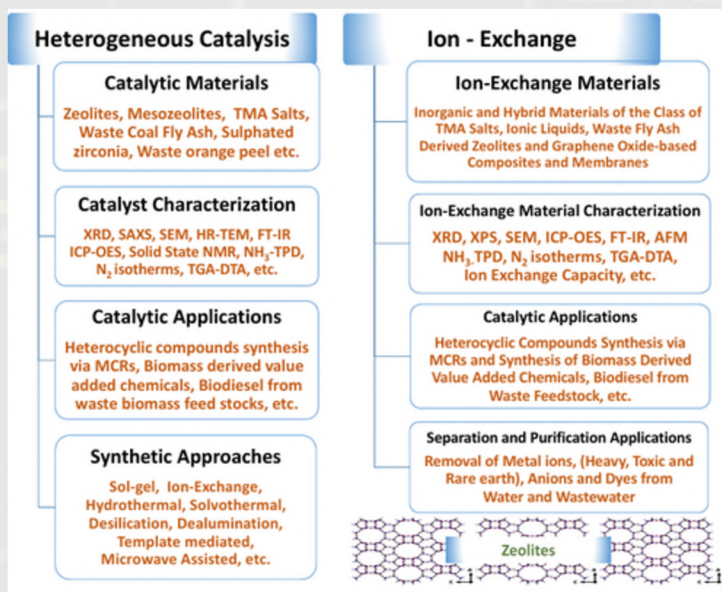
1. Maheria, K. C.; Kozinski J.; Dalai, A. K. Esterification of levulinic acid to n-butyl levulinate over various acidic zeolites, *Catalysis Letters*, 2013, 143, 1220-1225.
2. Lankapati, H.M.; Dankhara P. M.; Lathiya D. M.; Shah, B.; Chudasama U. V.; Choudhary L.; Maheria K.C. Removal of lanthanum, cerium and thorium metal ions from aqueous solution using ZrT hybrid ion exchanger, *Sustainable Energy Technologies and Assessments*, 2021, 47, 101415, 1-9.

Profile page : <https://www.svnit.ac.in/facup/kcm.pdf>

Office email : kcm@chem.svnit.ac.in

Google Scholar: <https://scholar.google.com/citations?hl=en&user=vBbKsa0AAAAJ>

Graphical Abstract:



Total Publications till date: 67 ; **h-index:** 20 ; **Patents:** 2

No. of Ph.D. Awarded: 10 ; **No. of Ph.D. Ongoing:** 7

ABOUT DOC FACULTIES

10



डॉ. प्रेमलता कुमारी
Dr. Premlata Kumari

Associate Professor, Ph. D.

Date of joining: 12/07/2006

Area of research : Carbohydrate Chemistry, Synthetic chemistry, Wastewater treatment and Drug delivery system

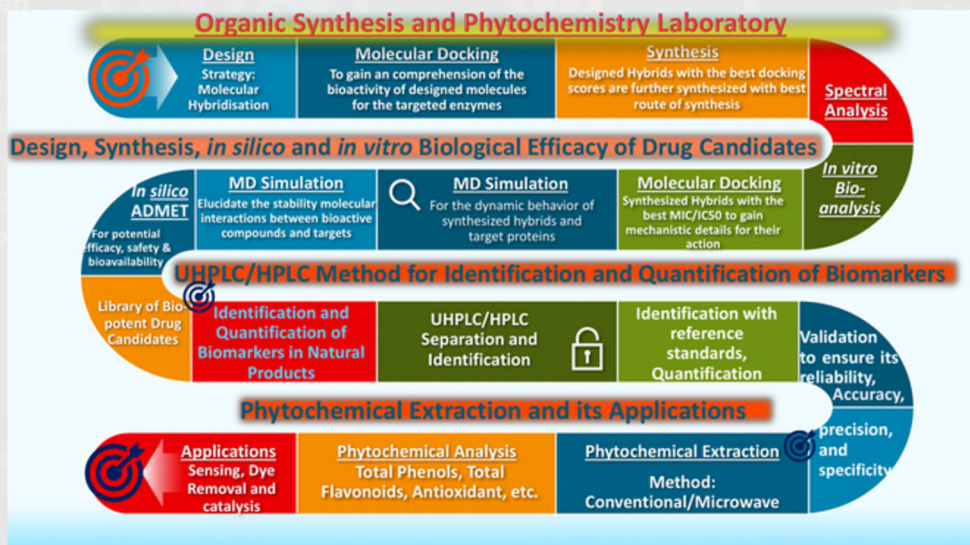
Selected Articles:

1. Patel R.V., Patel P.K., Kumari P., Rajani D. P., Chikhalia K.H. Synthesis of benzimidazolyl-1,3,4-oxadiazol-2ylthio-N-phenyl (benzothiazolyl) acetamides as antibacterial, antifungal and antituberculosis agents. *Eur. J. Med. Chem.* 2012,53, 41-45.
2. Zala, A. R., Rajani, D. P., Ahmad, I., Patel, H., Kumari, P. Synthesis, characterization, molecular dynamic simulation, and biological assessment of cinnamates linked to imidazole/benzimidazole as a CYP51 inhibitor. *Journal of Biomolecular Structure and Dynamics*, 2023 41(21), 11518–1153

Profile page : <https://www.svnit.ac.in/facup/PLCV%20Aug2020.pdf> **Office email :** pl@chem.svnit.ac.in

Google Scholar: https://scholar.google.com/citations?hl=en&user=8eqdB_oAAAAJ

Graphical Abstract:



Total Publications till date: 90 ; **h-index:** 22 ; **Patents:** 1

No. of Ph.D. Awarded: 8 ; **No. of Ph.D. Ongoing:** 8

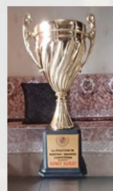
ABOUT DOC FACULTIES

11



डॉ. केतन सी.कुपेरकर
Dr. Ketan C. Kuperkar

Associate Professor, Ph. D.



First prize
- painting competition
International Yoga Day

Granted
staff
mobility to
ROMANIA
for 2024-
2025.

Date of joining: 02/09/2013

Area of research : Surfactant Science, Polymer Chemistry, Materials Science, Soft Condensed Matter, Computational Chemistry

Selected Articles:

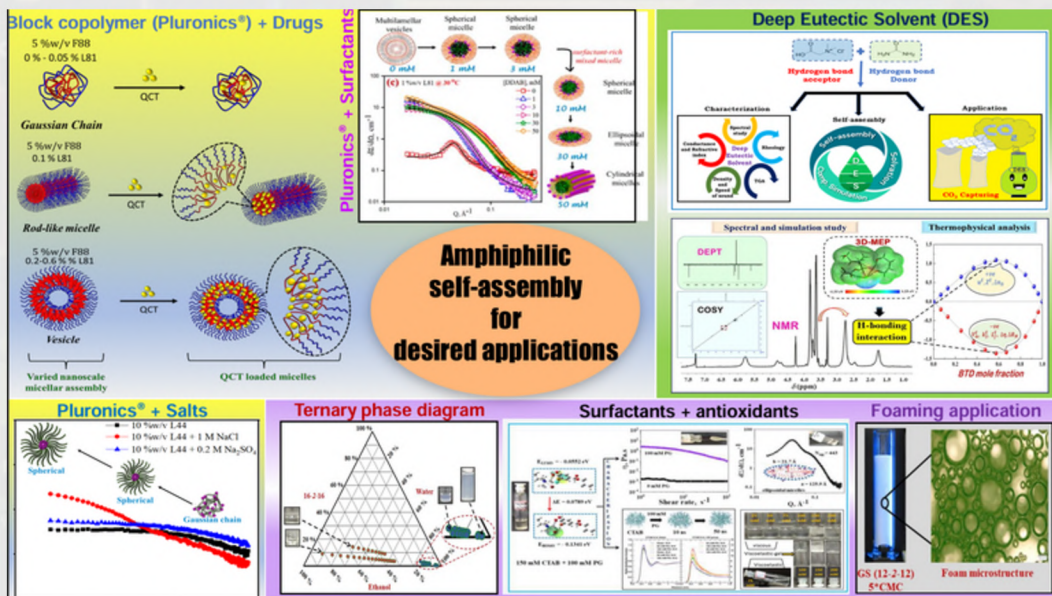
1. Rationalizing design of Pluronics-surfactant mixed micelles through molecular simulations and experiments. D. Patel, G. Pérez-Sánchez, M. Jorge, D. Ray, V. K. Aswal, K. Kuperkar, J. A. P. Coutinho, P. Bahadur, Langmuir, 2023, 39, 2692–2709.
2. Salt induced micellization conduct in PEO-PPO-PEO-based block copolymers: a thermo-responsive approach. N. Tripathi, D. Ray, V.K. Aswal, K. Kuperkar, P. Bahadur. Soft Matter, 2023, 19(37), 7227-7244.

Profile page : <https://www.svnit.ac.in/facup/kck.pdf>

Office email : kck@chem.svnit.ac.in

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

Graphical Abstract:



Total Publications till date: 100 ; **h-index:** 24 ; **Patents:** 0

No. of Ph.D. Awarded: 6 ; **No. of Ph.D. Ongoing:** 5



डॉ. ऋतंभरा जांगिड़
Dr. Ritambhara Jangir

Assistant Professor, Ph. D.

Date of joining: 30/09/2019

Area of research : Development of Covalent-organic Frameworks (COFs), Metal-organic Frameworks (MOFs), Polyoxometalates and Organophosphates, Fabrication of thin membranes using COFs and MOFs for waste water treatment, Biomimicking of enzymes, Crystal Engineering, Development of new catalysts for various organic synthesis reactions.

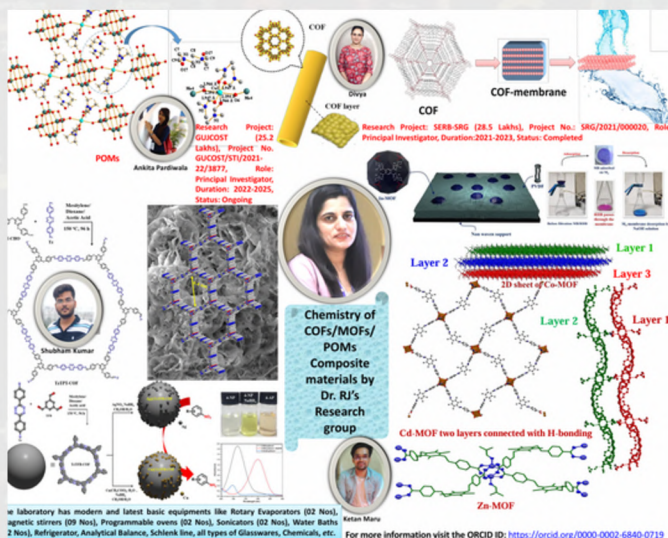
Selected Articles:

1. Kumar, S.; Dholakiya, B. Z.; Jangir, R.* Covalent Organic Framework Impregnated with Silver and Copper Nanoparticles: An Advanced Approach for Catalytic Degradation of Organic Pollutants in Wastewater. ACS Appl. Mater. Interfaces 2024, 16, 1, 1553–1563
2. Maru, K.; Kalla, S.; Jangir, R.* Efficient Dye Extraction from Wastewater Using Indium-MOF-Immobilized Polyvinylidene Fluoride Membranes with Selective Filtration for Enhanced Remediation. Langmuir 2024, 40, 15, 8144–8161.

Profile page : <https://www.svnit.ac.in/facup/RitambharaCV.pdf> **Office email :** ritambhara.jangir@chem.svnit.ac.in

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

Graphical Abstract:



Total Publications till date: 33 ; **h-index:** 10 ; **Patents:** 0

No. of Ph.D. Awarded: 2 ; **No. of Ph.D. Ongoing:** 3



डॉ. तोगती नवीन
Dr. Togati Naveen

Assistant Professor, Ph. D.

Date of joining: 30/09/2019

Area of research : Metal Catalyzed C-H Functionalization Using Transient Directing Groups, Heterocycles Synthesis via C-H Functionalization, Metal Catalyzed Functionalization of Unactivated sp³ C-H Bonds, Photoredox Catalysis, Hypervalent Iodine Chemistry, Metal free C-H Functionalization.

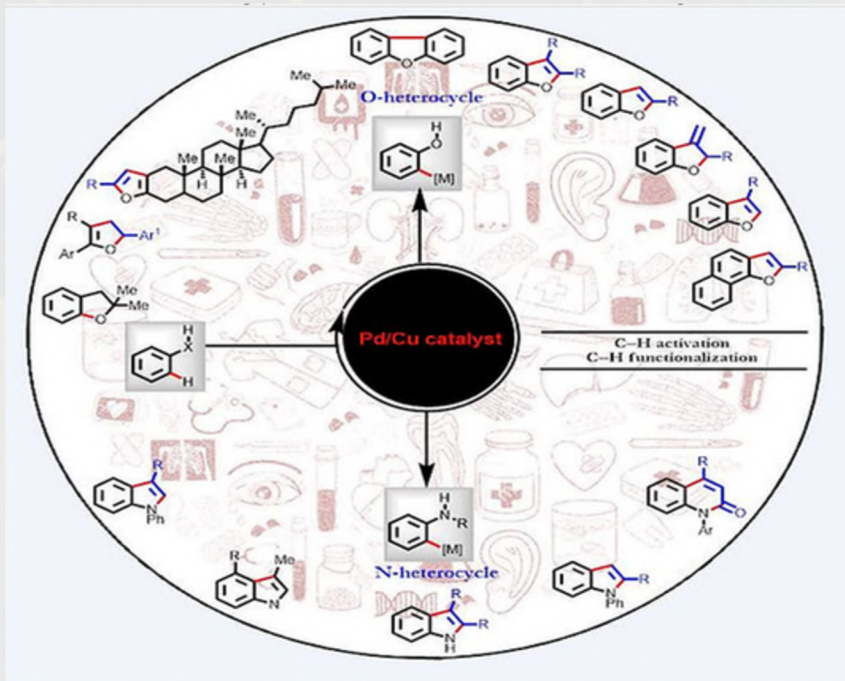
Selected Articles:

- 1.A. Ramani, R. S. Patil, H. Bhukya and Togati Naveen* Asian J. Org. Chem., 2023, DOI: <https://doi.org/10.1002/ajoc.202300336>.
- 2.Arati Ramani, Bhargav Desai, B. Z. Dholakiya and Togati Naveen* Chem. Commun., 2022, 58, 7850-7873.

Profile page : <https://www.svnit.ac.in/facup/Naveen%20CV%20Sept%201.pdf> **Office email** t.naveen@chem.svnit.ac.in

Google Scholar: <https://scholar.google.com/citations?hl=en&user=cQzxV5kAAAAJ>

Graphical Abstract:



Total Publications till date: 42 ; **h-index:** 18 ; **Patents:** 0

No. of Ph.D. Awarded: 2 ; **No. of Ph.D. Ongoing:** 4



डॉ. ए. सिवैया
Dr. A. Sivaiah

Assistant Professor, Ph. D.

Date of joining: 05/03/2021

Area of research : Design and Synthesis of Molecular probes, Bioinorganic Chemistry, Supramolecular Chemistry, Nano/Bio Sensors and Biomaterial applications

Selected Articles:

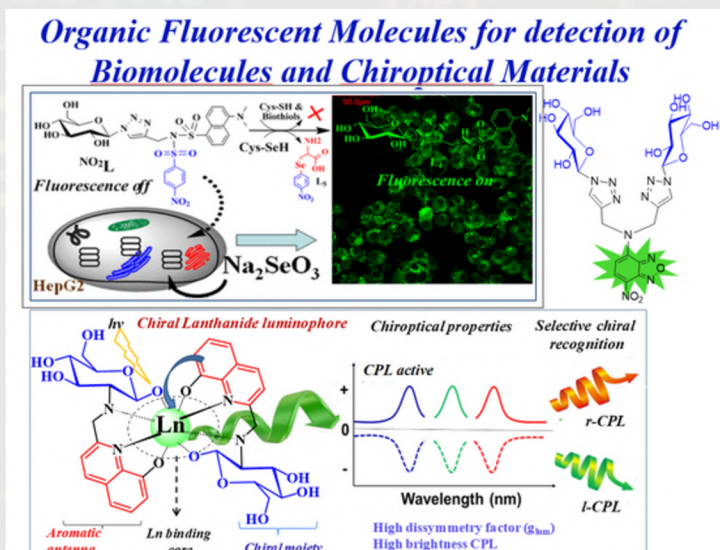
1. Maheshkumar, P.; Nidhi, P.; Sarita, K.; Sateesh, B.; Sivaiah, A. Synthesis and characterization of a rhodamine derivative as a selective switch-on fluorescent sensor for Cu²⁺ ions in aqueous PBS buffer and living cells. *Sens. Diagn.*, 2024, 3, 412–420.
2. Ravinkumar, V.; Nidhi, P.; Sateesh, B.; Sivaiah, A. Imino Phenolic Benzene-1,3,5-tricarbohydrazide Conjugate as a AIEgen-Based Fluorescent Probe for the Detection and Bioimaging of Lipid Droplets in Living Cells. *ChemistrySelect* 2023, 8, e202303697

Profile page : <https://ravinsvaland.wixsite.com/my-site>

Office email : areti@chem.svnit.ac.in

Google Scholar: <https://scholar.google.com/citations?hl=en&user=SNILSK8AAAAJ>

Graphical Abstract:



Total Publications till date: 25 ; **h-index:** 10 ; **Patents:** 1

No. of Ph.D. Awarded: 0 ; **No. of Ph.D. Ongoing:** 4



डॉ. सुब्रत दत्ता
Dr. Subrata Dutta

Assistant Professor, Ph. D.

Date of joining: 13/05/2021

Area of research : Synthetic organic chemistry, fluorescence dye for bioimaging applications, DNA and peptide-based catalysis

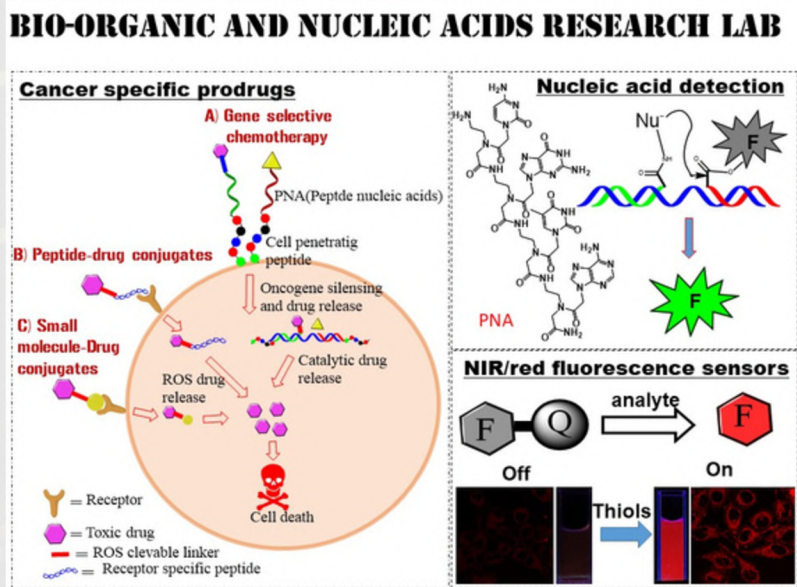
Selected Articles:

1. Dutta, S.; Rühle, J.; Schikora, M.; Deussner-Helfmann, N.; Heilemann, M.; Zatzepin, T.; Duchstein, P.; Zahn, D.; Knör, G.; Mokhir, A. Red light-triggered photoreduction on a nucleic acid template. *Chemical Communications*, 2020, 56, 10026-10029.
2. Dutta, S.; Foley, A.R.; Warner, C.J.A.; Zhang, X.; Rolandi, M.; Abrams, B.; Raskatov, J. A. Suppression of Oligomer Formation and Formation of Non-Toxic Fibrils upon Addition of Mirror-Image A β 42 to the Natural L-Enantiomer. *Angewandte Chemie (International ed.)*, 2017, 56, 11506 - 11510.

Profile page: <https://www.svnit.ac.in/facup/Subrata%20Dutta%20CV.pdf> **Office email :** subrata.d@chem.svnit.ac.in

Google Scholar: <https://scholar.google.com/citations?hl=en&user=29rBYwUAAAAJ>

Graphical Abstract:



Total Publications till date: 10 ; **h-index:** 10 ; **Patents:** 0

No. of Ph.D. Awarded: 0 ; **No. of Ph.D. Ongoing:** 5



डॉ. लता राणा
Dr. Lata Rana

Assistant Professor, Ph. D.

Date of joining: 09/04/2021

Area of research : Synthetic Inorganic chemistry, Catalysis (Homogeneous and Heterogeneous), Bioinorganic Chemistry

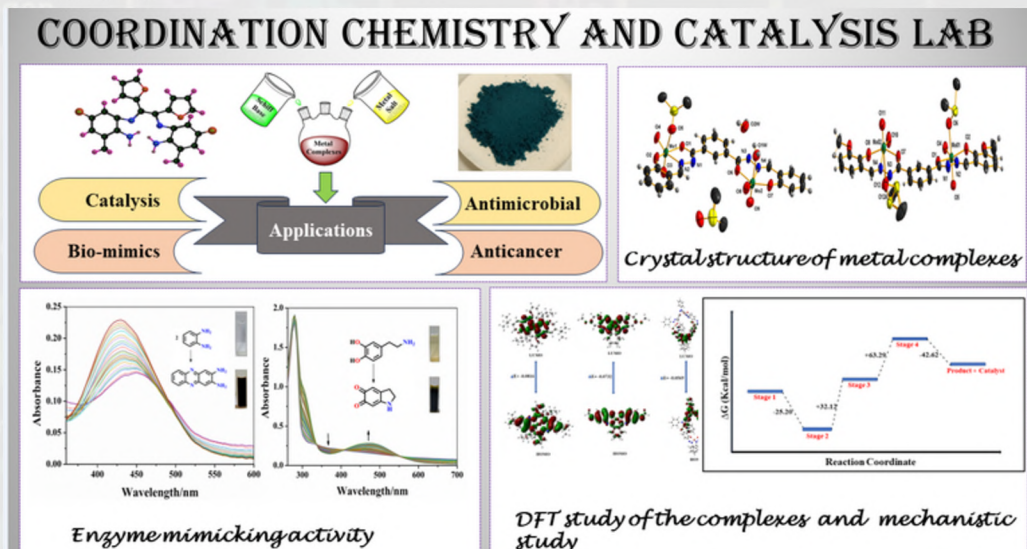
Selected Articles:

1. Rana; L., Dheeraj, Hundal; G. New Bis[*cis*-[MoO₂]] complexes with dihydrazone ligands: Synthesis, characterization, theoretical investigation and their peroxidase mimicking activity, Dalton Trans., 2023, 52, 5616–5631
2. Dheeraj, Rana; L., Hundal; G. New bis[MoO₂] and [MoO(O₂)] compounds: an artificial enzyme with peroxidase activity against *o*-phenylenediamine and dopamine, J. Inorg. Biochem., 2023, 244, 112231.

Profile page : <https://www.svnit.ac.in/facup/Dr%20Lata%20CV.pdf> **Office email :** latarana@chem.svnit.ac.in

Google Scholar: https://scholar.google.com/citations?hl=en&user=Zpl_928AAAAJ

Graphical Abstract:



Total Publications till date: 19 ; **h-index:** 8 ; **Patents:** 0

No. of Ph.D. Awarded: 0 ; **No. of Ph.D. Ongoing:** 3



डॉ. अरूप कुमार घोष
Dr. Arup Kumar Ghosh

Assistant Professor, Ph. D.

Date of joining: 21/04/2021

Area of research: Environmental Chemistry, Computational Chemistry, Instrumentation, Spectroscopic Analysis, Atmospheric Chemistry

Selected Articles:

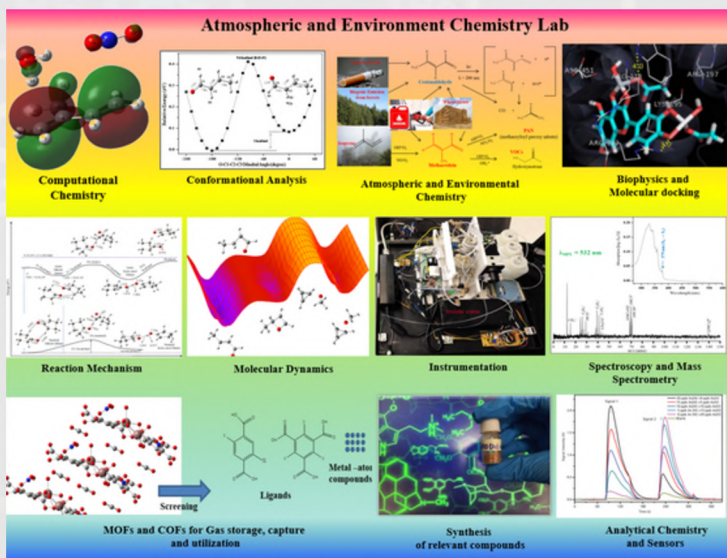
1. Chatterjee, P.; Ghosh, A.K.; Samanta, M.; Chakraborty, T. Barrierless Proton Transfer in the Weak C-H... O Hydrogen Bonded Methacrolein Dimer upon Nonresonant Multiphoton Ionization in the Gas Phase. *J. Chem. Phys. A* 2018, 122(25), 5563–5573.
2. Vegad, Y., Vardhan, S., Ghosh, A.K., Jali, B.R., Sahoo, S.K., Folic Acid Detection Using β -Cyclodextrin-Functionalized Copper Nanoclusters and Vitamin B6 Cofactor Pyridoxal. *ACS Appl. Nano Mater.*, 2024,7(4), 4173–4181.

Profile page : https://www.svnit.ac.in/facup/CV_akg.pdf

Office email : akg@chem.svnit.ac.in

Google Scholar: <https://scholar.google.com/citations?hl=en&user=OW3OBRkAAAAJ>

Graphical Abstract:



Total Publications till date: 6 ; **h-index:** 8 ; **Patents:** 0

No. of Ph.D. Awarded: 0 ; **No. of Ph.D. Ongoing:** 3

RESEARCH LABORATORIES @ DOC



- Polymer & Phytochemistry
- Ionic Liquid
- Nano & Supramolecular chemistry
- Surface Chemistry
- Organic Synthesis & phytochemistry
- Catalysis and Ion exchange
- Functional Nanomaterials & Analytical Chemistry
- Biomaterial
- Catalysis and Synthetic Methodology
- Organocatalysis and materials chemistry
- Atmospheric Chemistry
- Supramolecular Bio/Nano Sensors
- Coordination chemistry
- Organic and Bioorganic

NAME OF INSTRUMENTS



Differential Scanning Calorimeter



Benchtop NMR
60 MHz



Tensiometer



High Performance Liquid Chromatography



Zeta size analyser



FT-IR
Spectrophotometer



Double beam UV-Visible
Spectrophotometer



Thermogravimetric Differential
thermal analyzer



Attenuated total
reflection -FTIR



Flash Chromatography

DST-FIST improvement of S&T infrastructure sponsored by Collaborative research project of two hundred three lakhs rupees for five years (19th Dec, 2022).

Principal Coordinators :

Dr. Smita Jauhari, Dr. Bharatkumar Dholakiya, Dr. Suresh Kumar, Dr. Suban K. Sahoo, Dr. Naved Malek, Dr. Kalpana Maheria, Dr. Premrata Kumari and Dr. Ketan C. Kuperkar

Total no. of Ph.D. awarded students: 64

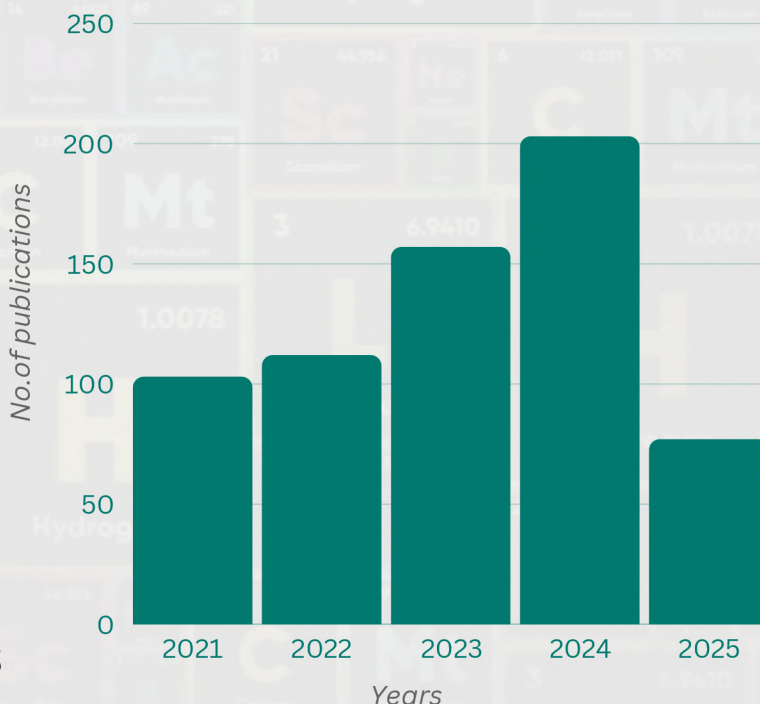
Total no. of Ph.D. ongoing students: 86

Total no. of projects completed: 19

Total no. of projects ongoing: 12

Total no. of publications till date: 1334

Total no. of publications in last five years: 587



Source- SCOPUS

ACHIEVEMENTS (DEPARTMENT)

20



Inauguration of **Functional Nanomaterials & Analytical Chemistry Lab**
By Director Sir & Dean Academic Sir



Dr. Kalpana Maheria, Associate Professor, Department of Chemistry, SVNIT, Surat, has been awarded the prestigious CSI-Women Scientist Award in Catalysis, by the prestigious society of India, The Catalysis Society of India (CSI) for her outstanding contributions to Catalysis Research in India.



Dr. Premalata Kumari secured 1st position in Inter NIT Faculty and Staff badminton Women's doubles, organized by Physical Education and Sports Section, NIT Kurukshetra from December 20-22, 2024. She also secured 2nd position in Inter NIT Faculty and Staff badminton Women's singles event.



Dr. Ketan Kuperkar was selected as Young Associate 2024-25 from the Maharashtra Academy of Sciences. (2024-25).

ACHIEVEMENTS (DEPARTMENT)

21



Diamond Industry Visit

Surat is the heart of Indian diamond industry. Through education, training and collaboration, Department of Chemistry, SVNIT is looking forward to tap in the potential of the diamond industry for its students and collaborate in the field of lab grown diamonds as well as semiconductors. Dr. Arup K. Ghosh, Department of Chemistry, SVNIT is engaged actively in this regard.



Swachhata Pakhwada

Swachhata Pakhwada, meaning "Cleanliness Fortnight," is a fortnightly campaign organized by the Indian government as part of the Swachh Bharat Mission. Department of Chemistry, SVNIT has kept up with its tradition of maintaining cleanliness and win several prizes, including the best laboratory ward during the Swachhata Pakhwada 2024.



BZA Annual Meeting
2-5 July 2024
Ambleside Conference Centre



Best poster presentation award to the research paper entitled, 'In situ Small-angle X-ray Scattering Study of Formation of Mesoporous Zeolite H-beta' authored by K. C. Maheria presented at British Zeolite Association Annual meeting held at Ambleside Conference Centre, UK. Held during 2nd – 5th July 2024.

In situ Small-angle X-ray Scattering Study of Formation of Mesoporous Zeolite H-beta

N. Bonthiam¹, S. Soontaranon¹, K. C. Maheria², G. Sankar^{1,2}

¹University College London, United Kingdom, g.sankar@ucl.ac.uk, ²Synchrotron Light Research Institute (Public Organization), Thailand, kanchan@slri.or.th, ³Sardar Vallabhbhai National Institute of Technology, India, kmc@chem.svnit.ac.in

Zeolites have been applied in wide range of applications and modification of zeolite to create mesoporous character in zeolites have become gaining an interest in the area. Zeolite is known as microporous material, possessing pore size lower than 2 nm [1] and this can cause the limitation when applying in the reactions involved with bulky molecules [2-3]. However, different type of zeolites has different conditions to achieve mesoporous formation for example Si/Al ratio, pH value and template being used. To expand the understanding of mesoporous zeolite formation, H-beta with low (37.5) and high (150) Si/Al ratios were studied in this work, and they were modified by CTAB and three different organic ammonium hydroxides including tetramethyl ammonium hydroxide (TMAOH), tetraethyl ammonium hydroxide (TEAOH), and tetrapropyl ammonium hydroxide (TPAOH) at pH 12. Mesoporous character was confirmed by Small-angle X-ray scattering (SAXS) technique and *in situ* SAXS was performed to gain more understanding in term of time and temperature for the mesoporous formation (See Figure 1). Mesoporous formation of H-beta with low Si/Al ratio (Si/Al = 37.5) happened when TMAOH, a small cation hydroxide, was used. For H-beta with Si/Al = 150, TEAOH provides the best mesoporous formation and TMAOH also give a good mesoporous character. According to *in situ* SAXS study, mesoporous formation can occur when the temperature is 120°C and the mesopores forms quickly in a first 10-20 min after the temperature reaches 120°C. The system did not undergo further changes, specifically the amount of mesopore formation occurred after heating to 150°C. In conclusion, the mesoporous character forms better with small cation of template, and for H-beta, higher Si/Al can form significantly higher mesopores. Mesoporous formation can take place very well at 120°C in 30 min and no further heating to higher temperature is needed.



Ms. Mansi Mistry
Research Scholar,
DoC



Dr. Bharatkumar Z.
Dholakiya
Professor, DoC



Dr. Vimalkumar
Prajapati
Asst. Professor, NAU

Team Members: Mr. Subhosh Turumella (5th year M.Sc. student, DoC) and Ms. Priya Meena (3rd year M. Sc. student, DoC)

for

Selection of project titled "Biomimetic Carbon Dioxide Capture System" among 40 finalist teams under "Ideas to Impact" Challenge at IIT Madras.



Ms. Mansi Mistry
Research Scholar,
DoC



Dr. Bharatkumar Z.
Dholakiya
Professor, DoC



Dr. Vimalkumar
Prajapati
Asst. Professor, NAU

for

Selection and Funding of startup "Herbveda" under program Catalyst 6.0 at ASHINE, SVNIT, Surat.

The startup is based on developing complete plant based herbal formulation for diabetes treatment.

Total no. of patents: 11

Patent No.

Title of the Patent

Inventor(s) Name

Granted Process/Product Patents

296833	"3-halo derivatives of thiomaleic anhydride and process for the preparation thereof"	Dr. Bharat Dholakiya , Jigar Patel
298644	"Controlled release of therapeutic agents using drug impregnated polymer film"	Dr. Bharat Dholakiya, Bhusan Chubisa Mahendra Lakdawala
390158	"An improved process for the preparation of high molecular weight polylactic acid"	Dr. Bharat Dholakiya, Bhusan Choubisa Dr. Mayank Patel
332732	"Novel biologically active maleimide compounds and use thereof"	Dr. Bharat Dholakiya , Jigar Patel
334762	"Novel process for the preparation of furan 2, 5,-dione derivatives"	Dr. Bharat Dholakiya , Jigar Patel
387089	Polymer mortar composite from post-consumer PET modified with MMA and POFA and process for preparation thereof"	Dr. Y. D. Patil , Bhagyshree Sarde Dr. Bharat Dholakiya
480560	"Cardanol based bio-polyol of formula (I) and process for preparation thereof"	Dr. Bharat Dholakiya , Nilam Gamit
508289	"Polymer mortar composite and a process for preparation thereof"	Dr. Y. D. Patil , Bhagyshree Sarde Dr. Bharat Dholakiya
301613	An improved process for the preparation of Dihydropyrimidin-2-ones	1.Maheria Kalpana Chaturbhai 2.Mistry Sunilkumar Rameshchandra 3. Joshi Rikesh Rameshchandra 4. Sahoo Suban Kumar
319508	An improved process for the preparation of Diarylpyrimidin-2(1H)-Ones	1.Maheria Kalpana Chaturbhai 2.Mistry Sunilkumar Rameshchandra
101129644	Apparatus and method of liquid nitrogen assisted spray ionization mass spectrometry	Hui-Fen Wu, Suresh Kumar Kailasa, Nazim Hassan.
448736	An Industrial one pot process for the preparation of Chlorzoxazone	Dr. Premlata Kumari Vaghasiya Mahesh Dunganarshibhai

Filed Process/Product Patents

202321089584	Cardanol based sol-gel derived polyurethane polymer mortar (SGPM) composites and process for preparation thereof	Dr. Bharat Dholakiya , Nilam Gamit
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Granted Design Patents

363344-001	Hydrogen Sulfide Gas Generator	Dr. Mahendra M. Lakdawala Kevadiya Hardik Popatbhai Dr. Bharat Dholakiya , Dr. G. M. Malik
364383-001	Orthopaedic Implant	Dr. Mahendra M. Lakdawala Kevadiya Hardik Popatbhai Dr. Bharat Z. Dholakiya , Dr. G. M. Malik
376805-001	Micro-Electrochemical Reactor	Dr. Mahendra M. Lakdawala Dr. Bharat Dholakiya , Dr. G. M. Malik Dr. Salma Mitchla , Dr. Dharmesh Mahajan Dr. Mayank Champaneriya

CHEMशास्त्र (A Student Chapter)

Teacher's Day Celebration

Teachers' Day was celebrated with great enthusiasm to honor the dedication and contributions of our educators. The event featured performances by students, including singing, dancing, and poetry showcasing their love for their teachers. Several teachers also shared inspiring speeches, reflecting on their journey and experiences. As a gesture of appreciation, every teacher was felicitated. The celebration was a heartfelt tribute to the guiding lights who shape our futures.



The Scholarship Summit



The Scholarship Summit was an event that provided students with valuable guidance on academic opportunities. The first session, led by Vaishnavi Singh and Yatharth Kumawat, focused on the pathway to SRFP, where they shared insights into the application process and the benefits of the program. The second session, "International Talks," featured Aryan Shah and Pranav Munishetty, who spoke about various international scholarships. They offered tips on writing impact SOP, along with key dos and don'ts while filling out applications. The summit proved to be an inspiring and informative experience for all attendees.

Breaking Bonds With AI

The event Breaking Bonds with AI was a fascinating exploration between computational chemistry and artificial intelligence. The first session, led by Dr. Amit Paul, delved into the fundamentals of computational chemistry and its growing role in modern research. In the second session, Dr. Viren Pattani highlighted the integration of AI in chemical modeling, data analysis, showcasing real-world applications and future possibilities. The event offered students and researchers valuable insights into how AI is transforming the landscape of chemical sciences.



Resume Revamp Workshop



The Resume Revamp Workshop, led by Mayuk Joddar, was a highly informative session focused on crafting professional resumes. Students gained insights into effective formatting, content selection, and common mistakes to avoid. He introduced useful tools like Overleaf, LaTeX and shared tips on creating e-signatures, writing strong achievements, and tailoring resumes for specific roles. The session ended with a live Q&A, providing personalized guidance and making it a valuable experience for all.

STUDENT CHAPTER

GATE Talk



The GATE Talk by Atanu Das, AIR 1, was an inspiring and motivating session for all attendees. He shared his journey from initial struggles to securing the top rank, the importance of self-discipline, study techniques, and a conceptual foundation. He gave practical tips on managing time, selecting the right study materials, and maintaining a balanced routine. He also highlighted how he dealt with setbacks, stayed focused and kept his preparation consistent. His honest and relatable insights made the session not just informative, but also a source of encouragement for every GATE aspirant in the room.

Vyakhyan Guest Lecture

The Vyakhan Guest Lecture featured Mr. Digish M. Panchal, Head of R&D Synthesis at UPL, who delivered an insightful session on industry expectations from MSc and PhD graduates. He shared valuable perspectives on the skills, mindset, and practical knowledge companies look for in fresh researchers. He emphasized the importance of problem-solving abilities, adaptability, and a strong foundation in core subjects. His talk provided students with an understanding of how to bridge the gap between academic learning and industrial application, making it a highly enriching experience for all attendees.



Release Event of Newsletter 2023-24



Industrial Visit to Colourtex Industries Pvt. Ltd.





Dr. Naved I. Malek

Career Development Cell Faculty Co-ordinator

Greetings from T&P Faculty Coordinator for DoC, SVNIT, Surat. Our department has forged a distinguished reputation, emphasizing research, innovation, and industry relevance. Our experienced faculty not only spearhead advanced projects but also mentor students at all levels, fostering a culture of academic excellence and innovation. The Integrated M.Sc. program prioritizes practical learning, supported by modern facilities and hands-on training. Students actively pursue internships, showcasing their skills beyond academia. We invite industries, organizations, and alumni to engage in our placement drive, offering talented individuals poised for success. Best wishes to the M.Sc. 2025 batch for a rewarding placement journey.

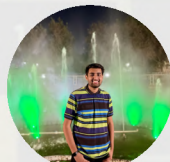
On Campus Placements



RAMGOPAL TIWARI
FEDERAL BANK



JUJHAR SINGH
FEDERAL BANK



ANIKET RAJ
FEDERAL BANK



AYUSH AGRAWAL
FEDERAL BANK



PRANAV MUNISETTY
TOYO INK (ARTIENCE)



DHEERAJ
TOYO INK (ARTIENCE)



ATUL VERMA
TOYO INK (ARTIENCE)



PREM KUMAR
VIBRATION ACADEMY



AKANSH RAGHUVANSHI
VIBRATION ACADEMY



ANIMESH PANDEY
VIBRATION ACADEMY



HIMANSHU PAWAR
VIBRATION ACADEMY



ARYAN SHAH
PLANET SPARK



HARSH GANDHI
PLANET SPARK



Pritam Biswas
HALDYN GLASS LTD.

Ph. D. & *FINAL YEAR INTERNSHIPS

26



RAJ SINGH
PHD, IIT BOMBAY



HARSH GANDHI
KRAFT HEINZ



PERIKALA PRAVEEN K.
ALGO UNIVERSITY



ANIMESH
RAAM GROUP



JUJHAR SINGH
RAAM GROUP



AKANSH RAGHUVANSHI
TOPPERRANK



AYUSH AGRAWAL
TOPPERRANK



ALOK SINGH
BANTHIA CONSULTANCY



DANIYEL VALVI
BANTHIA CONSULTANCY



SUMER DAN
BANTHIA CONSULTANCY



ROHIT JHAJARA
BANTHIA CONSULTANCY



ANIKET RAJ
KRAFT HEINZ

*PPO Conversion possible in future

ACHIEVEMENTS (STUDENT)



**Devanshi
Lad**
Gold at Kho Kho
(NIT Calicut)



**Anand
Chaudhary**
Handball (NIT Warangal)



**Harsil
Marvadi**
Kho-Kho (NIT Warangal)

PG INTERNSHIPS

27



Mayuk Joddar

I21CY019
MAX PLANCK INSTITUTE
FOR CHEMISTRY, MAINZ
&
IISc Bangalore



Neel Sharma

I21CY012
KAIST, South Korea



Aryendu .P

I21CY006
IISc Bangalore



Devanshi Lad

I21CY007
IISER KOLKATA
SRFP



Deepankumar V.

I21CY042
IACS Kolkata
SRFP



Abhishek Anand

I21CY048
RUB, Germany



Shubhadeep Maity

I22CY041
Institute de Chimie de Strasbourg
CHARPAK, France



Mahak Singhal

I22CY047
IACS Kolkata
SRFP



Mohit

I22CY027
SRIBS, Kottayam, Kerala
SRFP



Siddharth Kumar

I22CY037
IIT Mandi



Aditya Aryan

I22CY051
IIT Patna



Krish Parmar

I22CY010
IIT Jammu & IIT Tirupati
Machine Learning, Deep Learning and AI



Alige Shruthi

I22CY028
IIT Kanpur



Upasana Mondal

I22CY004
IIT Gandhinagar



K. Manikanta Goud

I22CY023
IIT Tirupati



T. Vamshi Krishna

I22CY021
IIT Bhilai



Madhu Vanukuru

I22CY006
NCBS, Bangalore



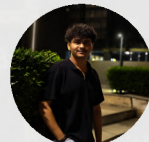
Atif Khurshid

I22CY039
IIT Bhilai



Lawkesh Tiwary

I22CY045
IIT Mandi



Lalit Mohan

I23CY008
IACS Kolkata
SRFP



Dhruv Vaghasiya

I23CY001
IIT BHU



Anand Choudhary

I23CY042
IIT BHU



Prashant

I23CY027
Jamia Milia Islamia, Delhi



Gaurav Khatri

I23CY026
Jamia Milia Islamia, Delhi



Vineeth Palthya

I23CY007
Jamia Milia Islamia, Delhi

PLACEMENT STATISTICS

28

***Unplaced**
25.7%

Placed Students
42.9%

Internship
31.4%

46

Total strength of
batch 2025

35

Total no. of students
opted for placements

11

Total number of
Students Opted for
Higher Studies/Others

- **Highest Package: 16 LPA**
- **Average Package: 9 LPA**
- **Lowest Package: 6 LPA**

*Placements are still ongoing



Dr. Arup K. Ghosh

Newsletter Coordinator (2024-25)



Dr. Suban K. Sahoo

Newsletter Coordinator (2024-25)

We applaud the entire dynamic team of the students for bringing out this MAY-2025 (third issue) of our annual newsletter. Kudos to the team for their dedication in marking this newsletter's second anniversary. This issue covers the academic programmes, research activities, events, highlights, achievements and of the students and faculties. The placement record of the final year students also present a bright future of the department. Your comments and suggestions are welcome to make the next issue of the newsletter more interactive.

Designer & Content Writer



Srusty Jarupula

D24CY015



Mayuk Joddar

I21CY019



Paras S. Waykos

I21CY016

Surat is well connected by Railway to major cities like Bangalore, New Delhi, Mumbai, Chennai, Hyderabad, Ahmedabad, Jaipur, Lucknow, Bhopal, Indore etc.



SVNIT is located at a short distance of about 10 km from Surat Railway Station and can be easily commuted within 30 minutes.

SVNIT Surat is at a distance of just 8.5 Km from Surat International Airport. It takes roughly 20 minutes to reach the campus.



For more updates follow:

https://www.instagram.com/tnp_chemistry_nitsurat

https://www.instagram.com/chemshastra_nit_surat

<https://www.linkedin.com/company/department-of-chemistry-nit-surat-training-placement>

रसायनिकी विभाग

DEPARTMENT OF CHEMISTRY

सरदार वल्लभभाई राष्ट्रीय प्रौद्योगिकी संस्थान, सूरत-395007, गुजरात, भारत

Sardar Vallabhbhai National institute of technology (SVNITSurat) - 395007, Gujarat, India

<https://www.svnit.ac.in/web/department/chemistry>

SVNIT, SURAT

