

DR. DINESH KUMAR CHELIKE

Assistant Professor (Chemistry Department) and Central Research Committee (CRC), Rungta College of Engineering & Technology Bhilai-490024 India, +91 7898724799,

dineshchemist92@gmail.com, dr.dinesh.kumar@rungta.ac.in

PROFILE:

- Development of isocyanate-free polyurethanes (NIPU) for various application.
- Development of fluorescent material for metal ion sensing/ Anticancer study.
- Development of Hybrid inorganic-organic material (Macrocycle, Macromolecules) for optical/sensor applications.

EXPERIENCE

Assistant Professor in Chemistry

Dec 2022 to Current

Rungta College of Engineering & Technology Bhilai, Chhattisgarh

- Continuously improved subject knowledge by conducting thorough research.
- Maintained extensive knowledge in current research, ensuring teaching met academic standards.

PGT Teacher

May 2021 to Dec 2022

Guru Nanak English Senior Secondary School, Bhilai, Chhattisgarh

Senior Research Associate

Jun 2022 to Oct 2022

Clearsynth R&D Lab Secunderabad, Telangana

- I used to synthesized labeled compound (Deuterated compound)

SKILLS

- MS Office (Word, Power point and Excel), NMR software, Origin software, Chemdraw
- I have experience to handle ATR-FTIR, Powder XRD, and UV-Vis Spectroscopy.

EDUCATION

Doctor of Philosophy, Chemistry (Supervisor: Dr. GT Senthil Andavan)

Awarded 2022

SRM Institute of Science and Technology, Chennai, Kattankulathur Tamil Nadu

- Course work in (Polymer Science and Advance spectroscopy)
- Thesis title (Cyclophosphazenes based hybrid inorganic-organic molecules and non-isocyanate polyurethanes for sustainability)

Master of Science, Chemistry (Project Supervisor: Dr. K. Juliet Gnana Sundari)

2017

Karunya Institute of Technology & Sciences, Coimbatore, Tamil Nadu

- Project title (Electrodeposition of Zinc-Nickel alloy on mild steel)

Bachelor of Science, Chemistry

2015

Kalayan P.G. College Bhilai Nagar Chhattisgarh

PROFESSIONAL MEMBER

- Editorial Board Member of “Scientific Report” Springer Nature Journal (SCI 3.8)
- Reviewer of “Modern Chemistry” Journal.
- Reviewer of Advances in Science, Technology and Engineering System Journal (ASTESJ), ISSN: 2415-6698, Reviewer Code: AJR03397.
- Iterative International Publishers (IIP), Editor/Reviewer (IIP ID: **IIPER1655294744**).
- Institute of Scholar, Bangalore (Lifetime), **InSc ID: InSC2020AC1**
- Founder and Director of **Kanak Chemistry Tutorial** (*Online Learning Platform*) YouTube Channel (www.youtube.com/@Kanakchemistrytutorial)

ACADMIC AWARDS & ACHIEVEMENTS

- **Rungta Award of Research Excellence (RARE)-2025** received on 10th May 2025 by Central Research Committee at RCET Bhilai for outstanding research performance.
- “**Keynote Speaker**” in the International Conference (INCON 25) held on 21st to 22nd February 2025 at Anjanaya University, Raipur, Chhattisgarh, India
- **Rungta Award of Research Excellence (RARE)-2024** received on 11th May 2024 by Central Research Committee at RCET Bhilai for outstanding research performance.
- **Gold Medal** received in Research Day 2020 at SRM IST Chennai, Tamil Nadu.
- “**Young Research Award**” 2020 by Institute of Scholar (InSc), Bangalore, Karnataka, India.

PATENT

- **Dinesh Kumar Chelike**, Senthil Andavan G.T. “Sustainable Hybrid Non-isocyanate Polyurethanes (NIPU) with Flame Retardant Properties” (Filed, Application Number: **202141056291**)
- **Dr. Dinesh Kumar Chelike**, Dr. Prachi and Shaesta Jabeen “Advanced Sensor Platform for Selective Heavy Metal Ion Detection using synthesized Fluorescence Nanomaterial” (Filed at 06/07/2024, Application Number: **202421051826**)

CO-SUPERVISORS (Number of Scholar 2)

1. **Ms. Shaesta Jubeen (SSPU2024PhD029)**
2. **Ms. Kulvinder Kaur (CC 5723)**

PUBLICATIONS

Orcid ID: 0000-0002-3128-6895, **Scopus ID:** 57207255306, **Researcher ID:** AHA-1590-2022

TO BE COMMUNICATED/UNDER REVIEW

[1] **Dinesh Kumar Chelike***, Fluorescent Nanomaterials for Metal-ion Sensing: Synthesis, Challenges and Future Perspectives. Submitted to *Advanced Material Technology (SCI, IF: 6.4) Wiley Publication. Under Review*

[2] **Dinesh Kumar Chelike***, Tamanna Pradhan, Agnivesh Kumar Sinha and Subrata Dolui, Progress in Polyurethane Based Solid Polymer Electrolyte: Recent Advances and Future Perspectives, submitted in *ACS Polymer Au* (American Chemical Society, SCI, IF: 4.8), Under Review.

[3] Shaesta Jabeen, **Dinesh Kumar Chelike*** and Prachi P Nimje, “Macrocyclic Molecule: Preparation, Challenges and Future Perspective”. Submitted to *Journal of Molecular Structure (SCI, IF: 4)*. Elsevier Publication. Under Review

[4] **Dinesh Kumar Chelike**, G. T. Senthil Andavan, Hybrid inorganic-organic nonisocyanate polyurethanes of cyclotriphosphazene and polycaprolactone with amines: synthesis, characterization, physicochemical and flame-retardant properties (Manuscript Under Preparation, Patent filled: 202141056291)

[5] **Dinesh Kumar Chelike**, G. T. Senthil Andavan, Ananthanarayanan K., 28-membered [2+2] macrocycle assembly of cyclotriphosphazene and phenothiazine: synthesis, physicochemical and electrochemical studies. (To be Submitted)

[6] **Dinesh Kumar Chelike**, G. T. Senthil Andavan, and Ananthanarayanan Krishnamoorthy “Hybrid Inorganic-organic Materials Based on Aminobenzoate and Phenothiazine Array on Cyclotriphosphazene Core: Synthesis, Characterization, Photophysical and Electrochemical Studies”. (To be submitted)

PUBLISHED ARTICLES

Science Citation Index (SCI) Papers

[1] Kulvinder Kaur, Parag Jain, and **Dinesh Kumar Chelike**, Cutting-Edge Innovations in Heterocyclic Drug Development for the Treatment of Hepatocellular Carcinoma, submitted in *Inorganic Chemistry Communication*, (Elsevier, SCI, IF: 4.4). Accepted 16/05/2025 <https://doi.org/10.1016/j.inoche.2025.114704>

[2] Tamanna Pradhan, **Dinesh Kumar Chelike**, Debarshi Roy, Tanay Pramanik and Subrata Dolui, Stimuli-Responsive Multi-Acceptor Conjugated Polymers: Recent Trend and Future Direction, *ACS Polymer Au*, 2025 (American Chemical Society , SCI, IF: 4.8) <https://doi.org/10.1021/acspolymersau.4c00082>

[3] **Dinesh Kumar Chelike**, Mohammad Sadiq, Ananthan Alagumalai, Senthil A. Gurusamy Thangavelu and Koustav Sarkar, Cyclophosphazenes Founded Ortho Engaged Salicylic Hydrazone Array Schiff's Base Ligand and Metal Complexes for Cytotoxicity Studies. *Applied Organometallic Chemistry*, 2025, 39(1); 0:e7767 , Wiley, SCI, IF: 3.7) <https://doi.org/10.1002/aoc.7767>

[4] **Dinesh Kumar Chelike***, Prerna Mehta, Alok Kumar “A recent review of the synthesis of plant-derived iron oxide nanoparticles for metal ion removal. “*Inorganic Chemistry Communication*”. 2024, 166, 112611 (Elsevier, SCI, IF: 4.4) <https://doi.org/10.1016/j.inoche.2024.112611>

[5] Prerna Mehta, **Dinesh Kumar Chelike***, Ram Krishna Rathore, “Adsorption-Based Approaches for Exploring Nanoparticle Effectiveness in Wastewater Treatment” *ChemistrySelect*, 2024, 9, 25, e202400959, Wiley, SCI, IF: 1.9) <https://doi.org/10.1002/slct.202400959>

[6] Sulthana, Yasmin, **Dinesh Kumar Chelike** and GT Senthil Andavan “Biorenewable Vegetable Oil Based Nonisocyanate Polyurethanes and Nanocomposites; Formulation, Characterization, Biodegradation, Anticorrosion and Antifouling Coatings” *New Journal of Chemistry*, 2024, 48, 5173-5185 (Royal Society of Chemistry, SCI, IF: 2.7) <https://doi.org/10.1039/D3NJ05862J>

[7] **Dinesh Kumar Chelike**, G. T. Senthil Andavan, "Catalyzed and non-catalyzed synthetic approaches to obtain isocyanate-free polyurethanes, *ChemistrySelect*, 2023, 8(26), p.e202300921. (Wiley, SCI, IF: 1.9) <https://doi.org/10.1002/slct.202300921>

[8] **Dinesh Kumar Chelike**, G. T. Senthil Andavan., Catalyst free synthesis of biodegradable nonisocyanate polyurethanes films from sustainable diamines and chemically modified polycaprolactone triol. *RSC Advance*. 2023, 13, 309-311. (RSC, SCI, IF: 3.9) <https://doi.org/10.1039/D2RA05710G>

[9] **Dinesh Kumar Chelike**, Ananthan Alagumalai, V. R. Muthukumar, Senthil A. Gurusamy Thangavelu, and Ananthanarayanan Krishnamoorthy. "Tunable yellow-green emitting cyclotriphosphazene appended phenothiazine hydrazone hybrid material: synthesis, characterisation, photophysical and electrochemical studies." *New Journal of Chemistry*, 2020, 44 (31), 13401-13414. (RSC, SCI, IF: 2.7) <https://doi.org/10.1039/D0NJ02976A>

[10] **Dinesh Kumar Chelike**, Ananthan Alagumalai, Joydev Acharya, Pawan Kumar, Koustav Sarkar, Senthil A. Gurusamy Thangavelu, and Vadapalli Chandrasekhar. "Functionalized iron oxide nanoparticles conjugate of multi-anchored Schiff's base inorganic heterocyclic pendant groups: Cytotoxicity studies." *Applied Surface Science* 2020, 501, 143963. (Elsevier, SCI, IF: 6.3) <https://doi.org/10.1016/j.apsusc.2019.143963>

[11] Mukherjee, Moumita, Senthil A. Gurusamy-Thangavelu, **Dinesh Kumar Chelike**, Ananthan Alagumalai, Bhabendra N. Das, Sellamuthu N. Jaisankar, and Asit Baran Mandal. "Biodegradable polyurethane foam as shoe insole to reduce footwear waste: Optimization by morphological physicochemical and mechanical properties." *Applied Surface Science*, 2020, 499,143966. (Elsevier, SCI, IF: 6.3) <https://doi.org/10.1016/j.apsusc.2019.143966>

[12] Thangavelu, Senthil A. Gurusamy, Moumita Mukherjee, Kannan Layana, **Dinesh Kumar Chelike**, Yasmin R. Sulthana, Raman Rohith Kumar, Alagumalai Ananthan, Vairamuthu Muthulakshmi, and Asit Baran Mandal. "Biodegradable polyurethanes foam and foam fullerenes nanocomposite strips by one-shot moulding: Physicochemical and mechanical properties." *Materials Science in Semiconductor Processing*, 2020, 112, 105018. (Elsevier, SCI, IF: 4.2) <https://doi.org/10.1016/j.mssp.2020.105018>

Scopus Indexing Papers

[1] Prerna Mehta, **Dinesh Kumar Chelike**, "Utilizing Fungal Biodegradation for Valorisation of Lignocellulosic Waste Biomass and Its Diverse Applications", *Applied Research*. 2024; 3(4), e202300119 (Wiley, Scopus) <https://doi.org/10.1002/appl.202300119>

[2] **Dinesh Kumar Chelike** and K. Juliet Gnana Sundari, "Effect of Additives on Electrodeposition of Zinc-Nickel Alloy on Mild Steel" *Asian Journal of Chemistry*, 2019, 31 (4), 891-895. (Scopus) <https://doi.org/10.14233/ajchem.2019.21823>

BOOK CHAPTERS

[1] **Dinesh Kumar Chelike**, Ram Krishna Rathore, Ahmed Mohsin Alsayah, Nitish Kumar Singh, Rupak Kumar Deb, Avinash Kumar Namdeo, Agnivesh Kumar Sinha, "Biodegradable Nanocomposites for Organic Pollutant Removal" Accepted (Scopus).

[2] **Dinesh Kumar Chelike**, Senthil A. Gurusamy Thangavelu, Ananthanarayanan Krishnamoorthy, "Hybrid Inorganic-Organic Cyclophosphazene-Phenothiazine based Material with Tunable Yellow-Green Emitting Properties", Futuristic Trends in Chemical Material Sciences & Nano Technology Volume 3 Book 22, IIP Series, Volume 3, May, 2024, Page no.209-225, e-ISBN: 978-93-5747-708-6, DOI/Link: <https://www.doi.org/10.58532/V3BECS22P2CH2>

[3] Prerna Mehta, **Dinesh Kumar Chelike** and Ram Krishana Rathore, "Meta Minds: Intellectual Property Rights in Neuro-Enhanced Creations". (ISBN:978-81-19708-69-7, 2024)

[4] "Futuristic Trends in Chemical, Material Science & Nano Technology" IIP Proceeding Volume 2, Book 12, Part 3. (ISBN: 978-93-95632-66-2, Publication Date: 1 November 2022, **Editor Role**).

CONFERENCES

- 9th International Conference "SHAASTRATH-2024" on "Emerging Technologies and Multidisciplinary Research for Sustainable Development" on 5th and 6th January 2024, organized by Rungta College of Engineering & Technology, Bhilai, Chhattisgarh.
- 8th International Conference "SHAASTRATH-2023" on "Advance and Application of Artificial Intelligence, Machine Learning and Data Science" on 23 & 24th June 2023, organized by Rungta College of Engineering & Technology, Bhilai, Chhattisgarh.
- 7th International Conference on Nanoscience and Nanotechnology (ICONN-2023)" organized by Department of Physics and Nanotechnology, SRM IST, Chennai, India, during 27-29th March 2023.
- International Conference on " Advanced Material and Mechanical Characterization (ICAMMA-2021)", organized by the Department of Physics and Nanotechnology & Mechanical Engineering, SRM Institute of Science and Technology (SRMIST) during 2-4 December 2021.
- "First International Conference on Frontiers in Chemical Sciences (ICFCS-2020)" organized by Department of Applied Chemistry, Karunya Institute of Technology and Sciences, Coimbatore, Tamil Nadu, India during 4th & 5th March 2020.
- "5th International Conference on Nanoscience and Nanotechnology (ICONN-2019)" organized by Department of Physics and Nanotechnology, SRM IST, Chennai, Indian during 28-30th January 2019.
- "2nd International Conference on Recent Advanced in Material Chemistry (ICRAMC-2018)" Department of Chemistry, SRM IST, Chennai, Indian during 14-16th February 2018.

WORKSHOPS AND SEMINARS

- "Innovation Approaches to Scientific Writing & Visualization" Conducted by Central Research Committee on 14-15th June 2024 at Rungta College of Engineering & Technology Bhilai, Chhattisgarh.
- Two Dyas workshop on "Role of Intellectual Property Right for Industry & Academia" organized by Central Research Committee in Association with Institution Innovation Council (IIC) on 5th and 6th Feb 2024 at Rungta College of Engineering & Technology Bhilai, Chhattisgarh
- One Day Workshop on "Outcome Based Education in Perspective of NEP-2020" organized by Department of Information Technology on 7th Feb 2024 at Rungta College of Engineering & Technology Bhilai, Chhattisgarh

- “National Workshop on Coating Technology for Industrial Application” held at Sathyabama Institute of Science and Technology, Chennai, Tamil Nadu during September 26-27, 2023.
- International Seminar on “MORERN RESEARCH AND INNOVATION IN SCIECNES” held at Shri Shankaracharya Professional University, Bhilai on February 28, 2023.
- Materials Characterization Workshop (MCW-2018) organized by Department of Chemistry, SRM IST during July 26-27, 2018.
- One day Workshop on “X-ray Photoelectron Spectroscopy” organized by Nanotechnology Research Center (NRC), SRM IST on 24th April, 2019.
- “How to write and Publish Scientific Article and Manuscript” on 12th April, 2018 organized by SRM IST, Chennai.
- International Workshop on “ Advanced Functional Materials and Devices (AFMD)” organized by Nanotechnology Research Center (NRC) and Department of Nanotechnology and Physics, SRM IST during Dec. 13 &14th , 2019.
- Participated in the 16th Annual Conference of RCI for TCI India.
- Inter-collegiate chemistry student meet (Chemfusion 16 at PSG College, Coimbatore)
- Participated in the Industry- Academia Workshop on ‘Opportunities for Science postgraduate.
- One day National seminar on Crystallography-an Outreach program by International Union of Crystallography 2017 (IUCr- 2017).

REFEREES

<p>1. Dr. G.T. Senthil Andavan (PhD Supervisor) Associate Professor (Research) Department of Chemistry, SRM Institute of Science & Technology, Kattankullathur-603 203, Chennai, Tamil Nadu, India Contact: + 91 7667310410 Email: senthilt1@srmist.edu.in</p>	<p>4. Dr. M. Priyadarshini Environmental Scientist, Hazardous Waste Management Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032, Tamil Nadu, India Contact: + 91 8778217594 Email: mpiryadarshinitnpcb@gmail.com</p>
<p>3. Dr. Ajazuddin Group Director R&D (Central Research Committee) Rungta College of Engineering and Technology, Bhilai-490024, Durg, Chhattisgarh, India Contact: +91 9827199441 Email: ajazuddin@rungta.ac.in</p>	<p>4. Dr. K. Ananthanarayanan Associate Professor (Research) Department of Chemistry, SRM Institute of Science & Technology, Kattankullathur-603 203, Chennai, Tamil Nadu, India Contact: + 91 9840154665 Email: ananthak@srmist.edu.in</p>