

# DR. DINESH KUMAR CHELIKE

Rungta College of Engineering & Technology Bhilai-490024 India, +91 7898724799, [dr.dinesh.kumar@rungta.ac.in](mailto:dr.dinesh.kumar@rungta.ac.in)

## PROFILE:

- Development of isocyanate-free polyurethanes (NIPU) for drug delivery and solid electrolyte for Battery application.
- Development of fluorescent material for metal ion sensing from industrial waste water.
- Hybrid inorganic-organic material (Macrocyclic, 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.

### 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.
- I can handle hazardous chemical carefully.

## 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

- 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 (Life time), **InSc ID: InSC2020AC1**

## **ACADMIC AWARDS & ACHIEVEMENTS**

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- **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**

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- Dr. Jyoti Upadhyay, Dr. Seema Verma, Asha Manikpuri, Abhishek Sahu, Aachal Lonhare, Nikita Nigam, Sonali Godbole, Prerna Mehta, **Dr. Dinesh Kumar Chelike**, Navjot Dhillon, Kiran Tiwari “AI-Powered Rural Enhancement System for Tackling Hunger & Ensuring Water Conservation through Smart Resource Management” (Filed, Application Number: **202321087223**).
- **Dinesh Kumar Chelike**, Senthil Andavan G.T. “Sustainable Hybrid Non-isocyanate Polyurethanes (NIPU) with Flame Retardant Properties” (Filed, Application Number: **202141056291**).

## **PUBLICATIONS (<https://orcid.org/0000-0002-3128-6895>)**

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### **Review Articles Submitted**

- [1] **Dinesh Kumar Chelike**, Prerna Mehta, Alok Kumar “Recent Review on the Influence of Plant Derived Iron Oxide Nanoparticles on Metal Ion Removal” Science of The Total Environment (Under Review, Elsevier, SCI)
- [2] Sulthana, Yasmin, **Dinesh Kumar Chelike** and GT Senthil Andavan “Biorenewable Vegetable Oil Based Nonisocyanate Polyurethanes and Nanocomposites; Formulation, Characterisation, Biodegradation, Anticorrosion and Antifouling Coatings” New Journal of Chemistry (RSC, SCI)
- [3] Prerna Mehta, **Dinesh Kumar Chelike**, “Utilizing Fungal Biodegradation for Valorisation of Lignocellulosic Waste Biomass and Its Diverse Applications” Applied Research (Revision send back to journal, Wiley, Scopus)
- [4] Prerna Mehta, **Dinesh Kumar Chelike**, Ram Krishna Rathore and Agnivesh Kumar Sinha, “A review on Adsorption-based Approaches to Investigate the Use of Nanoparticles in Wastewater Treatment” Under submission Chemistryselect (SCI, Wiley)

### **TO BE COMMUNICATED**

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- [1] **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.
- [2] **Dinesh Kumar Chelike**, G. T. Senthil Andavan, Ananthanarayanan K. 28-membered [2+2] macrocycle assembly of cyclotriphosphazene and phenothiazine: synthesis, physicochemical and electrochemical studies.
- [3] **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”.
- [4] **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.

## Published Articles

- [1] **Dinesh Kumar Chelike**, G. T. Senthil Andavan, "Catalyzed and non-catalyzed synthetic approaches to obtain isocyanate-free polyurethanes, *ChemistrySelect*, **2023**, 8(26), p.e202300921. (Review Article)
- [2] **Dinesh Kumar Chelike**, G. T. Senthil Andavan., Catalyst free synthesis of biodegradable nonisocyanate polyurethanes films from sustainable diamines and chemically modified polycaprolactone triol. *RSC Adv.* **2023**, 13, 309-311.
- [3] **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.
- [4] **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.
- [5] **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.
- [6] 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.
- [7] 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.

## BOOK CHAPTER

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- [1] IIPV3EBS06\_G115 Futuristic Trends in Chemical Material Sciences & Nano Technology "Hybrid Cyclotriphosphazene-Phenothiazine-Hydrozone Material with Tunable Yellow-Green Emitting Properties" **Accepted**
- [2] "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

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- 8<sup>th</sup> International Conference "SHAASRATH-2023" on Advance and Application of Artificial Intelligence ,Machine Learning and Data Science on 23 & 24<sup>th</sup> June 2023 organized by Rungta College of Engineering & Technology, Bhilai, Chhattisgarh.
- 7<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN-2023)" organized by Department of Physics and Nanotechnology, SRM IST, Chennai, Indian during 27-29<sup>th</sup> 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 4<sup>th</sup> & 5<sup>th</sup> March 2020.
- “5<sup>th</sup> International Conference on Nanoscience and Nanotechnology (ICONN-2019)” organized by Department of Physics and Nanotechnology, SRM IST, Chennai, Indian during 28-30<sup>th</sup> January 2019.
- “2<sup>nd</sup> International Conference on Recent Advanced in Material Chemistry (ICRAMC-2018)” Department of Chemistry, SRM IST, Chennai, Indian during 14-16<sup>th</sup> February 2018.

## **WORKSHOPS AND SEMINARS**

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- “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 24<sup>th</sup> April, 2019.
- “How to write and Publish Scientific Article and Manuscript” on 12<sup>th</sup> 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 & 14<sup>th</sup>, 2019.
- Participated in the 16<sup>th</sup> 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**

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**1. Dr. G.T. Senthil Andavan** (PhD  
Supervisor)  
Associate Professor (Research)  
Department of Chemistry,  
SRM Institute of Science & Technology,  
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Tamil Nadu, India  
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