



**P.E.S. COLLEGE OF ENGINEERING MANDYA-571401**  
**(An Autonomous institution under VTU, Belgaum)**



**Dr.Charan Kumar H.C M.Sc, Ph.D, B.Ed**

Assistant Professor

Department of Chemistry

PES College of engineering

Mandya-571401

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**Career Objective:**

My present work term objective is to build on the experience I have gained and to extend my knowledge in inter-disciplinary chemistry. To pursue a professionally challenging career in an organization that offers me an opportunity to learn and gives me scope to update my knowledge and skills in accordance with latest trends and be a part of the team that excels in work towards the growth of an organization.

### Educational Qualification:

- 2020      **Ph.D. Degree** from University of Mysore Title of the Thesis “**synthesis of nanomaterials and graphite modified electrodes and their kinetics of degradation of dyes** ” under the guidance of Prof. S.Ananda, at Department of Studies in Chemistry, Manasagangotri, University of Mysore, Mysore.
- 2013-14      **Bachelor of education (B.Ed)** from bhagavan Buddha B.Ed college, university of Mysore, Mallavali with First Class
- 2011-13      **M.Sc. in General Chemistry** from St.Philomenas College ,University of Mysore with First Class
- 2008-11      **B.Sc. in Physics, Chemistry and Mathematics** from **Yuvaraja’s College Mysore, University of Mysore** with Second Class

### Work Experience:

- Worked as Guest lecturer one Year in Yuvaraja’s College, University of Mysore.
- Worked as One Year Project Assistant in DST-PURSE program Under the guidance of Prof.S.Ananada Manasagangotri, University of Mysore ,Mysuru.
- Worked as Guest lecturer five years in Government First grade College for Women (Affiliated to University of Mysore) Vijanagara 4<sup>th</sup> stage, Mysuru 570032
- Worked as assistant professor in PES Engineering college Mandya from 21.04.2021 to till date
- Having one year 11 months of research experience in PES Engineering college Mandya
- Worked as co-ordinator Enterprise resource planning (ERP) soft wear (department of chemistry) of PES College of Engineering, Mandya
- Worked as member Board of studies (department of chemistry) of PES College of Engineering, Mandya
- Worked as member BOE (department of chemistry) of PES College of Engineering, Mandya.
- Worked as department website co-coordinator

- Worked as departmental MOOC Coordinator
- Worked as in charge of Chemistry Laboratory work.

### Patent Publication:

1. Ananda H.T, Thejas Urs.G, **Charan Kumar H.C**, Harsha.M, Sushma.M, Gowtham.G.K  
 Patent Publication Title of the invention: “**A Method of Electrochemical Deposition of Nanostructured Conducting Polymer Coating on Metallic Nanostructured**”.

Application No.202241067215A

Date of filling of Application: 23/11/2022

Publication date: 02/12/2022

### Research Publications:

<b>Number of Publications</b>	<b>National Journals</b>	<b>International Journals</b>
<b>23</b>	<b>NIL</b>	<b>23</b>

- Electrochemical Degradation of Acridine Orange Dye at Pd/graphite Modified Electrode in Aqueous Solution. **Charan Kumar H.C**, Shilpa.R, Ravishankar Rai V. and Ananda\*.S. International Journal of Applied Chemistry. Volume 13, Number 2 (2017) pp. 219-234
- Electrochemical Degradation of indigo carmine Dye at Ru/graphite Modified Electrode in Aqueous Solution. **Charan Kumar H. C**, Shilpa. R, Ravi Shankar Rai. V and Ananda. S\*. IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 10, Issue 12 Ver. I (December. 2017), PP 47-61
- Synthesis and Characterization of NiO Nanoparticles by Electrochemical Method: Photodegradation Kinetics of Indigo Carmine Dye and Study of Antibacterial Activities of NiO Nanoparticles. **Charan Kumar H.C**, R. Shilpa, V. Ravi Shankar Rai and Sannaiah Ananda\*. Journal of Applicable Chemistry, 2019, 8 (2):622-633.

- Synthesis of Cadmium Oxide Nanoparticles by Electrochemical Method: Its Photodegradative Effects on Carboxylic Acids and Antibacterial Behaviours. **Charan Kumar H.C**, Rajegowda Shilpa, Sanniaha Ananda\*. Journal of Nanoscience and Technology 5(5) (2019) 840–845.
- Correlation for Photocatalytic Degradation Kinetics of Carboxylic Acids using Electrochemically Synthesized Al<sub>2</sub>S<sub>3</sub> Nanoparticles and Study of Antibacterial Activity. **Charan Kumar H.C**, Shilpa Rajegowda, Sannaiah Ananda\*. Asian Journal of Chemistry. 32(6):1443-1450
- Synthesis and Characterization of Al-Doped ZnO Nanoparticles by Electrochemical Method: Photodegradation Kinetics of Methylene Blue Dye and Study of Antibacterial Activities of Al-Doped ZnO Nanoparticles. **Charan Kumar H. C**, R. Shilpa and Sannaiah Ananda\*. Journal of Applicable Chemistry, 2020, 9 (1):9-21
- Synthesis of NiS nanoparticles by electrochemical method: correlation for photodegradation kinetics of oxalic acid, formic acid, acetic acid and antibacterial study of synthesized NiS nanoparticles. **Charan Kumar H.C**, Shilpa Rajegowda, Sannaiah Ananda\*. Our Heritage Vol-68-Issue-1-January-2020
- Electrochemical Degradation of indigo carmine Dye at Pd/graphite Modified Electrode in Aqueous Solution. Shilpa.R, **Charan Kumar H.C**, Ravishankar Rai.V and Ananda.S\*. IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 10, Issue 7 Ver. III (July. 2017), PP 01-10
- Preparation and Characterization of Ru/graphite Modified Electrode: A Kinetic Investigation of Electrochemical Degradation of Acridine orange Dye in Aqueous Solution. Shilpa. R, **Charan Kumar H. C**, Ananda. S\* and Ravi Shankar Rai.V. JETIR July 2018, Volume 5, Issue 7.

- Synthesis of CdS Nanoparticles by Electrochemical Method: Correlation for Photodegradation of Trichloroacetic Acid, Chloroacetic Acid, Acetic Acid and Antibacterial Efficiency. Rajegowda Shilpa, **Charan Kumar H.C**, Sanniaha Ananda\*.
- Synthesis of Nickel Oxide Nanoparticles by Electrochemical Method, Characterization and Photodegradation of Acetic Acid and Study of Antibacterial Activity of Synthesized Nickel Oxide Nanoparticles. Rajegowda Shilpa, **Charan Kumar H.C**, Sanniaha Ananda\*. IJRASET Volume 7 Issue IX, Sep 2019.
- Correlation for Photocatalytic Degradation Kinetics of Carboxylic Acids by Electrochemically Synthesized Cd/ZnO Nanoparticles and Study of Antibacterial Behaviour. Shilpa R., **Charan Kumar H.C**. Sannaiah Ananda\*. International Journal of Nanomaterials and Nanostructures. ISSN: 2455-5584 Vol. 6: Issue 2.
- High Efficient photocatalytic degradation of 3,7-bis(Dimethylamino)-phenothiazin-5-ium chloride dye and kinetics of hydrogen evolution of  $N_2H_4H_2O$  by synthesized CdS/NiS Nanocomposites by electrochemical method. Shilpa.R, **Charan Kumar H.C**, Sanniaha Ananda\*. Modern Research in Catalysis, 2021, 10, 15-35.
- Electrochemical Degradation of 3-(dimethylamino)-7-(methylamino) phenothiazin-5-ium chloride Dye at Barium/Graphite Modified Electrode in Aqueous Solution. C. N. Kumara, **Charan Kumar H.C** and Sannaiah Ananda\*. Journal of Applicable Chemistry, 2021, 10(1):49-61
- A Kinetic Investigation of Electrochemical Degradation of 2-N, Ndimethyl-4-aminophenyl azobenzene carboxylic acid dye at Zr/graphite Modified Electrode in Aqueous Solution. H. S. Sindhushree ,**Charan Kumar H.C** , K. M. Chaithra , Sannaiah Ananda and B. M. Venkatesha\* Journal of Applicable Chemistry, 2020, 9 (6):920-933.
- Electrochemical Degradation of 2-(2, 4, 5, 7- tetrabromo-6-oxido-3-oxo-3H-xanthen-9-yl) benzoate Dye at Ru/graphite Modified Electrode in Aqueous Solution. Chaithra K.M ,**Charan**

**Kumar H.C** , Sindhushree. H.S , Sannaiah Ananda,\* , Venkatesha B.M . International Journal of Applied Chemistry. ISSN 0973-1792 Volume 16, Number 2 (2020) pp. 113-129

- Electrochemical Degradation of 9-(2-Carboxyphenyl)-6-(diethyl amino)-N, N-diethyl-3H-xanthen-3-iminium chloride Dye at Sn/graphite Modified Electrode in Aqueous Solution **H. C.Charan Kumar** \*, S. Rajendra Prasad , M. Harsha , R. Shilpa and S. Ananda. Journal of Applicable Chemistry 2021, 10 (5): 665-677
- Oxidation Study of Piperazine By N-Chloro-P-Toluenesulphonamide [CAT] In Acidic Buffer Medium: Kinetic And Mechanistic Aspect. Chandrashekar \* , Harsha M, **Charan Kumar H C**, Shashikumar T S. Journal of Emerging Technologies and Innovative Research. December 2021, Volume 8, Issue 12
- Electrochemical Degradation Of 5, 5- Indigodisulfonic Acid Sodium Salt Dye At Copper/Graphite Modified Electrode In Aqueous Solution. Chandrashekar1 , **Charan Kumar H.C\*** , Raghavendra M.P , Prashanth P.A , Shilpa.R , Ananda.S. International Journal of Creative Research Thoughts (IJCRT). Volume 10, Issue 7 July 2022
- Electrochemical Degradation of Phenothiazine- 5-ium, 3, 7-bis (dimethyl amino) Dye at Sn/graphite Modified Electrode in Aqueous Solution. Kumar C.N , **Charan Kumar H.C** , Shilpa.R , Chandrashekar , Ananda.S\* .IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume 15, Issue 3 Ser. I (March 2022), PP 05-17
- Chloramine-T Assisted Oxidative Decolourization of Tartrazine (Food Dye) in Acid Medium: Kinetic and Mechanistic Investigations. Harsha Muddegowda,\* **Charan Kumar Hunsur Chandrashekar** and Kumara Manikyanahalli Narasigowda. Trends In Sciences 2022; 19(19): 6184
- " ZrS<sub>2</sub>/CuS nanocomposites: Electrochemical synthesis, photodegradation of carboxylic acids and antimicrobial study" **Charan Kumar Hunsur Chandrashekar**,,Shilpa Rajegowda, , MRS Advances (2023). <https://doi.org/10.1557/s43580-023-00595-1>

### Book Chapter:

<b>Number of Publications</b>	<b>National Journals</b>	<b>International Journals</b>
<b>01</b>	<b>NIL</b>	<b>01</b>

“Carbon-based electrodes for forensic sample analysis”. **H C Charan Kumar**<sup>1</sup>, R Shilpa<sup>2</sup>, S Ananda<sup>3</sup> Published September 2022 • Copyright © IOP Publishing Ltd 2022 Pages 7-1 to 7-11

### Paper Presented in Conferences:

- Electrochemical Degradation of Acridine Orange Dye at Pd/graphite Modified Electrode in Aqueous Solution **Charan Kumar H.C**, Shilpa.R, Ravishankar Rai V. and Ananda\*.S A paper presented in the national conference on: Emerging trends in engineering and sciences , Jiwaji university ,Gwalior (May,2016)
- Electrochemical synthesis of ZrS<sub>2</sub>/ZnS, In<sub>2</sub>S<sub>3</sub>, MoO<sub>2</sub>, Mo/TiO<sub>2</sub> nano photo catalysts and Ru/Graphite modified electrode and its application in electrochemical degradation of dyes, industrial effluents, Production of H<sub>2</sub>, antibacterial and antimitotic activity, Sannaiah Ananda, **Charan Kumar H C**, Shilpa R, Uma H B, Gubran M A, Raksha K R, 9<sup>th</sup> Bengaluru India Nano 2017 conference in the hotel The Lalit Ashok, Bengaluru
- Preparation and Characterization of Nano SnO<sub>2</sub>/graphite Modified Electrode: A Kinetic Investigation of Electrochemical and photo-Assisted Degradation of Rhodamine–B Dye in Aqueous Solution Shilpa.R, **Charan Kumar H.C**, Raksha K.R, Ravishankar Rai.V, Ananda\*.S International conference on nanomaterials and their applications held at university of Mysore, Mysuru, India, during March 1-2, 2018.
- Preparation and Characterization of Nano SnO<sub>2</sub>/graphite Modified Electrode: A Kinetic Investigation of Electrochemical and photo-Assisted Degradation of Methylene blue Dye in

Aqueous Solution ., Shilpa.R, **Charan Kumar H C**, Ravishankar Rai.V, Ananda\*.S One day national conference on “Current trends in materials science”-2018, held on 10<sup>th</sup> march 2018, Bharathi College, Bharthinagara, Maddur

- Presented the e-poster entitled “Electrochemical degradation of 9-(2-carboxyphenyl)-6-(diethyl amino)-N,N-diethyl-3H-xanthen-3-iminium chloride dye at Sn/graphite modified electrode in aqueous solution” **Charan Kumar H C** in the two day international e-conference on drug discovery and material science organized by the IQAC and department of chemistry JSS College of Arts ,commerce and science, ooty road, Mysore on 15 and 16 September 2021
- Presented oral presentation titled Synthesis of “ZrS/CuS Nanocomposites by Electrochemical Method Correlation for Photodegradation of Carboxylic acids and Kinetics of H<sub>2</sub> Evolution of N<sub>2</sub>H<sub>4</sub>H<sub>2</sub>O and Antibacterial study. **frontiers in chemistry(CFC-2021)** held between 21-23 October 2021, held at school of applied sciences ,department of chemistry,Reva university

### Conferences/ Workshops/ Symposium/FDP attended

- Participated national conference on “**recent trends in bioorganic chemistry and its application to society**” held on 26&27 September 2014 , in Sarada Vilas college ,Krishnsmurthypuram ,Mysore
- Participated One day workshop on” **Effective teaching and learning to new faculty members**” held on 7<sup>th</sup> November 2014 ,Organized by the IQAC shanthi first grade college.Malavalli
- Participated national conference on “**Pure and applied chemistry**” held on 29<sup>th</sup> to 31<sup>st</sup> of December 2014 organized by the department of chemistry ,Manasagangaotri,university of Mysore ,Mysuru
- Participated one-day seminar on “**recent innovations in Bio-inorganic & medicinal chemistry**” held on January 28<sup>th</sup> ,2015 organized by department of chemistry ,The national institute of engineering ,Mysuru



- Participated two day national conference on “**current trends in chemical biology**” held on 2<sup>nd</sup> & 3<sup>rd</sup> march 2015 organized by postgraduate department of chemistry, JSS college of arts, commerce and science
- Participated one-day state level seminar on “**Emerging trends in medicinal chemistry**” held on 10<sup>th</sup> march 2015 organized by department of chemistry and Biochemistry, st. Philomena’s college, Mysuru
- Participated one-day national seminar on “**chemistry and chemical biology**” held on 26<sup>th</sup> may 2015 on the occasion of Prof.K.S.Rangappa’s birthday celebration.
- Participated seminar on “**Benefits of nuclear and material sciences in day-to-day life**”, held on 21<sup>st</sup> & 22<sup>nd</sup> August, 2015, organized by Indian Nuclear Society, Mysore & university of Mysore, Mysuru
- Participated in the **103<sup>rd</sup> Indian Science Congress** held at university of Mysore, Mysuru from January 3<sup>rd</sup> to 7<sup>th</sup>, 2016
- Participated national conference on “**Emerging trends in engineering and sciences**”, Jiwaji university, Gwalior, held on May 16-17, 2016
- Participated two-day seminar and exhibition on “**Energy mix: need for the nation**”, held on January 11-12<sup>th</sup>, 2017, organized by organized in association with Indian Nuclear Society - Mysuru chapter
- Participated In one day national seminar on “**Nanotechnology for energy, Environment and Health**” held on 28<sup>th</sup> February 2017 at NIE institute of technology, Mysuru.
- Participated in “**UGC sponsored one day national conference on research advancements in chemical biology**” held on 23<sup>rd</sup> march 2017 at jss college N Road, Mysuru
- Participated in international conference on “**nanomaterials and their applications**” held at March 1-2, 2018. At university of Mysore, Mysuru
- Participated in one day national conference on “**current trends in materials science-2018**”, held on 10<sup>th</sup> march 2018, organized by the department of chemistry (ug, pg & rc), Bharathi college, Bharthinagara, Maddur
- Participated 9<sup>th</sup> Bengaluru **INDIA NANO 2017** held on Dec 7-8, 2017 the Lalit Ashok, Bengaluru, India
- Participated 11<sup>th</sup> Bengaluru **INDIA NANO 2020** held on March 2-4, 2020 the Lalit Ashok, Bengaluru, India

- Participated five days online FDP entitled “**Recent trends in green chemistry-2021(RTGC)**” organized by department chemistry during 15-19<sup>th</sup> November at Don Bosco Institute of technology, Mysore road, Bengaluru
- Participated five days online FDP entitled “**Recent advances in chemical sciences and intellectual property rights**” organized by department chemistry during 25-29<sup>th</sup> October 2021 at saphthagiri college of engineering, Bengaluru
- Participated in the conference on **frontiers in chemistry(CFC-2021)** held between 21-23 October 2021, held at school of applied sciences ,department of chemistry,Reva university
- Participated in the one day faculty workshop on “**NBA updates**” on 27<sup>th</sup> april 2022,organized by PES college of engineering ,Mandya
- Participated “**one day faculty orientation program for VTU affiliated college faculty(mysuru region) on revised syllabus of physics, chemistry, mathematics**” organized by vidyavardhaka college of engineering,mysuru & VTU,Belagavi on 26<sup>th</sup> November 2022
- Participated one day national webinar on “**advances in material sciences**” organized by the science departments in association with IQAC of the college, held on 13<sup>th</sup> February 2023
- Participated 5 days online FDP on “**Advanced functional materials for science and engineering2023(AFMSC)**” organized by the department of chemistry on 15<sup>th</sup> may 2023 to 19<sup>th</sup> may 2023 at Don Bosco Institute of technology, Mysore road, Bengaluru
- Participated in One-week Faculty Development Program on “**Polymer Composites For Engineering Applications (PCEA-2023)**” (blended-mode) held from 22nd to 26th May 2023, conducted by the Department of Chemistry, B.M.S. College of Engineering, Bengaluru-560019.

### **Interested in Research Activities:**

- Synthesis of Metal Oxide & Sulfide Nano particles by Electrochemical Method
- Synthesis of Graphite Modified Electrodes by Electrochemical Method
- Designing and Planning of the reaction Scheme
- Instrumentation handling XRD, IR, UV, SEM etc

### **Reports on Academic Activities**

<b>Teaching Records (Details of courses taught)</b>	<p><b>B.Sc (Undergraduate)</b>—Co-ordination chemistry, reaction kinetics, Nanotechnology and Nano chemistry, Periodicity, Transition elements, Inner transition elements, Thermodynamics.</p> <p><b>B.E Applied Chemistry (Undergraduate)</b> -Chemical Energy Sources and Alternative fuels, Electrochemistry and Electrochemical cells, Battery technology, Corrosion science and Metal finishing, Material science and Polymer, Water pollution and Technology, Phase Rule and Analytical Technique, Material for mechanical applications &amp; e-Waste Management</p> <p><b>Applied Chemistry Lab</b>- Quantitative analysis, Industrial Chemistry (Open Elective for 7<sup>th</sup> semester)</p>
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- Instrumental Methods of Analysis
- Thermodynamics
- Chemical Kinetics
- Environmental Chemistry
- Physical Chemistry Practicals
- Periodicity and its causes
- Valence bond theory
- Coordination chemistry
- Gravimetric analysis
- Organic chemistry practical
- Salt analysis

### **Other Skills:**

- **Computer Skill & Language:** M S Office,
- **Chemistry Databases & Search Engine:** Chemdraw, Spectral Database for organic molecules, Scifinder, Reaxys.

### **PERSONAL DETAILS**

Date of Birth	24 <sup>th</sup> May 1987
Father's Name	Chandrashekar H M
Mother's Name	Saroja H M
Nationality	Indian
Gender	Male
Languages known	English, Hindi, Kannada.
Hobbies	Reading magazines and newspapers, Solving Puzzles, Listening Music's
Permanent Address	<b>Dr.Charan Kumar H.C</b> <b>S/O Chandrashekar H M</b> <b>Nilavagilukavalu,Hunsur (T)</b> <b>Mysore (D)</b>

