



**Dr. G. GOPU**  
**Associate Professor**

## Contact

Address : Department of Industrial Chemistry  
Alagappa University  
Karaikudi – 630 003  
Tamil Nadu, INDIA

Employee Number : 12410

Contact Phone (Office) : +91 4565228836

Contact Phone (Mobile) : +91 9842368286

Contact e-mail(s) : gopug@alagappauniversity.ac.in

Skype id : nggopi79

Website : <https://www.alagappauniversity.ac.in/academics/faculty-of-science/school-of-chemical-sciences/docs/12410.pdf>

## Academic Qualifications

Degree	Institution	Year	Branch	Class
Ph.D.	Alagappa University	2009	Chemistry	Awarded
PG/M.Sc. Chemistry	St.Joseph's College (Autonomous), Trichy, (Bharathidasan University)	2002	Chemistry	First class

## Teaching Experience

Total Teaching Experience : 14 Years

Position	Institution	Duration
Associate Professor	Alagappa University	2023-till now
Assistant Professor	Alagappa University	2010-2022

## Research Experience

Total Research Experience : 19 Years

Position	Institution / University	Duration
Researcher	Alagappa University	2002 – Till now

## Academic and Additional Responsibilities

S.No	Position	University Bodies	Period	
			From	To
1	Coordinator	Sanitizer Preparation	2020	2022
2	Secretary	Department alumni association	2018	Till now
3	Coordinator	Staff Recreation Club	2018	Till now
4	Coordinator	Spirit purchase and Licence renewal	2018	Till now
5	In charge	Instrumentation- Electrochemical work stations & AAS	2014	Till now
6	Organizer	Industrial Visit cum Education Tour, Village Placement Programme	2014	Till now
7	In charge	Students grievances Cell, Career Guidance	2012	Till now
8	In charge	Department Computer Centre	2011	Till now
9	In charge	Swayam Courses	2011	Till now
10	In charge	Maintenance of UPS and Batteries	2011	Till now
11	In charge	CSIR Coaching Class	2011	Till now
12	University Representative	University Representative for DDE exams	2010	Till now

## Areas of Research

**Broad Subject** : Nanomaterials and Electrochemistry

**Area of Specialization** : Electrochemical Sensors and Supercapacitors

### Current Research focus

- **Synthesis of nanostructured materials for sensor and supercapacitor applications**
  - ❖ The research motivations on nanostructure materials like metal oxide nanoparticles, carbon based nanoparticles and polymeric nanoparticles for the effective applications of sensor and supercapacitor applications. It deals with the synthesis of nanomaterials in an easiest and cast effective methods and applied for the dual applications. The electrochemical sensor mainly depends on the categories like anti-cancer, anti-asthmatic drugs, amino acids and antibiotics. The synthesized nanostructure material is fabricated as the electrode materials for supercapacitor applications.

## Research Supervision / Guidance

Program of Study		Completed	Ongoing
Research	PDF	-	-
	Ph.D	4	2
	M.Phil	9	-
Project	PG	33+	7
	UG / Others	-	-

## Publications

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
48	26	-	17	4

<b>Cumulative Impact Factor (as per JCR)</b>	:	188.59
<b>h-index</b>	:	17
<b>i10 index</b>	:	28
<b>Total Citations</b>	:	824

## Publications

<b>Thesis Evaluated</b>	:	1
<b>Viva voce Examiner</b>	:	1

## Funded Research Projects

### Completed Projects:

S.No	Agency	Period		Project Title	Budget (Rs. In lakhs)
		From	To		
1	RUSA 2.0 PHASE-II TBRP	16.11.2022	16.11.2023	Synthesis of dual functional bimetallic nanocomposites for super capacitor and sensor application	Rs. 4 lakhs
2	RUSA 2.0 PHASE-I TBRP	01.09.2019	30.08.2021	Synthesis of dual functional bimetallic nanocomposites for super capacitor and sensor application	Rs. 3.35 lakhs

3	AURF	10.02.2016	10.02.2018	Studies on Function of Host-Guest Molecules in Pharmaceutical research	Rs. 0.80 lakhs
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### Distinctive Achievements / Awards

Year	Award	Awarded by
2022	Promising Research Award	Alagappa University
2020	Quality Enhancement in Teaching and Research	Alagappa University
2020	Vallal Alagappan Research Recognition Award	Alagappa University
2019	Swayam Achiever's	Alagappa University

### Number of Seminars / Conferences / Workshops / Events organized:

Position	Programme	Duration	Institution
Joint Secretary	International conference on "Frontier Areas in Chemical Technologies - 2024"	2024	Alagappa University
Convener	International conference on "Frontier Areas in Chemical Technologies - 2022"	2023	Alagappa University
Organizing Secretary	International conference on "Frontier Areas in Chemical Technologies - 2019"	2019	Alagappa University
Organizing Secretary	International conference on "Frontier Areas in Chemical Technologies – 2017"	2017	Alagappa University
Organizing Secretary	International conference on "Frontier Areas in Chemical Technologies – 2016"	2016	Alagappa University

Organizing Secretary	International workshop on “Frontier Areas in Chemical Technologies – 2014”	2014	Alagappa University
Convener	International Conference on “Recent Advances in Textile and Electrochemical Sciences – 2013”	2013	Alagappa University
Co-Convener	National Conference on “Recent Advances in Textile and Electrochemical Sciences – 2012”	2012	Alagappa University

## Events Participated

- Participated in the “Swachhata Pakhwada 2023” organized by Alagappa University, Karaikudi during September 1-15, 2023.
- Conducted in the “Swachhata Pakhwada 2020” organized by Alagappa University, Karaikudi during January 16-31, 2020.
- Participated in the “Swachhta Hi Seva, Swachhata Pakhwada, Rashtriya Poshan Maah & Jal Shakti Abhiyan” organized by Alagappa University, Karaikudi during 1<sup>st</sup> July - 30<sup>th</sup> November 2019.
- Participated in the “Run for Fitness” organized by Alagappa University as part of the National Sports Day Celebration during 29<sup>th</sup> August 2019.
- Presented in the “6<sup>th</sup> International Conference on Bio-Sensing Technology” during 16-19 June, 2019, Kuala Lumpur, Malaysia.
- Participated in the “Future strategies in electrochemical technologies for efficient energy utilization” during 07-09 September, 2016 - Tours, France.

## Overseas Exposure / Visits

16 <sup>th</sup> – 19 <sup>th</sup> June, 2019	Malaysia
7 <sup>th</sup> – 9 <sup>th</sup> September, 2016	France
May 2018	Singapore

## Membership

### Professional Bodies

S.No	Position	Professional Bodies	Country
1	Member	IQAC (Dept.)	India
2	Member	Broad Based Board of Studies	India
3	Member	Stock Verification Officer, University Department	India
4	Member	RUSA - PG Merit Scholarship	India
5	Nominated Member	Inspection Squad-Affiliated Colleges Apr-2019 Exams	India
6	Member	35 <sup>th</sup> Inter University South Zone Youth Festival -2019	India
7	Member	Institution and Innovation Council – Alagappa University (IIC-ALU)	India
8	Vidyalaya Management Committee Member	Kendriya Vidyalaya CECRI Karaikudi	India

### Advisory Board

Year / Period	Name of the BoS / Administrative Committee / Academic Committee	Role
2022	Board of Studies in Department of Industrial Chemistry, Alagappa University, Karaikudi.	Member
2019	Board of Studies in Department of Industrial Chemistry, Alagappa University, Karaikudi.	Member
2016	Board of Studies in Department of Industrial Chemistry, Alagappa University, Karaikudi.	Member

## Ph.D. Thesis Guided

1. No. of PhD Thesis evaluated : 4
2. No. of PhD Public Viva Voce Examination conducted : 4

S. No	Name of the Scholar	Title of the Thesis	Year of Completion
1	Dr. R. Karkuzhali	Investigation of Bimetallic Nanocomposites for Supercapacitor and Sensor Applications	2023
2	Dr. S. Meenakshi Sundaram	Theoretical and Experimental Investigation on Selectivity of Cyclophane Amide Supramolecular Hosts for Drug Development	2022
3	Dr. G. Muthusankar	Investigation of Carbon Quantum Dots Decorated Metal Oxides and their Nanocomposites for Electrochemical Sensing of Anticancer Molecules	2021
4	Dr. S. Karthick	Design and Investigation of Efficient Host Materials for Enhanced Electroluminescence - A Computational Study	2021

## List of Research Articles / Recent Publications

S. No	Authors/Title of the paper/Journal	Impact Factor
1.	Balu Mahendran Gunasekaran, Shanmugasundaram Manoj, Ganesh Kumar Rajendran, Senthilkumar Muthiah, Noel Nesakumar, Jothi Ramalingam Sivanesan, Soorya Srinivasan, Arun Kumar Gunasekaran and Gopalakrishnan Gopu, Covalently anchored benzimidazole-reduced graphene oxide as efficient electrochemical supercapacitor electrode material, J Mater Sci: Mater Electron (2023), 34:2280.	2.77



2.	Shanmugasundaram Manoj, Kalimuthu Pandi, Gopi Kalaiyarasan, Seong-Hyeon Pyo, Rajendran Karkuzhali, Srinivasarao Kancharla, Gopalakrishnan Gopu, Yongtae Ahn, Byong-Hun Jeon, Subbaiah Muthu Prabhu, Construction of high-capacitance carbonate-rich bimetallic layered (hydr)oxides onto ZIF-67-derived Co/CoO-N-carbon hybrid cubes for high-performance symmetric supercapacitors, <i>Journal of Energy Storage</i> , 68, (2023), 107821.	8.907
3.	L.R. Padilla Jr., N. Stojilovic, M. Grujić-Brojčin, M. Šćepanović, N. Tomić, B. Simović, G.R. Potratz, G. Gopalakrishnan, Composite nanofibers electrospun from cerium, titanium, and zinc precursors, <i>Journal of Physics and Chemistry of Solids</i> 179, (2023), 111410.	4.38 3
4.	Karkuzhali Rajendran, Muthuchamy Nallal, Muthusankar Ganesan, Manoj Shanmugasundaram, Shamim Ahmed Hira, Gopu Gopalakrishnan, Sethupathi Murugan, Gedanken Aharon, Kang Hyun Park, Fabrication of dual functional 3D-CeVO <sub>4</sub> /MWNT hybrid nanocomposite as a high-performance electrode material for supercapacitor and L-Tryptophan detection, <i>Electrochimica Acta</i> , 445, (2023), 142020.	7.336
5.	Muthusankar Ganesan, Ramadhass Keerthika Devi, Ai-Ho Liao, Kuo-Yu Leef, <b>Gopu Gopalakrishnan</b> , Ho-Chiao Chuang, <i>3D-flower-like porous neodymium molybdate nanostructure for trace level detection of organophosphorus pesticide in food samples</i> , <i>Journal of Food Chemistry</i> , 396, (2022), 133722.	7.514
6.	Balu Mahendran Gunasekaran, John Bosco Balaguru Rayappan, Ganesh Kumar Rajendran, Gopu Gopalakrishnan, Noel Nesakumar, Senthilkumar Muthiah, Jothi Ramalingam Sivanesan, <i>Electrochemical Sensing of Arsenic Ions Using a Covalently Functionalized Benzotriazole-Reduced Graphene Oxide-Modified Screen-Printed Carbon Electrode</i> , <i>Journal of Chemistry Select</i> , 7, (2022)	2.307
7.	Ganesan Muthusankar, Ramadhass Keerthika Devi, Shen-Ming Chen, Yu-Feng Huang, <b>Gopalakrishnan Gopu</b> , <i>Hybrid ternary nanocomposite of N-doped carbon quantum dots@SnO<sub>2</sub>/multiwall carbon nanotubes: A robust and sensitive electrocatalyst for the detection of antineoplastic agent gallic acid</i> , <i>Journal of Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 641, (2022), 128544	4.539
8.	Rajendran Karkuzhali, Shanmugasundaram Manoja, Karnan Shanmugapriya, Venugopal Narendra Kumar, <b>Gopalakrishnan Gopu</b> , N. Muniyappan, Byong-Hun Jeon, Subbaiah Muthu Prabhu, <i>MXene-based O/Se-rich bimetallic nanocomposites for high performance solid-state symmetric supercapacitors</i> , <i>Journal of Solid State Chemistry</i> 306, (2022) 122727.	3.498
9.	Keerthika Devi Ramadhass, Muthusankar Ganesan, Tse-Wei Chen, Shen-Ming Chen, Qingli Hao, Wu Lei, <b>Gopu Gopalakrishnan</b> , <i>Porous-coral-like cerium doped tungsten oxide/graphene oxide micro balls: A robust electrochemical sensing platform for the detection of antibiotic residue</i> , <i>Colloids and Surfaces A: Physicochemical and Engineering Aspects</i> , 628, (2021), 127275.	4.539

10.	A. AmaliRoselin, R.Karkuzhali, I.J.PanneerDoss, Narayanasamy Anandhan, <b>G. Gopu</b> , G. Sivakumar, K.P. Ganesan, R. Paneer Selvam, <i>A-Site Doped Aurivillius Layered Perovskite Thin Film (Bi<sub>4-x</sub>Dy<sub>x</sub>Ti<sub>3</sub>O<sub>12</sub>) Electrode for Mercury Ions Sensor, ChemistrySelect, 6, (2021), 9894 – 9903.</i>	2.109
11.	A. Amali Roselin, R. Karkuzhali, N.Anandhan <b>G. Gopu</b> , <i>Bismuth titanate (Bi<sub>4</sub>Ti<sub>3</sub>O<sub>12</sub>, BTO) sol–gel spin coated thin film for heavy metal ion detection, Journal of Materials Science: Materials in Electronics, 32, (2021), 24801 – 24811.</i>	2.478
12.	Rajendran Karkuzhali, Shanmugasundaram Manoj, Arulanandhu Diana Marcelin, <b>Gopu Gopalakrishnan</b> , G. Paruthimal Kalaigan, Byong-Hun Jeon, Subbaiah Muthu Prabhu*, <i>Oxalic acid-induced assembly of Co<sub>x</sub>Ni<sub>1-x</sub>-bimetallic polyaniline nanocomposite: a bifunctional material for supercapacitor and chromium removal applications, Journal of Nanostructure in Chemistry, Accepted: 7 July 2021</i>	6.391
13.	Ramadhass Keerthika Devi, Ganesan Muthusankar, Shen-Ming Chen*, <b>Gopu Gopalakrishnan</b> , <i>In situ formation of Co<sub>3</sub>O<sub>4</sub> nanoparticles embedded N-doped porous carbon nanocomposite: a robust material for electrocatalytic detection of anticancer drug flutamide and supercapacitor application, Microchimica Acta 188 (2021) 1 – 15.</i>	5.833
14.	Muthusankar Ganesan, Keerthika Devi Ramadhass, Ho-Chiao Chuang, <b>Gopu Gopalakrishnan*</b> , <i>Synthesis of nitrogen-doped carbon quantum dots@ Fe<sub>2</sub>O<sub>3</sub>/multiwall carbon nanotubes ternary nanocomposite for the simultaneous electrochemical detection of 5-fluorouracil, uric acid, and xanthine, Journal of MolecularLiquids 331 (2021), 115768.</i>	6.165
15.	R Keerthika Devi, G Muthusankar, <b>G Gopu*</b> , L John Berchmans, <i>A simple self-assembly fabrication of tin oxide nanoplates on multiwall carbon nanotubes for selective and sensitive electrochemical determination of antipyretic drug, Colloids and Surfaces A: Physicochemical and Engineering Aspects 598 (2020) 124825.</i>	4.539
16.	Murugan Sethupathi, Arumugam Jayamani, Ganesan Muthusankar, Perumal Sakthivel, Karuppanan Sekar, Sivaraman Gandhi, Nallathambi Sengottuvelan*, <b>Gopalakrishnan Gopu</b> , Chellappan Selvaraju, <i>Colorimetric and fluorescence sensing of Zn<sup>2+</sup> ion and its bio-imaging applications based on macrocyclic “tet a” derivative, Journal of Photochemistry and Photobiology B: Biology 207 (2020) 111854.</i>	6.252
17.	R Panneerselvam, N Anandhan*, <b>G Gopu</b> , KP Ganesan, T Marimuthu, <i>Impact of different transition metal ions in the structural, mechanical, optical, chemico-physical and biological properties of nanohydroxyapatite, Applied Surface Science, 506 (2020)144802.</i>	6.707
18.	Ganesan Muthusankar, Ramadhass Keerthika Devi, <b>Gopalakrishnan Gopu</b> , <i>Nitrogen- doped carbon quantum dots embedded Co<sub>3</sub>O<sub>4</sub> with multiwall carbon nanotubes: An efficient probe for the simultaneous determination of anticancer and antibiotic drugs, Biosensors and Bioelectronics, 150 (2020) 111947.</i>	10.618
19.	Soma Sundaram Meenakshi Sundaram, Selvam Karthick, Krishnamurthy Sailaja, Rajendran Karkuzhali, <b>Gopalakrishnan Gopu*</b> , <i>Theoretical study on cyclophane amide molecular receptors and its complexation</i>	6.252

	<i>behavior with TCNQ</i> , Journal of Photochemistry and Photobiology B: Biology, 203 (2020) 111735.	
20.	Murugan Sethupathi, Ganesan Muthusankar, Vijayan Thamilarasan, Nallathambi Sengottuvelan*, <b>Gopalakrishnan Gopu</b> , Nadar Manimaran Vinita, Ponnuchamy Kumar, Franc Perdih, <i>Macrocyclic “tet A” derived colorimetric sensor for the detection of mercury cations and hydrogen sulphate anions and its bio-imaging in living cells</i> , Journal of Photochemistry and Photobiology B: Biology, 203 (2020) 111739.	6.252
21.	KP Ganesan, N Anandhan*, <b>G Gopu</b> , A Amalirroselin, T Marimuthu, R Paneerselvam, <i>An enhancement of ferromagnetic, structural, morphological, and optical properties of Mn-doped Cu<sub>2</sub>O thin films by an electrodeposition technique</i> , Journal of Materials Science: Materials in Electronics, 30 (2019) 19524 – 19535.	2.478
22.	Karthick Selvam, Sivaraman Gandhi, Sailaja Krishnamurty, <b>Gopu Gopalakrishnan*</b> , <i>Effect of substitution on the excited state photophysical and spectral properties of boron difluoride curcumin complex dye and their derivatives: A time dependent-DFT study</i> , Journal of Photochemistry and Photobiology B: Biology, 199 (2019) 111595.	6.252
23.	Ganesan Muthusankar, Murugan Sethupathi, Shen-Ming Chen*, Ramadhass Keerthika Devi, Rajendran Vinoth, <b>Gopalakrishnan Gopu*</b> , Narayanasamy Anandhan, Nallathambi Sengottuvelan, <i>N-doped carbon quantum dots@ hexagonal porous copper oxide decorated multiwall carbon nanotubes: a hybrid composite material for an efficient ultra-sensitive determination of caffeic acid</i> , Composites Part B: Engineering, 174 (2019) 106973.	9.078
24.	A Amali Roselin, N Anandhan*, <b>G Gopu</b> , I Joseph Panneer Doss, KP Ganesan, R Paneer Selvam, T Marimuthu, G Sivakumar, <i>Electrochemical sensor for the detection of lead ions of B-site-doped bismuth titanate perovskite thin film</i> , Applied Physics A, 125 (2019) 1 -15.	2.584
25.	Ganesan Muthusankar, Chellakannu Rajkumar, Shen-Ming Chen*, Rajendran Karkuzhali, <b>Gopalakrishnan Gopu*</b> , Arumugam Sangili, Nallathambi Sengottuvelan, Raman Sankar, <i>Sonochemical driven simple preparation of nitrogen-doped carbon quantum dots/SnO<sub>2</sub> nanocomposite: A novel electrocatalyst for sensitive voltammetric determination of riboflavin</i> , Sensors and Actuators B: Chemical, 281 (2019) 602 – 612.	7.460
26.	Arumugam Jayamani, Rajesh Bellam, <b>Gopalakrishnan Gopu</b> , Stephen O Ojwach, Nallathambi Sengottuvelan*, <i>Copper (II) complexes of bidentate mixed ligands as artificial nucleases: Synthesis, crystal structure, characterization and evaluation of biological properties</i> , Polyhedron 156 (2018) 138 – 149.	3.052
27.	Ganesan Muthusankar, Arumugam Sangili, Shen-Ming Chen*, Rajendran Karkuzhali, Murugan Sethupathi, <b>Gopalakrishnan Gopu*</b> , Selvam Karthick, Ramdhass Keerthika Devi, Nallathambi Sengottuvelan, <i>In situ assembly of sulfur-doped carbon quantum dots surrounded iron (III) oxide nanocomposite; a novel electrocatalyst for highly sensitive detection of antipsychotic drug olanzapine</i> , Journal of Molecular Liquids 268 (2018) 471 – 480.	6.165

28.	Arumugam Jayamani, Soundarajan Nagasubramanian, Vijayan Thamilarasan, Stephen O Ojwach, <b>Gopalakrishnan Gopu</b> , Nallathambi Sengottuvelan*, <i>In-situ nickel(II) complexes of 3-(dimethylamino)-1-propylamine based Schiff base ligands: Structural, electrochemical, biomolecular interaction and antimicrobial properties</i> , <i>Inorganica Chimica Acta</i> 482 (2018) 791 – 799.	2.545
29.	Ganesan Muthusankar, Ragu Sasikumar, Shen-Ming Chen, Gopalakrishnan Gopu, Nallathambi Sengottuvelan, Syang-Peng Rwei, <i>Electrochemical synthesis of nitrogen-doped carbon quantum dots decorated copper oxide for the sensitive and selective detection of non-steroidal anti-inflammatory drug in berries</i> , <i>Journal of colloid and interface science</i> , 523 (2018) 191 – 200.	8.128
30.	Lakshmi, A., Anandha Raj, J., Gopu, G., Arumugam, P., & Vedhi, C. (2013). Electrochemical, electrochromic behaviour and effects of supporting electrolyte on nano-thin film of poly (3,4-ethylenedioxy thiophene). <i>Electrochimica Acta</i> , 92, 452–459.	6.901
31.	Gopu, G., Muralidharan, B., Vedhi, C., & Manisankar, P. (2012). Determination of three analgesics in pharmaceutical and urine sample on nano poly (3, 4- ethylenedioxythiophene) modified electrode. <i>Ionics</i> , 18, 231–239.	2.817
32.	Irudaya Antonat Sophia, <b>G. Gopu</b> , C. Vedhi (2012). Synthesis and Characterization of Poly Anthranilic Acid Metal Nanocomposites. <i>Open Journal of Synthesis Theory and Applications</i> , 1, 1–8.	6.2
33.	B Muralidharan, <b>G Gopu</b> , C Vedhi, P Manisankar, <i>Determination of analgesics in pharmaceutical formulations and urine samples using nano polypyrrole modified glassy carbon electrode</i> , <i>Journal of applied electrochemistry</i> 39 (2009) 1177 – 1184.	2.8
34.	B Muralidharan, <b>G Gopu</b> , C Vedhi, P Manisankar, <i>Voltammetric determination of analgesics using a montmorillonite modified electrode</i> , <i>Applied clay science</i> 42 (2008)206 –213.	5.467

### Resource persons in various capacities

National Conferences	:	3
International Conferences	:	10
Invited Lectures	:	5