




## PROFILE

Name		M. AMALRAJ
Department	Chemistry	
Designation	Assistant Professor	
Email	amalraj@aactni.edu.in	
Mobile	+91 9940711883	
Google Scholar ID	<a href="https://scholar.google.co.in/citations?user=PaYr1TYAAAAJ&amp;hl=en">https://scholar.google.co.in/citations?user=PaYr1TYAAAAJ&amp;hl=en</a>	
Teaching Experience	UG: 6 years	PG: 3 year



### Academic Chronicle M.Sc., Ph.D., NET.,

S. No.	QUALIFICATION	INSTITUTION	BOARD/UNIVERSITY	YEAR OF PASSING
1	Ph.D. Chemistry	Gandhigram Rural Institute-Deemed University	Gandhigram Rural Institute-Deemed University	2014
2	CSIR-JRF with NET	Joint CSIR-UGC, New Delhi		2009 & 2010
3	GATE	IIT Delhi, Delhi		2009
4	M.Sc. Chemistry	Loyola College, Chennai	Madras University, Chennai	2009
5	B.Sc Chemistry	Ayya Nadar Janaki Ammal College, Sivakasi	Madurai Kamaraj University, Madurai	2006

### Professional Experience

INSTITUTION	DESIGNATION	DURATION OF SERVICE	DESCRIPTION
Myongji University, Myongji, Yong in, South Korea	Postdoctoral Research Fellow	10/09/2014 to 30/08-2015	Research
Loyola College, Chennai	Assistant Professor (FDP Substitute)	01/09/2015 to 26/07/2017	UG and PG teaching
Loyola College, Chennai	Assistant Professor (Shift-2)	27/07/2017 to 31/05/2019	UG teaching
Arul Anandar College (Autonomous), Karumathur	Assistant Professor	17/06/2019 – Till date	UG & PG teaching

### External Question Setter

- ✓ External Examiner, Madras Christian College, Tambaram, Chennai

### Research Profile

Research Area	:	Physical Chemistry
Specialization	:	Electrochemistry
Title of Ph.D. thesis	:	Modification of electrodes with gold nanoparticles, graphene and their composites for electrocatalytic applications
Number of Research Publication	:	14 International articles
Number of Books chapter	:	1 (Elsevier Publication)
Total Impact factor	:	63.576
h-index	:	10
Number of citations	:	466 (Google scholar)
Research grant	:	Obtained research grant of Rs. 10000 from Loyola Research Park, Loyola College, Chennai.

### Fellowship Received

- ✓ Received CSIR-JRF and SRF fellowship from CSIR, New Delhi
- ✓ Received DST-JRF fellowship from DST, New Delhi

### Mooc/NPTEL Courses

- ✓ Registered for MOOC/NPTEL courses entitled, “Symmetry and Group Theory” and “Symmetry, Stereochemistry and Applications”.

### Awards and Honors

- ❖ Won the **Best Paper Presentation** in the International Virtual Conference on “*Futuristic Research in Nanotechnology*” Organized by Faculty of Allied Health Sciences, Chettinad Academy of Research and Education, Kelambakkam, Chennai on 25<sup>th</sup> March 2021.
- ❖ Research article published in **Journal of Physical Chemistry C (2013)** has been recognized as the *top cited and most downloaded* article published from India by **American Chemical Society in 2017**.  
(<https://pubs.acs.org/doi/pdf/10.1021/acs.jpcllett.7b01499>).
- ❖ **CSIR- Senior Research Fellow-** Awarded by Council of Scientific and Industrial Research, New Delhi on December, 2011.
- ❖ **CSIR-Junior Research Fellow-** Awarded by Council of Scientific and Industrial Research, New Delhi on August, 2010.
- ❖ **Best oral presentation award** (I prize) at National Conference on Advances in Nanomaterials in Catalysis conducted by Loyola College, Chennai, International Conference on Advancement of Electrochemical Science and Technology conducted by CECRI, Karaikudi and International Conference on Chemistry in Synergy with Materials and Biology (ICMB-2014) conducted by Bishop Heber College, Trichy.
- ❖ Cleared **CSIR-NET** twice conducted by Joint CSIR-UGC at December 2009 and June 2010. The all over India rank is 121 and 235, respectively.
- ❖ Cleared **GATE** exam conducted by Indian Institute of Technology at February 2009. The all over India rank is 259. GATE percentile score is 96.04.
- ❖ **Gold medalist** in under graduation and post graduation at Ayya Nadar Janaki Ammal College and Loyola College, respectively.

## Research Publications

- 1. M. Amalraj, S. Brillans Revin, S. Abraham John**  
Selective determination of 3,4-dihydroxyphenylacetic acid in the presence of ascorbic acid using 4-(dimethylamino)pyridine capped gold nanoparticles immobilized on gold electrode  
*Colloids and Surfaces B: Biointerfaces* 87 (2011) 353– 360 (**Impact factor: 4.389**).
- 2. M. Amalraj, S. Brillans Revin, S. Abraham John**  
Synthesis, characterization and modification of functionalized pyrimidine stabilized gold nanoparticles on ITO electrode for the determination of tannic acid  
*Bioelectrochemistry* 89 (2013) 1–10 (**Impact factor: 4.722**).
- 3. M. Amalraj, S. Abraham John**  
Fabrication of electrochemically reduced graphene oxide films on glassy carbon electrode by self-assembly method and their electrocatalytic applications  
*Journal of Physical Chemistry C* 117 (2013) 4326–4335 (**Impact factor: 4.189**).
- 4. M. Amalraj, S. Abraham John**

- Simultaneous determination of uric acid, xanthine, hypoxanthine and caffeine in human blood serum samples using electrochemically reduced graphene oxide modified electrode *Analytica Chimica Acta* 771 (2013) 14–20 (*Impact factor* 5.977).
5. A. John Jeevagan, **M. Amalraj**, S. Abraham John  
Growth of gold nanorods in solution and surface using phthalocyanine capped gold nanoparticles as seeds  
*RSC Advances* 3 (2013) 870-878 (*Impact factor: 3.070*).
  6. **M. Amalraj**, S. Abraham John  
Electrochemical determination of xanthine oxidase inhibitor drug in urate lowering therapy using graphene nanosheets modified electrode  
*Electrochimica Acta* 117 (2014) 360-366 (*Impact factor: 6.215*).
  7. **M. Amalraj**, S. Abraham John  
Graphene modified glassy carbon electrode for the simultaneous determination of norepinephrine and theophylline  
*Analytical Methods* 6 (2014) 2181–2188 (*Impact factor: 2.596*).
  8. **M. Amalraj**, S. Abraham John  
Fast growth of gold nanorods on solid substrate using electrochemically deposited gold seeds  
*Electrochemistry Communications* 45 (2014) 27-31 (*Impact factor: 4.22*)
  9. **M. Amalraj**, S. Abraham John  
Assembly of gold nanoparticles on graphene film via electroless deposition: spontaneous reduction of Au 3+ ions by graphene film  
*RSC Advances* 5 (2015) 4964-4971 (*Impact factor: 3.070*)
  10. S. Kesavan, **M. Amalraj**, S. Abraham John  
Formation of ERGO on melamine electrografted layers and its application towards the determination of methylxanthines  
*Analytical Biochemistry* 496 (2016) 14-24 (*Impact factor: 2.877*)
  11. **M. Amalraj**, N.S.K. Gowthaman, S. Abraham John  
Highly sensitive interference-free electrochemical determination of pyridoxine at graphene modified electrode: Importance in Parkinson and Asthma treatments  
*Journal of colloid and interface science* 474 (2016) 171-178 (*Impact factor: 7.489*)
  12. N. S. K. Gowthaman, **M. Amalraj**, S. Abraham John,  
Nitrogen-doped graphene as a robust scaffold for the homogenous deposition of copper nanostructures: A non-enzymatic disposable glucose sensor  
*ACS Sustainable Chemistry & Engineering* 5 (2017) 1648-1658 (*Impact factor: 7.632*)
  13. T Adinaveen, JJ Vijaya, **M. Amalraj**, PI Rajan, LJ Kennedy, NCS Selvam  
Hierarchically arranged strontium oxide nanospheres-Impregnated carbon cloth for high performance supercapacitor electrodes  
*Journal of Electroanalytical Chemistry* 799 (2017) 222-227 (*Impact factor: 3.19*)
  14. S Chakraborty, MA Raj, NL Mary

Biocompatible supercapacitor electrodes using green synthesised ZnO/Polymer nanocomposites for efficient energy storage applications  
Journal of Energy Storage 28 (2020) 101275 (*Impact factor: 3.94*)

## Book Chapter

M. Amalraj and S. Abraham John contributed a book chapter entitled “*Graphene modified electrochemical sensors*” in the book “Graphene-Based Electrochemical Sensors for Biomolecules” published by Elsevier, 2019. (ISBN: 978-0-12-815394-9)

<https://doi.org/10.1016/B978-0-12-815394-9.00001-7>

## Online Courses

1. Completed the online course - “Basics in CHROMATOGRAPHY” Jointly organized by DIPAM Foundation & Sheth M. N. Science College, Patan between 07, May 2020 to 16, May 2020.
2. Completed “One-week virtual International Level Skill Development Program entitled “Selected Topics in Coordination Chemistry” organized by Department of Chemistry, Nallamuthu Gounder Mahalingam College, Pollachi from 24-08-2020 to 28-08-2020.

## Abstracts in National Conferences

1. Selective and simultaneous determination of four purine derivatives using electrochemically reduced graphene oxide modified electrode, Recent Advancement in Analytical Science, 14-15, February 2013, Gandhigram Rural Institute, Gandhigram.
2. Fabrication of quinone on electrode surface and its electrocatalytic activity towards oxygen reduction, Advanced in Science and Technology, 21-23, October 2011, Indian Institute of Technology, Kharagpur, India.
3. Synthesis of 4-amino-6-hydroxy-2-mercaptopyrimidine capped gold nanoparticles and their immobilization on ITO electrode for the electrochemical determination of tannic acid, Advances in Electrochemical Techniques, 19-20 August, 2011, Indian Institute of Science and Technology, Bangalore, India.
4. Simultaneous determination of ascorbic acid and 3,4-dihydroxyphenylacetic acid using 4-(dimethylamino) pyridine capped gold nanoparticles immobilized on gold electrode Advances in Catalysis, 18-19 December, 2010, Loyola College, Chennai, India.

## Abstracts in International Conferences

1. Preparation of Ni(OH)<sub>2</sub>/Carbon Nanohybrids by Hydrothermal Carbonization Process for the Electrocatalytic Applications in Oxygen Evolution Reaction.  
International Seminar on Emerging Trends in Chemistry and Energy Science (ETCES-2020), 7, February 2020, Saraswathi Narayanan College, Madurai.
2. Fabrication of electrochemically reduced graphene oxide films on glassy carbon electrode and their electrocatalytic application  
Society of Advancement of Electrochemical Science and Technology, 28-30, January 2013, CECRI, Karaikudi, India.
3. Self assembly of gold nanoparticles on electrode surface for electrocatalytic applications  
Recent Trends in Nanoscience and Nanotechnology, 20-23, January, 2012, Department of Science and Technology, New Delhi.
4. Modification of electrodes with gold nanoparticles and graphene and their electrocatalytic applications, International Conference on Chemistry in Synergy with Materials and Biology (ICMB-2014) conducted by Bishop Heber College, Trichy.

## Workshop Attended

1. Participated in one day workshop on “Recent Trends in Electrochemistry for Societal Applications” organized by the Department of Chemistry, Loyola College, Chennai on 31<sup>st</sup> January 2020.
2. Participated in the three-day e-workshop on Basic Principles and Concepts of Chemistry organized by Department of Chemistry, Dr.MGR Educational and Research Institute, Adayalampattu Phase II Campus, Chennai from 27<sup>th</sup> - 29<sup>th</sup> May 2020
3. Participated in the skill-based workshop on “Nuances of Software Handling in Chemical Sciences”, conducted by Department of Chemistry, Vivekanandha College of Arts and Sciences for Women (Autonomous), Tiruchengode, Namakkal Dt. via online mode on 23.05.2020

## Webinar Attended

1. Participated in the Webinar titled "How Nanoscience and Technology Inspired from Nature and Transforming the World?" organized by PG Department of Physics, Cauvery College for Women (Autonomous), Trichy - 18, on 3 May, 2020.
2. Participated in National Level “American College Chemistry Webinar Series-I” organized by Department of Chemistry, The American College, Madurai on 15, 16 May, 2020.
3. Participated in the National Level “American College Chemistry Webinar Series-II” organized by the Department of Chemistry on 22 May, 2020.

4. Participated one day International Webinar on “Nano Biomaterials for Drug Delivery Applications” conducted by PG Department of Chemistry, SN College, Madurai on 22 May 2020.
5. Participated in the Webinar on “Green Chemistry and Green Engineering - A Unique Solution of Industrial Disasters” organized by Department of Science and Humanities (Chemistry), Kings College of Engineering, Punalkulam, Pudukkottai on 17 May 2020.
6. Participated the Webinar on ‘Crystallography and its Applications’ organized by Department of Science, Er. Perumal Manimekalai college of Engineering, Hosur on 8-5-2020.
7. Participated on “E-Lecture on Stereochemistry of Organic Compounds” organized by PG and Research Department of Chemistry, Arignar Anna Government Arts College, Namakkal.
8. Participated in the Webinar on “Electroanalytical Techniques” organized by American College Central Instrumentation Center, The American College, Madurai on 24 June, 2020.
9. Participated in the ICT Webinar on “Application of ICT in Chemistry for Undergraduates” on Using Digital Platform: Cisco WebEx organized by Department of Chemistry, Stella Mary College, Chennai held on 14 May 2020.
10. Participated in the Webinar, Energy, Energy Everywhere, How to harness it? organised by the Department of Chemistry, V.O.Chidambaram College on 21.05.2020.
11. Attended Online FDP on “Futuristic Perspectives of Nano Materials in Biomedical Applications and Energy Storage Devices” organized by Department of Science and Humanities, R.M.D. Engineering College, Kavaraipettai held on 11, 12 May 2020.
12. Participated in the One Day International Webinar on Bioinformatics in Microbiome Research & Climate, Biomes and India conducted by PG Department of Chemistry (SSC), St. Mary’s College, Thoothukudi on 17 May 2020.