

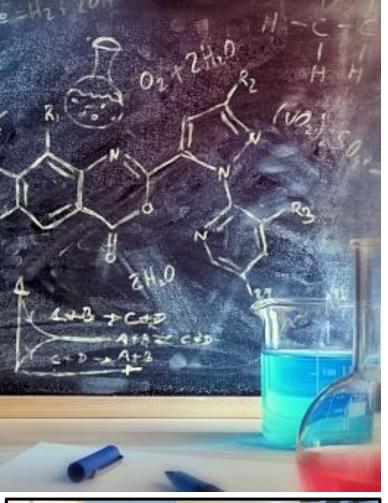
DEPARTMENT OF CHEMISTRY

ARUL ANANDAR COLLEGE (AUTONOMOUS)

Affiliated to Madurai Kamaraj University (Reaccredited by NAAC at 'A' Grade with a CGPA of 3.66) DST-FIST Sponsored College Karumathur-625 514, Madurai District, Tamil Nadu

E-Mail: chemistry@aactni.edu.in

Website: www.aactni.edu.in





Programmes Offered

- B.Sc. Chemistry
- M.Sc. Chemistry

History of the Department

- 1971 Established the Department as Pre-University
 Course (PUC)
- 1979 Introduction of B.Sc. Chemistry Programme
- 2004 Introduction of Career Oriented Course
- 2009 Establishment of Alumni Association
- 2017 Introduction of M.Sc. Chemistry Programme

Uniqueness of the Department

- Conducting Orientation Program for Freshers (Both UG and PG)
- Celebrating National Science Day since 2017
- Celebrating Mendeleev's Commemoration Day
- Organizing Seminar on Expanding Frontiers in Chemistry (EFC) every year since 2001
- Conducting intercollegiate Competitions (CHEMFEST)
- Entry Level Test for Freshers
- Organizing Industrial Visit for final year students
- Internship for II UG students
- Learning Online courses via NPTEL/SWAYAM

Department of Chemistry - Arul Anandar College

Faculty Profile



Dr. S. Rayappan, M.Sc., M.Phil., Ph.D. Assistant Professor & Head No. of Publications: 7 H- Index: 3 Research Area: Adsorption Studies



M.Sc., Ph.D.
Assistant Professor
No. of Publications: 6; H- Index: 4
Research Area: Synthetic Organic
Chemistry



Mr. S. A. Deva Prince M.Sc., M.Sc. (Psy)., M.Ed., M.Phil., NET, GATE Assistant Professor Research Area: Coordination Chemistry



M.Sc., Ph.D., SET
Assistant Professor
No. of Publications : 7
H- Index : 4

Dr. S. Martin,

Dr. N. Savitha Devi,

Research Area: Chemical Kinetics



Dr. M. Amalraj,
M.Sc., Ph.D., NET, GATE,
Assistant Professor
Publications: 17; H- Index:12
Postdoctoral Fellow: South
Korea (2014-15)
Research Area: Electrochemical
Sensor, Hydrogen energy



Rev. Dr. John Pragasam S.J.
M.Sc., Ph.D.
Guest Professor (Retired)
Number of Publications: 15
Research Area: Molecular
Dynamics, Laser and Chemical
Kinetics



Dr. M. Easuraja, M.Sc., M.Phil., Ph.D. Assistant Professor Publications: 20; H- Index: 5 Research Area: Synthesis and Biological activity of organic compounds



Dr. K. Jansi Rani,
M.Sc., M.Phil., SET., Ph.D.
Assistant Professor
No. of Publications : 4
Research Area: Synthesis,
Characterization & Biological
activity of Schiff bases



Publications: 24; H- Index: 9
Postdoctoral Fellow: Japan
(2013-15)
Research Area: Photocatalysis
Electrocatalysis, - Photoelectro
chemistry - Solar Energy

Dr. A. John Jeevagan, M.Sc.,

Ph.D. Assistant Professor



Dr. F. Michael Raj, M.Sc., Ph.D. Assistant Professor
Publications: 10; H- Index: 4
Research Area: Electrochemistry:
Semiconductors, Materials
Chemistry: Graphene oxide - Solar
cell Fabrication



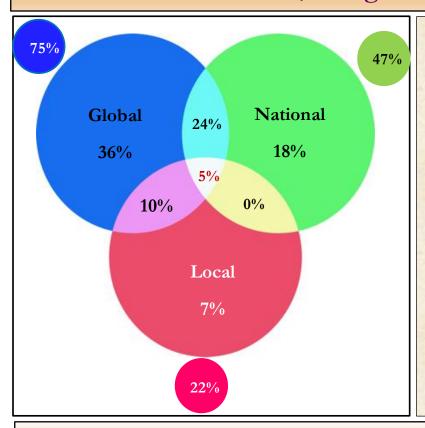
Dr. K. Kombaiah,
M.Sc., Ph.D., NET
Assistant Professor
No. of Publications : 16;
H- Index : 15
Research Area: Ferrite
Nanomaterials



Out of 11 Faculties, 10 are Ph.D. holders, 5 are either NET/SET/GATE qualified and one is pursuing Ph.D. and 2 has post-doctoral experience at Abroad



Curriculum, Design and Development



Courses focuses on **Environmental Issues**

- Chemistry in Your Life
- Chemicals for Life and Living
- Green & Environmental Chemistry

Courses focuses on Sustainability

- **Industrial Chemistry**
- **Fuel Chemistry**
- Chemistry of Materials
- **Nanomaterials**

Courses focuses on **Employability**

- **Medicinal Chemistry**
- **Biochemistry**
- **Industrial Chemistry**

Teaching - Learning Process

Experiential Learning

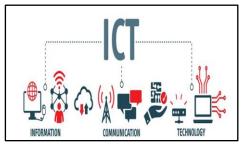
- 1. Organization of Industrial Visit
- 2. Lab courses
- 3. Project and Internship.

Participative Learning

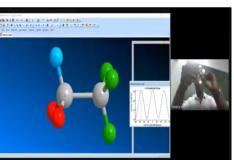
- 1. Seminar Presentation
- 2. Assignments/e-assignments through e-mail and Google Classroom
- 3. Model preparation by students
- 4. Attending conference/seminar
- Intercollegiate 5. Attending competitions
- 6. SWAYAM/MOOC online courses



Co-curricular activities



Blended Learning through ICT



Models/Chem3D software for Teaching





Lab Demonstration



Chem Draw Training



Peer Learning



Industrial Visit

Initiatives for Slow and Advanced learners

Advanced Learners

Self – Learning Courses Offered for Advanced Learners

- 1. Fuel Chemistry
- 2. Food Chemistry
- 3. Forensic Chemistry
- 4. Chemistry for Competitive Examinations





NPTEL/SWAYAM online Courses





Summer Project / Internship





Conference / Workshop Participation





Participation in Intercollegiate Competition

Slow Learners

Initiatives for Slow Learners

- 1. Remedial Classes
- 2. Special Mentoring to Slow Learners
- 3. Special Tests
- 4. Simplified Lecture notes



Remedial Class



Special Mentoring

Initiatives for All Learners

- 1. Entry Level Test for Freshers
- 2. Orientation programme
- 3. Co-curricular activities
- 4. Extra-curricular activities
- 5. Career Guidance Programme





Career Orientation Programme

Research Details of the Department

Research Projects

Period	Name of the Faculty	Title	Funding Agency	Amount (Rs.)
2013-16	Dr. N. Savitha Devi	Multicomponent Domino Reactions in the Synthesis of Heterocycles and Carbocycles	SERB – DST	18.68 lakhs
2020-21	Dr. M. Amalraj	Catalytic hydrogen production from sodium borohydride hydrolysis using metal oxide (M = Co, Ni, Cu) / carbon core-shell nanocomposites	Seed Money grant for the Promotion Research - AAC	9000/-
2022-23	Dr. A. John Jeevagan	Sn ₃ O ₄ supported PdNi ordered Intermetallic Photocatalyst for Hydrogen Generation under Visible Light	Seed Money grant for the Promotion Research - AAC	9000/-
2022-23	Dr. K. Kombaiah	The Synergic effect of novel metal ferrite (MFe ₂ O ₄ , M = Zn, Co, Cu, Ni) MoS ₂ /rGO ternary composites for effective water splitting and H2 production	Seed Money grant for the Promotion Research - AAC	9000/-

Recognized Research Guides: 2

Dr. S. Martin — Chemical Kinetics; Dr. N. Savitha Devi — Multicomponent Organic Synthesis

Research Publications

Total Number of Research Article : 13 (2016- 2022)

Scopus / Web of Science Indexed Journals: 13

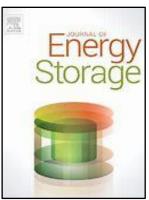
Total Impact Factor : 36.876

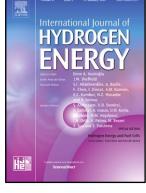
Total Citations : 96

H-Index: 5

Source : Chemistry - Google Scholar

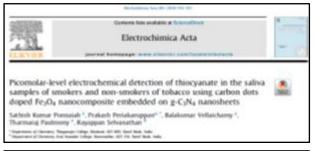






Impact Factor Impact Factor - 6.901 - 6.87

Impact Factor - 5.816







from *In Situ* Generated Pyridinium Ylides *via* One-Pot Multicomponent Reaction

Vediyappan Ramesh, $^{[a]}$ Natarajan Savitha Devi, $^{[b]}$ Marappan Velusamy, $^{[c]}$ and Sivakumar Shanmugam $^{*[a]}$

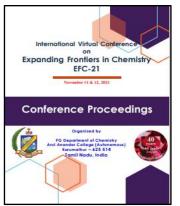
Conference / Book Publications

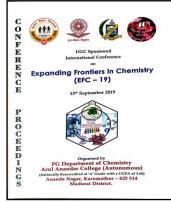
Total number of abstracts in

Conference Proceedings : 8 (2016-21)

Total number of Books : 2 (2016-21)

Number of conference proceeding : 4 (2021-22)





Conferences and Seminar Organized

Year	Name of the workshop/ seminar	No. of Participants	Date
2020-21	International Virtual Conference on Expanding Frontiers in Chemistry (EFC-21)	207	11 & 12 Nov. 2021
2020-21	Fundamentals and Career Opportunities of Chemistry Students	125	22.07.2021
2020-21	International Webinar on Photocatalyst and Electrocatalysts	100	29.07.2020
2019-20	International Seminar on Expanding Frontiers in Chemistry (EFC - 19)	80	13.09.2019
2018-19	State Level Seminar on Expanding Frontiers in Chemistry (EFC-18)	187	20.09.2018
2017-18	National Level Seminar on Expanding Frontiers in Chemistry (EFC- 17)	85	08.12.2017
2016-17	State Level Seminar on Expanding Frontiers in Chemistry (EFC - 16)	184	23.09.2016















Release of Conference Proceedings (EFC-21)



Release of Conference Proceedings (EFC-19)



International Virtual Conference

Association Activities

















National/International **Conference Organization**





Orientation Programme for Freshers



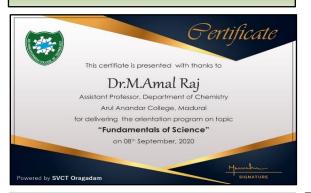
Guest Lecture

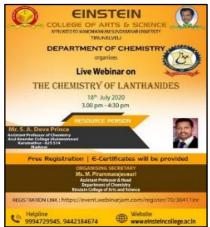


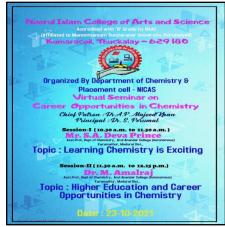
National Science Day Celebration

Collaboration activities

Faculty as Resource Person







Collaborative Publications

Reviewer to Journal

Internship



Journal of Energy Storage



Biocompatible supercapacitor electrodes using green synthesised ZnO/Polymer nanocomposites for efficient energy storage applications

Journal of Cluster Science https://doi.org/10.1007/s10876-019-01696-4

ORIGINAL PAPER



Clinically Pertinent Manganese Oxide/Polyoxytyramine/Reduced Graphene Oxide Nanocomposite for Voltammetric Detection of Salivary and Urinary Arsenic

 $Sathish\ Kumar\ Ponnaiah^1 \cdot Prakash\ Periakaruppan^1 \\ \underline{\circ} \cdot Mohannivas\ Selvam^1 \cdot Saravanan\ Muthupandian^2 \cdot Mohannivas\ Selvam^2 \cdot Saravanan\ Muthupandian^2 \cdot Mohannivas\ Selvam^3 \cdot Saravanan\ Muthupandian^3 \cdot Saravanan\ Muthupandian^3 \cdot Mohannivas\ Selvam^3 \cdot Saravanan\ Muthupandian^3 \cdot Saravanan\ Muthupandian^4 \cdot Saravanan\ Muthupandian Muthupand$ B. Jeyaprabha³ · Rayappan Selvanathan⁴



Amalraj M <amalraj@aactni.edu.in>

Invitation to Review ER-21-21497 for International Journal of Energy Research

International Journal of Energy Research <onbehalfof@manuscriptcentral.com>
Reply-To: weihsinchen@gmail.com
To: amalraj@aacthi.edu.in Wed, Sep 1, 2021 at 2:52 PM

01-Sep-2021

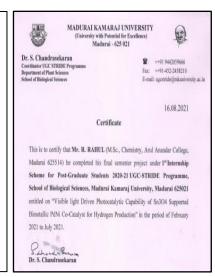
Dear Dr. Amalraj,

ER-21-21497 "Remarkable Tungsten Modified Ruthenium Nanocatalyst for Sodium Borohydride Hydrolysis".

We recognise that the impact of the COVID-19 pandemic may affect your ability to return your review to us within the requested timeframe. If this is the case, please let us know.

I would be very grateful if you could spare the time to review this manuscript which has been submitted for publication in International Journal of Energy Research. If you can assist us, please let me know either by e-mail or by clicking the appropriate ink at the bottom of the page. If you are unable to act on this occasion, I would appreciate any suggestions you may have for almanufare reviewers. A copy of the abstract of the manuscript appears at the end of this letter, along with the names of the authors.

Should you accept this invitation to act as a reviewer, you will receive an e-mail explaining how you can access Manuscript Central, our online manuscript submission and review system. As I am sure you will appreciate, we by to reach a decision on manuscripts within 3.4 weeks of submission and I would therefore be very grateful if you could compilet your review within the mext. 2 weeks.



Infrastructure Facilities









UG & PG Laboratory

Research Laboratory

Mechanical Shaker

Conductometer









Ice Maker

Rotary Evaporator with Chiller

Fume Hood

UV Chamber



Achievements of Students

S. No.	Type of Activity (2016-2022)	No. of Students
1	Paper presentation in conferences	12
	and Seminar	(PG students)
2	Prizes won at intercollegiate	40
	competitions	(UG & PG students)
3	Students who publish research	6
	article	
4	SWAYAM/NPTEL courses	11
	completed	
5	Best presentation awards	2
6	Student's Internship with	2
	fellowship	
7	Summer fellowship (INSA-IAS)	1
8	TNSCST – Student Project	3 (1 Project)
	Scheme	
9	Students who clear IELTS	2
10	Students who joined Ph.D.	3

Presentation in Conferences











Abstract in Proceedings with ISBN

Best Poster Presentation Award

Bishop Heber Innovation Award

Prizes won at Intercollegiate Competitions















Research Articles Published by Students

- **1.** International Journal of Hydrogen Energy 46 (2021) 33849-33863. (Impact factor: 5.816) (https://doi.org/10.1016/j.ijhydene.2021.07.195)
- 2. Materials Today: Proceedings 47 (2021) 1764-1772. (Impact factor: 1.2)

(https://doi.org/10.1016/j.ijhydene.2021.07.195)









SWAYAM/NPTEL courses completed

Summer Internship with Fellowship and Projects



Summer Fellowship – IISER, Kolkata



UGC-STRIDE Fellowship - MKU



IAS-INSA-NASI Summer Fellowship



TNSCST Student Project Scheme

Students who cleared IELTS





Students who Joined Ph.D.

Number of Students joined Ph.D. (2017-2022) - 3

1. Mr. S. Jeyaraj – VIT, Vellore

- 2. Mr. Pawel SRM University, Kattankulathur.
- 3. Mr. R. Rahul KENTECH University, South Korea

Achievements of Faculties

✓ Dr. N. Savitha Devi published a Research article in ChemistrySelect (2018) that has been recognized as the top cited and most downloaded from India by Wiley International Publications in the year 2018.



Best Paper Presentation Award



SWAYAM/MOOC Course

Extension Activities of the Department



Pongal Celebration at Moorthi Nagar Village on 12.01.2017



Free Veterinary Camp at Pullanery village on 07.09.2018



Pongal Celebration at Pullanery village on 13.01.2020



Free eye camp at Vadakkampatti village on 11.02.2017



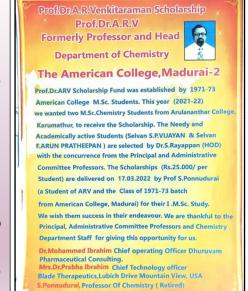
Cycle rally on summer defective disease awareness program on 20.12.2019



Orientation on prevention of female infanticide rally on 6, 7 & 9 March 2021

Healthy Practices of the Department

- 1. Prof. ARV Fellowship for Post graduate students
- 2. Prof. MSN Endowment Scholarship for the Under graduate students
- 3. Conducting Orientation Program for Freshers (Both UG and PG)
- 4. Organizing invited guest lectures by the subject and research experts through Chemistry Association
- 5. Industrial visit for the final year UG and PG students
- 6. Open Student's feedback on teachers and their teaching methodologies
- 7. Remedial classes for slow learners
- 8. Conducting Alumni Meet every year
- 9. Inviting retired professors to the Department and encouraging them to contribute to the growth of Department in various possible ways
- 10. Alumni and Faculty of the Department extending financial assistance to the students of greater need





Karumathur, Tamil Nadu, India
Aru Anandar College Bus Stop, Kochi - Madurai - Dhanushkodi Rd,
Karumathur, Tamil Nadu 625514, India
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Long 677 569 3.41169
15/02/21.11.06 AM

Alumni Meet Prof. ARV Fellowship



Release of CHEM FRONTIER Newsletter



Contributions of Alumni and Retired Faculty

Alumni



Resource person for Board of Studies & Invited Lectures

Retired Faculty



Jury for competitions

Donated 100
Chemistry books to
the Department
Library















Illustrious Alumni of the Department



Dr. Manoharan Ramasamy Global Head, Center of Excellence, Global Pharmaceutical Operations, Merck and Companies, USA (1979 – 1982)



Mr. M. Baskaran Superintendent of police Civil supply, CID Madurai zone comprising 19 Districts. (1980 – 1983)



Lt. Dr. R. Pagutharivalan
Assistant Professor in
Chemistry,
NCC Officer
H.H.The Rajah's College
Pudukkottai - 622 001
(1993-1996)



Mr. M. Annapushparaja Senior Chemist, EGA, Dubai, UAE (2002-2005)



Mr. S. Amalraj Head Master Government High School, Kadupatti (1993-1996)



Dr. S. Jegatheeswaran Managing Director, BioMe Live Analytical Centre, Karaikudi. (2007 - 2010)



Mr. Prabaharan CEO Keren group of Schools Chekkanurani (2001-2004)



Dr. G Gnana Kumar Assistant Professor, Dept. of Physical Chemistry Madurai Kamaraj University, Madurai (1997-2000)

