PROFILE

Name	F. MICHAELRAJ	
Department	Chemistry	
Designation	Assistant Professor	
Mobile Number	8248561855	
Email	fmichaelraj@gmail.com	
Google Scholar ID	https://scholar.google.co.in/citations?user=Geh56lSSSBU%fnp	
Teaching Experience	**UG**: 3 years	**PG**: 1 year

Academic Chronicle M.Sc., Ph.D., PGDCA.,

S. No.	Qualification	Institution	Board/University	Year of Passing	Grade
1	Ph.D. Chemistry	Loyola College, Nungambakkam, Chennai-34.	University of Madras	2019	***Highly Recommended***
2	M.Sc. Chemistry	Loyola College, Nungambakkam, Chennai-34.	University of Madras	2011	**63**%
3	PGDCA	LIBA, Loyola College, Chennai-34.	University of Madras	2007	**78**%
4	B.Sc Chemistry	Loyola College, Nungambakkam, Chennai-34.	University of Madras	2009	**69**%

Details of Professional Experience

INSTITUTION	DESIGNATION	DURATION OF SERVICE	DESCRIPTION
SPICES BOARD OF INDIA	Quality Analyst (Chemist-on contract basis)	16/05/2011 to 31/12/2012	Quality Control & testing samples
Loyola College, Chennai	Assistant Professor (Hourly based)	01/08/2015 to 30/04/2016	UG teaching
ARM College, Chennai	Assistant Professor	01/08/2019 to 31/03/2020	UG teaching
Arul Anandar College (Autonomous), Karumathur	Assistant Professor	01/09/2020 – Till date	UG & PG teaching

Research Profile

Research Area : Physical Chemistry

Specialization : Electrochemistry and Nanomaterials

PROJECT / THESIS	DURATION	TITLE OF THE PROJECT	YEAR OF EXPERIENCE
M.Sc (Chemistry)	Nov 2010 to Apr 2011	Photochemistry of carboxylato complexes of Iron II and Iron III	6 months
Ph.D (Chemistry)	May 2013 to May 2019	Synthesis and characterization of nanostructured CdS, ZnS and ZnO as electrode materials for dye-sensitized solar cell	6 Years
Total			**6 ½ Years**

Details on Research Publications

SL. NO	PUBLICATIONS	INTERNATIONAL	NATIONAL	OTHERS	TOTAL
1	Book Chapter (Springer)	1	-	-	1
2	Journals	6	2	-	8
3	Conference Proceedings	-	1	-	1
	Total	7	3	-	**10**

Details of Paper presented in Conferences/ Workshop/ Seminar

Sl. No	Mode of presentation	International Conferences	National Conferences	Workshops / Seminars	Total
1	Oral Paper Presentation	4	7	-	11
2	Poster Paper Presentation	7	-	1	8
3	Participation	-	3	2	5
	Total	11	10	3	**24**

Scientific Instruments handled in Research Lab

- ✓ HPLC (Waters) – Empower Software and Shimadzu
- ✓ LC-MS/MS (Waters) – Masslynx Software
- ✓ GC-MS (Waters) - Masslynx Software
- ✓ AAS - Empower Software
- ✓ Biologics Science – 3-in one CV, EIS and IV studies.
- ✓ UV and PL Spectrophotometer (Perkin Elmer, Jasco and Shimadzu)
- ✓ FTIR and IR Spectrometer (Perkin Elmer and Shimadzu)
- ✓ Heidolph roto evaporator and microwave digestion system.
- ✓ YOKOGAWA Electrometer (I-V-R Source measure Unit)

Accolades and achievements

- ✓ ***UGC-Junior Research Fellow***- Awarded by UGC, New Delhi.
- ✓ Worked as ***External Research fellow*** in CSIR-CECRI karaikudi in Solar cell fabrication division (EMFT) for eight months.
- ✓ Won the "**Best paper award"** in RAIN-15 held at SIET College, Teynampet, Chennai.
- ✓ Won the "**Best paper award"** in NCRTAC-16 held at Eswari Engineering College, Porur, Chennai.

- ✓ Won the "**Best Poster award"** in **FUNMAT-16** held at CSIR-CECRI, Karaikudi.
- ✓ Participated in Loyola Outreach Programme and won the **"Best School Teaching Team Award"** and Certificate.
- ✓ Member of NSS in Loyola College and won the "**Best service man certificate"**.
- ✓ Member of Youth Red Cross and Green Environment Club.
- ✓ Participated in various Competitions held in other Schools and won prizes and Certificates.

Research Publications

1. **F. Michael Raj**, A. Jeya Rajendran, "Synthesis, structural, optical and dielectric properties of cadmium sulfide nanoparticles as photocathode for a solar cell," In: Ebenezar J. (eds) Recent Trends in Materials Science and Applications. *Springer Proc. Phys.*, vol. 189, pp. 159-170, 2017.

2. **F. Michael Raj**, R. Sathish, A. Jeya Rajendran, "Synthesis, structural, optical and dielectric properties of ZnS nanoparticles for the fabrication of DSSC," *Inter. J. Sci. Res. Mod. Edu.***,** vol. 6, pp. 69-77, 2016**.**

3. **F. Michael Raj**, A. Jeya Rajendran, "Synthesis and characterization of cadmium sulfide nanoparticles for the applications of dye-sensitized solar cell," *Inter. J. Innov. Res. Sci. Eng. Technol.,* vol. 4 (1), pp. 56-60, 2015.

4. **F. Michael Raj**, I. R. Celine Rose, R. Sathish, A. Jeya Rajendran, "Synthesis and dielectric properties of CdO nanoparticles for the fabrication of dye sensitized solar cell," *J. Chem. Pharm. Sci.*, vol. 5, pp. 66-68, 2015.

5. Sandhya Murali, **F. Michael Raj**, S. Vigneswari, A. Jeya Rajendran, "Cadmium sulfide incorporated reduced graphene oxide as counter electrode for DSSC," Inter. J. ChemTech Res., vol. 11, pp 101-110, **2018**.

6. I. R. Celine Rose, **F. Michael Raj**, A. Jeya Rajendran, "Effect of dopants on the performance of ZnSe nanoparticles as photocathode for dye-sensitized solar cell" *J. Nanomater. Mol. Nanotechnol.,* vol. 7, pp. 1-7, **2018.**

7. Sandhya Murali , **F. Michael Raj**, Soven Dhawa, N. Gopal krishnan R. Sathish, A. Jeya Rajendran, "Synthesis and characterization of graphene oxide as photoanode for dye sensitized solar cell" *Inter. J. Sci. Res. Mod. Edu.,* vol. 6, pp. 130-136, **2016**.

8. I. R. Celine Rose, **F. Michael Raj**, R. Sathish, A. Jeya Rajendran, "Structural,

optical, dielectric and photovoltaic application of Mn doped zinc selenide nanoparticles" *J. Chem. Pharm. Sci.*, vol. 1, pp. 43-46, **2015**.

Papers submitted to Journals

1. F. Michael Raj, Subhendu K Panda, A. Jeya Rajendran, "Star-like ZnO nanorods embedded with TiO_2 photoanodes for enhanced photovoltaic conversion in DSSC" Journal of Material Science. Materials in Electronics, Springer. (**Under Review**)

2. F. Michael Raj, Subhendu K Panda, A. Jeya Rajendran, "Time effect of hydrothermally treated MoS_2 nanoflowers and its enhanced performance in application of DSSC" Materials for renewable and sustainable energy, Springer journal (**Under Review**)

Book Chapter

F. Michaelraj and A. Jeya Rajendran contributed a book chapter entitled "**Modified CdS nanoparticles as photocathode for a solar cell**" in the book "**Recent Trends in Materials Science and Applications**" published by Springer, 2017. (ISBN 978-3-319-44889-3)
https://doi.org/ 10.1007/978-3-319-44890-9_16

Paper presented in National / international conferences

1. F. Michael Raj and A. Jeya Rajendran "Synthesis and optical characterization of nanoparticles of ZnS by chemical precipitation method" in Workshop on Advances in Nanotechnology: Fabrication, processing and applications Feb 28th and March 1st 2014. NSNT, School of Physics, Bharathidasan University, Trichy-620 024. (Poster Presentation)

2. F. Michael Raj and A. Jeya Rajendran "Novel approach to synthesize the zinc sulphide nanoparticles by chemical precipitation method" in National Conference on Advanced chemical sciences and engineering (NCACSE-14) March 6th and 7th 2014, Dept of chemistry, SCSVMV university, Enathur, Kancheepuram 631 531. (Oral Presentation)

3. F. Michael Raj and A. Jeya Rajendran "Synthesis, characterization and dielectric properties of cadmium oxide nanoparticles by precipitation method" in International

Conference on Advances in New Materials (ICAN-14) June 20th - 21st 2014 , Dept of inorganic chemistry, University of Madras, guindy campus, Chennai-600025. (Poster Presentation)

4. F. Michael Raj and A. Jeya Rajendran "Chemical precipitation synthesis of TBAB Capped ZnS nanoparticles: structural and optical characterization" International Colloquium on Materials, Manufacturing and Metrology (ICMMM-14) Aug 8th to 9th 2014, Department of mechanical engineering, IIT madras, Chennai - 600 025.(Poster Presentation)

5. F. Michael Raj and A. Jeya Rajendran "Aqueous chemical synthesis of Cadmium sulfide nanoparticles: Structural, morphological and dielectric studies:" National conference on Materials for modern world (NCMMW-14) 10th and 11th September 2014, Department of Physics, Easwari Engineering College, Ramapuram, Chennai - 600 089.(Oral Presentation)

6. F. Michael Raj and A. Jeya Rajendran "Aqueous chemical synthesis of Zinc sulfide nanoparticles :structural, morphological and dielectric properties" National conference on Recent Advances In Nanotechnolgy (RAIN-15) Jan 21st 2015, Department of chemistry, Justice Basheer Ahmed Sayeed College for women, Teynampet. (Oral Presentation- I Prize)

7. F. Michael Raj and A. Jeya Rajendran "Synthesis, structural, optical and dielectric properties of Cadmium sulfide nanoparticles for the applications of dye sensitized solar cell" National conference on Advanced Materials and its Applications (NCAMA-15) Jan 29th & Jan 30th 2015, Dept of physics, Hindustan University, Kelambakkam, Chennai.(Oral Presentation)

8. F. Michael Raj and A. Jeya Rajendran "Synthesis, structural, optical and dielectric properties of Cadmium sulfide nanoparticles for the applications of dye sensitized solar cell" International conference on Energy, Water and Environmental Science & Technology (ICEWEST-15) Feb 5th to 6th 2015, PG and Research Department of Chemistry, Presidency College,Chennai-600 005.(Oral Presentation)

9. F. Michael Raj and A. Jeya Rajendran "Synthesis and characterization of cadmium sulfide nanoparticles for the applications of dye sensitized solar cell" National conference on Recent Advances In Nanotechnolgy (NCAC-15) Feb 18th 2015, Dept of

chemistry, Easwari engineering college, Ramapuram, Porur, Chennai-600 089.(Oral Presentation)

10. F. Michael Raj and A. Jeya Rajendran "Synthesis, structural, optical and dielectric properties of cadmium sulfide quantum dots for the applications of dye sensitized solar cell" National conference on Advanced Materials for energy and environment applications (AMEEA-15) March 18th to 20th 2015, Dept of physics, Bharathiyar University, Coimbatore - 641 046. (Oral Presentation)

11. F. Michael Raj and A. Jeya Rajendran "Synthesis, structural, optical and dielectric properties of cadmium oxide quantum dots for the applications of dye sensitized solar cell" International conference on Save Blue To Save Green held on August 26th 2015, Dept of Chemistry Collaboration with Aqua Design India Pvt. Ltd, Chennai. (Oral Presentation)

12. F. Michael Raj and A. Jeya Rajendran " Synthesis, structural and dielectrical studies of TBAB capped zinc sulfide nanoparticles for the fabrication of DSSC's" National Conference on Recent Trends in Bio-Inorganic and Organometallic Chemistry (NCBOC 2015) held on 15th to 17th October 2015 organized by Department of Chemistry, Sri Sakthi Institute of Engineering and Technology, Coimbatore - 641 062. (Oral Presentation)

13. F. Michael Raj and A. Jeya Rajendran "Synthesis, Structural, Morphological and dielectrical properties of Capped Zinc Sulfide nanoparticles for the fabrication of dye sensitized solar cell" International conference on Recent Trends in Analytical Chemistry (ICORTAC-15) held on 28th to 30th December 2015 Organized by the Department of Analytical Chemistry, University of Madras, Guindy Campus, Chennai -600 025. (Poster Presentation)

14. F. Michael Raj and A. Jeya Rajendran "Synthesis, structural, optical and dielectric properties of cadmium oxide quantum dots for the applications of dye sensitized solar cell" International conference on Recent trends in Materials Science and Applications (ICRTMSA 2016) held on 29th February 2016 organized by the PG and Research Department of Physics, Jamal Mohamed College, Tiruchirappalli- 620 020. (Oral Presentation)

15. F. Michael Raj, Sandhya Murali and A. Jeya Rajendran "Synthesis and Characterization of graphene oxide as photoanode for dye sensitized solar cell" in the

National Conference on Recent trends in Applied Chemistry (NCRTAC 2016) held on 4th May 2016 organized by Department of Chemistry, Easwari Engineering College, Ramapuram, Chennai- 600 089. (Best Paper-Oral Presentation)

16. F. Michael Raj and A. Jeya Rajendran "Synthesis and Characterization of cerium doped CdS nanoparticles for photovoltaic applications" in the First Symposium on Advanced Functional Materials (FUNMAT 2016) held on 26th to 28th May 2016 Organized by Functional Materials Division, CSIR - Central Electrochemical Research Institute, Karaikudi- 630 003. (Best Poster Award)

17. F. Michael Raj and A. Jeya Rajendran "Synthesis and Characterization of cerium doped CdS nanoparticles for photovoltaic applications" in the International Conference on Functional Materials (ICFM 2016) held on 7th to 10th September 2016 Organized by Centre for Scientific and Applied Research, PSN College of engineering and Technology, Tirunelveli- 627152. (Poster Presentation)

18. F. Michael Raj, I.R. Celine Rose and A. Jeya Rajendran "Exploring the effect of Morphology Controlled Cu, Ni and Co doped ZnSe Nanoparticles in Dye sensitized Solar Cell" in the Eleventh International Symposium on Advances in Electrochemical Science and Technology (iSAEST 11) held during 8th to 10th December 2016 at Hotel Kohinoor Asiana, Chennai, Tamilnadu. (Poster Presentation)

19. F. Michael Raj, S. K. Panda and A. Jeya Rajendran, "CdO nanorods embedded with TiO2 photoanode for enhanced photovoltaic conversion in DSSC" International conference on Materials for Energy and Environment (ICMEE 2018) February 22 -23, 2018, LIFE, Loyola College, Nungambakkam, Chennai- 600 034.

Participated in National / international conferences and workshops

20. Participated in the National conference on "Recent advances in photonics" held on 8th and 9th February 2013 organized by Department of Physics, Meenakshi college for women, Kodambakkam, Chennai-600 024.

21. Participated in the workshop on "X-Ray diffraction characterization techniques" held on 4th and 5th August 2013 organized by Crystal growth centre, Anna university, Guindy, Chennai -600 025.

22. Participated the Two day Lecture workshop entitled "Recent trends in Chemistry" on 7th and 8th October 2014, Organized by Department of Chemistry, Stella Maris College, Chennai-600 086.

23. Participated in the Seventh National Symposium cum workshop on "Recent trends in Structural Bioinformatics and computer Aided Drug Design (SBCADD-15)" held on 24th to 27th February 2015 Organized by Alagappa University, Karaikudi-630 003.

24. Participated in the National workshop on "Analytical Instrumentation Techniques" (NWAIT-15) Organized by Science and Humanities Association and Indian Spectrophysics Association (ISPA) during 25th September 2015 St. Peter University, Avadi, Chennai- 600 054.

25. Participated in the international virtual conference on "Advanced Materials for Energy and Environment Applications" (ICAMEEA-20) Organized by Department of Chemistry, School of Science and Humanities and INHA University, South Korea & RSC South India during 3rd to 4th December 2020 Bharat University, Chennai- 600 035.

26. Participated in the international webinar on "Nanostructures for Next Generation devices" Organized by Department of Physics, during 16th March 2021 Loyola College, Chennai- 600 034.

National Workshops Organized

1. Being a member of Organizing Committee for the National level Workshop on Green Chemical Approach in Physical Chemistry Experiments (**MICROCHEM 2018**) held on 9th to 11th August 2018 at Loyola College, Chennai- 600 034.

2. Being a member of Organizing Committee for the Workshop on Green Approach to Chemistry Practical's (**GREENCHEM 2016**) held on 20th to 21st July 2016 at Loyola Institute of Frontier Energy (LIFE), Loyola College, Chennai- 600 034.

Participation in Faculty Development Program

- Participated in Five day (August 3rd to 7th 2020) national level E-FDP on "***Challenges in chemistry and its applications towards energy resources***" organized by Dr. MGR Research Institute, Chennai.
- Participated in Five Day (February 22nd to 26th 2021) international Online faculty development program on Soft Skills for Capacity building organized by St. Josephs Academy of Soft Skills, St. Joseph's College, Trichy-620002.

Positions Held in Arul Anandar College

✓ Assistant Director of College Boys Hostel (2020 – till date)

Projects Guided

- Guided two M.Sc. Chemistry students of Arul Anandar College, Karumathur for their M.Sc. Projects during the year 2020 – 2021.