

Name : Dr. P. Pounraj
 Designation : Assistant Professor
 Department : Chemistry
 Date of Joining : 17-08-2022
 E-Mail : pounraj@americancollege.edu.in
 Mobile No : 9791290115



EDUCATIONAL QUALIFICATIONS

Degree	Subject	College/University	Year
Ph. D	Science	Anna University, Chennai	2021
SET	Chemistry	Tamilnadu Government	2016
M. Phil	Chemistry	V.H.N.S.N College, Virudhunagar	2015
M. Sc	Chemistry	Sri Kaliswari College, Sivakasi	2014
B. Sc	Chemistry	Sri Kaliswari College, Sivakasi	2012

EXPERIENCE (TEACHING & RESEARCH)

Institution	Position	Period	Nature of work
The American College, Madurai	Assistant Professor	17-08-2022 onwards	Teaching
Sri Kaliswari College, Sivakasi	Assistant Professor	01-09-2021 to 17-08-2022	Teaching
SSN College of Engineering, Chennai	Post-Doctoral Fellow	14-08-2021 to 31-08-2021	Research
SSN College of Engineering, Chennai	Senior Research Fellow	15-10-2020 to 13-08-2021	Research
SSN College of Engineering, Chennai	Junior Research Fellow	04-09-2018 to 14-10-2020	Research
SSN College of Engineering, Chennai	DST- Junior Research Fellow	01-12-2017 to 03-09-2018	Research
SSN College of Engineering, Chennai	Research Assistant	05-07-2015 to 30-11-2017	Research

SPECIALISATION IN TEACHING:

- Inorganic Chemistry
- Organic Chemistry

RESEARCH INTEREST:

- Density Functional Theory
- Dye-Sensitized Solar Cells
- Perovskite Solar Cells
- Crystal Growth
- Organic Chemistry

PROJECT RECEIVED:

Project title	Scheme	Funding Agency	Year	Grant
Designing, development and computational studies of disc-shaped Zn-porphyrin donors for organic solar cell applications	Student Project Scheme 2021-2022	TNSCST	2022	7500/-

AWARDS RECEIVED:

Award	Event	Institution	Period
Best Poster	DBT sponsored International Conference on Nutri-omics in Biotechnological Innovation (ICNBI24)	Department of food Science and Nutrition, The American College, Madurai	5 th - 6 th March 2024
Best Scientific Interaction	SSN Doctorate Scholars Day	SSN College of Engineering, Chennai	22 nd – 23 rd January 2020
Best Poster	International Symposium on Modeling of Crystal Growth Processes and Devices (MCGPD-2019)	SSN College of Engineering, Chennai	26 th – 28 th January 2019
Best Poster	3rd International Conference on Recent Trends in Applied Science and Technology (ICRTAST-2019)	SSN College of Engineering, Chennai	19 th - 21 st September 2019

ARTICLES PUBLISHED IN INTERNATIONAL JOURNALS:

1. Devi, R. Niranjana, **P. Pounraj**, S. Birendra Kumar, A. Saral, J. Kileyoba Vinnarasi, C. Vivek, P. Parasuraman, Ahmad Irfan, and S. Muthu. "Electronic, intermolecular, quantum computational investigations, molecular docking and simulation studies of the potent antiviral drug EIDD-2801." *Journal of the Indian Chemical Society* 100, no. 3 (2023): 100953. (IF=0.243)
2. Logeswari, A., N. Prabavathi, MWilliam Carry, Muthu Senthil Pandian, P. Ramasamy, and **P. Pounraj**. "Crystal growth, hirshfeld surfaces and quantum chemical investigations of 3-amino-1, 2, 4-triazolinium (1+) hydrogen l-tartrate single crystal for nonlinear optical applications." *Journal of Materials Science: Materials in Electronics* 34, no. 5 (2023): 359. (IF=2.8)
3. Sidden, Chinnasami, Rajesh Paulraj, **P. Pounraj**, and Manikandan Murugesan. "Investigation of the structural, Hirshfeld surface, Z-scan, and molecular modelling of imidazolium fumarate for third harmonic generation applications." *Journal of Molecular Structure* 1271 (2023): 134047. (IF=3.8)
4. Nicksonsebastin, D., **P. Pounraj**, N. Mani, M. Selvapandiyan, and M. Prasath. "Screening the influence of methoxy and anisyl groups to perylene based sensitizers for dye-sensitized solar cell applications: a computational approach." *Journal of Molecular Modeling* 28, no. 11 (2022): 373. (IF=2.2)
5. Nicksonsebastin, D., **P. Pounraj**, and M. Prasath. "Donor functionalized perylene and different π -spacer based sensitizers for dye-sensitized solar cell applications—a theoretical approach." *Journal of Molecular Modeling* 28, no. 4 (2022): 102. (IF=2.2)
6. Krishnan, R. Anandha, **P. Pounraj**, R. Govindaraj, Muthu Senthil Pandian, and P. Ramasamy. "Investigating the effect of π -configurations and methoxy substitution on donor and π -spacers based dyes for dye-sensitized solar cell applications—computational approach." *Research on Chemical Intermediates* 48, no. 5 (2022): 1877-1906. (IF=3.3)
7. David, D. Nicksonsebastin, **P. Pounraj**, M. Srinivasan, B. Sathya, and M. Prasath. "Exploring the screening of perylene based organic sensitizers with different lengths and functional groups of acceptors via computational spectroscopic analysis." *Chemical Data Collections* 34 (2021): 100729. (IF=0.217)
8. Mohankumar, V., **P. Pounraj**, M. Senthil Pandian, and P. Ramasamy. "Role of π conjugation in n-hexylphenothiazine dyes for solar cell—a density functional theory approach." *Journal of Molecular Modeling* 27, no. 6 (2021): 151. (IF=2.2)
9. **P. Pounraj**, P. Ramasamy, and M. Senthil Pandian. "The influence of π -linkers configuration on properties of 10-hexylphenoxazine donor-based sensitizer for dye-sensitized solar cell application—Theoretical approach." *Journal of Molecular Graphics and Modelling* 102 (2021): 107779. (IF=2.942)
10. Mohankumar, V., **P. Pounraj**, M. Senthil Pandian, and P. Ramasamy. "Tuning the lifetime from molecular engineering of carbazole donor based metal-free organic dyes

- for dye sensitized solar cells—A computational approach." *Journal of Molecular Structure* 1195 (2019): 494-505. (IF=3.8)
11. Mohankumar, V., **P. Pounraj**, M. Senthil Pandian, and P. Ramasamy. "Effect of Flavone and Isoflavone in the Triphenylamine-Based Sensitizers for Dye-Sensitized Solar Cell Applications: DFT and TD-DFT Approach." *Silicon* 11 (2019): 1205-1220. (IF=2.941)
 12. Mohankumar, V., **P. Pounraj**, M. Senthil Pandian, and P. Ramasamy. "Theoretical investigation on flavones and isoflavones-added triphenylamine-based sensitizers for DSSC application." *Brazilian Journal of Physics* 49 (2019): 103-112. (IF=1.364)
 13. Santhosh, N., S. R. Sitaaraman, **P. Pounraj**, R. Govindaraj, M. Senthil Pandian, and P. Ramasamy. "Fabrication of hole-transport-free perovskite solar cells using 5-ammonium valeric acid iodide as additive and carbon as counter electrode." *Materials Letters* 236 (2019): 706-709. (IF=3.574)
 14. **P. Pounraj**, V. Mohankumar, M. Senthil Pandian, and P. Ramasamy. "Donor functionalized quinoline based organic sensitizers for dye sensitized solar cell (DSSC) applications: DFT and TD-DFT investigations." *Journal of Molecular Modeling* 24 (2018): 1-23. (IF=2.2)
 15. Sivasubramani, V., Jesby George, M. Senthil Pandian, P. Ramasamy, **P. Pounraj**, K. K. Maurya, and D. Sajan. "Directional growth, physicochemical and quantum chemical investigations on pyridinium 2-carboxylate: 4-nitrophenol (P2C4N) single crystal for nonlinear optical (NLO) applications." *New Journal of Chemistry* 42, no. 6 (2018): 4261-4277. (IF=3.925)
 16. **P. Pounraj**, V. Mohankumar, M. Senthil Pandian, and P. Ramasamy. "The effect of different π -bridge configuration on bi-anchored triphenylamine and phenyl modified triphenylamine based dyes for dye sensitized solar cell (DSSC) application: A theoretical approach." *Journal of Molecular Graphics and Modelling* 79 (2018): 235-253. (IF=2.942)

CONFERENCE PROCEEDINGS:

1. Angela Elsa Rejoy, K. Vasunthara, **P. Pounraj** and S. Jemima Balaselvi Juliana. "Synthesis and spectral studies of Aniline-Hydroxybenzaldehyde schiff bases" International Conference on Advances in Chemistry-ICAC-2023, Conference Proceedings, 2024, ISBN: 978-93-80368-45-0.
2. S. Sriram and **P. Pounraj** "Exploring the diphenylamine donor substituted quinoline based organic sensitizer for dye sensitized solar cells application" International Conference on Advances in Chemistry-ICAC-2023, Conference Proceedings, 2024, ISBN: 978-93-80368-45-0.
3. **Pounraj, P.**, M. Senthil Pandian, and P. Ramasamy. "Exploring the effect of π -spacers on DD- π -A based triphenylamine dyes for dye sensitized solar cell applications—Computational approach." In *AIP Conference Proceedings*, vol. 2265, no. 1. AIP Publishing, 2020.
4. Muthu, M., **P. Pounraj**, N. Santhosh, M. Senthil Pandian, and P. Ramasamy. "Synthesis and characterization of disc-shaped thiophene based Zn-Porphyrin for

organic solar cells application." In AIP Conference Proceedings, vol. 2265, no. 1. AIP Publishing, 2020.

5. **Pounraj, P.**, V. Mohankumar, M. Senthil Pandian, and P. Ramasamy. "Donor substituted triphenylamine based sensitizers for dye sensitized solar cells (DSSC) application-DFT and TD-DFT approach." In AIP Conference Proceedings, vol. 2115, no. 1. AIP Publishing, 2019.
6. Mohankumar, V., **P. Pounraj**, M. Senthil Pandian, and P. Ramasamy. "Simple N-hexylcarbazole based metal free sensitizer for dye sensitized solar cells (DSSC) application–A quantum chemical approach." In AIP Conference Proceedings, vol. 2115, no. 1. AIP Publishing, 2019.
7. **Pounraj, P.**, V. Mohankumar, M. Senthil Pandian, and P. Ramasamy. "10-(quinolin-6-yl)-10H-phenoxazine donor based organic sensitizers for dye sensitized solar cells (DSSC) application-A theoretical approach." In AIP Conference Proceedings, vol. 1992, no. 1. AIP Publishing, 2018.
8. **Pounraj, P.**, V. Mohankumar, Muthu Senthil Pandian, and P. Ramasamy. "Anthocyanin modified triphenylamine based organic sensitizer for dye sensitized solar cells (DSSC)-A theoretical approach." In AIP Conference Proceedings, vol. 1832, no. 1. AIP Publishing, 2017.

CONFERENCES / WORKSHOP:

Name of the Seminar / Conference / Workshop / FDP	Name of the Institution conducted	From – To (Mention date)	Role
DBT sponsored International Conference on Nutri-omics in Biotechnological Innovation (ICNBI24)	Department of food Science and Nutrition, The American College, Madurai	March 05-06, 2024	Presentation
Recent Trends in Chemistry (RTC-2024)	Department of Chemistry, The American College, Madurai	March 1, 2024	Participation
Workshop on Green chemistry	Department of Chemistry, The American College, Madurai	January 23 & 24, 2024	Participation
International Conference on Advances in Chemistry – ICAC-2023	Department of Chemistry, The American College, Madurai	December 4 & 5, 2023	Organizing member and Presentation
Art and science of methodical scientific writing and publishing in high impact journal	IQAC, The American College	March 6, 2023	Participation
Recent Trends in Chemistry (RTC-2023)	Department of Chemistry, The American College, Madurai	March 3, 2023	Participation

Workshop on skill development in analytical skills	Department of Chemistry, The American College, Madurai	February 2 & 3, 2023	Resource Person
Faculty Orientation Programme	IQAC, The American College	September 20, 2022	Participation
National level virtual Faculty Development program on Recent Advances in Chemical Sciences	Department of Chemistry, Thiagarajar College, Madurai	September 26, 2022	Participation
Exploring New Frontiers in Chemical and Biological Science	St.Mary's College (Autonomous), Thoothukudi	31 st Jan - 5 th Feb 2022	Participation
Tools and Techniques in Characterization of Compounds	CSIR-CECRI and Umayal Ramanathan College for Woman, Karaikudi	January 17-21	Participation
International Webinar on "Raman Spectroscopy and its Applications in Material Science"	Department of Chemistry, Sethu Institute of Technology, Kariapatti	28 th January 2022	Participation
IPMAXIMA 2021	Innovative Technology Enabling Center (InTEC), CSIRInstitute of Minerals and Materials Technology, Bhubaneswar	7 th – 8 th January 2022	Participation
International Conference on Advanced Materials (ICAM-2020)	Arul Anandar College (Autonomous), Karumathur, Madurai	11 th - 12 th February 2020	Presentation
64 th DAE Solid State Physics Symposium (DAE SSPS-2019)	Indian Institute of Technology, Jodhpur, Rajasthan	18 th – 22 nd December 2020	Presentation
3 rd International Conference on Recent Trends in Applied Science and Technology (ICRTAST-2019)	SSN College of Engineering, Chennai	19 th - 21 st September 2019	Presentation
International Symposium on Modeling of Crystal Growth Processes and Devices (MCGPD-2019)	SSN College of Engineering, Chennai	26 th – 28 th January 2019	Presentation
63 rd DAE Solid State Physics Symposium (DAE SSPS-2018)	Guru Jambheshwar University of Science & Technology, Hisar, Haryana	18 th – 22 nd December 2018	Presentation

International Conference on Advanced Nanomaterials for Energy, Environment and Healthcare Applications (ANEH-2018)	Department of Physics, K.S.R College of Arts and Science for Woman, Namakkal	31 st August – 1 st September 2018	Presentation
International Symposium on Crystallography and Advanced Materials (ISCAM-2018)	Department of Crystallography and Biophysics, University of Madras, Chennai	26 th – 27 th March 2018	Presentation
International conference on Renewable Energy Research & Education (RERE-2019)	Government Autonomous College, Rajamahendravaram, Andhra Pradesh	8 th – 10 th February 2018	Presentation
22 nd National Seminar on Crystal Growth and Applications (NSCGA-2018)	Department of Physics, Sacred Heart College (Autonomous), Tirupattur	29 th - 31 st January 2018	Presentation
National seminar on Frontier Areas in Chemical Sciences (FACS-2017)	Department of Chemistry, V.H.N.S.N college (Autonomous), Virudhunagar	22 nd – 23 rd June 2017	Presentation
National seminar on Recent Advances in Chemical Research (RACR-2017)	Department of Chemistry, V.H.N.S.N college (Autonomous), Virudhunagar	24 th – 25 th January 2017	Presentation
61 st DAE Solid State Physics Symposium (DAE SSPS-2018)	KIIT University, Bhubaneswar	26 th – 30 th December 2016	Presentation

CO-CURRICULAR ACTIVITIES:

1. Certificate course in Computer Application in Madurai Kamaraj university
2. Certificate course in Industrial Safety & Management in Madurai Kamaraj university
3. Certificate course in Gandhian Thought in Madurai Kamaraj university
4. Certificate course in Matches & Fire Works in Madurai Kamaraj university

PERSONAL DETAIL:

- Father's name : M. Parvonraja
- Mother's name : P. Chellathai
- Father's occupation : Farmer
- Religion : Christian (CSI)
- Blood group : A "+ve"
- Date of Birth : 06-07-1992
- Marital Status : Married