

CURRICULAM VITAE

Dr. P. SENTHIL KUMAR M.Sc., M.Phil., Ph.D.,
S/O Mr. K. PUVANESWARAN,
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EDUCATIONAL QUALIFICATIONS

Course	Name of the Institution	Board/University	Year of Passing	Marks
Ph.D (Chemistry)	VHNSN College	Madurai Kamaraj University	May 2017	Highly commended
M. Phil (Chemistry)	VHNSN College	Madurai Kamaraj University	2012	74 %
M. Sc (Chemistry)	VHNSN College	Madurai Kamaraj University	2011	7 (CGPA)
B. SC (Chemistry)	VHNSN College	Madurai Kamaraj University	2008	66 %
HSC	KVS Higher Secondary School	State Board	2005	75 %
SSLC	KVS Higher Secondary School	State Board	2003	80 %

EXPERIENCE

- ✓ Working as an **Assistant Professor (SF)** in the Department of Microbiology, VHNSN College (Autonomous), Virudhunagar from 01.03.2022 to till date.
- ✓ Working as an **Assistant Professor (SF)** in the Department of Environmental Science, VHNSN College (Autonomous), Virudhunagar from 01.03.2021 to 28.02.2022.
- ✓ Worked as an **Assistant Professor (SF)** in the PG & Research Department of Chemistry, Thiagarajar College, Madurai from 05.08.2019 to 28.02.2021.
- ✓ **DST-SERB funded National Post Doctoral Fellow in Vellore Institute of Technology, Vellore** from 22/02/2017 to 22/02/2019 (2 years)

AWARDS & HONOURS

- ❖ **DST-SERB National Post Doctoral Fellowship (PDF/2016003963) – 2017**

- ❖ Received *Dr. APJ ABDUL KALAM Award for Young Scientist* - 2017 from Marina Labs, Chennai.

RESEARCH PUBLICATIONS

- ❖ Papers published in international journals : 29
- ❖ Papers published in national journals : -
- ❖ Papers presented in international /national conferences : 6
- ❖ Book Chapter : 1

RESEARCH EXPERIENCES

- **National Postdoctoral Fellow** : Currently working as a National Postdoctoral Fellow (DST-SERB NPDF) in the Department of Chemistry, School of Advanced Sciences, VIT University, Vellore – 632014. (**Mentor: Prof. S. Mohana Roopan**)
 - ✓ Title of the work : Porous materials supported semiconductor nanocomposites for selective organic transformation of alcohols – 22.02.2017 to till date (**PDF/2016003963**)
- **Ph.D** : Studies on supported semiconductor nanocomposites for photocatalytic applications. (**Research Supervisor: Prof. S. Karuthapandian**)
- **M.Phil**: Sol-gel Synthesis, characterization and photo chemical application of SrO/Cu₂O Nano composites.
- **M.Sc** : The photocatalytic disinfection of *E. coli* using WO₃ under UV light illumination.

PROJECTS GUIDED

- M.Sc Projects: 3 (Completed)

RESEARCH INTERESTS

I am very much interested in the field related to Nanotechnology and application in Photo Catalysis. In particular, I am fascinated on

- Photooxidation of Organic compounds
- Hybrid nano materials synthesis
- Green approach to synthesize organic compounds
- Mechanism study for a photochemical process.

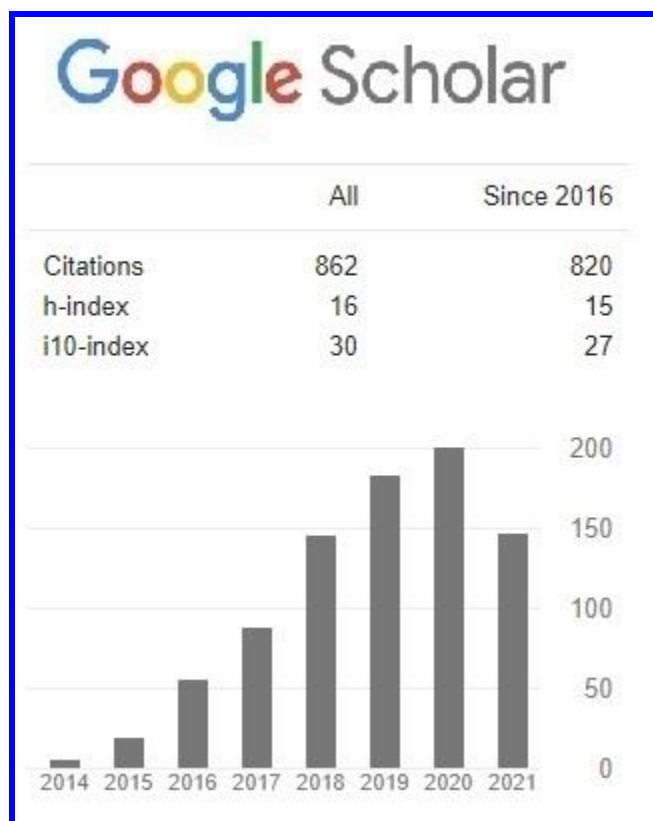
ANALYTICAL TECHNIQUES

Hands on experience in

- ✓ Structural elucidation using UV, IR, SEM and AFM
- ✓ Cyclic voltammetry

- ✓ Photoreactor
- ✓ UV & IR

Citation Index (Courtesy: Google Scholar)



List of Papers Published: (*h index – 16; CIF–95.52; Avg. IF: 3.29*)

1. **P. Senthil Kumar**, M. Selvakumar, Purabi Bhagabati, B.Bharathi, S. Karuthapandian, S.Balakumar, CdO/ZnO nanohybrids: Facile synthesis and morphologically enhanced photocatalytic performance, *RSC Advances*, 2014, 4, 32977-32986. **(IF – 3.36) ISSN: 2046-2069**
2. **P. Senthil Kumar**, S.Karuthapandian, S.Balakumar, S.Thanikaikarasan, Peggy Alvarez, D. Eapen, Preparation and Characterization of SrO/Cu₂O for Photocatalytic Oxidation of Diphenylamine under UV Light, *Journal of New Materials for Electrochemical Systems*, 2014, 14, 191-195. **(IF – 0.72) ISSN: 2292-1168**
3. **P. Senthil Kumar**, M. Selvakumar, S. Ganesh Babu, Saravana Kumar Jaganathan, S. Karuthapandian, Santanu Chattopadhyay, CuO/Chitosan nanocomposite thin film: Facile hand picking recoverable, efficient and reusable heterogeneous photocatalyst, *RSC Advances* 2015, 5, 57493–57501. **(IF – 3.36) ISSN: 2046-2069**
4. **P. Senthil Kumar**, M. Selvakumar, S. Ganesh Babu, S. Karuthapandian, Santanu Chattopadhyay, CdO nanospheres: Facile synthesis and bandgap modification for the

- superior photocatalytic activity, *Materials Letters*, 2015, 151, 45–48. (IF – 3.42) ISSN: 0167-577X
5. P. Senthil Kumar, S. Karuthapandian, M. Umadevi, A. Elangovan, V. Muthuraj, Light induced synthesis and synergistic effects of Sr/CdSe nanocomposite on the photodegradation of methylene blue dye solution *Materials Focus* 2016, 5, 128–136. (IF – ---) ISSN: 2169-4303
 6. P. Senthil Kumar, S. Sobiya, M. Selvakumar, S. Ganesh Babu, S. Karuthapandian, Hierarchically structured CuO/g-C₃N₄ heterogeneous semiconductor photocatalyst with improved photocatalytic activity and stability, *Energy and Environment Focus*, 2016, 5, 139–149. (IF – ---) ISSN: 2326-3059
 7. K. Saravanakumar, P. Senthil Kumar, J. Vinoth Kumar, S. Karuthapandian, Robert Philip, V. Muthuraj, Controlled Synthesis of Plate Like Structured MoO₃ and Visible Light Induced Degradation of Rhodamine B Dye Solution, *Energy and Environment Focus* 2016, 5, 50–57. (IF – ---) ISSN: 2326-3059
 8. J. Sherin, P. Senthil Kumar, A. Tamilselvan, S. Karuthapandian, P. Mehalingam, The Lavish Yield Synthesis of Sphere Like Structured Silver Nanoparticles by *Peperomia dindygulensis* Miq Leaf Extract: Antimicrobial and Photocatalytic Application, *Energy and Environment Focus* 2016, 5, 77 – 82. (IF – ---) ISSN: 2326-3059
 9. P. Senthil Kumar, M. Selvakumar, S. Ganesh Babu, S. Karuthapandian, Veteran cupric oxide with new morphology and modified bandgap for superior photocatalytic activity against different kinds of organic contaminants (acidic, azo and triphenylmethane dyes) *Materials Research Bulletin* 2016, 83, 522–533. (IF – 4.64) ISSN: 0025-5408
 10. K. Prakash, P. Senthil Kumar, S. Pandiaraj, K. Saravanakumar, S. Karuthapandian, Controllable synthesis of SnO₂ photocatalyst with superior photocatalytic activity for the degradation of methylene blue dye solution, *Journal of Experimental Nanoscience*, 2016, 11, 1138-1155. (IF – 3.07) ISSN: 1745-8099
 11. R. Vahini, P. Senthil Kumar, S. Karuthapandian, Bandgap-tailored NiO nanospheres: an efficient photocatalyst for the degradation of crystal violet dye solution, *Applied Physics A* 2016, 122, 744 (1–8) (IF – 2.58) ISSN: 1432-0630
 12. P. Latha, R. Dhanabackialakshmi, P. Senthil Kumar, S. Karuthapandian, Synergistic effects of trouble free and 100 % recoverable CeO₂/Nylon nanocomposite thin film for the photocatalytic degradation of organic contaminants, *Separation and Purification Technology* 2016, 168, 124 – 133 (IF – 7.31) ISSN: 1383-5866
 13. J. Vinoth Kumar, K. Saravanakumar, P. Senthil Kumar, and V. Muthuraj, Visible Light

Photocatalytic Activity of Rhombus Like α -Fe₂O₃ for Degradation of Organic Contaminants *Energy and Environment Focus* 2016, 5, 222 – 228. (IF – ---) ISSN: **2326-3059**

14. **P. Senthil Kumar**, S. Lakshmi Prabavathi, P. Indurani, S. Karuthapandian, V. Muthuraj, Light assisted synthesis of hierarchically structured Cu/CdS nanorods with superior photocatalytic activity, stability and photocatalytic mechanism, *Separation and Purification Technology*, 2017, 172, 192–201. (IF – 7.31) ISSN: **1383-5866**
15. **P. Senthil Kumar**, M. Selvakumar, S. Ganesh Babu, S. Induja, S. Karuthapandian, CuO/ZnO nanorods: An affordable efficient p-n heterojunction and morphology dependent photocatalytic activity against organic contaminants, *Journal of Alloys and Compounds*, 701 (2017) 562–573 (IF – 5.31) ISSN: **0925-8388**
16. M. Selvakumar, **P. Senthil Kumar**, B. Das, S. Dhara, S. Chattopadhyay, Structurally Tuned Antimicrobial Mesoporous Hydroxyapatite Nanorods by Cyclic Oligosaccharides Regulation To Release a Drug for Osteomyelitis, *Crystal Growth & Design* 17 (2017) 433-445 (IF – 4.07) ISSN: **1528-7483**
17. K. Prakash, **P. Senthil Kumar**, P. Latha, K. Stalin Durai, S. Karuthapandian, Dry synthesis of water lily flower like SrO₂/g-C₃N₄ nanohybrids for the visible light induced superior photocatalytic activity, *Materials Research Bulletin*, 2017, 93, 112–122 (IF – 4.64) ISSN: **0025-5408**
18. R. Karthik, J. Vinoth Kumar, Shen-Ming Chen, **P. Senthil Kumar**, V. Selvam, V. Muthuraj, A selective electrochemical sensor for caffeic acid and photocatalyst for metronidazole drug pollutant - A dual role by rod-like SrV₂O₆, *Scientific Reports*, 2017, 7, 7254 (IF – 4.37) ISSN: **2045-2322**
19. R. Vahini, **P. Senthil Kumar**, S. Karuthapandian, Unique and hierarchically structured novel Co₃O₄/NiO nanosponges with superior photocatalytic activity against organic contaminants, *Frontiers of Materials Science*, 2017, 11(4), 375-384 (IF – 2.76) ISSN: **2095-0268**
20. M. Thirupathi, **P. Senthil Kumar**, P. Devendran, C. Ramalingan, M. Swaminathan, E.R. Nagarajan, Ce @ TiO₂ nanocomposites: An efficient, stable and affordable photocatalyst for the photodegradation of Diclofenac sodium, *Journal of Alloys and Compounds*, 2018, 735, 728-734 (IF – 5.31) ISSN: **0925-8388**
21. V. Selvam, **P. Senthil Kumar**, G. Navaneetha Krishnan, G. T. Senthil Andavan, Photocatalytic degradation of organic contaminants by g-C₃N₄/EPDM nanocomposite

- film: viable, efficient and facile recoverable, *Materials Science and Engineering C* 84, 2018, 188-194 (IF – 7.32) ISSN: 0928-4931
22. K. Prakash, P. Senthil Kumar, P. Latha, K. Saravanakumar, S. Karuthapandian, Design and Fabrication of a Novel Metal-Free SiO₂/g-C₃N₄ Nanocomposite: A Robust Photocatalyst for the Degradation of Organic Contaminants, *Journal of Inorganic and Organometallic Polymers and Materials*, 2018, 28, 268 – 278 (IF – 3.54) ISSN: 1574-1451
23. S. Lakshmi Prabavathi, P. Senthil Kumar, K. Saravanakumar, V. Muthuraj, S. Karuthapandian, A novel sulphur decorated 1-D MoO₃ nanorods: Facile synthesis and high performance for photocatalytic reduction of hexavalent chromium, *Journal of Photochemistry and Photobiology A: Chemistry* 356 (2018) 642–651 (IF – 4.29) ISSN: 1010-6030
24. K. Prakash, P. Senthil Kumar, S. Pandiaraj, S. Karuthapandian, Versatile, metal free and temperature-controlled g-C₃N₄ as a highly efficient and robust photocatalyst for the degradation of organic pollutants, *Research on Chemical Intermediates* 45 (2019) 1147 - 1167 (IF – 2.91) ISSN: 1568-5675
25. K. Prakash, J. Vinoth Kumar, P. Latha, **P. Senthil Kumar**, S. Karuthapandian, Fruitful fabrication of CDs on GO/g-C₃N₄ sheets layers: A carbon amalgamation for the remediation of carcinogenic pollutants, *Journal of Photochemistry & Photobiology A: Chemistry* 370 (2019) 94–104. (IF – 4.29) ISSN: 1010-6030
26. S. Dhanalakshmi, **P. Senthil Kumar**, S. Karuthapandian, V. Muthuraj, N. Prithivikumaran, Design of Gd₂O₃ nanorods: A Challenging photocatalyst for the degradation of neurotoxicity Chloramphenicol drug, *Journal of Materials Science: Materials in Electronics*, 30 (2019) 3744 – 3752 (IF – 2.47) ISSN: 1573-482X
27. Mohamed I. Fadlalla, **P. Senthil Kumar**, V. Selvam, S. Ganesh Babu, Emerging energy and environmental application of graphene and their composites: a review, *Journal of Materials Science*, 55, 7156–7183 (2020). (IF – 4.22) ISSN: 1573-4803
28. T. Kamatchi, S. Samuel, **P. Senthil Kumar**, Sundaram Ganesh Babu, C₃N₄ supported on chitosan for simple and easy recovery of visible light active efficient photocatalysts, *Bulletin of Material Science*, 43, 137, 2020. (IF – 1.78) ISSN : 0973-7669

29. M. Gayathri, **P. Senthil Kumar**, M. Santhameenakshi, S. Karuthapandian, Metal-free and stable dye-sensitized polymer matrix for the detoxification of antibiotic drug levofloxacin under visible light illumination, *Separation Science and Technology*, 56:8 (2020) 1466 – 1474 (IF – 2.47) ISSN: 1520-5754

Book Chapters

1. Mohamed I. Fadlalla, **P. Senthil Kumar**, V. Selvam, S. Ganesh Babu, **Recent Advances in Nanomaterials for Wastewater Treatment**, Environmental Chemistry for a Sustainable World: Advanced Nanostructured Materials for Environmental Remediation, Vol:25, Springer, ISBN: 978-3-030-04476-3

List of Papers presented in various seminars/conferences

1. **P. Senthil Kumar**, S. Mohana Roopan, Effective Photocatalytic decolorization of Congo red using Chitosan/ZrO₂ films under UV irradiation, International Conference on Recent Trends in Material Science and Technology” held at Sri Vijay Vidyalaya College, Dharmapuri, Tamilnadu January 19 & 20 2018.
2. **P. Senthil Kumar**, S. Mohana Roopan, Facile synthesis of CuS nanoparticles for the superior photocatalytic degradation of diclofenac sodium drug International Conference on Recent Trends in Synthetic Methods and Material Chemistry - 2nd & 3rd February – 2018 held at Annamalai University, Chidambaram, Tamilnadu.
3. **P. Senthil Kumar**, M. Selvakumar, S. Karuthapandian, “Polymer Supported ZnO for the enhanced photocatalytic activity and 100% facile recoverability”, International Conference on Nanomaterials for Energy, Environment, Catalysis and Sensors (ICNEECS-2015), held at Department of Physical Chemistry, School of Chemistry, Madurai Kamaraj University, Madurai, Tamilnadu. 2015 December 11-12.
4. **P. Senthil Kumar**, M. Selvakumar, S.Karuthapandian, “Optical and photocatalytic properties of ZnO nanocrystals”, National Seminar on Recent Advances on Luminescent Materials (RALM 2015), held at Annamalai University, Chidambaram, Tamilnadu. 2015 Jan 23-24.
5. **P. Senthil Kumar**, S. Sobiya, M. Selvakumar, S. Karuthapandian, “Hierarchically structured g-C₃N₄ heterogeneous semiconductor photocatalyst with improved photocatalytic activity and stability”, UGC sponsored National Seminar on Nanomaterials: synthesis, Characterisation and applications, held at G.Venkataswamy Naidu College, Kovilpatti, Tamilnadu. 2015 August 6-7.

6. **P. Senthil Kumar**, K. Prakash, S. Karuthapandian, “Tailored bandgap CdO nanobeads for the Superior photocatalytic activity” National Seminar on Nanostructured Materials held at NSS Hindu College, Changanacherry, Kerala 2014 Aug 12 & 13.
7. **P. Senthil Kumar** Advanced Research and Instrumental Methods in Electrochemistry for Energy Fields, organized by Idaya College for Women, Sarugani & Ananda College, Devakottai, on 12.06.2021
8. **P. Senthil Kumar**, FDP on “Recent Developments in Materials Science – 2021” organized by Sree Saraswathi Thyagaraja College, Pollachi, on 16.06.2021 – 22.06.2021.
9. **P. Senthil Kumar**, “Synthesis and Catalytic Applications of Supported Metal Nanoparticles” organized by Sadakathullah Appa College (Autonomous), Tirunelveli on 15.07.2021.
10. **P. Senthil Kumar**, Short Term Training Program on “Enriching Pragmatic Pedagogy for the Emerging Teachers” Lords Institute of Engineering and Technology, Hyderabad on 21.06.2021 – 06.07.2021

PERSONAL DATA

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Languages known : Tamil and English
Sex : Male
Marital Status : Unmarried
Ethnicity : Indian
Community : Hindu
Category : BC
Caste : Nadar

REFERENCES

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DECLARATION

I hereby declare that the above details furnished by me are true to the best of my knowledge and belief.

Date:

yours sincerely,

Place: Virudhunagar

P. SENTHIL KUMAR