P. Ananthappan

Assistant Professor
Department of Chemistry
Velammal College of Engineering and Technology
Madurai – 625 009, Tamil Nadu, India. E. Mail: ana@vcet.ac.in
+91-9585792704 | ananthappan3@gmail.com ; ananthappan13@gmail.com
Google Scholar: https://scholar.google.co.in/citations?user=7Z21C6MAAAAJ&hl=en
ResearchGate: https://www.researchgate.net/profile/Periyasamy-Ananthappan
ORCID: https://orcid.org/0000-0002-6906-0082

Degree	Specialization	Institute/University	Year	Result
Ph.D.	Chemistry (Electrochemistry)	Madurai Kamaraj University	2018–2025	Thesis Submitted
M.Sc.	Chemistry	VHNSN College, Virudhunagar	2014	71.80%
B.Ed.	Physical Science	VOC College of Education, Tuticorin	2012	74.50%
B.Sc.	Chemistry	S.B.K. College, Aruppukottai	2011	76.41%
HSC	Science	TUNSV Hr. Sec. School, Thiruchuli	2008	74.75%
SSLC	General	Govt. High School, Iluppaiyur	2005	83.60%

Employment History

Institution	Designation	Period	Nature of Work
DRDE, Gwalior – MKU	Project Assistant	2017–2019	Sensor synthesis, fabrication, reporting
Directorate of Distance Education, MKU	Tutor in Chemistry	2023–2025	Teaching for UG Chemistry
ACS Division of Analytical Chemistry	Membership Committee Member	2022–2023	Member to organize the Committee Meeting (virtual)

Awards and Honors

• 2020 – Best Oral Presentation, National Conference, Saiva Bhanu Kshatriya College, Aruppukottai.

Periyasmay Ananthappan, S.Sivaranjani &V.S.Vasantha*, Enhancing Electrochromic Property of Polyaniline/SDS Composites through Dedoping by Phosphate Ions, National conference on "Current Innovations of Chemistry to Solve Social and Industrial Problems", Department of Chemistry, Saiva Bhanu Kshatriya College, Aruppukottai626101, Feb, 21-2020.

• 2022 – Best Oral Presentation, Kamaraj College, Thoothukudi.

Periyasmay Ananthappan, Natarajan Manivannan, Vairathevar Sivasamy Vasantha*, Simultaneous Electrochemical Detection of Nitrite and Sulphide Ions using Pedot/B-Cd Modified GCE One Day National Seminar on Role of Catalyst in Chemistry, Department of Chemistry & Research Centre, Kamaraj College Thoothukudi - 628003 Tamilnadu, April 22, 2022.

Research Interests

• Sustainable material synthesis for electrochemical sensors

• Electrochemical sensing of toxins and biomolecules

•Chemical & Electrochemical synthesis of nanomaterials (Graphene, MOFs, Metal NPs, Polymers)

Research Publications (11)

1.	Chinnamayan, S.; **Ananthappan, P.;** Palanichamy, K.; Sivasamy, V. V. Phytomass-Derived Activated Carbon-Modified Electrode from Alocasia Odora and Its Prospects as Pb2+ Ion Sensor: An Electrochemical in Sight. Ionics (Kiel) 2025. https://doi.org/10.1007/s11581-025-06636-z.
2.	Kaniraja, G.; Karthikeyan, M.; Kumar, M. D.; **Ananthappan, P.;** Anil, A.; Vasantha, V. S.; Kumar, K. A.; Karunakaran, C. Molecularly Imprinted (3, 4-Ethylenedioxythiophene) Polymer Based Electrochemical Non-Enzymatic Glucose Sensor. *Org. Electron.* **2025**, *138* (107181), 107181. https://doi.org/10.1016/j.orgel.2024.107181.
3.	**Ananthappan, P.;** Thangarasu, M.; Sivasamy Vasantha, V. Effect of Electrophoretic Deposition for Selective Detection of Pb2+ Ions Using Nitrogen and Sulphur-Doped Reduced Graphene Oxide. *Microchem. J.* **2024**, *203* (110879), 110879. https://doi.org/10.1016/j.microc.2024.110879.
4.	Senthilkumar, M.; Ramachandran, S. K.; Servarayan, K. L.; **Ananthappan, P.;** Sivasamy, V. V.; Sundaram, E. Isolation of Chitosan and Hydroxyapatite from

	Waste Edible White Garden Snail Shells and Their Sensing Applications towards Industrial Congo Red Dye Detection: Greener Approach. *Int. J. Biol. Macromol.* **2024**, *275* (Pt 1), 133483. https://doi.org/10.1016/j.ijbiomac.2024.133483.
5.	Murugesan, K.; Kumar, M. D.; Kaniraja, G.; **Ananthappan, P.;** Vasantha, V. S.; Karunakaran, C. Theoretical Screening and Electrochemical Sensor for Determination of Norepinephrine Using a Molecularly Imprinted Poly (3-Amiophenylboronic Acid). *Anal. Biochem.* **2025**, *696* (115676), 115676. https://doi.org/10.1016/j.ab.2024.115676.
6.	Kaniraja, G.; Karthikeyan, M.; Dhinesh Kumar, M.; **Ananthappan, P.;** Arunsunai Kumar, K.; Shanmugaiah, V.; Sivasamy Vasantha, V.; Karunakaran, C. Cytochrome c Electrochemical Detection Utilizing Molecularly Imprinted Poly(3, 4-Ethylenedioxythiophene) on a Disposable Screen Printed Carbon Electrode. *Anal. Biochem.* **2024**, *692* (115557), 115557. https://doi.org/10.1016/j.ab.2024.115557.
7.	Karthik, P.; Jose, P. A.; Chellakannu, A.; Gurusamy, S.; **Ananthappan, P.;** Karuppathevan, R.; Vasantha, V. S.; Rajesh, J.; Ravichandran, S.; Sankarganesh, M. Green Synthesis of MnO2 Nanoparticles from Psidium Guajava Leaf Extract: Morphological Characterization, Photocatalytic and DNA/BSA Interaction Studies. *Int. J. Biol. Macromol.* **2024**, *258* (Pt 2), 128869. https://doi.org/10.1016/j.ijbiomac.2023.128869.
8.	Dhinesh Kumar, M.; Karthikeyan, M.; Kaniraja, G.; **Ananthappan, P.;** Vasantha, V. S.; Karunakaran, C. Screening and Comparative Studies of Conducting Polymers for Developing Effective Molecular Imprinted Sensors for Copper, Zinc Superoxide Dismutase. *Sens. Actuators B Chem.* **2023**, *391* (134007), 134007. https://doi.org/10.1016/j.snb.2023.134007.
9.	Karthikeyan, M.; Dhinesh Kumar, M.; Kaniraja, G.; **Ananthappan, P.;** Sivasamy Vasantha, V.; Karunakaran, C. Gold Nanoparticles Enhanced Molecularly Imprinted Poly(3-Aminophenylboronic Acid) Sensor for Myo-Inositol Detection. *Microchem. J.* **2023**, *189* (108536), 108536. https://doi.org/10.1016/j.microc.2023.108536.
10.	Shenbagavalli, K.; Yadav, S. K.; **Ananthappan, P.;** Sundaram, E.; Ponmariappan, S.; Vasantha, V. S. A Simple and Fast Protocol for the Synthesis of 2-Amino-4-(4-Formylphenyl)-4*H*-Chromene-3-Carbonitrile to Develop an Optical Immunoassay for the Quantification of Botulinum Neurotoxin Type F. *New J Chem* **2020**, *44* (46), 20083–20091. https://doi.org/10.1039/d0nj04103c.
11.	Vijay, M.; Kumar, S. V.; Satheesh, V.; **Ananthappan, P.;** Srivastava, H. K.; Ellairaja, S.; Vasantha, V. S.; Punniyamurthy, T. Stereospecific Assembly of Fused Imidazolidines via Tandem Ring Opening/Oxidative Amination of Aziridines with Cyclic Secondary Amines Using Photoredox Catalysis. *Org. Lett.* **2019**, *21* (18), 7649–7654. https://doi.org/10.1021/acs.orglett.9b02957.

Patents (3 Filed)

1. A synthesis method of bacterial nanowire-based biosensor for detection of seafood spoilage bacteria (Filed 01.01.2024; Published 16.02.2024)

2. Synthesis of stable imine-based Cu-MOF-CAMD for improved electrocatalytic properties (Filed 10.05.2024; Published 17.05.2024)

3. A porous and stable imine-functionalized 3D zirconium oxycluster MOF (Filed 21.06.2024; Published 05.07.2024)

Book Chapters (5)

1. Girija, S.; Wilson, J.; **Ananthappan, P.;** Vasantha, V. S. Quantum Dots for the Treatment of Neurodegenerative Disorders. In Quantum Dot Nanocarriers for Drug Delivery; Elsevier, 2025; pp 283–312. https://doi.org/10.1016/B978-0-443-24064-5.00001-9
2. Nagendraraj, T.; Annaraj, J.; **Ananthappan, P.;** Vasantha, V. S. Recent Advances in Quantum Dot-Mediated Delivery for Antidiabetic Drugs. In Quantum Dot Nanocarriers for Drug Delivery; Elsevier, 2025; pp 263–282. https://doi.org/10.1016/B978-0-443-24064-5.00002-0
3. **Ananthappan, P.;** Ramki, K.; Mariakuttikan, J.; Hashim, F. B.; Vasantha, V. S. Soft Materials for Implantable Biosensors for Humans. Soft Materials-Based Biosensing Medical Applications. Wiley May 6, 2025, pp 369–421. https://doi.org/10.1002/9781394214143.ch13
4. **Ananthappan, P.;** Kamaraj, S.; Vasantha, V. S. Application of Energy Storage Materials in Photovoltaic Solar Cells. In ACS Symposium Series; American Chemical Society: Washington, DC, 2024; pp 249–279. https://doi.org/10.1021/bk-2024-1488.ch011
5. **Ananthappan, P.;** Selvam, S.; Chellakannu, A.; Sivasamy, V. V.; Mariakuttikan, J. Electrochemical Sensors for the Detection of Food Adulterants in Miniaturized Settings. In Nanosensing and Bioanalytical Technologies in Food Quality Control; Springer Singapore: Singapore, 2022; pp 139–168. https://doi.org/10.1007/978-981-16-7029-9_7 .

Seminar/Conference Paper Presented: 12.

Sl. No.	Name of Author	Title of work and name of the conference	Place and Date	National / International
1.	C. Sudharsana, **Periyasamy Ananthappan,** P. Kalyani*, V. S. Vasantha	A novel phytomass-derived activated carbon – HAC/GCE modified electrode and its prospects as heavy metal sensor" in the Third International Conference on Recent Trends in Analytical Chemistry, ICORTAC-2023.	Dept. of Analytical Chemistry, University of Madras, Chennai – 600 025. Tamil Nadu, India. June, 26-28, 2023.	International

2.	C. Sudharsana, **Periyasamy Ananthappan,** T.R.Banuprabha, P. Kalyani*, V. S. Vasantha	Novel phytomass derived activated carbon and Cu modified (AC-Cu) electrode as glucose sensor" in the three-day International Workshop / Summer School & Course preparation on "Solar Water splitting and Artificial Photosynthesis" (SWAP - 2023	School of Chemistry, Madurai Kamaraj University (MKU) India. June, 05 -072023	International
3.	C. Sudharsana, **Periyasamy Ananthappan,** T.R. Banuprabha, P. Kalyani, *, V. S. Vasantha	A novel phytomass-derived activated carbon - HAC/Ni-modified electrode and its prospects as glucose sensor" International Conference on Expanding Frontiers in Chemistry (EFC 23).	Organized by PG Department of Chemistry, Arul Anandar College (Autonomous), Karumathur – 625 514, Tamil Nadu, India. February 15 &16, 2023	International
4.	Ramki K, **Periyasamy Ananthappan** Keerthana C, Mohammad Yaasar M, Jayalakshmi M, Vasantha V. S*.	Synthesis of Copper Metal Organic Framework Using Novel Imine Based Organic Linker. International Conference on Consortium of Universal Research Erudition (iCURE),	Madurai Kamaraj University, Madurai. Feb 3-6, 2023.	International
5.	**Periyasamy Ananthappan,** Natarajan Manivannan, Vairathevar Sivasamy Vasantha*	Simultaneous Electrochemical Detection of Nitrite and Sulphide Ions using Pedot/B-Cd Modified GCE One Day National Seminar on Role of Catalyst in Chemistry, Department of Chemistry & Research Centre	Kamaraj College Thoothukudi - 628003 Tamilnadu, April 22, 2022.	National
6.	**Periyasamy Ananthappan,** Vairathevar Sivasamy Vasantha*	Functionlized Reduced Graphene Oxide Based Electrochemical Sensor for the Detection of Lead (Pb^{2+}) Ions.Three-Day International E-Conference On "Functionlized Reduced Graphene Oxide Based Electrochemical Sensor for the Detection of Lead (Pb^{2+}) Ions.	School of Chemistry, Madurai Kamaraj University, Madurai, Tamil Nadu, India. January 20 -22, 2022	International
7.	**Periyasamy Ananthappan,** Thirunavukkarasu Thennarasu, V. S. Vasantha*	Synthesis of NiO/N-rGO and it application for the development of enzyme-free Glucose sensor, Recent Advances in Interdisciplinary Areas of Chemical Sciences-RAIACS-21.	V.V. VANNIYAPERUMAL College for women, Virudhunagar, 24 th, July 2021	National
8.	**Periyasamy Ananthappan,** S. Sivaranjani , V. S. Vasantha*	Enhancing Electrochromic Property of Polyaniline/SDS Composites through Dedoping by Phosphate Ions, National conference on	Department of Chemistry, Saiva Bhanu Kshatriya College, Aruppukottai-626101, Feb, 21- 2020.	National

		"Current Innovations of Chemistry to Solve Social and Industrial Problems",		
9.	**Periyasamy Ananthappan,** M. Prasanna, V. S. Vasantha*	Enhancing the Electrochemical Deposition p-NPA in Ethanol/Water Solvent Mixture, National conference on "Current Innovations of Chemistry to Solve Social and Industrial Problems", Department of Chemistry	Department of Chemistry, Saiva Bhanu Kshatriya College, Aruppukottai-626101, Feb, 21- 2020.	National
10.	M. Karthikeyan, M. Dhinesh Kumar, G. Kaniraja, **Periyasamy Ananthappan,** V. S. Vasantha, C. Karunakaran*	Sensitive and Selective Determination of Norepinephrine by Electrochemical Sensor Using Molecularly Imprinted Poly(3-Amiophenylboronic Acid. Indo- Malaysian Two-Day International E-Conference on "Recent Trends in Natural Products Research and their Applications"(RTNPRA-21)	School of Chemistry, Madurai Kamaraj University, Madurai, Tamil Nadu, India & BioSES Research Interest Group, Faculty of Science and Marine Environment, Universiti Malaysia Terengganu, Malaysia, Sep, 16-17, 2021.	International
11.	G. Kaniraja, M. Karthikeyan, M. Dhinesh Kumar, **Periyasamy Ananthappan**, K. Arunsunaikumar, V. S. Vasantha, C. Karunakaran *	Cytochrome c electrochemical detection using a molecularly imprinted poly(3, 4-ethylenedioxythiophene) prepared on a disposable dual screen-printed electrode, Indo- Malaysian Two-Day International E-Conference on "Recent Trends in Natural Products Research and their Applications" (RTNPRA-21)	School of Chemistry, Madurai Kamaraj University, Madurai, Tamil Nadu, India & BioSES Research Interest Group, Faculty of Science and Marine Environment, Universiti Malaysia Terengganu, Malaysia, Sep, 16-17, 2021.	International
12.	**Periyasamy Ananthappan** S. Sangeetha A. Sheik Mydeen, V. S. Vasantha*	Doping of Nitrogen and Sulphur in Reduced Graphene Oxide using o-amino thiophenol for Simultaneous Electrochemical Detection of Pb, Cd, and Zn, International Conference on RECENT TRENDS in CHEMISTRY AND BIOSECINCES (ICRTCB 2019)	Madurai Kamaraj University, Madurai, May,16,17-2019	International

Seminars & Conferences Attended

• Synthetic tenability in open framework materials for energy and environmental applications — ACS Publications, Online, 09.07.2023

• Trends in physical chemistry — ACS Publications, Online, 09.06.2023

• PH.D HOUR: Thinking beyond Academia — ACS, Online, 20.12.2022

• Building partnership of sustainability — ACS Publications, Online, 16.09.2022

• Innovation in measurement science — ACS Symposium, Online, 17-20.10.2022

• Desktop seminar with Dalton Transactions — RSC-IISER, Online, 12.05.2022

• First principle computational chemistry — ACS Publications, Online, 25.02.2022

Membership

Member in American Chemical Society (Membership No: 31954504), USA, from 3rd June, 2020.

Member in Divisions of American Chemical Society, USA,

i. **Analytical Chemistry Division**
ii. **Chemical Education Division**
iii. **Agricultural & Food Chemistry Division**
iv. **Food Safety Subdivision**
v. **Agrochemicals Division**
vi. **Physical Chemistry Division**
vii. **Fertilizer & Soil Chemistry Subdivision**

Member (Membership No: 719364) in Royal Society of Chemistry, from 14th June, 2022.

Reviewer Roles

• Biosensors and Bioelectronics

• International Journal of Biological Macromolecules

• Sensors and Actuators B: Chemical

• Microchemical Journal

• Electrochimica Acta