

KARTHIKA PALANISAMY

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EDUCATION

Alagappa University, Tamilnadu, India.

Ph.D. Chemistry, Area of specialization: Electrochemical sensors for environmental pollutants. *May 2013 - Aug 2022.*

M.R.G. Govt. Arts College, Mannargudi, Bharathidasan University, Tamilnadu, India.

M.Sc. Chemistry., *July 2010 - April 2012.*

Thiru. Vi. Ka. Govt. Arts college, Thiruvavur. Bharathidasan University, Tamilnadu, India.

B.Sc. Chemistry., *June 2007 - April 2010.*

RESEARCH EXPERIENCE

Doctoral program: Alagappa University, *May 2013 - Aug 2022.*

- Preparation and characterization of molecularly imprinted polymer based electrochemical sensors.
- Synthesis and characterization of graphene, metal based nanoparticles and conducting imprinted polymers for enhanced electrochemical activities.
- Electrochemical characterization of synthesized nanoparticles and environmentally active pollutants.
- Density functional theory based molecular docking studies were used to calculate the molecular-level interaction between target molecules (template) and Imprinted polymers.

- Real sample analysis for various pollutants was carried out using modified electrochemical sensors.

Master Program: Research Project as a part of the course work at M.R.G. Govt. Arts College, Affiliated to Bharathidasan university.

Dec 2011 - April 2012.

Project title: Biofuel synthesis from the bio waste like paddy straw.

TEACHING EXPERIENCE

- Monitored M.Sc. Chemistry student's projects in association with the principal investigator Asst. Professor., Dr. S. Viswanathan, Dept. of Industrial Chemistry, Alagappa University, Karaikudi.
- Conducted M.Sc., Lab Practical from June - 2013 to April -2014, June - 2014 to April – 2015, June – 2016 to April – 2017 in Department of Industrial Chemistry, Alagappa University, Karaikudi, Tamilnadu.
- Worked as Guest Lecturer in RDGA college, Sivaganga, Tamilnadu, From 18.01.2023 to 20.03.2023.
- Currently working as Guest Lecturer (21.03.2023 onwards) in V.S.S. Govt Arts College, Poolankurichi, Sivaganga, Tamilnadu.

PUBLICATIONS

1. **Karthika Palanisamy**, Saravanakumar Shanmuganathan, Subramanian Viswanathan, and Cristina Delerue-Matos. "Molecularly imprinted polymer-based electrochemical sensor for the determination of endocrine disruptor bisphenol-A in bovine milk." *Food chemistry* 363 (2021): 130287. (I.F: 10.4).

2. **Karthika Palanisamy**, Saravanakumar Shanmuganathan, and Subramanian Viswanathan. "Electrochemical sensor for picric acid by using molecularly imprinted polymer and reduced graphene oxide modified pencil graphite electrode." *Proceedings of the Indian National Science Academy* 88, no. 3 (2022): 263-276. (I. F: 1.3).
3. **Karthika Palanisamy**, Saravanakumar Shanmuganathan, Viswanathan Subramanian, and Cristina Delerue-Matos. "Selective detection of salivary cortisol using screen-printed electrode coated with molecularly imprinted polymer." *Talanta* 272 (2024): 125823. (I. F: 6.7).
4. **Karthika Palanisamy**, and Viswanathan Subramanian Graphene modified molecularly imprinted polymer-based electrochemical sensor for the determination of Dexamethasone (Communicated).

ACHIEVEMENTS

- Graduated from Thiru. Vi. Ka. Govt. Arts college, Thiruvarur, Affiliated to Bharathidasan University, with a B.Sc., degree in Chemistry with an average of 80 % **(First class with D+)**.
- Graduated from M.R.G. Govt. Arts College, Mannargudi, Affiliated to Bharathidasan University, with a M.Sc., degree in Chemistry with an average of 80 % **(First Class with D+)**. Scored II - rank in Bharathidasan University.
- Appointed as Junior Research Fellow (From Nov 2013 - Nov 2018): **UGC - BSR Fellowship**, New Delhi, India.

- Qualified **Junior Research Fellowship and Eligibility for Lectureship (NET) Exam., Joint CSIR-UGC**, held on 21-12-2014 and secured **072/0473** rank in the subject **CHEMICAL SCIENCES**.

ADDITIONAL SKILLS

Experience in UV-Vis Spectrophotometer (Jasco-V-530), CH Instrument (CHI 620A Electrochemical Analyzer), Autolab PGSTAT 30 (Potentiostat/Galvanostat electrochemical workstation), Origin, Chemdraw & Chem 3D Ultra 8.0, Molecular docking software and Microsoft Office.

EXTRA-CURRICULAR ACTIVITIES

- 1. Participated in **Short Term Training program on Research Writing** (21.04.2014 to 26.04.2014), Centre for Technical and Academic Writing, Alagappa University, Karaikudi.
- 2. Participated in **“Village Placement Programme”** at selugai village, sivagangai district during 25 to 27th September, 2014. Organized by the department of Industrial Chemistry, Alagappa University, Karaikudi.

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED

- Participated in UGC sponsored state level one-day seminar on **“NMR applications and energy materials”** PG and Research development of chemistry, Rajah Serafoji Government College, Thanjavur.
- Presented a paper entitled **“Electrochemically modified molecularly imprinted polymer based sensor for picric acid”** in the international Conference on “Recent Advances in Textile and Electrochemical Sciences-2013 (RATES-2013)” Organized by the Department of Industrial Chemistry, School of Chemical Sciences, Alagappa University, Karaikudi.
- Participated in lecture workshop on **“Advances in chemistry”** sponsored by science academics (IASc, INSA & NASI) during September 2013 at Department of industrial chemistry, Alagappa University, Karaikudi.
- Participated in FACTs-2014 - two days, international Workshop on **“Frontier Areas in Chemical Technologies”** at Industrial Chemistry Department Alagappa University, Karaikudi.
- Presented a paper entitled **“Molecularly imprinted polymer based electrochemical sensor for bisphenol A”** in the International Conference on “Energy, Water and Environmental Science & Technology” (ICEWEST–2015), PG and research department of chemistry, Presidency College, Chennai, Tamilnadu, February 5-6, 2015.
- Presented a paper entitled **“Molecularly imprinted polymer based voltammetric sensor for Hydrocortisone”** in the National Seminar on “Frontier Areas in Chemical

Technologies – 2015” (FACTs - 2015), Department of Industrial Chemistry, School of Chemical Sciences, Alagappa University, Karaikudi, Tamilnadu. March 6-7, 2015.

- Participated in **10th Mid-Year Chemical Research Society of India (CRSI) Symposium** in Chemistry, jointly organized by National Institute of Technology & Bharathidasan University, Trichy, Tamilnadu, July 23-25, 2015.
- Presented a paper entitled **“Gold Nano particles modified molecularly imprinted polymer for electrochemical monitoring of Thyroxine”** in the International conference on nanomaterials for energy, environment, catalysis and sensors (ICNEECS-15). Organized by the Department of physical Chemistry, School of Chemistry, Madurai Kamaraj University, Madurai, Tamilnadu. December 11-12, 2015
- Presented a paper entitled **“Electrochemical sensor for cefotaxime based on gold modified molecularly imprinted polymer”** in the International conference on Frontier Areas in Chemical Technologies - 2016 (FACTs - 2016), Organized by the Departments of Industrial Chemistry, Nanoscience & Technology and Bioelectronics & Biosensor, Alagappa University, Karaikudi, Tamilnadu, March 21-23, 2016.
- Presented a paper entitled **“Molecularly imprinted polymer based electrochemical sensor for Dexamethasone”** in the International conference on chemical and environmental research – 2017 (ICCER-2017), Organized by Department of chemistry, Jamal Mohamed College (Autonomous), Trichy, Tamilnadu, January – 7, 2017.

PERSONAL PROFILE

Name: Karthika Palanisamy
Designation: Guest Lecturer
Institution: V.S.S. Government Arts College, Poolankurichi.
Date of Birth: 20.05.1990
Sex: Female
Nationality: Indian
Marital Status: Married
Languages Known: Tamil: Native
English: Proficient

REFERENCES

Dr. S. Viswanathan

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Department of Industrial Chemistry,
Alagappa University,
Karaikud-630 003,
Tamilnadu, India

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