



DR. PREETHI RAMADOSS

Address: 3/1169, Madhanandhapuram, Chennai – 600125
Phone: 8124955131
Email: preethiramadoss@gmail.com
Website: www.manithee.com

SUMMARY

Dedicated biopolymer scientist with over 13 years of research experience in biodegradable materials, biosensing platforms, and electrochemical sensors. Three times TEDx speaker. Proven expertise in developing biodegradable sweat-based glucose sensor (patented and commercialization is in process) and smart materials for healthcare and a pioneering 15-days soil degradable sanitary napkin (patent granted and commercialization is in process). Seeking to contribute my skills to cutting-edge research at an esteemed laboratory.

RESEARCH EXPERIENCE

- Flexible and biodegradable biosensors
- Non-enzymatic electrochemical sensors
- Cellulose-based semiconductors
- Sustainable materials for health monitoring
- Herbal and natural biocomposites
- Wearable diagnostic devices
- in-vitro cell culture technique
- MTT assay
- FDA staining
- Cryopreservation
- Drug release study
- Nanoindentation study
- Soil degradation
- Electrodialysis
- Fluid rheology
- XPS and XRF technique
- DPPH antioxidant assay
- Thrombus formation
- Contact angle measurement
- Impedence, cyclic voltametry, Square-wave analysis, chronoamperometry
- Dye degradation
- Soil test
- FTIR, XRD, Raman Spectroscopy, UV-Vis spectroscopy
- Extraction of protein from Human Hair and Silk fibers
- Drug extraction from plants
- Drug release analysis
- Hemolysis
- Swelling and biodegradability properties analysis
- Wettability studies
- Tensile properties of the materials
- Macromolecular docking, drug-ligand interaction
- Scaffold fabrication
- in vitro cell culture analysis of an implantable biomaterial
- Extracted silk fibroin and keratin proteins for skin graft scaffolds with natural anti-inflammatory drug Propolis.
- In-vitro and mechanical analysis of biocompatibility and structural stability.

EDUCATION

Ph.D. in Biomaterials & Polymer Science

Jul 2015 - Nov 2021

Crystal Growth Centre, Anna University

Thesis: Development of biodegradable cellulose-based flexible semiconducting materials for biosensing applications

M.S. by Research in Biomaterials

Jul 2012 - Jul 2014

Crystal Growth Centre, Anna University

Thesis: Propolis-loaded silk and keratin scaffolds for tissue engineering

B.Tech in Bioinformatics (72%)

SRM University, Chennai

Aug 2004 - Jul 2008

ADDITIONAL INFORMATION

Paper Publications:

- P. Ramadoss, M. I. Rahman, A. Perumal, R. Nallaiyan, S. H. Basha, A. Dakshanamoorthy "Non-Invasive, Non-Enzymatic, Biodegradable and Flexible Sweat Glucose Sensor and Its Electrochemical Studies", ChemistrySelect 2020, 5, 11305.
- Ramadoss, Preethi, et al. "Low-cost and biodegradable cellulose/PVP/activated carbon composite membrane for brackish water treatment." Journal of Applied Polymer Science 137.22 (2020): 48746.
- Preethi Ramadoss, V. Subha, S. Kirubanandan "Gelatin-Silk Fibroin Composite Scaffold as A Potential Skin Graft Material." (2018).
- Ramadoss, Preethi, K. Thanigai Arul, J. Ramana Ramya, M. Rigana Begum, V. Sarath Chandra, E. Manikandan. "Enhanced mechanical strength and sustained drug release of gelatin/keratin scaffolds." Materials Letters Vol. 186, pp 109-112 (2016).
- Preethi R, Rohini R & Pavani K. 2015, Investigation of royal jelly as a promising substitute to fetal bovine serum in cell culture, Annals of Biological Research, vol. 6, no. 6, pp 60- 64.
- Preethi. R & V. Subha. 2015, A comparative study of drug release profile of propolis and diclofenac for efficient wound healing, Annals of Biological Research, vol. 6, no. 6, pp 69- 74.
- Preethi Ramadoss, V. Subha, S. Kirubanandan, Gelatin, silk-fibroin composite as a potential skin graft material, Journal of Materials science and surface engineering, Vol. 6(2), pp 761-766 (2018).
- Subha, V., Preethi Ramadoss, and S. Renganathan. "Incorporation of biotransformed silver nanoparticles in plant polysaccharides resin and their effect on sustained drug release." Polymer Science Series B 58.1 (2016): 61-72.
- Preethi Ramadoss, Agilan Perumal, Rajendran Nallaiyan, Arivuoli Dakshanamoorthy, "Biodegradable, Non-Enzymatic, Non-Invasive and Cost-Effective Ethanol Sensing Material and Its Electrochemical Characteristics" Journal of materials science and surface engineering 8(1):971-977 (2021).
- Ramadoss, Preethi, P. B. Smrithy, Arivuoli Dakshanamoorthy, Goutam Singh Ningombam, Sabiha Hayath Basha, and Nongmaithem Rajmuhon Singh. "Study of Viscoelastic Behaviour of Cellulose Fluid Carrying Iron Oxide Nanoparticles for Injectable In-Situ Hyperthermia Application." (2021). 8(2): 1001-1009
- Ramadoss, Preethi, Arivuoli Dakshanamoorthy, and Sabiha Hayath Basha. "Drug Eluting Bioresorbable Cellulose Acetate/PEO/HPMC Composite With Propolis Extracts for Suturing Application." (2021). 8[2]: 1010-1020

Patents:**Granted:**

- **Biodegradable Sanitary Napkin for personal and environmental hygiene and method thereof Patent number: 355605**
- **Biodegradable and wearable sweat glucose biosensor material Patent Number: 415283**

Papers presented in international conferences:

Synthesis and characterization of biodegradable and highly flexible semiconductor material for electronic applications” Preethi Ramadoss and D.Arivuoli, Internatioal conference on Advances in Materials science and engineering for societal applications, ICAMSE-2018, AMET University, (Best Oral Presentation)

Biodegradable electrodialysis membrane for application in brackish water treatment”, Preethi Ramadoss, D. Arivuoli, Recent Advances in Nanotechnology and applications (RANA-2018), AMET University, (Best Oral Presentation)

Awards & Recognitions:

- Thamizhan awards by Puthiya Thalaimurai 2023
- 3 toimes TEDx speaker
- Women achievers award 2019, awarded by the Raindrops for the year 2019, for the work on “Low-cost biodegradable sanitary napkin for women”
- The Anna University, Chennai awarded me the Green tribunal award for my breakthrough in biodegradable sanitary napkin 2019
- Was one among the awardees of the Radio City “Change Maker” 2019 held on August 2019 at Ethiraj College for Women, Chennai
- One among the 100 Inspiring women of India, awarded by Being women, Magazine for the year 2021
- Featured in NDTV. DW, The Hindu Business line, Indian express and Times of India for my work on Biodegradable sanitary napkin