

# G. Ramadoss

## Education

**Doctor of Philosophy (Full Time Ph.D in Biochemical Engineering)** - A.C. Tech Campus, Anna University, Chennai, India. (Awarded on 7<sup>th</sup> January 2016).

**M.Tech Industrial Biotechnology** (5 year Integrated course) - Shanmugha Arts, Science, Technology and Research Academy (SASTRA), Thanjavur, India. First class with distinction (May 2009).

## Research Experience : 7 years and 3 months

- **Post Doctoral Research (DST-SERB-NPDF): March 2016- till now**

**Research Title:** “Development of nanobiosolution for the treatment of textile industry effluent: A novel hybrid approach.”

**Research Supervisor:** Dr.R.Selvakumar, Associate Professor, **PSG Institute** of Advanced Studies, Peelamedu, Coimbatore, India.

- **Ph.D Research: July 2010– January 2016:**

**Research Title:** “Ultrasound based pretreatment methods for the production of bioethanol from sugarcane bagasse”.

**Research Supervisor:** Dr.K.Muthukumar, Associate Professor, Department of Chemical Engineering, A.C.Tech campus, **Anna University**, Chennai, India.

- **M.Tech Project Title:** “Synthesis and Fabrication of Au Nanoparticles/organic mediators entrapped Conducting Polymer film-An electrocatalyst for NADH Sensor”.

**Project Supervisor :** Dr. C. Sivakumar, Scientist, Electrodeics and Electrocatalysis Division, Central Electro Chemical Research Institute (**CECRI**), **CSIR Institute**, Karaikudi, Tamilnadu, India.

## Areas of Interest

- ✓ Biomass conversion & biofuel production,
- ✓ Effluent treatment using nanobiotechnology,
- ✓ Nanobiotechnology for biosensor applications,
- ✓ Production of various industrially important enzymes

## Positions held:

- **Student Committee member** of **Indian Institute of Chemical Engineers (IChE)**, Chennai Regional Centre (CRC), Chennai, India from 2013-14.
- Appointed as a **Guest Faculty in Anna University** to handle theory and lab courses for B.Tech (Part-Time) Chemical Engineering programme during the academic session July-December 2012.
- **‘Project Co-ordinator’** at Centre for Advanced Research in Biological Sciences’ (CARBS) in Thanjavur, India from 24.07.2009 to 25.02.2010.

### **Awards Received:**

- Awarded the prestigious **National Post Doctoral Fellowship (NPDF)** for the young dynamic doctoral candidates for pursuing Post doctoral studies from Science and Engineering Research (SERB, Govt. of India), on 8<sup>th</sup> March 2016.
- **Senior Research Fellow (SRF)** under Council of Scientific and Industrial Research (**CSIR**), Govt. of India, from Sep-2012 to June 2015.
- Received **Best presentation Award** for the paper entitled “Synthesis , characterization and application of temperature controlled magnetic nanozyme for effluent treatment applications” presented in **International Conference** on Contaminated site remediation (Clean up India 2016)”, organized by Tamilnadu Agricultural University, Coimbatore, University of New Castle, Australia, CRC CARE , Australia on December 2016.
- Awarded **Certificate of Appreciation (CoA)** for the paper entitled “Ultrasound assisted saccharification of dual salt pretreated sugarcane bagasse for bioethanol production” presented in “ **International Conference** on Petroleum Science and Technology (ICPST-2014)”, organized by Department of Ocean Technology, IIT Madras, India on November 2014.

### **Peer-assessment roles:**

- **Reviewer** for Bioresource Technology.
- **Reviewer** for Journal of Environmental biology.

### **Software skills**

- Image J, Adobe Photoshop,
- Origin all versions, Chem Draw.
- Design Expert Version 6,7,8.1 & 10
- Matlab and Minitab
- ForTran 77 and C language

### **International Publications** [Citations: 100, h-index: 5, i<sub>10</sub> index: 4, Total Impact factor: 27.899]

- **Govindarajan Ramadoss** and Karuppan Muthukumar, ‘Ultrasound assisted metal chloride treatment of sugarcane bagasse for bioethanol production’, *Renewable Energy*, vol. 99 (2016) pp. 1092-1102. (Impact factor: 4.357, Citations: 5).
- **Govindarajan Ramadoss** and Karuppan Muthukumar, ‘Mechanistic study on ultrasound assisted pretreatment of sugarcane bagasse using metal salt with hydrogen peroxide for bioethanol production’, *Ultrasonics Sonochemistry*, vol. 28 (2016) pp. 207–217.(Impact factor: 4.218, Citations: 12).
- **Govindarajan Ramadoss** and Karuppan Muthukumar, ‘Influence of dual salt on the pretreatment of sugarcane bagasse with hydrogen peroxide for bioethanol production’, *Chemical Engineering Journal*, vol. 260 (2015) pp. 178–187. (Impact factor: 6.216, Citations: 29).

- **Govindarajan Ramadoss** and Karuppan Muthukumar, 'Ultrasound assisted ammonia pretreatment of sugarcane bagasse for fermentable sugar production', *Biochemical Engineering Journal*, vol. 83 (2014) pp. 33– 41. (Impact factor: 2.892, Citations: 20).
- Varadarajan Gunasekar, **Govindarajan Ramadoss**, Venkatachalam Ponnusami, 'Influence of process variables on adsorption of congo Red onto mango leaf char using factorial design Analysis', *Environmental Engineering and Management Journal*, Accepted in March, (2014). (Impact factor: 1.006).
- Maruthamani D, Vadivel S, Kumaravel M, Saravanakumar B, Bappi Paul, Siddhartha Sankar Dhar, Manikandan A, **Govindarajan Ramadoss**, Fine cutting edge shaped Bi<sub>2</sub>O<sub>3</sub> rods/reduced graphene oxide (RGO) nanocomposite for supercapacitor and visible light photocatalytic applications, *Journal of Colloid and Interface Science*, vol. 498 (2017) pp. 449-459. (Impact factor: 4.233, Citations: 2).
- Elakkiya Venugopal, **Govindarajan Ramadoss**, Kannan Krishnan, Sujith Subash Eranezhath, Amitava Bhattacharyya, Selvakumar Rajendran, Stimulation of human osteoblast cells (MG63) proliferation using decanoic acid and isopropyl amine fractions of *Wattakaka volubilis* leaves, *Journal of Pharmacy and Pharmacology*, doi: 10.1111/jphp.12801 (Impact factor: 2.405).
- Vadivel Velu, Maruthamani D, M Kumaravel, Saravanakumar B, Manikandan A, **Govindarajan Ramadoss**, Bappi Paul, Hariganesh S, Facile solvothermal synthesis of BiOI microsquares as a novel electrode material for supercapacitor applications, *Materials Letters* vol.210 (2018) pp. 109-112. Impact factor :2.572).
- V.Ponnusami, R.Aravindhan, N. Karthik raj, **G.Ramadoss**, S.N. Srivastava, Adsorption of methylene blue onto gulmohar plant leaf powder: Equilibrium, Kinetic, and Thermodynamic analysis, *Journal of Environmental Protection Science*, vol. 3 (2009) pp. 1-10. (Citations: 32).

#### **Research papers under communication**

- Elakkiya Venugopal, **Govindarajan Ramadoss**, Sujith Subash Eranezhath, Amitava Bhattacharyya, Selvakumar Rajendran, Optimization of *Wattakaka volubilis* extracts for enhanced growth and proliferation of primary human knee meniscus cells using response surface methodology, *Journal of Pharmacy and Pharmacology*, (Impact factor: 2.405).
- Ravi Kant Bhatia, **Govindarajan Ramadoss**, Arvind kumar Bhatt and Selvakumar Rajendran, Renewable energy from organic waste through anaerobic digestion: A Mini Review, *Microbial Biotechnology*, under review (Impact factor: 3.513)
- Palanisamy Poornima, **Govindarajan Ramadoss**, Manickam Velan, Optimization of novel laccase producing strain *Brevundimonas* sp. MVSP using Response Surface Methodology and its application in dye degradation; *Annals of Microbiology*, under review, (Impact Factor: 1.122).

<https://scholar.google.co.in/citations?user=0Ia9YCUAAAAJ&hl=en>

[https://www.researchgate.net/profile/Ramadoss\\_Govindarajan](https://www.researchgate.net/profile/Ramadoss_Govindarajan)

### **Book Chapters**

**Govindarajan Ramadoss**, Selvakumar Rajendran, Nanozymes. Fundamentals of nanobiotechnology and biomaterials, Capital publishing, India, 2017 (Under review, yet to be published).

### **International and National Conference Proceedings**

- **Govindarajan Ramadoss** and Selvakumar Rajendran, “Synthesis , characterization and application of temperature controlled magnetic nanozyme for effluent treatment applications” presented in **International Conference** on Contaminated site remediation (Clean up India 2016)”, organized by Tamilnadu Agricultural University, Coimbatore, University of New Castle, Australia, CRC CARE , Australia in December 2016.
- **Govindarajan Ramadoss**, Sushmitha Thirumalaivasan, Meghana and Karuppan Muthukumar, “Ultrasound assisted saccharification of dual salt pretreated sugarcane bagasse for bioethanol production” presented in “ **International Conference** on Petroleum Science and Technology (ICPST-2014)”, organized by Department of Ocean Technology, IIT Chennai in November 2014.
- **Govindarajan Ramadoss** and Karuppan Muthukumar, “Production of bioethanol from lignocellulosic wastes” presented in “Exploring the Secrets of Bio-fuel an **International Summit**”, organized by Department of Plant Biology and Biotechnology, Presidency College and Sophisticated Analytical Instrument Facility (SAIF), IIT Chennai in July 2011.
- **Govindarajan Ramadoss** and C. Sivakumar “Synthesis and Fabrication of Au Nanoparticles/organic mediators entrapped Conducting Polymer film-An electrocatalyst for NADH Sensor” presented in **National Conference** on Applications of Nanomaterials organized by Department of Chemical Engineering, SSN College of Engineering and Indian Institute of Chemical Engineers- Chennai Regional Centre in March 2012.
- **Govindarajan Ramadoss** and Varadharajan Gunasekar “Partitioning and Purification of Papain on Integrated Aqueous two phase system” presented in “**National Conference** on Emerging Trends and Innovations in Chemical Engineering Sponsored by AICTE, organized by Department of Chemical Engineering, St.Peter’s Engineering College, Chennai-54 in September 2008.
- **Govindarajan Ramadoss** and T.Muralikrishnan “Cellulase Production by *Trichoderma reesei* using Paper Sludge” on ELYZIA '08- A **National Level** Technical Symposium organized by Department of Biotechnology, Government college of Technology, Coimbatore in March 2008.

### **International and National Conference & Workshop Participation**

- Participated One day workshop on “**Science Communication Workshop**” organized by The Wellcome Trust/DBT India Alliance at SASTRA University in December 2016.
- Participated One day **International workshop** on “**Soil Health**” organized by Tamilnadu Agricultural University, Coimbatore, CRC CARE , Australia in December 2016.
- Participated One day **International workshop** on “**Modelling tools for groundwater contamination management**” organized by Tamilnadu Agricultural University, Coimbatore, CRC CARE , Australia in December 2016.
- Participated One day **National level workshop** on “**Bioenergy Challenges and Opportunities**” organized by PSG College of Technology, Coimbatore, India in 12<sup>th</sup> August 2016.
- Participated one week workshop entitled “Hands on analytical and molecular techniques on “**Extremophilic and microbial processes for biofuels**” organized by Sardar Swaran Singh National Institute of Bioenergy, Kapurthala, Punjab, India from August 01-05 2016.
- Participated short term course on “**Nanomaterials their characterization and applications**” organized by Centre for Nanoscience and Nanotechnology, Crystal growth centre and Department of Mechanical Engineering, Anna University, India in October 2014.
- Participated one day seminar on ‘**Safety in Chemical Industries**’ organized by Indian Institute of Chemical Engineers, Chennai Regional centre in association with Central Leather Research Institute and Sathyabama University, India in August 2013.
- Participated and exhibited the Innovations in the ‘**Technology Exhibition**’ organized by Centre for Technology Development and Transfer (CTDT), Anna University, India in May 2013.
- Participated one day seminar on ‘**Safety Aspects in Process Plant Design**’ organized by Indian Institute of Chemical Engineers, Chennai Regional centre, India in February 2012.
- Participated two days workshop on ‘**Research and Writing**’ organized by the Centre for Empowerment of Women, Anna University, India in September 2011.
- Participated an ‘**Indo-Europe workshop**’ on Recent Developments in Membrane Technology for Industrial Applications “**MEMSEP 11**” organized by Anna University, India in February 2011.
- Participated an **International Conference** on Emerging Trends in Renewable Energy (**ICETRE-2010**) organized by Anna University, India in August 2010.
- Participated Inplant Training on **Environmental Management** organized by Environmental Cell Division PWD” from 1-5<sup>th</sup> Dec 2006.

- Participated in the workshop on '**Plant Tissue Culture**' organized by Life Teck Research Centre, Chennai, India in December 2005.
- Participated in the Workshop on '**Hands on Microbial Techniques**' organized at SASTRA University, Thanjavur, India in September 2005.
- ❖ **Languages:** Tamil and English (Advanced); Hindi and German (Beginner).

### **Technical Skills**

#### **BIO PROCESS & DOWN STREAM PROCESSING:**

- Media Optimization techniques
- Enzyme kinetics and immobilization techniques
- Proteins/Enzymes purification techniques.

#### **ANALYTICAL TECHNIQUES HANDLED**

- High Performance Liquid Chromatography (Model 1260, Agilent Technologies, Singapore)
- Gas Chromatography (Agilent Technologies, Singapore)
- UV-Visible double beam Spectrophotometer (Model UV1800, Shimadzu, Japan, Model SL 210, Elico, India)
- Fourier Transformed Infrared Spectroscopy (Model Cary 630 FTIR Spectrometer, Germany)
- Ultrasound Processor (Hielscher UP400S, Germany)
- Rheometer (Model MCR 102, Anton Par Instruments, Germany)
- Impedance Analyzer (Keysight E4990A; 20 Hz-20 MHz)
- Spray Drier
- Nikon Fluorescence Microscopy (Ni-U Model)