

# M. Remya

## EDUCATION

- **PhD, Botany (Specialization: Plant Tissue culture)**, Bharathiar University, Coimbatore, India (2005)  
Dissertation: *In vitro* studies of *Aristolochia tagala* Cham. – A threatened medicinal plant.
- **Master of Technology, Biotechnology**, Sathyabama University, Chennai, India (2013)  
Dissertation: Media optimization and bioreactor strategies for the production of Lipase from *Aeromonas veronii*
- **Master of Science, Plant Science**, Bharathiar University, Coimbatore, India (2000)  
Dissertation: Ethno medico botanical Studies on the Irukals of Sudapatty Village of Nilgiri biosphere.
- **Bachelor of Science, (Major: Botany, Minor: Zoology and Chemistry)** Bharathiar University, Coimbatore, India (1998)
- **Post Graduate diploma in Bio-informatics**, Bharathiar University, Coimbatore, India (2003)

## TEACHING EXPERIENCE

### **Period: Aug '19 to Present**

Faculty, Department of Biology, Houston Community College, Houston, Texas, USA

### **Period: May '15 to August 2019**

Adjunct Professor, Department of Biology, Houston Community College, Houston, Texas, USA

### **Period: July '10 to January 2015**

Associate Professor, Department of Biotechnology, Aarupadai Veedu Institute of Technology, Vinayaka Missions University, Old Mahabalipuram Road, Paiyanoor, Kancheepuram 603 104, Tamil Nadu, India.

### **Period: Jun'08 to April 2010**

Head of the Department, Department of Biotechnology, MGM College of Engineering and Technology (Affiliated to University of Mumbai), Sector-17, Kamothe, Navi Mumbai, Maharashtra, India.

### **Period: July'06 to June'08**

Lecturer, MGM College of Engineering and Technology, Navi Mumbai, Maharashtra, India.

### **Period: Aug'04 to January'06**

Lecturer, Department of Biotechnology, Career Institute of Technology and Management (Affiliated to Maharishi Dayanand University), Faridabad, (National Capital Region).

## KEY SKILLS AND ACCOMPLISHMENTS

- **Experience in Plant Biotechnology**  
Standardizing protocol for mass propagation of threatened medicinally important plants through direct and indirect regeneration
- Studying the effect of VAM fungi on the hardening trials of *in vitro* regenerated plantlets.
- Tissue culture of Orchids

- Producing artificial seeds from nodal segments of *in vitro* regenerated plantlets and from protocorm like bodies of Orchids.
- Establishment of cell suspension cultures
- Establishment of hairy root cultures

### **Techniques in Phytochemical Analysis**

- Phytochemical screening of various plant extracts
  - Secondary metabolite analysis using TLC, Column Chromatography, and GC-MS
  - Quantitative and qualitative analysis using UV/VIS spectrophotometer and HPLC
  - Freeze drying cells using Lyophilizer
  - Basics of MS and NMR

### **Experience in Bioprocess Engineering**

- Optimization of parameters for the large scale production of Lipase from *Aeromonas veronii*
- Optimization of parameters for the large scale production of 4- ipomeanol from *Ipomea batatas*
- Handling plant cell suspension cultures in 10L bioreactor

### **Skills in Bioactivity studies**

- Evaluating anti HIV activity of plant extracts
- Evaluating antimicrobial potentials of plant extracts
- Evaluating the potential of plant extracts as a bio-pesticide
- Evaluating the Antioxidant activities of plant extracts

### **Experience in Reviewing and editing Scientific articles**

- Reviewer - Journal of Ethnopharmacology, Elsevier.
- Editorial board member
  - ❖ American Journal of current biology, IVY Union publishing, USA.
  - ❖ International Journal of Bio-Technology and Research (IJBTR)
  - ❖ International Journal of Botany and Research (IJBR)

- ❖ Scientific and Technical Committee & Editorial Review Board Member –World Academy of Science, Engineering and Technology (WASET)
- Guest editor - Recent research in science and technology.

### **Establishment of Departments/Laboratories**

- Established the Department of Biotechnology and its various laboratories at MGM college of Engineering and Technology, Navi Mumbai, India
- Inducted a new course M.Sc., Medical biotechnology at MGM School of Biomedical sciences, Navi Mumbai, India.
- Established the Research laboratory at Aarupadai Veedu Institute of Technology, Paiyanoor, Kancheepuram, India.
- Established the Plant Tissue Culture laboratory at Career Institute of Technology and Management, Faridabad, NCR, India.

### **Administrative positions**

- Course Director, M.Sc., Medical Biotechnology, MGM School of Biomedical Sciences, Navi Mumbai, India (October 2007 to April 2010)
- Assistant Registrar, MGM University of Health Sciences, Navi Mumbai, India (January 2008 to April 2010)

## **RESEARCH GRANTS**

**Title of the Project** : Large Scale Production of 4 Ipomeanol, an Anticancer Agent  
**Funding Agency** : Department Of Biotechnology, Ministry Of Science & Technology, Government of India.

**Role** : Principal Investigator

**Amount Sanctioned** : Rs.2648290

**Duration** : January 2012 to January 2015

## **LIST OF PUBLICATIONS**

- Remya. M, Subha Sivasankar (2015) ““Optimization of process parameters for bioproduction, isolation and purification of 4-Ipomeanol, an anticancer agent from cell suspension cultures of *Ipomoea batatas* (L.) Lam” Ind. J. Expl.Biol. (Accepted for publication)

- Remya. M, Subha Sivasankar (2014) “Production of 4-Ipomeanol, an anticancer agent from the root tubers and rhizogenic callus of *Ipomoea batatas* Lam. – A Comparative study”. Ind. J. Expl.Biol. (Accepted for publication)
- Remya. M, Subha Sivasankar (2014) “Ipomoea batatas (L.) Lam- A Valuable Medicinal Food : A Review”. J. Med. Food. 17(7): 733-741.
- Remya. M, Narmatha Bai, V, Mutharaian. V. N. (2013) “[In vitro regeneration of Aristolochia tagala and production of artificial seeds](#)”. Biologia Plantarum 57 (2): 210-218.
- Remya. M, Ananthan. R, Subha Sivasankar (2013) “Antioxidant activity and analysis of polyphenols from the leaf extracts of *Calotropis procera* through Ultra Performance Liquid Chromatography”. Int. J. Pharm. Bio. Sci. 4(1): 920 – 926
- Remya. M, Nimhor Vashum, Subha Sivasankar (2013) “Bioactivity studies on *Lantana camara* Linn.” Int. J. Pharm. Bio. Sci. 4(1): 81 -90
- Kalavathy.R, Swaytha R, Jayabalan, Remya M (2012) ”Biological target discovery from data mining approaches” International Journal of Computational Engineering Research (IJCER) 199- 205
- Swaytha. R, Remya. M, Kalavathy. R, Suresh. R.M. (2012) “Herbal Extract and Phytochemicals for Dermatological Disease-Data mining Approach” J. Pharm. Res. 5(8):4603-4605
- Remya Mohanraj and Mohd. Asad Usmani (2012) “Antioxidant Activity of the Leaf Extracts of *Calotropis procera*”. Int. J. Adv. Biotechnol. Res. 2(1):47-52
- Remya Mohanraj, Pankaj Jha, Someshwar Nath (2012) “Bioactivity studies on *Anisomeles malabarica* (AM) R.Br.” J. Biotech. and Biotherapeutics . 2(9): 1-8
- Remya Mohanraj, Pranali SD, Nilesh Paul (2011) “Phylogeny Reconstruction of Acetobacter Species by RAPD (Random Amplified Polymorphic DNA) Markers” Recent Res. Sci. Tech. 3(11): 100-102
- Remya Mohanraj and Sharma RC (2010) “Establishing Host Pathogen Relationship between *Arachis hypogea* and *Cercospora arachidicola* S. Hori by RAPD (Random Amplified Polymorphic DNA) Markers”Jr.Expl.Sci.1(8):37-38
- Remya Mohanraj, Jyothirmoy Rakshit and Malcolm Nobre (2010) “Anti HIV 1 and Antibacterial activities of the leaf extracts of *Calotropis procera*” Int. Jr.Green Pharmacy 4(4):242-246
- Remya M., Sharma RC., Haidar Shoaib., Rakshit Jyothirmoy, Usmani Asad. and Singh swati(2009) “*In vitro* effect of *Aegle marmelos* Corr. on human sperm Motility” Jr. Med. Plants Research 3(12):1137-1139
- Remya M., Sharma RC., Deepali M., Shakshi B, Tharini S. and Nilesh P (2009) “*In vitro* effect of *Aegle marmelos* Corr. on human sperm vitality” Biomedicine 29(2):183-185
- Remya Mohanraj., Ananthan R. and Bai, V.N. (2009). “ Production and storage of synthetic seeds in *Coelogyne breviscapa* Lindl” Asian. J. Biotechnology 1(3): 124-128
- Remya, M., Amrutha, P., Mansee,R. and Hira,S.K. (2009). “ Anti HIV 1 and Antibacterial activities of the leaf extracts of *Aristolochia elegans* ”. Jr. Tropical medicinal plants. 10(1): 50-57
- Sashikumar,J.M., Remya,M., and Janardhanan,K. (2003). “Antibacterial activity of Ethnomedicinal plants of Nilgiri Biosphere reserve, WesternGhats”. Asian J.Micro. Biotech.Env Sc. 5(2) 8:45-47

## BOOKS

Plant based medicines (2014) Ed. Remya Mohanraj, Research signpost, India.

<http://trnres.com/emags/Mohanraj/Mohanraj.html>

### ABSTRACTS PRESENTED IN CONFERENCES

- Remya,M., and Subha,S.(2014). “4-Ipomeanol from hairy roots and *in vitro* derived roots of *Ipomoea batatas* Lam.” International conference on Biosciences-State-of-Art Advancements. Kumarakom, Kerala, India.
- Remya,M., and Subha,S.(2013). “ Isolation of 4-ipomeanol, an anticancer agent from root tubers of *Ipomoea batatas* Lam.” International Conference on Global Crisis and Environmental Governance in Northeastern Region of India. Assam University, Silchar, Assam, India.
- Remya,M., and Subha,S.(2013). “*Ipomoea batatas* in the treatment of lung cancer” First International and Third National Conference on Biotechnology, Bioinformatics and Bioengineering, Society for applied Biotechnology, Tirupathi, India.
- Remya, M. (2012). “Antioxidant Activities and chemical composition of the Roots and Fruits of *Lantana camara* Linn.” International conference on Agricultural Biotechnology and Bio Engineering, World academy of Science and Technology, Copenhagen, **Denmark**.
- Remya, M., and Tharini, S. (2010).”Docking studies on Lip B protein” National Conference on Emerging Trends in Biotechnology, Department of Biotechnology, MGM School Of Biomedical Sciences, Navi Mumbai, India.
- Remya, M., Amol,G., Prathmesh,C., Rahul, C., Rohan,K. and Santhosh, R. (2009).”Effect of stone dust on Sperm Count” 14<sup>th</sup> Annual congress of Society of Andrology: India, Department of Physiology, MGM Medical college, Navi Mumbai, India.
- Remya, M., Sharma, R.C., Shoaib,H., Jyothirmoy R., Swati, S. and Asad, U. (2009). “ *In vitro* effect of *Aegle marmelos* on human sperm motility” 14<sup>th</sup> Annual congress of Society of Andrology: India, Department of Physiology, MGM Medical college, Navi Mumbai, India.
- Remya, M., Badade , Z.G., Deepali, M., Tharini, S., Sakshi, B. and Nilesh, P. (2009). “ *In vitro* effect of *Aegle marmelos* on human sperm vitality” 14<sup>th</sup> Annual congress of Society of Andrology: India, Department of Physiology, MGM Medical college, Navi Mumbai, India.
- Remya, M., Narmatha Bai, V., Ananthan, R. and Basker,S. (2004). “ Enhancement of survival rate through VAM inoculation in the *in vitro* regenerated plantlets of *Aristolochia tagala*”. 6<sup>th</sup> National symposium on Biochemical Engineering and Biotechnology, Department of Biochemical Engineering and Biotechnology, IIT Delhi, India.
- Basker,S., Ananthan,R., Remya,M., and Narmatha Bai,V. (2004). “Antifungal activity of *Coelogyne stricta* (D.Don)Schltr.-A comparison between *in vitro* and *in vivo* plants”. International conference on recent advances in Biosciences. PGP college of arts and science, Namakkal, India.
- Devi,L.K., Bai,N.V., Ananthan,R., and Remya,M., (2004), “Micropropagation of *Spilanthes calva*- a medicinal plant”. 26<sup>th</sup> Annual meeting of the plant tissue culture association (India) and National symposium on “Biotechnology for a better future.” St. Aloysius College, Mangalore, India.

- Remya,M., Narmatha Bai,V., Ananthan,R., and Basker,C. (2004). “*In vitro* propagation of *Aristolochia tagala* Cham. through shoot tip culture”. 26<sup>th</sup> Annual meeting of the plant tissue culture association (India) and National symposium on “Biotechnology for a better future.” St. Aloysius college, Mangalore, India.
- Lavanya Devi,K., Narmatha Bai,V., and Remya,M. (2003). “ Antimicrobial activity and phytochemical screening of *Spilanthes calva*.WT. a medicinal plant”. National symposium on Medicinal and Aromatic plants: Bioprospecting and conservation concerns. Karpagam arts and science college. Coimbatore, India.
- Baskar,C., Remya,M., Deepa,M.A., Ananthan,R., and Narmatha Bai,V. (2003). “Antifungal activity of the endemic Himalayan orchid *Coelogyne srticta* (D.Don) Schlts.” National symposium on Medicinal and Aromatic plants: Bioprospecting and conservation concerns. Karpagam arts and Science College. Coimbatore, India.
- Remya,M., Narmatha Bai,V., Basker,C., and Ananthan,R. (2003). “Antifungal activity of *Aristolochia tagala*” National symposium on Medicinal and Aromatic plants: Bioprospecting and conservation concerns. Karpagam arts and Science College. Coimbatore, India.
- Deepa,M.A, Narmatha Bai,V., Basker,C., and Remya,M. (2003). “Micropropagation of *Salacia beddomei* – an endemic rare medicinal plant.” National Seminar on Medicinal Plants and Health care, Department of Botany, PSGR Krishnammal College for Women, Coimbatore, India.
- Remya,M., Narmatha Bai,V., Ananthan,R., Basker,C., and Deepa,M.A. (2003). “Antibacterial Activity of *Aristolochia tagala* Cham.” National Seminar on Medicinal Plants and Health care, Department of Botany, PSGR Krishnammal College for Women, Coimbatore, India.
- Remya,M., Narmatha Bai,V., Ananthan,R., Basker,C., and Deepa,M.A. (2003). “Micorpropagation of *Aristolochia tagala* Cham.” a threatened Medicinal Plant.” 5<sup>th</sup> National symposium on Biochemical Engineering and Biotechnology, Department of Biochemical Engineering and Biotechnology, IIT Delhi, India.
- Deepa,M.A., Narmatha Bai,V., Ananthan,R., Basker,C., and Remya,M. (2002). “Some interesting Medicinal Plants of Celastraceae.” National seminar on current trends in Biological Sciences, Department of Biochemistry and Biotechnology, Avinashilingam University, Coimbatore, India.
- Remya,M., Sahsikumar,J.M, and Janardhanan,K. (2002). “Ethnomedicobotany of Irulars of Palakad District, Kerala.” National Conference on Medicinal Plants, their utilization, Cultivation and Marketing, Department of Botany, Government Arts college, Salem, India.
- Remya,M., Vijayaramaneswaran, Ananthan,R., and Narmatha Bai,V. (2001). “*In vitro* approaches for the storage of encapsulated protocorms in *Coelogyne breviscapa*.Lindl.” National Seminar on Emerging trends in Energy and Environment, Department of Biochemistry, Karpagam arts and Science College, Coimbatore, India

## **CONFERENCE/ WORKSHOP ORGANISED**

### **Organising Seceratry:**

- “National Workshop on Molecular Biology and Animal Cell Culture” at MGM Medical college, Kamothe , Navi Mumbai, India (January 2009)

- “National Conference on Emerging Trends in Biotechnology” at MGM School Of Biomedical Sciences, Kamothe Navi Mumbai, India (February 2010)

**Organising Committee member:**

- “National Seminar on Recent advances in Food Biotechnology and its Applications”, (Co-sponsored by Department of Biotechnology, Govt.of India) at Aarupadai Veedu Institute of Technology, Paiyanoor, Kancheepuram, India (September 2012)

**Sessions Chaired:**

- Chaired the Plant Biotechnology session at “National Conference on Biotechnology in Human Welfare”, (Co-sponsored by Science and Engineering Research Board, Department of Science and Technology, Govt.of India) organised by Karpagam University, Coimbatore, India.

**TRAINING PROGRAMMES/ WORKSHOP ATTENDED**

- “National seminar cum Workshop on Basic techniques in Animal Cell Culture” conducted by Sathyabama University, Chennai, India (April 2013).
- “Lecture cum demonstration on Balanced diet” conducted by Association of Food Scientists and Technologists (India), Kancheepuram Chapter (March 2013).
- “Faculty Enablement programme (soft skills training) ” conducted by Work Senses, Chennai, India (Nove 2011).
- “Faculty development programme” conducted by Aarupadai Veedu Institute of Technology, Kancheepuram, India (December 2010).
- “Workshop on Gene cloning and Product expression” conducted by Rai foundation and Chromous Biotech, Navi Mumbai (October 2007).
- "Instrumental Methods of Chemical Analysis” conducted by The South Indian Textile Research Association, Coimbatore, India (November 2003).

**HONOURS AND AWARDS**

- University research fellowship, Bharathiar University, Coimbatore, India (2001-2004)
- Proficiency award for merit, Providence College for Women (Affiliated to Bharathiar University), Coonoor, Niligiris, India (1995-1996 and 1996-97).
- Travel Grant received from Department of Biotechnology, Govt. of India, for oral paper presentation at International conference on Agricultural Biotechnology and Bio Engineering, Denmark ( Ref: - DBT/CTEP/02/201200258 )
- Grant received from Centre for International Co- operation in Science, Govt. of India, for oral paper presentation at International conference on Agricultural Biotechnology and Bio Engineering, Denmark (Ref:- DO/Lr/TF-1/12-13, Dt: 08 May 2012)

