

Stability Investigation of Nonlinear Interactions of Discrete Prey – Predator – Scavenger System

A. George Maria Selvam¹, and R. Janagaraj¹.

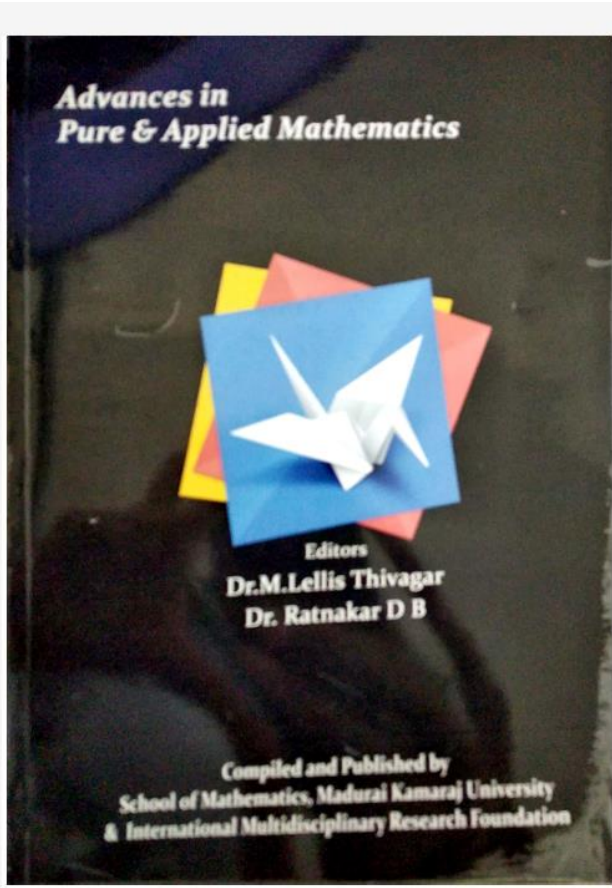
¹PG and Research Department of Mathematics,
Sacred Heart College (Autonomous), Tirupattur – 635601,
Vellore Dist., Tamil Nadu, S.India.
Email: agmshc@gmail.com

Abstract

Herein we examine stability of nonlinear discrete interactions of prey – predator – scavenger system. We establish the existence of various equilibrium states, and sufficient conditions that ensures the stability of the system. Also the stability properties are discussed by computing the Jacobian matrix and the roots of the charecteristic polynomial of the system at each equilibrium state. Finally, suitable numerical simulations are carried out for valid set of parameters to ellucidate and validate the theoretical results. Numerical examples show the rich dynamic behavior of the system.

Mathematics Subject Classification. [2010] : 39A10, 70K05, 70K20, 92D25

Key words and phrases. :Discrete Time, Population Dynamics, Stability, Scavengers, Equilibrium States.



Scanned by CamScanner

Authors

Chapter: 9
 SUPRA \mathcal{H} HOMEOMORPHISM IN TOPOLOGICAL SPACES
 - Usharani, S 85

Chapter: 10
 ON THE IMPERISHABLE FEATURE OF EXTENSION IN SIMPLE
 EXTENDED TOPOLOGICAL SPACES WITH GRILL
 - M.Dhanalakshmi, K.Alli 93

Chapter: 11
 ANALYSIS OF FRACTIONAL ORDER SEIR EPIDEMIC MODEL
 - A. George Maria Selvam, D. Abraham Vianny, S. Britto Jacob 99

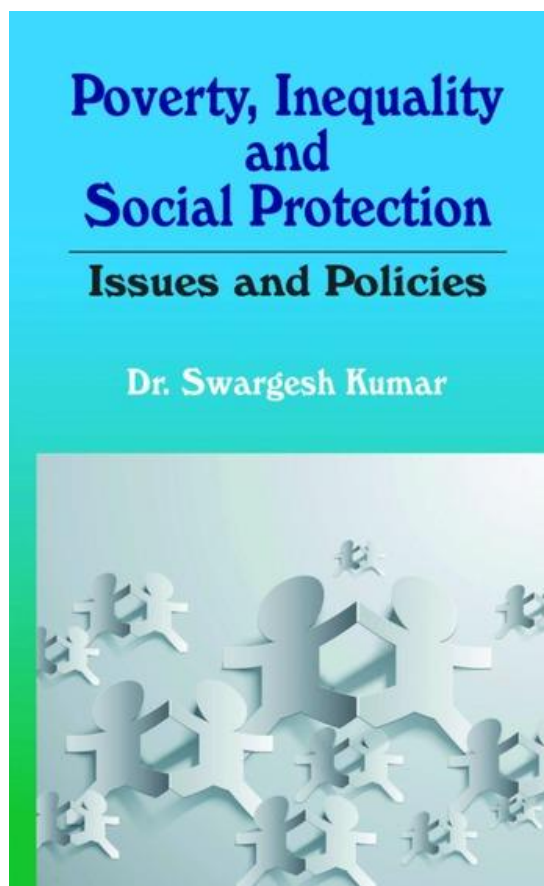
Chapter: 12
 CLASS OF SECOND ORDER LINEAR HOMOGENEOUS RECURRENCE
 RELATIONS WITH CONSTANT COEFFICIENTS
 - Devbhadra V. Shah, Vandana R. Patel 107

Chapter: 13
 THE PROPAGATION OF DILATATION WAVES IN MICRO-MORPIC
 MEDIUM
 - Dr.A.Chandulal 113

Chapter: 14
 APPROXIMATE CONTROLLABILITY RESULTS FOR STOCHASTIC
 DIFFERENTIAL EQUATIONS OF SOBOLEV-TYPE
 - R.Nirmalkumar, R.Murugesu 121

Chapter: 15
 EXPLICIT SINGLE STEP NUMERICAL METHODS TO SOLVE FIRST ORDER
 FUZZY DIFFERENTIAL EQUATIONS
 - Rama S. 133

Chapter: 16
 NEW APPROACH FOR FUZZY SHORTEST PATH USING TRIANGULAR
 FUZZY NUMBER
 - P. Murugadas, Riyaz Ahmad Padder 141



10. Sectoral Performance in Agriculture, Manufacturing and Service Sector <i>Dhruv Kumar Singh, Manoj Kumar Mishra and Md. Danish Shabbir</i>	87	21. Reduction in Poverty and income inequality through Rural Non-Farm Activities among Social Groups in Karnataka : A Comparative Study in Two Different Agro-climatic Zones <i>R.R. Biradar</i>	194
11. How to Provide Universal Access to Health and Education in India? <i>Malika B. Mistry</i>	96	22. Urbanization and Problem of Solid Waste : A Case Study of Gwalior City in Madhya Pradesh <i>Sunil Sharma and Kamlesh Kumar Shrivastava</i>	212
12. Access to Elementary Education : Analytical Review <i>Juhi Prasad</i>	103	23. Rural Development Programmes of Poverty and Nutrition : With Special Reference to Karnataka <i>Asha, H.S.</i>	217
13. Access to Elementary Education in India : A Study on Inter-state Disparity <i>Sanjay Bhattacharya and Prankrishna Pal</i>	118	24. Livelihood Vulnerability and Inter-state Migration Decision-making of East Bengali Resettled People in Malkangiri District of Odisha <i>L.P. Panda and P.K. Mishra</i>	231
14. Education and Health Scenario in India <i>Chandra Sekhar Mukherjee</i>	129		
15. Health Status and Health Care Services <i>Shanker Pandit</i>	141	Index	245
16. Identifying Deficiency in Rural Health Care System in Odisha : A Comparison with National Indicators <i>Bhagabata Patro and Dhanalaxmi Pattnaik</i>	150		
17. Health Care for All : Fastest Route to Sustainable Development <i>Mridula Kumari</i>	160		
18. Health Insurance and its Importance among the Women Workers in Shoe Factory : A Study in Vellore District <i>A. Xaviersusairaj</i>	166		
19. Role of Social Protection Policies for Women Against Violence <i>Renu A. Tiwari</i>	178		
20. Economic Empowerment of Marginalized Women : Measuring the Inclusiveness of Micro-Financing SHGs	185		

The book covers the protocol of Allied Biochemistry Practicals. It deals with Qualitative analysis of Carbohydrates especially to identify the type of sugars (i.e) Mono/Di/Poly and also reducing /nonreducing sugars. It comprises of Qualitative analysis of Amino acids too. The content provides the specific tests to check the presence of normal and abnormal constituents of urine that help to step into the diagnosis of diseases in narrow. It also includes the Hematology tests - Hemoglobin Estimation, Erythrocyte Sedimentation Rate and Blood grouping.



Ananthalakshmi Ranganathan
Gomathi Senthilkumar

The Authors of this book are Mrs.A.C. Gomathi, Assistant Professor and PG Head and Mrs.R. Ananthalakshmi, Assistant Professor and UG Head, Department of Biochemistry, Sacred Heart College, Tirupattur, Vellore Dt, Tamilnadu, India.

Allied Biochemistry - Practical Manual



978-613-9-86313-6



Ananthalakshmi Ranganathan
Gomathi Senthilkumar

Allied Biochemistry - Practical Manual

LAP LAMBERT Academic Publishing



தமிழ்க் கலை மணிகள்



கி.பார்த்திபராஜா



PHYSICS PRACTICALS

For B.Sc Physics Courses

Volume - 1



PG & Research Department of Physics

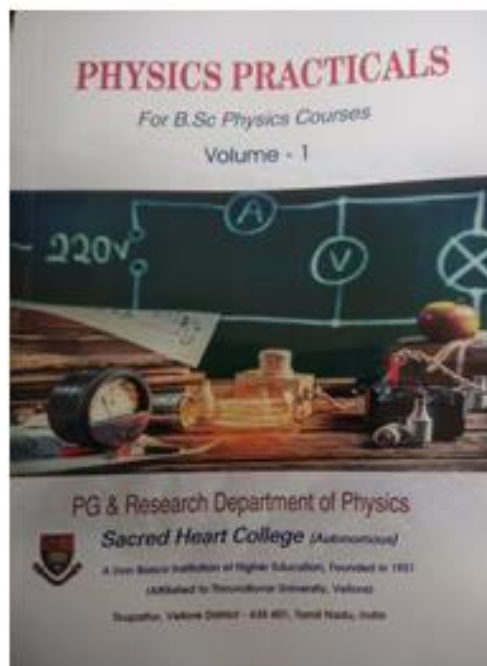


Sacred Heart College (Autonomous)

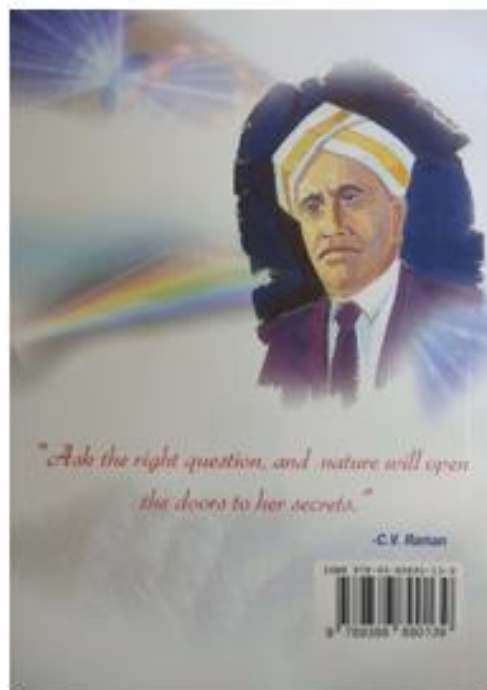
A Don Bosco Institution of Higher Education, Founded in 1951

(Affiliated to Thiruvalluvar University, Vellore)

Tirupattur, Vellore District - 635 601, Tamil Nadu, India



Scanned by CamScanner



ENVIRONMENTAL POLLUTION CONTROL IN RIVER ECOSYSTEM

DR. A. ROYAL EDWARD WILLIAMS



Scanned by CamScanner

ENVIRONMENTAL POLLUTION CONTROL IN RIVER ECOSYSTEM

About the Author

Dr. A. Royal Edward Williams, Associate Professor in Economics at Sacred Heart College (Autonomous), Tirupattur, Vellore-601 101, Tamil Nadu. He is trained in Environmental Economics from Bharathidasan University, and obtained Ph.D. degree under the guidance of Prof. M. Ravichandran. He is a recipient of Fulbright Fellowship Award under the Indo-American Environmental Leadership Program in 2004 and Rashtriya Gaurav Award from the Indian International Friendship Society in 2015. The author has gained expertise in Statistical Package for Social Science (SPSS) and Econometric. He has published one book and many research articles in the national Journals (both National and International).



You may reach author at
aewilliams@shcvm.edu.in



M. Fernandus Durai
I. Niyas Ahamed
M. Manigandan

Laboratory Manual for Biochemistry-I

Practical Manual

 **LAMBERT**
Academic Publishing



Java

Programming

for Core and Advanced Learners

 Universities Press

Sagayaraj, Denis, Karthik and Gajalakshmi



PHYSICS PRACTICALS

For B.Sc Physics Courses

Volume - 1



PG & Research Department of Physics



Sacred Heart College (Autonomous)

A Don Bosco Institution of Higher Education, Founded in 1951

(Affiliated to Thiruvalluvar University, Vellore)

Tirupattur, Vellore District - 635 601, Tamil Nadu, India

தமிழும் தமிழியும்



முனைவர் க.சிவசந்திரகுமார்

Scanned by CamScanner

In the recent years, Marine nanotechnology has emerging in the medicinal field for treating many diseases. It is stated that, the wide marine source has potential to act as high therapeutic agents in industrial, medical and many other fields. For that purpose the nanoparticles has extremely targetive agents and has the potential to cure the diseases at the target site. Compared to single nanoparticle, the mixed metal oxide nanoparticles have elevated surface area and it has potential to use in many fields. The zebra fish (*Danio rerio*) has the potential to synthesis the mixed metal oxide nanoparticle has wide range of therapeutic applications. From this study, it is revealed that the metal oxide nanoparticle from zebra fish can be used as an antimicrobial agent and it has the high mineral content. This book is very useful for under graduate and post graduate student and researchers of biochemistry, biotechnology, microbiology, marine biotechnology and nanotechnology.



Mr. V. Ragul and Dr. A. Poongothai

“synthesis and characterization of metal oxide nanoparticle from fish

Mr. V. Ragul M. Sc. Biochemistry student, Department of Biochemistry and Microbiology, Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. He did M.Sc. Research project under the guidance of Dr. A. Poongothai and he published two international journals and participated in many seminars, conferences and workshops.



978-613-6-79839-4



In the present research, pus sample wound sample was collected and the collected samples were processed for the further bacterial isolation and identification. The isolated bacterial isolates were identified as Staphylococcus aureus, Escherichia coli, Salmonella typhi, Pseudomonas aeruginosa and Proteus sp. Antibacterial activity of the bacterial isolates was assessed by Disc diffusion method. The antibiotic Streptomycin was sensitive against Staphylococcus aureus, Escherichia coli and Proteus sp. and resistant to Salmonella typhi and Pseudomonas aeruginosa. Ampicillin was sensitive against Staphylococcus aureus and Salmonella typhi and resistant to Escherichia coli, Pseudomonas aeruginosa and Proteus sp. The antibiotic chloroamphenicol was sensitive to Staphylococcus aureus, Escherichia coli and Proteus sp. and resistant to Salmonella typhi and Pseudomonas aeruginosa. Tetracycline was sensitive to Salmonella typhi, Pseudomonas aeruginosa and Proteus sp. and resistant to Staphylococcus aureus and Escherichia coli. The antibiotics streptomycin and chloroamphenicol showed similar sensitivity and resistant against nosocomial infection causing bacteria.



P. Saranraj
A. Jayaprakash

Dr. P. Saranraj is an Assistant Professor in Department of Microbiology, Sacred Heart College, Tirupattur, Tamil Nadu, India. He has published 112 papers in an International Journals with 1002 Google Scholar Citations & 24 International Books. He is a Proprietor and Managing Director of JPS Scientific Publications and Three International Journals.

Antibiogram of Bacterial Nosocomial Infection



978-613-4-97219-2

 **LAMBERT**
Academic Publishing

Application of traditional waste water treatment requires enormous cost and continuous input of chemicals which becomes uneconomical and causes further environmental damage. Hence, economical and ecofriendly techniques using microorganisms can be applied for fine tuning of waste water treatment. Thus, by this present study, it was concluded that the bacterial isolates like *Bacillus odysey*, *Bacillus thuringiensis*, *Bacillus subtilis*, *Bacillus cereus*, *Alcaligenes sp.*, and *Nocardiopsis alba* were used as a good microbial source for the textile Reactive dye decolourization and waste water treatment in textile dye industries. The bacteria *Nocardiopsis alba* showed high decolourization percentage against textile Reactive dyes followed by *Bacillus subtilis*, *Bacillus cereus*, *Alcaligenes sp.*, *Bacillus odysey* and *Bacillus thuringiensis*. Among the three dyes tested, the dye Reactive Orange – 16 was highly decolourized by the bacterial isolates when compared to other reactive dyes. The bacterial isolates showed more effective decolourization of the test textile Reactive dyes when compared to the individual bacterial isolates which was isolated from the textile dye effluent.

Reactive Dye Decolourization



P. Saranraj
A. Jayaprakash
S. Sivasakthi



Dr. P. Saranraj is presently an Assistant Professor at the Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India. He has published 127 papers (Google Scholar Citations - 1328, H - index: 20 and i10-index - 47) in peer reviewed International Journals, 35 International Books and 2 International Book chapters.

Bacterial Decolourization of Reactive Textile Dyes

Saranraj, Jayaprakash, Sivasakthi



978-613-9-97641-6

 **LAMBERT**
Academic Publishing

Urinary tract infection or UTI is very common but can be unpleasant and very uncomfortable. Urinary tract infection is an infection in any part of urinary system like kidney, bladder and urethra. Hibiscus is a flowering plant which grows in many tropical places all around world. It is simply known as a beautiful flower however, this plant particularly its leaves and flowers is used in Indian Ayurvedic system as a medicinal plant for treating ailments and health problems. It is used in skin care products for protecting against ultraviolet radiations, kidney disease, hypertension control, cancer treatment, wound healer, reducing cholesterol level, hair care, tumor fighter and laxative. It is also used in many health drinks as a medicinal tea using the flowers and leaves. This study isolated and identified the pathogenic bacteria from urine sample of UTI patient and detected the antibiotic susceptibility against the bacterial isolate and compared the best antibiotic concentration with Hibiscus leaf extract against the test isolate Escherichia coli.



A. Jayaprakash (Ed.)
Affiya Amreen
P. Saranraj



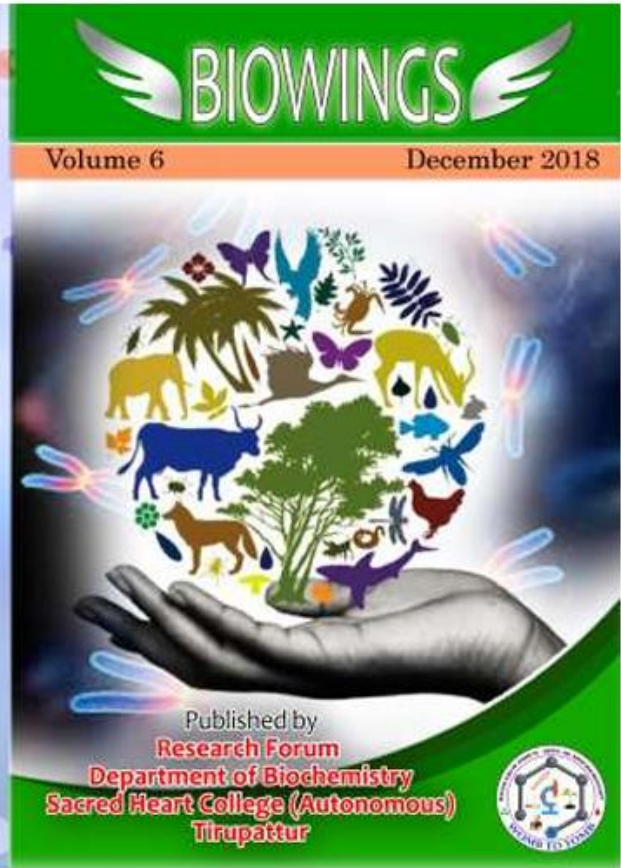
The editor of the book Dr. A. Jayaprakash is currently working as an Assistant Professor at Dept. of Biochemistry, Sacred Heart College(Autonomous), TN, India & did his Ph.D. (Biochemistry-Botany) at Centre for Advanced Studies in Botany, University of Madras. His area of specialization includes Biochemistry, Mycology and Industrial Biotechnology.

Hibiscus rosasinensis extract against UTI causing Escherichia coli



978-613-9-96063-7

 **LAMBERT**
Academic Publishing



The book endows with an impression of the basis and ways to better understanding of endocrinology. It is relatively one of the newer super-specialties of internal medicine. The book is a compilation of chapters related to the specialty of endocrinology. It is divided into five main sections that reflect the physiologic roots of endocrinology. Indeed, it will help for the beginners to develop. We hope you find this book useful in your effort to achieve continuous learning.



R. Ananthakshmi
I Niyas Ahamed

The authors of the book, R. Ananthakshmi and I. Niyas Ahamed serving as Assistant Professors in the PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore, Taminadu, India. They have adequate proficiency in the field of Endocrinology.

Introduction to Endocrinology

A Textbook Of Hormones



978-613-9-96412-3

 **LAMBERT**
Academic Publishing

The manual is divided into three main sections. First section deals with general introduction and laboratory safety. Second section deals with qualitative analysis of carbohydrate and amino acid. The third section deals with quantitative analysis along with biomolecules preparations. The present script is just a compilation of facts and interpretation from different sources. The author does not claim the originality of the subjects. The present manual is the author's understanding of the various techniques described and are fully responsible for the errors and misinterpretations.



M. Fernandus Durai
I. Niyas Ahamed
M. Manigandan

Dr. M. Fernandus Durai, Dr. I. Niyas Ahamed and Dr. M. Manigandan
handling lab course for the beginners of undergraduate students in
Department of Biochemistry and Microbiology at Sacred Heart College
(Autonomous), Tirupattur, Vellore, Tamilnadu, India.

Laboratory Manual for Biochemistry-I

Practical Manual



978-613-9-96103-0



In the present research, pus sample wound sample was collected and the collected samples were processed for the further bacterial isolation and identification. The isolated bacterial isolates were identified as Staphylococcus aureus, Escherichia coli, Salmonella typhi, Pseudomonas aeruginosa and Proteus sp. Antibacterial activity of the bacterial isolates was assessed by Disc diffusion method. The antibiotic Streptomycin was sensitive against Staphylococcus aureus, Escherichia coli and Proteus sp. and resistant to Salmonella typhi and Pseudomonas aeruginosa. Ampicillin was sensitive against Staphylococcus aureus and Salmonella typhi and resistant to Escherichia coli, Pseudomonas aeruginosa and Proteus sp. The antibiotic chloroamphenicol was sensitive to Staphylococcus aureus, Escherichia coli and Proteus sp. and resistant to Salmonella typhi and Pseudomonas aeruginosa. Tetracycline was sensitive to Salmonella typhi, Pseudomonas aeruginosa and Proteus sp. and resistant to Staphylococcus aureus and Escherichia coli. The antibiotics streptomycin and chloroamphenicol showed similar sensitivity and resistant against nosocomial infection causing bacteria.



P. Saranraj
A. Jayaprakash

Dr. P. Saranraj is an Assistant Professor in Department of Microbiology, Sacred Heart College, Tirupattur, Tamil Nadu, India. He has published 112 papers in an International Journals with 1002 Google Scholar Citations & 24 International Books. He is a Proprietor and Managing Director of JPS Scientific Publications and Three International Journals.

Antibiogram of Bacterial Nosocomial Infection



978-613-4-97219-2

LAP LAMBERT
Academic Publishing

Application of traditional waste water treatment requires enormous cost and continuous input of chemicals which becomes uneconomical and causes further environmental damage. Hence, economical and ecofriendly techniques using microorganisms can be applied for fine tuning of waste water treatment. Thus, by this present study, it was concluded that the bacterial isolates like *Bacillus odyssey*, *Bacillus thuringiensis*, *Bacillus subtilis*, *Bacillus cereus*, *Alcaligenes sp.*, and *Nocardiopsis alba* were used as a good microbial source for the textile Reactive dye decolourization and waste water treatment in textile dye industries. The bacteria *Nocardiopsis alba* showed high decolourization percentage against textile Reactive dyes followed by *Bacillus subtilis*, *Bacillus cereus*, *Alcaligenes sp.*, *Bacillus odyssey* and *Bacillus thuringiensis*. Among the three dyes tested, the dye Reactive Orange – 16 was highly decolourized by the bacterial isolates when compared to other reactive dyes. The bacterial isolates showed more effective decolourization of the test textile Reactive dyes when compared to the individual bacterial isolates which was isolated from the textile dye effluent.

Reactive Dye Decolourization



P. Saranraj
A. Jayaprakash
S. Sivasakthi



Dr. P. Saranraj is presently an Assistant Professor at the Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India. He has published 127 papers (Google Scholar Citations - 1328, H - index: 20 and i10-index - 47) in peer reviewed International Journals, 35 International Books and 2 International Book chapters.

Saranraj, Jayaprakash, Sivasakthi

Bacterial Decolourization of Reactive Textile Dyes



978-613-9-97641-6

LAP LAMBERT
Academic Publishing

The Tannery industry releases waste water is a serious consequence from the pollution point of view for streams, freshwater and land used for agriculture. The lack of awareness in the modern industrial practice has resulted in the discharge of tannery effluents which exhibit very high value for chromium, sulphide, and chloride, Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Biological Oxygen Demand (BOD) and Chemical Oxygen Demand (COD) in the water stream or land. In the course of the last two decades a wide variety of technologies had been developed for cleanup operations of contaminated sites. Bioremediation has evolved as the most promising one because of its economical safety and environmental features, since organic contaminants become actually transferred and some of them are fully mineralized. Bioremediation of tannery effluents is an attractive environment friendly, safe and cost effective alternative technology to conventional methods. Microbes in the environment play an important role in cycling and destroying them through biodegradation.



S Sivasakthi
P. Saranraj (Ed.)
K. Sathiyaseelan



Mrs. S. Sivasakthi is a Research Scholar in Department of Microbiology, Shanmuga Industries Arts and Science College, Tiruvannamalai, Tamil Nadu, India. She completed her M.Sc degree in Annamalai University and she is an expert in Agricultural & Environmental Microbiology. She has published more than 25 papers in International Journals and 2 Books.

Bioadsorption of Heavy Metals in Tannery Effluent



978-613-9-97528-0

 **LAMBERT**
Academic Publishing

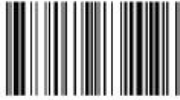
Foodborne illness (also foodborne disease and colloquially referred to as food poisoning) is any illness resulting from the food spoilage of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food, as well as toxins such as poisonous mushrooms and various species of beans that have not been boiled for at least 10 minutes. Spices are an important sources against the food borne pathogens used in majority of the cuisines especially in Indian kitchens. This research publication analysed the antimicrobial efficacy of three different spices *Syzygium aromaticum* (Clove), *Zingiber officinale* (ginger) and *Curcuma longa* (turmeric). The three spice methanol extracts showed maximum antibacterial activity against the selected food borne pathogens and revealed the presence of biologically important phytochemical compounds.



Manigandan Murugan
K. Priya
P. Saranraj

Mr. M. Manigandan is working as an Assistant Professor in the Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India. He has published many papers regarding antimicrobial activity of plants, seaweeds and now on spices. His area of specialization is Medical Microbiology, Immunology and Herbal Research.

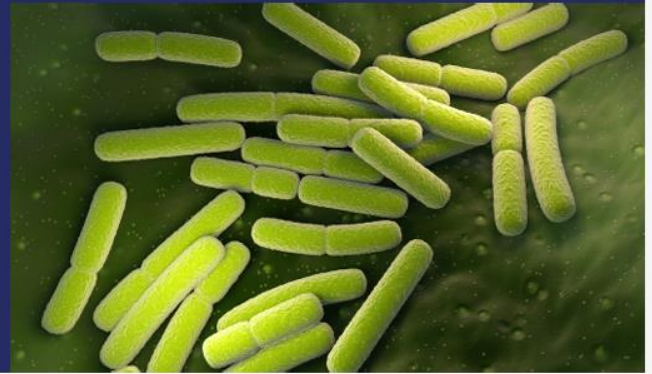
Comparative efficacy of three different spices



978-613-9-83202-6

 **LAMBERT**
Academic Publishing

Urinary tract infection or UTI is very common but can be unpleasant and very uncomfortable. Urinary tract infection is an infection in any part of urinary system like kidney, bladder and urethra. Hibiscus is a flowering plant which grows in many tropical places all around world. It is simply known as a beautiful flower however, this plant particularly its leaves and flowers is used in Indian Ayurvedic system as a medicinal plant for treating ailments and health problems. It is used in skin care products for protecting against ultraviolet radiations, kidney disease, hypertension control, cancer treatment, wound healer, reducing cholesterol level, hair care, tumor fighter and laxative. It is also used in many health drinks as a medicinal tea using the flowers and leaves. This study isolated and identified the pathogenic bacteria from urine sample of UTI patient and detected the antibiotic susceptibility against the bacterial isolate and compared the best antibiotic concentration with Hibiscus leaf extract against the test isolate Escherichia coli.



A. Jayaprakash (Ed.)
Affiya Amreen
P. Saranraj



The editor of the book Dr. A. Jayaprakash is currently working as an Assistant Professor at Dept. of Biochemistry, Sacred Heart College(Autonomous), TN, India & did his Ph.D. (Biochemistry-Botany) at Centre for Advanced Studies in Botany, University of Madras. His area of specialization includes Biochemistry, Mycology and Industrial Biotechnology.

Hibiscus rosasinensis extract against UTI causing Escherichia coli



978-613-9-96063-7

 **LAP LAMBERT**
Academic Publishing

The antibacterial effect of honey, mostly against Gram positive bacteria, both bacteriostatic and bactericidal effects have been reported, against many strains, many of which are pathogenic. In the present research, Natural honey showed maximum Antimicrobial activity and Antioxidant activity than Commercially marketed honey. It was showed that the honey samples does not exhibited antimicrobial activity against the yeast *Candida albicans*. The pharmacological activity of Vembu honey was comparatively high when compared to the Kombu honey. All the honey samples are resistant to *Candida albicans*, *Shigella flexneri*, *Enterococcus casseliflavus* and *Pseudomonas aeruginosa*. Highest inhibitory activity was observed against *Klebsiella pneumoniae* and *Staphylococcus aureus*. In conclusion, honey is effective against the bacterial pathogens which are frequently causing Urinary tract infection and Neonatal sepsis, and it is the "SWEET MEDICINE" for bacterial infections. We also recommend the Women and Infants to take the Vembu honey regularly for preventing them from the Urinary tract infection and Neonatal sepsis.



K. Suganthi
P. Saranraj

Ms. K. Suganthi is a M.Sc Biochemistry student in Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. She completed her M.Sc project under the guidance of Dr. P. Saranraj, Assistant Professor, Department of Biochemistry and Microbiology, Sacred Heart College (Autonomous), Tirupattur.

Pharmacology of Natural and Commercial Honey



978-613-9-81781-8

 **LAMBERT**
Academic Publishing

The pineapple substrate was collected from the market in Chidambaram. The materials were cut into small pieces and juice was extracted. The juice substrate were subjected to physical, chemical and biological methods of pretreatment in order to liberate the fermentable sugars from the complex polysaccharides to select efficient methods for pretreatment. The yeast *Saccharomyces cerevisiae* was isolated from the extracted pineapple juice. The growth rate of *Saccharomyces cerevisiae* cultures were tested by using different sugars and nitrogen source. Among these, glucose supported maximum growth of 0.74 % at 15 % concentration after 48 hours of incubation and among the nitrogen source, maximum cell density 1.47 was observed at 48 hours of incubation when 1000 mg of Ammonium sulphate was added. The fermentation parameters such as pH, temperature and inoculum size were optimized for enzyme hydrolyzed grape juice residues. The pH parameters are 3.5, 4.5, 5.5 and 6.5 was taken. Among these 5.5 were ideal for yeast fermentation. The ethanol yield obtained with optimized parameters was 22.17g L-1. The temperature level of 44 °C and inoculum size of 1 % were ideal for yeast fermentation.



P. Saranraj
P. Sivasakthivelan

Pine Apple Wine Fermentation

Dr. P. Saranraj is an Assistant Professor in Department of Microbiology, Sacred Heart College, Tirupattur, Tamil Nadu, India. He has published 112 papers in an International Journals with 1002 Google Scholar Citations & 25 International Books. He is a Proprietor and Managing Director of JPS Scientific Publications and Three International Journals.



978-613-4-97277-2

LAP LAMBERT
Academic Publishing

Onion peel act as a good source for the growth of *Penicillium chrysogenum* than *Aspergillus niger*. It is very rare to see the single fungal culture in one plate without any other fungal contamination and the rare case was observed in our research in Onion peel medium with *Penicillium chrysogenum*. Formulation of Selective medium for fungi is very challenging in the present scenario. This present research will provide a way for the production of low cost Selective medium for *Penicillium chrysogenum* and other fungal isolates. Garlic peel showed an average growth for *Penicillium chrysogenum* and the fungi *Aspergillus niger* did not showed any growth on Garlic peel medium. Finally, in our research we concluded that the Onion peel waste was the good low cost environmental free medium for the cultivation of an industrially important fungi *Penicillium chrysogenum* and *Aspergillus niger*. Garlic peel waste medium is the good source for *Penicillium chrysogenum* cultivation but not for the cultivation of *Aspergillus niger*. The present study will provide the concept of "Zero waste economy" to this society.



L. Bhavani
P. Saranraj

Ms. L. Bhavani is a M.Sc Biochemistry student in Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. She completed her M.Sc project under the guidance of Dr. P. Saranraj, Assistant Professor, Department of Biochemistry and Microbiology, Sacred Heart College (Autonomous), Tirupattur.

Vegetable Peel Wastes – A Novel Medium for Cultivation of Fungi



978-613-9-81778-8

 **LAMBERT**
Academic Publishing

13. Combining Finland's and Don Bosco's Models of Education as an Alternative System for India	165
--	-----

K. A. Maria Arokia Raj
U. Anto Maria Eusobia

14. Skilling Needs of Sri Lankan Youth Living in India – Scope and Challenges	181
---	-----

K. Arockia Raj

Panel Session – 1 – Education Fast Forward: Taking Stock

Uma Sivaraman	194
<i>Former Deputy Commissioner, Kendriya Vidyalaya Sangathan (KVS)</i>	

M. J. Xavier	197
<i>COO - Karunya University and Former Director - IIM Ranchi</i>	

Thathireddy Vijaya Bhaskar	199
<i>President, Don Bosco Network in Andhra Pradesh and Telangana</i>	

Pooja Agarwal	201
<i>Director, Nature Nurture</i>	

G. Prabhakaran	205
<i>Principal, KCG College of Technology</i>	

Panel Session – 2 – Fast Forwarding Education: Making It Happen

J. Henry Rozario	208
<i>Director, EXODUS Research and Development Pvt. Ltd.</i>	

Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP) guarantees 100 days of employment to each household at a minimum prescribed rate. The long term objective of the programme is to enhance people's livelihood on a sustainable basis by developing the economic and social infrastructure in the rural areas. The types of works recommended in the scheme are related to economic and social infrastructure such as water conservation and water harvesting, drought proofing, irrigation canals, provision of irrigation facility, renovation of traditional water bodies, land development, flood control and protection works including drainage in water logged areas, and rural connectivity. In India, the scheme provides employment to more than 20 million households, out of which more than 50.5 per cent of the beneficiaries come from underprivileged households. Equal preference is given to women as compared to men. This book provides an over all view on MGNREGP and other poverty alleviation programmes.



R. Kurinjimalar



Dr. R. Kurinjimalar is working as an Assistant Professor in the Department of Economics, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu. She got her Ph.D. from Bharathidasan University, Trichy. Her area of specialization includes rural development, labour economics, International and environmental economics, monetary and fiscal economics

Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP)



978-613-7-34190-2

 **LAP LAMBERT**
Academic Publishing

ECONOMIC FEASIBILITY OF ENGINEERING
STUDENTS IN TAMIL NADU

Dr SIVA GURUNATHAN, S

Archers & Elevators Publishing House
Bangalore - 560 090 India.

ARCHERS & ELEVATORS PUBLISHING HOUSE

231 AGS 149 9th, 8th Cross

Heeraghatta Main Road

Bangalore-560090(INDIA)

Mail - 91 9384362363

E-mail: archerselevators@gmail.com

Website: www.aeph.in

ECONOMIC FEASIBILITY OF ENGINEERING STUDENTS IN TAMIL NADU

© Archers and Elevators Publishing House

First Edition 2017

ISBN: 978-93-86501-42-4

Price: Rs.200/-

All rights reserved. This book or parts therefore, may not be reproduced in any form by any means, electronic or mechanical, including photocopying, recording or information storage and retrieval system now known or to be invented, without written permission from copyright owners.

PRINTED IN INDIA
A & E printers, Bangalore-90

Foodborne illness (also foodborne disease and colloquially referred to as food poisoning) is any illness resulting from the food spoilage of contaminated food, pathogenic bacteria, viruses, or parasites that contaminate food, as well as toxins such as poisonous mushrooms and various species of beans that have not been boiled for at least 10 minutes. Spices are an important sources against the food borne pathogens used in majority of the cuisines especially in Indian kitchens. This research publication analysed the antimicrobial efficacy of three different spices *Syzygium aromaticum* (Clove), *Zingiber officinale* (ginger) and *Curcuma longa* (turmeric). The three spice methanol extracts showed maximum antibacterial activity against the selected food borne pathogens and revealed the presence of biologically important phytochemical compounds.



Manigandan Murugan
K. Priya
P. Saranraj

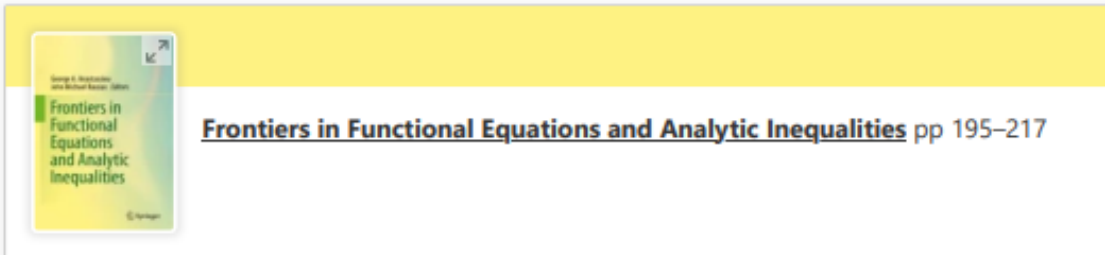
Mr. M. Manigandan is working as an Assistant Professor in the Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India. He has published many papers regarding antimicrobial activity of plants, seaweeds and now on spices. His area of specialization is Medical Microbiology, Immunology and Herbal Research.

Comparative efficacy of three different spices



978-613-9-83202-6

 **LAMBERT**
Academic Publishing



Home > [Frontiers in Functional Equations and Analytic Inequalities](#) > Chapter

Fourier Transforms and Ulam Stabilities of Linear Differential Equations

[Murali Ramdoss](#) & [Ponmana Selvan Arumugam](#)

Chapter | [First Online: 24 November 2019](#)

348 Accesses | **1** Citations

Abstract

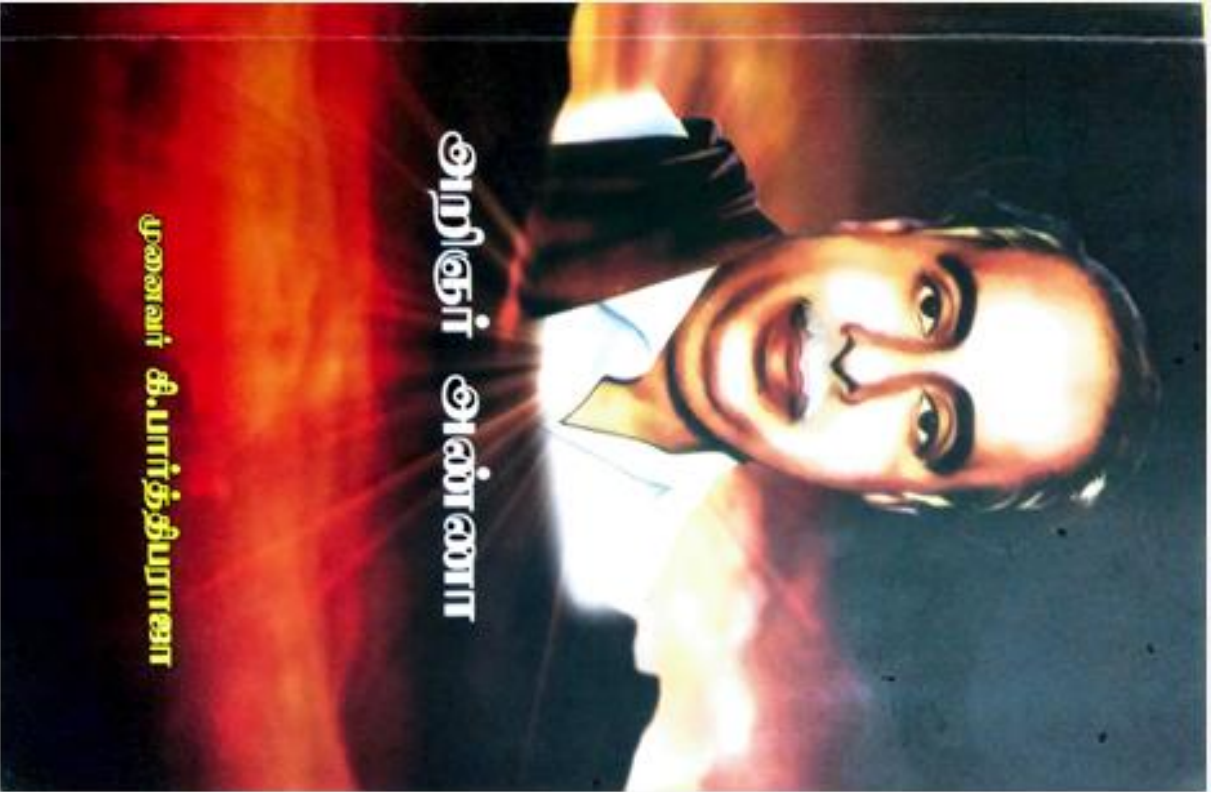
The purpose of this paper is to study the Hyers–Ulam stability and Generalized Hyers–Ulam stability of the general Linear Differential Equations of first order and second order with constant coefficients using Fourier Transform method. Moreover, the Hyers–Ulam stability constants of these differential equations are obtained. Some examples are given to illustrate the main results.

Keywords

Hyers–Ulam stability

Contents

Foreword	i
Acknowledgements	v
Introduction to the Book	1
<i>S S Sangwan and Gagan Deep</i>	
Key Note Address	25
<i>Pratap S Birlhal</i>	
Section I : Protected Cultivation with Crop Diversification for Doubling Income	
1 Harnessing Protected Cultivation for Doubling of farmers' Income: implementation and Impact in Haryana, Punjab & Himachal Pradesh	59
<i>S S Sangwan and Gagan Deep</i>	
2 Strengthening food security and Rural Development through Protected Cultivation Practices- Evidence from Punjab	101
<i>Deep Rattan Khara</i>	
3 Impact of Protected Cultivation on Income of Marginal Farmers	115
<i>Nitindi Siddhu Bopchi, Pulak Mishra and Bhagirath Behera</i>	
4 Economics of Floriculture under protected Cultivation: A study in Krishnagiri District of Tamil Nadu	129
<i>Xaviersusairaj A</i>	
5 Strategy and Planning of Flori Business for boosting Farmers' Income	135
<i>Y C Gupta, Roshni Agnihotri and Priyanka Sharma</i>	
6 Technological Strategies in Flower Production for Maximization of Flower Growers' Income	150
<i>S R Dhiman and Sangeeta Kumari</i>	
7 Crop Diversification in Uttar Pradesh: An Analysis of Primary Data	167
<i>K S Rao, Manoj Kumar Sharma, Sanidhya Verma and Shwetank Pandey</i>	



நூல் விவரம்

2 *அ. அறிஞர் அம்மா*

செய்தியு : அறிஞர் அண்ணா (Annam Anna)

ஆசிரியர் : வி. அறிஞர் அம்மா

முதலாவது பதிப்பு : செப்டம்பர்-2018

பக்கங்கள் : ஆதிக்காலம்

விலை : 100

உருவாக்கம் : பதிப்பு அமைப்பு

32, முத்துக்குடி வீதி, சென்னை, தமிழ்நாடு.
 சென்னை-600 004, (தமிழ்நாடு)
 தொலைபேசி: 99424 41751.

ISBN : ISBN 978-93-88990-19-4

பதிப்பு : பதிப்பு

அளவு : 1/8 அளவு

விலை : ரூ. 60/-

வாங்குமிடம் : **அ. அறிஞர் அம்மா,**
 எழுத்தாக்கம், சென்னை,
 சென்னை-600 004, (தமிழ்நாடு).
 தொலைபேசி: 98658 20540.

Traditional medicine has been described as the total combination of knowledge and practices whether explicable or not, used in diagnosing, preventing, or eliminating physical, mental, or social disease and which may rely exclusively on experience and observation, handed down from generation to generation, verbally or in writing. This form of therapy covers a broad range of healing philosophies and approaches; some approaches are consistent with physiological principles of orthodox medicines, while others constitute independent healing systems. Some of the alternative approaches to the treatment of ailments include herbal medicine, homeopathy, nutraceuticals, acupuncture, bodywork and massage. Herbal medicine is a traditional medicinal or folk medicine practice based on the use of plants and plant extracts. It refers to the use of any plant's seeds, berries, roots, leaves, bark, or flowers for medicinal purposes. Herbal medicine is also known as botanical medicine, medicinal botany, medicinal herbalism, herbology and phytotherapy.



Poongothai A
Fernandus Durai
Niyas Ahamed

The Authors of this book are all Research forum students and Dr.A.Poongothai, Dr. M.Fernandus Durai and Dr.I. Niyas Ahamed, Assistant Professors, Dept of Biochemistry, Sacred Heart College (Autonomous), Tirupattur.

Herbal Technology

Indian Medicine



978-620-0-47974-7

LAP LAMBERT
Academic Publishing

The manual divided into five sections. First section deals plant cell and structure and its functions. Second section deals photosynthesis and carbon cycles. Third section deals biogeochemical cycles (N,S,P cycles). Fourth section deals plant hormones which helps for growth and metabolism. Fifth section deals plant nutritions which is enhance plant growth and development. The present manual is the author understanding of the various stages in plant growth and developments.

Plant Biochemistry



M. Fernandus Durai

Plant Biochemistry



Dr. M. Fernandus Durai working as assistant professor in department of Biochemistry, Sacred Heart College, Tirupattur, for more than 9 years . I completed my Ph.D at CSIR-CLRI, awarded by Madras University.

FOR AUTHOR U



978-613-9-98214-1

Durai



Class Quality Circle

Dr. K. Arockia Raj



Scope and Challenges in Promoting Research, Innovations and Extension in Higher Educational Institutions (HEIs)

Dr. K. Arockiaraj

Asst. Professor, P.G & Research
Department of Social Work,
Sacred Heart College (Autonomous),
Tirupattur, Vellore Dt. Tamil Nadu.
Email: arocktarajk@gmail.com

1. Introduction

Research, Innovation and Collaboration is one of the inevitable criteria measuring the quality of Higher Education Institutions (HEIs). National Assessment and Accreditation Council (NAAC) plays an important role in creating a pathway in India by assessing and accrediting the standards of Universities, Autonomous Colleges and Affiliated/Constituency Colleges. This criteria facilitates with guidelines to promote scientific research culture, publication and practice through extension services by the students and teachers. This enables the HEIs to meet the standards of national and global frame work. This paper highlights rationale and key indicators of this criterion, illustrates the learning from various HEIs and suggests measures to enhance Research, Innovation and Extension.

2. Objectives of this Paper

This paper aims to highlight the framework and standards derived by NAAC to measure the quality of the HEIs in terms of their Research, Innovation and Extension by Students and Faculty Members. It aims to provide the learning from the personal experience and from the Self Study Report of the HEIs in India. It enables with recommendations to the HEIs for enhancing the quality of Research, Innovation and Extension services.

3. Guidelines of NAAC for Research, Innovation and Extension

This criterion provides framework to collect and grade various information on policies, practices and outcomes of those institution, which lead to research, innovation and extension. It indicates the support facilities provided and efforts made by the institution to promote a 'Scientific research culture'. The institutions have the mandate to enable students and teaching members to undertake research, innovation and extension which are useful to the society.

The following table provides the criterion-wise differential weightages for the three types of HEIs are:

Criteria: Research, Innovation and Extension	Types of Higher Educational Institutions		
	University (Total Weightage)	Autonomous Colleges (Total Weightage)	Affiliated/Constituent Colleges (Total Weightage)
Curricular Aspects	150	150	100
Teaching-learning & Evaluation	200	300	350
Research, Innovations & Extension	250	150	120
Infrastructure & Learning Resources	100	100	100
Student Support & Progression	100	100	130
Governance, Leadership & Management	100	100	100
Institutional Values & Best Practices	100	100	100

Source: NAAC, 2017

Medical Laboratory Technology is a broad area comprising of different disciplines like Clinical Pathology, Hematology, Biochemistry, Bacteriology, Immunology, Virology, Mycology, Parasitology, Histopathology, Cytology, Cytogenetic and Molecular biology. Medical Laboratory Technology plays a crucial role in the diagnosis of diseases, prognosis and treatment. Apart from the laboratory diagnosis, application of Medical laboratory technology extends to detection of genetic disorders, epidemiology of infection diseases, detection of metabolic disorders and even to answer unraveled questions in forensic medicine. This manual will be useful for undergraduate and Post graduate college students of biochemistry and Diploma in Medical laboratory Technology.



FOR AUTHOR USE ONLY

A. Poongothai
Anbu Singaravelan
Gopala Krishnan

The Authors of the book Dr. A. Poongothai, Dr. S. Anbu and Dr. V. Gopala Krishnan Assistant Professors, PG and Research Department of Biochemistry, Sacred Heart College, Tirupattur - 635 601, Tirupattur District, Tamil Nadu, India.

A Basic Laboratory Manual for Diploma In Medical Laboratory Technology

Laboratory Manual for DMLT



978-620-0-48165-8



Antiphospholipid syndrome can cause blood clots to form within the arteries, veins and organs. It can also cause miscarriage and stillbirth in pregnant women. Symptoms may include blood clots, which may occur in the legs, arms or lungs. Recurrent miscarriages may also be common. Blood-thinning medication can reduce the risk of blood clots. The present study was aim to assess the clinical significance of antiphospholipid antibodies towards thrombosis and abortions of pregnancy women using IgG and IgM levels. The results showed that the IgG and IgM level of antiphospholipid indicated significantly increased serum level when compared control aspirin. Therefore, the levels of IgG and IgM were increased in both groups, thus denying any role of raised antiphospholipid antibodies and recurrent abortion cases.



Ramya Rangan
Poongothai Annadurai

Miss R. Ramya is an PG Diploma in Medical Laboratory Technique student in Department of Biochemistry, Sacred Heart College (Autonomous) Tirupattur- 635 601, Vellore District, Tamil nadu, India. She did her PGDMLT research Project under the Guidance of Dr. A. Poongothai.

Clinical Significance of Antiphospholipid Syndrome for Pregnancy

Hughes syndrome



978-620-0-23809-2

LAP LAMBERT
Academic Publishing

Traditional medicine has been described as the total combination of knowledge and practices whether explicable or not, used in diagnosing, preventing, or eliminating physical, mental, or social disease and which may rely exclusively on experience and observation, handed down from generation to generation, verbally or in writing. This form of therapy covers a broad range of healing philosophies and approaches; some approaches are consistent with physiological principles of orthodox medicines, while others constitute independent healing systems. Some of the alternative approaches to the treatment of ailments include herbal medicine, homeopathy, nutraceuticals, acupuncture, bodywork and massage. Herbal medicine is a traditional medicinal or folk medicine practice based on the use of plants and plant extracts. It refers to the use of any plant's seeds, berries, roots, leaves, bark, or flowers for medicinal purposes. Herbal medicine is also known as botanical medicine, medicinal botany, medicinal herbalism, herbology and phytotherapy.



Poongothai A
Fernandus Durai
Niyas Ahamed

Herbal Technology

Indian Medicine

The Authors of this book are all Research forum students and Dr. A. Poongothai, Dr. M. Fernandus Durai and Dr. I. Niyas Ahamed, Assistant Professors, Dept of Biochemistry, Sacred Heart College (Autonomous), Tirupattur.



978-620-0-47974-7

 **LAMBERT**
Academic Publishing

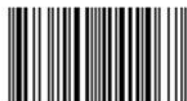
Medicinal plant extracts contain various types of bioactive compounds known as phytochemicals. Traditional medicine can be used in treatment as anticancer, antimicrobial, antioxidant, anti-inflammatory agents. Antibiotics provide the main basis for the therapy of microbial (bacterial and fungal) infections. From the present study, it was observed that the methanolic extract of *Averrhoa carambola* L fruit possesses good antibacterial potential and it could be rationalized taking into account the presence of phenolics and flavonoid contents in it. The extract also showed moderate phytochemical, which might be attributed to the presence of alkaloid and flavonoid in the extract. It is advantageous to use the plant antibacterial agents in therapeutic drugs for the implications of human health as it is from natural products greatly contribute to the prevention of pathological disorders.



Naziya Sadiq Ahmed
Poongothai Annadurai
Niyas Ahamed

Miss. Naziya Sadiq Ahmed is an II M.Sc.Biochemistry, Marudhar Kesari Jain College for Women, Vaniyambadi. She did her M.Sc project under the Guidance of Dr.A.Poongothai & Dr. I. Niyas Ahamed at Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu.

Phytochemical Analysis, Antibacterial Activity of *Averrhoa Carambola*



978-620-0-24146-7

LAP LAMBERT
Academic Publishing

Carica papaya straw of papayasayanam extract showed various phytochemical constituents such as alkaloids, flavonoids, carbohydrates, glycosides, saponins, tannins, Terpenoids, Steroids, Phytosterols Fixed oils and fats. The antibacterial activity of papayasayanam extract of Carica papaya straw revealed that the against various test organisms like Escherichia Coli, Staphylococcus aureus, Proteus vulgaris, Bacillus subtilis and Klebsiella pneumonia. All these preliminary reports warrant an in depth analysis of the usefulness of papayasayanam extract of Carica papaya straw as miracle drug against various ailments. In future, Increasing use and fast-growing market of herbal medicines and other herbal healthcare products, in both developing and developed countries of the world, policy-makers, health professionals and the public are increasingly expressing concerns about the safety, efficacy, quality, availability, preservation and further development problems of these herbal products.

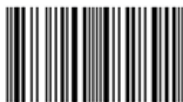


A. Poongothai
Siva Sankari

The Authors of this book Dr.A.Poongothai and Mrs. M. Sivasankari, PG and Research Department of Biochemistry, Sacred Heart College (Autonomous) Tirupattur- 63561, Tirupattur District. TamilNadu, India

Phytochemicals and Antibacterial activity of Carica papaya straw

Phytochemical analysis and Antibacterial activity of papayasayanam extract of Carica papaya straw



978-620-0-48289-1

LAP LAMBERT
Academic Publishing

Phytochemicals of nutraceutical importance are bioactive constituents that sustain or promote health and occur at the intersection of food and pharmaceutical industries. Such substances may range from isolated nutrients, dietary supplements and specific diets to genetically engineered designer foods, herbal products, processed foods and beverages. Phytochemicals are broadly described as phytoestrogens, terpenoids, carotenoids, limonoids, phytosterols, glucosinolates, polyphenols, flavonoids, isoflavonoids and anthocyanidins. They have tremendous impact on the health care system and may provide medical health benefits including the prevention and/ or treatment of diseases and physiological disorders.



Poongothai Annadurai

Phytochemicals Role in Human Health

Phytonutrients

The Authors of this book are all Research forum students and Dr. A. Poongothai, Assistant Professor, Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur - 635 601, Tamil Nadu.



978-620-0-46052-3

 **LAMBERT**
Academic Publishing

The study on wound healing effect of trichome of *Borassus flabellifer* states that the indigenous medicines are still relevant in the field of medicine. The reliability of the plant medicine will be slightly becomes trust worthy because of the nontoxic nature of the trichome, where it is used as raw one in the villages. The study also would make the people to avoid cutting the palmyra trees anymore. There are many evidences to praise the goodness from the palmyra tree in day to day life. In this series one more quality of palmyra tree is discovered with unimaginable trust with trichome. Therefore the treating wound with trichome is not poisonous. Trichome could be suggested for the fresh wound where the trichome stops forming pus and mark of wound after healing. The nature of the skin is as normal as a normal skin. Therefore this study strongly concludes that trichome has medicinal property of wound healing. Furthermore study would be continued in the years to come based on this sample. This will open a new horizon in the field of medicine.



Jerry Arumainathan
Poongothai Annadurai

Mr. A. Jerry, M.Sc. Biochemistry, Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil nadu, India. He did his M.Sc Research project under the Guidance of Dr. A. Poongothai. He published articles in both national and international journals and participated in many seminars, conferences and workshops.

Wound Healing Effect Trichome of *Borassus Flabellifer*



978-620-0-24791-9

LAP LAMBERT
Academic Publishing

சங்ககால இனக்குழு

சமுதாயத்தின் படிநிலை வளர்ச்சி



முனைவர் இரா.சங்கர்



Scanned by CamScanner

சங்ககால இனக்குழு

சமுதாயத்தின் படிநிலை வளர்ச்சி

முனைவர் இரா.சங்கர்



Human beings are perhaps the most complex organisms on this planet. We can compare a human body to a well equipped machine which works without any rest. The bones and muscles together make the body move. This book on human physiology covers some important topics such as Components and Functions of Blood, Morphology and Functions of Blood Cells, Red Blood Corpuscles Blood Groups and Rh Factor, Lymphatic System, Heart Anatomy and Basic Function, Cardiac Cycle, Electrocardiogram, Lungs, Structure of Lungs and Gas Exchange in the Lungs and Tissues, Structure and Functions of kidney, Functions of Nephrons, Urine Formation, Composition of Urine, The Nervous System, Neuron Structure, Neurotransmitters, Nerve Impulse Conduction, Reflex Action, Muscles-Types, Structure and Functions and Contraction and Relaxation of Skeletal Muscle.



A. Jayaprakash



The author of this book Dr. A. Jayaprakash is currently working as Assistant Professor in the Dept. of Biochemistry in Sacred Heart College (Autonomous), TN. He did his Ph.D. (Biochemistry-Botany) at Centre for Advanced Studies in Botany, University of Madras. His area of specialization includes Biochemistry, Mycology & Industrial Biotechnology.

Basics in Human Physiology

Structure and functions of Human Physiology



978-620-0-46835-2

 **LAMBERT**
Academic Publishing

BIOLOGICAL SCIENCES FOR HUMAN WELFARE



**P. SARANRAJ
MARIO BERNARDO FILHO
A. JAYAPRAKASH**

Published by



JPS Scientific Publications, India

Research is the most important process for advancing knowledge for promoting progress and to enable man to relate more effectively to his environment to accomplish his purpose and to resolve his conflicts. This book gives an insight in to basics of research. It covers topics such as the basic introduction to research, definitions of research, importance & need for research, ethics in scientific research, ethical principles, formulation of hypothesis, logical format of thesis, research article, review article, short communication, case reports, collection & classification of data, role of computers in Biology, internet and world wide web, search engine algorithm and funding agencies for research.



A. Jayaprakash



The author of this book Dr. A. Jayaprakash is currently working as Assistant Professor in the Dept. of Biochemistry, Sacred Heart College (Autonomous), TN. He did his Ph.D. at Centre for Advanced Studies in Botany, University of Madras. His area of specialization is Biochemistry, Mycology & Industrial Biotechnology.

Introduction to Research Methodology

Basics of Research Methodology



978-620-0-47037-9

 **LAMBERT**
Academic Publishing

This Biochemistry laboratory manual is a compilation of laboratory procedures involving colorimetric estimations of Creatinine, Urea, DNA & RNA, Cholesterol and Glucose. This manual includes enzyme assays of Urease, Salivary amylase and their optimization procedures. The Urinary analysis procedure contains qualitative analysis of normal and abnormal Urine constituents and their clinical significance. Haematology manual includes the determination of blood groups and Rh factor, Haemoglobin, Erythrocyte Sedimentation Rate, RBC & WBC, Differential counting and Blood pressure. This manual will be useful for undergraduate and postgraduate college students of Biochemistry discipline.



A. Jayaprakash
Durga Devi
Singaravelan Anbu



The Author of the book Dr. A. Jayaprakash is currently working as an Assistant Professor at Dept. of Biochemistry, Sacred Heart College(Autonomous), TN, India & did his Ph.D. (Biochemistry-Botany) at Centre for Advanced Studies in Botany, University of Madras. His area of specialization includes Biochemistry, Mycology and Industrial Biotechnology.

Laboratory Manual for Biochemistry Students



978-613-9-44274-4

 **LAMBERT**
Academic Publishing

PHARMACOLOGICAL BENEFITS OF NATURAL PRODUCTS



**P. SARANRAJ
GLAUCIO DIRE FELICIANO
A. JAYAPRAKASH**

Published by



JPS Scientific Publications, India

Resistance to antimicrobial agents has resulted in morbidity and mortality from treatment failures and increased health care costs. Although defining the precise public health risk and estimating the increase in costs is not a simple undertaking, there is little doubt that emergent antibiotic resistance is a serious global problem. This book is the selection of an antibiotic panel for susceptibility testing is based on the commonly observed susceptibility patterns, and is revised periodically.



Niyas Ahamed



Dr. Niyas Ahamed is serving as Assistant Professor in Biochemistry at Sacred Heart College (Autonomous), Tirupattur, Vellore, Tamil Nadu, INDIA.

Handbook of Antimicrobial Susceptibility Analysis

For Beginners



978-620-0-43950-5

 **LAP LAMBERT**
Academic Publishing

Traditional medicine has been described as the total combination of knowledge and practices whether explicable or not, used in diagnosing, preventing, or eliminating physical, mental, or social disease and which may rely exclusively on experience and observation, handed down from generation to generation, verbally or in writing. This form of therapy covers a broad range of healing philosophies and approaches; some approaches are consistent with physiological principles of orthodox medicines, while others constitute independent healing systems. Some of the alternative approaches to the treatment of ailments include herbal medicine, homeopathy, nutraceuticals, acupuncture, bodywork and massage. Herbal medicine is a traditional medicinal or folk medicine practice based on the use of plants and plant extracts. It refers to the use of any plant's seeds, berries, roots, leaves, bark, or flowers for medicinal purposes. Herbal medicine is also known as botanical medicine, medicinal botany, medicinal herbalism, herbology and phytotherapy.



Poongothai A
Fernandus Durai
Niyas Ahamed

The Authors of this book are all Research forum students and Dr.A.Poongothai, Dr. M.Fernandus Durai and Dr.I. Niyas Ahamed, Assistant Professors, Dept of Biochemistry, Sacred Heart College (Autonomous), Tirupattur.

Herbal Technology

Indian Medicine



978-620-0-47974-7

LAP LAMBERT
Academic Publishing

Introduction to Medicinal plants



Edited By

Krithika Vijayalakshmi
Janani Mohan
Priyanka Kumar
&
Niyas Ahamed.

BIOLOGICAL SCIENCES FOR HUMAN WELFARE



**P. SARANRAJ
MARIO BERNARDO FILHO
A. JAYAPRAKASH**

Published by



JPS Scientific Publications, India

13

BLOOD GROUPING AND ITS IMPORTANCE IN HUMAN LIFE

P. Saranraj*

Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India.

*Corresponding author: microsaranraj@gmail.com

1. Introduction

The ABO blood grouping system was discovered by the Austrian Biologist Karl Landsteiner in the year 1901. In this ABO blood grouping system, there are eight different types of Blood groups. The Blood groups are differentiated from each other by the antigen which is present on Red Blood Cells (RBCs). The person who has Antigen 'A' on his RBC has the Blood group 'A'. If the person has the Antigen 'B' on his Red Blood Cells has the Blood group 'B'. If the person has both Antigens 'A' and 'B' on his RBCs has the Blood group 'AB'. If both 'A' and 'B' Antigens are absent on the Red Blood Cells, the person has the Blood group 'O'. In the year 1930, Karl Landsteiner and Alexander S. Wiener jointly discovered the Rh factor on RBCs. his blood group (Qadir and Malik, 2010).

The ABO blood grouping system was controlled by the gene which encoding an enzyme Glycosyltransferase which was observed in three allelic forms viz., IA, IB and IO where the two alleles IA and IB are co-dominant and both are dominant over the IO (Kaur *et al.*, 2011), and 4 possible phenotypes viz., A, B, AB and O. The global distribution of the different phenotypes of this blood grouping system varies among the nature of ethnic groups and geographic regions (Choudhury *et al.*, 2014).

The research about the parental relationship of ABO blood grouping and Rh typing in India and its regions, particularly Tamil Nadu was relatively rare



Microorganisms in Fermentation

*Sudhanshu S. Behera, Ramesh C. Ray, Urmimala Das,
Sandeep K. Panda, and P. Saranraj*

- 1.1 Introduction – 3**
- 1.2 Microbial Diversity: an Overview – 3**
 - 1.2.1 Prokaryotes – 5
 - 1.2.2 Eukaryotes – 9
- 1.3 Methods of Fermentation – 14**
 - 1.3.1 Submerged Fermentation (SmF) or Liquid Fermentation (LF) – 14
 - 1.3.2 Solid-State Fermentation – 14
- 1.4 Growth Measurement During Fermentation Process – 17**
 - 1.4.1 Growth in SmF – 17
 - 1.4.2 Growth in Solid-State Fermentation – 24
- 1.5 Factors Affecting Microbial Growth in Fermentation – 25**
 - 1.5.1 Temperature – 25
 - 1.5.2 pH – 27
 - 1.5.3 Oxygen – 27
 - 1.5.4 Constituents of Growth Medium – 28
- 1.6 Starter Culture(s) – 29**
 - 1.6.1 Concept of Starter Cultures – 29
 - 1.6.2 History and Subsequent Development of Starter Culture – 29

Traditional Foods From Tropical Root and Tuber Crops: Innovations and Challenges

P. Saranraj¹, Sudhanshu S. Behera² and Ramesh C. Ray³

¹Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India ²Department of Biotechnology, National Institute of Technology, Raipur, Chhattisgarh, India ³Centre for Food Biology and Environment Studies, Bhubaneswar, Odisha, India

7.1 INTRODUCTION

Tropical root and tuber crops (TRCs) [cassava (syn. Tapioca) (*Manihot esculenta* Crantz), sweet potatoes (*Ipomoea batatas* L.), yams (*Dioscorea* spp.), Iris potatoes (*Solanum tuberosum* L.), taro (*Colocasia* spp.), etc.] are important cultivated staple energy sources/crops, and are generally endemic to tropical regions (Ray and Sivakumar, 2009). These crops play a critical role in the global food system providing food security in the developing world (estimated annual value of more than \$41 billion dollars) (Scott et al., 2000), while their production accounts nearly one fourth of the values of major cereals (Scott et al., 2000; Phillips et al., 2004; Nweke, 2004). TRCs have long served as the principal source of food and nutrition for many of the world's undernourished/poorest households (more than two billion people). They generally constituted an important source of income in rural and marginal areas, whereas they are cultivated and valued for their stable yields under circumstances such as severe drought and salinity, in which other crops may fail (Scott et al., 2000). TRCs, being a rich source of carbohydrates (starchy roots), have multiple uses, most notably as regular food crops, cash crops, and are increasingly used as livestock feed, raw material for industrial purposes, and also processed for human consumption. Recently, commercial starches, obtained from TRCs (particularly potato and cassava) dominate in the world markets of food

Mosquitoes are vector which can able to transmit wide number of diseases like Malaria, Yellow fever, Filariasis, Japanese encephalitis and Chikungunya. In India, the most common disease transmitting Mosquito species are *Aedes aegypti*, *Anopheles stephensi* and *Culex quinquefasciatus*, and they are known to transmit wide number of Vector borne diseases. Use of synthetic Chemical insecticides in Mosquito control results in various harmful effects which includes, Vector resistance, Environmental pollution and Health hazards. Researchers have necessitated the current significance in the search for plant-based insecticide products that are environmentally safe and effective to control mosquito. The present study was aimed to compare the Larvicidal activity of *Pedaliium murex* and *Erythrina variegata* methanol extracts against Mosquito vectors. It was observed that the increase in concentration of Methanol plant extracts increases the Larvicidal activity of the selected Mosquito larvae. Among the three Mosquito larvae, the Medicinal plant methanol extract showed high mortality percentage against *Culex quinquefasciatus* followed by *Anopheles stephensi* and *Aedes aegypti*.



A.W. Hasna Kousar
M. Veeragavan
P. Saranraj

A.W. Hasna Kousar is a M.Sc Biochemistry student in Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. Her field of specialization is Medicinal plants related research. She has completed her M.Sc Research Project under the guidance of Mrs. R. Uma Vandhana, Dr. M. Veeragavan and Dr. P. Saranraj.

Larvicidal activity of Medicinal Plants against Mosquito Vector



978-620-0-00130-6

 **LAMBERT**
Academic Publishing

MEDICINAL PLANTS 100



**P. SARANRAJ
R. ASWESHVARAN
R. GUNASEKAR**

Released By

**Department of Microbiology,
Sacred Heart College (Autonomous),
Tirupattur.**

&

Published By

JPS Scientific Publications, India

Medicinal Plants 100 (ISBN: 978-81-937810-8-1)
First Edition, 2019
Page: 13 - 15

5

Acalypha indica

Dr. P. Saranraj

Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India.

E.mail: microsaranraj@gmail.com



Scientific Classification

Kingdom	:	Plantae
Division	:	Magnoliophyta
Class	:	Magnoliopsida
Order	:	Euphorbiales
Family	:	Euphorbiaceae
Genus	:	<i>Acalypha</i>
Species	:	<i>indica</i>

©Department of Microbiology, Sacred Heart College, Tirupattur GJPS Scientific Publications, India

MICROBIOLOGY AND BIOTECHNOLOGY IN HUMAN LIFE



**P. SARANRAJ
PAULO ROBERTO SOARES STEPHENS
KAMALESH R. SHAH**

Published by



JPS Scientific Publications, India

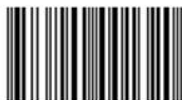
Essential oils are volatile, natural, complex compounds that are produced by plants as secondary metabolites for protection against bacteria, viruses, fungi and pests. In the present study, an attempt has been planned to determine the Minimum Inhibitory Concentration (MIC) and Percentage Growth Inhibition of Essential oils against bacterial pathogens. From this present research, we concluded that the Essential oils are the good source for the inhibition of growth of bacterial pathogens. It was also concluded that the Essential oils also have the capacity of inhibiting the bacteria in low concentration (25 μ /L) itself. Mahualongif oil has the capacity of inhibiting the growth of Gram positive rod *Bacillus cereus* and Gram positive cocci *Staphylococcus aureus*. Pungam oil has the capacity of inhibiting the water borne coliform *Escherichia coli*. Neem oil has the capacity of inhibiting the Typhoid casing bacteria *Salmonella typhi* and Swarming motility showing bacteria *Proteus mirabilis*. Finally, it was concluded that the Essential oils are the best source for treating the bacterial diseases in human beings.



S. Nagalakshmi
P. Saranraj (Ed.)

Ms. S. Nagalakshmi is a M.Sc Biochemistry student in Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. She has completed her M.Sc Research Project under the guidance of Dr. P. Saranraj. She has received the SACRED HEART FELLOWSHIP (SHF) from her Sacred Heart College to carry out her research work.

Minimum Inhibitory Concentration of Essential Oils against Bacteria



978-620-0-00132-0

 **LAMBERT**
Academic Publishing

NOVEL ADVANCES IN AGRICULTURAL AND VETERINARY SCIENCES



**P. SARANRAJ
P. SIVASAKTHIVELAN
N. MUTHUKUMARAN**



PARENTAL RELATIONSHIP IN BLOOD GROUPING

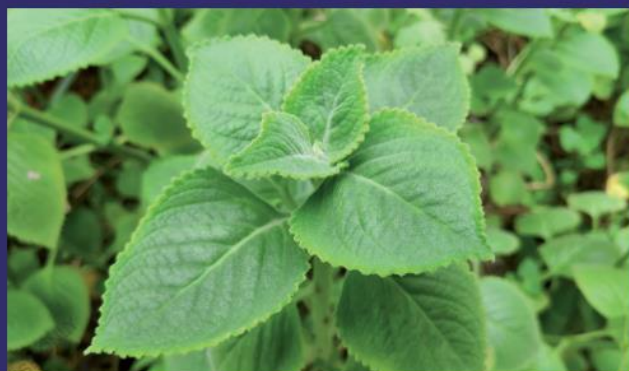
Dr. P. SARANRAJ

Published By



JPS Scientific Publications, India

Plectranthus amboinicus is widely used as a traditional medicine mainly for respirator tract infections. The present work has proven that the Plectranthus amboinicus shows maximum inhibitor action against Klebsiella pneumoniae and Candida albicans when compared with other test organisms. The Larvicidal activity of Plectranthus amboinicus was observed against various larval stages of mosquitoes vectors like Aedes aegypti, Anopheles stephensi and Culex quinquefasciatus. When compared with three larval stages of mosquitoes, Culex quinquefasciatus was show maximum mortality percentage, followed by Anopheles stephensi and Aedes aegypti. So, the project work concluded that the essential oils from Plectranthus amboinicus has effectively outstanding antimicrobial and larvicidal activity so the Plectranthus amboinicus has highly recommended and eradicate newly emerging mosquito borne infections.



D. Sivarajani
K. Amala
P. Saranraj

Ms. D. Sivarajani is a M.Sc Biochemistry student in Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. She completed her M.Sc project under the guidance of Dr. M. Manigandan, Dr. K. Amala and Dr. P. Saranraj. She has received the SACRED HEART FELLOWSHIP from our Sacred Heart College to carry out her Research Project

Pharmacological and Larvicidal activity of Plectranthus amboinicus



978-613-9-49851-2

 **LAMBERT**
Academic Publishing

PHARMACOLOGICAL BENEFITS OF NATURAL PRODUCTS



**P. SARANRAJ
GLAUCIO DIRE FELICIANO
A. JAYAPRAKASH**

Published by



JPS Scientific Publications, India

Pharmacological Benefits of Natural Products (ISBN: 978-81-934054-2-0)
First Edition, 2019
Chapter - 13, Page: 213 - 237

13

PHARMACOLOGICAL ACTIVITY OF *Morinda citrifolia* L (Noni)

P. Saranraj*,

Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur – 635 601, Tamil Nadu,
India.

*Corresponding author: microsaranraj@gmail.com

1. Introduction

Herbal and natural products of folk medicine have been used for centuries in every culture throughout the world. Scientists and medical professionals have shown increased interest in this field as they recognize the true health benefits of these remedies. “Let food be your medicine and let medicine be your food” was advised by the father of medicine, Hippocrates, over two millennia ago (Zhu *et al.*, 1995). *Morinda citrifolia* L. has been recognized as an important medicinal plant for treating various physiological disorders worldwide. *M. citrifolia* is commonly known as Noni or Indian mulberry in India (Potterat *et al.*, 2007). Noni has been used widely as a alternative and complementary therapy in many countries owing to its potent antioxidant activity and proven health benefits. Traditionally, it finds used as a therapeutic remedy to various diseases as an antihelminthic, analgesic, antibacterial, antitumor, anti-inflammatory, immunostimulant. Also it has proved beneficial in conditions like gastritis, skin diseases, respiratory infections, menstrual and urinary tract disorders, fever, diabetes and venereal diseases. The Polynesians utilized the whole Noni plant in their medicinal remedies and dye for some of their traditional clothes. The roots, stems, bark, leaves, flowers, and fruits of the Noni plant are all involved in various combinations in almost 40 known and recorded herbal remedies (Bruggnecate, 1992).



RECENT TRENDS IN PHARMACEUTICAL SCIENCES

**P. SARANRAJ
VASAVIDATHAR
K. KOLANJINATHAN**

Published by



JPS Scientific Publications, India

The quality of the drinking water has been determined by checking the presence of Coliforms. The coliform is a type of bacteria that can act as a microbial quality indicator of drinking water. The present study concludes that the Drinking water collected from five different locations around Vellore district, Tamil Nadu, India (Ambur, Vaniyambadi, Tirupattur, Jolarpet & Vengalaburam) is potable to drink. These water samples does not contain any harmful bacteria such as Enteric coliform which is very dangerous to human health and a main causative agent for many Water borne diseases. But, the water collected from these five locations shows presence of little number of bacterial populations which are not harmful and it may be beneficial to the living organism .water shows variations in three different seasons (Rainy season, Autumn season and Winter season). The bacterial population was relatively high in Autumn season (October 2018 to November 2018) when compared to other two season, Rainy season (June 2018 to September 2018) and Winter season (December 2018 to February 2019). So, it is recommended to boil the water for better sanitation and to avoid spreading of Water borne disease.



S. Kashiba Musarath
P. Saranraj (Ed.)

Ms. Kashiba Musarath is a M.Sc Biochemistry student in Sacred Heart College (Autonomous), Tirupattur, Vellore District, Tamil Nadu, India. She is an Outstanding student & completed her M.Sc project under the guidance of Dr. P. Saranraj. She has received the SACRED HEARD FELLOWSHIP (SHF) from her Sacred Heart College to carry out her research work.

Seasonal Variations in Drinking Water Quality



978-620-0-00070-5

 **LAMBERT**
Academic Publishing

ஆசிரியரைப்பற்றி...!



முனைவர் ஆ.பிரபு தேனி மாவட்டத்தில் முல்லைப் பெரியாற்றின் கரையில் அமைந்துள்ள அனுமந்தன்பட்டி எனும் சிற்றூரைச் சேர்ந்தவர். முதல் நடைமுறைப் பட்டதாரியான இவர் திண்டுக்கல் காந்திராம கிராமியப் பக்கலைக்கழகத்தில் உயது இளங்கலை, முதுகலைத் தமிழ் - இந்திய இலக்கியம் (M.A.), இளம் கல்வியியல் (B.Ed.), ஆய்வியல் திறவுகோல் (M.Phil.) மற்றும் முனைவர் பட்டத்திணையும் (Ph.D.) பெற்றுள்ளார். சென்மொழித் தமிழ்ப்பயல் மத்திய திறமை ஆய்வு உதவித் தொலைவிணைப் (CICT-JRF) பெற்றுத்தமது முனைவர் பட்ட ஆய்வினை முடித்துள்ளார். NET, SET, UGC

JRF போன்ற நடுத்தித் தேர்வுகளில் தேர்ச்சி பெற்றுள்ளார். ஐந்துக்கும் மேற்பட்ட ஆவணப்படங்களை இயக்கியுள்ளார். பல்வேறு இதழ்களில் முப்பதுக்கும் மேற்பட்ட ஆய்வுக்கட்டுரைகளை எழுதியுள்ளார். 'சமூகப் பண்பாட்டு தேர்ச்சில் சங்க காலச் சிற்றூர் வாழ்வியல்', 'தமிழர் பண்பாட்டுத் தடயங்கள்' என்ற நூல்களை எழுதியுள்ளார். இது இலாபு முயற்சுவ நூலாகும். திருச்சி தூய வளனர் தன்னாட்சிக் கல்லூரியில் உதவிப் பேராசிரியாகச் சில ஆண்டுகள் பணியாற்றியுள்ளார். தற்போது திருப்பத்தூர் தூய நெடுசக் கல்லூரியில் உதவிப்பேராசிரியாகப் பணியாற்றி வருகின்றார். வேலூர் மாவட்டத்தின் பல்வேறு இடங்களில் கள ஆய்வுப்பணியினை மேற்கொண்டு தொல்லியல் சார்ந்த வரலாற்றுத் தடயங்களை இளங்கண்டு, ஆய்வு செய்து பத்திரிகைகளில் தொடர்ந்து வெளியிட்டு வருகின்றார். தொல்லியல் ஆய்வுகளுக்கென்றே www.tamililam.in என்றும் இணைய தளத்தினை உருவாக்கியுள்ளார். மேலும் 'தமிழ் தில்' என்ற You Tube தளத்தில் தொல்லியல் சார்ந்த ஆவணப்படங்களைப் பதிவேற்றிவருகின்றார். Tamililam Tirupattur என்றும் Android செயலியை உருவாக்கிப் பல்வேறு ஆய்வுத் தகவல்களைப் பதிவேற்றி வருகின்றார்.

“பேராசிரியர் முனைவர் ஆ.பிரபு அவர்கள் அலைந்தலைந்து கண்டுபிடிக்கும் கல்வெட்டுகள், நடுகற்கள் போன்ற தொல்லியல் சான்றுகள் தமிழ்மொழி ஆராய்ச்சிக்கு உறுதியாகப் பயன்படும் என்பது எனது கருத்தாகும்”

முனைவர் இரா. பூங்குன்றன்.
மேளார் தொல்லியல் உதவி இயக்குநர்



பாரதி புக் ஹவுஸ்

32, முதல்மாறு மாநகராட்சி புதிய வணிக வளாகம்,
பழைய பல் நிலையம்,
வேலூர் - 632 004. (வேலூர்)
மெல்: 99424 41751

ISBN 978-93-86890-25-2



9 789386 890252

வேலூர் மாவட்டத் தொல்லியல் களங்கள்

(திருப்பத்தூர் வட்டாரம்)



முனைவர் ஆ.பிரபு

வேலூர் மாவட்டத் தொல்லியல் களங்கள் (திருப்பத்தூர் வட்டாரம்)



Internal Quality Assurance Cell (IQAC)
Sacred Heart College (Autonomous)

Tirupattur - 635 601, Vellore District, Tamil Nadu
Affiliated to Thiruvalluvar University (State University)
Accredited by NAAC (4th Cycle – under RAF) with CGPA of 3.31/4 at 'A+' Grade



Conference Proceedings

National Level Conference
on



**Opportunities and Challenges in Revised Assessment and Accreditation
Framework for Higher Education Institutions**

25th & 26th July 2019

Animal Husbandry contributes significantly to rural employment and rural income in Tamil Nadu besides fulfilling the nutritional requirements of the population. Poultry sector plays a pivotal role among the sub-sectors in potentiating the role of animal husbandry in the process of rural economic development of the state. Tamil Nadu is leading other states in broiler production and ranks second in the country's egg production and also accounts for the poultry population of the country. Considering the above facts, this book deals with the expenditure pattern of poultry farming, benefits of poultry farming and issues of poultry farming in the study area located in Tamil Nadu, India.



R. Kurinji Malar
Tamilarasam P



The Editor of this Book, Dr. R. Kurinji Malar is working as Assistant Professor in the Post Graduate and Research Department of Economics, Sacred Heart College (Autonomous), Tirupattur District, Tamil Nadu, India. Her area of Specialization includes Rural Development, Labor Economics, Monetary and Fiscal Economics.

Economic Analysis of the Impact of Poultry Farming



978-620-0-47932-7

 **LAMBERT**
Academic Publishing

India's Public Distribution System (PDS) is the largest distribution network of its kind in the world. PDS was introduced around World War II as a war-time rationing measure. Before the 1960s, distribution through PDS was generally dependant on imports of food grains. It was expanded in the 1960s as a response to the food shortages of the time; subsequently, the government set up the Agriculture Prices Commission and the Food Corporation of India to improve domestic procurement and storage of food grains for PDS. By the 1970s, PDS had evolved into a universal scheme for the distribution of subsidized food. In the 1990s, the scheme was revamped to improve access of food grains to people in hilly and inaccessible areas, and to target the poor. This study mainly focussed on the public distribution system in Nattrampalli block in Vellore District of Tamil Nadu. Relevant Primary and secondary data were collected for this study from 2011-12 to 2015-16.



Kurinji Malar (Ed.)
V. Suresh



Dr. R. Kurinjimalar is working as an Assistant Professor in the PG and Research Department of Economics, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu. She got her Ph.D. on Economic Analysis of the Impact of MGNREGP in Tamil Nadu with Special Reference to Villupuram and Salem Districts, a highly Commended thesis from Bharathidasan Univ.



978-613-9-47690-9

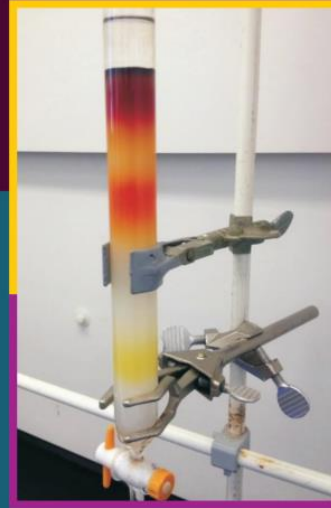
Level of Satisfaction through PDS among the People of Tamil Nadu

LAP LAMBERT
Academic Publishing

ANALYTICAL BIOCHEMISTRY



UV-Visible Spectrophotometer



ELECTROPHORESIS

V.P. OFFSET, TPT

ISBN: 978-81-944366-0-7

*G Sivaelango
And
I. Niyas Ahamed*

Medical Laboratory Technology is a broad area comprising of different disciplines like Clinical Pathology, Hematology, Biochemistry, Bacteriology, Immunology, Virology, Mycology, Parasitology, Histopathology, Cytology, Cytogenetic and Molecular biology. Medical Laboratory Technology plays a crucial role in the diagnosis of diseases, prognosis and treatment. Apart from the laboratory diagnosis, application of Medical laboratory technology extends to detection of genetic disorders, epidemiology of infection diseases, detection of metabolic disorders and even to answer unraveled questions in forensic medicine. This manual will be useful for undergraduate and Post graduate college students of biochemistry and Diploma in Medical laboratory Technology.



FOR AUTHOR USE ONLY

The Authors of the book Dr. A. Poongothai, Dr. S. Anbu and Dr. V. Gopala Krishnan Assistant Professors, PG and Research Department of Biochemistry, Sacred Heart College, Tirupattur - 635 601, Tirupattur District, Tamil Nadu, India.

A. Poongothai
Anbu Singaravelan
Gopala Krishnan

A Basic Laboratory Manual for Diploma In Medical Laboratory Technology

Laboratory Manual for DMLT




978-620-0-48165-8

 **LAP LAMBERT**
Academic Publishing

Chapter 2


Bifurcation and Chaos in a Discrete Fractional- Order Prey-Predator System Involving Allee Effect

George Maria Selvam A.

 <https://orcid.org/0000-0003-2004-3537>

Sacred Heart College (Autonomous), India

Janagaraj R.

 <https://orcid.org/0000-0002-9811-078X>

Sacred Heart College (Autonomous), India


ABSTRACT

This chapter considers the discrete counterpart of a fractional order prey-predator ODE system involving Allee effect. Several more realistic models were proposed to describe nonlinear interactions between species by introducing different types functional responses and Allee effect. Non-local property of fractional differential equations is useful in modeling population interactions possessing memories. The model under investigation has three steady states, and the positive steady state exists under certain condition. Dynamic nature of the model is discussed through local stability analysis. Enquiry into the qualitative behavior of the model reveals rich and complex dynamics exhibited by the discrete-time model. Moreover, this model undergoes Neimark Sacker bifurcation when the chosen parameter passes through a critical value. The analytical results are strengthened with appropriate numerical examples. The computation of maximal Lyapunov exponents confirms the existence of chaos. Chaos control is achieved by linear feedback control and hybrid control methods.

Chapter 4

Dynamic Analysis of the Effect of Quitting Smoking Applications on Smoking Cessation

A. George Maria Selvam

 <https://orcid.org/0000-0003-2004-3537>
Sacred Heart College (Autonomous), India

Mary Jacintha

Sacred Heart College (Autonomous), India

ABSTRACT

In this chapter, the authors considered a smoking cessation model formulated with a non-linear system of differential equations and obtained the continuous fractional order model and through discretization its discrete form to study the effectiveness of quitting smoking applications in giving up smoking. The existence of smoking free equilibria and smoking present equilibria are discussed, and the dynamical analysis of these two equilibria is put forward with the assistance of the smoking generation number. The numerical simulations aided by time series, phase portraits, and bifurcation diagrams confirm the results that are obtained analytically.


DOI: 10.4018/978-1-7998-3741-1.ch004

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.


Chapter 5

Bifurcation and Chaos in a Discrete Fractional Order Prey–Predator System Involving Infection in Prey

A. George Maria Selvam

 <https://orcid.org/0000-0003-2004-3537>
Sacred Heart College (Autonomous), India

R. Dhineshababu

 <https://orcid.org/0000-0003-0647-6184>
Sacred Heart College (Autonomous), India

ABSTRACT

This chapter considers the dynamical behavior of a new form of fractional order three-dimensional continuous time prey-predator system and its discretized counterpart. Existence and uniqueness of solutions is obtained. The dynamic nature of the model is discussed through local stability analysis of the steady states. Qualitative behavior of the model reveals rich and complex dynamics as exhibited by the discrete-time fractional order model. Moreover, the bifurcation theory is applied to investigate the presence of Neimark-Sacker and period-doubling bifurcations at the coexistence steady state taking h as a bifurcation parameter for the discrete fractional order system. Also, the trajectories, phase diagrams, limit cycles, bifurcation diagrams, and chaotic attractors are obtained for biologically meaningful sets of parameter values for the discretized system. Finally, the analytical results are strengthened with appropriate numerical examples and they demonstrate the chaotic behavior over a range of parameters. Chaos control is achieved by the hybrid control method.

DOI: 10.4018/978-1-7998-3741-1.ch005

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

Computational intelligence using ontology—A case study on the knowledge representation in a clinical decision support system

Ravi Lourdasamy and Xavierlal J. Mattam

Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India

1 Introduction

Computational intelligence evolved out of a biological and linguistic paradigm. It is an attempt to mimic the human mind. There has been a constant endeavor to use computer systems with their unlimited resources to complement the limitations of human intellect. For many decades, the computer system was limited to syntactic logical methods, which was limited to the capacity of the machine. Computational semantics, introduced much later, has a closer resemblance to the human thought process.

Cognitive sciences, which study the cognition process of the human mind, has as a school of thought that language is required for thinking and reasoning. If language is a requirement for reasoning, then human intelligence is encapsulated in the human language. Translating this idea to computer systems, there should be the possibility of concepts being machine-readable. Ontological systems are an attempt in the direction of making concept-understandable systems. The uses of such a system are many.

In this chapter, clinical decision support is used to explain the hypothesis that ontological systems closely relate to human thinking. From the beginning of the evolution of computer systems, the use of computers in the hospital workflow has been advocated. In recent years, many advances have also been made in the use of computer systems in the decision-making process. The challenge in using clinical decision support systems is in the knowledge representation. This chapter explains how the knowledge representation using ontology can help in creating computer intelligence in the decision support system.

Clinical Decision Support Systems and Predictive Analytics



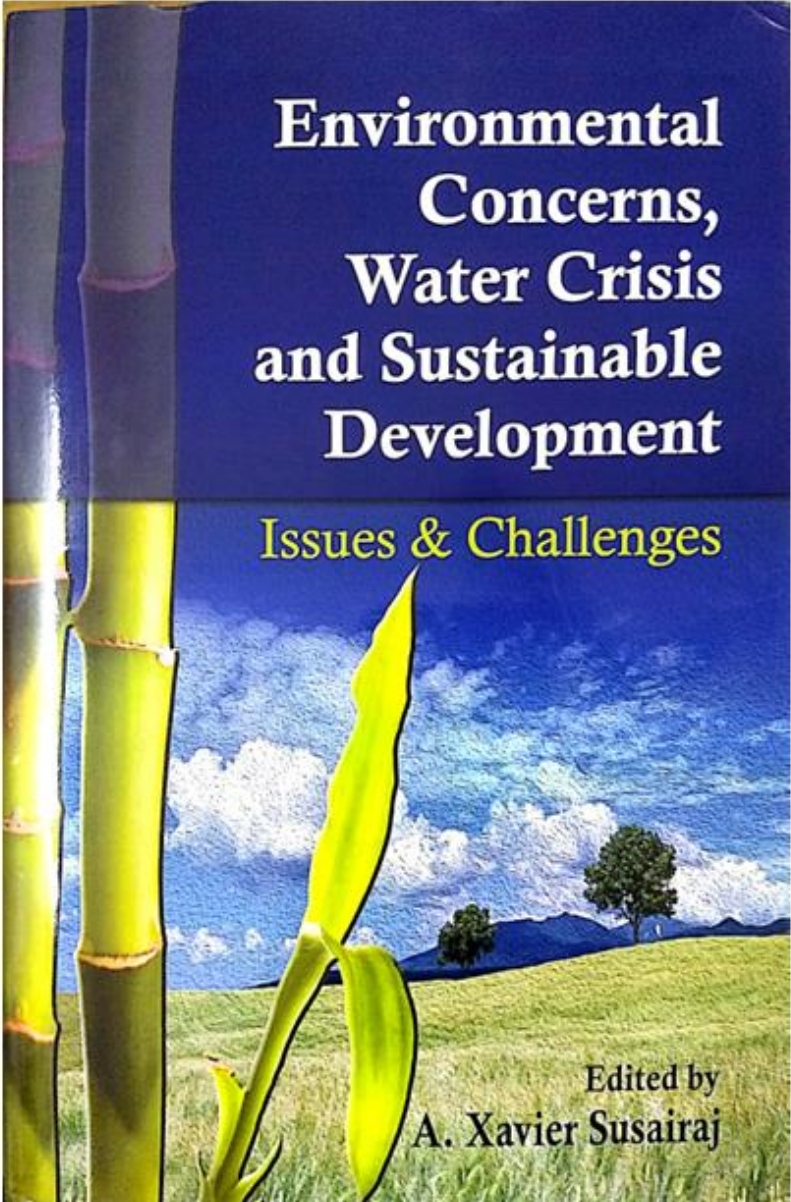
Ravi Lourdusamy and Xavierlal J. Mattam

Abstract The chapter introduces the history of the clinical decision support system beginning with the history of the system of decision making. It is an overview of how the clinical decision support systems developed through the years. The current technology used in decision making are also discussed. With the use of artificial intelligence, the clinical decision support systems have moved to the realm of predictive analysis to find out the possibilities of diseases rather than just the diagnosis and treatment. The chapter also elaborates the various types of clinical decision supports systems. Although the decision support systems are widely regard as an important and integral part of healthcare there has been a notable reluctance in the use of clinical decision support systems. The chapter also discusses the practical challenges in the implementation of the clinical decision support systems in healthcare organisations. Each of the topics in the chapter is dealt with summarily and the reference to a detailed study is provide. The idea is to provide a clear understanding of the system rather than to fully elaborate the system.

Keywords Clinical decision support systems · Predictive analytics · Decision making · Artificial intelligence · Medical diagnosis and treatment

1 Introduction

Clinical Decision Support Systems (CDSS) are Decision Support Systems (DSS) used in Healthcare. Digitalisation of medical records or the Electronic Health Record (EHR) was the precursors of CDSS. When DSS, which was primarily implemented for business, was adapted in healthcare, the EHR was used as the knowledge base in many CDSS. CDSS evolved with the development and incorporation of advanced technologies. Accordingly, the functions and use of CDSS also varied. While in

The book cover features a vertical bamboo stalk on the left side, with a green landscape and a blue sky with white clouds in the background. The title is written in white serif font on a dark blue background at the top.

Environmental Concerns, Water Crisis and Sustainable Development

Issues & Challenges

Edited by
A. Xavier Susairaj

Scanned by CamScanner

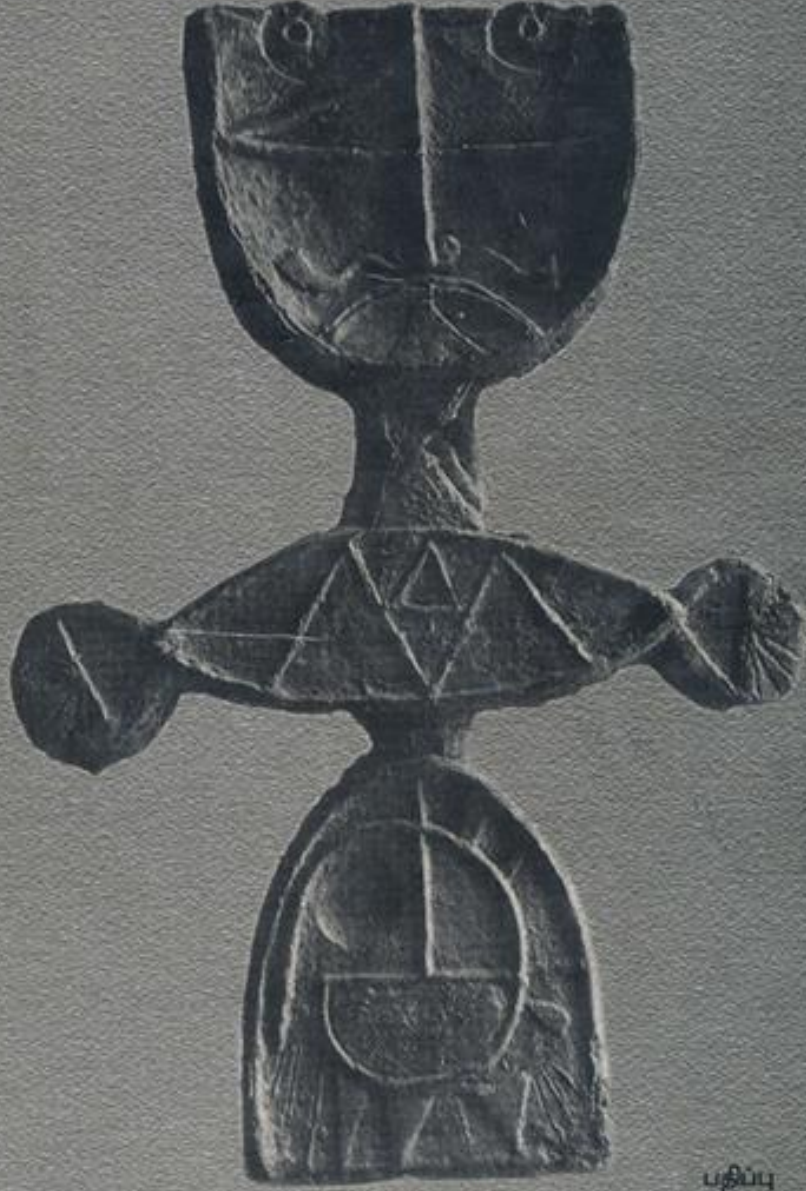
Introduction to
**MOLECULAR
BIOLOGY**



**A.C.GOMATHI
R.ANANTHALAKSHMI
P.KOUSALYA
R.KOWSALYA &
D.HAMSA**

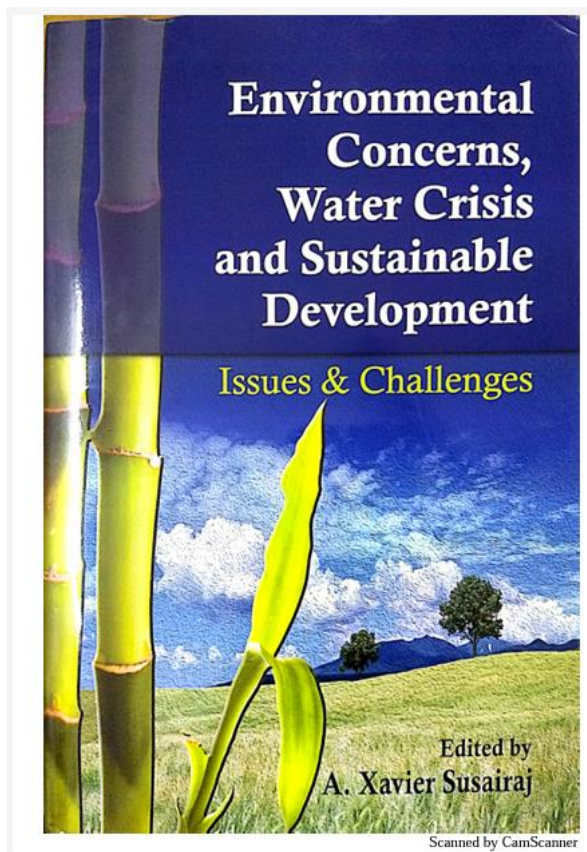
ISBN: 978-81-944366-1-4

நாட்டார் சாமிகள்



தன்னானே

பதிப்பு
வீ. அரசு
கி. பார்த்திபராஜா



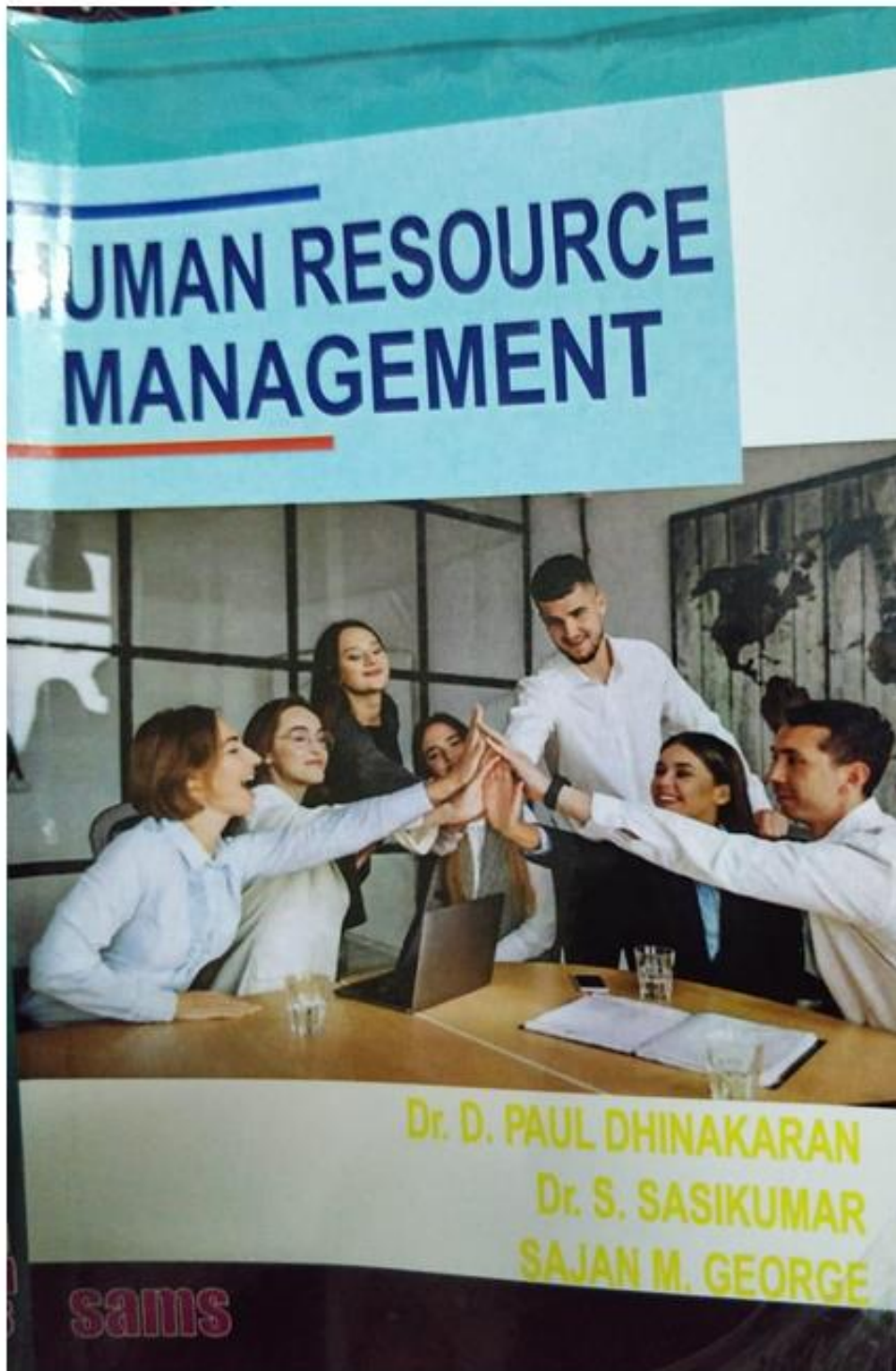
Chapter – 14

Environmental Implication of Leather Industries on Groundwater Sources in Vellore District

A. Royal Edward Williams & M. P. Parvez Ahmed

Introduction

Leather sector plays a vital role in the development of the developing economy. It play a vital role in large export earnings, creation of jobs and favorable conditions for its sustainable economic growth. Leather industry is known as one of the high export earners across the world¹. On the other side, tanning industry is impose high pollution especially disposing huge volume of effluents both organic and inorganic substance, at the same time it also dispose sludge. Heavy metals are major contributors to inorganic pollution. It is naturally found in industrials wastes discharge into water bodies and landfills. The uncontrolled and non-stop disposal of these toxic waste into water bodies, which leads to polluting groundwater and disturbing food chains through agricultural production and consumption of groundwater². Industrial growth is boosting economic growth of the country but actually this means destroying the surrounding environment. In industrial areas, soil and groundwater gets contaminated by the industrial operations. There are zinc, cadmium, lead and copper are most common heavy metals found in industrial effluent. This effluent discharge without any treatment may cause adverse impact on human health. Rapid growth of industrialization and urbanization result to deterioration in groundwater quality which causes pollution³. The tanneries contaminate the groundwater quality with the radius of around 7 km



Books > Business & Money > Management & Leadership



Counseling Basics
Revealing the Importance of Counseling



Roll over image to zoom in



Read sample

Counseling Basics: Revealing the Importance of Counseling Paperback – August 18, 2020

by Arockia Mary (Author), Nicola Prakash (Author) [See all formats and editions](#)

With the ever mounting problems in professional life and personal life the human beings are at the crossroads trying to take the right decision and the right step. The way out of the chaotic situations in the life of humans always demands for the intervention by other people sometime with greater expertise and knowledge as counselors that would help them in taking the necessary right step. This book identifies the importance and the role played by counselors in the fast moving world and the personality traits of a good counselor.

[Report an issue with this product or seller](#)

Print length	Language	Publication date
68 pages	English	August 18, 2020

Product details

- Publisher** : LAP LAMBERT Academic Publishing (August 18, 2020)
- Language** : English
- Paperback** : 68 pages
- ISBN-10** : 6202683716
- ISBN-13** : 978-6202683715
- Item Weight** : 3.52 ounces
- Dimensions** : 5.91 x 0.16 x 8.66 inches

Paperback
\$47.00

Other New from \$47.00

Buy new: **\$47.00**

\$35.46 Shipping & Import Fees Deposit to India [Details](#)

Delivery **January 2 - 8**

[Deliver to P. - Chidambaram 608001](#)

In Stock

Qty: 1

[Add to Cart](#)

[Buy Now](#)

Ships from Amazon.com
Sold by Amazon.com
Returns Returnable until Jan 31, 2024
Payment Secure transaction

[See more](#)

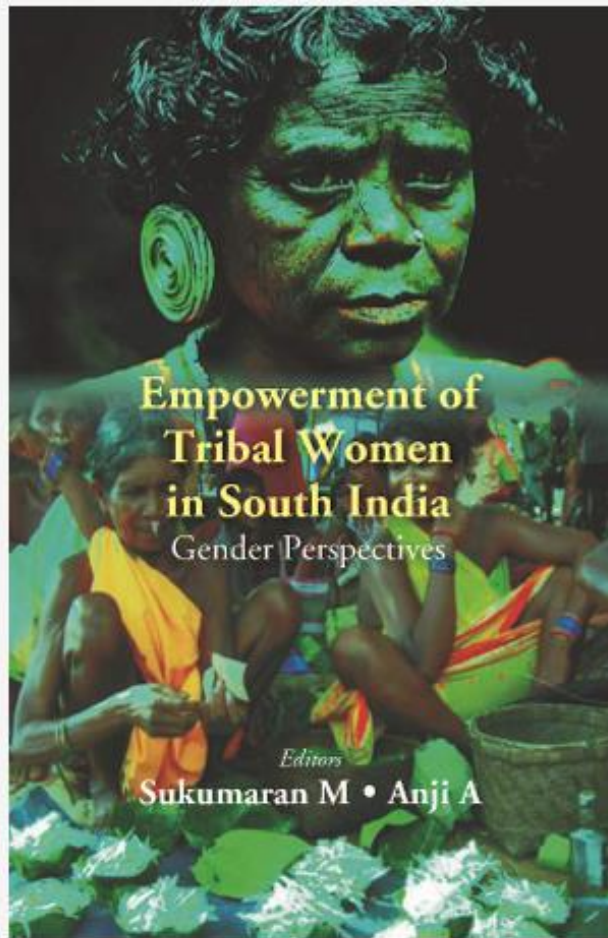
Add a gift receipt for easy returns

[Add to List](#)

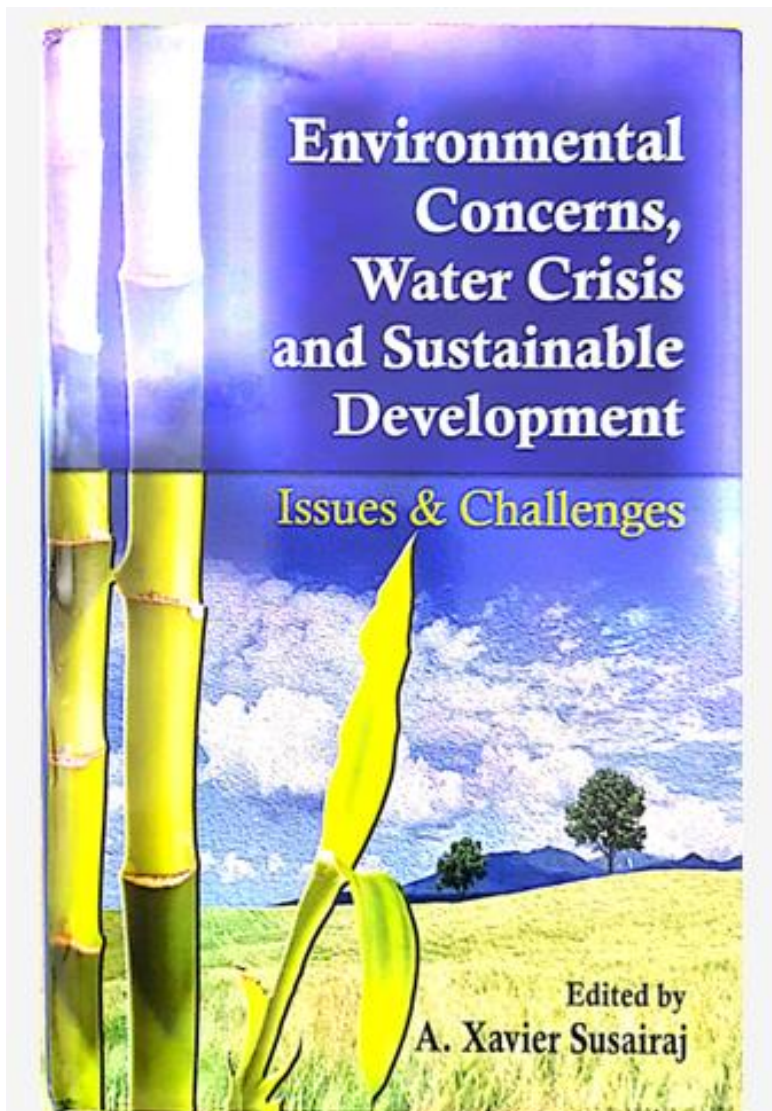
amazon book clubs
early access

[See Clubs](#)

Not in a club? [Learn more](#)



9. Tribal Women's Health in India: Issues, Challenges and Strategies	95
<i>Dr. Shilpa M. Sangam</i>	
10. Empowerment of Tribal Women and Education as a Tool	101
<i>Dr. Naseema. P.K</i>	
11. Social Exclusion of Paliyar Tribal Women In Dindigul District of Tamil Nadu	111
<i>Dr. T. S. Bale Gomala & V. Ariya Nathu</i>	
12. Kudumbashree and Empowerment of Tribal Women. Evidence from Wayanad, Kerala	123
<i>Fathima Fidha & Dr. Sukumaran M</i>	
13. Economic Status of Scheduled Tribal Workers Working in Leather Tanneries in Vellore District Te Nadu	133
<i>Mr. S. John Sundar</i>	
14. Social Exclusion and Tribal Women	141
<i>Kavi Mozhi. M Dr. P. S. Sreedevi Nandini. P</i>	



<i>Environmental Concerns and Sustainable Development</i>	
9.	Swachh Bharat Abhiyan-review-2019 — <i>S. Vairamani</i> 73
10.	Indian Transport System – A Transformer for Economic Development — <i>C. Saravanan</i> 82
11.	A Study on Consumer Behaviour Aavin Milk and Milk Products with Special Reference to Sathuvachari Aavin Milk Dairy,Vellore, Vellore District, Tamil Nadu, India — <i>C. Arunachalam</i> 96
12.	Economic Analysis of Environmental Impacts of Leather Tanneries: A Special Reference to Dindugal District of Tamil Nadu — <i>S. John Sundar</i> 103
13.	Impact of Mgnregy on Water Conservation: A Case Study on Villages of Villupuram District — <i>R. Karinjil Maler</i> 110
14.	Environmental Implication of Leather Industries on Groundwater Sources in Vellore District — <i>A. Royal Edward Williams & M. D. Dawood Ahmad</i> 117



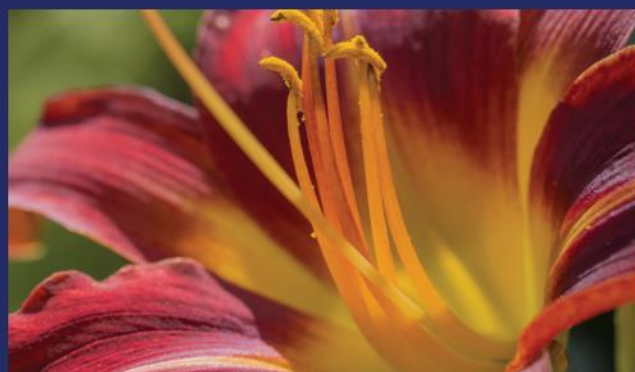
Constructive JAVA Programming



S Sagayaraj, R Denis, P Karthik and
D Gajalakshmi

Universities Press

The Phytochemical screening of AQGSF showed that the secondary metabolites namely alkaloids, flavanoids, terpenoids, phenols, tannins, carbohydrates, amino acids and absence of saponin, protein and steroids were respectively. The AQGSF showed ICS0 values greater activity for scavenging DPPH radical activity when compared to standard ascorbic acid (ABA). The antibacterial activity of AQGSF exposed that against various pathogens including E.coli, S. aureus, P.vulgaris, B. subtilus and K.pneumonia. The maximum zone of inhibition reported Proteus vulgaris followed by Escherichia Coli, Staphylococcus aureus and Bacillus subtilus and also resistant by Klebsiella pneumonia. From the present study, it was observed that the AQGSF possesses good antibacterial potential and it could be rationalized taking into account the presence of phenolics and flavonoid contents in it. It is advantageous to use the plant antioxidant and antibacterial agents in therapeutic drugs for the implications of human health as it is from natural products greatly contribute to the prevention of pathological disorders.



Aishwariya Shanmugam
Poongothai Annadurai

Miss Aishwariya Shanmugam is an M.Sc in Biochemistry student in PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India. She did her PG research project under the Guidance of Dr.A.Poongothai.

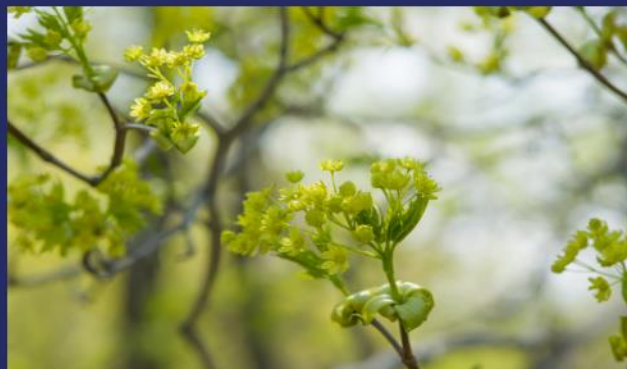
Antioxidant and Antibacterial activity of Gloriosa superba flowers

Evaluation of Phytochemicals, Antioxidant and
Antibacterial properties of Gloriosa superba flowers



LAP LAMBERT
Academic Publishing

The phytochemical analysis of different solvent extracts of *Leucas aspera* leaves exhibited the presence of alkaloids, flavonoids, phenols, tannins, saponins, carbohydrate, amino acid, steroids and terpenoids were respectively and DPPH scavenging activity of different solvent extracts of *Leucas aspera* leaves showed the IC50 values of methanol (40µg) diethyl ether (45µg) and aqueous extracts (47µg) of *Leucas aspera* and control ascorbic acid (46µg) were respectively. It was observed that the methanol extract of *Leucas aspera* higher scavenging activity of DPPH radical followed by diethyl ether and aqueous extracts when compared to standard ascorbic acid. So, it can be recommended has *Leucas aspera* leaves possess antioxidant properties and could serve as free radical inhibitors or scavengers and act as primary antioxidant and to prevent the damages occurring due to free radicals. Antioxidant-based drug formulations are used for the prevention and treatment of complex diseases like atherosclerosis, stroke, diabetes, Alzheimer's disease and cancer.



Nathiya Chokkan
Poongothai Annadurai

Miss. Nathiya Chokkan is an M.Sc in Biochemistry student in PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India. She did her PG research project under the Guidance of Dr.A.Poongothai.

Phytochemicals and Antioxidant activity of *Leucas aspera* leaves

Phytochemical analysis and Antioxidant activity of different solvent extracts of *Leucas aspera* leaves



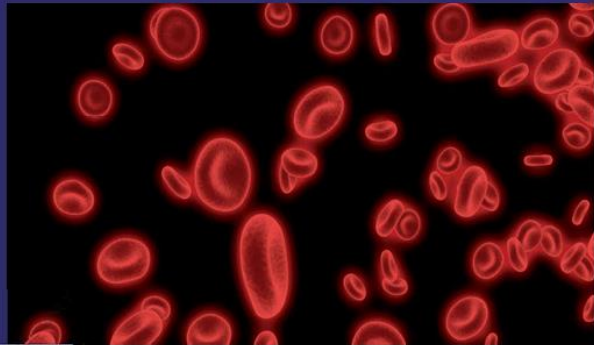
 **LAMBERT**
Academic Publishing

Textbook of Herbal Medicine

Poongothai, Geetha, Ranjani Devi, Arputharaj, Niyas
Ahamed



In a developing country like India, managing the water resources is of greater challenge. Waters are stored in many ways in rivers, dams and ponds. Keeping the water resources unpolluted is very difficult. The Indian populations are mostly affected by water borne diseases. Microbes play a major role in causing these water borne diseases. In this, *Salmonella typhi* and *paratyphi* are playing a major role in causing Typhoid through contaminated water. Humans are the carrier of the Salmonella species. Salmonella bacteria enter in to the small intestine and blood stream through the ingestion of contaminated water or food. It is carried to liver, spleen, and bone marrow by white blood cells. It gets multiplied and reenters into blood stream. Bacteria fill the gall bladder, biliary system, and the lymphatic tissue of the bowel and multiply in higher number and then pass into intestinal tract. Disease may be spread by washing fruit and vegetables using contaminated water. Considering the above facts in view, this book provides a detailed study on the haematological parameters of Typhoid patients.



The Editor of this book Dr. A. Jayaprakash is currently working as Assistant Professor in the PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, India



978-620-0-53463-7

A. Jayaprakash
M. Gowthami

Haematological Profile of Typhoid Patients

Blood Parameters of Typhoid Patients

LAP LAMBERT
Academic Publishing

Our mother environment faces copious problems due to rapid urbanization and growing human population. It is necessary for each individual to protect the environmental resources from any toxicants. Rapid urbanization resulted in the construction of numerous industries which majorly affected the natural air, water and soil resources by exposing it to toxic chemicals. It has not only affected the environment alone but also affected many lives of land and aquatic organisms. The book on environmental toxicology deals with topics like significant issues with chemicals, types of toxic substances, carcinogens, mutagens, teratogen, factors influencing toxicity, factors related to the substance, receptor mediated toxicity, transport of toxicants by air and water, bioaccumulation and biomagnifications of toxic materials in food chain, movement of toxins, pesticides, metabolism and biotransformation of pesticides, combined effect of xenobiotics, toxicity testing, estimation of LC50 and adverse and non-adverse effects.



A. Jayaprakash



The author of this book Dr. A. Jayaprakash is currently working as Assistant Professor in the PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India.

Introduction to environmental toxicology

Basics of Environmental Toxicology




978-620-2-51767-6

 **LAMBERT**
Academic Publishing

Chapter 2


Bifurcation and Chaos in a Discrete Fractional- Order Prey-Predator System Involving Allee Effect

George Maria Selvam A.

 <https://orcid.org/0000-0003-2004-3537>

Sacred Heart College (Autonomous), India

Janagaraj R.

 <https://orcid.org/0000-0002-9811-078X>

Sacred Heart College (Autonomous), India


ABSTRACT

This chapter considers the discrete counterpart of a fractional order prey-predator ODE system involving Allee effect. Several more realistic models were proposed to describe nonlinear interactions between species by introducing different types functional responses and Allee effect. Non-local property of fractional differential equations is useful in modeling population interactions possessing memories. The model under investigation has three steady states, and the positive steady state exists under certain condition. Dynamic nature of the model is discussed through local stability analysis. Enquiry into the qualitative behavior of the model reveals rich and complex dynamics exhibited by the discrete-time model. Moreover, this model undergoes Neimark Sacker bifurcation when the chosen parameter passes through a critical value. The analytical results are strengthened with appropriate numerical examples. The computation of maximal Lyapunov exponents confirms the existence of chaos. Chaos control is achieved by linear feedback control and hybrid control methods.

Chapter 4

Dynamic Analysis of the Effect of Quitting Smoking Applications on Smoking Cessation

A. George Maria Selvam

 <https://orcid.org/0000-0003-2004-3537>
Sacred Heart College (Autonomous), India

Mary Jacintha

Sacred Heart College (Autonomous), India

ABSTRACT

In this chapter, the authors considered a smoking cessation model formulated with a non-linear system of differential equations and obtained the continuous fractional order model and through discretization its discrete form to study the effectiveness of quitting smoking applications in giving up smoking. The existence of smoking free equilibria and smoking present equilibria are discussed, and the dynamical analysis of these two equilibria is put forward with the assistance of the smoking generation number. The numerical simulations aided by time series, phase portraits, and bifurcation diagrams confirm the results that are obtained analytically.


DOI: 10.4018/978-1-7998-3741-1.ch004

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.


Chapter 5

Bifurcation and Chaos in a Discrete Fractional Order Prey–Predator System Involving Infection in Prey

A. George Maria Selvam

 <https://orcid.org/0000-0003-2004-3537>
Sacred Heart College (Autonomous), India

R. Dhineshababu

 <https://orcid.org/0000-0003-0647-6184>
Sacred Heart College (Autonomous), India

ABSTRACT

This chapter considers the dynamical behavior of a new form of fractional order three-dimensional continuous time prey-predator system and its discretized counterpart. Existence and uniqueness of solutions is obtained. The dynamic nature of the model is discussed through local stability analysis of the steady states. Qualitative behavior of the model reveals rich and complex dynamics as exhibited by the discrete-time fractional order model. Moreover, the bifurcation theory is applied to investigate the presence of Neimark-Sacker and period-doubling bifurcations at the coexistence steady state taking h as a bifurcation parameter for the discrete fractional order system. Also, the trajectories, phase diagrams, limit cycles, bifurcation diagrams, and chaotic attractors are obtained for biologically meaningful sets of parameter values for the discretized system. Finally, the analytical results are strengthened with appropriate numerical examples and they demonstrate the chaotic behavior over a range of parameters. Chaos control is achieved by the hybrid control method.

DOI: 10.4018/978-1-7998-3741-1.ch005

Copyright © 2020, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

Computational intelligence using ontology—A case study on the knowledge representation in a clinical decision support system

Ravi Lourdasamy and Xavierlal J. Mattam

Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India

1 Introduction

Computational intelligence evolved out of a biological and linguistic paradigm. It is an attempt to mimic the human mind. There has been a constant endeavor to use computer systems with their unlimited resources to complement the limitations of human intellect. For many decades, the computer system was limited to syntactic logical methods, which was limited to the capacity of the machine. Computational semantics, introduced much later, has a closer resemblance to the human thought process.

Cognitive sciences, which study the cognition process of the human mind, has as a school of thought that language is required for thinking and reasoning. If language is a requirement for reasoning, then human intelligence is encapsulated in the human language. Translating this idea to computer systems, there should be the possibility of concepts being machine-readable. Ontological systems are an attempt in the direction of making concept-understandable systems. The uses of such a system are many.

In this chapter, clinical decision support is used to explain the hypothesis that ontological systems closely relate to human thinking. From the beginning of the evolution of computer systems, the use of computers in the hospital workflow has been advocated. In recent years, many advances have also been made in the use of computer systems in the decision-making process. The challenge in using clinical decision support systems is in the knowledge representation. This chapter explains how the knowledge representation using ontology can help in creating computer intelligence in the decision support system.

Clinical Decision Support Systems and Predictive Analytics



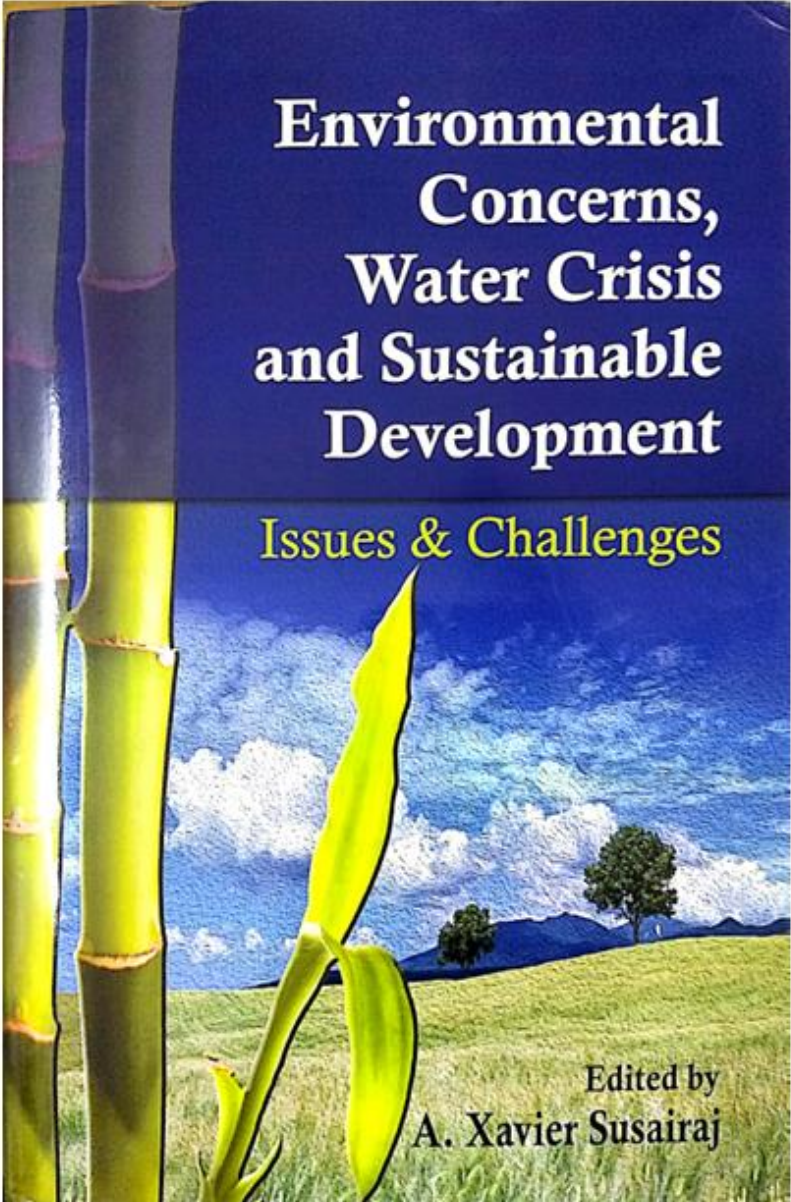
Ravi Lourdasamy and Xavierlal J. Mattam

Abstract The chapter introduces the history of the clinical decision support system beginning with the history of the system of decision making. It is an overview of how the clinical decision support systems developed through the years. The current technology used in decision making are also discussed. With the use of artificial intelligence, the clinical decision support systems have moved to the realm of predictive analysis to find out the possibilities of diseases rather than just the diagnosis and treatment. The chapter also elaborates the various types of clinical decision supports systems. Although the decision support systems are widely regard as an important and integral part of healthcare there has been a notable reluctance in the use of clinical decision support systems. The chapter also discusses the practical challenges in the implementation of the clinical decision support systems in healthcare organisations. Each of the topics in the chapter is dealt with summarily and the reference to a detailed study is provide. The idea is to provide a clear understanding of the system rather than to fully elaborate the system.

Keywords Clinical decision support systems · Predictive analytics · Decision making · Artificial intelligence · Medical diagnosis and treatment

1 Introduction

Clinical Decision Support Systems (CDSS) are Decision Support Systems (DSS) used in Healthcare. Digitalisation of medical records or the Electronic Health Record (EHR) was the precursors of CDSS. When DSS, which was primarily implemented for business, was adapted in healthcare, the EHR was used as the knowledge base in many CDSS. CDSS evolved with the development and incorporation of advanced technologies. Accordingly, the functions and use of CDSS also varied. While in

The book cover features a vertical bamboo stalk on the left side, with a green landscape and a blue sky with white clouds in the background. The title is written in white serif font on a dark blue background at the top. The subtitle is in yellow serif font below the title. The editor's name is in black serif font at the bottom right.

Environmental Concerns, Water Crisis and Sustainable Development

Issues & Challenges

Edited by
A. Xavier Susairaj

Scanned by CamScanner

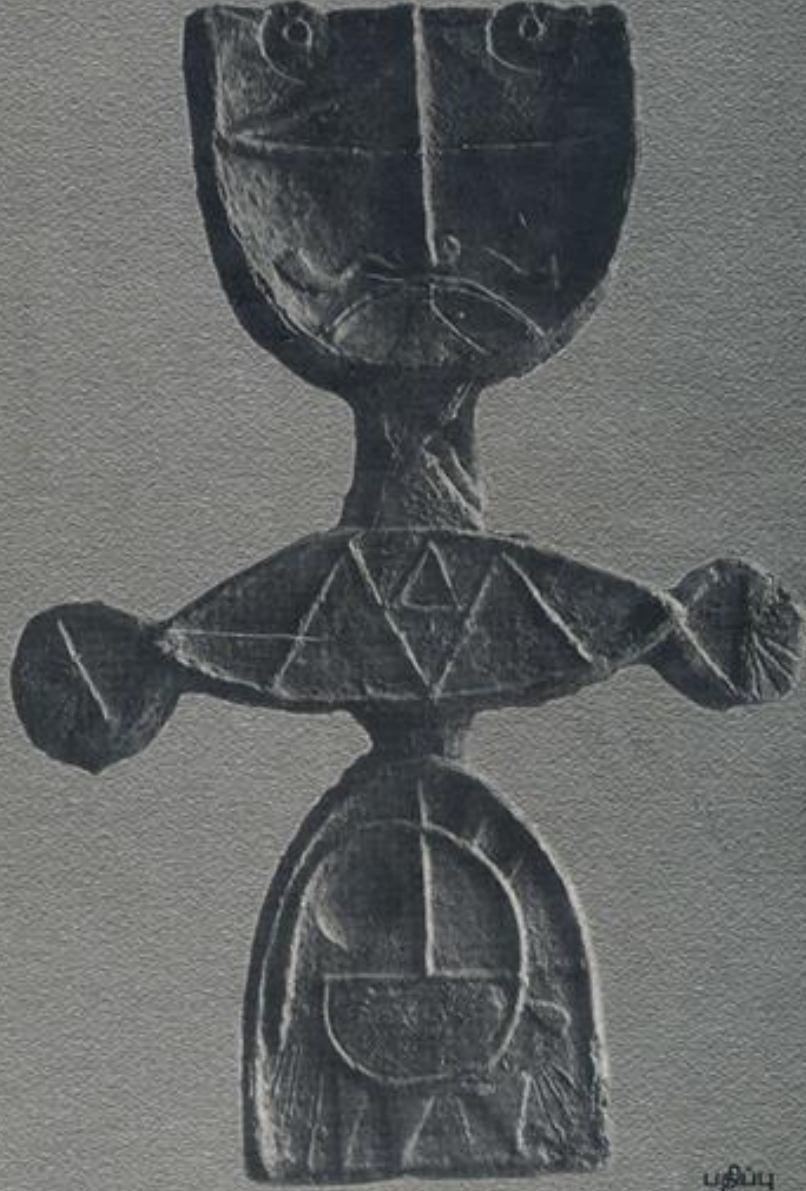
Introduction to
**MOLECULAR
BIOLOGY**



**A.C.GOMATHI
R.ANANTHALAKSHMI
P.KOUSALYA
R.KOWSALYA &
D.HAMSA**

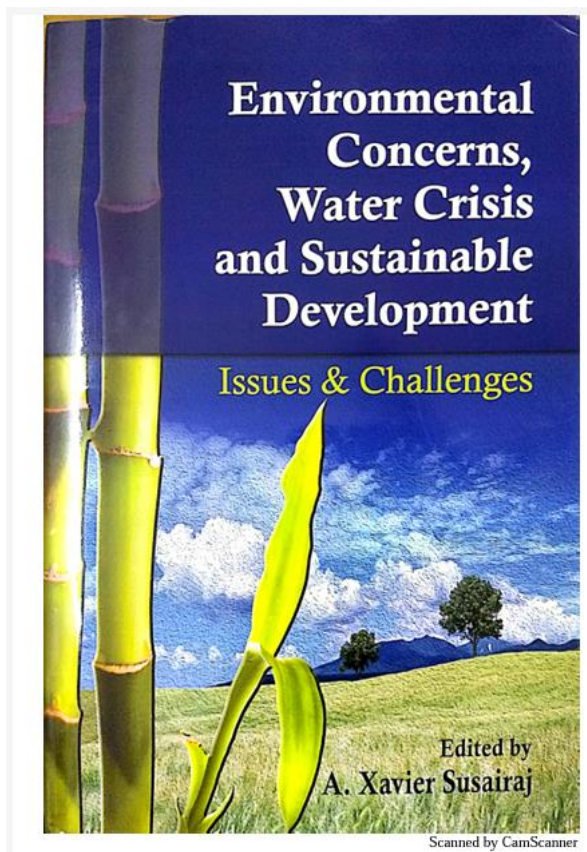
ISBN: 978-81-944366-1-4

நாட்டார் சாமிகள்



தன்னானே

பதிப்பு
வீ. அரசு
கி. பார்த்திபராஜா



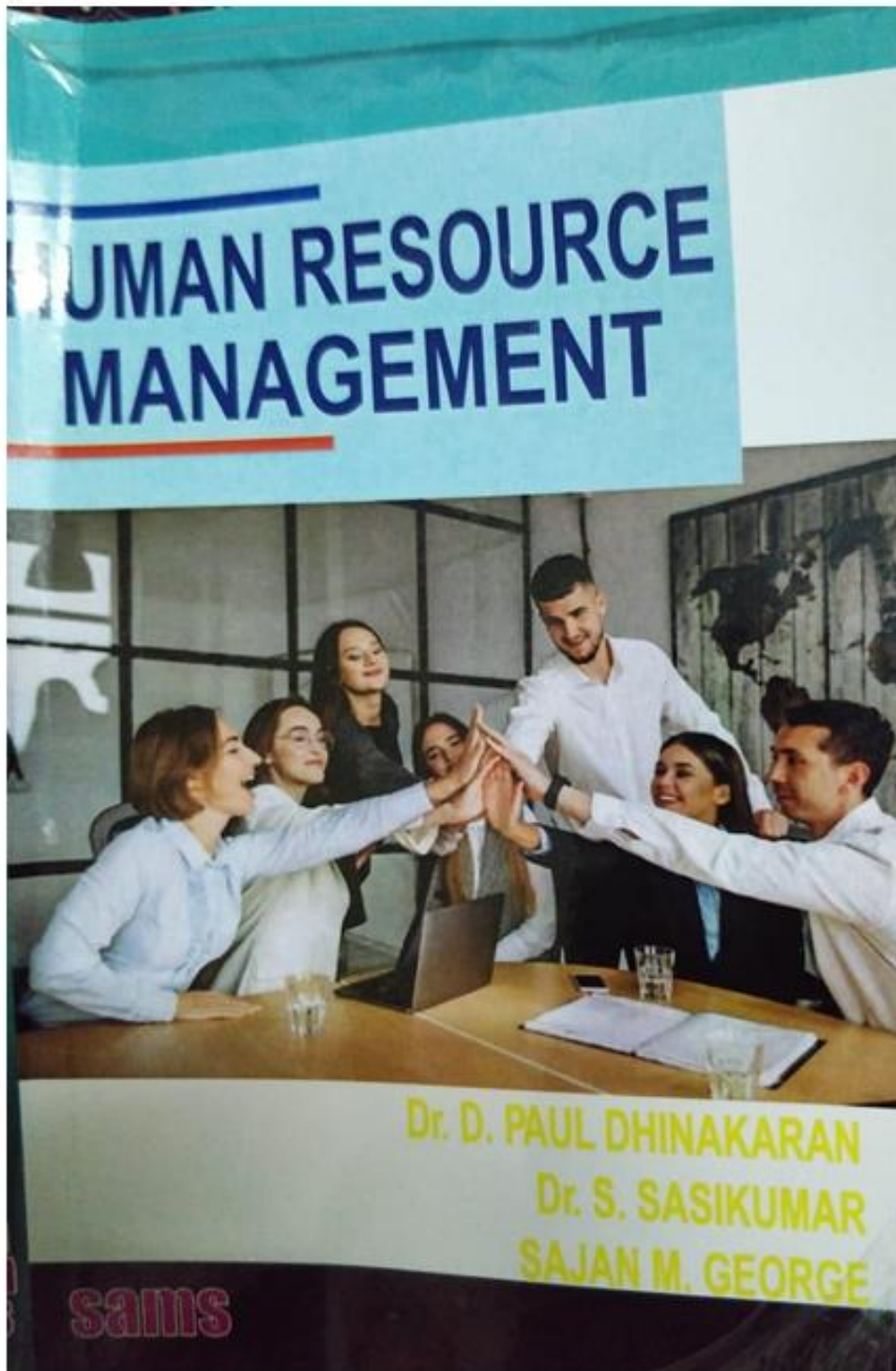
Chapter – 14

Environmental Implication of Leather Industries on Groundwater Sources in Vellore District

A. Royal Edward Williams & M. P. Parvez Ahmed

Introduction

Leather sector plays a vital role in the development of the developing economy. It play a vital role in large export earnings, creation of jobs and favorable conditions for its sustainable economic growth. Leather industry is known as one of the high export earners across the world¹. On the other side, tanning industry is impose high pollution especially disposing huge volume of effluents both organic and inorganic substance, at the same time it also dispose sludge. Heavy metals are major contributors to inorganic pollution. It is naturally found in industrials wastes discharge into water bodies and landfills. The uncontrolled and non-stop disposal of these toxic waste into water bodies, which leads to polluting groundwater and disturbing food chains through agricultural production and consumption of groundwater². Industrial growth is boosting economic growth of the country but actually this means destroying the surrounding environment. In industrial areas, soil and groundwater gets contaminated by the industrial operations. There are zinc, cadmium, lead and copper are most common heavy metals found in industrial effluent. This effluent discharge without any treatment may cause adverse impact on human health. Rapid growth of industrialization and urbanization result to deterioration in groundwater quality which causes pollution³. The tanneries contaminate the groundwater quality with the radius of around 7 km



Books > Business & Money > Management & Leadership



Counseling Basics
Revealing the Importance of Counseling



Roll over image to zoom in



Read sample

Counseling Basics: Revealing the Importance of Counseling Paperback – August 18, 2020

by Arockia Mary (Author), Nicola Prakash (Author)

[See all formats and editions](#)

With the ever mounting problems in professional life and personal life the human beings are at the crossroads trying to take the right decision and the right step. The way out of the chaotic situations in the life of humans always demands for the intervention by other people sometime with greater expertise and knowledge as counselors that would help them in taking the necessary right step. This book identifies the importance and the role played by counselors in the fast moving world and the personality traits of a good counselor.

[Report an issue with this product or seller](#)

Print length	Language	Publication date
68 pages	English	August 18, 2020

Product details

Publisher : LAP LAMBERT Academic Publishing (August 18, 2020)

Language : English

Paperback : 68 pages

ISBN-10 : 6202683716

ISBN-13 : 978-6202683715

Item Weight : 3.52 ounces

Dimensions : 5.91 x 0.16 x 8.66 inches

Paperback \$47.00

Other New from \$47.00

Buy new: \$47.00

\$35.46 Shipping & Import Fees Deposit to India [Details](#)

Delivery **January 2 - 8**

Deliver to P. - Chidambaram 608001

In Stock

Qty: 1

Add to Cart

Buy Now

Ships from Amazon.com
Sold by Amazon.com
Returns Returnable until Jan 31, 2024
Payment Secure transaction

[See more](#)

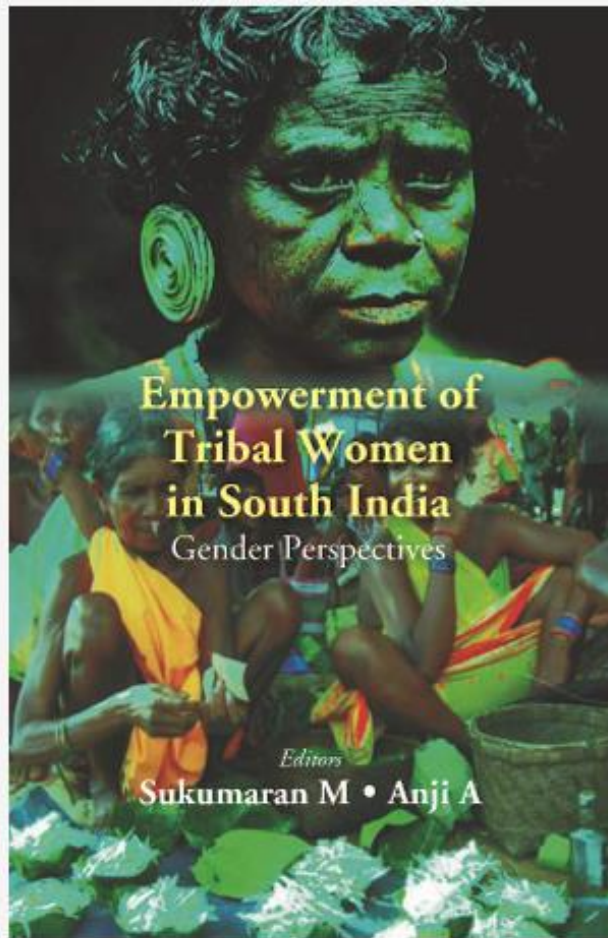
Add a gift receipt for easy returns

Add to List

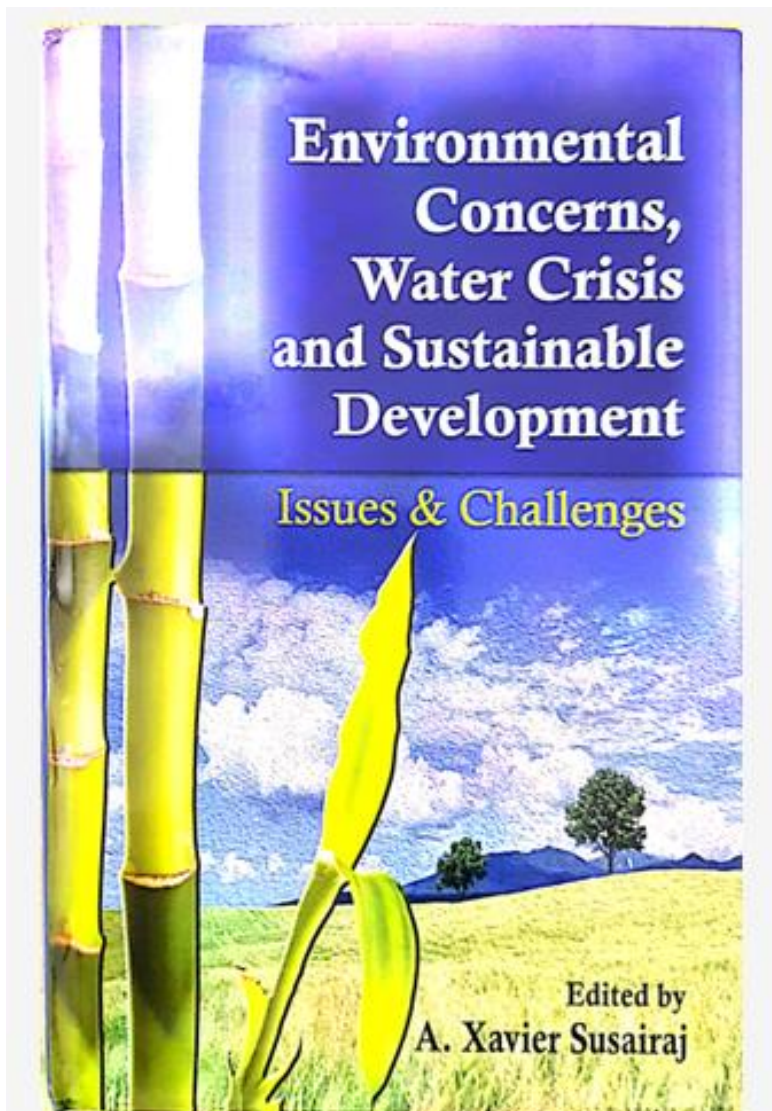
amazon book clubs
early access

See Clubs

Not in a club? [Learn more](#)



9. Tribal Women's Health in India: Issues, Challenges and Strategies	95
<i>Dr. Shilpa M. Sangam</i>	
10. Empowerment of Tribal Women and Education as a Tool	101
<i>Dr. Naseema. P.K</i>	
11. Social Exclusion of Paliyar Tribal Women In Dindigul District of Tamil Nadu	111
<i>Dr. T. S. Bale Gomala & V. Ariya Nathu</i>	
12. Kudumbashree and Empowerment of Tribal Women. Evidence from Wayanad, Kerala	123
<i>Fathima Fidha & Dr. Sukumaran M</i>	
13. Economic Status of Scheduled Tribal Workers Working in Leather Tanneries in Vellore District Te Nadu	133
<i>Mr. S. John Sundar</i>	
14. Social Exclusion and Tribal Women	141
<i>Kavi Mozhi. M Dr. P. S. Sreedevi Nandini. P</i>	



<i>Environmental Concerns and Sustainable Development</i>	
9.	Swachh Bharat Abhiyan-review-2019 — S. Vairamani 73
10.	Indian Transport System – A Transformer for Economic Development — C. Saravanan 82
11.	A Study on Consumer Behaviour Aavin Milk and Milk Products with Special Reference to Sathuvachari Aavin Milk Dairy,Vellore, Vellore District, Tamil Nadu, India — C. Arunachalam 96
12.	Economic Analysis of Environmental Impacts of Leather Tanneries: A Special Reference to Dindugal District of Tamil Nadu — S. John Sander 103
13.	Impact of Mgnregy on Water Conservation: A Case Study on Villages of Villupuram District — R. Karinjil Maler 110
14.	Environmental Implication of Leather Industries on Groundwater Sources in Vellore District — A. Royal Edward Williams & M. D. Dhanu Akmal 117



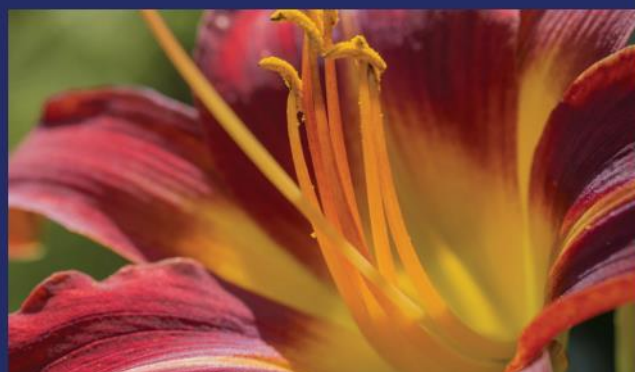
Constructive JAVA Programming



S Sagayaraj, R Denis, P Karthik and
D Gajalakshmi

Universities Press

The Phytochemical screening of AQGSF showed that the secondary metabolites namely alkaloids, flavanoids, terpenoids, phenols, tannins, carbohydrates, amino acids and absence of saponin, protein and steroids were respectively. The AQGSF showed ICS0 values greater activity for scavenging DPPH radical activity when compared to standard ascorbic acid (ABA). The antibacterial activity of AQGSF exposed that against various pathogens including E.coli, S. aureus, P.vulgaris, B. subtilus and K.pneumonia. The maximum zone of inhibition reported Proteus vulgaris followed by Escherichia Coli, Staphylococcus aureus and Bacillus subtilus and also resistant by Klebsiella pneumonia. From the present study, it was observed that the AQGSF possesses good antibacterial potential and it could be rationalized taking into account the presence of phenolics and flavonoid contents in it. It is advantageous to use the plant antioxidant and antibacterial agents in therapeutic drugs for the implications of human health as it is from natural products greatly contribute to the prevention of pathological disorders.



Aishwariya Shanmugam
Poongothai Annadurai

Miss Aishwariya Shanmugam is an M.Sc in Biochemistry student in PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India. She did her PG research project under the Guidance of Dr.A.Poongothai.

Antioxidant and Antibacterial activity of Gloriosa superba flowers

Evaluation of Phytochemicals, Antioxidant and
Antibacterial properties of Gloriosa superba flowers



LAP LAMBERT
Academic Publishing

The phytochemical analysis of different solvent extracts of *Leucas aspera* leaves exhibited the presence of alkaloids, flavonoids, phenols, tannins, saponins, carbohydrate, amino acid, steroids and terpenoids were respectively and DPPH scavenging activity of different solvent extracts of *Leucas aspera* leaves showed the IC50 values of methanol (40µg) diethyl ether (45µg) and aqueous extracts (47µg) of *Leucas aspera* and control ascorbic acid (46µg) were respectively. It was observed that the methanol extract of *Leucas aspera* higher scavenging activity of DPPH radical followed by diethyl ether and aqueous extracts when compared to standard ascorbic acid. So, it can be recommended has *Leucas aspera* leaves possess antioxidant properties and could serve as free radical inhibitors or scavengers and act as primary antioxidant and to prevent the damages occurring due to free radicals. Antioxidant-based drug formulations are used for the prevention and treatment of complex diseases like atherosclerosis, stroke, diabetes, Alzheimer's disease and cancer.



Nathiya Chokkan
Poongothai Annadurai

Miss. Nathiya Chokkan is an M.Sc in Biochemistry student in PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India. She did her PG research project under the Guidance of Dr.A.Poongothai.

Phytochemicals and Antioxidant activity of *Leucas aspera* leaves

Phytochemical analysis and Antioxidant activity of different solvent extracts of *Leucas aspera* leaves

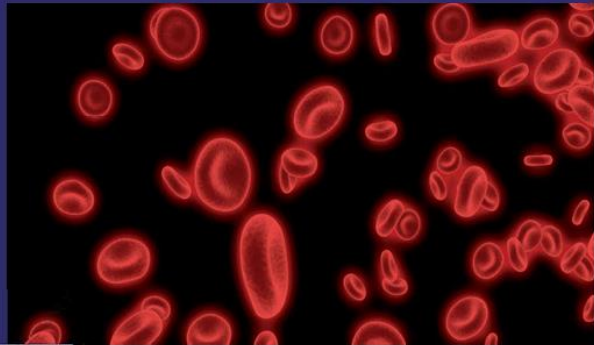


Textbook of Herbal Medicine

Poongothai, Geetha, Ranjani Devi, Arputharaj, Niyas
Ahamed



In a developing country like India, managing the water resources is of greater challenge. Waters are stored in many ways in rivers, dams and ponds. Keeping the water resources unpolluted is very difficult. The Indian populations are mostly affected by water borne diseases. Microbes play a major role in causing these water borne diseases. In this, *Salmonella typhi* and *paratyphi* are playing a major role in causing Typhoid through contaminated water. Humans are the carrier of the Salmonella species. Salmonella bacteria enter in to the small intestine and blood stream through the ingestion of contaminated water or food. It is carried to liver, spleen, and bone marrow by white blood cells. It gets multiplied and reenters into blood stream. Bacteria fill the gall bladder, biliary system, and the lymphatic tissue of the bowel and multiply in higher number and then pass into intestinal tract. Disease may be spread by washing fruit and vegetables using contaminated water. Considering the above facts in view, this book provides a detailed study on the haematological parameters of Typhoid patients.



The Editor of this book Dr. A. Jayaprakash is currently working as Assistant Professor in the PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, India



978-620-0-53463-7

A. Jayaprakash
M. Gowthami

Haematological Profile of Typhoid Patients

Blood Parameters of Typhoid Patients

 **LAP LAMBERT**
Academic Publishing

Our mother environment faces copious problems due to rapid urbanization and growing human population. It is necessary for each individual to protect the environmental resources from any toxicants. Rapid urbanization resulted in the construction of numerous industries which majorly affected the natural air, water and soil resources by exposing it to toxic chemicals. It has not only affected the environment alone but also affected many lives of land and aquatic organisms. The book on environmental toxicology deals with topics like significant issues with chemicals, types of toxic substances, carcinogens, mutagens, teratogen, factors influencing toxicity, factors related to the substance, receptor mediated toxicity, transport of toxicants by air and water, bioaccumulation and biomagnifications of toxic materials in food chain, movement of toxins, pesticides, metabolism and biotransformation of pesticides, combined effect of xenobiotics, toxicity testing, estimation of LC50 and adverse and non-adverse effects.



A. Jayaprakash



The author of this book Dr. A. Jayaprakash is currently working as Assistant Professor in the PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India.

Introduction to environmental toxicology

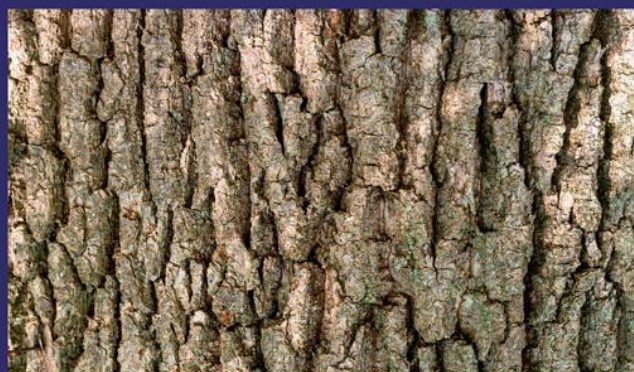
Basics of Environmental Toxicology



978-620-2-51767-6

 **LAMBERT**
Academic Publishing

Medicinal properties of plants were identified by humans before thousands of years ago. Till now most of the countries all over the world has been following traditional system of medicine by isolating and utilizing the compounds isolated from plants as a source of medicine. Indians used plants as a cure for different types of ailments. Still now there are many plants distributed throughout this world whose medicinal properties are still to be explored. Developed nations like America, Russia are spending billions of money in identifying the properties of plants and using those plants as a source of medicine. Terminalia arjuna Linn. is one of the three species of Terminalia. Terminalia arjuna is commonly called as 'Marudhamaram' in Tamil and 'kumbuk' in Srilanka. It is usually grown near areas rich in water. It is found near river banks and lakes etc. Every plant part of T. arjuna is found to have different medicinal properties and used in treating different types of wounds and heart diseases. This book deals with the phytochemicals and larvicidal activity of Terminalia arjuna bark extract.



A. Jayaprakash



The Editor of this book Dr. A. Jayaprakash is currently working as Assistant Professor in PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India.

Phytochemistry & Larvicidal activity of Terminalia arjuna Bark Extract



978-620-2-52490-2

 **LAMBERT**
Academic Publishing

AMH produced by granulosa cells [GC] of the ovary; AMH, also known as Mullerian-inhibiting substance, is a dimeric glycoprotein that belongs to the transforming growth factor- β family. It is virtually undetectable but increases gradually until puberty and remains relatively stable through the reproductive period. It is widely accepted that the reduction of AMH levels in serum is the first indication for decline in the follicular reserve of the ovaries and can be measured in the blood at any time in the menstrual cycle due to its stability. AMH is a marker for ovarian reserve and naturally lower in older women [>40 year] and higher in women with Polycystic ovaries [PCO] and polycystic Ovary Syndrome [POCS]. It was reported that Follicle stimulating hormone [FSH], Estradiol [E2] levels and antral follicle count [AFC] have been used for evaluation of ovarian reserve to determine suitable treatment strategy for female infertility by age, which becomes very essential in recent years. This book deals with the Anti-Mullerian Hormone levels in women patients.



A. Jayaprakash
P. Praveena



The Author of this book Dr. A. Jayaprakash is currently working as Assistant Professor in PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur-635601, Tirupattur District, Tamil Nadu, India.

Study on Anti-Mullerian Hormone (AMH) Levels in Women Patients

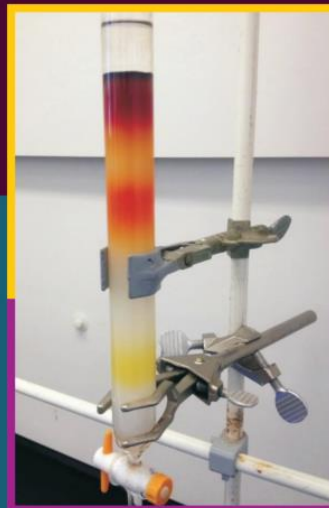


 **LAMBERT**
Academic Publishing

ANALYTICAL BIOCHEMISTRY



UV-Visible Spectrophotometer



ELECTROPHORESIS

V.P. OFFSET, TPT

ISBN: 978-81-944366-0-7

*G Sivaelango
And
I. Niyas Ahamed*

Saliha Publications

(Sponsored by Association of Indian Biologists and Association of Global Academician and Researchers)



Vaniyambadi, Tamil Nadu, India.

Appreciation Certificate



This is to Certify that **Dr. I. NIYAS AHAMED** was Successfully Published a Book entitled **BASICS OF BIOCHEMISTRY (ISBN:978-93-5279-040-1)** with thoughtfulness, creativity and subject knowledge. This work was highly significant and appreciable.

Date: 09-06-2020
Certificate ID: ROZKOE-CE000010


S.RAJESH.,M.Sc.,DMLT
Associate Editor

Saliha Publications

(Sponsored by Association of Indian Biologists and Association of Global Academician and Researchers)



Vaniyambadi, Tamil Nadu, India.

Appreciation Certificate



This is to Certify that **Dr. I. NIYAS AHAMED** was Successfully Published a Book entitled **ESSENTIALS OF MICROBIOLOGY (ISBN: 978-81-944366-8-3)** with thoughtfulness, creativity and subject knowledge. This work was highly significant and appreciable.

Date: 21-07-2020
Certificate ID: ROZKOE-CE000011


S.RAJESH.,M.Sc.,DMLT
Associate Editor

Saliha Publications

(Sponsored by Association of Indian Biologists and Association of Global Academician and Researchers)



Vaniyambadi, Tamil Nadu, India.

Appreciation Certificate



This is to Certify that **Dr. I. NIYAS AHAMED** was Successfully Published a Book entitled **INTRODUCTION TO BIONANOTECHNOLOGY (ISBN: 978-81-946014-5-6)** with thoughtfulness, creativity and subject knowledge. This work was highly significant and appreciable.

Date: 24-09-2020
Certificate ID: ROZKOE-CE000015


S.RAJESH.,M.Sc.,DMLT
Associate Editor

Saliha Publications

(Sponsored by Association of Indian Biologists and Association of Global Academician and Researchers)



Vaniyambadi, Tamil Nadu, India.

Appreciation Certificate



This is to Certify that **Dr. I. NIYAS AHAMED** was Successfully Published a Book entitled **INTRODUCTION TO MEDICINAL CHEMISTRY (ISBN: 978-81-947361-3-4)** with thoughtfulness, creativity and subject knowledge. This work was highly significant and appreciable.

Date: 24-11-2020
Certificate ID: ROZKOE-CE000018


S. RAJESH., M.Sc., DMLT
Associate Editor

Saliha Publications

(Sponsored by Association of Indian Biologists and Association of Global Academician and Researchers)



Vaniyambadi, Tamil Nadu, India.

Appreciation Certificate



This is to Certify that **Dr. I. NIYAS AHAMED** was Successfully Published a Book entitled **INTRODUCTION TO NANO CHEMISTRY (ISBN: 978-81-947361-4-1)** with thoughtfulness, creativity and subject knowledge. This work was highly significant and appreciable.

Date: 05-08-2020
Certificate ID: ROZKOE-CE000014


S.RAJESH.,M.Sc.,DMLT
Associate Editor

Assistance to Science and Technology Publication

**எளிதான தமிழில் நானோ தொழில்நுட்பம்
(Nanotechnology for Beginners in Tamil)**

ISBN: 978-81-947361-9-6

SPONSORED BY



**TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
(An Autonomous body of Govt. of Tamil Nadu)
DOTE Campus, Chennai - 600 025**

Dr.I.Niyas ahamed M.Sc., M.Phil.,Ph.D.,
Assistant Professor,
PG & Research Department of Biochemistry,
Sacred Heart College (Autonomous)
Tirupattur - 635 601
Tirupattur District, Tamil Nadu, India.



ISBN: 978-81-948129-5-1

Editor

Mr. GAURAV SINGH

Authors

Dr. SENTHILKUMAR O

Dr. KAVITA KHATANA

Dr. PRADEEP KUMAR PANDA

Dr. MANJULA H S

Dr. NIYAS AHAMED I

Published By



AIB Saliha Publications, Tamil Nadu, INDIA

Textbook of **ENGINEERING CHEMISTRY**



ISBN: 978-81-948129-5-1

Saliha Publications

(Sponsored by Association of Indian Biologists and Association of Global Academician and Researchers)



Vaniyambadi, Tamil Nadu, India.

Appreciation Certificate



This is to Certify that **Dr. I. NIYAS AHAMED** was Successfully Published a Book entitled **TEXTBOOK OF HERBAL MEDICINE (ISBN: 978-93-5407-539-1)** with thoughtfulness, creativity and subject knowledge. This work was highly significant and appreciable.

Date: 13-10-2020
Certificate ID: ROZKOE-CE000016


S.RAJESH.,M.Sc.,DMLT
Associate Editor

Antibiotics are the Secondary metabolites produced by the microorganisms that affects the growth of another microorganisms particularly bacteria. The present study was aimed to study the Antibiotic sensitivity of Wild and Mutated bacterial pathogens against Standard Antibiotics. The bacterial pathogens selected for the present study was collected and maintained in Nutrient agar slants at 4 °C. Eleven Bacterial pathogens selected for the present research are *Staphylococcus aureus*, *Bacillus cereus*, *Escherichia coli*, *Proteus mirabilis*, *Salmonella typhi*, *Shigella flexneri*, *Shigella dysenteriae*, *Klebsiella pneumoniae*, *Pseudomonas aeruginosa*, *Acinetobacter* sp, and *Enterococcus faecalis*. Six selected Antibiotics were Ampicillin, Streptomycin, Vancomycin, Tetracycline, Rifampin and Chloramphenicol. The bacterial cultures are mutated by placing the bacterial culture broth under UV light in Laminar flow cabinet at 250 nm. Disc diffusion assay proposed by Kirby and Bauer was used to study the Antibigram of Wild and Mutated bacterial pathogens. It was concluded that the UV Mutated bacterial pathogens are highly susceptible to the Antibiotics when compared to the Wild bacterial strains.



V. Megala
P. Saranraj

Mrs. V. Megala has completed her M.Sc Biochemistry student in Department of Biochemistry, Sacred Heart College (Autonomous) under the guidance of Dr. P. Saranraj, Head, Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India.

ANTIBIOGRAM OF WILD AND MUTATED BACTERIA CAUSING NOSOCOMIAL INFECTION

Antibiotic Sensitivity of Wild and UV Mutated
Bacterial Pathogens



 **LAMBERT**
Academic Publishing

The pulp of *Allium sativum* (Onion), *Allium cepa* (Garlic) and leaves of *Cymbopogon citratus* (Lemongrass) were collected from Yelagiri hills, Thirupattur District, Tamil Nadu. The different phytochemical components (Carbohydrates, Phenol, Flavonoides, Tannins, Cardiac glycosides, Quinones, Alkaloides, Amino acids, Protein, Anthroquinones, Glycosides and lipids) were analyzed from the pulp of *Allium sativum* (Onion), *Allium cepa* (Garlic) and leaves of *Cymbopogon citratus* (Lemongrass). The results showed that the presence of secondary metabolites of such as Amino acids and proteins, Flavonoids and Carbohydrates, Phenols, Tannins, Cardiac glycosides, Quinones, Alkaloids, Glycosides and Anthroquinones were absence in *Allium cepa* (Garlic) in aqueous extraction method. The presence of secondary metabolites of such as Amino acids and proteins, Flavonoids and Carbohydrates, Phenols, Tannins, Cardiac glycosides, Quinones, Alkaloids, Glycosides and Anthroquinones were absence in *Allium sativum* (Onion) in aqueous extraction method. The presence of secondary metabolites of such as Carbohydrates, Flavonoids, Cardiac glycosides, Amino acids and Cardiac glycosides, Phenols, Tannins, Quinones, Alkaloids



V.R. Naveen Kumar
Dr. K. Amala
Dr. P. Saranraj

V.R.Naveenkumar currently completed M.Sc Biochemistry in Sacred Heart College (SHC) TN. He did this project under the guidance of Dr.K.Amala, she is an Assistant professor in the Dept of Microbiology at SHC, TN, specialized in Food and Medical microbiology. Dr.P.Saranraj is an Assistant professor in SHC,TN and specialized in applied microbiology.

STUDIES ON NEWLY FORMULATED ALLICIN RICH PHYTO-MOSQUITO REPELLENT

NEWLY FORMULATED ALLICIN RICH PHYTO-
MOSQUITO REPELLENT



 **LAMBERT**
Academic Publishing

ABOUT THE EDITORS



Dr. U. Pramanathan, presently working as Chief Librarian of Mahindra Group of Institutions, Namakkal, Salem, Tamil Nadu. He did his B.Lib in Ganesar Senthilvel Kallari, Pudukottai, M.L.S, M.Phil in Annamalai University, Ph.D from Alagappa University, Karaikudi, Tamil Nadu. He has Published 10 Research articles and 15 conference papers. He has received Young Librarian Award, Best Librarian Award, Outstanding Services Award, Noolagar Samal Award, Marutha Neys Grandi Award and also Kalam Social Workers Award. He is Editor in Chief for the International Journal of Library Science and Information Management (IJLSIM). He has also served as ICSSR Project Associate in Central Library, Alagappa University, Karaikudi, Tamil Nadu. He has 10 Year professional Experience as a Librarian.



Dr. R. Kavitha is presently working as Assistant Librarian cum Assistant Professor, Department of Library and Information Science, Mother Teresa Women's University, Kodaikanal. She is qualified with M.A (Eco), M.A (Hind), M.L.S, M.Phil, Ph.D. She has presented 10 papers in various National and International Conferences and acted as Resource Person, Chair and Rapporteur. She has published 17 research articles in various International Journals. She has attended 15 workshops also organised two webinars. Developed e-content in LIS Curriculum. She is one of the translators of IGNOU LIS subject. She was honored with "Noolagar Kalaimani-2019" Award. At present she is guiding 4 Ph.Ds. She is the member of Academic Library Association - Tamilnadu & Kerala, Madras Library Association and Indian Academic Researcher Association.



Dr. G. Stephen, presently working as Assistant Librarian in NIELT Inauger Centre, Arunachal Pradesh. He did his M.B.A, M.L.S, M.Phil, Ph.D degrees in Alagappa University, Karaikudi, Tamil Nadu. He has qualified UGC - NET and Tamil Nadu SET For the Eligibility of Assistant Professor post in Library and Information Science Subject. He has Published 25 Research Articles, 10 Chapters and 30 Conference papers. He has received Business Professional Programmer Award, Young Librarian Award, Young Scientist Award, Best Librarian Award and also he has recognized as one of the Top 50 Librarians in India for the year 2019. He is the only Library Professional in NPTEL STAR category as a NPTEL Enthusiast and received Appreciation certification from MHRD, NPTEL - IT Madras.



Mr. M. Selvam is currently serving as Librarian in Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu. He did M.Sc., M.L.S, M.Phil, and PGDIAN. Currently doing Doctor of Philosophy in Library and Information Science at Bharathiyar University, Coimbatore. He has 15 years of experience in LIS. He had cleared SET in LIS. He published more than 15 research articles in National and International Journals. He organised more than five national level seminar/workshop in the field of Library and Information Science in SHC. He has membership in more than five Library professional bodies. His area of interest includes web technology, Online Data bases and Social Networking sites.

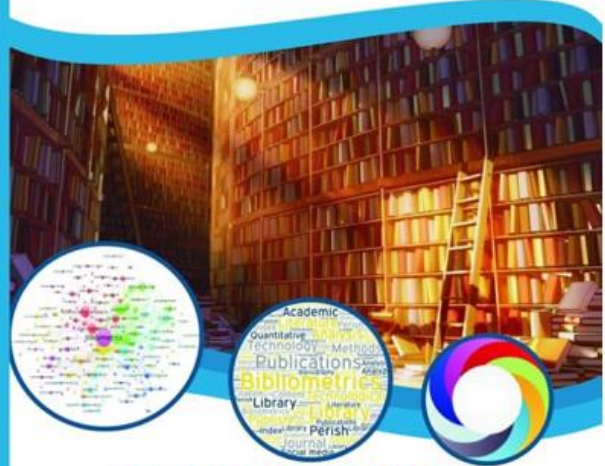


Published by
SK Research Group of Companies
 142, Periyar Nagar, Madakulam
 Madurai, Tamil Nadu, India
 skrgc.publisher@gmail.com / +91 9790120237
 www.skrgcpublishing.org



Price: ₹450/-

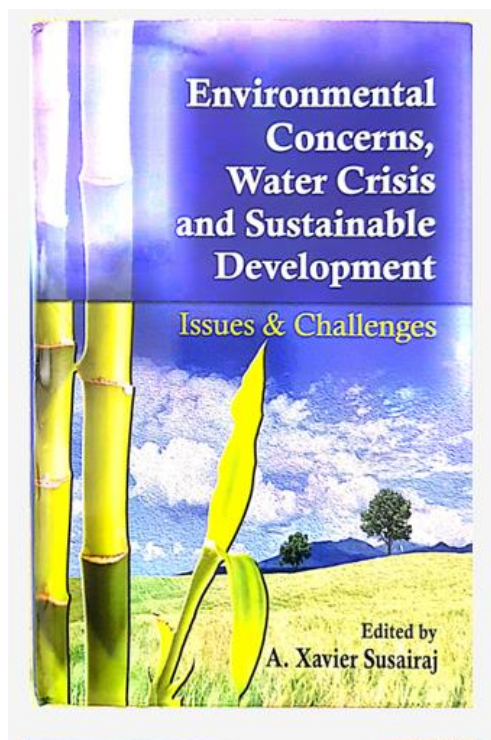
Handbook of Metric Studies for Library and Information Science Scholars



**Handbook of Metric Studies for
 Library and Information Science Scholars**

Editors

Dr. U. Pramanathan
 Dr. R. Kavitha
 Dr. G. Stephen
 Mr. M. Selvam



<i>Environmental Concerns and Sustainable Development</i>	
9. Swachh Bharat Abhiyan-review-2019 — <i>S. Vairamani</i>	73
10. Indian Transport System – A Transformer for Economic Development — <i>C. Saravanan</i>	82
11. A Study on Consumer Behaviour Aavin Milk and Milk Products with Special Reference to Sathuvachari Aavin Milk Dairy,Vellore, Vellore District, Tamil Nadu, India — <i>C. Arunachalam</i>	96
12. Economic Analysis of Environmental Impacts of Leather Tanneries: A Special Reference to Dindugal District of Tamil Nadu — <i>S. John Sundar</i>	103
13. Impact of Mgnregp on Water Conservation: A Case Study on Villages of Villupuram District — <i>R. Kurinji Malar</i>	110
14. Environmental Implication of Leather Industries on Groundwater Sources in Vellore District — <i>A. Royal Edward Williams & M. P. Parvez Ahmed</i>	117
15. The Role of Water Management on the Impact of Agricultural Development in India — <i>R. Sankaran & A. Royal Edward Williams</i>	129
16. Groundwater Pollutants Inside the River Palar — <i>R. Prabhakaran & V. Sivasankar</i>	139
17. Human Rights And Environment: An Overview — <i>N. Uma Rani</i>	145
18. Challenges in Agriculture, Aricultural Development through Sustainable Way to Attain Food Security in India — <i>Ramesh Aravind P.</i>	151
19. A Cost of Cultivation of Green House and open Field Rose in House Block in Tamil Nadu — <i>A. Xavier Susairaj</i>	159
Index	171

Development of a country is affected by poverty and unemployment. Women empowerment is must to avoid unemployment and poverty. Women empowerment leads to sanitation, family development, social values, and economic independence. Women empowerment and poverty alleviation programmes play an important role in the reduction of poverty. The classical women's movement of the nineteenth and early twentieth centuries was a movement by women and for women. They sought fundamental change in gender relations by improving women's conditions from economic, social, political and cultural perspectives both in comparison with their traditional situation and in comparison with men. The Mahatma Gandhi National Rural Employment Guarantee Programme (MGNREGP) has emerged as one of the important tools for rural development and for combating hunger and unemployment among the rural women. After many years of its completion, various states have achieved moderate or minimum success. So considering all facts in view, this study deals with the impact of MGNREGP on Women Empowerment in Tiruvapur District of Tamil Nadu, India.



R. Kuringji Malar



Dr. R. Kuringji Malar is working as an Assistant Professor in the PG and Research Department of Economics, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India. Her area of specialization includes Rural development, Labour Economics, International and Environmental Economics, Monetary and Fiscal Economics.

Impact of MGNREGP on Women Empowerment

A case study from Tiruvapur District of Tamil Nadu, India



978-620-2-51665-5

LAP LAMBERT
Academic Publishing

The Seed of *Hygrophila auriculata* was collected during the month of December, 2019 from the national drug store, Tirupattur district, Tamilnadu, India. For seed extraction, hot extraction method was followed. 25g of the powdered seed materials was soaked with 50 ml in aqueous methanol (90%). The filtered extract was concentrated and stored at refrigerated condition for further studies. The presence of various phytochemicals in the *Hygrophila auriculata* seed extract was analyzed. The secondary metabolites of such as alkaloids, flavonoids, saponin, tannins, phenol, glycosides, terpenoids, steroids, quinone and protein were presented. The extracts of seed extract of solvent were subjected to TLC. All spots are colorless in day light but they are colored under UV light. Aqueous methanol extract showed six spots of red, yellow, pink and light yellow with Rf values such as 0.3, 0.4, 0.53, 0.73, 0.83 and 0.93 were respectively. Medicinal Plants produce primary and secondary metabolites with conflicting function.



Mr. C. Jayenderan, completed M.Sc Biochemistry, Sacred Heart College, (SHC), TN. Dr. K. Amala is an assistant professor, in Microbiology Dept, (SHC), TN. Mr. T. Vengatesan, completed M.Sc Biochemistry, Sacred Heart College, (SHC), TN.

C. Jayenderan
Dr. K. Amala
T. Vengatesan

CYTOTOXIC EFFECT OF HYGROPHILA AURICULATA AGAINST CERVICAL CARCINOMA

PHYTO-DRUG FOR CERVICAL CANCER



LAP
LAMBERT
Academic Publishing

The pulp of *Allium sativum* (Onion), *Allium cepa* (Garlic) and leaves of *Cymbopogon citratus* (Lemongrass) were collected from Yelagiri hills, Thirupattur District, Tamil Nadu. The different phytochemical components (Carbohydrates, Phenol, Flavonoids, Tannins, Cardiac glycosides, Quinones, Alkaloids, Amino acids, Protein, Anthroquinones, Glycosides and lipids) were analyzed from the pulp of *Allium sativum* (Onion), *Allium cepa* (Garlic) and leaves of *Cymbopogon citratus* (Lemongrass). The results showed that the presence of secondary metabolites of such as Amino acids and proteins, Flavonoids and Carbohydrates, Phenols, Tannins, Cardiac glycosides, Quinones, Alkaloids, Glycosides and Anthroquinones were absence in *Allium cepa* (Garlic) in aqueous extraction method. The presence of secondary metabolites of such as Amino acids and proteins, Flavonoids and Carbohydrates, Phenols, Tannins, Cardiac glycosides, Quinones, Alkaloids, Glycosides and Anthroquinones were absence in *Allium sativum* (Onion) in aqueous extraction method. The presence of secondary metabolites of such as Carbohydrates, Flavonoids, Cardiac glycosides, Amino acids and Cardiac glycosides, Phenols, Tannins, Quinones, Alkaloids



V.R. Naveen Kumar
Dr. K. Amala
Dr. P. Saranraj

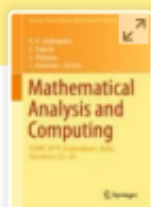
V.R.Naveenkumar currently completed M.Sc Biochemistry in Sacred Heart College (SHC) TN. He did this project under the guidance of Dr.K.Amala, she is an Assistant professor in the Dept of Microbiology at SHC, TN, specialized in Food and Medical microbiology, Dr.P.Saranraj is an Assistant professor in SHC,TN and specialized in applied microbiology.

STUDIES ON NEWLY FORMULATED ALLICIN RICH PHYTO-MOSQUITO REPELLENT

NEWLY FORMULATED ALLICIN RICH PHYTO-
MOSQUITO REPELLENT



LAP
LAMBERT
Academic Publishing



International Conference on Mathematical Analysis and Computing.

↳ ICMAC 2019: **Mathematical Analysis and Computing**, pp 205–219

[Home](#) > [Mathematical Analysis and Computing](#) > [Conference paper](#)

Bifurcation Analysis and Chaos Control for a Discrete Fractional-Order Prey–Predator System

[A. George Maria Selvam](#) , [D. Vignesh](#) & [R. Janagaraj](#)

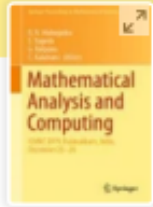
Conference paper | [First Online: 06 May 2021](#)

339 Accesses

Part of the [Springer Proceedings in Mathematics & Statistics](#) book series (PROMS, volume 344)

Abstract

Allee effect relates to the fitness of an individual and the density of the population in an ecosystem. This type of positive association may lead to a population size below which the persistence of the species is not possible. In this work, we consider a fractional-order discrete-time system representing interactions of predator and prey involving Holling type II response and Allee effect. The existence results of the equilibrium points together with the



International Conference on Mathematical Analysis and Computing.

↳ ICMAC 2019: **Mathematical Analysis and Computing**, pp 345–358

Home > [Mathematical Analysis and Computing](#) > Conference paper

Bifurcation and Chaos Control for Discrete Fractional-Order Prey–Predator Model with Square Root Interaction

[A. George Maria Selvam](#) , [S. Britto Jacob](#) & [R. Dhineshbabu](#)

Conference paper | [First Online: 06 May 2021](#)

338 Accesses | **1** Citations

Part of the [Springer Proceedings in Mathematics & Statistics](#) book series (PROMS, volume 344)

Abstract

This research article is related with the local stability of the steady states of fractional-order prey–predator system with square root interaction term. A discrete form of the system is proposed for discussion. The interaction period is proportionate to the square root of the prey species density. The existence of steady states, stability of the steady

Chapter 11 | 22 pages

A Mathematical Model and Forecasting of COVID-19 Outbreak in India

By *G. Maria Jones, S. Godfrey Winster, A. George Maria Selvam, D. Vignesh*

[GET ACCESS](#)

Abstract ^

The outbreak of novel coronavirus (COVID-19) initially affected Wuhan and then rapidly spread to many nations across the globe, causing a major public health issue. In India, about 4.37 million confirmed cases and 73,890 confirmed deaths due to coronavirus were reported as of September 8, 2020. Lack of vaccination, absence of social distancing, and difficulty in full contact tracing lead to an increase of confirmed cases. We propose a dynamic model to describe the evolution of the COVID-19 pandemic and a prediction model to forecast the coronavirus epidemic. The proposed model is a modified SEIRD dynamic model with vital parameters. In addition, our model demonstrates that a reduction in the COVID-19 pandemic is possible through implementing social distancing and other suitable measures. For implementing a predication model, deep learning models are used to make predictions about the number of confirmed cases for all states across India. A recurrent neural network (RNN)-based long short-term memory (LSTM), Prophet, and autoregressive integrated moving average (ARIMA) models are used for forecasting. The accuracy obtained for the LSTM model is 74% and the error rate is calculated for Prophet and the ARIMA model. The analysis provided by our model provides valuable insights into the dynamics of spreading which is useful in curbing the epidemic.

Chapter 12

Analysis of Novel Corona Virus (COVID-19) Pandemic with Fractional-Order Caputo–Fabrizio Operator and Impact of Vaccination



A. George Maria Selvam, R. Janagaraaj, and R. Dhineshbabu

Abstract Within a very short period, the corona infection virus (COVID-19) has created a global emergency situation by spreading worldwide. This virus has dissimilar effects in different geographical regions. In the beginning of the spread, the number of new cases of active corona virus has shown exponential growth across the globe. At present, for such infection, there is no vaccination or anti-viral medicine specific to the recent corona virus infection. Mathematical formulation of infection models is exceptionally successful to comprehend epidemiological models of ailments, just as it causes us to take vital proportions of general wellbeing interruptions to control the disease transmission and the spread. This work based on a new mathematical model analyses the dynamic behaviour of novel corona virus (COVID-19) using Caputo–Fabrizio fractional derivative. A new modified SEIRQ compartment model is developed to discuss various dynamics. The COVID-19 transmission is studied by varying reproduction number. The basic number of reproduction R_0 is determined by applying the next generation matrix. The equilibrium points for disease-free and endemic states are computed with the help of basic reproduction number R_0 to check the stability property. The Picard approximation and Banach's fixed point theorem based on iterative Laplace transform are useful in establishing the existence and stability behaviour of the fractional-order system. Finally, numerical computations of the COVID-19 fractional-order system are presented to analyse the dynamical behaviour of the solutions of the model. Also, a fractional-order SEIRQ COVID-19 model with vaccinated people has also been formulated and its dynamics with impact on the propagation behaviour is studied.

A. George Maria Selvam (✉)
Department of Mathematics, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu
635601, India
e-mail: agmshc@gmail.com

R. Janagaraaj
Department of Mathematics, Faculty of Engineering, Karpagam Academy of Higher Education,
Coimbatore, Tamil Nadu 641021, India

R. Dhineshbabu
Department of Mathematics, Sri Venkateswara College of Engineering and Technology
(Autonomous), Chittoor, Andhra Pradesh 517127, India

© The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2021
N. H. Shah and M. Mittal (eds.), *Mathematical Analysis for Transmission of COVID-19*,
Mathematical Engineering, https://doi.org/10.1007/978-981-33-6264-2_12



Recent Trends in Applied Mathematics pp 173–184

[Home](#) > [Recent Trends in Applied Mathematics](#) > Conference paper

Existence and Ulam Stability Criteria for Antiperiodic Boundary Value Problem of Fractional Difference Equation

[A. George Maria Selvam](#)  & [R. Dhineshababu](#)

Conference paper | [First Online: 02 March 2021](#)

205 Accesses

Part of the [Lecture Notes in Mechanical Engineering](#) book series (LNME)

Abstract

This present work is concerned with the existence and Ulam stability criteria for a discrete antiperiodic boundary value problem (BVP) of fractional order $1 < \sigma \leq 2$ with Caputo fractional difference operator. Finally, some suitable examples are presented to demonstrate the main results.

Keywords



Recent Trends in Applied Mathematics pp 357–371

[Home](#) > [Recent Trends in Applied Mathematics](#) > Conference paper

Oscillation Theorems for a Class of Nonlinear Difference Equations with Fractional Order

[A. George Maria Selvam](#) , [Mary Jacintha](#) & [R. Janagaraj](#)

Conference paper | [First Online: 02 March 2021](#)

205 Accesses

Part of the [Lecture Notes in Mechanical Engineering](#) book series (LNME)

Abstract

With the application of an inequality and generalized Riccati technique, we arrive at certain oscillatory behavior of a discrete fractional order nonlinear equations

$$\Delta \{ \rho(\ell) [\Delta (\gamma(\ell) \Psi(\Delta^\mu x(\ell)))^\eta] \} + q(\ell) F(G(\ell)) = 0, \ell \in N_{\ell_0},$$



Chapter 10

A Knowledgebase Model Using RDF Knowledge Graph for Clinical Decision Support Systems

Ravi Lourdasamy, Xavierlal J. Mattam

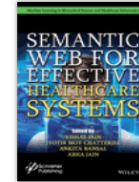
Book Editor(s): Vishal Jain, Jyotir Moy Chatterjee, Ankita Bansal, Abha Jain

First published: 11 November 2021 | <https://doi.org/10.1002/9781119764175.ch10>

PDF TOOLS SHARE

Summary

Clinical Decision Support Systems are used in healthcare to assist in making life-saving decisions. Therefore, such systems have to be efficient and reliable with relevant knowledge that is periodically updated. With vast knowledge available in medical literature and in websites, the challenge is in curating that knowledge on a knowledgebase to be used by the decision support system. In order to curate knowledge in a knowledgebase system the easiest method is to make use of the already well-developed relational database system. But that does not solve problems specially when it comes to representing knowledge having related concepts. Recently, the use of knowledge graphs has become popular for knowledge representation. The use of RDF triples in storing Knowledge Graphs is a convenient method of knowledgebase curation. With a centralized form of RDF Knowledge Graphs in a clinical decision support system.



Semantic Web for Effective Healthcare



References



Related



Information

Recommended

The Knowledge Object Reference Ontology (KORO): A formalism to support management and sharing of computable biomedical knowledge for learning health systems

Allen J. Flynn, Charles P. Friedman, Peter Boisvert, Zachary Landis-Lewis, Carl Lagoze

Learning Health Systems

Knowledge acquisition, synthesis, and validation: a model for decision support systems



Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough pp 81–94

Home > [Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough](#) > Chapter

Adaptation and Evolution of Decision Support Systems—A Typological Survey

[Ravi Lourdasamy](#) & [Xavierlal J. Mattam](#)

Chapter | [First Online: 27 April 2021](#)

614 Accesses

Part of the [Studies in Computational Intelligence](#) book series (SCI, volume 956)

Abstract

There are many ways in which a literature survey can be done. One is to study the chronological order of development and another is to make a study of the developmental process itself. There is also a way of surveying the evolution in its different stages of growth with various adaptations made. This paper is an attempt to study the different stages of growth of the Decision Support Systems

Resource description framework based semantic knowledge graph for clinical decision support systems

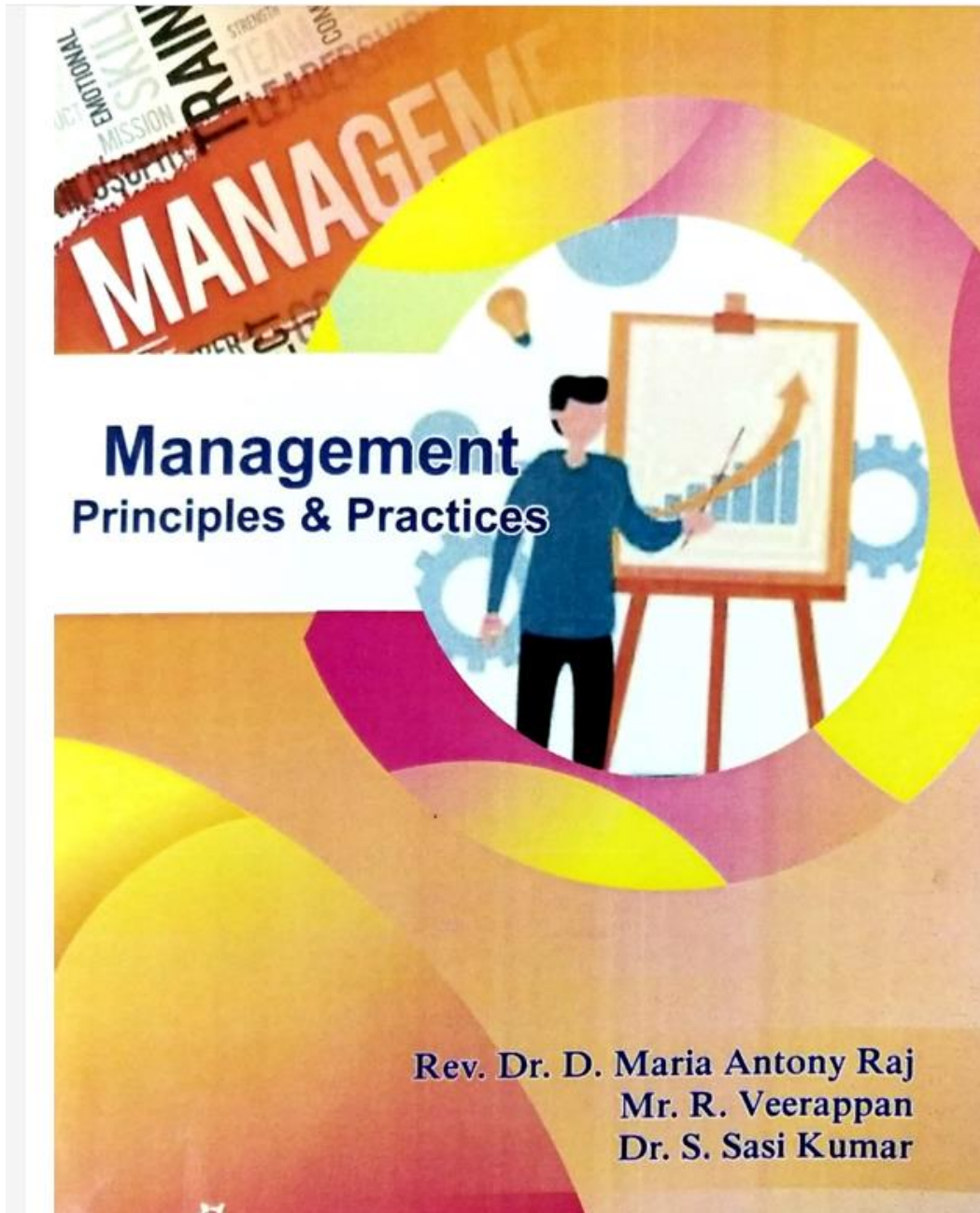
Ravi Lourdusamy and Xavierlal J. Mattam

Sacred Heart College (Autonomous), Tirupattur, India

6.1 Introduction

Knowledge representation (KR) has been a great challenge for the construction of knowledge-based systems (KBSs). For years there has been the use of syntactic rules for machine representation of knowledge. In syntactic representation, knowledge is inferred from the syntactic analysis of information using rules that relate the parts of a syntactic analysis that represent its meaning. It is a rule-based formal symbolic logic system which uses deductive grammar to represent natural language. It is a lengthy process of parsing different words in a sentence and composing matching sentences. In the syntactic KR, the process of representation is the same for both the structured and the unstructured data. Semantic representation, on the other hand, maps words directly to its meaning represented by it and the words are linked to fit a particular template which has a similar meaning. All the words in a particular domain and their relations are mapped in the semantic graph representation. The linked data form a repository and can be used to make meaningful sentences on a domain. The use of semantic representation can reduce the process of knowledge extraction and knowledge base creation to a very large extent. Moreover, being closer to the natural language forms, the semantic graph representation is more easily understandable in an application like the clinical decision support systems (CDSS). On structured data, the process of creation and use of a semantic web-based knowledge system is easier than on unstructured data.

Formal languages use syntactic structures while natural languages are semantic-based structures. While representing natural languages in a formal language structure a combination of both the structures will make the representation efficient and robust. The syntactic–semantic



Management
Principles & Practices

Rev. Dr. D. Maria Antony Raj
Mr. R. Veerappan
Dr. S. Sasi Kumar

ISBN NO: 978-81-950475-5-0

Business Environment

Mr. R. Veerappan
Dr. A. Arockiamary



**D. MARIA ANTONY RAJ
R. VEERAPPAN
A. AROCKIAMARY**

BUSINESS ORGANIZATION



Management

Principles & Practices



Rev. Dr. D. Maria Antony Raj
Mr. R. Veerappan
Dr. S. Sasi Kumar



JPS PUBLICATIONS
ISBN 978-81-950475-6-7

Scanned with CamScanner

Principles of Marketing



Rev. Fr. Angelo Joseph
Dr. S. Sasikumar
Mr. R. Veerappan



JPS PUBLICATIONS

ISBN NO 978-81-950475-7-4

Scanned with CamScanner



ISBN: 978-93-91342-05-0

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2021

PRODUCTION MANAGEMENT

First Edition

**R. Veerappan
S. Sasi Kumar
J. Sasiganth**



**JPS Scientific Publications,
India**



ISBN: 978-93-91342-55-5

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2021

TOTAL QUALITY MANAGEMENT

First Edition

**D. Maria Antony Raj
R. Veerappan
A. Alex**



**JPS Scientific Publications,
India**

ஆபுத்திரன் கதை
(திரைப் பளுவல்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128, பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரிண்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை

பக்கங்கள் : 88
விலை: ரூ.100

Abuthiran Kathai
(Screen Play)


Prof. K.Parthibharaja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai

Pages : 88
Price : Rs, 100
ISBN : 978-81-945796-4-9

 **MarinaBooks** Website : MarinaBooks.com
தமிழ் நூல்கள் வாரியம்
1 Lakh Tamil Books .com Email : contactus@marinabooks.com
Branches : Chennai - Hosur - Tirupattur
Moblie : 88834 88866, 95977 44141

2

• ஆபுத்திரன் கதை

நூல் விவரம்

- தலைப்பு : இசைநாடக வெளியினூடாக
 ஆசிரியர் : முனைவர் கி.பார்த்திபராஜா
 உரிமை : ஆசிரியருக்கு
 முதல் பதிப்பு : ஜனவரி 2021
 மொழி : தமிழ்
 அளவு : டெம்மி
 பக்கங்கள் : 240
 விலை : ரூ.250/-
 ISBN : 978-81-945795-6-4
 வெளியீடு : பரிதி பதிப்பகம்,
 ஜோலார்பேட்டை,
 திருப்பத்தூர் மாவட்டம்,
 கைபேசி: 72006 93200
 parithipt@gmail.com
 கணினி : க.ஜெகவீரன்,
 சரவணா கிராபிக்ஸ்,
 சத்துவாச்சாரி, வேலூர்,
 செல்: 89460 96140
 98658 20640.

 MarinaBooks <small>ஒரு லக்ஷம் தமிழ் நூல்கள்</small> 1 Lakh Tamil Books	Website : MarinaBooks.com
	Email : contactus@marinabooks.com
	Branches : Chennai - Hosur - Tirupattur
	Mobile : 88834 88866, 95977 44141

நாட்டிலொரு நாடகம்
(நாடகங்கள்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128. பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரிண்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை

பக்கங்கள் : 106
விலை: ரூ.110

Nattiloru Nadagam
(Dramas)

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai

Pages : 106
Price : Rs. 110
ISBN : 978-81-945796-8-7

	MarinaBooks	Website : MarinaBooks.com
	சுமேட்டி வளர்ச்சி 1 Lakh Tamil Books	Email : contactus@marinabooks.com
		Branches : Chennai - Hosur - Tirupattur
		Mobile : 88834 88866, 95977 44141

2 ♦ நாட்டிலொரு நாடகம்

நூல் உலா - 1
(பத்து நூல்கள்)

முனைவர் கி. பார்த்திபராஜா ©

(முதற்பதிப்பு : மார்ச் 2021)

வெளியீடு : பரிதி பதிப்பகம்
56C/128, பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரின்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை
அட்டை வடிவமைப்பு : நெகிழன்

பக்கங்கள் : 194
விலை: ரூ.200

NOOL ULA - 1
10 Books

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai
Cover Design : Negizhan

ISBN : 978-81-945795-9-5

Pages : 194
Price : Rs. 200

 **MarinaBooks**
1 Lakh Tamil Books
Website : MarinaBooks.com
Email : contactus@marinabooks.com
Branches : Chennai - Hosur - Tirupattur
Mobile : 88834 88866, 95977 44141

2

• நூல் உலா : பாகம்-1

நூல் உலா - 2
(பத்து நூல்கள்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128. பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரிண்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை
அட்டை வடிவமைப்பு : நெகிழன்

பக்கங்கள் : 220

விலை: ரூ.220

NOOL ULA - 2

10 Books

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam

Published by Parithi Pathippagam

56C/128, Near Bharatha Kovil, Jolarpettai,

Tirupattur District-635851

Email: Parithijpt@gmail.com

Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai

Layout: Thangam Graphics, Chennai

Cover Design : Negizhan

ISBN : 978-81-945795-5-7

Pages : 220

Price : Rs. 220



MarinaBooks

1 Lakh Tamil Books

Website : MarinaBooks.com
Email : contactus@marinabooks.com
Branches : Chennai - Hosur - Tirupattur
Mobile : 88834 88866, 95977 44141

நூல் உடலா - 3
(பத்து நூல்கள்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128, பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரின்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை
அட்டை வடிவமைப்பு : நெகிழன்

பக்கங்கள் : 208
விலை: ரூ.220

NOOL ULA - 3
10 Books

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai
Cover Design : Negizhan

ISBN : 978-81-945795-3-3

Pages : 208
Price : Rs. 220

 MarinaBooks தமிழக வணிகர்கள் 1 Lakh Tamil Books	Website : MarinaBooks.com
	Email : contactus@marinabooks.com
	Branches : Chennai - Hosur - Tirupattur
	Mobile : 88834 88866, 95977 44141

2 • நூல் உடலா : பாகம்-3

DIGITAL MARKETING

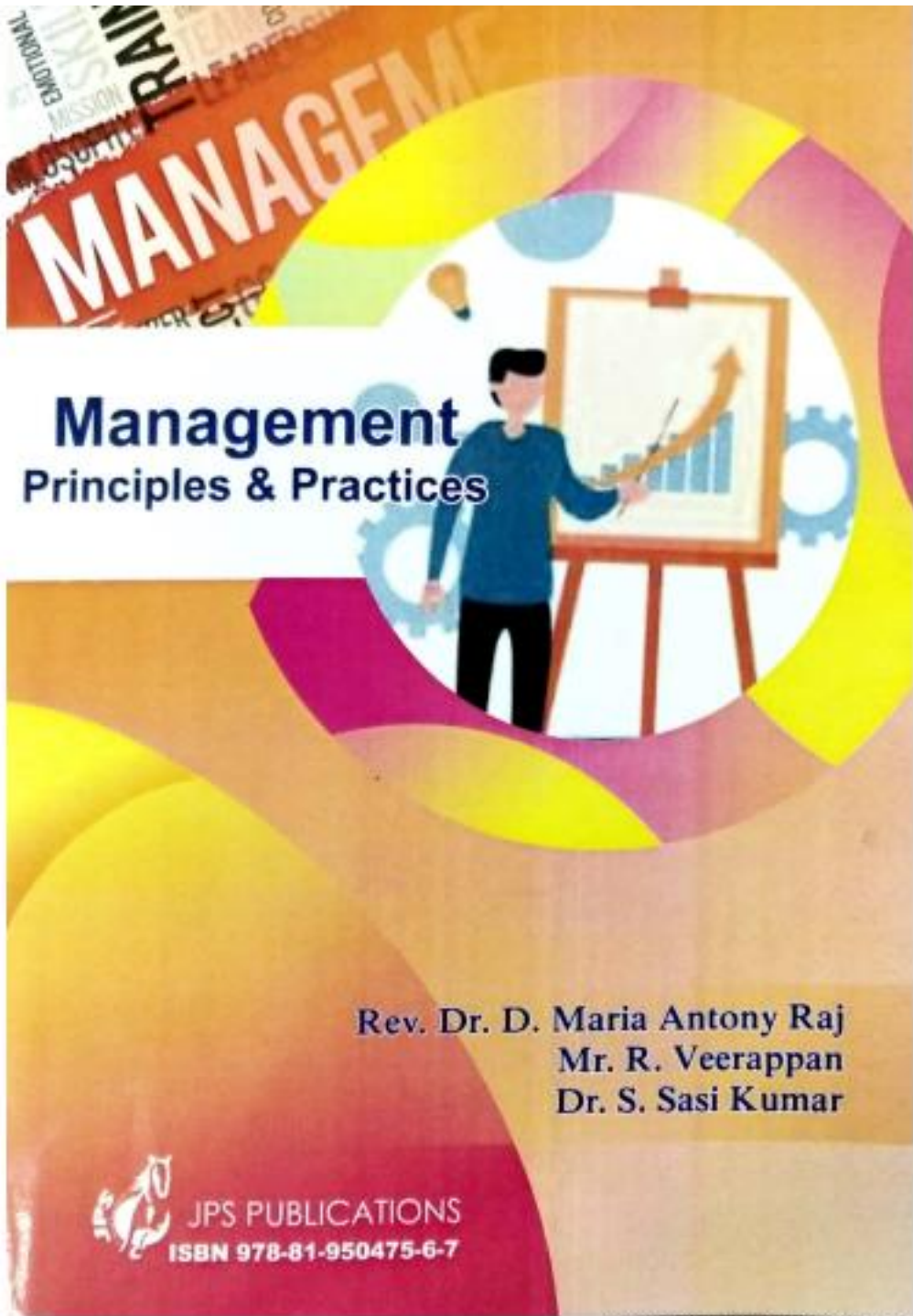
STRATEGIC GUIDE FOR
PROMOTING BUSINESS ONLINE

J. Sasiganth
K. Guru

Global Learners Academy of Development
July 2021

ISBN - 978-81-953592-6-4





Management
Principles & Practices

Rev. Dr. D. Maria Antony Raj
Mr. R. Veerappan
Dr. S. Sasi Kumar



JPS PUBLICATIONS
ISBN 978-81-950475-6-7

Scanned with CamScanner

Principles of Marketing



Rev. Fr. Angelo Joseph
Dr. S. Sasikumar
Mr. R. Veerappan



JPS PUBLICATIONS

ISBN NO 978-81-950475-7-4

Scanned with CamScanner

M. Fernandus Durai

Raw Skin Availability And Disposal And Characterisation Of Chrome Tanned Skin



First Edition



JPS, Scientific Publications, India

THE HISTORICAL EVIDENCES IN TIRUPATTUR DISTRICT (PART-I)

Dr. G. Mohan Gandhi, M.A., M.Phil., Ph.D.,
Assistant Professor, PG and Research Department of Tamil (Shift-1)
Sacred Heart College (Autonomous),
Tirupattur - 635601, Tirupattur District.

Thiru. Kaaninilam M.Muniswamy, B.Sc., M.A.,
(Tamil, English, Economics) M.Ed.,
Retd. Head Master,
Tirupattur- 635601, Tirupattur District.

Translated by

Mr. V. Madhan Kumar, M.A.,
Assistant Professor, Department of English (Shift-1)
Sacred Heart College (Autonomous),
Tirupattur- 635601, Tirupattur District.

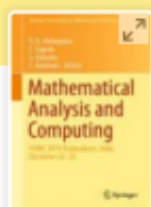


Bharathi Book House,
32, First Floor-
New Corporation Complex,
Old Bus Stand,
Vellore-632004.
Mob: 9945441751

Textbook of Herbal Medicine

Poongothai, Geetha, Ranjani Devi, Arputharaj, Niyas
Ahamed





International Conference on Mathematical Analysis and Computing.

↳ ICMAC 2019: **Mathematical Analysis and Computing**, pp 205–219

[Home](#) > [Mathematical Analysis and Computing](#) > [Conference paper](#)

Bifurcation Analysis and Chaos Control for a Discrete Fractional-Order Prey–Predator System

[A. George Maria Selvam](#) , [D. Vignesh](#) & [R. Janagaraj](#)

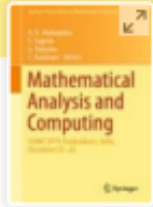
Conference paper | [First Online: 06 May 2021](#)

339 Accesses

Part of the [Springer Proceedings in Mathematics & Statistics](#) book series (PROMS, volume 344)

Abstract

Allee effect relates to the fitness of an individual and the density of the population in an ecosystem. This type of positive association may lead to a population size below which the persistence of the species is not possible. In this work, we consider a fractional-order discrete-time system representing interactions of predator and prey involving Holling type II response and Allee effect. The existence results of the equilibrium points together with the



International Conference on Mathematical Analysis and Computing.

↳ ICMAC 2019: **Mathematical Analysis and Computing**, pp 345–358

Home > [Mathematical Analysis and Computing](#) > Conference paper

Bifurcation and Chaos Control for Discrete Fractional-Order Prey–Predator Model with Square Root Interaction

[A. George Maria Selvam](#) , [S. Britto Jacob](#) & [R. Dhineshbabu](#)

Conference paper | [First Online: 06 May 2021](#)

338 Accesses | **1** Citations

Part of the [Springer Proceedings in Mathematics & Statistics](#) book series (PROMS, volume 344)

Abstract

This research article is related with the local stability of the steady states of fractional-order prey–predator system with square root interaction term. A discrete form of the system is proposed for discussion. The interaction period is proportionate to the square root of the prey species density. The existence of steady states, stability of the steady

Chapter 11 | 22 pages

A Mathematical Model and Forecasting of COVID-19 Outbreak in India

By *G. Maria Jones, S. Godfrey Winster, A. George Maria Selvam, D. Vignesh*

[GET ACCESS](#)

Abstract ^

The outbreak of novel coronavirus (COVID-19) initially affected Wuhan and then rapidly spread to many nations across the globe, causing a major public health issue. In India, about 4.37 million confirmed cases and 73,890 confirmed deaths due to coronavirus were reported as of September 8, 2020. Lack of vaccination, absence of social distancing, and difficulty in full contact tracing lead to an increase of confirmed cases. We propose a dynamic model to describe the evolution of the COVID-19 pandemic and a prediction model to forecast the coronavirus epidemic. The proposed model is a modified SEIRD dynamic model with vital parameters. In addition, our model demonstrates that a reduction in the COVID-19 pandemic is possible through implementing social distancing and other suitable measures. For implementing a predication model, deep learning models are used to make predictions about the number of confirmed cases for all states across India. A recurrent neural network (RNN)-based long short-term memory (LSTM), Prophet, and autoregressive integrated moving average (ARIMA) models are used for forecasting. The accuracy obtained for the LSTM model is 74% and the error rate is calculated for Prophet and the ARIMA model. The analysis provided by our model provides valuable insights into the dynamics of spreading which is useful in curbing the epidemic.

Chapter 12

Analysis of Novel Corona Virus (COVID-19) Pandemic with Fractional-Order Caputo–Fabrizio Operator and Impact of Vaccination



A. George Maria Selvam, R. Janagaraaj, and R. Dhineshbabu

Abstract Within a very short period, the corona infection virus (COVID-19) has created a global emergency situation by spreading worldwide. This virus has dissimilar effects in different geographical regions. In the beginning of the spread, the number of new cases of active corona virus has shown exponential growth across the globe. At present, for such infection, there is no vaccination or anti-viral medicine specific to the recent corona virus infection. Mathematical formulation of infection models is exceptionally successful to comprehend epidemiological models of ailments, just as it causes us to take vital proportions of general wellbeing interruptions to control the disease transmission and the spread. This work based on a new mathematical model analyses the dynamic behaviour of novel corona virus (COVID-19) using Caputo–Fabrizio fractional derivative. A new modified SEIRQ compartment model is developed to discuss various dynamics. The COVID-19 transmission is studied by varying reproduction number. The basic number of reproduction R_0 is determined by applying the next generation matrix. The equilibrium points for disease-free and endemic states are computed with the help of basic reproduction number R_0 to check the stability property. The Picard approximation and Banach's fixed point theorem based on iterative Laplace transform are useful in establishing the existence and stability behaviour of the fractional-order system. Finally, numerical computations of the COVID-19 fractional-order system are presented to analyse the dynamical behaviour of the solutions of the model. Also, a fractional-order SEIRQ COVID-19 model with vaccinated people has also been formulated and its dynamics with impact on the propagation behaviour is studied.

A. George Maria Selvam (✉)
Department of Mathematics, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu
635601, India
e-mail: agmshc@gmail.com

R. Janagaraaj
Department of Mathematics, Faculty of Engineering, Karpagam Academy of Higher Education,
Coimbatore, Tamil Nadu 641021, India

R. Dhineshbabu
Department of Mathematics, Sri Venkateswara College of Engineering and Technology
(Autonomous), Chittoor, Andhra Pradesh 517127, India

© The Author(s), under exclusive license to Springer Nature Singapore Pte Ltd. 2021
N. H. Shah and M. Mittal (eds.), *Mathematical Analysis for Transmission of COVID-19*,
Mathematical Engineering, https://doi.org/10.1007/978-981-33-6264-2_12



Recent Trends in Applied Mathematics pp 173–184

[Home](#) > [Recent Trends in Applied Mathematics](#) > [Conference paper](#)

Existence and Ulam Stability Criteria for Antiperiodic Boundary Value Problem of Fractional Difference Equation

[A. George Maria Selvam](#)  & [R. Dhineshabu](#)

Conference paper | [First Online: 02 March 2021](#)

205 Accesses

Part of the [Lecture Notes in Mechanical Engineering](#) book series (LNME)

Abstract

This present work is concerned with the existence and Ulam stability criteria for a discrete antiperiodic boundary value problem (BVP) of fractional order $1 < \sigma \leq 2$ with Caputo fractional difference operator. Finally, some suitable examples are presented to demonstrate the main results.

Keywords



Recent Trends in Applied Mathematics pp 357–371

[Home](#) > [Recent Trends in Applied Mathematics](#) > Conference paper

Oscillation Theorems for a Class of Nonlinear Difference Equations with Fractional Order

[A. George Maria Selvam](#) , [Mary Jacintha](#) & [R. Janagaraj](#)

Conference paper | [First Online: 02 March 2021](#)

205 Accesses

Part of the [Lecture Notes in Mechanical Engineering](#) book series (LNME)

Abstract

With the application of an inequality and generalized Riccati technique, we arrive at certain oscillatory behavior of a discrete fractional order nonlinear equations

$$\Delta \{ \rho(\ell) [\Delta(\gamma(\ell)\Psi(\Delta^\mu x(\ell)))]^\eta \} + q(\ell)F(G(\ell)) = 0, \ell \in N_{\ell_0},$$



Chapter 10

A Knowledgebase Model Using RDF Knowledge Graph for Clinical Decision Support Systems

Ravi Lourdasamy, Xavierlal J. Mattam

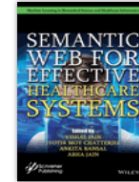
Book Editor(s): Vishal Jain, Jyotir Moy Chatterjee, Ankita Bansal, Abha Jain

First published: 11 November 2021 | <https://doi.org/10.1002/9781119764175.ch10>

PDF TOOLS SHARE

Summary

Clinical Decision Support Systems are used in healthcare to assist in making life-saving decisions. Therefore, such systems have to be efficient and reliable with relevant knowledge that is periodically updated. With vast knowledge available in medical literature and in websites, the challenge is in curating that knowledge on a knowledgebase to be used by the decision support system. In order to curate knowledge in a knowledgebase system the easiest method is to make use of the already well-developed relational database system. But that does not solve problems specially when it comes to representing knowledge having related concepts. Recently, the use of knowledge graphs has become popular for knowledge representation. The use of RDF triples in storing Knowledge Graphs is a convenient method of knowledgebase curation. With a centralized form of RDF Knowledge Graphs in a clinical decision support system.



Semantic Web for Effective Healthcare



References



Related



Information

Recommended

The Knowledge Object Reference Ontology (KORO): A formalism to support management and sharing of computable biomedical knowledge for learning health systems

Allen J. Flynn, Charles P. Friedman, Peter Boisvert, Zachary Landis-Lewis, Carl Lagoze

Learning Health Systems

Knowledge acquisition, synthesis, and validation: a model for decision support systems



Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough pp 81–94

Home > [Modern Approaches in Machine Learning and Cognitive Science: A Walkthrough](#) > Chapter

Adaptation and Evolution of Decision Support Systems—A Typological Survey

[Ravi Lourdasamy](#) & [Xavierlal J. Mattam](#)

Chapter | [First Online: 27 April 2021](#)

614 Accesses

Part of the [Studies in Computational Intelligence](#) book series (SCI, volume 956)

Abstract

There are many ways in which a literature survey can be done. One is to study the chronological order of development and another is to make a study of the developmental process itself. There is also a way of surveying the evolution in its different stages of growth with various adaptations made. This paper is an attempt to study the different stages of growth of the Decision Support Systems

Resource description framework based semantic knowledge graph for clinical decision support systems

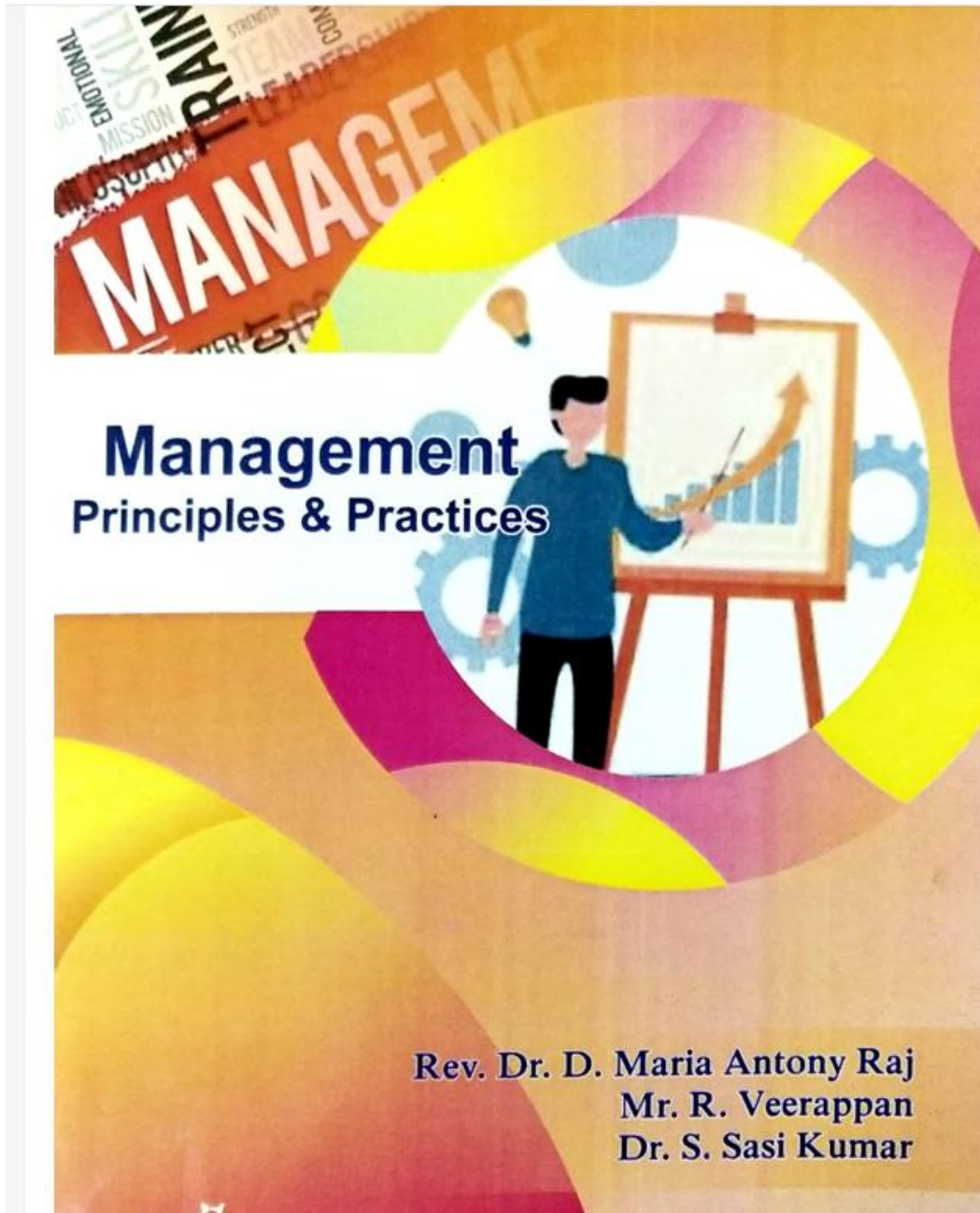
Ravi Lourdusamy and Xavierlal J. Mattam

Sacred Heart College (Autonomous), Tirupattur, India

6.1 Introduction

Knowledge representation (KR) has been a great challenge for the construction of knowledge-based systems (KBSs). For years there has been the use of syntactic rules for machine representation of knowledge. In syntactic representation, knowledge is inferred from the syntactic analysis of information using rules that relate the parts of a syntactic analysis that represent its meaning. It is a rule-based formal symbolic logic system which uses deductive grammar to represent natural language. It is a lengthy process of parsing different words in a sentence and composing matching sentences. In the syntactic KR, the process of representation is the same for both the structured and the unstructured data. Semantic representation, on the other hand, maps words directly to its meaning represented by it and the words are linked to fit a particular template which has a similar meaning. All the words in a particular domain and their relations are mapped in the semantic graph representation. The linked data form a repository and can be used to make meaningful sentences on a domain. The use of semantic representation can reduce the process of knowledge extraction and knowledge base creation to a very large extent. Moreover, being closer to the natural language forms, the semantic graph representation is more easily understandable in an application like the clinical decision support systems (CDSS). On structured data, the process of creation and use of a semantic web-based knowledge system is easier than on unstructured data.

Formal languages use syntactic structures while natural languages are semantic-based structures. While representing natural languages in a formal language structure a combination of both the structures will make the representation efficient and robust. The syntactic–semantic



Management
Principles & Practices

Rev. Dr. D. Maria Antony Raj
Mr. R. Veerappan
Dr. S. Sasi Kumar

ISBN NO: 978-81-950475-5-0

Business Environment

Mr. R. Veerappan
Dr. A. Arockiamary



**D. MARIA ANTONY RAJ
R. VEERAPPAN
A. AROCKIAMARY**

BUSINESS ORGANIZATION



Management

Principles & Practices

Rev. Dr. D. Maria Antony Raj
Mr. R. Veerappan
Dr. S. Sasi Kumar



JPS PUBLICATIONS
ISBN 978-81-950475-6-7

Scanned with CamScanner

Principles of Marketing



Rev. Fr. Angelo Joseph
Dr. S. Sasikumar
Mr. R. Veerappan



JPS PUBLICATIONS

ISBN NO 978-81-950475-7-4

Scanned with CamScanner



ISBN: 978-93-91342-05-0

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2021

PRODUCTION MANAGEMENT

First Edition

**R. Veerappan
S. Sasi Kumar
J. Sasiganth**



**JPS Scientific Publications,
India**



ISBN: 978-93-91342-55-5

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2021

TOTAL QUALITY MANAGEMENT

First Edition

**D. Maria Antony Raj
R. Veerappan
A. Alex**



**JPS Scientific Publications,
India**

ஆபுத்திரன் கதை
(திரைப் பனுவல்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128, பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரிண்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை

பக்கங்கள் : 88
விலை: ரூ.100

Abuthiran Kathai
(Screen Play)


Prof. K.Parthibharaja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai

Pages : 88
Price : Rs, 100
ISBN : 978-81-945796-4-9

 **MarinaBooks** Website : MarinaBooks.com
தமிழ் நூல்கள் வளக்கேள்வி
1 Lakh Tamil Books .com Email : contactus@marinabooks.com
Branches : Chennai - Hosur - Tirupattur
Moble : 88834 88866, 95977 44141

2 • ஆபுத்திரன் கதை

நூல் விவரம்

தலைப்பு	: இசைநாடக வெளியினூடாக
ஆசிரியர்	: முனைவர் கி.பார்த்திபராஜா
உரிமை	: ஆசிரியருக்கு
முதல் பதிப்பு	: ஜனவரி 2021
மொழி	: தமிழ்
அளவு	: டெம்மி
பக்கங்கள்	: 240
விலை	: ரூ.250/-
ISBN	: 978-81-945795-6-4
வெளியீடு	: பரிதி பதிப்பகம், ஜோலார்பேட்டை, திருப்பத்தூர் மாவட்டம். கைபேசி: 72006 93200 parithipt@gmail.com
கணினி	: க.ஜெகவீரன், சரவணா கிராபிக்ஸ், சத்துவாச்சாரி, வேலூர். செல்: 89460 96140 98658 20640.

 MarinaBooks 1 Lakh Tamil Books	Website	: MarinaBooks.com
	Email	: contactus@marinabooks.com
	Branches	: Chennai - Hosur - Tirupattur
	Mobile	: 88834 88866, 95977 44141

நாட்டிலொரு நாடகம்
(நாடகங்கள்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128. பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரிண்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை

பக்கங்கள் : 106
விலை: ரூ.110

Nattiloru Nadagam
(Dramas)

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai

Pages : 106
Price : Rs. 110
ISBN : 978-81-945796-8-7

	MarinaBooks	Website : MarinaBooks.com
	சுமீழ்வுகள் வளர்ச்சியை 1 Lakh Tamil Books	Email : contactus@marinabooks.com Branches : Chennai - Hosur - Tirupattur Mobile : 88834 88866, 95977 44141

2 ♦ நாட்டிலொரு நாடகம்

நூல் உலா - 1
(பத்து நூல்கள்)

முனைவர் கி. பார்த்திபராஜா ©

(முதற்பதிப்பு : மார்ச் 2021)

வெளியீடு : பரிதி பதிப்பகம்
56C/128, பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரின்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை
அட்டை வடிவமைப்பு : நெகிழன்

பக்கங்கள் : 194
விலை: ரூ.200

NOOL ULA - 1
10 Books

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai
Cover Design : Negizhan

ISBN : 978-81-945795-9-5

Pages : 194
Price : Rs. 200

 **MarinaBooks**
1 Lakh Tamil Books
Website : MarinaBooks.com
Email : contactus@marinabooks.com
Branches : Chennai - Hosur - Tirupattur
Mobile : 88834 88866, 95977 44141

2

• நூல் உலா : பாகம்-1

நூல் உலா - 2
(பத்து நூல்கள்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128. பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரிண்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை
அட்டை வடிவமைப்பு : நெகிழன்

பக்கங்கள் : 220

விலை: ரூ.220

NOOL ULA - 2

10 Books

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam

Published by Parithi Pathippagam

56C/128, Near Bharatha Kovil, Jolarpettai,

Tirupattur District-635851

Email: Parithijpt@gmail.com

Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai

Layout: Thangam Graphics, Chennai

Cover Design : Negizhan

ISBN : 978-81-945795-5-7

Pages : 220

Price : Rs. 220



MarinaBooks

1 Lakh Tamil Books

Website : MarinaBooks.com
Email : contactus@marinabooks.com
Branches : Chennai - Hosur - Tirupattur
Mobile : 88834 88866, 95977 44141

நூல் உடலா - 3
(பத்து நூல்கள்)

முனைவர் கி. பார்த்திபராஜா ©

முதற்பதிப்பு : மார்ச் 2021

வெளியீடு : பரிதி பதிப்பகம்
56சி/128, பாரத கோயில் அருகில், ஜோலார்பேட்டை,
திருப்பத்தூர் மாவட்டம் - 635 851
மின்னஞ்சல் : Parithijpt@gmail.com
அலைபேசி : 7200693200, 8098908840

அச்சாக்கம் : தூர்கா பிரின்டர்ஸ், சென்னை
நூலாக்கம் : தங்கம் கிராஃபிக்ஸ், சென்னை
அட்டை வடிவமைப்பு : நெகிழன்

பக்கங்கள் : 208
விலை: ரூ.220

NOOL ULA - 3
10 Books

Prof. K.Parthibaraja ©

First Edition - March 2021

Parithi Pathippagam
Published by Parithi Pathippagam
56C/128, Near Bharatha Kovil, Jolarpettai,
Tirupattur District-635851
Email: Parithijpt@gmail.com
Cell: 7200693200, 8098908840

Printed at Durga Printer, Chennai
Layout: Thangam Graphics, Chennai
Cover Design : Negizhan

ISBN : 978-81-945795-3-3

Pages : 208
Price : Rs. 220

 MarinaBooks தமிழக வணிகம் 1 Lakh Tamil Books	Website : MarinaBooks.com
	Email : contactus@marinabooks.com
	Branches : Chennai - Hosur - Tirupattur
	Mobile : 88834 88866, 95977 44141

2 • நூல் உடலா : பாகம்-3

DIGITAL MARKETING

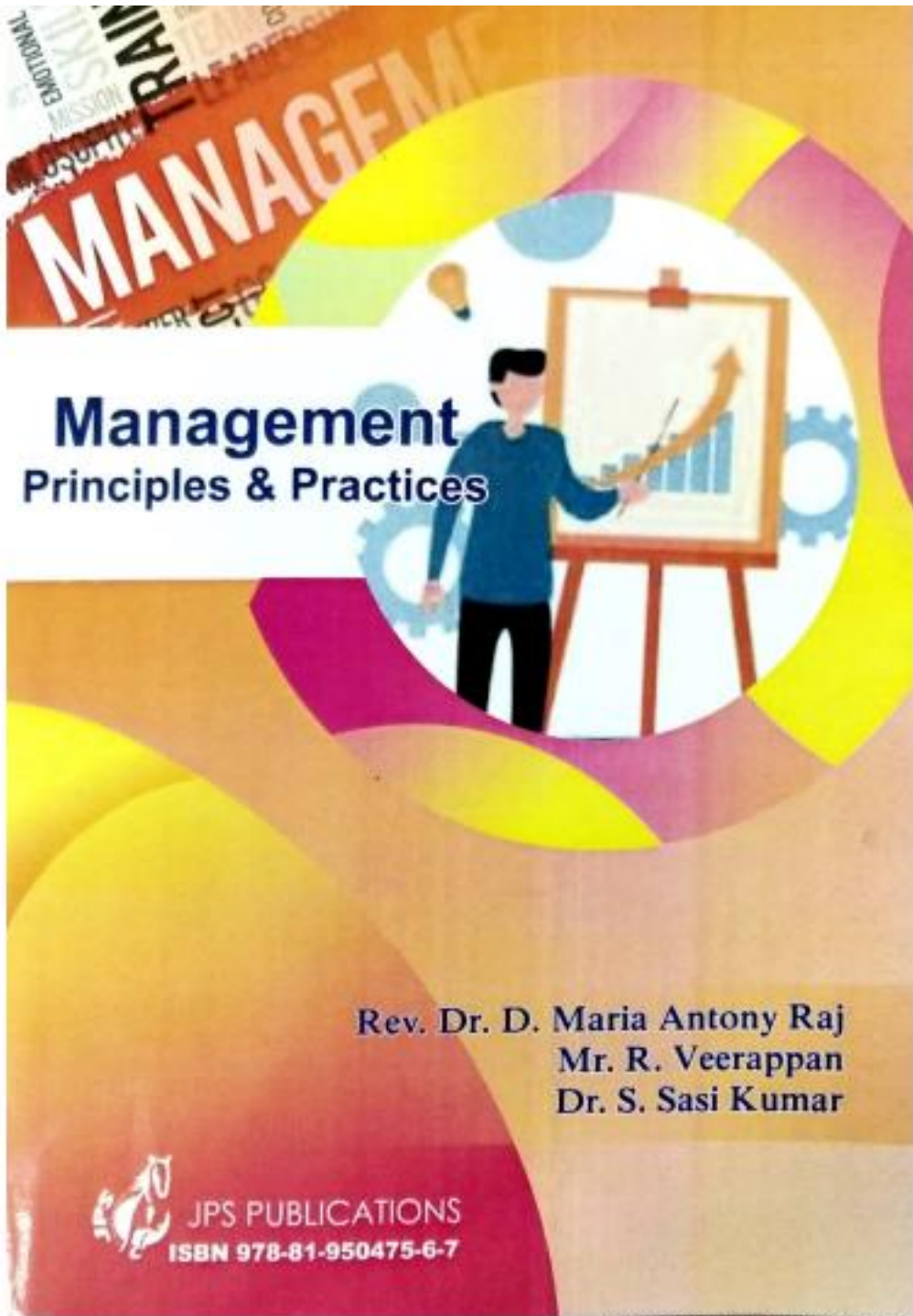
STRATEGIC GUIDE FOR
PROMOTING BUSINESS ONLINE

J. Sasiganth
K. Guru

Global Learners Academy of Development
July 2021

ISBN - 978-81-953592-6-4





Management
Principles & Practices

Rev. Dr. D. Maria Antony Raj
Mr. R. Veerappan
Dr. S. Sasi Kumar

 **JPS PUBLICATIONS**
ISBN 978-81-950475-6-7

Scanned with CamScanner

Principles of Marketing



Rev. Fr. Angelo Joseph
Dr. S. Sasikumar
Mr. R. Veerappan



JPS PUBLICATIONS

ISBN NO 978-81-950475-7-4

Scanned with CamScanner

M. Fernandus Durai

Raw Skin Availability And Disposal And Characterisation Of Chrome Tanned Skin



First Edition



JPS, Scientific Publications, India

THE HISTORICAL EVIDENCES IN TIRUPATTUR DISTRICT (PART-I)

Dr. G. Mohan Gandhi, M.A., M.Phil., Ph.D.,
Assistant Professor, PG and Research Department of Tamil (Shift-1)
Sacred Heart College (Autonomous),
Tirupattur - 635601, Tirupattur District.

Thiru. Kaaninilam M.Muniswamy, B.Sc., M.A.,
(Tamil, English, Economics) M.Ed.,
Retd. Head Master,
Tirupattur- 635601, Tirupattur District.

Translated by

Mr. V. Madhan Kumar, M.A.,
Assistant Professor, Department of English (Shift-1)
Sacred Heart College (Autonomous),
Tirupattur- 635601, Tirupattur District.



Bharathi Book House,
32, First Floor-
New Corporation Complex,
Old Bus Stand,
Vellore-632004.
Mob: 9945441751

Textbook of Herbal Medicine

Poongothai, Geetha, Ranjani Devi, Arputharaj, Niyas
Ahamed



**கல்வெட்டுகள் மற்றும் இலக்கியங்களில்
பழந்தமிழர் கணக்கியல் சிந்தனைகள்**

(தொகுதி-1)

(The History of Ancient Mathematics As
Culled Out from Tamil Epigraphs and Literature)
(Part-I)

தேசியக் கருத்தரங்கம் (National Seminar)
(Sponsored by Indian Council of Historical Research, New Delhi)

தொகுப்பாசிரியர்
முனைவர் க. மோகன் காந்தி
(Dr. G. MOHAN GANDHI)

சங்ககாலச் செங்கண்மா மூதூர்

(சங்கஇலக்கிய ஆய்வுக் கட்டுரைகள்)

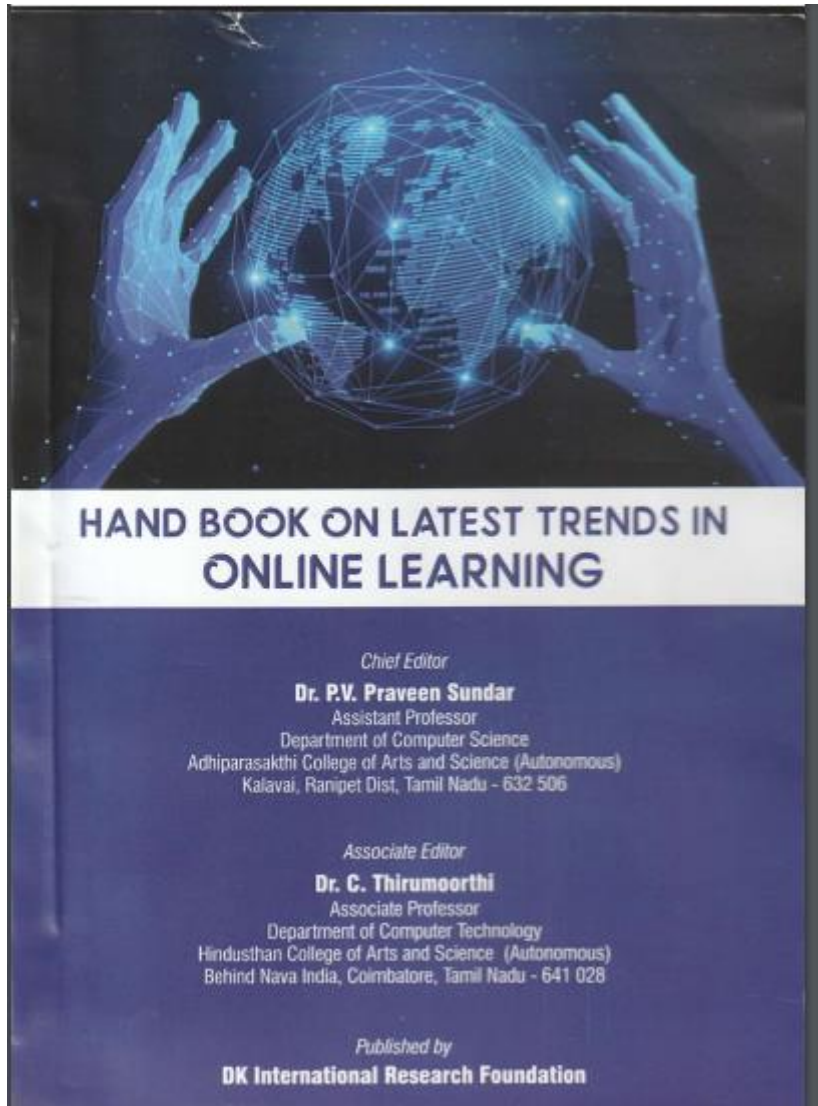


முனைவர் க. மோகன் காந்தி

**THE HISTORICAL EVIDENCES IN
TIRUPATTUR DISTRICT
(PART-I)**



Dr. G. Mohan Gandhi, M.A., M.Phil., Ph.D.,
Thiru. Kaaninilam M.Muniswamy, B.Sc., M.A.,
Translated by **Mr. V. Madhan Kumar**, M.A.,



**HAND BOOK ON LATEST TRENDS IN
ONLINE LEARNING**

Chief Editor

Dr. P.V. Praveen Sundar

Assistant Professor
Department of Computer Science
Adhiparasakthi College of Arts and Science (Autonomous)
Kalavai, Ranipet Dist, Tamil Nadu - 632 506

Associate Editor

Dr. C. Thirumoorthi

Associate Professor
Department of Computer Technology
Hindusthan College of Arts and Science (Autonomous)
Behind Nava India, Coimbatore, Tamil Nadu - 641 028

Published by

DK International Research Foundation



முனைவர் ஆ.சந்திரன் வேலூர் மாவட்டம் திருப்பத்தூர் நகரில் அமைந்துள்ள தாய் நெஞ்சக் கல்லூரியில் தமிழ்த்துறை உதவிப் பேராசிரியராகப் பணியாற்றிவருகிறார். 2013 ஆம் ஆண்டு ஒத்திதழ்விழாவில் அமைப்பு முறை, பாட்டும் சிலம்பும் என்ற இரு ஆய்வு நூல்களையும், 2016 ஆண்டு பத்தாண்டுகள் அமைப்புமுறை என்ற ஆய்வு நூலையும், கொள்ளி என்ற மொழிபெயர்ப்பு நாவலையும் (தெலுங்கு) வெளியிட்டுள்ளார். இருபத்தும் மேலான கருத்தரங்குகளில் பங்கேற்றுள்ள இவர் 45 ஆய்வுக் கட்டுரைகளை எழுதியுள்ளார். சிறுபத்திரிகைகளில் விமர்சனக்கட்டுரைகள், சிறுகதைகள் மற்றும் கவிதைகளை எழுதிவருகிறார்.

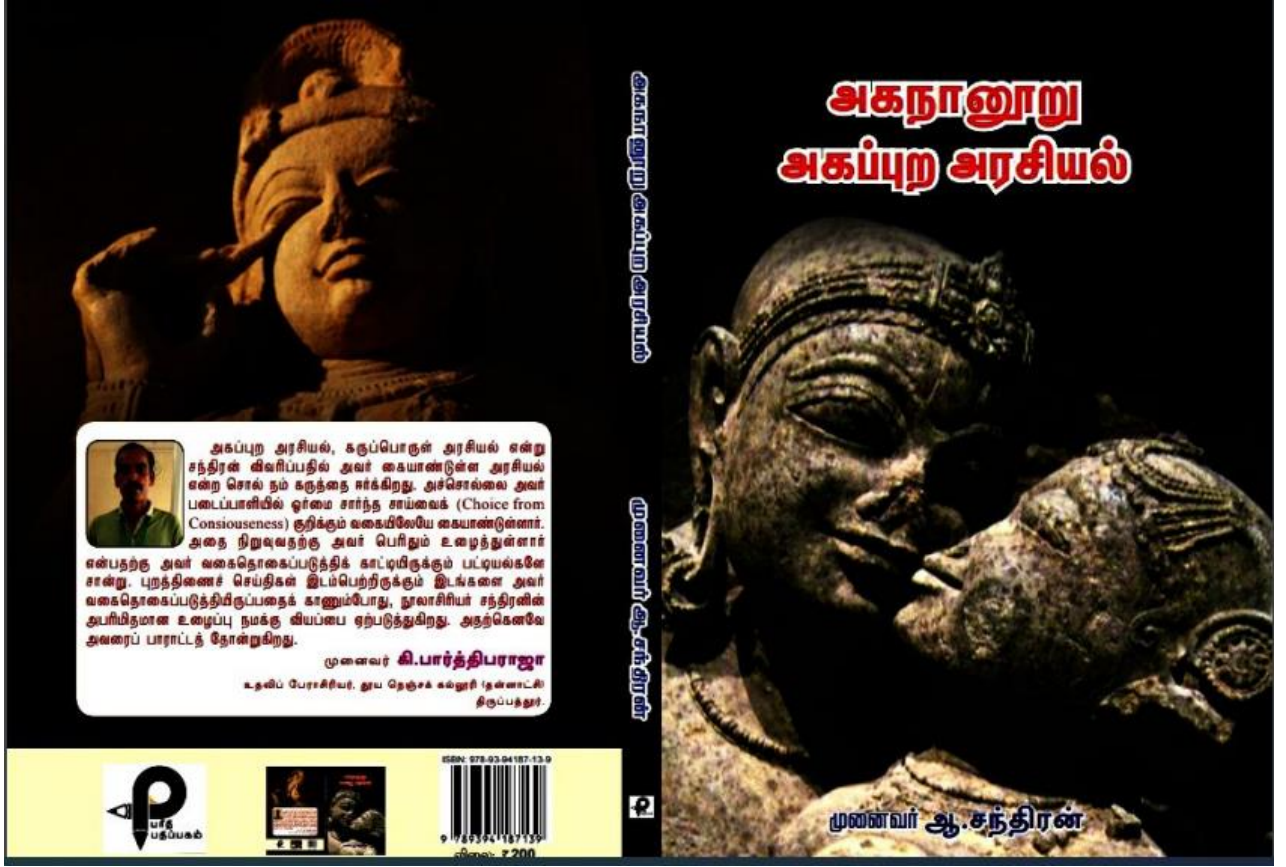
ஆவிக் கதை



ஆ.சந்திரன்



ISBN: 978-93-94157-20-7
9 789394 157207
விலை: ₹ 150



அகநானூறு அகப்புற அரசியல்

முனைவர் ஆ.சந்திரன்

அகப்புற அரசியல், கருப்பொருள் அரசியல் என்று சந்திரன் விவரிப்பதில் அவர் கையாண்டுள்ள அரசியல் என்ற சொல் நம் கருத்தை சாக்கிற்று. அச்சொல்லை அவர் படைப்பாளியில் ஒர்மை சார்ந்த சாய்வைக் (Choice from Consciousness) குறிக்கும் வகையிலேயே கையாண்டுள்ளார். அதை நிறுவுவதற்கு அவர் பெரிதும் உழைந்துள்ளார் என்பதற்கு அவர் வகைநொகைப்படுத்திக் காட்டியிருக்கும் பட்டயங்களே சான்று. புறத்தினைச் செய்திகள் இடம்பெற்றிருக்கும் இடங்களை அவர் வகைநொகைப்படுத்தியிருப்பதைக் காணும்போது, ஸ்ரீலாசிரியர் சந்திரனின் அபரிமிதமான உழைப்பு நமக்கு வியப்பை ஏற்படுத்துகிறது. அதற்கெனவே அவரைப் பாராட்டத் தோன்றுகிறது.

முனைவர் **கி.பார்த்திபரானா**
உதவிப் பேராசிரியர், தாய் நெஞ்சக் கல்லூரி, தஞ்சை-613 001
திருப்பத்துர்



ISBN: 978-93-94187-13-9
9 789394 187139
விலை: ரூ.200

முனைவர் ஆ.சந்திரன்



முனைவர் ஆ.சந்திரன் வேலூர் மாவட்டம் திருப்பத்தூர் நகரில் அமைந்துள்ள ஸ்ரீய நெஞ்சக் கல்வழியில் தமிழ்த்துறை உதவிப் பேராசிரியராகப் பணியாற்றிவருகிறார். 2013 ஆம் ஆண்டு முத்தொள்ளாயிரம் அமைப்பு முறை, பாடடும் சிலம்பும் என்ற இரு

ஆய்வு நூல்களையும், 2016 ஆண்டு 'பத்துப்பாட்டு அமைப்புமுறை' என்ற ஆய்வு நூலையும், கொள்ளி என்ற மொழிபெயர்ப்பு நாவலையும் (தொழுகு) வெளியிட்டுள்ளார். இறுபதற்கும் மேலான கருத்தரங்குகளில் பங்கேற்றுள்ள இவர் 45 ஆய்வுக் கட்டுரைகளை எழுதியுள்ளார். சிறுபத்திரிகைகளில் விமர்சனக்கட்டுரைகள், சிறுகதைகள் மற்றும் கவிதைகளை எழுதியிருக்கிறார்.



ISBN: 9789491167147
விலை: ₹ 100

நான்...?

(மூன்று புள்ளிகள் - ஒரு கேள்விக்குறி)



ஆ.சந்திரன்

Dengue Fever is a mosquito transmitted viral diseases caused by the dengue virus or flavivirus. It is mainly transmitted to humans through the *Aedes aegypti* and other species of mosquitoes. Many people, especially children and in teens, no signs or symptoms were occur during initial stages of dengue fever. Occurrence of symptoms typically begins after three to fourteen days, when they get bitten from dengue virus causing mosquito. The severe form of dengue fever leads to hemorrhagic fever, causing severe bleeding, low levels of platelets and sudden drop in blood pressure and may also cause sudden death. It increases if the person is infected by second, third or fourth time respectively. DENV (Dengue virus) is an enveloped, single-stranded positive-sense RNA virus. The RNA genome consists of approximately 10,700 nucleotides and encodes with 3,411 amino acids long precursor polyprotein containing three structural proteins (capsid [C], precursor membrane [prM], and envelope [E]) and seven non-structural (NS) proteins (NS1, NS2A, NS2B, NS3, NS4A, NS4B, and NS5). This book provides information on Non-structural 1 (NS1) protein profile of Dengue patients.



Dr. A. Jayaprakash
Mr. K. Tahir Hussain



The editor of this book Dr. A. Jayaprakash is currently working as Assistant Professor in Biochemistry at Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu. His area of specialization includes Biochemistry, Mycology and Industrial Biotechnology.

Non-Structural Protein (NS1) Profile of Dengue Patients



LAP LAMBERT
Academic Publishing

The bilirubin level can be elevated for a number of reasons, including liver failure which happens when the liver is no longer able to transform unconjugated bilirubin to conjugated bilirubin and excreted through stool. Unconjugated bilirubin accumulates in the body, giving patients with liver failure. During bile duct obstruction, bilirubin is unable to be excreted by bile into the small intestine, resulting in a rise in its amount as a result of the physical obstruction. Hemolytic or pernicious anemia, transfusion reactions, and cirrhosis can cause unconjugated bilirubin levels to be higher than conjugated bilirubin levels. If conjugated bilirubin levels are higher than unconjugated bilirubin levels, it results in liver disease. If the conjugated bilirubin levels are higher than the unconjugated bilirubin levels, the liver cells are most likely failing to conjugate the bilirubin. This book is about the study on Bilirubin levels of Jaundice patients.



A. Jayaprakash
Manimegala R



The Author of this Book Dr. A. Jayaprakash is currently Working as Assistant Professor and UG Head, PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur-635 601, Tamil Nadu, India

Study on Bilirubin Levels of Jaundice Patients



 **LAMBERT**
Academic Publishing



ISBN: 978-81-950231-1-0

TEXTBOOK OF AQUACULTURE AND FARM MANAGEMENT

Editor

Dr. Sivaranjini A

Authors

Dr. Dinesh Sheshrao Kharate

Dr. Meena B

Dr. Karthika P

Dr. Selvamohan T

Dr. Niyas Ahamed I

Published By



AIB Saliha Publications, Tamilnadu, INDIA

ISBN: 978-81-950231-1-0





ISBN: 978-81-950231-6-5



Published By



AIB Saliha Publications, Tamilnadu, INDIA

Textbook of Environmental Science (EVS)

Editor

Dr. K. Shoba

Authors

Mr. Sandipan Babasaheb Jige

Dr. J. Albino Wins

Dr. P. Karthika

Dr. K. Ramesh Kumar

Dr. I. Niyas Ahamed

ISBN: 978-81-950231-6-5





ISBN: 978-81-950231-8-9

Editor

Dr. D. Carol

Authors

Dr. J. Albino Wins

Dr. P. Dhivya

Mr. Sandipan Babasaheb Jige

Dr. Kavita Khatana

Dr. I. Niyas Ahamed

Published By



AIB Saliha Publications, Tamilnadu, INDIA

Textbook of FOOD CHEMISTRY



Editor

Dr. D. Carol

Authors

Dr. J. Albino Wins

Dr. P. Dhivya

Mr. Sandipan Babasaheb Jige

Dr. Kavita Khatana

ISBN: 978-81-950231-8-9

ADVANCES IN PHARMACEUTICAL SCIENCES



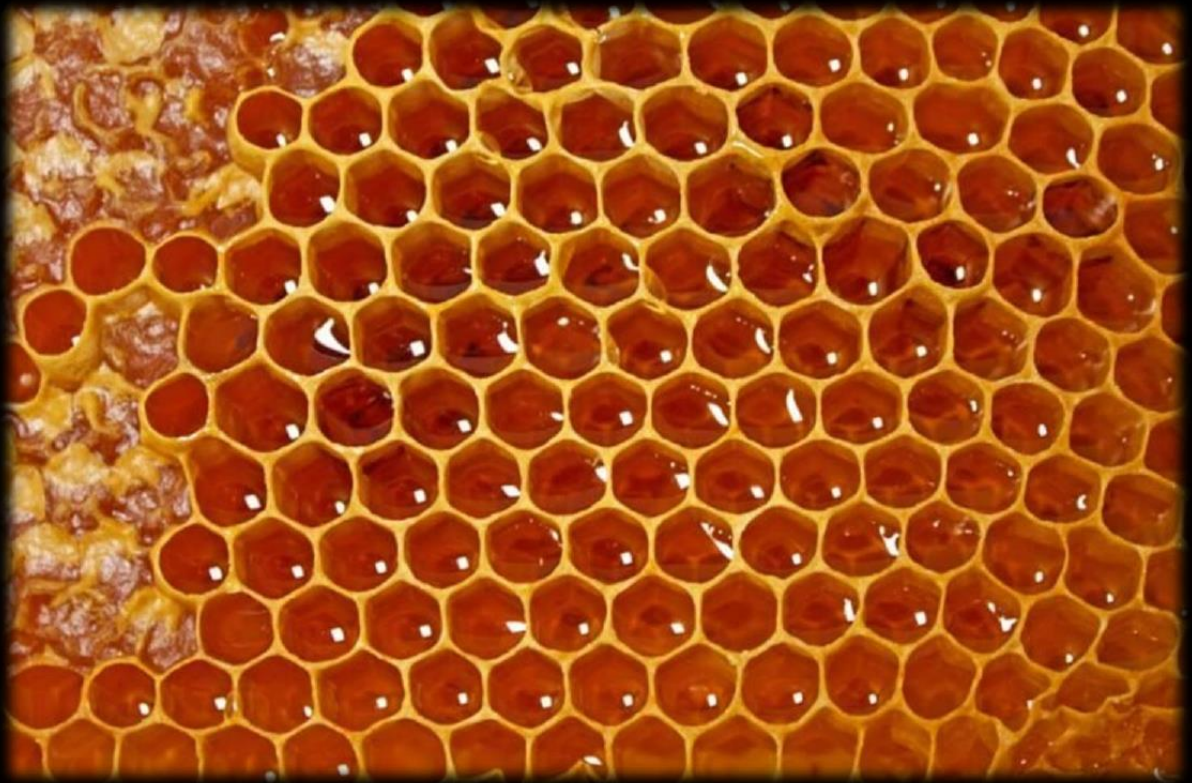
**First Edition
Volume - 1**

**P. Saranraj
Padmaja Santosh Kore
Narayan Dattatraya Totewad**



Mustafa Salah Hasan, Reyam Abdul Khuder Mohammed Jassam & P. Saranraj

Antibacterial Activity of Natural and Commercial Honey



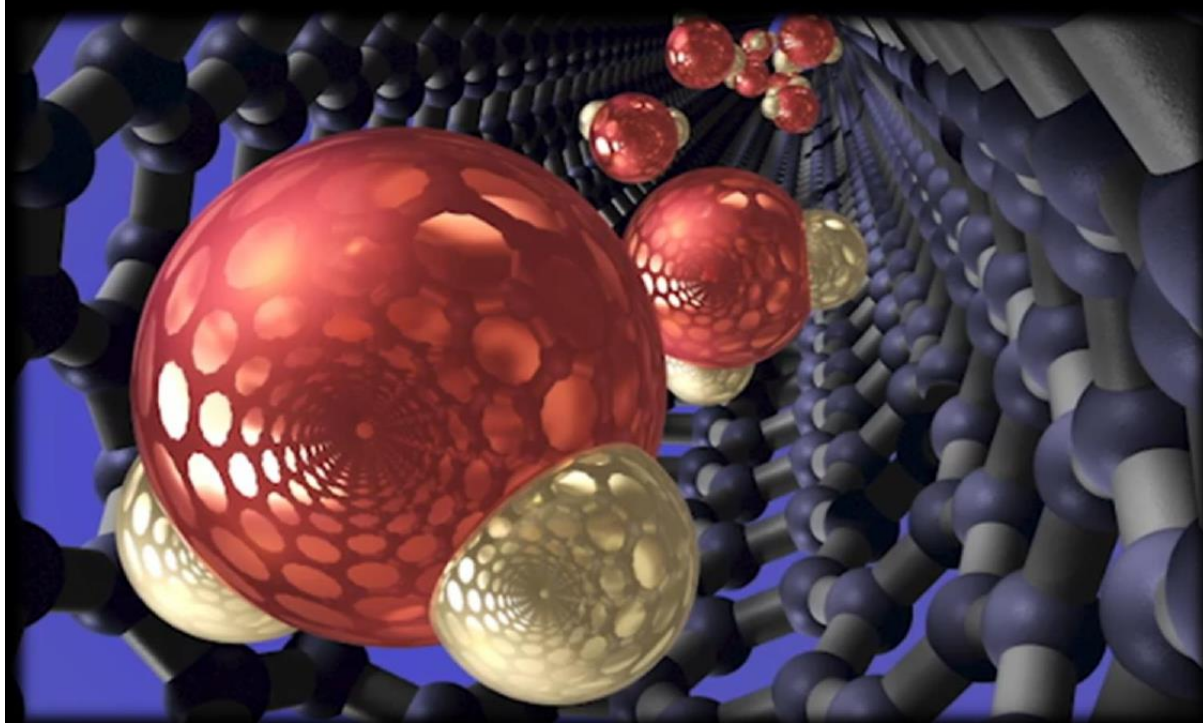
First Edition



JPS, Scientific Publications, India

Reyam Abdul Khuder Mohammed Jassam, Mustafa Salah Hasan & P. Saranraj

Antibacterial Activity of Silver Nanoparticles Against Urinary Tract Infection Causing Bacteria

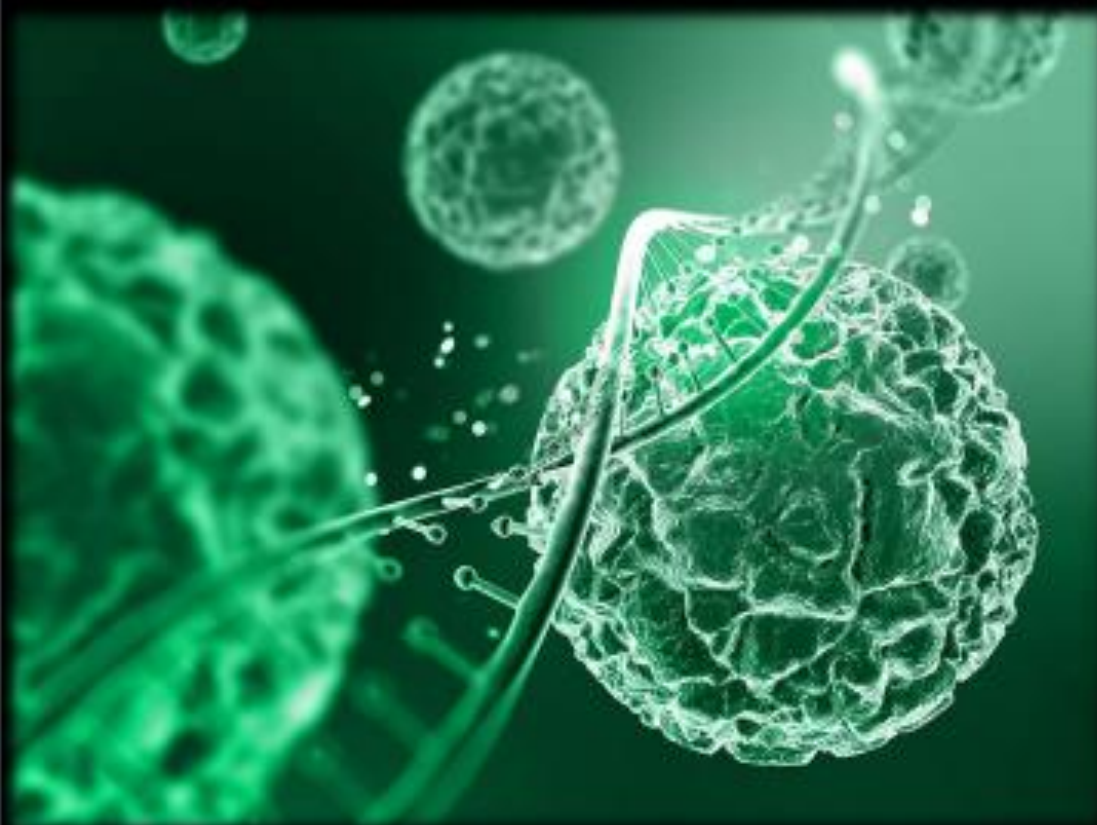


First Edition



JPS, Scientific Publications, India

Compendium of “RESEARCH INSIGHTS OF LIFE SCIENCE STUDENTS”



Volume - 3

Dr. P. Saranraj



P. Saranraj and Narayan Dattatraya Totewad

Innovations in Life Science Research



Volume - 1



JPS, Scientific Publications, India

Search Images Maps Play YouTube News Gmail Drive More - microsarangi@gmail.com

Books Add to my library Write review Page 243

BUY BOOK - ₹5,243.21

Get this book in print ▼



Microbial Surfactants: Volume I: Production and Applications
edited by R. Z. Sayyed, Professor, Al-Qadisiyah University, Iraq

Search in this book

About this book

- ▶ My library
- ▶ My history

Books on Google Play

Terms of Service



Pages displayed by permission of CRC Press. Copyright.

12

Microbial Biosurfactants Sources, Classification, Properties and Mechanism of Interaction

P. Saranraj,^{1,} R. Z. Sayyed,² P. Sivasakthivelan,³
M. Durga Devi,⁴ Abdel Rahman Mohammad Al Tawaha⁵
and S. Sivasakthi⁶*

1. Introduction

Surfactants are among the most versatile products of Chemical industry. Surfactant is an abridgment of the term surface-active chemical compounds. A surfactant is a substance present in a system, having the properties of adsorbing onto the surface or interface of the system and altering the interfacial energy of those surfaces. The term interface denotes the difference between the two immiscible phases, and the term surface denotes the interface where one phase is gas which is generally air. The interfacial energy is the minimum amount of work required to create that interface. In order to work out interfacial surface tension between two phases, interfacial energy per unit area is to be measured. It is the minimum amount of work required to create a unit area of the interface or to expand it by unit area. The physical phenomenon is

¹ Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur - 615 601, Tamil Nadu, India.
² Department of Microbiology, PSGVP Manki's Arts, Science and Commerce College, Mubani, Maharashtra, India 421409.
³ Department of Agricultural Microbiology, Faculty of Agriculture, Assiut University, Assiut, Assiut Nagar - 685 001, Tamil Nadu, India.
⁴ Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur - 615 601, Tamil Nadu, India.
⁵ Department of Biological Sciences, Al-Husseiniya Yafed University, Maan, Jordan.
⁶ Department of Microbiology, Shanmuga Industries Arts and Science College, Tiruvannamalai, Tamil Nadu, India.
 * Corresponding author: microsarangi@gmail.com

NOVEL TRENDS IN MICROBIOLOGY AND BIOTECHNOLOGY



**First Edition
Volume - 2**

**Dr. P. Saranraj
Dr. Deoraj Sharma**



BUY BOOK - PKR 41.00

Get this book in print



★★★★★
2 Reviews
With notes

Sustainable Soil and Land Management and Climate Change

Edited by Shah Fahad, Saqib Iqbal, Shah Nadeem

Copyright © 2021 CRC Press, Taylor & Francis Group

ISBN: 978-1-4200-9888-8

Search in this book

Go

About this book

My library

My history

Books on Google Play

Terms of Service



Pages displayed by permission of CRC Press, Copyright

7

Soil Salinity and Climate Change

Abdel Rahman Mohammad Al-Tawaha

Al Hussein Bin Talal University, Jordan

Nazar Somarab

Jordan University of Science and Technology, Jordan

Aman Deep Ranga and Mayur S. Darbhankar

Lovely Professional University Phaguara, India

P. Saranraj

Secord Heart College (Autonomous), India

Alireza Fouse-Aboughadareh

Agricultural Research, Education and Extension Organization (AREEO), Iran

Kadambet H.M. Siddique

The University of Western Australia, Australia

Amanullah and Imran

The University of Agriculture Peshawar, Pakistan

Ali M. Qisai

University of Jordan, Jordan

Abdel Razzaq Al-Tawaha

University Putra Malaysia, Malaysia

Shah Khalid

The University of Agriculture Peshawar, Pakistan

Abdur Rauf

University of Swabi, Pakistan

Devarajan Thangadurai

Karnatak University, India

Jeyabalan Sangeetha

Central University of Kerala, India

Shah Fahad

The University of Haripur, Pakistan

Wafiq A. Al-Tahaan

Imam Abdulrahman Bin Faisal University, Saudi Arabia

Darwid K. A. Al-Tayy

Al-Qadisiyah Green University, Iraq

THERAPEUTIC APPLICATIONS OF POTENTIAL HERBS



**First Edition
Volume - I**

**P. Saranraj
Padmaja Santosh Kore
Ahmed Mead**





தொல்லியல் தோக்கில்
தருப்பத்தூர் மாவட்ட
வரலாற்று எச்சங்கள்

நூலாசிரியரைப் பற்றி...

முனைவர் ஆ.பிரபு தேவீ மாவட்டத்தில் முன்னமல் செரிவாற்றில் காவாயில் நடைபெற்ற
 அணுகுமுறையில் அழைக்கப்பட்டார். மேற்கூறிய பற்றில் மதுரைக் காவாயில் பண்டையக் காலத்தில்
 இளங்கலைத் தலைப் பட்டத்தில் (B.A.Tamil) மற்றும் தலைநகரக் கல்விக்கல்வாய் கிராமியப்
 பண்டையக்கல்வாய்தல் இளங்கலை (B.Ed), முதுகலைத் தலைப் & இந்திய இளக்கல்வாய் (M.A.
 Tamil & Indian Literature), இளம் கல்வியியல் (B.Ed.), ஆர்வியல் தலைநகர் (M.Phil.)
 மற்றும் முனைவர் பட்டத்தையும் (Ph.D.) பெற்றுள்ளார். சென்னைத் தலைநகரில் மத்திய
 தலைநகர் ஆர்வியல் உதவித் தொழில்நுட்பம் பெற்ற தலைநகர் முனைவர் பட்டம் ஆர்வியல்
 முதுகலைநகர், NET, SET, JRF தலைநகர் தேர்வுகளில் இளங்கல்வாய் தேர்ச்சி பெற்றுள்ளார்.
 தலைநகரில் மேற்பட்ட ஆர்வியல் உதவிநகரை மருத்துவநகர், தலைநகர் தலைநகர்
 தலைநகர் கல்விக்கல்வாயில் உதவித் தொழில்நகர் சில ஆண்டுகள் பணியாற்றியுள்ளார். 2016
 முதல்முதல்தல் தலைநகரில் தலைநகர் சென்னைக் கல்விக்கல்வாயில் உதவித் தொழில்நகர் பணியாற்றி
 வருகின்றார். தொல்லியல், வரலாற்றுக்கல்வாயில் ஆர்வியல் சென்னை, இளம் தொழில்நகர் பல்
 ஆர்வியல் சந்திரன் மருத்துவநகர், தலைநகரில் மேற்பட்ட வரலாற்றுத் தொழில்நகரைப் பற்றி
 கல்விக்கல்வாயில் ஆர்வியல் மருத்துவநகர், 'தலைநகர்' என்ற செயல்நகர் வலைநகர் (YouTube)
 தலைநகர் உதவிக்கல்வாயில் தலைநகர் ஆர்வியல் தொழில்நகர் மருத்துவநகர். இத்தலைநகர்
 இளங்கல்வாயில் தலைநகர்.



பாரதி புக் ஹவுஸ்
 32, தலைநகர், மதுரை, சி.என்.என். காவாயில்,
 மதுரை, தமிழ்நகர்,
 சென்னை - 632004 (Tamil Nadu)
 சென்னை: 99424 41751

ISBN: 978-93-86890-55-9



தொல்லியல் தோக்கில்
தருப்பத்தூர் மாவட்ட
வரலாற்று எச்சங்கள்

தொல்லியல் தோக்கில்
தருப்பத்தூர் மாவட்ட
வரலாற்று எச்சங்கள்



முனைவர்.ஆ.பிரபு

தொல்லியல் வரலாற்றியல் - ஓர் அறிமுகம்



2016 முதற்கொண்டு திருப்பத்தூர் துய நெடுக்க கல்லூரியில் உதவிப் பேராசிரியராகப் பணியாற்றி வருகின்றார். தொல்லியல், வரலாற்றுப் பீட ஆர்வம் கொண்ட துணி, தொடர்ந்து பல்வேறு கள ஆய்வுகளில் ஈடுபட்டு வருகின்றார். பெரும்பாலான தொல்பொருள் நாயக்கர் ஆட்சிக்காலம் வரையிலான நற்புலகும் மேற்பட்ட வரலாற்றுத் தாயங்களைப் புதிதாகக் கண்டறிந்து ஆவணப் படுத்தியுள்ளார்.

முனைவர் ஆ.பிரபு



ஒப்பீட்டு நோக்கில்
தமிழ்-கன்னடப் பழமொழிகள்
(கூழையல் ரின்புலத்தில்)

முனைவர் ஆ.முந்தையன்

Scanned with CamScanner

Entrepreneurship is the process of designing, launching and running a new business, which is often initially a small business. The people who create these businesses are called entrepreneurs. Women entrepreneurs may be defined as a group of women who initiate, organize and expected to innovate, imitate or adopt an economic activity to be called women entrepreneurs. Women entrepreneur is the most important segment for economic development in country. The developed nations has to put more contribution for this growth especially in the rural areas. Female entrepreneurship is one of the significant spaces which have turned out in most recent couple of years in India. In last the fifty years, few social development have been made including cooperatives and micro-credit businesses and the participation of women is highly remarkable. Both these development have pondered positive effect on families, particularly to the provincial and sub-metropolitan zones. Considering these facts in view, this book provides a comprehensive information on Socio-Economic Status of Women Entrepreneurs in Provisional Stores.



N. Kowsalya
Dr. R. Kuriinji Malar



Dr. R. Kuriinji Malar is working as an Assistant Professor in the PG and Research Department of Economics, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu. Her area of specialization includes rural development, labour economics, Mathematics for Economics, Statistics, International and environmental economics, monetary and fiscal economics.

Socio-Economic Status of Women Entrepreneurs in Provisional Stores

A Case Study of Tirupattur District of Tamil Nadu, India



LAP LAMBERT
Academic Publishing

Water is the major source and an essential component for survival in this world next to air to all living organisms. The planet's surface is covered by 71% water as well Human adult body is made up to 60% of water. Any living organism requires a certain amount of water to survive each day. Adult males need approximately 3 litres of water per day, while adult females need approximately 2.2 litres per day. The pollution rendered to soil through various means led to groundwater contamination if toxins are released into it and the quality of groundwater is destroyed or decreased. The physico chemical characterization of drinking ground water collected from eight different locations (Minnoor, Pethavappambattu, Mandalavadi, Kanamanthur, Periyakumbatheru, Tirupattur, and Andiyappanur) in and around Tirupattur District, Tamil Nadu, India. The samples were found to potable to drink.



Durgadevi V.
Manigandan M.

Dr. V.Durgadevi is working as Assistant Professor, Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamilnadu, India.

Physico-Chemical and Microbial Analysis of Different Ground Water



LAP LAMBERT
Academic Publishing

2

THERAPEUTIC PROPERTIES OF *Solanum surattense* BURM.F

M. Manigandan^{1*} and M. Durga Devi²

¹Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India

²Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India

*Corresponding author: mmanigandan@shctpt.edu

Abstract

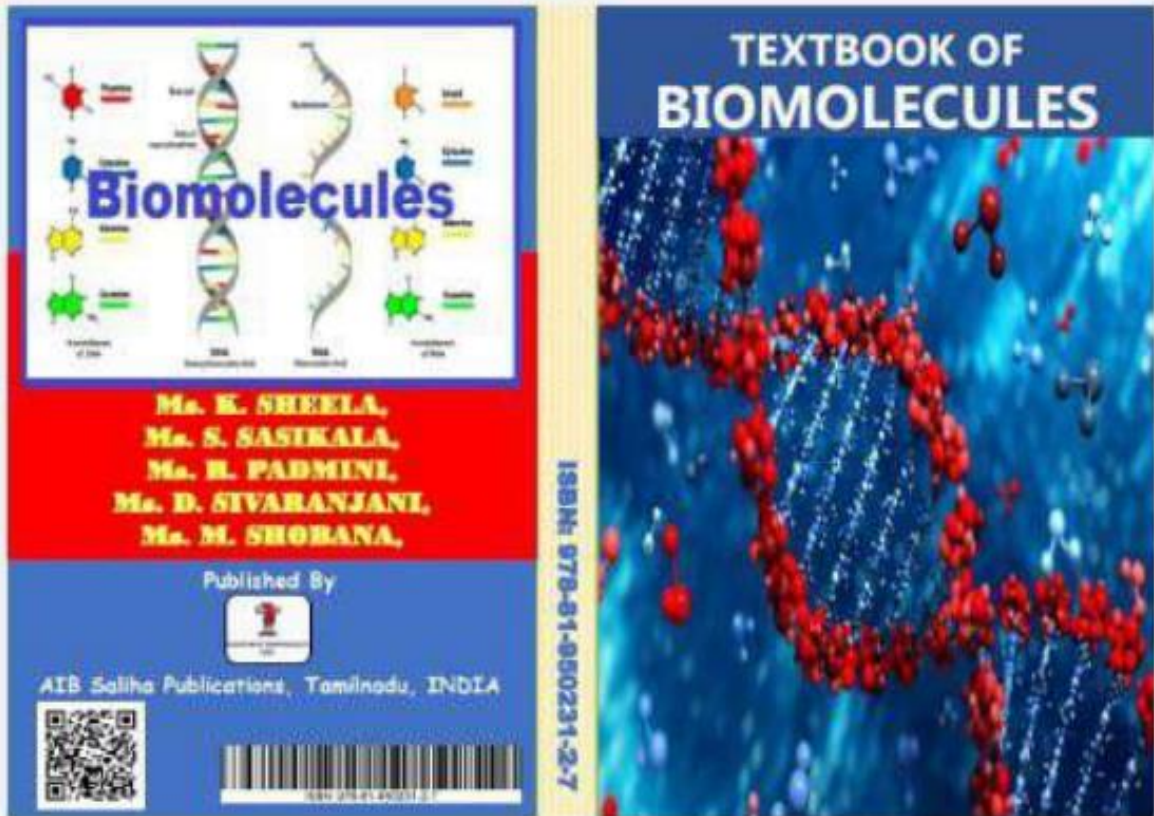
Medicinal plants are unique in having the ability to produce diverse chemical compounds with specific biological activities. *Solanum surattense* is an herb commonly called Kandankathari in Tamil. Most of the literature sources reveal that the presence of phytochemical compounds from all parts of this plant like fruits, leaf, root, seed, and flowers, and these compounds possess a wide range of pharmacological activities like hepatoprotective, cardioprotective, antiasthmatic, and mosquito repellents. It can be used for fever, tuberculosis, cough, sinusitis, asthma, loss of appetite, and treating worms by the tribal people and ethnic community. This plant leaf paste is applied topically on the forehead for headache, the smoke of dried fruits used to treat toothache.

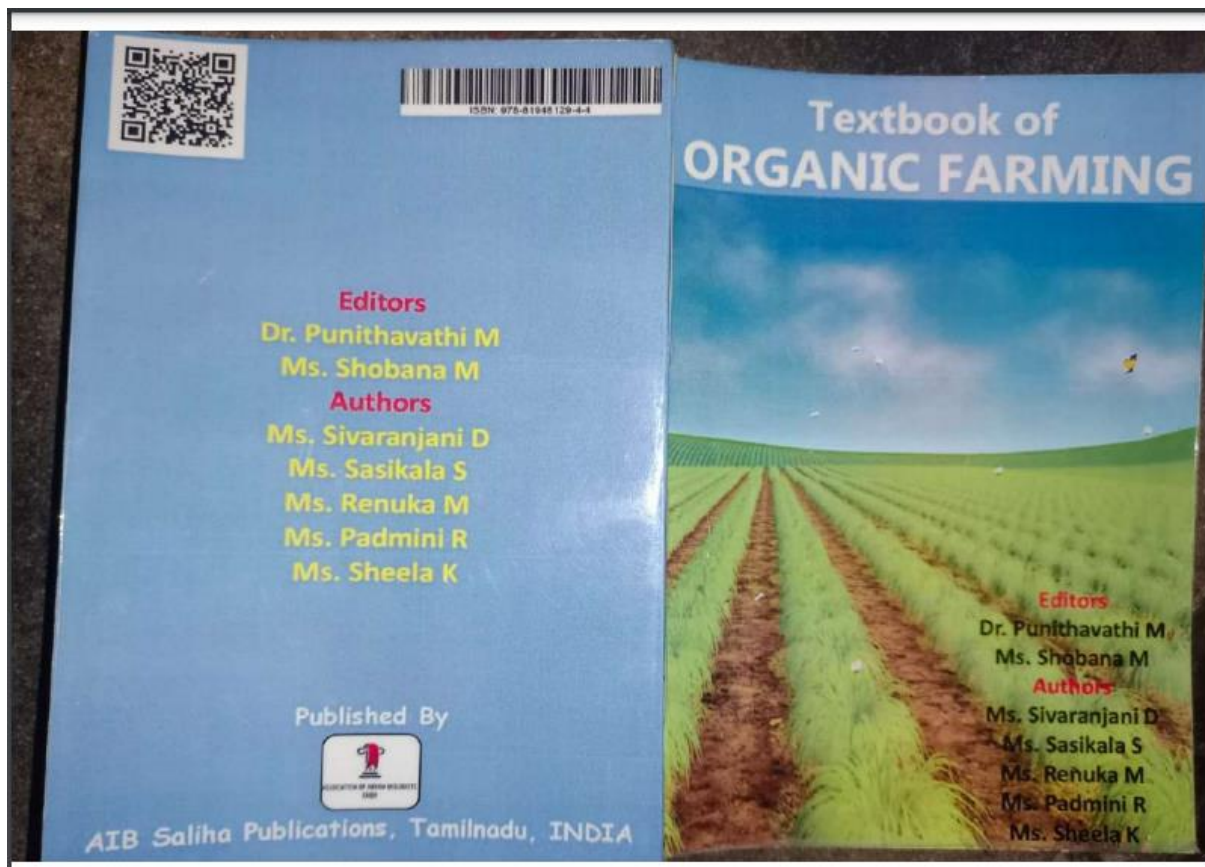
Key words: *Solanum surattense*, Medicinal plants, Phytochemical and Tribal people.

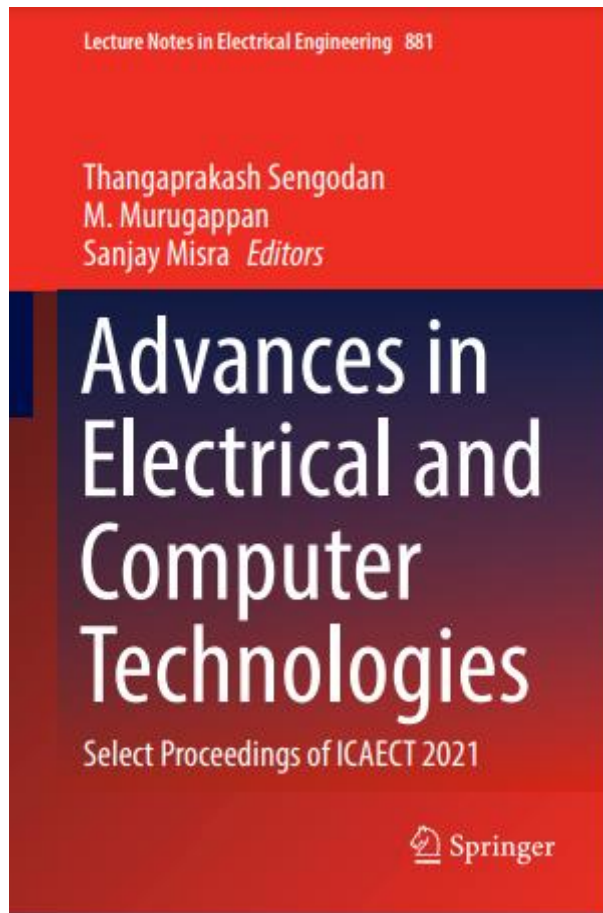
1. Introduction

We are enjoying the modernized culture, than our ancestors with sophisticated life by using luxurious things like gorgeous villas, readymade foods, fancy goods, laptop, smartphone, and the internet. Even getting things is easier on our doorsteps by online shopping. But we couldn't overcome the health issues which we are facing day to day life. In our modern life everything we expect trendy, hence diseases also emerged trendy like COVID -19.









SPRINGER LINK

Log in

Find a journal Publish with us Track your research

Search

Cart



International Conference on Advances in Electrical and Computer Technologies
ICAECT 2021: **Advances in Electrical and Computer Technologies** pp 1019–1032 | [Cite as](#)

Home > [Advances in Electrical and Computer Technologies](#) > Conference paper

Modelling Series RLC Circuit with Discrete Fractional Operator

[George E. Chatzarakis](#), [A. George Maria Selvam](#) , [R. Janagaraj](#) & [D. Vignesh](#)

Conference paper | [First Online: 26 June 2022](#)

495 Accesses | 1 Citations

Part of the [Lecture Notes in Electrical Engineering](#) book series (LNEE, volume 881)

Access via your institution →

Chapter EUR 29.95

Price includes VAT (India)

- Available as PDF
- Read on any device
- Instant download
- Own it forever

Buy Chapter

SELF-RELIANT INDIA

Opportunities and the Way Forward

Editors

A. Xavier Susairaj, V. Sivasankar,
A. Premkumar, A. Salaijayamani

MANAK
PUBLICATIONS PVT. LTD

Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) are widely used laboratory markers of systemic inflammation. A thorough understanding of the similarities and differences between these two serological markers, including factors that affect measurements, is necessary for the proper utilization and interpretation of ESR and CRP. This book covers the erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) are two commonly ordered laboratory tests that may aid clinicians in accurately diagnosing the complex disease states. Although these tests have a low index of specificity and are influenced by numerous disease factors, they may provide the clinician with valuable information and additional focus when used in conjunction with other clinical and diagnostic data.



A. C. Gomathi
P. K. Khizer Hussain

The authors of this book are Mrs. A. C. Gomathi, Assistant Professor and PG Head and Mr. P. K. Khizer Hussain, PGDMLT (Student), PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur Dt, Tamilnadu, India.

High Level of ESR and CRP Markers Associated with Severe Obesity



LAP LAMBERT
Academic Publishing

ELEMENTS OF COMPUTER SCIENCE AND ENGINEERING

S SAGAYARAJ
A GEORGE LOUIS RAJA
A JOHN MARTIN
R DENIS
D GAJALAKSHMI

This textbook provides a thorough discussion of the fundamentals of computer science and relates them to practical applications. Using simple and lucid language, it guides students through the concepts and knowledge required to build a primary hardware platform and a modern software hierarchy from the ground up.

Students will learn about hardware architecture, operating systems, programming languages, compilers, algorithms, software engineering and data handling mechanisms. Computer networking concepts and data communication systems used in real-time platforms are also discussed. This book provides an overview of information security and the tools and techniques used to secure information. It also explores cybercrimes and the associated laws. It concludes with an in-depth discussion on autonomous systems – the technology of the future.

Salient features

- ▣ Covers the JNTUH R-22 syllabus
- ▣ Fundamentals explained in simple language to build a concrete foundation for further exploration
- ▣ Clearly defined objectives at the beginning of every chapter
- ▣ Summary at the end of every chapter for quick revision
- ▣ Over 630 exercise questions comprising MCQs, short, medium and comprehensive questions, solved programs and programming exercises

S Sagayaraj is Associate Professor at the Department of Computer Science, Sacred Heart College, Tirupattur, Tamil Nadu.

A George Louis Raja is Head and Assistant Professor at the PG Department of Computer Applications, Sacred Heart College, Tirupattur, Tamil Nadu.

A John Martin is Assistant Professor at the PG Department of Computer Applications, Sacred Heart College, Tirupattur, Tamil Nadu.

R Denis is Assistant Professor at the Department of Computer Science, Mount Carmel College (Autonomous), Bengaluru, Karnataka.

D Gajalakshmi is Assistant Professor at the Department of Computer Science, Sacred Heart College, Tirupattur, Tamil Nadu.

www.universitiespress.com



Universities Press

Sagayaraj et al.: Elements of Computer Science and Engineering

Cover Design: Dhruv Bhattacharya



ELEMENTS OF
COMPUTER SCIENCE
AND ENGINEERING

SAGAYARAJ ET AL.



Universities Press

As per the
latest syllabus of
JNTUH R-22

ELEMENTS OF COMPUTER SCIENCE AND ENGINEERING

S SAGAYARAJ | A GEORGE LOUIS RAJA
A JOHN MARTIN | R DENIS | D GAJALAKSHMI



பேராசிரியர் மெளனகுரு சமுத்து நாடக இயக்கத்தில் மிக முக்கியமான அசைவியக்கம். சுத்து, நாடகம், ஆய்வு, உரையாடல் எனத் தொடர்ந்து இயங்கிவரும் பேராசிரியரைக் குறித்த எழுத்தாக்கங்களைத் தொகுத்து நோக்கும் முயற்சிகளில் ஒரு பகுதியே இத்தொகுப்பு நூல்.

பேராசான் கார்த்திகேசு சிவத்தம்பி அவர்களின் கட்டுரையும் சமுத்திரன் என்னும் புனைப்பெயர் கொண்ட பேராசிரியர் சண்முகரத்தினம் அவர்களின் கட்டுரையும் முனைவர் ஞா.கோபி அவர்கள் நெறிப்படுத்திய மெளனகுரு அவர்களின் தேர்காணலும் இத்தொகுப்பில் இடம்பெற்றுள்ளன. சுத்து, நாடகம், அரங்கம், மனநுவல்க்கம் ஆகிய வெளிகளில் பயணப்படும் இவ்வெழுத்தாக்கங்கள் மிகவும் கனதிமிக்கவை.

முனைவர் கி.பார்த்திபராஜா தொகுப்பாசிரியர்.

ஈழம் அரங்கு மெளனகுரு



தொகுப்பாசிரியர்

முனைவர் கி.பார்த்திபராஜா



விலை: ₹ 100



கி.பார்த்திபராஜா

தமிழ்ப் பேராசிரியர் / நாடகவியலாளர். கலை, இலக்கியம், அரசியல் எனப் பல தளங்களில் 40க்கும் மேற்பட்ட நூல்களை எழுதியுள்ளார். தான் பணிபுரியும் திருப்பத்தூர் தாய் நெஞ்சக் கல்லூரியில் 'மாற்றா நாடக இயக்கம்' என்னும் அமைப்பைத் தோற்றுவித்து நாடகப் பணிகளைச் செய்து வருகிறார். காயாத காளகத்தே..., நெடும்பயணம், சாரீ... நவத்திரு தூதா சங்கரதாஸ் கவாடிகளின் வரலாறு முதலானவை இவரது குறிப்பிடத்தக்க அரங்கத்துறை சார்ந்த நூல்கள்.

பேராசிரியர் சி.மெளனகுருவை முன் வைத்து 'ஈழத்தின் அரங்க அரசியல்'ப் பேசும் சிறு முயற்சியே இந்நூல். அரை நூற்றாண்டுக்கும் மேலாக ஈழத்தின் அரங்க அசைவியக்கமாகத் திகழும் மெளனகுரு அவர்களின் சுத்த நாடகம், கலை இலக்கிய நோக்கு யாவற்றிலும் ஊடாகக் குறுக்கும் நெடுக்குமாகப் பயணப்பட்ட தமிழ்நாட்டு இனிய நாடகக்காரரின் குறிப்புகள் இவை. மெளனகுரு அவர்களை அறிவது என்பது சுழத்து அரங்கப்போக்கின் உயிர்த்துடிப்பு மிக்க பகுதியை அறிவதற்கும்.

பேராசிரியர் சி.மெளனகுருவை முன்வைத்து

ஈழத்தின் அரங்க அரசியல்

முனைவர் கி.பார்த்திபராஜா



விலை: ₹ 100

பேராசிரியர் கார்த்திகேசு சிவத்தம்பி
(மே 10, 1932 ஜூலை 6, 2011)

இலங்கையின் யாழ்ப்பாண மாகாணத்தில் கரவேட்டி என்னும் ஊரில் பிறந்த கார்த்திகேசு சிவத்தம்பி, இலங்கையின் பல்வேறு கல்வி நிறுவனங்களிலும் பல்கலைக் கழகங்களிலும் பணியாற்றியவர். இலண்டனில் உள்ள பர்மிங்காம் பல்கலைக் கழகத்தில், உலகப்புகழ்பெற்ற மார்க்சிய அறிஞர் ஜார்ஜ் தாம்சன் அவர்களின் வழிகாட்டுதலில் முனைவர் பட்ட ஆய்வினை நிறைவு செய்தார். 'Drama in Ancient Tamil Society' என்பது அவரது முனைவர் பட்ட ஆய்வு ஆகும். தமிழ் நிகழ்த்துகலை மரணப் பற்றிய ஆய்வில் இய்தூல் முன்னோடி ஆய்வாகக் கருதப்படுகிறது.

தமிழியலின் பல்வேறு துறைகளில் குறிப்பிடத்தக்க ஆய்வுகளைச் செய்த பேராசிரியர் கார்த்திகேசு சிவத்தம்பி, தமிழியல் ஆய்வுகளை உலகத்தாற்றுக்கு எடுத்துச் சென்ற பெருமைக்குரியவர். பண்டைய தமிழ் இலக்கியங்கள், சமயவியல், சமூகவியல், மானிடவியல், அரசியல், கவிச் கலைகள் என தமிழின் பல்வேறு நிலைகளில் பேராசிரியரின் ஆய்வுகள் விரிவெற்றன.

தமிழ்ப் பல்கலைக்கழகம், சென்னைப் பல்கலைக்கழகம், உலகத் தமிழாராய்ச்சி நிறுவனம் உள்ளிட்ட தமிழகத்தின் முதன்மைக் கல்வி நிறுவனங்களில் வருகைகொண்ட பேராசிரியராகப் பணிபுரிந்த பெருமைக்குரியவர் பேராசிரியர். தமிழக அரசின் 'திரு.கி.க. விருது' அளிக்கப்பட்டு பெருமைப்படுத்தப்பட்டார் அவர்.

மேலான தமிழக முதல்வர் கலைஞர் மு.கருணாநிதி அவர்கள் நடத்திய 'செய்வொழித் தமிழாய்வு மாநாடு', பேராசிரியர் கா.சிவத்தம்பி அவர்களின் திருக்காங்காலம் தொடங்கி வைக்கப்பட்ட பேற்றினைப் பெற்றது.

ஆய்க்கிலத்திலும் தமிழிலும் பல நூல்களைப் படைத்த பேராசிரியர் கா.சிவத்தம்பி அவர்களின் 90 ஆவது அகவை தின்பாக மே 10, 2022 அன்று நடத்தப்பெற்ற பன்னாட்டுக் கருத்தாய்வுக் கட்டுரைகளின் தொகுப்பு இது.



ISBN : 978-93-94187-35-1



9 789394 187351

பேராசிரியர் கார்த்திகேசு சிவத்தம்பி
என்னும் தமிழ்ப் பேராறு

(பேராசிரியர் கா.சிவத்தம்பி அவர்களின்
90 ஆவது அகவை நூள்
பன்னாட்டுக் கருத்தாய்வுக் கட்டுரைகள்)



புதுப்பாசிரியர்
முனைவர் **கி.யார்த்தியராஜா**

CHAPTER 17

A Study on the Recent Agriculture Farmer's Position in India

A. Royal Edward Williams, R. Sankaran

Introduction

The novel Coronavirus (COVID-19) pandemic was spread very speedily starting from Wuhan, China and has been affecting the lives and livelihoods of all human races throughout the world. It has emerged as a dangerous pandemic. It made a dangerous situation to the world economies. The Industry sector, service sector and agriculture and its allied activities were affected a lot. The world economy met a worst, critical and pathetic condition. In India the nationwide lockdown was started from March 25, 2020 to control the spread of the COVID-19 pandemic. All the countries in the world were facing the economic recession and hit severely mainly on the service sector followed by the industry sector, tourism sector, restaurants resorts, hotels, Micro, Small, Medium Enterprises are also have met very an adverse effect. All the workers sent out from informal and unorganized sectors, they came back to their native places where the basic facilities are not available to lead the basic and subsistence life to protect their lives. So the Central Government of India allotted Rs. 20 lakh crores from its GDP to protect the people of India to fight against COVID - 19 Pandemic. Hence this paper discusses on the basic problems faced by the agricultural farmers (sector) before COVID-19 pandemic and how much of money have been allotted through Union Budgets on various schemes and programs.

Importance of the Study

Agriculture sector plays a vital place in the India economy. It generates goods and services, national income, reduces poverty, helps in foreign

A STUDY ON THE TRANSPORTATION INFRASTRUCTURE AND ITS INFLUENCE OVER ACCESS TO FINANCE DURING THE COVID-19 PERIOD

Dr.Arocklarmary R

Assistant Professor, Sacred Heart College, Tirupattur

Abstract:

The paper tries to bring into limelight the nature of the transportation infrastructure that is prevalent in the rural Tirupattur geographical area and its influence on the rural poor people's accessibility to finance that is needed for their economic livelihood. The paper works further in analyzing and nature of the rural people in terms of their education level and the type of transportation they prefer and the influence of income on the social infrastructural preference of the respondents. The paper also focuses in identifying and ranking the social infrastructural preference of the respondents.

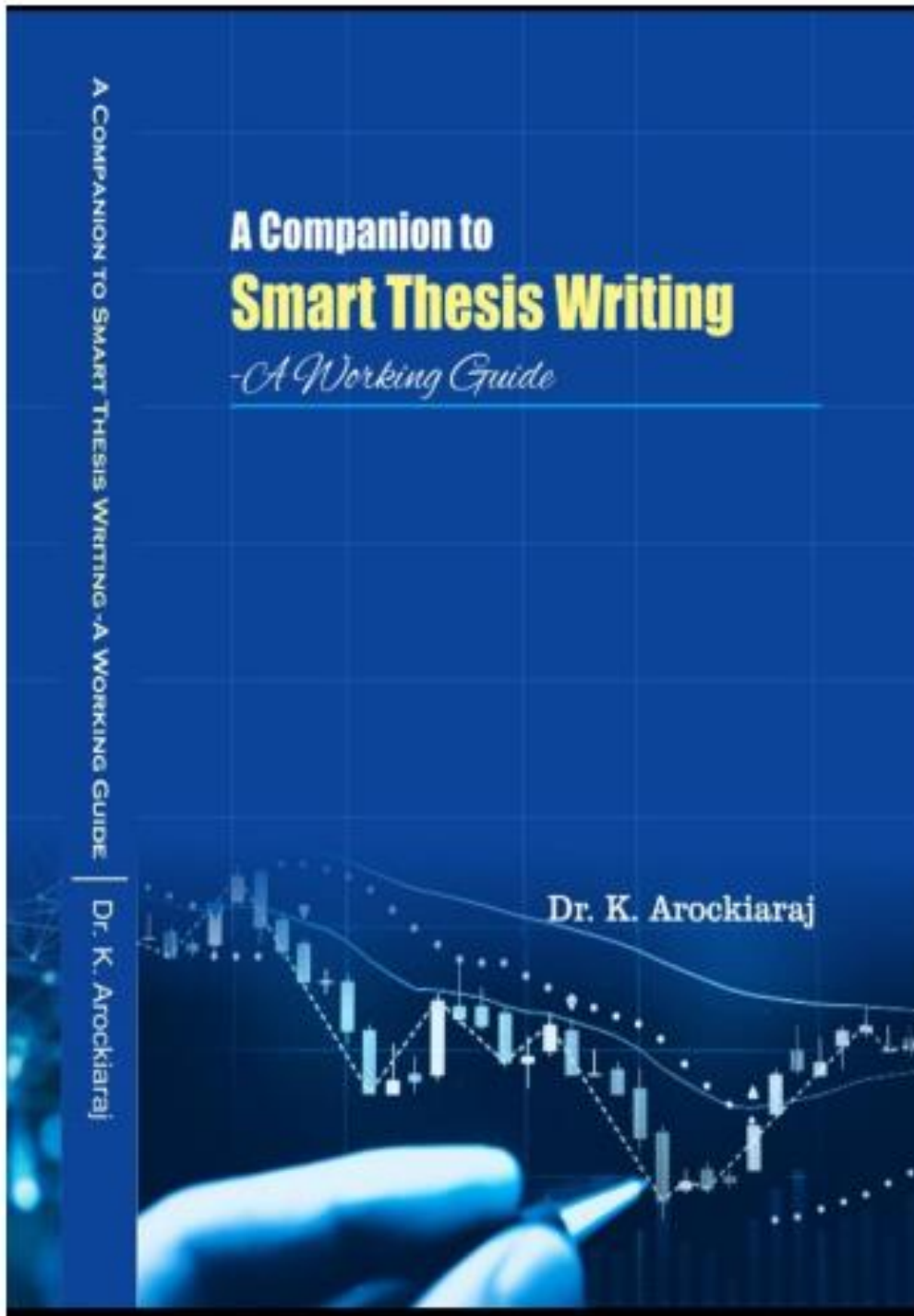
Keywords: Transportation infrastructure, Accessibility to finance and COVID-19 period.

Introduction:

The transportation infrastructure which took an incredible significance in the second long term plan took a profound turn and saw an ever-evolving way from that point on. Infrastructure is the base that spotlights on the human advancement of the country which in a roundabout way prompts improvement of the economy. Infrastructure is viewed as the essential to financial turn of events and interest into monetary infrastructure like street transportation would advance improvement of actual capital and draws in more regard for ventures that would add to monetary and as well as human development. The accessibility of sufficient and effective infrastructure facilities in rural regions is a key variable not just in working with the infrastructural advancement of a nation yet additionally in speeding up its phase and development.

The road transport in India has expanded complex throughout the previous sixty years both concerning length and thickness as well as limit. However, it isn't something very similar in provincial India, still in specific diminished rural regions a few regions are to be created to a more prominent level. Satisfactory road transportation would improve openness of provincial regions to metropolitan centres and towns by giving country masses different outlets to showcase their rural produce and broaden their employment opportunities, so that basic minimum civic facilities might reach even the remote and isolated areas of the region. Moreover, sufficient road transportation in the locale would upgrade openness of rural individuals to essential social facilities like medical care and educational centres. In conclusion, satisfactory road network in the district would lessen the topographical disengagement of the locale from the primary land, by opening up in reverse regions, speeding up financial turn of events and mix with the remainder of the country.

The current paper makes a study on the rural road infrastructure of Tirupattur district in Tamil Nadu and tries to portray the type of road infrastructure present in this area and how it plays a massive role in the socio economic life of the rural people.



Graph Labeling is one of the fastest developing and largest applied field in higher level Mathematical research. This book opens a horizon of a new labeling technique named as 'Divided Cube Difference Cordial Labeling' and investigates the family of staircase graphs, Aztec diamond graphs for possible results. Paths, stars, bistars, corona graphs, trees, complement of complete bipartite graphs are proved to satisfy this new labeling method. Arbitrary subdivisions of a tree T_n are examined and shown to be divided cube difference cordial.

This research work throughs open the opportunity for further investigation of possible other graphs which are still not explored with respect to this new labeling technique..



M. Antony Arockiasamy
P. Thirupathi



Dr. M. Antony Arockiasamy has eighteen years of teaching experience and fourteen years of research experience in Graph Theory. His area of interest includes graph labeling, coding theory, cryptography, probability theory, DNA Computing etc. At present, he is working as faculty of Mathematics at Sacred Heart College, Tirupattur, Tamilnadu, India.

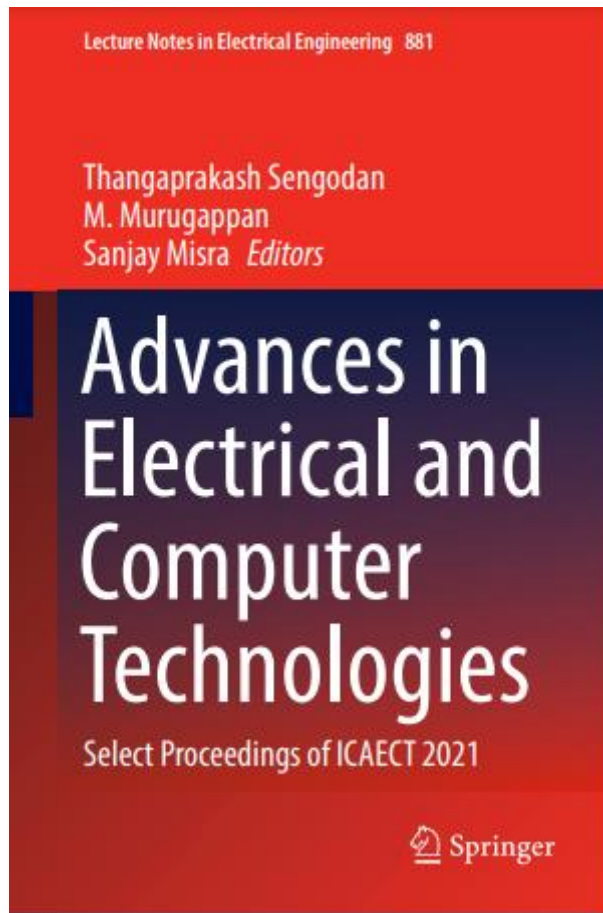
Divided Cube Difference Cordial Labeling of Graphs

Divided Cube Difference Cordial Labeling of Staircase Graphs and Aztec Diamond Graphs



 **LAMBERT**
Academic Publishing





SPRINGER LINK

Log in

Find a journal Publish with us Track your research

Search

Cart



International Conference on Advances in Electrical and Computer Technologies
ICAECT 2021: **Advances in Electrical and Computer Technologies** pp 1019–1032 | [Cite as](#)

Home > [Advances in Electrical and Computer Technologies](#) > Conference paper

Modelling Series RLC Circuit with Discrete Fractional Operator

[George E. Chatzarakis](#), [A. George Maria Selvam](#) , [R. Janagaraj](#) & [D. Vignesh](#)

Conference paper | [First Online: 26 June 2022](#)

495 Accesses | 1 Citations

Part of the [Lecture Notes in Electrical Engineering](#) book series (LNEE, volume 881)

Access via your institution →

Chapter EUR 29.95

Price includes VAT (India)

- Available as PDF
- Read on any device
- Instant download
- Own it forever

Buy Chapter

SELF-RELIANT INDIA

Opportunities and the Way Forward

Editors

A. Xavier Susairaj, V. Sivasankar,
A. Premkumar, A. Salaijayamani

MANAK
PUBLICATIONS PVT. LTD

Erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) are widely used laboratory markers of systemic inflammation. A thorough understanding of the similarities and differences between these two serological markers, including factors that affect measurements, is necessary for the proper utilization and interpretation of ESR and CRP. This book covers the erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP) are two commonly ordered laboratory tests that may aid clinicians in accurately diagnosing the complex disease states. Although these tests have a low index of specificity and are influenced by numerous disease factors, they may provide the clinician with valuable information and additional focus when used in conjunction with other clinical and diagnostic data.



A. C. Gomathi
P. K. Khizer Hussain

The authors of this book are Mrs. A. C. Gomathi, Assistant Professor and PG Head and Mr. P. K. Khizer Hussain, PGDMLT (Student), PG & Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur Dt, Tamilnadu, India.

High Level of ESR and CRP Markers Associated with Severe Obesity



 **LAMBERT**
Academic Publishing

ELEMENTS OF COMPUTER SCIENCE AND ENGINEERING

S SAGAYARAJ
A GEORGE LOUIS RAJA
A JOHN MARTIN
R DENIS
D GAJALAKSHMI

This textbook provides a thorough discussion of the fundamentals of computer science and relates them to practical applications. Using simple and lucid language, it guides students through the concepts and knowledge required to build a primary hardware platform and a modern software hierarchy from the ground up.

Students will learn about hardware architecture, operating systems, programming languages, compilers, algorithms, software engineering and data handling mechanisms. Computer networking concepts and data communication systems used in real-time platforms are also discussed. This book provides an overview of information security and the tools and techniques used to secure information. It also explores cybercrimes and the associated laws. It concludes with an in-depth discussion on autonomous systems – the technology of the future.

Salient features

- ▣ Covers the JNTUH R-22 syllabus
- ▣ Fundamentals explained in simple language to build a concrete foundation for further exploration
- ▣ Clearly defined objectives at the beginning of every chapter
- ▣ Summary at the end of every chapter for quick revision
- ▣ Over 630 exercise questions comprising MCQs, short, medium and comprehensive questions, solved programs and programming exercises

S Sagayaraj is Associate Professor at the Department of Computer Science, Sacred Heart College, Tirupattur, Tamil Nadu.

A George Louis Raja is Head and Assistant Professor at the PG Department of Computer Applications, Sacred Heart College, Tirupattur, Tamil Nadu.

A John Martin is Assistant Professor at the PG Department of Computer Applications, Sacred Heart College, Tirupattur, Tamil Nadu.

R Denis is Assistant Professor at the Department of Computer Science, Mount Carmel College (Autonomous), Bengaluru, Karnataka.

D Gajalakshmi is Assistant Professor at the Department of Computer Science, Sacred Heart College, Tirupattur, Tamil Nadu.

www.universitiespress.com



Universities Press

Sagayaraj et al.: Elements of Computer Science and Engineering

Cover Design: Dhruv Bhattacharya



ELEMENTS OF
COMPUTER SCIENCE
AND ENGINEERING

SAGAYARAJ ET AL.



Universities Press

As per the
latest syllabus of
JNTUH R-22

ELEMENTS OF COMPUTER SCIENCE AND ENGINEERING

S SAGAYARAJ | A GEORGE LOUIS RAJA
A JOHN MARTIN | R DENIS | D GAJALAKSHMI



பேராசிரியர் மெளனகுரு சமுத்து நாடக இயக்கத்தில் மிக முக்கியமான அசைவியக்கம். சுத்து, நாடகம், ஆய்வு, உரையாடல் எனத் தொடர்ந்து இயங்கிவரும் பேராசிரியரைக் குறித்த எழுத்தாக்கங்களைத் தொகுத்து நோக்கும் முயற்சிகளில் ஒரு பகுதியே இத்தொகுப்பு நூல்.

பேராசான் கார்த்திகேசு சிவத்தம்பி அவர்களின் கட்டுரையும் சமுத்திரன் என்னும் புனைப்பெயர் கொண்ட பேராசிரியர் சண்முகரத்தினம் அவர்களின் கட்டுரையும் முனைவர் ஞா.கோபி அவர்கள் நெறிப்படுத்திய மெளனகுரு அவர்களின் தேர்காணலும் இத்தொகுப்பில் இடம்பெற்றுள்ளன. சுத்து, நாடகம், அரங்கம், மனநுவல்க்கம் ஆகிய வெளிகளில் பயணப்படும் இவ்வெழுத்தாக்கங்கள் மிகவும் கனதிமிக்கவை.

முனைவர் கி.பார்த்திபராஜா தொகுப்பாசிரியர்.

ஈழம் அரங்கு மெளனகுரு



தொகுப்பாசிரியர்

முனைவர் கி.பார்த்திபராஜா



விலை: ₹ 100



கி.பார்த்திபராஜா

தமிழ்ப் பேராசிரியர் / நாடகவியலாளர். கலை, இலக்கியம், அரசியல் எனப் பல தளங்களில் 40க்கும் மேற்பட்ட நூல்களை எழுதியுள்ளார். தான் பணிபுரியும் திருப்பத்தூர் தாய் நெஞ்சக் கல்லூரியில் 'மாற்றா நாடக இயக்கம்' என்னும் அமைப்பைத் தோற்றுவித்து நாடகப் பணிகளைச் செய்து வருகிறார். காயாத காளகத்தே..., நெடும்பயணம், சாரீ... நவத்திரு தூதா சங்கரதாஸ் கவாடிகளின் வரலாறு முதலானவை இவரது குறிப்பிடத்தக்க அரங்கத்துறை சார்ந்த நூல்கள்.

பேராசிரியர் சி.மெளனகுருவை முன் வைத்து 'ஈழத்தின் அரங்க அரசியல்'ப் பேசும் சிறு முயற்சியே இந்நூல். அரை நூற்றாண்டுக்கும் மேலாக ஈழத்தின் அரங்க அசைவியக்கமாகத் திகழும் மெளனகுரு அவர்களின் சுத்த நாடகம், கலை இலக்கிய நோக்கு யாவற்றிலும் ஊடாகக் குறுக்கும் நெடுக்குமாகப் பயணப்பட்ட தமிழ்நாட்டு இனைய நாடகக்காரரின் குறிப்புகள் இவை. மெளனகுரு அவர்களை அறிவது என்பது சுழத்து அரங்கப்போக்கின் உயிர்த்துடிப்பு மிக்க பகுதியை அறிவதற்கும்.

பேராசிரியர் சி.மெளனகுருவை முன்வைத்து

ஈழத்தின் அரங்க அரசியல்

முனைவர் கி.பார்த்திபராஜா



விலை: ₹ 100

பேராசிரியர் கார்த்திகேசு சிவத்தம்பி
(மே 10, 1932 ஜூலை 6, 2011)

இலங்கையின் யாழ்ப்பாண மாகாணத்தில் கரவேட்டி என்னும் ஊரில் பிறந்த கார்த்திகேசு சிவத்தம்பி, இலங்கையின் பல்வேறு கல்வி நிறுவனங்களிலும் பல்கலைக் கழகங்களிலும் பணியாற்றியவர். இலண்டனில் உள்ள பர்மிங்காம் பல்கலைக் கழகத்தில், உலகப்புகழ்பெற்ற மார்க்சிய அறிஞர் ஜார்ஜ் தாம்சன் அவர்களின் வழிகாட்டுதலில் முனைவர் பட்ட ஆய்வினை நிறைவு செய்தார். 'Drama in Ancient Tamil Society' என்பது அவரது முனைவர் பட்ட ஆய்வு ஆகும். தமிழ் நிகழ்வுகளை மரணப் பற்றிய ஆய்வில் இய்தூல் முன்னோடி ஆய்வாகக் கருதப்படுகிறது.

தமிழியலின் பல்வேறு துறைகளில் குறிப்பிடத்தக்க ஆய்வுகளைச் செய்த பேராசிரியர் கார்த்திகேசு சிவத்தம்பி, தமிழியல் ஆய்வுகளை உலகத்தாற்றுக்கு எடுத்துச் சென்ற பெருமைக்குரியவர். பண்டைய தமிழ் இலக்கியங்கள், சமயவியல், சமூகவியல், மானிடவியல், அரசியல், கவிச் கலைகள் என தமிழின் பல்வேறு நிலைகளில் பேராசிரியரின் ஆய்வுகள் விரிவுபெற்றன.

தமிழ்ப் பல்கலைக்கழகம், சென்னைப் பல்கலைக்கழகம், உலகத் தமிழாராய்ச்சி நிறுவனம் உள்ளிட்ட தமிழகத்தின் முதன்மைக் கல்வி நிறுவனங்களில் வருகைகொண்ட பேராசிரியராகப் பணிபுரிந்த பெருமைக்குரியவர் பேராசிரியர். தமிழக அரசின் 'திரு.கி.க. விருது' அளிக்கப்பட்டு பெருமைப்படுத்தப்பட்டார் அவர்.

மேலான தமிழக முதல்வர் கலைஞர் மு.கருணாநிதி அவர்கள் நடத்திய 'செய்வொழித் தமிழாய்வு மாநாடு', பேராசிரியர் கா.சிவத்தம்பி அவர்களின் திருக்காங்காஸ் தொடங்கி வைக்கப்பட்ட பேற்றினைப் பெற்றது.

ஆய்க்கிலத்திலும் தமிழிலும் பல நூல்களைப் படைத்த பேராசிரியர் கா.சிவத்தம்பி அவர்களின் 90 ஆவது அகவை தின்பாக மே 10, 2022 அன்று நடத்தப்பெற்ற பன்னாட்டுக் கருத்தாய்வுக் கட்டுரைகளின் தொகுப்பு இது.



ISBN : 978-93-94187-35-1
9 789394 187351

பேராசிரியர் கார்த்திகேசு சிவத்தம்பி
என்னும் தமிழ்ப் பேராறு

(பேராசிரியர் கா.சிவத்தம்பி அவர்களின்
90 ஆவது அகவை நூள்
பன்னாட்டுக் கருத்தாய்வுக் கட்டுரைகள்)



புதுப்பாசிரியர்
முனைவர் **கி.யார்த்தியராஜா**

CHAPTER 17

A Study on the Recent Agriculture Farmer's Position in India

A. Royal Edward Williams, R. Sankaran

Introduction

The novel Coronavirus (COVID-19) pandemic was spread very speedily starting from Wuhan, China and has been affecting the lives and livelihoods of all human races throughout the world. It has emerged as a dangerous pandemic. It made a dangerous situation to the world economies. The Industry sector, service sector and agriculture and its allied activities were affected a lot. The world economy met a worst, critical and pathetic condition. In India the nationwide lockdown was started from March 25, 2020 to control the spread of the COVID-19 pandemic. All the countries in the world were facing the economic recession and hit severely mainly on the service sector followed by the industry sector, tourism sector, restaurants resorts, hotels, Micro, Small, Medium Enterprises are also have met very an adverse effect. All the workers sent out from informal and unorganized sectors, they came back to their native places where the basic facilities are not available to lead the basic and subsistence life to protect their lives. So the Central Government of India allotted Rs. 20 lakh crores from its GDP to protect the people of India to fight against COVID - 19 Pandemic. Hence this paper discusses on the basic problems faced by the agricultural farmers (sector) before COVID-19 pandemic and how much of money have been allotted through Union Budgets on various schemes and programs.

Importance of the Study

Agriculture sector plays a vital place in the India economy. It generates goods and services, national income, reduces poverty, helps in foreign

A STUDY ON THE TRANSPORTATION INFRASTRUCTURE AND ITS INFLUENCE OVER ACCESS TO FINANCE DURING THE COVID-19 PERIOD

Dr.Arocklarmary R

Assistant Professor, Sacred Heart College, Tirupattur

Abstract:

The paper tries to bring into limelight the nature of the transportation infrastructure that is prevalent in the rural Tirupattur geographical area and its influence on the rural poor people's accessibility to finance that is needed for their economic livelihood. The paper works further in analyzing and nature of the rural people in terms of their education level and the type of transportation they prefer and the influence of income on the social infrastructural preference of the respondents. The paper also focuses in identifying and ranking the social infrastructural preference of the respondents.

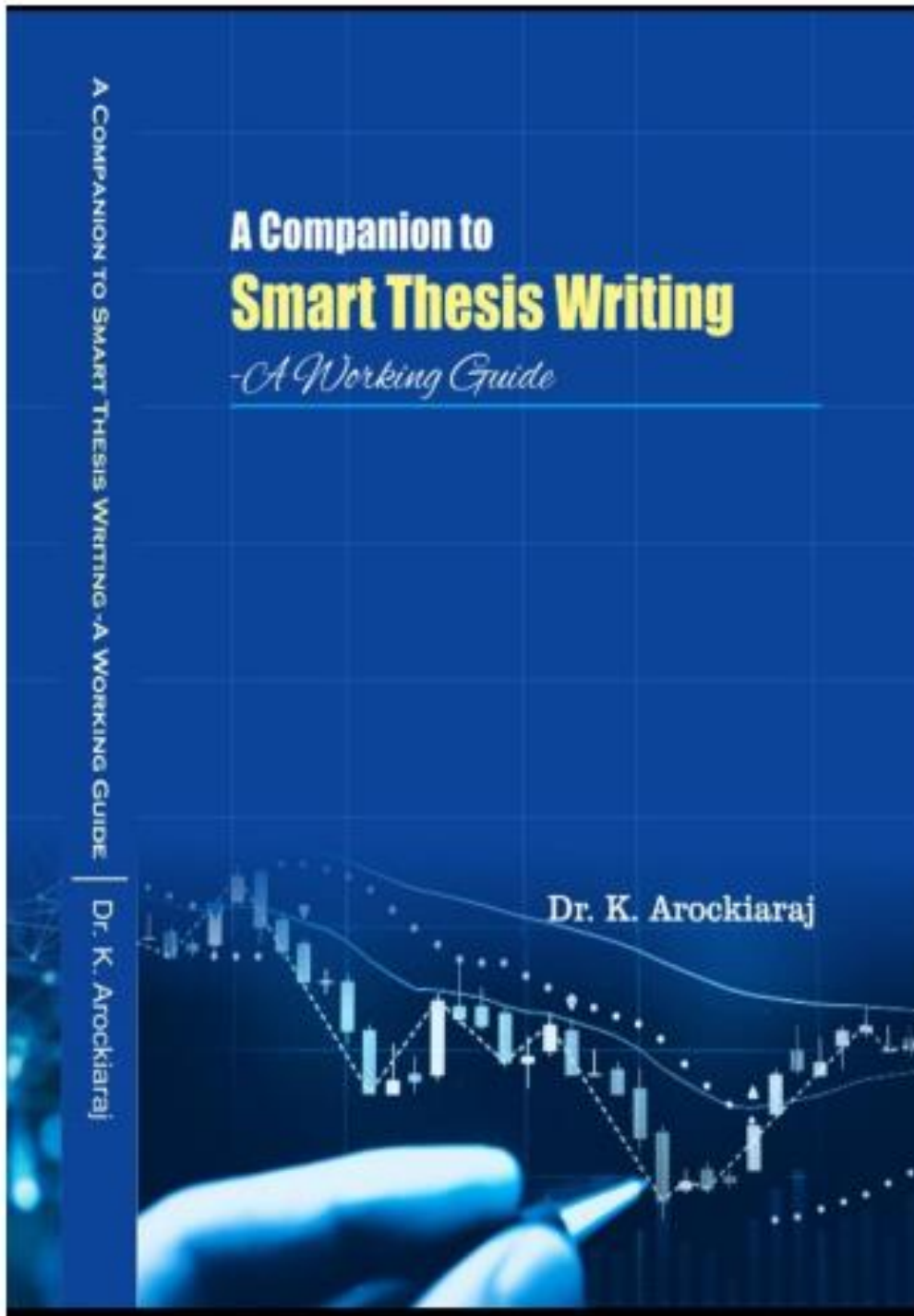
Keywords: Transportation infrastructure, Accessibility to finance and COVID-19 period.

Introduction:

The transportation infrastructure which took an incredible significance in the second long term plan took a profound turn and saw an ever-evolving way from that point on. Infrastructure is the base that spotlights on the human advancement of the country which in a roundabout way prompts improvement of the economy. Infrastructure is viewed as the essential to financial turn of events and interest into monetary infrastructure like street transportation would advance improvement of actual capital and draws in more regard for ventures that would add to monetary and as well as human development. The accessibility of sufficient and effective infrastructure facilities in rural regions is a key variable not just in working with the infrastructural advancement of a nation yet additionally in speeding up its phase and development.

The road transport in India has expanded complex throughout the previous sixty years both concerning length and thickness as well as limit. However, it isn't something very similar in provincial India, still in specific diminished rural regions a few regions are to be created to a more prominent level. Satisfactory road transportation would improve openness of provincial regions to metropolitan centres and towns by giving country masses different outlets to showcase their rural produce and broaden their employment opportunities, so that basic minimum civic facilities might reach even the remote and isolated areas of the region. Moreover, sufficient road transportation in the locale would upgrade openness of rural individuals to essential social facilities like medical care and educational centres. In conclusion, satisfactory road network in the district would lessen the topographical disengagement of the locale from the primary land, by opening up in reverse regions, speeding up financial turn of events and mix with the remainder of the country.

The current paper makes a study on the rural road infrastructure of Tirupattur district in Tamil Nadu and tries to portray the type of road infrastructure present in this area and how it plays a massive role in the socio economic life of the rural people.



Graph Labeling is one of the fastest developing and largest applied field in higher level Mathematical research. This book opens a horizon of a new labeling technique named as 'Divided Cube Difference Cordial Labeling' and investigates the family of staircase graphs, Aztec diamond graphs for possible results. Paths, stars, bistars, corona graphs, trees, complement of complete bipartite graphs are proved to satisfy this new labeling method. Arbitrary subdivisions of a tree T_n are examined and shown to be divided cube difference cordial.

This research work throughs open the opportunity for further investigation of possible other graphs which are still not explored with respect to this new labeling technique..



M. Antony Arockiasamy
P. Thirupathi



Dr. M. Antony Arockiasamy has eighteen years of teaching experience and fourteen years of research experience in Graph Theory. His area of interest includes graph labeling, coding theory, cryptography, probability theory, DNA Computing etc. At present, he is working as faculty of Mathematics at Sacred Heart College, Tirupattur, Tamilnadu, India.

Divided Cube Difference Cordial Labeling of Graphs

Divided Cube Difference Cordial Labeling of Staircase Graphs and Aztec Diamond Graphs





It can be concluded that the phytochemical screening of aqueous and methanolic extract of *Brassica oleracea* (white cabbage) showed that the presence of carbohydrates, alkaloids, flavonoids, steroids, terpenoids, tannins, quinones and phenols, and the absence of saponins and glycosides were respectively. The DPPH radical scavenging activity of the methanolic extract of *Brassica oleracea* (white cabbage) revealed that the IC₅₀ with minimum concentration and more effective radical scavenging activity when compared to standard and aqueous extract. The MTT assay of the methanolic extract of *Brassica oleracea* (white cabbage) yields the value of LC₅₀ at a concentration of 125 µg/ml with cell viability of 52.22%. 76% mortality occurs for the methanolic extract of *Brassica oleracea* (white cabbage) when compared to control DMSO. From the data obtained, it can be concluded that the white cabbage of *Brassica oleracea* can be used as a possible source of treatment for problems associated with oxidative stress as well as strong anticancer activity.



Raghul Munusamy
Poongothai Annadurai

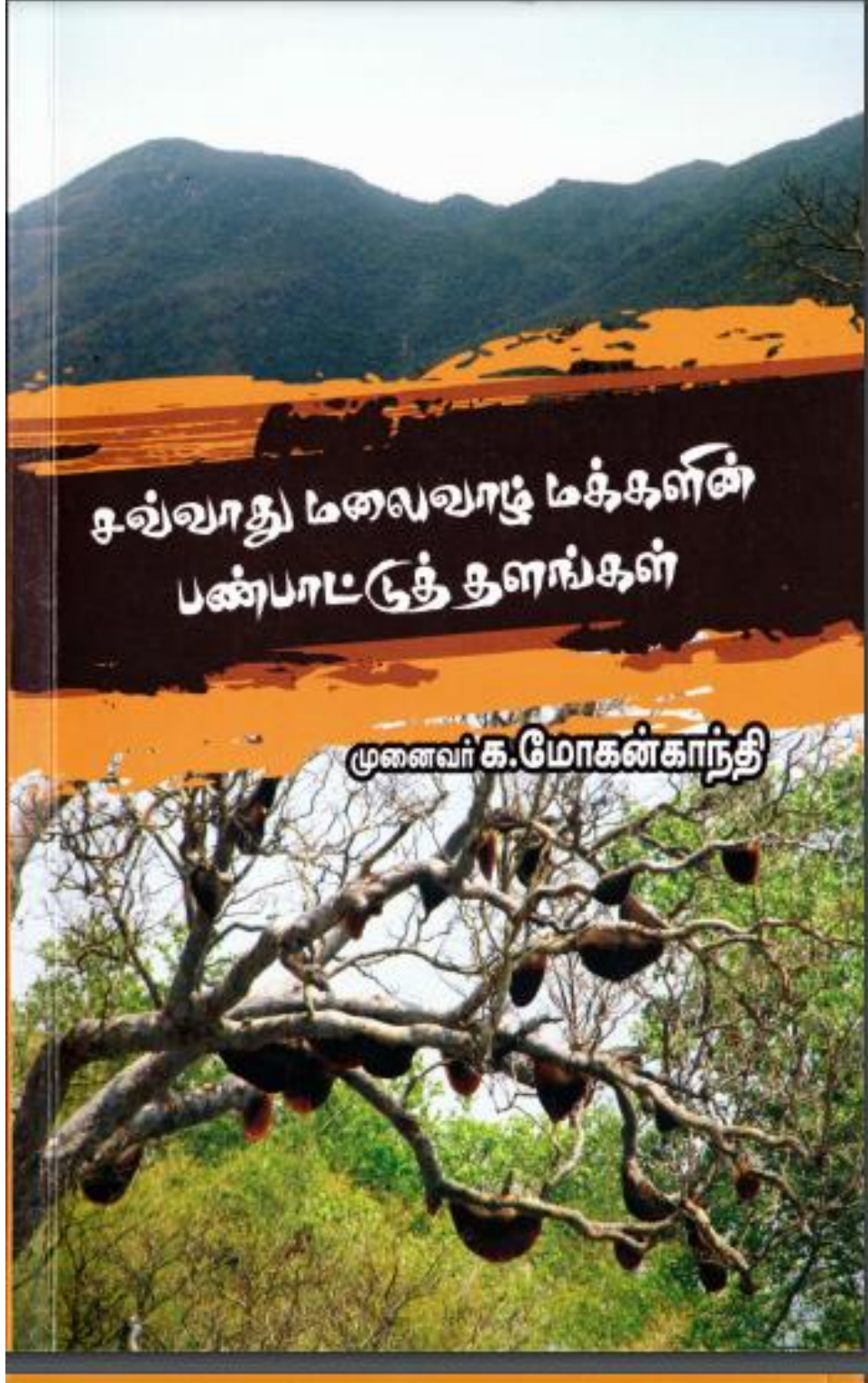
Mr. M. Raghul M.Sc Biochemistry Student, PG and Research Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur-635601, Tirupattur District, Tamil Nadu, India. He did M.Sc Research Project under the Guidance of Dr. A. Poongothai, Assistant Professor, Department of Biochemistry, Sacred Heart College (Autonomous), Tirupattur.

Antioxidant and Anticancer Activity of Brassica Oleracea

Phytochemical Screening, Antioxidant and Anticancer Activity of different extracts of Brassica Oleracea



LAP LAMBERT
Academic Publishing





கம்பன் கழகம் அறிக்கட்டளை

திருப்பத்தூர், திருப்பத்தூர் மாவட்டம்.

- தலைவர் : திரு. எஸ்.எஸ்.மணியன்
 நுணைத்தலைவர்கள் : திரு. வி.ஆர்.முருகன்
 திரு. CA.எஸ்.ரவிக்குமார்
 செயலாளர் : தமிழ்ச்செயல் - ரேவரீயர் முனைவர்
 ஆரத்தின நடராசன்
 நுணைச்செயலாளர்கள் : திருமணிகள்
 துரை.லக்ஷ்மி
 முனைவர் தமிழ்.திருமால்
 எம்.வி.தராதன், க.துரை
 பொதுளாளர் : திரு. கே.எம்.கப்பிரமணியன்
 நுணைப்பொதுளாளர்கள் : திரு. எஸ்.பாலச்சந்திரன்
 திரு. ச.ஆர்.பகுமார்

உறுப்பினர்கள் : திருமணிகள்

- | | |
|------------------------------|-------------------------|
| எஸ்.ராமநாதன் செட்டியார் | டி.பூபதி |
| எஸ்.பி.திருமலை | குங்குமம் என்.குமாரேசன் |
| நல்லாசிரியர் சி.மணி | என்.ஆர்.என்.வி |
| வி.பாரதிசந்தி செய்யின் | என்.சுருமார் |
| எல்.தேன்மொழி | எம்.மதிமழகன் |
| நல்லாசிரியர் சி.புனமேனன்வாசி | ஆர்.ஆர்.மனோகரன் |

முனைவர்கள் : திருமணிகள்

- பாக்டர் சீனி.திருமால் முருகன், ஓய்.டி.கிருபாசாந்தம்
 பாக்டர் சீனா கப்பிரமணியன், எம்.சங்கர், என்.திருப்பதி

Rs. 250/-



பாரதி புக ஹவுஸ்

32, குதல் வீடி, மதுராட்சி புதிய வணிக வளம்,
 பழைய செட்டித்தலைவன்,
 கோழர் - 632 004, (தெ.மா.)
 தொலைபேசி : 99424 41751

ISBN - 978-81-956134-2-7



திருப்பத்தூர் 1

கம்பன் புகழ் ஓங்குக !!

நாயன் படைத்த காண்டங்கள்

11 அழகர்களின் சொல்லோவியங்கள்

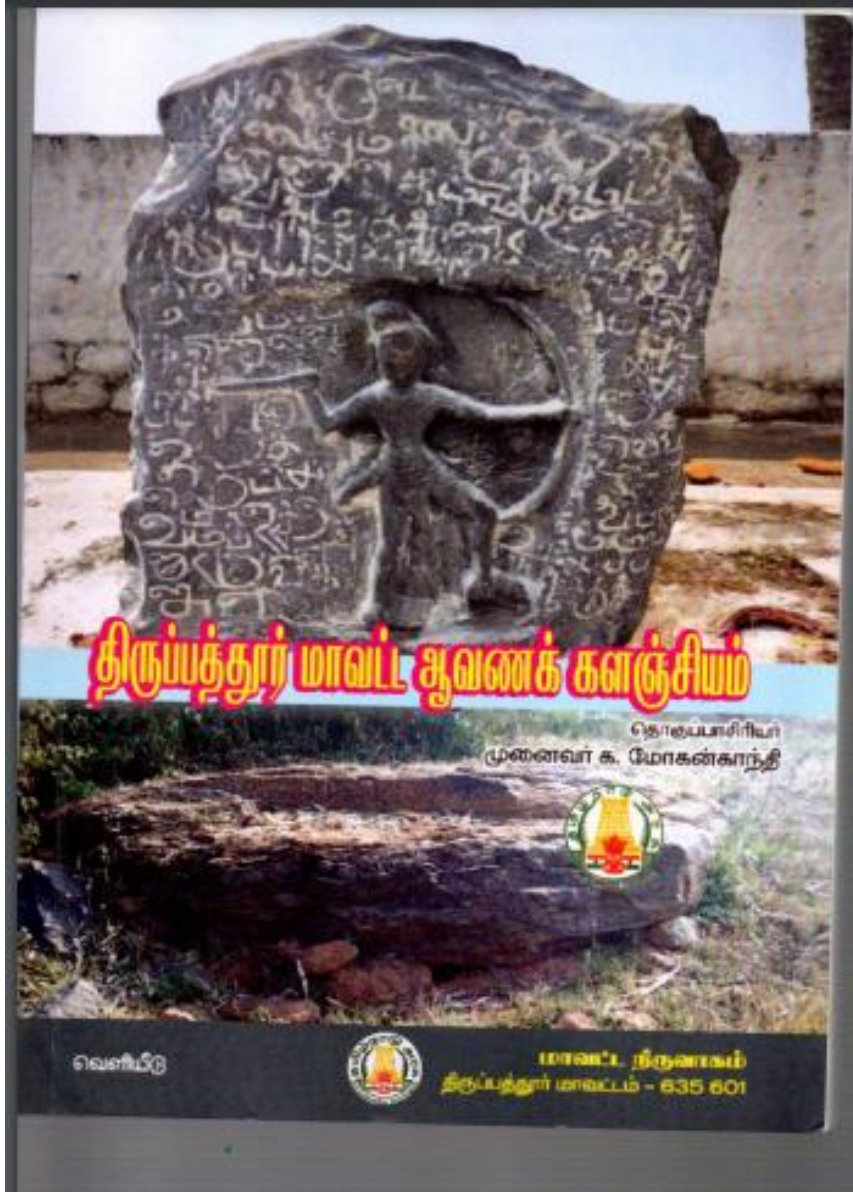


கம்பன் கழகம், திருப்பத்தூர்

திருப்பத்தூர் மாவட்டம்.

111, ஆசிரியர் நகர், திருப்பத்தூர் - 635 801.

தொலைபேசி : 9488660723



Fishes are important part of the marine environment and there are some bacterial pathogens which affect the fish population in greater number. Among all the bacterial pathogens, *Vibrio harveyi* is mainly associated with the fish species reared in farms. *Vibrio harveyi* causes ulcerative disorders in the fish population which are reared in farms. They also cause ulcers in other aquatic habitats like shrimp, lobster, seahorses, sharks and seabass in more numbers. In a particular period of time, the pathogenicity rapidly spreads at a greater rate and its pathogenicity is determined by its cell concentration. Diseases like luminous vibriosis, eye lesions, vasculitis and gastro-enteritis is caused by this deadly bacterial pathogen in recent years. Various symptoms like eye opacity, infections in fin rot and tail, lesions in muscle, ulcers in skin or mouth, anorexia, swollen intestine and whole fish darkening occur in the infected fish due to *Vibrio harveyi*. Considering the above facts in view, this book provides a comprehensive information on the antiulcerative property of *Bacillus subtilis* against *Vibrio harveyi*, a bacterial pathogen of *Labeo rohita* (Rohu Fish).



A. Jayaprakash
M. Anitha



The editor of this book Dr. A. Jayaprakash is working as an Assistant Professor at the PG & Research Department of Biochemistry at Sacred Heart College (Autonomous), Tirupattur-635601, Tirupattur District, Tamil Nadu, India. His area of specialization includes Biochemistry, Mycology and Industrial Biotechnology.

Anti-Ulcerative Property of *Bacillus subtilis* against *Vibrio harveyi*



LAP LAMBERT
Academic Publishing

A cell is the structural and fundamental unit of life. The study of cells from its basic structure to the functions of every cell organelle is called Cell Biology. Cells are complex and their components perform various functions in an organism. They are of different shapes and sizes, pretty much like bricks of the buildings. Our body is made up of cells of different shapes and sizes. Cells are the lowest level of organization in every life form. From organism to organism, the count of cells may vary. Cells comprise several cell organelles that perform specialized functions to carry out life processes. Every organelle has a specific structure. The hereditary material of the organisms is also present in the cells. Cell biology (also cellular biology or cytology) is a branch of biology that studies the structure, function, and behavior of cells. All living organisms are made of cells. This book provides a basic information on the structure, composition and functions of various cellular organelles.



A. Jayaprakash

BASICS IN CELL BIOLOGY

A Beginners Guide



The author of this Dr. A. Jayaprakash is currently working as Assistant Professor & Ph.D. Head at the PG & Research Department of Biochemistry at Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India. His area of specialization is Biochemistry, Mycology and Industrial Biotechnology.



 **LAMBERT**
Academic Publishing

Assistance to Science and Technology Publication

எளிதான தமிழில் நானோ தொழில்நுட்பம்
(Nanotechnology for Beginners in Tamil)

ISBN: 978-81-947361-9-6

SPONSORED BY



TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY
(An Autonomous body of Govt. of Tamil Nadu)
DOTE Campus, Chennai - 600 025

Dr.I.Niyas ahamed M.Sc., M.Phil.,Ph.D.,
Assistant Professor,
PG & Research Department of Biochemistry,
Sacred Heart College (Autonomous)
Tirupattur - 635 601
Tirupattur District, Tamil Nadu, India.



ISBN: 978-93-91342-23-4

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2022

ADVANCES IN PHARMACEUTICAL SCIENCES

Volume - 2

**Dr. P. Saranraj
Dr. V. Durga Devi
Dr. Roshan Kumar**



**JPS Scientific Publications,
India**

9

Authenticity of Wheat

Konstantinos V Kotsanopoulos,^{1,} Neethu Asokan,²
P Saranraj,² K Amala² and R Bright²*

1. Introduction

Cereals are amongst the most widely used ingredients in food and feed production (Hernández et al. 2005). Their composition is very important for assessing the quality and safety of a final product while the accurate identification of cereal species and cultivars is of paramount importance for ensuring the grains are correctly handled, processed and marketed as well as to protect the rights of plant breeders (Terzi et al. 2005). Wheat is commonly cultivated in temperate climates to be used for food and animal feed. It is highly successful as it easily adapts and can produce high yields. It is very important from a commercial point of view as it contains gluten that is responsible for the viscoelastic properties of dough which allows it to be processed into bread, pastas and other foodstuffs. Gluten however can also cause food allergies and coeliac disease. From a nutritional point of view, it contains essential amino acids, minerals, and certain vitamins, as well as phytochemicals and fibres, which are found in high concentrations especially in whole grains (Shewry 2009).

Food analysis for authenticity purposes is an important subject in the food and beverage industries (Bönick et al. 2017). Analysis for authenticity verification, whether conducted on ingredients, additives or foodstuffs can prevent incorrect labelling or product description, substitution of

¹ School of Agricultural Sciences, Department of Ichthyology and Aquatic Environment, University of Thessaly, Fytoko St, 38446 Nea Ionia Magnesia, Volos, Hellas, Greece.

² Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur - 635 601, Tamil Nadu, India.

* Corresponding author: kostaskot@yahoo.gr

CHAPTER 4

Microbial bioethanol fermentation technologies—Recent trends and future prospects

Sudhanshu S. Behera^{a,b}, P. Saranraj^c, and Ramesh C. Ray^d

^aDepartment of Biotechnology, National Institute of Technology, Raipur, Chhattisgarh, India

^bAyurinno Legacy OPC Pvt. Ltd. FTBI, National Institute of Technology, Rourkela, Odisha, India

^cDepartment of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India

^dCentre for Food Biology and Environment Studies, Bhubaneswar, Odisha, India

4.1 Introduction

Bioethanol is one of the most important renewable fuels contributing to the reduction of negative environmental impacts generated by the worldwide utilization of fossil fuels. Over the past 15 years, studies have shown that the replacement of gasoline by bioethanol or biofuel causes a net average reduction of greenhouse gases of 71% (Haq et al., 2016; Koh & Ghazoul, 2008). Bioethanol is not a new energy source since it has been used extensively in Europe and the United States in the early 1900s, but it was ignored due to its high production cost compared to petrol. The bioethanol production was then continued due to the oil crisis in the 1970s (Aditya, Mahlia, Chong, Nur, & Sebayang, 2016). The production of bioethanol from microbial fermentation strategies is an alternative method to meet the global demand. The production of bioethanol is a complicated process consisting of several steps. First, its ability to exploit a variety of microorganisms that are capable of efficient bioethanol production by fermentation; second, to utilize various substrates such as sugars, starches, or celluloses derived from a variety of different sources such as energy crops (corn, wheat, sugarcane, sugar beet, cassava, among others), crop residues (e.g., rice straw, rice husk, corn stover, corn cobs), or waste biomass (for instance, food waste, livestock waste, paper waste, construction-derived wood residues, and others); and third, inexpensive sources of enzymes (ligninolytic, and cellulolytic enzymes). Both fungi and bacteria are capable of efficiently converting sugars to ethanol by fermentation processes (Cardona & Sánchez, 2007; Liu et al., 2018).

The review mainly explains the availability of lignocellulosic biomass (LCB) and the requirement for pretreatment and saccharification methods like acidic and enzymatic techniques. The mode of action of these treatment methods on LCBs was also discussed. We also focused on the role of microorganisms in fermentation and the need for genetic engineering approach, with a discussion on consolidated bioprocessing (CBP) of LCBs to ethanol.



ISBN: 978-93-91342-65-4

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2021

**Compendium of
“RESEARCH INSIGHTS OF
LIFE SCIENCE STUDENTS”**

First Edition; Volume - 4

Dr. P. Saranraj



**JPS Scientific Publications,
India**



ISBN: 978-93-91342-47-0

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

GLOBAL ADVANCES IN LIFE SCIENCES

First Edition

**P. Saranraj
Alaa M. Alrudainy**



Impact of Microbial Diversity on the Environment

Hiba Alatrash^{1,*}, Abdel Rahman M. Tawaha², Abdel Razzaq Al-Tawaha³, Samia Khanum⁴, Abdur Rauf⁵, Arun Karnwal⁶, Abhijit Dey⁷, Sameena Lone⁸, Khursheed Hussain⁸, Palani Saranraj⁹, Imran¹⁰, Amanullah¹⁰ and Shah Khalid¹⁰

¹ *Department of Field Crops, General Commission for Scientific Agricultural Research, Aleppo, Syria*

² *Department of Biological Sciences, Al Hussein bin Talal University, P.O. Box 20, Maan, Jordan*

³ *Department of Crop Science, Faculty of Agriculture, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia*

⁴ *Department of Botany, University of the Punjab, Lahore, Pakistan*

⁵ *Department of Chemistry, University of Swabi, Anbar, Khyber Pakhtunkhwa, Pakistan*

⁶ *Department of Microbiology, School of Bioengineering and BioSciences, Lovely Professional University, Phagwara, India*

⁷ *Department of Life Sciences, Presidency University, Kolkata, India*

⁸ *Division of Vegetable Science, SKUAST-Kashmir, India*

⁹ *Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur 635601, Tamil Nadu, India*

¹⁰ *Department of Agronomy, the University of Agriculture, Peshawar, Pakistan*

Abstract: Microbial diversity is an essential aspect of any ecosystem on earth. Microorganisms are the most common and diversified population in the soil. A microbe is a microscopic organism that can be studied in a single-cell or colony. On the other hand, microbes have a positive or negative effect on their surroundings. Microbial diversity plays an essential role in bioremediation, which is the method of detoxifying or neutralizing radioactive waste into less harmful or non-toxic compounds by secreting various bacterial and fungal enzymes. In this chapter, we focus on (i) the impact of microbial diversity on detoxifying pollutants (bioremediation), (ii) microbial role in biofuel production, (iii) microbial role in ore leaching (bioleaching), (iv) microbial role in controlling biogeochemical cycles (v) microbial role in soil quality and agriculture improvement (vi).

* **Corresponding author Hiba Alatrash:** Department of Field Crops, General Commission for Scientific Agricultural Research, Aleppo, Syria; E-mail: hiba.fad.16@gmail.com

* Contributed equally.

Arun Karnwal & Abdel Rahman Mohammad Said Al-Tawaha (Eds.)
All rights reserved-© 2022 Bentham Science Publishers

Lactic acid bacteria and malolactic fermentation in winemaking

P. Saranraj^a, P. Sivasakthivelan^b, M. Denayrolles^c, and
Ramesh C. Ray^d

^aDepartment of Microbiology, Sacred Heart College (Autonomous), Tirupattur, Tamil Nadu, India ^bDepartment of Agricultural Microbiology, Faculty of Agriculture, Annamalai University, Chidambaram, Tamil Nadu, India ^cBordeaux Sciences Agro, Ecole Nationale Supérieure des Sciences Agronomiques de Bordeaux, Gradignan, France ^dCentre for Food Biology and Environment Studies, Bhubaneswar, Odisha, India

1 Introduction

Wine is an ancient alcoholic fermented beverage from grapes. The main factors influencing wine quality are grape varieties, soil, climate, and production processes, such as winemaking technology, viticultural practices, and aging. Further, the wine composition is strongly influenced by the alcoholic and malolactic fermentations (Kunkee, 1997). Different yeasts and bacterial strains produce different sorts of wines mainly by biotransformation of grape sugars and acids during fermentation processes. Alcoholic fermentation by yeast is the process of converting sugars into ethanol, carbon dioxide, and chemical energy. Also, many secondary metabolites are produced, giving wine its complexity. The main reaction of malolactic fermentation (MLF) is the decarboxylation by lactic acid bacteria (LAB) of L-malic acid into L-lactic acid and CO₂ (Fig. 1). The main task for winemakers is the selection of appropriate bacteria and yeast strains (Pretorius et al., 1999). While the so-called baker's yeast, *Saccharomyces cerevisiae*, is popular in the wine industry, other yeast species are considered undesirable for alcoholic fermentation. In recent years, the use of native, wild, indigenous, or autochthonous yeasts and LAB in alcoholic fermentation and MLF were significantly increased (Théodore, 2006; Jolly et al., 2014).

In the winemaking process, MLF is a metabolic process that is often promoted after the completion of alcoholic fermentation by yeasts. MLF plays a major role in achieving quality of wine (Liu, 2002). This fermentation is very important for the growth of LAB (belonging to the genera *Pediococcus*, *Oenococcus*, and to the former-*Lactobacillus*) because it allows them to



ISBN: 978-93-91342-06-7

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

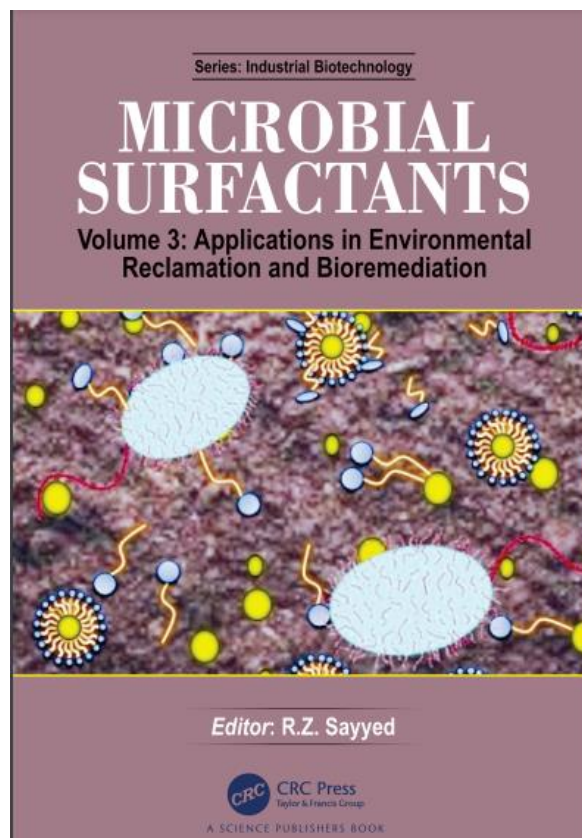
Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

**MICROBES FOR CLEAN
AND GREEN
ENVIRONMENT**

Volume - 2

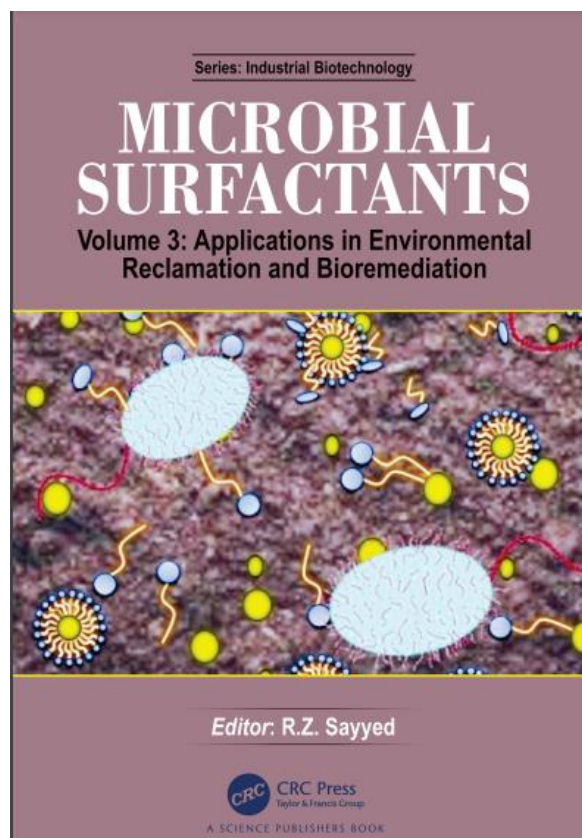
**Dr. P. Saranraj
Dr. M. Manigandan
Dr. Glaucio Feliciano Dire**





Contents

<i>Preface to the Series</i>	v
<i>Preface</i>	vi
1. Efficient Substrates for Microbial Synthesis of Biosurfactants <i>P Saranraj, R Z Sayyed, Karrar Jasim Hamzah, Neethu Asokan, P Sivasakthivelan and Abdel Rahman Mohammad Al-Tawaha</i>	1
2. Microbial Biosurfactants: Methods of Investigation, Characterization, Current Market Value and Applications <i>P Saranraj, R Z Sayyed, P Sivasakthivelan, Mustafa Salah Hasan, Abdel Rahman Mohammad Al-Tawaha and K Amala</i>	19
3. Molecular Approaches Towards the Synthesis of Biosurfactants <i>Vidya Kothari and Arpana Jobanputra</i>	35
4. Delving through Quorum Sensing and CRISPRi Strategies for Enhanced Surfactin Production <i>Shireen Adeeb Mujtaba Ali, R Z Sayyed, M S Reddy, Hesham El Enshasy and Bee Hameeda</i>	59
5. Applications and Future Prospects of Biosurfactants <i>Anita V Handore, Sharad R Khandelwal, Rajib Karmakar, Divya L Gupta and Vinita S Jagtap</i>	80
6. Biosurfactants: The Ecofriendly Biomolecules of the Upcoming Era <i>Anita V Handore, Sharad R Khandelwal, Rajib Karmakar, Divya L Gupta and Dilip V Handore</i>	99
7. Biosurfactant as an Antimicrobial and Biodegradable Agent: A Review <i>Veena Kumari</i>	139
8. Biosurfactant Mediated Synthesis and Stabilization of Nanoparticles <i>Muhammad Bilal Sadiq, Muhammad Rehan Khan and R Z Sayyed</i>	158



Contents

<i>Preface to the Series</i>	v
<i>Preface</i>	vi
1. Efficient Substrates for Microbial Synthesis of Biosurfactants	1
<i>P. Saranraj, R Z Sayyed, Karrar Jasim Hamzah, Neethu Asokan, P Sivasakthivelan and Abdel Rahman Mohammad Al-Tawaha</i>	
2. Microbial Biosurfactants: Methods of Investigation, Characterization, Current Market Value and Applications	19
<i>P. Saranraj, R Z Sayyed, P Sivasakthivelan, Mustafa Salah Hasan, Abdel Rahman Mohammad Al-Tawaha and K Amala</i>	
3. Molecular Approaches Towards the Synthesis of Biosurfactants	35
<i>Vidya Kothari and Arpana Jobanputra</i>	
4. Delving through Quorum Sensing and CRISPRi Strategies for Enhanced Surfactin Production	59
<i>Shireen Adeeb Mujtaba Ali, R Z Sayyed, M S Reddy, Hesham El Enshasy and Bee Hameeda</i>	
5. Applications and Future Prospects of Biosurfactants	80
<i>Anita V Handore, Sharad R Khandelwal, Rajib Karmakar, Divya L Gupta and Vinita S Jagtap</i>	
6. Biosurfactants: The Ecofriendly Biomolecules of the Upcoming Era	99
<i>Anita V Handore, Sharad R Khandelwal, Rajib Karmakar, Divya L Gupta and Dilip V Handore</i>	
7. Biosurfactant as an Antimicrobial and Biodegradable Agent: A Review	139
<i>Veena Kumari</i>	
8. Biosurfactant Mediated Synthesis and Stabilization of Nanoparticles	158
<i>Muhammad Bilal Sadiq, Muhammad Rehan Khan and R Z Sayyed</i>	

CHAPTER 4

Microbial Communication: A Significant Approach to Understanding Microbial Activities and Interactions

Samia Khanum^{1*}, Abdel Rahman M. Tawaha², Abdel Razzaq Al-Tawaha³, Hiba Alatrash⁴, Abdur Rauf⁵, Arun Karnwal⁶, Abhijit Dey⁷, Nujoud Alimad⁸, Sameena Lone⁹, Khursheed Hussain⁹, Imran¹⁰, Amanullah¹⁰, Shah Khalid¹⁰, Palani Saranraj¹¹ and Abdul Basit¹²

¹ Department of Botany, University of the Punjab, Lahore, Pakistan

² Department of Biological Sciences, Al Hussein bin Talal University, P.O. Box 20, Maan, Jordan

³ Department of Biological Sciences, Al Hussein bin Talal University, P.O. Box 20, Maan, Jordan

⁴ General Commission for Scientific Agricultural Research, Syria

⁵ Department of Chemistry, University of Swabi, Anbar, Khyber Pakhtunkhwa, Pakistan

⁶ Department of Microbiology, School of Bioengineering and BioSciences, Lovely Professional University, Phagwara, India

⁷ Department of Life Sciences, Presidency University, Kolkata, India

⁸ Damascus University, Faculty of Agriculture, Damascus, Syria

⁹ Division of Vegetable Science, SKUAST-Kashmir, India

¹⁰ Department of Agronomy, The University of Agriculture, Peshawar, Pakistan

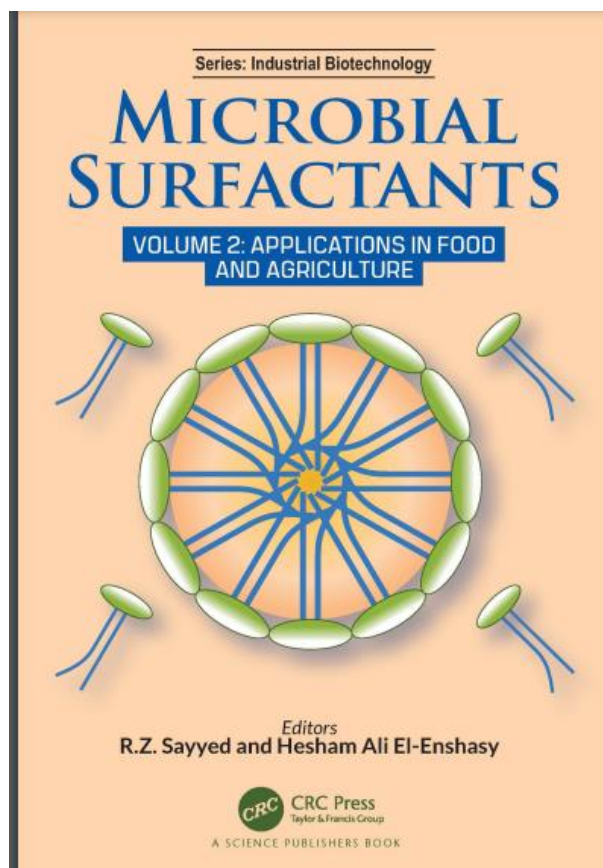
¹¹ Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur 635601, Tamil Nadu, India

¹² Department of Plant Pathology, Agriculture College, Guizhou University, Guiyang 550025, P.R. China

Abstract: To understand the interaction between different microbes, it is important to understand how they communicate with one another in their adjacent environment. These interactions are beneficial because when different microbes interact, they stimulate specific mechanisms, release signals, and result in the production and synthesis of important vaccines, anti-bacterial and anti-fungal agents, and secondary metabolites. These metabolites are beneficial from a medicinal point of view as well.

* Corresponding author Samia Khanum: Department of Botany, University of the Punjab, Lahore, Pakistan, E-mail: samiaghani33@gmail.com

Arun Karnwal & Abdel Rahman Mohammad Said Al-Tawaha (Eds.)
All rights reserved. © 2022 Bentham Science Publishers



2

Microbial Fermentation Technology for Biosurfactants Production

P Saranraj,^{1,} P Sivasakthivelan,²
Karrar Jasim Hamzah,³ Mustafa Salah Hasan⁴ and
Abdel Rahman Mohammad Al-Tawaha⁵*

1. Introduction

The target market is of fundamental importance to the implementation of an industrial biosurfactant production project (Gudina et al. 2016). For cosmetic, medicinal and food products, production is only viable on a small-scale, as the column chromatography methods required to separate molecules are not economical on a large scale. Thus, the use of crude fermentation broths could be a viable solution, especially if the application is in an environmental context, as biosurfactants in such cases do not need to be pure and can be synthesized using a blend of inexpensive carbon sources, which would allow the creation of an economically and environmentally viable technology for bioremediation processes (Kumar et al. 2016). Although, improvements in biosurfactant technology have enabled a 10 to 20 fold increase in the production of these biomolecules, it is likely that further, significant advances (even if of a smaller magnitude) are needed to make this technology commercially viable (Geetha et al. 2018).

¹ Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur – 635 601, Tamil Nadu, India.

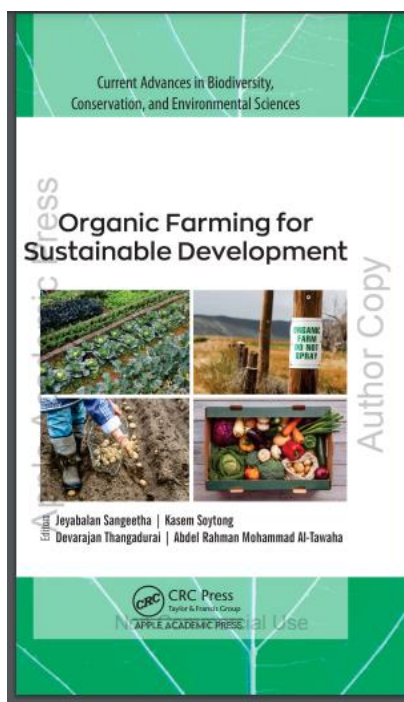
² Department of Agricultural Microbiology, Faculty of Agriculture, Annamalai University, Annamalai Nagar – 608 002, Tamil Nadu, India.

³ Department of Internal and Preventive Veterinary Medicine, College of Veterinary Medicine, AL-Qasim Green University, Babylon, Iraq.

⁴ University of Fallujah, College of Veterinary Medicine, Department of Internal and Preventive Medicine, Fallujah, Iraq.

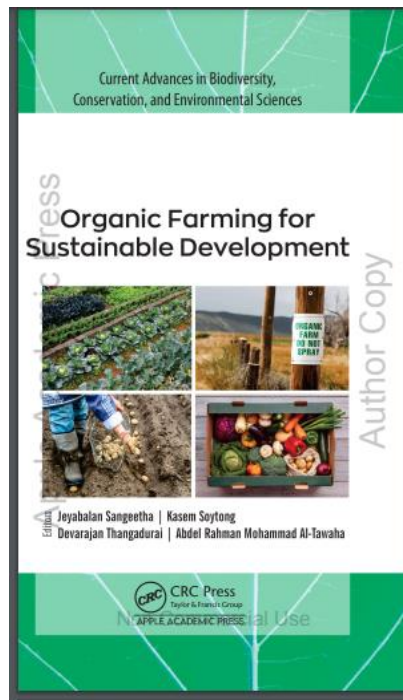
⁵ Department of Biological Sciences, Al - Hussein Bin Talal University, Maan, Jordan.

* Corresponding author: microsanraj@gmail.com



CONTENTS

<i>Contributors</i>	xv
<i>Abbreviations</i>	xix
<i>Symbols</i>	xxv
<i>Preface</i>	xxvii
PART I: Agrofriendly Microbes and Their Metabolites for Sustainable Agriculture 1	
1. <i>Trichoderma</i>: An Eco-Friendly Biopesticide for Sustainable Agriculture	3
Aparna B. Gunjal	
2. Arbuscular Mycorrhizas: Applications in Organic Agriculture and Beyond	23
Charles Oluwaseun Adetunji, Osikemekha Anthony Anani, Devarajan Thangadurai, and Saher Islam	
3. <i>Azospirillum</i> Bioinoculant Technology: Past to Current Knowledge and Future Prospects	51
Palani Saranraj, Abdel Rahman M. Al-Tawaha, Panneerselvam Sivasakthivelan, Abdel Razzaq M. Al-Tawaha, Kangasalam Amala, Devarajan Thangadurai, and Jeyabalan Sangeetha	
4. Application of Phosphate Solubilizing Microorganisms for Effective Production of Next-Generation Biofertilizer: A Panacea for Sustainable Organic Agriculture	77
Charles Oluwaseun Adetunji, Osikemekha Anthony Anani, Devarajan Thangadurai, and Saher Islam	
5. Recent Trends in the Utilization of Endophytic Microorganisms and Other Biopesticidal Technology for the Management of Agricultural Pests, Insects, and Diseases	105
Charles Oluwaseun Adetunji, Osikemekha Anthony Anani, Saher Islam, and Devarajan Thangadurai	
6. Secondary Metabolites and Their Biological Activities From <i>Chaetomium</i>	133
Kasem Soyong and Somdej Kanokmedhakul	



PART II: Organic Amendments and Sustainable Practices for Plant and Soil Management	163
7. Garlic Products for Sustainable Organic Crop Protection	165
Anjorin Toba Samuel and Adeniran Lateef Ariyo	
8. Efficacy of Organic Substrates for Management of Soil-Borne Plant Pathogens.....	183
Malavika Ram Amanthra Keloth, Meenakshi Rana, and Ajay Tomer	
9. Organic Farming Improves Soil Health Sustainability and Crop Productivity	207
Abdel Rahman M. Al-Tawaha, Elif Günel, İsmail Çelik, Hikmet Günel, Abdulkadir Sürücü, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Devarajan Thangadurai, and Jeyabalan Sangeetha	
10. Use of Biochar in Agriculture: An Inspiring Way in Existing Scenario.....	239
Imran, Amanullah, Abdel Rahman M. Al-Tawaha, Abdel Razzaq M. Al-Tawaha, Samia Khanum, Devarajan Thangadurai, Jeyabalan Sangeetha, Hiba Alatrash, Palani Saranraj, Nidal Odat, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
11. The Role of Organic Mulching and Tillage in Organic Farming	259
Shah Khalid, Amanullah, Abdel Rahman M. Al-Tawaha, Nadia, Devarajan Thangadurai, Jeyabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, Nidal Odat, and Arun Karnwal	
12. Weed Management in Organic Cropping Systems.....	277
Abdel Rahman M. Al-Tawaha, Zahra Farrokhi, Nandhini Yoga, Poonam Roshan, Imran, Amanullah, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Samia Khanum, Devarajan Thangadurai, Jeyabalan Sangeetha, Abdur Rauf, Shah Khalid, Palani Saranraj, Abdul Basit, Ayşe Yeşilayer, Hiba Alatrash, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
PART III: Organic Agriculture for Food Safety	301
13. Organic Production Technology of Rice	303
Shah Khalid, Amanullah, Nadia, Imranuddin, Mujeeb Ur Rahman, Abdel Rahman M. Al-Tawaha, Devarajan Thangadurai, Jeyabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, and Arun Karnwal	
14. Prospects of Organic Agriculture in Food Quality and Safety	321
Akbar Hossain, Debjyoti Majumder, Shilpi Das, Apurbo Kumar Chaki, Mst. Tanjina Islam, Rajan Bhatt, and Tofazzal Islam	



ISBN: 978-93-91342-73-9

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2022

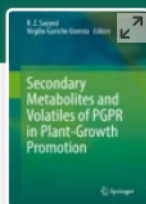
PHARMACOLOGY OF *Ficus benjamina*

First Edition

**V. Durga Devi
M. Manigandan
P. Saranraj**



**JPS Scientific Publications,
India**



Secondary Metabolites and Volatiles of PGPR in Plant-Growth Promotion pp 349–381

Plant Growth-Promoting and
Biocontrol Metabolites Produced by
Endophytic *Pseudomonas*
fluorescence

[P. Saranraj](#), [R. Z. Sayyed](#), [M. Kokila](#), [A. Sudha](#), [P. Sivasakthivelan](#), [M. Durga Devi](#), [Rabia Naz](#) & [Humaira Yasmin](#)

Chapter | [First Online: 31 October 2022](#)

57 Accesses

**Secondary Metabolites and Volatiles of PGPR in Plant-Growth Promotion** pp 95–118

Inhibition of Bacterial and Fungal Phytopathogens Through Volatile Organic Compounds Produced by *Pseudomonas* sp.

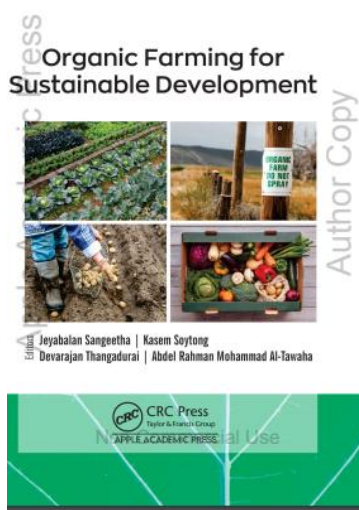
[Bahia Naz](#)  [Sehar Khushhal](#), [Tayyaba Asif](#), [Sara Mubeen](#), [P. Saranraj](#) & [R. Z. Sayyed](#)

Chapter | [First Online: 31 October 2022](#)

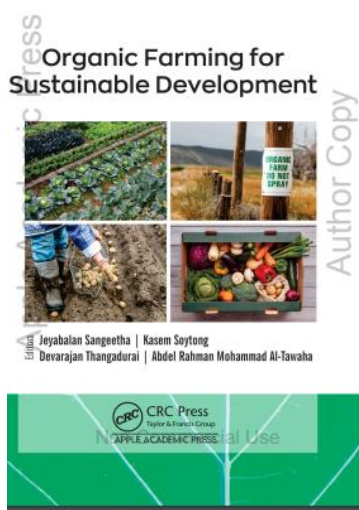
60 Accesses

Abstract

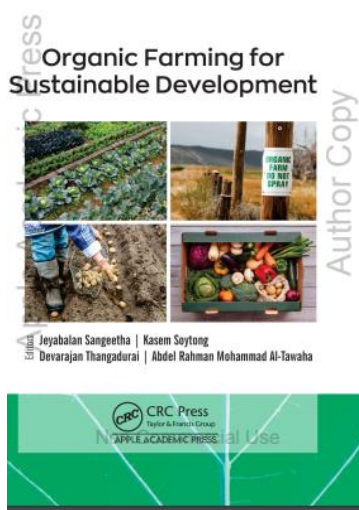
Plant growth-promoting rhizobacteria (PGPR) are being used as an alternative approach to combat plant diseases. About 80–90% of plant diseases are caused by bacterial and fungal pathogens, which remain an inevitable cause for the loss of several crops. Phytopathogenic bacteria and fungi are the major constraints to sustainable agriculture by adversely affecting crop growth and productivity. Owing to the increased pollution and harmful impacts of chemicals to control these pathogens, scientists are now centering on safer biological organisms and their byproducts. Secondary metabolites and volatile organic compounds (VOCs)



PART II: Organic Amendments and Sustainable Practices for Plant and Soil Management	163
7. Garlic Products for Sustainable Organic Crop Protection	165
Anjorin Toba Samuel and Adeniran Lateef Ariyo	
8. Efficacy of Organic Substrates for Management of Soil-Borne Plant Pathogens	183
Malavika Ram Amanthra Keloth, Meenakshi Rana, and Ajay Tomer	
9. Organic Farming Improves Soil Health Sustainability and Crop Productivity	207
Abdel Rahman M. Al-Tawaha, Elif Günel, Ismail Çelik, Hikmet Günel, Abdulkadir Sürücü, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Devarajan Thangadurai, and Jeyabalan Sangeetha	
10. Use of Biochar in Agriculture: An Inspiring Way in Existing Scenario	239
Imran, Amanullah, Abdel Rahman M. Al-Tawaha, Abdel Razzaq M. Al-Tawaha, Samia Khanum, Devarajan Thangadurai, Jeyabalan Sangeetha, Hiba Alatrash, Palani Saranraj, Nidal Odat, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
11. The Role of Organic Mulching and Tillage in Organic Farming	259
Shah Khalid, Amanullah, Abdel Rahman M. Al-Tawaha, Nadia, Devarajan Thangadurai, Jeyabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, Nidal Odat, and Arun Karnwal	
12. Weed Management in Organic Cropping Systems	277
Abdel Rahman M. Al-Tawaha, Zahra Farrokhi, Nandhini Yoga, Poonam Roshan, Imran, Amanullah, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Samia Khanum, Devarajan Thangadurai, Jeyabalan Sangeetha, Abdur Rauf, Shah Khalid, Palani Saranraj, Abdul Basit, Ayşe Yeşilayer, Hiba Alatrash, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
PART III: Organic Agriculture for Food Safety	301
13. Organic Production Technology of Rice	303
Shah Khalid, Amanullah, Nadia, Imranuddin, Mujeeb Ur Rahman, Abdel Rahman M. Al-Tawaha, Devarajan Thangadurai, Jeyabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, and Arun Karnwal	
14. Prospects of Organic Agriculture in Food Quality and Safety	321
Akbar Hossain, Debjyoti Majumder, Shilpi Das, Apurbo Kumar Chaki, Mst. Tanjina Islam, Rajan Bhatt, and Tofazzal Islam	



PART II: Organic Amendments and Sustainable Practices for Plant and Soil Management	163
7. Garlic Products for Sustainable Organic Crop Protection	165
Anjorin Toba Samuel and Adeniran Lateef Ariyo	
8. Efficacy of Organic Substrates for Management of Soil-Borne Plant Pathogens	183
Malavika Ram Amanthra Keloth, Meenakshi Rana, and Ajay Tomer	
9. Organic Farming Improves Soil Health Sustainability and Crop Productivity	207
Abdel Rahman M. Al-Tawaha, Elif Günel, Ismail Çelik, Hikmet Günel, Abdulkadir Sürücü, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Devarajan Thangadurai, and Jayabalan Sangeetha	
10. Use of Biochar in Agriculture: An Inspiring Way in Existing Scenario	239
Imran, Amanullah, Abdel Rahman M. Al-Tawaha, Abdel Razzaq M. Al-Tawaha, Samia Khanum, Devarajan Thangadurai, Jayabalan Sangeetha, Hiba Alatrash, Palani Saranraj, Nidal Odat, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
11. The Role of Organic Mulching and Tillage in Organic Farming	259
Shah Khalid, Amanullah, Abdel Rahman M. Al-Tawaha, Nadia, Devarajan Thangadurai, Jayabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, Nidal Odat, and Arun Karnwal	
12. Weed Management in Organic Cropping Systems	277
Abdel Rahman M. Al-Tawaha, Zahra Farrokhi, Nandhini Yoga, Poonam Roshan, Imran, Amanullah, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Samia Khanum, Devarajan Thangadurai, Jayabalan Sangeetha, Abdur Rauf, Shah Khalid, Palani Saranraj, Abdul Basit, Ayşe Yeşilayer, Hiba Alatrash, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
PART III: Organic Agriculture for Food Safety	301
13. Organic Production Technology of Rice	303
Shah Khalid, Amanullah, Nadia, Imranuddin, Mujeeb Ur Rahman, Abdel Rahman M. Al-Tawaha, Devarajan Thangadurai, Jayabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, and Arun Karnwal	
14. Prospects of Organic Agriculture in Food Quality and Safety	321
Akbar Hossain, Debjyoti Majumder, Shilpi Das, Apurbo Kumar Chaki, Mst. Tanjina Islam, Rajan Bhatt, and Tofazzal Islam	



PART II: Organic Amendments and Sustainable Practices for Plant and Soil Management	163
7. Garlic Products for Sustainable Organic Crop Protection	165
Anjorin Toba Samuel and Adeniran Lateef Ariyo	
8. Efficacy of Organic Substrates for Management of Soil-Borne Plant Pathogens	183
Malavika Ram Amanthra Keloth, Meenakshi Rana, and Ajay Tomer	
9. Organic Farming Improves Soil Health Sustainability and Crop Productivity	207
Abdel Rahman M. Al-Tawaha, Elif Günel, Ismail Çelik, Hikmet Günel, Abdulkadir Sürücü, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Devarajan Thangadurai, and Jeyabalan Sangeetha	
10. Use of Biochar in Agriculture: An Inspiring Way in Existing Scenario	239
Imran, Amanullah, Abdel Rahman M. Al-Tawaha, Abdel Razzaq M. Al-Tawaha, Samia Khanum, Devarajan Thangadurai, Jeyabalan Sangeetha, Hiba Alatrash, Palani Saranraj, Nidal Odat, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
11. The Role of Organic Mulching and Tillage in Organic Farming	259
Shah Khalid, Amanullah, Abdel Rahman M. Al-Tawaha, Nadia, Devarajan Thangadurai, Jeyabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, Nidal Odat, and Arun Karnwal	
12. Weed Management in Organic Cropping Systems	277
Abdel Rahman M. Al-Tawaha, Zahra Farrokhi, Nandhini Yoga, Poonam Roshan, Imran, Amanullah, Abdel Razzaq M. Al-Tawaha, Alla Aleksanyan, Samia Khanum, Devarajan Thangadurai, Jeyabalan Sangeetha, Abdur Rauf, Shah Khalid, Palani Saranraj, Abdul Basit, Ayşe Yeşilayer, Hiba Alatrash, Mazen A. Ateyya, Munir Turk, Arun Karnwal, Sameena Lone, and Khursheed Hussain	
PART III: Organic Agriculture for Food Safety	301
13. Organic Production Technology of Rice	303
Shah Khalid, Amanullah, Nadia, Imranuddin, Mujeeb Ur Rahman, Abdel Rahman M. Al-Tawaha, Devarajan Thangadurai, Jeyabalan Sangeetha, Samia Khanum, Munir Turk, Hiba Alatrash, Sameena Lone, Khursheed Hussain, Palani Saranraj, and Arun Karnwal	
14. Prospects of Organic Agriculture in Food Quality and Safety	321
Akbar Hossain, Debjyoti Majumder, Shilpi Das, Apurbo Kumar Chaki, Mst. Tanjina Islam, Rajan Bhatt, and Tofazzal Islam	



Basics in Demography
A Beginners Guide

Dr. R. Kurinji Malar



Basics in Demography: A Beginners Guide Paperback – 8



December 2022

by Dr. R. Kurinji Malar (Author)

[See all formats and editions](#)

Demography is the scientific study of human populations primarily with respect to their size, their structure and their development; it takes into account the quantitative aspects of their general characteristics. The Study of Demography is an important area of investigation in the field of economics especially since problem of economic development and development planning come to the fore front in most developing countries. Population growth, size and distribution cannot be discussed exhaustively except in the context of economic growth or change. This book covers all the aspects of Demography and covers topics like Theories of population, Historical evidence of population growth, population growth pattern in developed and developing countries, factors that affect population growth, technique of analysis, gross reproduction rate, meaning of life table, population projection and changes in family structure. This book is also a beginner's guide for demography concepts and its analysis.

Language	Publication date	Dimensions	ISBN-10	ISBN-13
EN English	2022 December 8	15.0 x 0.4 x 22.0 cm	6205526301	978-6205526309



Roll over image to zoom in



Product details

Publisher : LAP LAMBERT Academic Publishing (8 December 2022)

Language : English

ISBN-10 : 6205526301

ISBN-13 : 978-6205526309

Chemistry in Agriculture-Soil chemistry- types of soil, composition, Properties of soil, preliminary idea about soil water, soil temperature, texture, minerals.
Chemistry in Housing and Household-Major classes of household chemicals- cleaners, pesticides, stain removers, fire extinguishers. Composition of Portland Cement-Types of concrete.
Chemical Processing and Preservation of Food-Plastics and Ceramics- Chemistry of cosmetics.



Angeline Mary Selvakumar

Chemistry In Everyday Life

Chemistry in Agriculture and Household



FOR AUTHOR'S USE ONLY

Dr. Angeline Mary is presently an Assistant Professor, Department of Chemistry, Sacred Heart College(Autonomous), Tirupattur, Tamil Nadu, India. She is having 13 years of teaching experience. She awarded Ph.D degree in Periyar University, Salem.



9 786205 539677

Angeline Mary Selvakumar

LAP LAMBERT
Academic Publishing



Angeline Mary Selvakumar

Drug Administration and Treatment

Indian Medicinal Plants and Medicinally Important Compounds

 **LAP LAMBERT**
Academic Publishing

9

Authenticity of Wheat

Konstantinos V Kotsanopoulos,^{1,} Neethu Asokan,²
P Saranraj,² K Amala² and R Bright²*

1. Introduction

Cereals are amongst the most widely used ingredients in food and feed production (Hernández et al. 2005). Their composition is very important for assessing the quality and safety of a final product while the accurate identification of cereal species and cultivars is of paramount importance for ensuring the grains are correctly handled, processed and marketed as well as to protect the rights of plant breeders (Terzi et al. 2005). Wheat is commonly cultivated in temperate climates to be used for food and animal feed. It is highly successful as it easily adapts and can produce high yields. It is very important from a commercial point of view as it contains gluten that is responsible for the viscoelastic properties of dough which allows it to be processed into bread, pastas and other foodstuffs. Gluten however can also cause food allergies and coeliac disease. From a nutritional point of view, it contains essential amino acids, minerals, and certain vitamins, as well as phytochemicals and fibres, which are found in high concentrations especially in whole grains (Shewry 2009).

Food analysis for authenticity purposes is an important subject in the food and beverage industries (Bönick et al. 2017). Analysis for authenticity verification, whether conducted on ingredients, additives or foodstuffs can prevent incorrect labelling or product description, substitution of

¹ School of Agricultural Sciences, Department of Ichthyology and Aquatic Environment, University of Thessaly, Fytoko St, 38446 Nea Ionia Magnesias, Volos, Hellas, Greece.

² Department of Microbiology, Sacred Heart College (Autonomous), Tirupattur – 635 601,

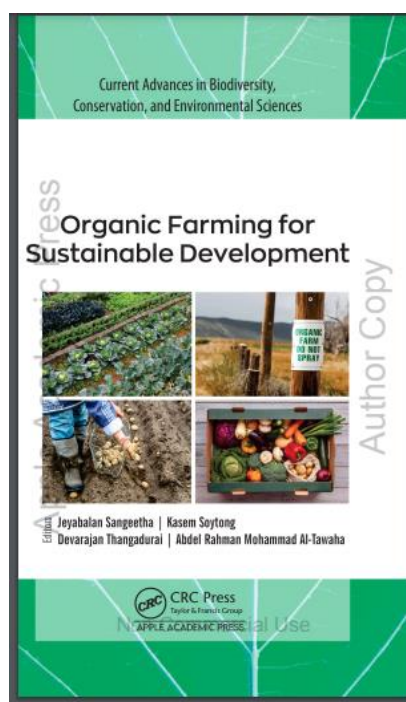
12

Microbial Biosurfactants Sources, Classification, Properties and Mechanism of Interaction

P. Saranraj,^{1,} R. Z. Sayyed,² P. Sivasakthivelan,³
M. Durga Devi,⁴ Abdel Rahman Mohammad Al Tawaha⁵
and S. Sivasakthi⁶*

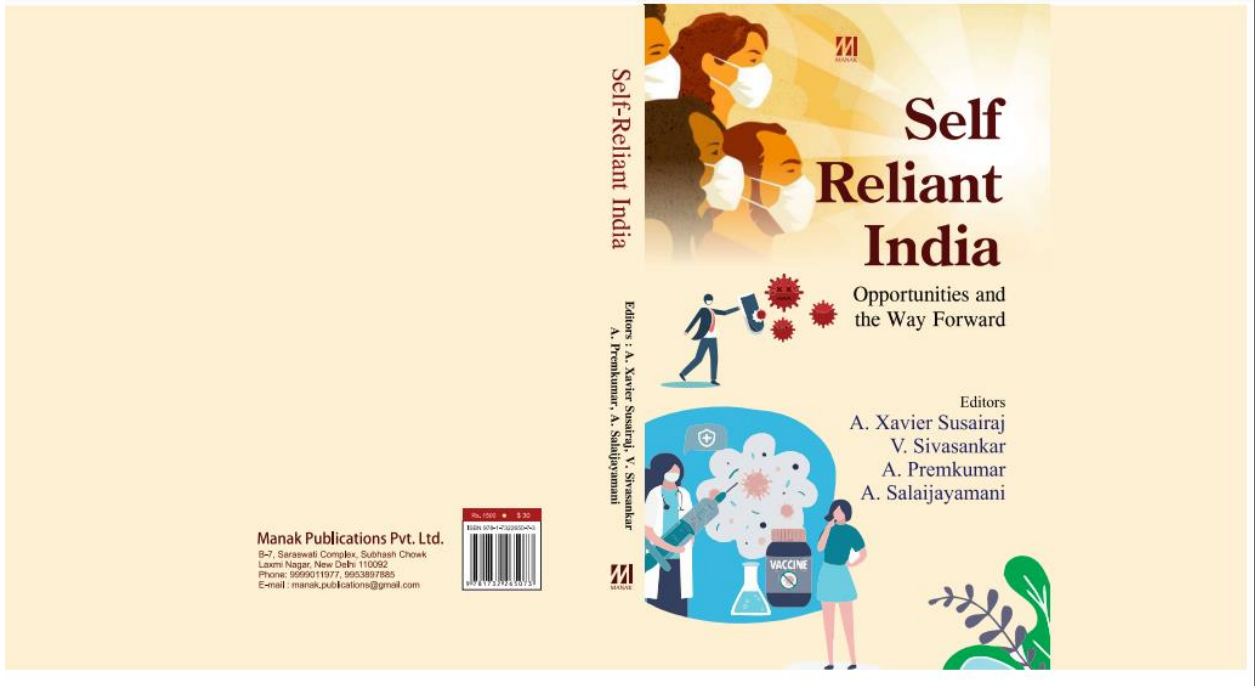
1. Introduction

Surfactants are among the most versatile products of Chemical industry. Surfactant is an abridgment of the term surface-active chemical compounds. A surfactant is a substance present in a system, having the properties of adsorbing onto the surface or interface of the system and altering the interfacial energy of those surfaces. The term interface denotes the difference between the two immiscible phases, and the term surface denotes the interface where one phase is gas which is generally air. The interfacial energy is the minimum amount of work required to create that interface. In order to work out interfacial surface tension between two phases, interfacial energy per unit area is to be measured. It is the minimum amount of work required to create a unit area of the interface or to expand it by unit area. The physical phenomenon is



CONTENTS

<i>Contributors</i>	xv
<i>Abbreviations</i>	xix
<i>Symbols</i>	xxv
<i>Preface</i>	xxvii
PART I: Agrofriendly Microbes and Their Metabolites for Sustainable Agriculture	
1. <i>Trichoderma</i>: An Eco-Friendly Biopesticide for Sustainable Agriculture	3
Aparna B. Gunjal	
2. Arbuscular Mycorrhizas: Applications in Organic Agriculture and Beyond	23
Charles Oluwaseun Adetunji, Osikemekha Anthony Anani, Devarajan Thangadurai, and Saher Islam	
3. <i>Azospirillum</i> Bioinoculant Technology: Past to Current Knowledge and Future Prospects	51
Palani Saranraj, Abdel Rahman M. Al-Tawaha, Panneerselvam Sivasakthivelan, Abdel Razzaq M. Al-Tawaha, Kangasalam Amala, Devarajan Thangadurai, and Jayabalan Sangeetha	
4. Application of Phosphate Solubilizing Microorganisms for Effective Production of Next-Generation Biofertilizer: A Panacea for Sustainable Organic Agriculture	77
Charles Oluwaseun Adetunji, Osikemekha Anthony Anani, Devarajan Thangadurai, and Saher Islam	
5. Recent Trends in the Utilization of Endophytic Microorganisms and Other Biopesticidal Technology for the Management of Agricultural Pests, Insects, and Diseases	105
Charles Oluwaseun Adetunji, Osikemekha Anthony Anani, Saher Islam, and Devarajan Thangadurai	
6. Secondary Metabolites and Their Biological Activities From <i>Chaetomium</i>	133
Kasem Soyong and Somdej Kanokmedhakul	



Manak Publications Pvt. Ltd.
B-7, Saraswati Complex, Subhash Chowk
Laxmi Nagar, New Delhi 110092
Phone: 9995011977, 9903897885
E-mail : manakpublications@gmail.com





ISBN: 978-93-91342-06-7

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

**MICROBES FOR CLEAN
AND GREEN
ENVIRONMENT**

Volume - 2

**Dr. P. Saranraj
Dr. M. Manigandan
Dr. Glaucio Feliciano Dire**





ISBN: 978-93-91342-73-9

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaijadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2022

PHARMACOLOGY OF *Ficus benjamina*

First Edition

**V. Durga Devi
M. Manigandan
P. Saranraj**



**JPS Scientific Publications,
India**



Manathidam Pesu : Psychological and Life Related Articles

J Sunil

★ ★ ★ ★ ★ 0.00 0 ratings - 0 reviews

Psychological and Life related Articles, self motivational thoughts

122 pages, Kindle Edition

Published November 9, 2023

This edition

Format	122 pages, Kindle Edition
Published	November 9, 2023 by Panmuga medai, Theni
ISBN	9788194810766 (ISBN10: 8194810760)
Language	Tamil

Want to read

Kindle \$1.32



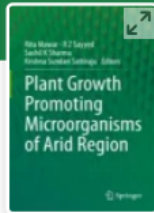
Plant Growth Promoting Microorganisms of Arid Region pp 389–421

[Home](#) > [Plant Growth Promoting Microorganisms of Arid Region](#) > Chapter

Symbiotic Effectiveness of *Rhizobium* Strains in Agriculture

[P. Saranraj](#), [R Z Sayyed](#), [P. Sivasakthivelan](#), [M. Kokila](#), [Abdel Rahman Mohammad Al-Tawaha](#), [K. Amala](#) & [Humaira Yasmin](#)

Chapter | [First Online: 26 February 2023](#)



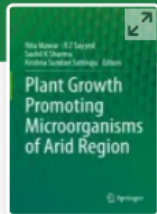
Plant Growth Promoting Microorganisms of Arid Region pp 365–388

[Home](#) > [Plant Growth Promoting Microorganisms of Arid Region](#) > Chapter

Evolving Concepts of Biocontrol of Phytopathogens by Endophytic *Pseudomonas Fluorescence*

[P. Saranraj](#), [R Z Sayyed](#), [M. Kokila](#), [V. Salomi](#), [P. Sivasakthivelan](#), [M. Manigandan](#) & [Ritu Mawar](#)

Chapter | [First Online: 26 February 2023](#)



Plant Growth Promoting Microorganisms of Arid Region pp 423–455

[Home](#) > [Plant Growth Promoting Microorganisms of Arid Region](#) > Chapter

Inoculant Production and Formulation of *Azospirillum* Species

[P. Sivasakthivelan](#), [P. Saranraj](#), [R Z Sayyed](#), [K. Arivukkarasu](#),
[M. Kokila](#), [M. Manigandan](#) & [Sonia Seifi](#)

Chapter | [First Online: 26 February 2023](#)



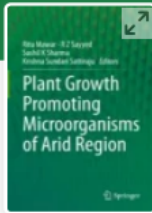
Plant Growth Promoting Microorganisms of Arid Region pp 389–421

[Home](#) > [Plant Growth Promoting Microorganisms of Arid Region](#) > Chapter

Symbiotic Effectiveness of *Rhizobium* Strains in Agriculture

[P. Saranraj](#), [R Z Sayyed](#), [P. Sivasakthivelan](#), [M. Kokila](#), [Abdel Rahman Mohammad Al-Tawaha](#), [K. Amala](#) & [Humaira Yasmin](#)

Chapter | [First Online: 26 February 2023](#)



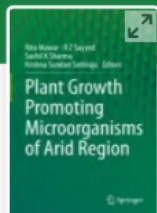
Plant Growth Promoting Microorganisms of Arid Region pp 365–388

[Home](#) > [Plant Growth Promoting Microorganisms of Arid Region](#) > Chapter

Evolving Concepts of Biocontrol of Phytopathogens by Endophytic *Pseudomonas Fluorescence*

[P. Saranraj](#), [R Z Sayyed](#), [M. Kokila](#), [V. Salomi](#), [P. Sivasakthivelan](#), [M. Manigandan](#) & [Ritu Mawar](#)

Chapter | [First Online: 26 February 2023](#)



Plant Growth Promoting Microorganisms of Arid Region pp 423–455

[Home](#) > [Plant Growth Promoting Microorganisms of Arid Region](#) > Chapter

Inoculant Production and Formulation of *Azospirillum* Species

[P. Sivasakthivelan](#), [P. Saranraj](#), [R Z Sayyed](#), [K. Arivukkarasu](#),
[M. Kokila](#), [M. Manigandan](#) & [Sonia Seifi](#)

Chapter | [First Online: 26 February 2023](#)



ISBN: 978-93-95967-25-9

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2023

PGPR for Tomato Cultivation

First Edition

**N. Mathan
P. Saranraj
A. R. Deborah
K. Gayathri**



**JPS Scientific Publications,
India**



ISBN: 978-93-95967-21-1

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2023

PHARMACOLOGY OF ESSENTIAL OILS

First Edition

**B. Anitha
P. Saranraj
R. Nisha
A. Pavalan**



**JPS Scientific Publications,
India**



ISBN: 978-93-95967-18-1

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2023

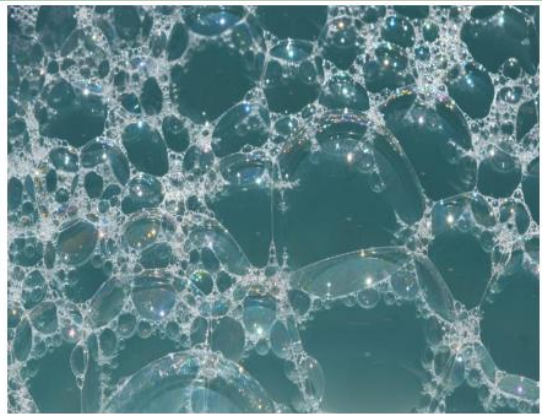
**SEASONAL VARIATIONS
AND DRINKING WATER
QUALITY**

First Edition

**A. R. Deborah
P. Saranraj
N. Mathan**



**JPS Scientific Publications,
India**



ISBN: 978-93-95967-23-5

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2023

Substrates for Biosurfactants Production

First Edition

**A. Sudha
P. Saranraj
T. M. Sadiqua Jabeen
P. Rithika**



**JPS Scientific Publications,
India**



ISBN: 978-93-95967-24-2

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpssciencepublications.com
E-mail: jpssciencepublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpssciencepublications2023

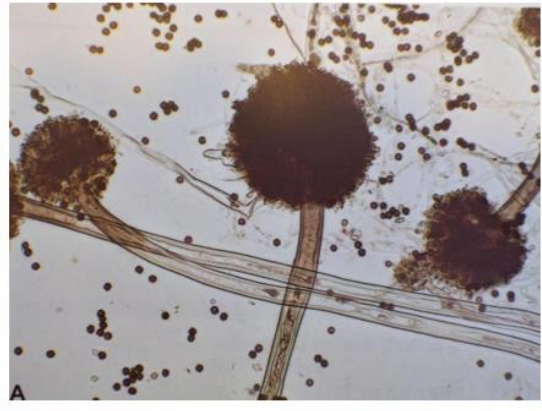
FUNGAL DEGRADATION OF POULTRY FEATHERS

First Edition

**R. Jayapriya
P. Saranraj
D. Vigneshwari
V. Salomi**



**JPS Scientific Publications,
India**



Fungal Melanin Production

First Edition

**V. Salomi
P. Saranraj
R. Jayapriya**

ISBN: 978-93-95967-22-8

Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

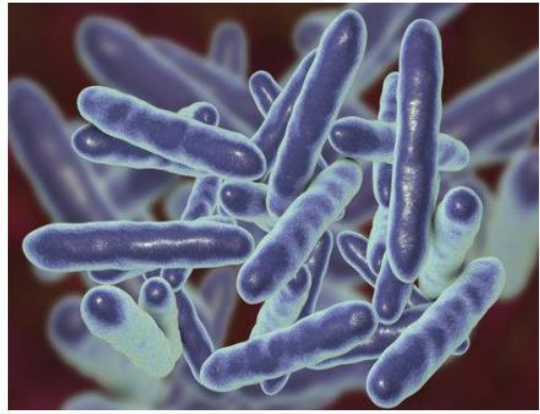
Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2023



**JPS Scientific Publications,
India**



**Efficacy of Marine
Actinobacteria against
*Mycobacterium
tuberculosis***

First Edition

**R. Nisha
S. Kaviya
R. Soundarya
P. Saranraj
K. Vijay**

ISBN: 978-93-95967-27-3

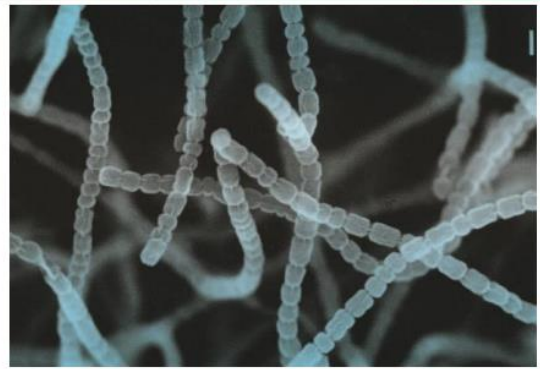
Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

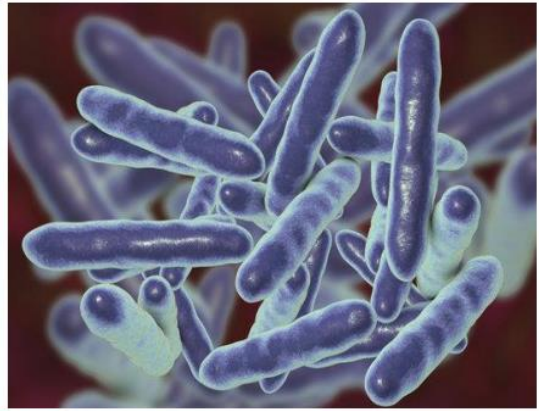
Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2023



**JPS Scientific Publications,
India**



**Efficacy of Marine
Actinobacteria against
*Mycobacterium
tuberculosis***

First Edition

**R. Nisha
S. Kaviya
R. Soundarya
P. Saranraj
K. Vijay**

ISBN: 978-93-95967-27-3

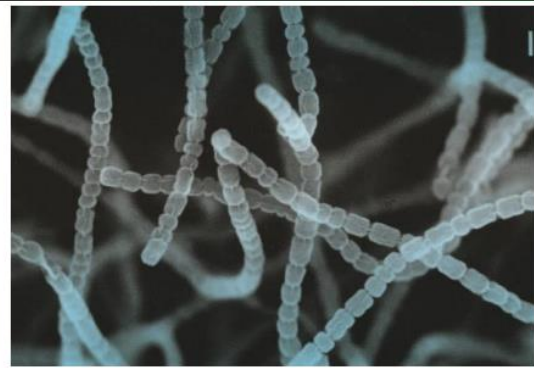
Publisher Address

Dr. P. Saranraj
JPS Scientific Publications,
Periya Olaipadi, Tamil Nadu, India – 606 754.
www.jpsscientificpublications.com
E-mail: jpsscientificpublications@gmail.com

Printers Details

Vel Printers,
Chidambaram – 608 001,
Tamil Nadu, India.

Copyright@jpsscientificpublications2023



**JPS Scientific Publications,
India**