



# Proceedings of National Seminar on Recent Innovations in Health & Life Science Research (RIHLSR-2023)

**DEPARTMENT OF ZOOLOGY & BIOCHEMISTRY**

Kakatiya University,  
Warangal-506009 Telangana, India



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Dr. Estari Mamidala

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**Proceedings of  
NATIONAL SEMINAR ON RECENT  
INNOVATIONS IN HEALTH &  
LIFE SCIENCE RESEARCH  
(RIHLSR-2023)**



# **NATIONAL SEMINAR ON RECENT INNOVATIONS IN HEALTH & LIFE SCIENCE RESEARCH (RIHLSR-2023)**



**24-25 February 2023**



## **ABSTRACTS BOOK**

*Organized by*



**DEPARTMENT OF ZOOLOGY & BIOCHEMISTRY**  
Kakatiya University, Warangal-506009 TS, India

**Proceedings of  
NATIONAL SEMINAR ON RECENT INNOVATIONS IN HEALTH &  
LIFE SCIENCE RESEARCH  
(RIHLSR-2023)**

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## **PREFACE**

The ability to overcome career stagnation by moving on to the next level and progressing is perhaps the biggest difficulty for professionals active in the Life Sciences and Health Research. The difficulty arises in the fact that the majority of professionals struggle to learn current knowledge and learn more about the most recent developments in their industry. This is due to the dearth of venues and trustworthy sources that disseminate such information and contemporary competence. Participants in life sciences conferences have transformed their careers and achieved extraordinary success, according to more accomplished professionals, academics, and others working in the life sciences and health research fields.

Life Science and Health Research is essential for improving global health, and economic development. The primary purpose of the seminar is to explore the existing concepts, recent findings and challenges in all avenues of life sciences and health research. It is an interdisciplinary event that invites participants from various Universities, research institutes, industries to share their research experiences and exchange ideas on Life Sciences, Environmental and Health Research.

Modern biological research advancements are surrounded by a number of social, economic, and environmental challenges in an age of globalization and urbanization. Hence, to address today's pressing issues, such as climate change and water scarcity, the threat to biodiversity, grave implications for human health, emerging and pandemic illnesses, etc., life sciences research must apply both new and existing knowledge. The seminar aims to serve as a forum for the exchange of knowledge, firsthand accounts, and personal viewpoints regarding recent developments in the fields of life sciences and health research as they relate to human welfare. The content of the book has been written for beginners to advance them to professional level in life sciences and medical research. ISBN: 978-93-5780-733-3 RIHLSR-2023

- *Dr. Estari Mamidala*



**Prof. Thatikonda Ramesh**  
M.A., M.Phil., Ph.D.  
Vice-Chancellor



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## MESSAGE

I am extremely happy to know that the Departments of Zoology and Biochemistry are jointly organizing a two-day National Seminar on "Recent Innovations in Health & Life Science Research" during February 24-25, 2023, at Warangal, Telangana State, India.

This seminar is of great significance in the current scenario where the world is facing unprecedented health crises, and academic activities like this play a crucial role in identifying innovative solutions for such issues. The option between an inclusive society centered on health issues that affect the most vulnerable people and a growing marginalization of those who bear the brunt of these issues from the means to change their position may serve as a paradigm for health in the twenty-first century. It is vital to address this issue, and this seminar provides an opportunity to discuss and deliberate on such challenges.

The seminar aims to bring together domain experts, researchers, scientists, professors, business representatives, postdoctoral fellows, students, and all those who are interested in the area of life sciences and health research innovations. The discussions will focus on recent innovations in health and life science research, and participants will have the opportunity to report on, share, and discuss scientific questions, successes, and difficulties in this area.

I understand that the seminar will cover specific issues related to the topic, such as new genetic discoveries, infectious diseases, chronic diseases, and the impact of environmental factors on health. The deliberations will help to identify innovative solutions and practical strategies to address such issues. The seminar will also provide an opportunity for students and postdoctoral researchers to showcase their investigations into life sciences and health research.

I am confident that the seminar will be fruitful and fulfilling, and the discussions and deliberations will contribute significantly to the academic community and society at large.

  
**Prof. Thatikonda Ramesh**  
Vice-Chancellor



## MESSAGE

I am happy to learn that Department of Zoology & Biochemistry organizing the two-day National Seminar on “Recent Innovations in Health & Life Science Research” during February 24–25, 2023 at Kakatiya University, Warangal, to emphasize the recent explorations in Life Science and Health Research.

The dissemination and implementation science community has learned over the past few years how critical it is to take an equity perspective, address social determinants of health, and address the overlap between life sciences and health research as well as the influences and impacts of other societal sectors. As a result, multisectoral collaborations are becoming increasingly important in dissemination and implementation science. The event's last theme, Broadening Horizons for Impact: Integrating Multisectoral Approaches into Research and Development, centred on the Science of Dissemination and Implementation in Health.

Health is the one area where this is most obvious. Disease has little regard for national borders, as is well known, and the quick spread of several new and re-emerging illnesses, such as AIDS, drug-resistant malaria, and tuberculosis, has once again highlighted our interdependence – and vulnerability – in the face of these international challenges. The human genome project, innovative technologies that have accelerated the development of drugs and vaccines, and the critical evaluation frameworks that are now available to assess the effectiveness of national health systems and health reform initiatives all hold the promise of more effective prevention, management, and treatment for a variety of serious health issues.

As a result, RIHLSR-2023 is undergoing significant changes, and virtually all branches and fields of cutting-edge life sciences and health research are being affected by a technology hype.

In order to debate and raise awareness about the latest developments in the life sciences and health research, I am looking forward to welcoming all of the speakers, students, researchers, scientists, and delegates to this event.

**Prof. T. SRINIVASA RAO**  
Registrar,  
Kakatiya University





## **MESSAGE**

On behalf of the Faculty of Science, Kakatiya University, I am delighted to welcome all the participants to RIHLSR-2023, which is supposed to be interplay between the researchers in academics and practitioners in health care domain. It has been a honour and privilege to serve as Vice Patron for this seminar.

It is interesting to note that one of the themes is Bioinformatics and Computational Biology which is so important in the sense it has been trying to replace destructive research procedures. Highlight of this seminar is that the Organizers are bringing the Proceedings of full length papers which will be a guide for startup researchers.

I thank speakers, resource persons, reviewers, and sponsors. Above all, I am grateful to Organizing Committee for making this conference a success.

**Prof. P.MALLA REDDY**

Dean, Faculty of Science  
Kakatiya University



## **MESSAGE**

I am extremely delighted to know that the Department of Zoology & Biochemistry is organizing the two-day national seminar on “Recent Innovations in Health & Life Science Research” with the focused themes on various thought-provoking topics.

The seminar is a right step in creating an appropriate platform to address various pertinent aspects of health and life science research. The next-generation mRNA vaccines will be breakthrough in technology that will change the scenario of healthcare. Recent COVID-19 pandemic demonstrated that the world needed rapid development of a vaccine that can be easily deployable around the globe. This type of game changing advancements in technology can play a vital role in wiping off the most challenging diseases from the face of the Earth. Advances in AI and machine learning are bringing us to a new stage of technological progress and innovation in the fields of pharma, healthcare, and life science research.

Big data and AI are helping scientists and researchers develop breakthrough treatments faster, and at a much lower cost. This will bring about an overall change in the modern healthcare system. I am sure that the deliberations and suggestions in this seminar by the fraternity of life sciences, Pharmacy, medical research, Bioinformatics, and other allied fields will pave way for the advancement of health & life science research. I congratulate the organisers for holding the much desired seminar and wish the RIHLSR2023 a grand success.

**Prof. R. MALLIKARJUNA REDDY**  
**Co-ordinating officer**  
**UGC-Unit, Kakatiya University**



## **MESSAGE**

Congratulations to the Department of Zoology, Kakatiya University, Warangal, for organising a Two-Day National Seminar on "Recent Innovations in Health and Life Science Research (RIHLSR-2023) during 24-25 February 2023.

Health is a state of complete physical, mental and social well-being. For a healthy life cycle, a person must have a balanced lifestyle. India is drawing the world's attention to its prevailing and emerging health profile and profound political, economic, and social transformations. Recently we all experienced that COVID-19 is not only a global pandemic and public health crisis; it has also severely affected the global economy, including reductions in income, a rise in unemployment, and disruptions in various sectors and industries, which are among the consequences of the disease mitigation measures that have been implemented in many countries.

RIHLSR-2023 provides an excellent opportunity to meet distinguished scholars and experts and exchange new ideas and thoughts to establish academic relationships for future research.

On this occasion, I wish that the Two-day National Seminar, RIHLSR-2023 be a great success in its venture and hope that the outcome of the deliberations is fruitful.

**Prof. B. SURESH LAL**

Principal &  
Professor of Economics  
Kakatiya University



## **MESSAGE**

It gives me a great pleasure to know that the Department of Zoology and Biochemistry, Kakatiya University is organizing a National Seminar on Recent Innovations in Health and Life Science Research from 24th to 25th February, 2023. The multidisciplinary nature of the seminar enables the participants to learn about recent innovations right from the basic life sciences, pharmaceutical sciences, to advanced sciences such as stem cells and cancer research and novel therapeutic techniques. I hope it also highlights the importance of technology and its influence in the development of healthcare and medicine. I am sure that RIHLSR-2023 addresses advances in health and life science research through key-note presentations as well as discussions on various aspects.

I am confident that this event will be stimulating and productive through the deliberations which will give insights into the novel strategies. Personally, I hope that participants will not only enjoy it, but also can enrich by learning about more advanced developments in the field of health and life science.

I congratulate the organizing team from Zoology and Biochemistry for planning to conduct this seminar and wish the seminar a grand success

**Prof. Y. PRAMEELA DEVI**

Former Dean.

Faculty of Science, Kakatiya University





## **MESSAGE**

I am very much happy to note the Department of Zoology and Department of Biochemistry of a Kakatiya University are jointly organizing two days National Conference on Recent Innovations in Health & Life Science Research during 24th and 25th February, 2023.

Recent innovations in health and life sciences a popular and catchy word being used by all Medical Sciences, Life Sciences, Pharmaceutical industry on the mother earth. It play unique role in the health sciences in the nature and forms a foundation for the Pharmaceutical industry for sustainable development.

The National seminar on Recent Innovations in Health & Life Science Research which is being organized become more important and relevant in the present day context of health sciences.

I am confident that the delegates, scholars, critics, students and academicians who participates in the event will pit their mind together during deliberation and arrive at a concrete conclusions which will pay a way for the development in Pharmaceutical industry foe the benefit of society and academic fraternity in particular.

I would like to congratulate the Head of the Department and staff of the Department of Zoology, Kakatiya University for organizing this National Seminar which is relevant to the present day context. I wish the National Seminar a grand success and extend my wishes and success to all participants in their future endeavors.

**Prof. T. RAVINDER REDDY**

Former Dean.  
Faculty of Science, &  
Former Principal of University College,  
Kakatiya University



## **ABOUT THE UNIVERSITY**

Kakatiya University was established on 19th August, 1976 with the upgradation of the erstwhile Post-Graduate Centre of Osmania University. The University was established primarily to fulfill the aspirations of the Telangana people for higher education.

Kakatiya University has 24 Departments with a network of 18 constituent colleges and about 529 affiliated colleges. It has Post-Graduate Colleges at Subedari (Hanamkonda), Khammam, Jangaon, Jayashankar Bhoopalpally, Mahabubabad and University Engineering College at Kothagudem. Among the affiliated colleges, the University has 395 Arts & Science; 3 Law; 8 Engineering; 53 Education; 38 Management; 8 MCA and 24 Pharmacy colleges under its jurisdiction.

The Kakatiya University was first accredited with B+ grade in the year 2003. The University was subsequently re-accredited with 'A' grade in 2009 and 2017. It occupied 38th position in national level rankings by India Today-Nielsen Survey. Kakatiya University established Memorandum of Understanding (MoU) with several universities and research institutes for collaborative research.

Kakatiya University crossed the milestone of forty years and is poised to achieve greater academic excellence with dedication and commitment in the years to come.



## **ABOUT THE DEPARTMENT**

The Department of Zoology was established in the year 1968 as PG Centre under Osmania University, Hyderabad. Later, it was shifted to the existing campus in 1973 as a full-fledged Department, with spacious classrooms, laboratories for students and research labs for faculty members in addition to museum, library and state-of-the-art Conference Hall, Computer Lab with internet facility, all housed in a built area of about 15,000 sft and Laboratory space of about 8,000 sft. Since then it is flourishing into a quality education centre for the students and research scholars in the subject ZOOLOGY.

The Department of Biochemistry was established in 2005 bifurcating the subject from the Chemistry department. Bio-chemistry was one of the optional papers in M.Sc. course and realizing the potential for this subject, the M.Sc. Bio-Chemistry course was started in 1999 under self-finance Scheme. It has all the necessary equipment to carry out practical class work and the faculty is putting efforts in research.

The both the Departments has well equipped laboratories, advanced research facilities. The Department does exceedingly well in the fields of higher education and research and also establishes the thrust areas like physiology, Enzymology, Seri-biotechnology, Infectious Diseases, Metabolic Disorders, Bioinformatics, Computational Biology, Environmental Biology and Entomology.



## **ABOUT THE SEMINAR**

Health is a crucial factor in national prosperity. Life Science and Health Research is essential for improving global health, health equity and economic development. The primary purpose of the seminar is to explore the existing concepts, recent findings and challenges in all avenues of life sciences and health research. RIHLSR-2023 is an interdisciplinary event that invites participants from various Universities, research institutes, industries and diagnostic health centers to share their research experiences and exchange ideas on various aspects of Life Sciences, Medical, Environmental and Health Research. This seminar also provides an opportunity to communicate with leading scientists, researchers, academicians and students from all around the India with the following themes:

- Life Sciences  
(Zoology, Botany, Biochemistry, Microbiology, Biotechnology and Ecology)
- Pharmaceutical biotechnology
- Medical research and ethical issues
- Drug discovery, trials, and development
- Toxicity studies
- Novel therapeutic techniques
- Stem Cells and Cancer Research and Treatment
- Bioinformatics and Computational Biology
- Public Health and Sanitation
- Healthcare technology and Research
- Natural, Environmental and Health Sciences





**ORGANISING COMMITTEE**

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**Prof. T. SRINIVASA RAO**  
Registrar, Kakatiya University

*Vice-Patron*

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Principal, University College, KU

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Coordinating Officer, UGC Unit, KU

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Dr. K. Madhukar Rao  
Dr. M. Shashikala

**PROGRAM SCHEDULE**

<b>Day-1: February 24, 2023 (Friday)</b>		
9.30-10.00 am	Registration	
10.00-11.00 am	Inauguration & Opening Remarks	
11.00-11.45 am	Keynote Lecture	<b>Prof. Anita Jagota</b> Department of Animal Biology, University of Hyderabad, Hyderabad
11.45-12.15 pm	Invited Lecture-1	<b>Dr. K. Rajender Rao</b> ICMR-National Institute of Nutrition, Hyderabad
12.15-12.30	Tea Break	
12.30-1.00 pm	Invited Lecture-2	<b>Dr. Perugu Shyam</b> National Institute of Technology, Warangal
1.00-2.00 pm	Lunch	
2.00-3.30 pm	Oral Presentations-I	at Seminar Hall (Nos.1-8)
	Oral Presentations-IA	at Lab of First Floor (Nos.22-29)
	Online Presentations-1	Online (Nos.1-12)
3.30-3.45 pm	Tea Break	
3.45-5.00 pm	Oral Presentations-II	at Seminar Hall (Nos.9-14)
	Oral Presentations-IIA	at Lab of First Floor (Nos.30-37)



<b>Day-2: February 25, 2023 (Saturday)</b>		
10.00-10.30 am	Invited Lecture-3	<b>Prof. Sreenivasa Rao P</b> NIT, Warangal
10.30-11.00 am	Invited Lecture-4	<b>Prof. Vijaya Kumar</b> Kakatiya University
11.00-11.30 am	Invited Lecture-5	<b>Dr. J. Kotesb Kumar</b> CSIR-CMAP, Hyderabad
11.30-11.45 am	Tea Break	
11.45-1.00 pm	Oral Presentations-III	at Seminar Hall (Nos.15-21)
	Oral Presentations-IIIA	at Lab of First Floor (Nos. 38-46)
	Oral Presentations-IIIB	At Lab of Ground Floor (Nos.47-58)
1.00-2.00 pm	Lunch	
2.00-3.30 pm	Poster Presentations	at Corridor of 1 <sup>st</sup> Floor (Nos.1-30)
	Online Presentations-2	Online (No.12-22)
3.30-4.00 pm	Valedictory Session	at Seminar Hall

**KEY NOTE ADDRESS****CIRCADIAN RHYTHMS AND THEIR IMPACT ON HEALTHY AGEING  
AND LONGEVITY****Anita Jagota**

*Neurobiology and Molecular Chronobiology Laboratory,  
Department of Animal Biology, School of Life Sciences,  
University of Hyderabad, 500046, India*

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The circadian timing system (CTS) consists of Suprachiasmatic nucleus (SCN), biological clock localised in hypothalamus which perceives the photic cues and regulates the rhythmic production and release of melatonin (messenger of darkness) from pineal gland regulating internal rhythm of the individual through complex molecular feedback loops. The circadian clock that regulates these rhythms is dynamic throughout the lifespan of mammals. Aging is associated with changes in several regulatory mechanisms responsible for age-related changes in CTS. The circadian output from the SCN may decline with age due to the disorganization of the neural circuit within the SCN. Disturbances in the circadian rhythms cause a breakdown in the homeostatic balance. Such disruptions in normal circadian rhythms and sleep cycles affects aging and profoundly affect health thus leading to sleep disorders, metabolic and behavioural disruptions resulting in variety of diseases. Although several factors contribute to these changes, emerging research suggests age-related modifications to the CTS is the key factor resulting in sleep disorders, cancer, metabolic, cardiovascular and neurodegenerative diseases like PD, AD, HD, ALS, dementia etc.

My laboratory's focus is to understand underlying mechanisms in the age induced stoichiometric alterations in interactomes of daily chronomics in neurodegenerative changes in the functional integrity of CTS, daily rhythms in various physiological, biochemical and molecular parameters. Due to increase in life span in 21<sup>st</sup> century, there is a pressing need to understand therapeutic interventions towards targeting novel treatments for circadian dysfunction, good health and longevity.





## **INVITED LECTURES**





**INVITED LECTURE-I**

**NON-COMMUNICABLE DISEASES AND OBESITY  
(DIET GENE INTERACTION)**

**K. Rajender Rao, Swathi B, Anuradha R, Srinivas M, Anitha P and  
Satyavani M**

*Molecular Genetics Laboratory, ICMR-National Institute of Nutrition,  
Hyderabad -500007*

Non-communicable diseases (NCDs), also known as chronic diseases, tend to be of long duration and slow progression are the result of a combination of genetic, physiological, environmental and behavioural factors which are the major cause of adult mortality and morbidity worldwide. People of all age groups, regions and countries are affected by NCDs and driven by rapid unplanned urbanization, globalization of unhealthy lifestyles and population aging. Further, unhealthy diets, lack of physical activity and metabolic changes leads to raised blood pressure, overweight/obesity, hyperglycemia, and hyperlipidemia. Prevention, control and management of NCD are way forward by reducing the risk factors associated with effective health education, professional counselling and free health care etc., can be effective in controlling rising non communicable disease globally. Understanding of the burden of the most common NCDs, associated factors and appropriate health interventions before, during and after pregnancy, and through childhood to adolescence, can significantly reduce their prevalence. An unhealthy diet and reduced physical activity have increased risk for obesity leading to adverse metabolic effects.

Obesity is a complex, heritable trait and the most common factor related to NCDs leads to millions of deaths worldwide. Obesity is reaching epidemic levels in both developed and developing countries. It is one of the most challenging global nutritional problems prevalent over the last two decades, eclipsing infectious diseases and under-nutrition as a significant mortality and ill-health contributor. Prevention and control of nutritional disorders and obesity is the only way to overcome this burden.

Obesity combined with increased Body Mass Index (BMI) results in some non-fatal but incapacitating health problems such as respiratory difficulties, chronic musculoskeletal problems, skin problems and infertility but most significantly



results in four main areas of life threatening health problems. Obesity is epitomized by excess adipose tissue accumulation resulting from an imbalance in energy intake and energy expenditure. Understanding of the various dimension of obesity which is chronic but slow growing non-infectious pathology of body organization is need of the hour. Further to explore the interplay of genetics, epigenetics, metagenomics and the environment, it is an attempt to study diet gene interaction (epigenetics) in the development/pathogenesis of obesity by deciphering the role of nutrition interventions which are essential in managing the risk of NCD-Obesity.

**INVITED LECTURE-II****PHYTOCHEMICALS AND ITS ROLE IN TREATMENT OF BREAST  
CANCER**

Perugu Shyam

*Assistant Professor, Department of Biotechnology, NIT Warangal.*

Phytochemical supplementation can benefit human health through supplying specific bioactive compounds which have preventive role in numerous diseases. These phytochemicals often act via regulating molecular pathways which are implicated in growth and progression of cancer. Flavonoids are the most common phytochemicals that provide anticancer, anti-inflammatory, antimicrobial, antioxidant, wound-healing activities, carcinogen inactivation, inhibiting proliferation, induction of cell cycle arrest and apoptosis; and regulation of the immune system. Despite numerous reports of these phytochemical effects on cancer, an overview of the mechanisms of their action and their effects on various cellular and molecular functions important in the inhibition of cancer progression has been lacking. Our studies to examine the effect of phytochemicals in cancer initiation, promotion, signalling, and epigenetic changes.

Phytochemicals hold great anti-cancer potential to improve breast cancer survival. Isolated and FDA-approved phytochemical chemotherapeutic agents demonstrate efficacy in the treatment of breast cancer, with specific promise for the treatment of metastatic breast cancer. These phytochemicals demonstrate cell cycle and mitochondrial targets in their mechanisms of action. In this presentation, we are going to discuss about the Isolation and characterization of plant compounds and FDA approved drugs and their role in treating the cancer.

**INVITED LECTURE-III****BIOREACTOR DEVELOPMENT FOR STEM CELL DIFFERENTIATION**

Sreenivasa Rao Parcha

*Department of Biotechnology  
National Institute of Technology, Warangal - 506004, Telangana, INDIA*

Tissue engineering has widely progressed from the field of biomaterials, where a combination of implants, Stem cells, and biological molecules gives rise to 3D functional tissue constructs. These constructs restore and improve damaged tissues or whole organs. The success stories of artificial grafts hold for the smaller skin and cartilage implants; however, cures for complex, often chronic diseases are a distant goal to be achieved. The development of successful bone grafts is one of the many medical applications of bone tissue engineering. Bioreactors provide the microenvironment needed for neo-tissue regeneration and can also be used to investigate the physio-chemical cues that influence stem cell proliferation and differentiation in order to produce functional tissue. In this direction, various bioreactors have been developed and evaluated for the successful development of engineered bone tissue. Continued assessment of tissue development and the limitations of the bioreactors leads to the progression of the perfusion flow bioreactor system.

Improvements in the perfusion reactor system allowed for the production of multiple tissueengineered constructs with uniform stem cell distribution, simple protocols, and the ability to effectively handle functional tissue development in order to meet the demand for engineered grafts in clinical applications.





**INVITED LECTURE-IV**

**ENERGY BALANCE, LIFE STYLE AND DIABETES**

N. Vijaya Kumar

*Retired Professor*

*Department of Zoology, Kakatiya University, Warangal-506009, Telangana, India*

Food is important for the survival of man. It supplies energy for maintenance, growth and physiological activities. If energy consumed exceeds the utilization, is stored as fat. Excess storage of fat leads to obesity which is the root cause of many diseases. Diabetes mellitus is one of the diseases caused by obesity. The role of hormones induce and inhibit hunger, and regulate the blood glucose level are discussed with reference to diabetes mellitus. The effects of diabetes and measures to regulate the disorder are described

**INVITED LECTURE-V****VALUE ADDITION OF PLANT METABOLIES AS POTENTIAL  
MEDICINAL AGENTS****Dr. J. Kotesch Kumar***Sr. Principal Scientist  
CSIR-CIMAP, Research Center, Boduppal-Hyderabad***[koteschkumarj@cimap.res.in](mailto:koteschkumarj@cimap.res.in)**

Ayurveda is a age old Indian traditional health care document mainly described usage of different herbs in different combinations and forms to cure almost all the diseases occurring to human as well as to animals. A little of these documented Ayurvedic knowledge was understood and executed so far and a lot more it is still unexplored. Today scientific community, around the world, is busy exploring plant wealth towards mitigating diseases in diversified ways. CSIR-Central Institute of Medicinal and Aromatic Plants is India's unique laboratory working on the all-round development of MAP's for the economic upliftment of rural farmer, entrepreneur and industry. The institute has developed lot of breeding varieties in MAP's and conducted several extension programs to disseminate its technologies to the far reaching villages of the country. Our group at CSIR-CIMAP, Research Center Hyderabad has devised a novel way of synthesizing hybrid molecules by connecting known pharmacophores to the potential plant bioactives like Andrographolide, Forskolin, Arjunolic acid etc., to generate potential anticancer, anti-diabetic and hypolipidemic agents. Introduction of some well-known Medicinal and Aromatic plants with their chemistry, CSIR-CIMAP's scientific development and some of the significant research activity will be the broad content of the talk.



## **ORAL PRESENTATIONS**





<b>ORAL PRESENTATIONS-I (No.1-8)</b>		
Day-1: 24-02-2023 Time: 2.00-3.30 pm; Venue: Seminar Hall		Session Chair : <b>Prof. G. Shamitha</b> <b>Prof. Mohd Mustafa</b>
<b>S.No.</b>	<b>Name</b>	<b>Title</b>
1	M. VENKATESWARA RAO	"ELECTROPHORETIC BANDING PATTERNS OF ESTERASE ISOZYMES IN FRESH WATER FISH LABEO ROHITA"
2	DR. REGA RAMESH	A STUDY ON BUTTERFLY DIVERSITY IN MUKTHIVANAM FOREST PARK, TELANGANA, INDIA.
3	DR. MANIKANDAN ALAGUMUTHU	"MARINE MANGROVE ACTINOBACTERIA DERIVED SECONDARY METABOLITES APOPTOSIS INDUCING METABOLITES"
4	G.RENUKA	EFFECT OF SPERMIDINE TO ENHANCE THE SILK PRODUCTION OF TASAR SILKWORM, ANTERAEA MYLITTA (DABA TV)
5	DR. GUNASWETHA KURAGANTI	"ASSESSMENT OF FRESH WATER CYANOBACTERIA'S BIOACTIVE SUBSTANCES' ANTIBACTERIAL AND CYTOTOXIC PROPERTIES"
6	BUCHIPAL REDDY RAJIDI	"SUPPRESSION OF FERTILITY IN MALE ALBINO RATS FOLLOWING THE ADMINISTRATION OF PIPER LONGUM CRUDE EXTRACTS"
7	SWAMY U	EFFECT OF POLYAMINES ON FECUNDITY TRAIT OF TASAR SILKWORM, ANTERAEA MYLITTA (DABA BV)
8	K. SAROJINI CHAKRAVARTHY	"BENEFICIAL EFFECTS OF TRICHODERMA SECONDARY METABOLITES IN AGRICULTURE"



ORAL PRESENTATIONS-II (No.9-14)		
Day-1: 24-02-2023 Time: 3.45-5.00 pm; Venue: Seminar Hall		Session Chair : <b>Prof. Y. Venkaiah</b>
S.No.	Name	Title
9	DR. ARUN KUMAR AMBASTHA	IMPACT OF WHEAT FLOUR IN GLUTEN PROTEIN AND TOXICITY ON MAN AND RELEGIOUS FISHES CAUSED CELIAC DIESEAS.
10	LAXMI T	"MICROPLASTIC CONTAMINATION: A CASE STUDY IN THE FRESHWATER OF KRISHNA RIVER
11	A.MADHURI / RAMBABU	"MULTIDRUG RESISTNACE - MODERN DIAGNOSTIC TOOLS AND PREVENTION STRATEGIES"
12	NARSAIAH SHIVAKOTI	"BIOCHEMICAL INVESTIGATIONS ON THE IN VITRO EFFECT OF PRAZIQUANTEL ON ACETYLCHOLINE ESTERASE OF THE CATTLE PARASITE PARAMHISTOMUM EPICLITUM"
13	VENKANNA LUNAVATH	ISOLATION OF BIOACTIVE MOLECULE FROM ECLIPTA ALBA PLANT LEAVES EXTRACT
14	P. ROHINI	"IMPACT OF THE DRUG DICLOFENAC ON THE MUSCLE TISSUE OF CHANNA PUNCTATUS"



<b>ORAL PRESENTATIONS-III (No.15-21)</b>		
Day-2: 25-02-2023 Time: 11.45-1.00 pm; Venue: Seminar Hall		Session Chair : <b>Prof. E. Narayana</b> <b>Prof. N. Prasad</b>
<b>S.No.</b>	<b>Name</b>	<b>Title</b>
15	RAJENDRA CHARY	ECOLOGY OF TROMBIDIUM (RED VELVET MITE) IN KARIMNAGAR DISTRICTS OF TELANGANA, INDIA
16	AJMEERA SHANTHRI	TOXICITY EVALUATION WITH CERTAIN NANO EMULSIONS AGAINST TRIBOLIUM ASATNEUM (COLEOPTERA:TENEBRIONIDEA)
17	PAVAN KUMAR GADE	BIOCHEMICAL ROLE OF OPH ENZYME FROM PESTICIDE DEGRADING BACTERIA THROUGH SCREENING AND OPTIMIZATION STUDIES FROM TOMATO FIELD OF TELANGANA REGION
18	KIRANMAI .DAGGULA	"NON PESTICIDAL MANAGEMENT - A NOVEL METHOD TO CONTROL SAP SUCKING PESTS IN BT COTTON CROP"
19	S. VARALAXMI	"PREPARATION AND EVALUATION OF GREEN SYNTHESIZED METAL NANOPARTICLES INFUSED CUBOSOME"
20	N. VENU	"MICROPLASTIC CONTAMINATION: A CASE STUDY IN THE FRESHWATER OF KRISHNA RIVER
21	RAGHUMA REDDY. J	<i>IN-SILICO</i> MOLECULAR DOCKING STUDIES OF CYMBOPOGON NARDUS COMPOUNDS AGAINST MALARIAL TARGETS OF PLASMODIUM FALCIPARUM





<b>ORAL PRESENTATIONS-IA (No.22-29)</b>		
Day-1: 24-02-2023 Time: 2.00-3.30 pm; Venue: Lab of First Floor		
<b>S.No.</b>	<b>Name</b>	<b>Title</b>
22	VANGA RAJANI	A CASE STUDY OF PHYSICO-CHEMICAL AND BIOLOGICAL PARAMETERS OF PLANKTON BIODIVERSITY AND FISH ABUNDANCE IN A FRESH WATER LAKE OF KARIMNAGAR DISTRICT, TELANGANA STATE, INDIA
23	MAMIDI RAMYA	POLYVINYL CHLORIDE (PVC) WITH GOOD PHYSICAL PROPERTIES AND GOOD BIOCOMPATIBILITY TO TISSUES INCLUDING BLOOD IS WIDELY
24	GUDIMALLA PRASHANTHI	PHYTO ESSENTIAL OILS FROM CYMBOPOGON FLEXUOSUS AND LAVENDULA OFFICINALES – ANTIBACTERIAL ACTIVITY AND EFFECT ON NUTRITIONAL AND ECONOMIC TRAITS OF MULBERRY SILKWORM, B.MORI
25	GANGALLA RAVI	DISCOVERING NEXT-GENERATION NATURAL ANTIBIOTICS OF MICROBIAL CONSORTIUM FROM POLLUTED SOIL
26	DR SATEESH SUTHARI	PHYTOREMEDIATION POTENTIAL OF PLANT INDICATOR SPECIES IN POLLUTED AQUATIC ECOSYSTEMS AND THEIR ROLE IN ENVIRONMENTAL CLEAN-UP
27	DR.CH.SRINIVASULU/ V RAVI SHANKAR/ G SRINIVAS KUMAR	PHYSICO CHEMICAL PARAMETERS OF PALAIR RESERVOIR, KHAMMAM, DISTRICT, TELANGANA



28	M.SUNANDA	"TOXICITY AND EFFECTS OF CHLORPYRIFOS IN A NON-TARGET ORGANISM"
29	KAMALA PAPAVATH	"EFFECT OF RICHMIN AND VANIMIN ON CARBOHYDRATE METABOLISM IN SELECTED FISH SPECIES - C. CATLA, L. ROHITA, C. MRIGALA"

**ORAL PRESENTATIONS-IIA (No.30-37)**

Day-1: 24-02-2023  
Time: 3.45-5.00 pm;  
Venue: Lab of First Floor

S.No.	Name	Title
30	DR. PORIKA RAJU	"GENOMIC SEQUENCING OF SARS-COV-2 IMPACT ON HUMAN IMMUNE SYSTEM"
31	RAJITHA TUNGANI	"RECENT STUDIES ON N2 FIXATION AND ISOLATION, CHARACTERIZATION OF NON-HETEROCYSTOUS CYANOBACTERIA"
32	LAKSHMI MAREPALLY	"FIELD EVALUATION OF THE EFFICIENCY OF PHEROMONE TRAPS AND MONITORING OF XANTHOPIMPLA PEDATOR INFESTATION"
33	V. SWAROOPA RANI	"FISH DIVERSITY WITH RESPECT TO THE ROTIFERA GROUP OF ZOOPLANKTON IN LOWER MANAIR DAM, KARIMNAGAR DIST"
34	MUMMADI NARSING RAO / J.VIJAYA KUMAR	"EFFECT OF INSECTICIDE, LESENTA ON RATE OF OXYGEN CONSUMPTION IN COMMON CARP (CYPRINUS CARPIO L.)"
35	G.SRINIVAS REDDY	EXPLORING THE ZOOPLANKTON DIVERSITY THROUGH METAGENOMIC ANALYSIS



36	LINGAKARI MAHESH	MURRAYA PANICULATA LEAF EXTRACTS LARVICIDAL EFFICACY AGAINST THE LARVAE OF AEDES VITTATUS (DIPTERA; CULICIDAE)
37	K. RAJKUMAR	"THE STUDY OF SEASONAL CHANGES OF ALKALINITY IN MATHADIVAGU DAM DISTRICT ADILABAD TELANGANA STATE"

**ORAL PRESENTATIONS-III A (No.38-46)**

Day-2: 25-02-2023  
Time: 11.45-1.00 pm;  
Venue: Lab of First Floor

S.No.	Name	Title
38	T.MAHESH	A STUDY OF PHYSICO CHEMICAL PROPERTIES OF MUPPALA LAKE, JAGTIAL DISTRICT.
39	DR.PATHI CHANDRASHEKAR	"SEASONAL VARIATION IN DISSOLVED OXYGEN OF POND WATER IN ANTARGAM VILLAGE., JAGTIAL MDL, JAGTIAL DIST, TELANGANA STATE"
40	PRIYANKA CHINTALA	"ANTI-DIABETIC ACTIVITY OF SELECTED MEDICINAL PLANT EXTRACTS USED BY TRIBALS IN THE ADILABAD DISTRICT OF TELANGANA STATE BY IN VITRO"
41	DUDIPALA RAVIVARMA	MORPHOLOGY, PHARMACOGNOSY & AMP; SILVICULTURE OF STRYCHNOS NUX-VOMICA & AMP; S.POTATORUM AND THEIR MEDICINAL IMPORTANCE IN TRADITIONAL SYSTEMS: A REVIEW
42	CHEKURI PADMAVATI	ISOLATION AND CHARACTERIZATION OF HUMAN HEPATIC STEM CELL



43	DUPSINGH.LAKAVATH	ALGAL BIODIVERSITY IN SELECTED FRESH WATER AQUATIC BODIES IN PAKAL LAKE
44	K. MADHUKAR RAO	ISOLATION OF RIBOFLAVIN-BINDING PROTEIN FROM THE HENS EGG-YOLK
45	B.VENKATA GOPINATH	CHARACTERIZATION OF ACTINOMYCETES PRODUCING NOVEL ANTIBIOTICS
46	PODETI KOTESHWAR RAO	"HISTOCHEMICAL ANALYSIS OF DNA AND RNA IDENTIFIED BY METHYL GREEN - PYRONIN 'Y' METHOD AND FEULGEN'S REACTION STAINING IN LIVER OF CHANNA PUNCTATUS"

**ORAL PRESENTATIONS-III-B (No.47-60)**

Day-2: 25-02-2023

Time: 11.45-1.00 pm;

Venue: Lab of Ground Floor

S.No.	Name	Title
47	MUNIPALLI PRAVEEN KUMAR	EVALUATION OF THERAPEUTIC EFFICACY AND UNDERSTANDING THE MODE OF ACTION OF A POLYHERBAL FORMULATION ON DIET-INDUCED OBESITY: IN VITR AND IN VIVO STUDIES
48	SWAPNA GURRAPU	SOCIO-ECONOMIC PROFILE ANALYSIS OF DAIRY FARMERS OF HANUMAKONDA DISTRICT OF PARKAL TOWN.
49	K. SHAILAJA	EFFECTS OF PESTICIDE USE IN AGRICULTURE AND ITS IMPACT ON HUMAN HEALTH
50	RAKESH DAVELLA	SCREENING OF ANTI-DIABETIC THERAPEUTICS FROM MEDICINAL PLANTS USING IN-SILICO MOLECULAR DOCKING SIMULATION



51	PUJALA SHIVAKRISHNA	MOLECULAR DOCKING OF PHYTOCHEMICALS FROM COSTUS IGNEUS AGAINST A-AMYLASE FOR ANTI DIABETIC ACTIVITY
52	BALAKRISHNA DHATRIKA	ANALYSIS OF NAGARAM LAKE PHYSIC CHEMICAL PARAMETERS AND ZOOPLANKTON DIVERSITY
53	T. RAJAMANI	THIOCYANATION OF AROMATIC AND HETEROAROMATIC COMPOUNDS USING TCICA AND THEIR PHARMACOLOGICAL ACTIVITY
54	S. MANJULA	“HEMATOLOGICAL METHODS IN FRESHWATER FISH OF CHANNA PUNCTATUS”
55	Mr.P.SRINIVAS	ISOLATION AND PURIFICATION OF RIBOFLAVIN BINDING PROTEIN FROM COMMON CRANE EGG (GRUS GRUS)
56	DR. KANEEZ FATIMA / DR. KUNTAMALLA SUJATHA	HEALTH PROBLEMS IN SILK INDUSTRIES - SAFETY MEASURES - A NEED OF THE HOUR
57	<b>BAKE SARITHA</b>	PREVALENCE OF ANEMIA AMONG THE TRIBAL PREGNANT WOMEN OF ADILABAD DISTRICT
58	<b>BODDIREDDY SRIDEVI</b>	“ECONOMICAL MASS PRODUCTION OF TRICHODERMA VIRIDE USING DIFFERENT FRUIT WASTES”
59	<b>P SURESH</b>	A STUDY ON ARACHNIDA GROUP OF SOIL MICROARTHROPODS IN HASANPARTHY MANDAL OF HANAMAKONDA DISTRICT
60	<b>NARESH BONAGANI</b>	QUICK IDENTIFICATION OF MAJOR ELEMENTS IN INDIAN TOAD PAROTOID GLAND SECRETIONS USING HPLC AND LC -MS

**ELECTROPHORETIC BANDING PATTERNS OF ESTERASE  
ISOZYMES IN FRESH WATER FISH *LABEO ROHITA***

M. Venkateswara Rao

*SR & BGNR Govt. Arts & Science College, Khammam, Telangana, India*

*Labeo rohita* is most preferred indigenous edible species in most of the countries and the most abundant species in our fresh water rivers, paddy fields and other water channels. It is commonly called as rohu. Nutritional value of fish depends on their biochemical composition which is affected by water pollution. Fishes are the major component of aquatic fauna and chief source of protein, carbohydrate and fats for humans and domestic animals. Fishes are the excellent models for monitoring environmental contamination in aquatic system. But now it is very rare to get the species in our fresh water bodies. The major reason for this alarming condition is the pesticide pollution, house hold waste materials and chemical pollution from factories. Esterase enzymes catalyse the formation and breakdown of carboxylic acid esters of alcohols. In our present investigation, electrophoretic banding patterns of tissue specific esterases in various tissues i.e. gill, liver, intestine, muscle and brain in two fresh water fish *Labeo rohita*. The results revealed that the electrophoretic esterase banding patterns varied in different tissues i.e. gill, liver, intestine, muscle and brain of fish *Labeo rohita*. Esterase Isozyme patterns were separated on thin layer 1.5 mm (thickness) polyacrylamide gels (SDS-7.5%) and stained with  $\alpha$  - naphthyl acetate used as substrate. Three different esterase bands were detected and named as Est-1, Est-2 and Est-3 with different relative motilities such as  $0.6 \pm 0.05$ ;  $0.4 \pm 0.05$ ;  $0.3 \pm 0.05$ . All the three esterase bands were present in all tissues i.e. gill, liver, intestine, muscle and brain. Among the all tissues gill and liver tissue exhibited deeply staining of Est-1; Est-2 and Est-3(+++). Intestine tissue shown Est-1 deeply stained (+++) whereas Est-2 and Est-3 were moderately stained (++) . Muscle tissue showed Est-1 and Est-2 were deeply stained (+++) whereas Est-3 was moderately stained (++) . Brain tissue exhibited Est-2 was deeply stained(+++) whereas Est-1 and Est-3 were moderately stained(++). Studies on esterases of fish and other organisms revealed similar type of patterns of esterases were noticed in one or other tissue of all the animals.

**Keywords:** *Labeo rohita*, Esterase Isozymes,  $\alpha$ -naphthylacetate, Electrophoretic banding patterns, Esterase.





*Oral Presentation-2*

**A STUDY ON BUTTERFLY DIVERSITY IN MUKTHIVANAM FOREST  
PARK, TELANGANA, INDIA**

**Rega Ramesh** and E. Narayana

*Environmental biology research lab,  
Department of Zoology, Kakatiya University, Warangal, 5006009, TS, India*

The Mukthivanam Forest Park is located in kalleshwaram village Mahadevpur mandal, Jayashankar BhupalPally District, Telangana State and bordered to the Maharasta State. It consist of near Godavari river and rich flora and fauna. A study on the diversity of butterflies was carried out over a period of one year from June 2021 to May 2022. A total of 35 species were identified belonging to 4 families, Nymphalidae was recorded as the most dominant family with (13 species) followed by Pieridae(11 species), Lycaenidae(6 species) and Papilionidae(5) species respectively.

**Keywords:** Butterfly, Diversity, Forest, Species, Mukthivanam

*Oral Presentation-3***MARINE MANGROVE ACTINOBACTERIA DERIVED SECONDARY  
METABOLITES APOPTOSIS INDUCING METABOLITES****Manikandan Alagumuthu***Dept of Microbiology, MS Ramaiah College of Arts, Science and Commerce,  
Bangalore-54, India*

Marine actinobacteria has offered an extraordinary foundation of bioactive secondary metabolites for therapeutic purposes. This study captivated on isolation of anticancer secondary metabolite from marine actinobacteria. *Streptomyces* sp., VITGAP173 was used to obtain some promising anticancer compounds against breast cancer cell lines (MCF-7). Bioassay-guided fractionation was followed to identify the bioactive metabolite from crude ethyl acetate extract of VITGAP173, which yielded four fractions. Among the four fractions, fraction B exhibited highest cytotoxic activity against MCF-7 cell lines. Further structural characterization of the fraction was done by FTIR and NMR spectroscopy. The compound-2 induced cytotoxicity against MCF-7 cell lines and half maximal inhibition (IC<sub>50</sub>) value was calculated as 4.7µg/ml. In order to elucidate the possible mechanism of cell death, MCF-7 cells were treated with the compound-2 for 24 hours and the morphological changes were examined using acridine orange – ethidium bromide (AO/EB) staining. The compound also increased the reactive oxygen species (ROS) generation (Flow cytometry, DCFH-DA). The molecular mechanism of compound induced cell death was analysed by real time PCR, which revealed that the compound promotes apoptosis through the CHOP-ATF-4 pathway which is involved in ER stress signalling. The present findings suggest the apoptosis inducing potential of compound 2 in breast cancer therapy.

**Keywords:** Actinobacteria; Apoptosis; Molecular docking; Metabolites

*Oral Presentation-4***EFFECT OF SPERMIDINE TO ENHANCE THE SILK PRODUCTION OF  
TASAR SILKWORM, ANTHERAEA MYLITTA (DABA TV)****G. Renuka, Swamy Uppula and G. Shamitha\****Department of Zoology, Kakatiya University, Warangal-506009, Telangana, India.*

*Antheraea mylitta*, a wild sericigenous insect is a species widely distributed from West Bengal in the in the East to Karnataka in the South with its natural inhabitation in the forest area of Bihar, Orissa, Madhya Pradesh, Maharashtra and Telangana. It is a polyphagous insect feeding on a number of food plants primarily on *Terminalia arjuna* and *T. tomentosa*, and a host of secondary food plants. Which produces tasar silk belongs to family Saturniidae. Growth and economic parameters of silkworms depend on quality of diet. Polyamines are low molecular weight polycations ubiquitously present in all living cells. There is an increasing interest in the study of the polyamines as they are proved to be involved in a large number of cellular processes, like transcription and translation, DNA stabilization, signal transduction, cell growth and proliferation. It has always been an important aspect to enhance the economic traits of silkworms by many scientists. In this study, considering the beneficial aspects of polyamines, the effect of spermidine on the growth of *A. mylitta* was studied. Silkworms in 4th and 5th instar larval stage were fed with plain and spermidine sprayed *Terminalia arjuna* leaves in different concentrations. Results show 50 $\mu$ M spermidine treated silkworms gained more weight than the control worms. The treated worms showed improved economic traits in all respects. These results suggest that *A. mylitta* larvae can be fed with spermidine treated *Terminalia arjuna* leaves for better growth rate and increased silk production.

**Keywords:** *Antheraea mylitta*, Polyphagous Insect, polyamines, Spermidine, Cocoon parameters, Silk production.

**ASSESSMENT OF FRESHWATER CYANOBACTERIA'S BIOACTIVE  
SUBSTANCES' ANTIBACTERIAL AND CYTOTOXIC PROPERTIES****Kuraganti Gunaswetha<sup>1\*</sup>, Edla Sujatha<sup>2</sup>**<sup>1</sup> TSWRDC(W), Department of Microbiology, Kakatiya University, Mancherla,  
Telangana<sup>2</sup> Department of Microbiology, Kakatiya University, Warangal, Telangana

Cyanobacteria adapt to changing environments and thrive to grow in various water sources. The ability to survive enables them to produce a wide variety of bioactive compounds, which include lipopeptides, amino acids, fatty acids, macrolides, and amides with a wide range of biological activities like cytotoxicity, antitumor, antiviral, antimicrobial, antimalarial, and immunosuppressive properties. In our study, the attention was focused on the analysis and characterization of bioactive compounds responsible for antimicrobial activity and cytotoxic activity exhibited by cyanobacterial methanol solvent extract when tested against a living cell system. A variety of bioactive secondary metabolites have been extracted, purified, and identified from cyanobacterial species using column chromatography, FTIR, and GC-MS/MS chromatography technique. The column elutes of *Planktothricoides raciorskii* and *Characium typicum* were evaluated for antimicrobial activity and cytotoxic activity. Elute of *Planktothricoides raciorskii* exhibited high bactericidal activity against *Micrococcus luteus* with 14mm of the zone of inhibition followed by 13mm inhibition against *Salmonella paratyphi* and 12mm against *Salmonella typhi*. Whereas elute of *Characium typicum* showed remarkable inhibition against *Micrococcus luteus* with a 14mm zone of inhibition, 10mm zone of inhibition against *Staphylococcus aureus*, 9.4mm against *Escherichia coli*, and 11mm against *Klebsiella pneumonia*. Whereas *Candida albicans* and *candida glabrata* showed considerable antifungal activity. The cytotoxicity as evaluated by methanolic extracts of *Planktothricoides raciorskii* and *Characium typicum* against MCF7-Human Breast Adenocarcinoma cell line and HepG2- Human Hepatocellular Carcinoma cell line by means of MTT assay gave IC<sub>50</sub> value of 47.18ug/ml and 35.1ug/ml against MCF7cell line, 110.81ug/ml and 66.54ug/ml against HepG2 cell line, respectively. The column elutes were characterized by FTIR and GC-MS/MS analysis and molecular docking studies.

**Keywords:** Cyanobacteria, antimicrobial activity, cytotoxic study, characterization of bioactive compounds, FTIR, GC-MSMS

*Oral Presentation-6***SUPPRESSION OF FERTILITY IN MALE ALBINO RATS FOLLOWING  
THE ADMINISTRATION OF PIPER LONGUM CRUDE EXTRACTS****Buchipal Reddy<sup>1</sup> and Estari Mamidala<sup>2</sup>***<sup>1</sup>Jangaon College of Education, Nidigonda (Vill.), Raghunathpally (Mdl), Jangaon  
Dist- 506 244, Telangana, India**<sup>2</sup>Department of Zoology, Kakatiya University, Warangal-506009  
Telangana State, India*

Fertility control is important to keep your reproductive health in good shape. There are many different ways to do this, including contraception and infertility care. Recently, scientists have learned a lot about how male reproductive systems work, and new methods of contraception are needed to help people prevent pregnancy. The study was designed to investigate the effect of Piper longum plant extract on fertility in male albino rats. The plant components were extracted effectively with boiling water using a Soxhlet extractor. The animals were fasted overnight and given just water, after which the extracts were given orally at a dose of 5mg/kg body weight. Body weight, sperm motility, sperm count and sperm morphology were measured. The testes, epididymis, vasdeferens, seminal vesicle, and ventral prostate were then removed, trimmed, and weighed on a torsion balance. The scientists weighed the organs of different animals and found that the animals in the high dose group (600 mg/kg bwt) lost the most weight. The animals in the moderate dose group (300 mg/kg bwt) lost the most weight, and the animals in the low dose group (100 mg/kg bwt) lost the least weight. There were no changes in the vas deferens, seminal vesicle, or prostate in any of the groups. However, the high dose group had a big problem with their sperm. The sperm in the high dose group had a lot more damage to the tail area than the head region.

**Keywords:** Piper longum, fertility, soxhlet, vasdeferens, rats, prostate, sperm.



*Oral Presentation-7*

**EFFECT OF POLYAMINES ON FECUNDITY TRAIT OF TASAR  
SILKWORM, ANTHERAEA MYLITTA (DABA BV)**

**Swamy U. Renuka G and Shamitha G\***

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Government Degree College, Eturnagaram- 506165, Telangana, India.*

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*Antheraea mylitta*, a wild tropical tasar silkworm, live and feed on *Terminalia arjuna* trees, secretes silk from its matured silk glands at its V- instar larval end. Synthesis of silk is mainly depending on quality food intake during the larval period. Polyamines (PAs), Spermidine, Spermine and Putrescine each with 50µM, 100 µM and 150 µM concentrations, added as food additives to matured leaves of *Terminalia arjuna*, the feeder plant, allowed the V- instar larvae to graze on them. The results explored as, the spd and Spm by 50 µM, 100 µM increased the fecundity (egg laying capacity) than larvae treated by other drugs and even control. Considerably, the hatching percentage calculations revealed that, the females of spd (♀) 50 µM, 100 µM mates with spm (♂) 50 µM, 100 µM males were predominant, respectively, in hatching into young larvae. In the simultaneous observations, moths with the spm (♂) 50 µM, 100 µM males mate with any females of other groups (including control) exhibited highest hatching percentage. This is revealing that the spm 50 µM, 100 µM shown increased effect on spermatogenesis and increased the percentage of fertilization, whereas, the spd with 50 µM, 100 µM enhanced the ovulation.

**Keywords:** *A. mylitta*, fecundity, Polyamines, selective fertilization

*Oral Presentation-8***BENEFICIAL EFFECTS OF *TRICHODERMA* SECONDARY  
METABOLITES IN AGRICULTURE****K. Sarojini Chakravarthy<sup>1</sup>, M. Rambabu<sup>2</sup>, A. Madhuri<sup>3</sup>, P. Tirupathi<sup>4</sup>**<sup>1</sup>*Department of Botany, Government Degree College for Women, Begumpet (A),  
Hyderabad*<sup>2</sup>*Department of Botany, Kakatiya Degree College, Warangal*<sup>3</sup>*Department of Microbiology, Government Degree College for Women, Begumpet  
(A), Hyderabad*<sup>4</sup>*Department of Botany, Government Degree College for Women, Jagtial*

Secondary metabolites are not similar to natural compounds in chemical nature that are chiefly produced by plants as well as microorganisms. Secondary metabolites are biosynthesized from primary metabolites in specific pathways primary metabolism, such as acetyl-CoA, mevalonate and amino acids. Some of these compounds synthesized by various microbes have been found to play an important role in the biocontrol of diseases and/or productivity of plants. This beneficial trait of the microorganisms is used world-wide for crop protection and bio-fertilization. *Trichoderma* a ubiquitous common soil fungus produces an array of secondary metabolites inexhaustibly over 1000 compounds that can affect the interactions of plants with their pathogens through multitude of mechanisms. The secondary metabolites of *Trichoderma* comprise of siderophores and diketopiperazines-like gliotoxin and gliovirin, polyketides, terpenes, pyrones, and isocyanate metabolites and peptides like peptaibiotics. These compounds have antagonist effect against phytopathogens like yeasts, bacteria and fungi hence gained importance as biocontrol agent and compounds. They also have substantially affect on the metabolism of the plant. In addition to direct toxic activity against plant pathogens, biocontrol-related metabolites may also increase disease resistance by triggering systemic plant defence activity, and/or enhance root and shoot growth and also enhances the tolerance against abiotic and biotic stresses. The wide scale application of selected metabolites to induce host resistance and/or to promote crop yield may become a reality in the near future and represents a powerful tool for the implementation of IPM strategies.

**Keywords:** *Trichoderma*, Secondary metabolites, Biocontrol, Crop production





*Oral Presentation-9*

## **IMPACT OF WHEAT FLOUR IN GLUTEN PROTEIN AND TOXICITY ON MAN AND RELEGIOUS FISHES CAUSED CELIAC DIESEAS**

**Arun Kumar Ambastha**

*PG Department of Zoology, Magadh University Bodh Gaya, India pin 824234*

Famous Indian food is chapatti, Make up India which wheat flour depend in gluten are wheat species soft are weak gluten contain have high. gluten contain make hard and strong. Wheat flour with 12% - 14% gluten contain mixed and make gluten its make glutenin and glyadins wonderful gluten is structural protein especially triticese glutens wheat gluten is composed of mainly two types of protein glutenin and gliadin. Generally wheat, rie,barley and oats phaseolies mungo. there are pulpy and elastic part of grain flour caused gluten the gluten protein very of defferent components and size and very ability caused by genotype fur eater man and fishes suffer from ceise disises is an utimmune disorder that's triggerd when you eat gluten spur nontropical spure or gluten sensitive entropathy gluten is a protein in wheat barlie, rye and their grain. Maximum use chapati thier than suffer from celiac disease as known as celiac spur or gluten sensitive entropathy its diseases is complex immune mediated disorder one in which immune system and damage small intestine and micro villi and caused nausea,vomiting,abdominal pain,headaches ,diarrohea, joint pain, fatigue and brain fog but there are no specific marker in the blood primary family member of parts with celiac diseases because a mankind would Roti, kapda aur makan.

**Keyword:** Gluten, Non-tropical, celiac,



*Oral Presentation-10*

## **MICROPLASTIC CONTAMINATION: A CASE STUDY IN THE FRESHWATER OF KRISHNA RIVER**

**Laxmi R, Venu Naganulu**

*Department of Zoology, Palamuru University*

This case study investigates the microplastic content in the floating river water as well as the types of Microplastics (MPs). This current case study confirms the presence of MPs in fresh river water and makes a realization on the of MPs. In the river Krishna, three different pilgrim sites were selected and the plankton net method was used for sampling. All three site samples showed different types of MPs including polypropylenes (PP) isotactic C1-C40 at Jurala (site-I), Polyethylene's (PE) Chlorinated C1-C40 at Koilsagar (site-II), and Polyoxymethylene's (POM) C1-C40. This approach could be relevant and implemented in future studies to provide an accurate overview of microplastic content in Krishna River water.

**Key Words:** Microplastics, Krishna River, Jurala, Polyoxymethylene's, Polyethylene's, Polypropylenes.

**MULTIDRUG RESISTNACE - MODERN DIAGNOSTIC TOOLS AND  
PREVENTION STRATEGIES**

**A. Madhuri<sup>1</sup>, M. Rambabu<sup>2</sup>, K. Saronini Chakravarthy<sup>1</sup>, P. Tirupathi<sup>3</sup>**

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Multidrug-resistant organisms (MDROs), are defined as microorganisms, predominantly bacteria, that are resistant to one or more classes of antimicrobial agents. The clinical isolates such as *Pseudomonas aeruginosa*, Methicillin Resistant *Staphylococcus aureus* (MRSA), *Enterococci* especially Vancomycin Resistant *Enterococci* (VRE), *Klebsiella pneumoniae*, *E. coli*, *Proteus species etc.*, rapidly develop antibiotic resistance and spread in the hospital environment. Rapid diagnostic tests that identify drug-resistant bacteria, determine antimicrobial susceptibility and distinguish viral from bacterial infections can guide effective treatment strategies. Moreover, rapid diagnostic tests could facilitate epidemiological surveillance, as emerging resistant infectious agents and transmission can be monitored. The development of current diagnostic methods that are used to identify antimicrobial resistance, novel diagnostic strategies and how such rapid tests can inform drug development and the surveillance of resistance evolution is a challenging task in front of researchers. The evolution of drug resistance mechanisms in pathogenic microorganisms poses a global health crisis, and millions of people are at risk if the problem is not addressed in the laboratory and translated to the clinic. Antibiotic resistance has emerged as a global health crisis and if we cannot reverse the trend we are on a course towards a post-antibiotic era. There are several ways that diagnostic testing can assist in managing this challenge.

Currently, the fastest diagnostic testing methods still take hours, and results are unlikely to be available before the administration of empirical treatment, particularly when dealing with life-threatening infections. Providing a comprehensive microbiological diagnosis before the second dose of empirical treatment may be sufficient to improve patient outcomes and stewardship until more rapid diagnostic technologies are available. Moreover, rapid and comprehensive diagnostics will enable the development and use of narrow-spectrum antimicrobials by providing pathogen and resistance information in hours rather than days, and enabling early targeted therapy. Rapid diagnostic methods include Molecular approaches, Flow cytometry, MALDI-TOF, Biosensors, Immunodiagnosics and Bioluminescence and chemiluminescence etc.

**Key words:** Multidrug resistance, MDRO, antimicrobials, MRSA

*Oral Presentation-12***BIOCHEMICAL INVESTIGATIONS ON THE IN VITRO EFFECT OF  
PRAZIQUANTEL ON ACETYLCHOLINE ESTERASE OF THE CATTLE  
PARASITE PARAMPHISTOMUM EPICLITUM****Narsaiah Shivakoti***Associate Professor of Zoology, GDC Ibrahimpatnam, Rangareddy, Telangana, India*

Paramphistomiasis or Amphistomiasis is a neglected tropical disease, caused by Paramphistomum species in livestock ruminants and wild mammals. Its symptoms include profuse diarrhea, anemia, and lethargy, and often result in death if untreated. It causes significant economic loss in livestock production, as it can reduce feed efficiency, increase weight, and affect milk production. The life cycle of a parasite is indirect, requiring a definitive host such as ruminants, and an intermediate host such as snails. To treat this disease, a wide range of Anthelmintic drugs with different types of mechanisms of action are available, among which Praziquantel (Biltricide, Droncit) is one of them. Understanding the mechanism of action of a drug on parasites gives better scope for the development of a wide range of effective drugs. Several drug target action sites are identified in parasites among which acetylcholine esterase (Ache) is one of them. It plays a crucial role in the regulation of nerve impulses by breaking down the neurotransmitter acetylcholine into acetic acid and choline in the synaptic cleft. In the current paper Praziquantel mode of action on Ache activity in Paramphistomum epiclitum is studied. the biochemical assay of Ache is estimated to be in control and treated with parasites at various drug concentrations over 1-hour long exposure. It has been observed that the drug significantly inhibits Ache activity at 4 ppm concentration. Hence it is concentration-dependent, resulting in a greater reduction in Ache activity. Keywords: Praziquantel, Acetylcholine esterase, Paramphistomum epiclitum, Anthelmintics, Ion channel

*Oral Presentation-13***ISOLATION OF BIOACTIVE MOLECULE FROM *ECLIPTA ALBA* PLANT  
LEAVES EXTRACT****Venkanna Lunavath and Estari Mamidala\***

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Plants remain a major source of medicinal compounds. About 20,000 plant species are used for medicinal purposes. Seventy four percent of plant derived drugs were discovered as a result of chemical studies to isolate the active substances responsible for their traditional use. *Eclipta alba* (L.) Hassk (Asteraceae), was commonly known as 'bhringraj'. It is a small much branched annual herb, it is distributed throughout India. The aim of the present study was to isolate bioactive compounds from the *Eclipta alba*. Crude extracts from the leaves *E.alba* were prepared by maceration technique with using solvent chloroform. The compounds were fractionated and isolated from chloroform crude extract by using column chromatography and preparative thin layer chromatographic techniques. The structures of this isolated compound were established by extensive spectroscopic studies (1H NMR, C NMR Spectroscopy). The result indicates that the phytochemical evaluation reveals that, the isolated active compound was belongs to alkaloid. Therefore this study confirms that, this plant has great potential for developing useful drugs

**Keywords:** *Eclipta alba*, Maceration, Chromatography, Phytochemical.

*Oral Presentation-14***IMPACT OF THE DRUG DICLOFENAC ON THE MUSCLE TISSUE OF  
*CHANNA PUNCTATUS*****P. Rohini***Assistant Professor, Department of Zoology,  
Government Degree College, Thorur*

The erroneous usage of the pharmaceuticals has led to the rise of aquatic pollution in recent times. The residues of pharmaceuticals have been found in the surface waters worldwide. Diclofenac is the widely prescribed non-steroidal anti-inflammatory drug all over the world. It has been detected in aquatic environments in the magnitude of high ng/L to µg/L. There is ample evidence of its toxicity in aquatic flora and fauna. The acute toxic studies on Diclofenac are fewer than chronic studies. The acute toxicity of the drug has been studied in the freshwater fish, *Channa punctatus*. The fish were exposed to ten different concentrations of Diclofenac for a period of 96 hours. The median lethal concentration was found to be 25.28ppm. The fish were then exposed to median lethal concentration (25.28ppm) and sub lethal concentration (8.42ppm) of Diclofenac along with a control. The muscle tissue was isolated and studied for any histological changes in the exposed fish against control. The histological alterations observed in the exposed tissue include marked thickening and separation of muscle bundles, haemolysis, necrosis and lesions with reduced compactness, intramuscular edema with minor dystrophic changes. This investigation proves that the drug diclofenac has toxic potential and alters the structural integrity of the muscle tissue. The study establishes that pharmaceutical residues in the aquatic environment pose a negative impact on the non- target organisms like fish.



*Oral Presentation-15*

## **ECOLOGY OF TROMBIDIUM (RED VELVET MITE) IN KARIMNAGAR DISTRICTS OF TELANGANA, INDIA**

Rajendra Chary Vijayagiri, G. Paramesh and Raju Porika

Trombididae (Red velvet mites) mites are ectoparasites in the larval stage and free living predators in the adult stage on a variety of arthropods among which are pests or ectoparasites on many economic important crops. Generally The red mites are having a complexed life cycle. This study includes ecology and comparison of abundance of Trombidium grandissium in wild habit verses crop field. The biological control of the red mites happen by the artificial environmental activities directly or may be indirectly. This survey successfully conducted by visiting different rural villages and by conducting interview with the field workers Survey conducted in Kagaznagar, Mancherial and Jannaram Adilabad district. the red velvet mites(Trombidium) more in the soils, humus (partially decomposed organic matter or detritus), red lands and sandy lands without the use of synthetic pesticides. They are less in number in crop land which are black. They are very less in number in the crop lands even with the use of pesticides and in some crop lands totally absent because there were using of pesticides. Generally they appeared more during onset of monsoon which is favourable weather conditions for mites. Less number of mites are found in urban areas such as Mancherial due to large scale conversions of crop lands into the domestic lands, dried soil and decreased ground water level. The presence of these mites which indicates the land which is not polluted in the land fertility and the air pollution and sound pollutions where not effect on their presence or appearance. But the absence of red mites in the land which indicates the highly concentrated with the use of synthetic pesticides and land fertilisers and the dry condition of the different lands.

**Keywords:** Trombidium, Biological control, Ectoparasite, crop lands, Black land, Sandy lands, synthetic Pesticides.

*Oral Presentation-16***TOXICITY EVALUATION WITH CERTAIN NANO EMULSIONS  
AGAINST TRIBOLIUM CASATNEUM (COLEOPTERA: TENEBRIONIDEA)****M. Madhavi\*, Shanthri Ajmeera***Department of Zoology, Osmania University  
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Food production must be increased to feed the ever-increasing population. Post-harvest losses by insect pests account for 25–50% [1,2]. Insects (Herbst) is one of the most common pest of stored grains and is known to infests about 233 different types of crops. Botanical pesticides have been used for the control of agricultural pests since antiquity, especially in biodiversity-rich countries. However, so far very limited products based on botanicals are commercially available due to lack of practical evidence, availability of raw materials at affordable prices, chemical standardization, the molecular mechanism of action, and strict legislation. The objective of this study is to synthesize the essential oils and nano emulsions from the wastes of Mosambi fruits and To characterize the nano emulsions synthesized from the wastes of Mosambi fruits. The EO nano-emulsion was prepared and then, double-distilled water was added to this mixture (4:1 respectively) and stirred for 60 min to attain a homogeneous emulsified phase. Characterization of nano emulsions were done by GC-MS, Zeta Potential and DLS. The results will be presented in seminar.



*Oral Presentation-17*

## **BIOCHEMICAL ROLE OF OPH ENZYME FROM PESTICIDE DEGRADING BACTERIA THROUGH SCREENING AND OPTIMIZATION STUDIES FROM TOMATO FIELD OF TELANGANA REGION**

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Organophosphate hydrolase(**OPH**) is an enzyme with a broad spectrum of substrates and potential applications. The experiments dealing with recombinant expression of the enzyme focused on the ability to generate enough enzymes in lab use. Attempts are done like bacterial have been problematic in the unexpected fall of in enzyme expression observed. The natural inherent capacities of microorganisms to degrade the toxic and chemical compounds are called principle of infallibility. Organophosphates are primarily thought of as neurotoxin pesticides and chemical warfare agents. However, there is an entire class of organophosphorus pesticides that have never been tested as OPH substrates. After analysis of the chemical structures of the organophosphorus pesticides four were chosen as potential **OPH** substrates. Both spectrophotometer and HPLC analysis indicated that OPH had the ability to degrade the Xenobiotic compounds. Enzymes produced by *Flavobacterium* degrade Coumaphos (kills insect pests of livestock) and *Achromobacter* produce enzymes that degrade Carbofuran (controls corn rootworm) and other crop insects (*Jeffrey Karns*). Pesticide fate in the environment is affected by microbial activity. The present study aims at screening and optimisation studies for pesticide degrading bacteria from tomato fields of Telangana region using chlorantraniliprole 18.5% EC, in which maximum pesticide degradation was seen at 10mg/lit concentration of pesticide with pH 7 at 370 C in 5hrs 30 minutes physically evident by the formation of froth in the broth. This study may be useful in understanding the organism's role in degradation of certain pesticide samples invitro and as well as in the field later.

**Key words:** Pesticide degrading bacteria, pesticide pollution, optimization, bioaccumulation, Chlorantraniliprole.

*Oral Presentation-18***NON PESTICIDAL MANAGEMENT A NOVEL METHOD TO CONTROL  
SAP SUCKING PESTS IN BT COTTON CROP****D. Kiranmal, G. Maruthi Ram***“ Division of Entomology, Dept of Zoology, Osmania University, Tarnakam,  
Hyderabad, Telangana-07*

In recent years there has been considerable pressure in agriculture to reduce chemical pesticides. Non pest management is better alternatives to minimize the hazardous chemical using pesticides. The kingdom is recognized as the most efficient producer of different biologically active compounds like Azadirachta and pyrethroids and fungicides which provide them with resistance against different pests. Present study, we employed different Non pest management methods in the cotton fields. Interestingly, we observed M1 to M5 modules are more capable as compared with MC/M6 modules. Most of the modules are shown considerable effect on *A. gossypir*, leaf hoppers (*Amrasca biguttula*); red cotton bug (*Dysdercus cingulatus*); dusky cotton bug (*Oxycarenus hyalipennis*) and cotton bollworm (*Helicoverpa armigeria*). The mean values of each M5 module statistically more significant and showing highly toxic to different pest due to different combination of natural products.

*Oral Presentation-19***PREPARATION AND EVALUATION OF GREEN SYNTHESIZED METAL  
NANOPARTICLES INFUSED CUBOSOME**

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The green strategy is seen as an effective and creative search for more environmentally friendly ways to produce nanomaterials. Plant-based AgNPs have been creatively employed in a variety of fields to address numerous issues related to the biomedical, textile, food, cosmetics, agroindustry, and others. Plant-derived bioactive substances are effectively used in forming, capping, and reducing AgNPs. As a result, the present study concluded that a simpler technique to synthesize AgNPs using *Plectranthusamboinicus* leaf extract was used. An antibiotic from the second generation of cephalosporins is cefuroxime axetil. Cefuroxime axetilcubosomes were successfully developed using GMO and P-407 as polymers, and their compatibility and morphological investigations were assessed. The entrapment efficiency is good at 3.5% GMO and 0.5% P-407, respectively. An infusion of cefuroxime axetil and silver nanoparticles are used here to create a hybrid cubosomal combination. The topical gel was created using this hybrid cubosomal mixture in an effort to improve drug release compared to the blank hybrid cubosomal gel and achieve sustained release. The findings of the current study show that innovative cubic vesicles, such as cubosomes and hybrid cubosomes infused with silver nanoparticles, can easily penetrate the skin and enhance long-term drug retention. The outcome strongly implies that hybrid cubosomes added to a gel formulation can function as a potential topical gel for prolonged release.

**Keywords:** Silver nanoparticles, *Plectranthusamboinicus*, Infusion, Hybrid Cubosomes,



*Oral Presentation-20*

## **MICROPLASTIC CONTAMINATION: A CASE STUDY IN THE FRESHWATER OF KRISHNA RIVER**

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This case study investigates the microplastic content in the floating river water as well as the types of Microplastics (MPs). This current case study confirms the presence of MPs in fresh river water and makes a realization on the of MPs. In the river Krishna, three different pilgrim sites were selected and the plankton net method was used for sampling. All three site samples showed different types of MPs including polypropylenes (PP) isotactic C1-C40 at Jurala (site-I), Polyethylene's (PE) Chlorinated C1-C40 at Koilsagar (site-II), and Polyoxymethylene's (POM) C1-C40. This approach could be relevant and implemented in future studies to provide an accurate overview of microplastic content in Krishna River water.

**Key Words:** Microplastics, Krishna River, Jurala, Polyoxymethylene's, Polyethylene's, Polypropylenes.

*Oral Presentation-21***IN-SILICO MOLECULAR DOCKING STUDIES OF CYMBOPOGON  
NARDUS COMPOUNDS AGAINST MALARIAL TARGETS OF  
PLASMODIUM FALCIPARUM****Raghuma Reddy.J<sup>1</sup>, B. Krishnaveni<sup>1</sup>, Estari Mamidala<sup>2</sup>**<sup>1</sup>Department of Biochemistry, Kakatiya University, Warangal-506009 TS<sup>2</sup>Department of Zoology, Kakatiya University, Warangal-506009 TS

Malaria caused by genus Plasmodium, is a parasite which is the main health issue for humans and about half of the population were suffered. Every year, approximately 1.2-2.7 million people died due to malaria globally. Therefore to prevent the spreading of malaria from the glob novel active drugs with specific activities are necessary. The present study aimed to identify novel drug molecule together with the bioinformatic tools for the development of active malarial drugs. After brief study of physiological activity of *Plasmodium falciparum* few enzymes such as PfGST, PfLDH and PfPKG are involved in the metabolism of the *P. falciparum* are observed as a targets. Thirteen compounds which are components of *Cymbopogon nardus* used as ligands were got from the Pub Chem database and docked against the selected enzymes with Autodock software. Some of the compounds Germacrene-D-4-ol, Beta-cubebene, and Elemol showed drug-like characteristics and presents a significant antimalarial action in *in-silico* level. Results have outlined the significance of Compounds Germacrene-D-4-ol, Beta-cubebene, and Elemol as a promising antimalarial agent, which can be further evaluated and used for antimalarial drug development.

**Key words:** PfGST, PfLDH, PfPKG, *Plasmodium falciparum*, *Cymbopogon nardus*, Autodock

*Oral Presentation-22*

**A CASE STUDY OF PHYSICO-CHEMICAL AND BIOLOGICAL  
PARAMETERS OF PLANKTON BIODIVERSITY AND FISH  
ABUNDANCE IN A FRESH WATER LAKE OF KARIMNAGAR  
DISTRICT, TELANGANA STATE, INDIA**

**V. Rajani**

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The quality of water is an important criterion for evaluating its suitability for drinking, irrigation and plankton diversity and fish culture. The influence of monthly and seasonal changes on the physico-chemical parameters of water body. Therefore a study has been conducted on the Mankondur fresh water lake in Karimnagar District, Telangana State, India. The study was conducted during June 2020 to May 2021. The water quality parameters considered in the present study water temperature, Transparency, Total Dissolved Solids, pH, Dissolved Oxygen, Carbon di Oxide, Total Hardness, Total Alkalinity, Chloride, Phosphate, Nitrate and Biological Oxygen Demand. The study revealed that variation in parameters from month to month in a year has been noted at different sampling stations. The relationship between zooplankton and physico-chemical parameter were also calculated statistically. A total of 20 zooplankton species were identified qualitatively, which includes 10 species of Rotifer, 5 species of Cladocera, 3 species of Copepoda and 2 species of Ostracoda. The composition of zooplankton rotifers was dominant (58%) followed by cladocera (26%), copepod (13%) and ostracoda (3%). The mean population of each zooplankton groups from all the seasons recorded was in the following order, Rotifers > Cladocerans > Copepods > Ostracods. Phytoplanktons are primitive, usually aquatic, photosynthetic and delightful organisms in their diversity and efficacy. Phytoplankton comprises a well-organized system for trapping the solar energy. A total number of 35 species were recorded. The phytoplankton diversity study provided several new data with many of the phytoplankton taxa being recorded for the first time in study site, such as 15 species among the Chlorophyceae, 9 species of the Cyanophyceae, 4 species of the Euglenophyceae and 7 species of the Bacillariophyceae. The present observations revealed that Chlorophyceae species were dominant followed by Cyanophyceae, followed by Euglenophyceae and Bacillariophyceae were observed during the study period. There were percentage of Chlorophyceae (45%), Cyanophyceae (25%),



Euglenophyceae (17%) and Bacillariophyceae (13%). Fishes are the valuable source of high grade protein and other organic products. The study was made to recorded fish fauna available. Total 33 species of fishes were collected and identified during the study period which belongs to 6 orders, 12 families and 18 genera. The order Cypriniformes was dominant with 15 species, followed by Siluriformes (8 species), Osteoglossiformes (2 species), Perciformes (4 species), Channiformes (3 species), Perciformes (4 species) and Antheriniformes (1 species) were identified. Order wise percentage composition is Cypriniformes (17%), Siluroformes (34%), (Osteoglossiformes (8%), Perciformes (25%), Channiformes (8%), Antheriniformes (8%). The study helps in better understanding for the management of the Manakondur fresh water lake for intensive fish culture.

**Keywords:** Physico-Chemical Parameters, Zooplankton Phytoplankton, Fish Fauna of Manakondur Fresh Water Lake,



## **POLYVINYL CHLORIDE (PVC) WITH GOOD PHYSICAL PROPERTIES AND GOOD BIOCOMPATIBILITY TO TISSUES INCLUDING BLOOD IS WIDELY**

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Polyvinyl chloride (PVC) with good physical properties and good biocompatibility to tissues including blood is widely used in many medical devices such as blood transfusion apparatus, intravascular catheter, blood circuit, heart oxygenator, chest or abdominal drain tube and so on. The Plasticizer di-(2-ethylhexyl) phthalate (DEHP) is often used in PVC material, however, the leaching of DEHP to the PVC surface and therefore the risk of entering human body has aroused more and more argument. Seeking a safer and more effective plasticizer has become a hot research topic. A new plasticizer, di-(2-ethylhexyl)-1,2-cyclohexane dicarboxylate (DEHCH) is recently considered as one of the environmental plasticizer to substitute phthalates. Systemic toxicity caused by repeated exposure to both polar and nonpolar leachables of di-(2-ethylhexyl)-1,2-cyclohexane plasticized Polyvinyl chloride (PVC) was evaluated with dual routes of parenteral administration method on rats in the study. Experimental group and control group were designed by researchers. Tail intravenous injection with 0.9% sodium chloride injection extracts and intra-peritoneal injection with corn oil extracts were conducted to the experimental rats while tail intravenous injection with 0.9% sodium chloride Injection and intra-peritoneal injection with corn oil were conducted to the control rats. After 14 days, blood specimens were collected for clinical pathology (hematology and clinical chemistry) analysis. Selected organs were weighed and a histo-pathological examination was conducted. As a result, compared with the control animals, there were no toxicity-related changes on the parameters above. The results show that the rats do not show obvious systemic toxicity reaction caused by repeated exposure with dual routes of parenteral administration method on rats after administration with both polar and nonpolar extracts of di-(2-ethylhexyl)-1,2-cyclohexane plasticized PVC simultaneously up for 14 days. The Results were discussed in light of recent literature.

**Keywords:** Polyvinyl chloride (PVC), Corn oil, di-(2-ethylhexyl) phthalate (DEHP), toxicity, hematology and clinical chemistry.





Oral Presentation-24

**PHYTO ESSENTIAL OILS FROM CYMBOPOGON FLEXUOSUS AND  
LAVENDULA OFFICINALES - ANTIBACTERIAL ACTIVITY AND  
EFFECT ON NUTRITIONAL AND ECONOMIC TRAITS OF  
MULBERRY SILKWORM, *B.MORI*.**

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Studies were carried out to know the effect of selected phyto essential oils against the bacterial pathogens that were isolated from the gut tissue of silkworm and its effect on nutritional and economic traits of silkworms. The bacterial pathogens that were isolated from the silkworm cadavers grown on nutrient agar media were identified on the basis of morphological and biochemical test as *Bacillus cereus* and *Proteus vulgaris*. Several technologies were adopted for improvement of commercial characters including the use of phytochemicals such as essential oil which have great commercial value. It was found that after feeding the silkworm with mulberry leaves treated with different concentration of lavender and lemon grass oil it showed improvement in the nutritional value and economic traits. The larval weight increased to 16.17gm / 10 worms at T3 treatment which increased to 36.77 gm/10 worms at the time of mounting over the control and normal worms. Results showed that at T3 concentration significantly high nutritional indices and economic values were recorded as compare to other treatment groups, control and normal respectively which may be due to growth stimulating factors.

*Oral Presentation-25***DISCOVERING NEXT-GENERATION NATURAL ANTIBIOTICS OF  
MICROBIAL CONSORTIUM FROM POLLUTED SOIL****Gangalla Ravi\*<sup>1</sup>, Venkataiah Peddaboina<sup>1</sup>, Eerla Rakesh<sup>1</sup>***<sup>1</sup>Department of Microbiology, Kakatiya University, Warangal-506009, Telangana,  
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We are exposed to many diseases in our daily life, and we need important natural antibiotics to fight them. Great promise for the discovery of novel natural antibiotic production from microbial (*Streptomyces sp.*) consortium isolation from polluted soil. Exploring novel organisms with optimal growth conditions will be essential for antibiotic production. Characterization of *Streptomyces sp.* using 16S rRNA sequencing, Extraction, purification, and chemical analysis. Optimization methods (culture conditions and nutritional sources) were influenced for the maximal antibiotic yield. Purified secondary metabolites compounds for their antimicrobial activity against *Escherichia coli* and *Bacillus cereus*. Further, these compound was initially studied in dual and triple combinations with the antibiotics chloramphenicol and amoxicillin. The purified compound's minimum inhibitory concentrations (MIC) and minimum bactericidal concentrations (MBC) were 256 g/mL and 512 g/mL, respectively. At low concentrations of both molecules, the checkerboard and time-kill experiments showed additive or synergistic effects for the dual combinations of chloramphenicol/purified compound and amoxicillin/Purified compound. Chloramphenicol and purified compound combinations synergize mostly at low antibiotic concentrations (up to 2g/mL of chloramphenicol with purified compound). The results demonstrate the possibility of combinatorial therapy for microbial growth controls an essential role as potentiates or resistance-modifying agents.

**Keywords:** Natural products, fermentation, Optimization, Drug discovery, Purified compound



Oral Presentation-26

## PLANT-BASED GUMS AND RESINS IN TELANGANA, INDIA: A QUALITATIVE METHOD OF DATA COLLECTION

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Natural resins, gums (NRGs) are the most extensively used and traded non-timber forest products (NTFPs) other than directly consumed products. The present field-based study reports the natural gum, resin and gum-resin yielding plants and the specific parts from which the products extract from plants by local people in Telangana, India. The result of the present study reveals ninety plant taxa belong to 63 genera and 23 families that predominated by Fabaceae with 36 plant taxa, followed by Malvaceae (12 spp.), Combretaceae, Anacardiaceae and Rubiaceae (5 spp. each), Arecaceae (Palmae) (4 spp.), and about thirteen families with single species each. Telangana is one of the most important contributors and collectors of NRGs from *Firmiana simplex*, *Anogeissus latifolia*, *Cochlospermum religiosum* and *Boswellia serrata* in India to generate maximum commerce. The present study outcome can be used by policy makers, scientific community, forest authorities and local people for bio-discovery of plant-based gums and resins sustainably.

**Keywords:** Natural gums, resins, gum-resins, qualitative approach, non-timber forest products, eco-friendly, Telangana.



*Oral Presentation-27*

**PHYSICO CHEMICAL PARAMETERS OF PALAIR RESERVOIR,  
KHAMMAM DISTRICT, TELANGANA**

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*SR&BGNR Govt. Arts and Science College (A) Khammam, Telangana, India.507002*

The water quality parameters like temperature, pH, dissolved oxygen, alkalinity, hardness, phosphates and nitrates were taken from Palair reservoir in Khammam district, Telangana. The water quality parameters were measured by simple correlation coefficient ( $r$ ) that is presented as correlation matrix. The pH is found to show positive correlation with water temperature ( $r=0.375$ ), negative correlation with alkalinity ( $r=-0.2198$ ) and TDS ( $r=-0.4702$ ). Strong correlation is found to show with DO ( $r=0.549$ ), turbidity ( $r=0.502$ ) and nitrates ( $r=0.861$ ). The dissolved oxygen is strongly correlated with hardness and nitrates. In the summer, monsoon and winter seasons, there are minor seasonal fluctuations were identified in various physico-chemical parameters. The water quality parameters show that reservoir is rich in nutrients and very much favorable for plankton growth and fish growth.

**Keywords:** Water quality parameters; temperature; pH; dissolved oxygen; nitrates; correlation;  $r$  value.

*Oral Presentation-28***TOXICITY AND EFFECTS OF CHLORPYRIFOS IN A NON-TARGET ORGANISM****M. Sunanada***Department of Zoology, SR&BGNR Government Arts & Science College (A),  
Khammam, Telangana State, India*

Agro pesticides are essentially meant for protecting agriculture crops against harmful insects and pests. They provide vital inputs required to augment food production and save crops from attack by a variety of pests in a safe and selective way. But, their chemical structure, improper preparation, application and storage may pose a serious threat to the environment. Aquatic ecosystems are the becoming ultimate recipients of varying concentrations of different pesticide residues due leaching, agricultural runoff, and improper disposal. When a pollutant is added to an aquatic ecosystem, due to biomagnifications it enters the tissues of various aquatic organisms leading to several biochemical and physiological alterations. Since major portion of the world's nutritional requirement is being supplied from fishery resources, it is therefore, important to secure the health of fishes. In this paper, the toxic effects of chlorpyrifos, an organo phosphorus compound is reviewed. Due its acute toxicity and detrimental effects in fish, It is therefore poses a serious threat to aquatic organisms as well as to the health of human beings.

**Key words :** Pesticides ,Aquatic eco system. Bio-magnification, Fish



Oral Presentation-29

**EFFECT OF RICHMIN AND VANIMIN ON CARBOHYDRATE  
METABOLISM IN SELECTED FISH SPECIES - *C. CATLA*, *L. ROHITA*, *C.  
MRIGALA***

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**Background:** Carbohydrates are one such group of carbon compounds which are essential to life. Almost all organisms use carbohydrates as building blocks of cells and as a matter of fact, exploit their rich supply of potential energy to maintain the life. The effect of Richmin and Vanimin on carbohydrate metabolism in different fish species were analysed in this study.

**Methods:** The experimental group of fishes shall further be divided into two groups. Richmin and Vanimin which are commercially available are been selected for the study. To assess the carbohydrate metabolism effect of Richmin and Vanimin in *C. catla*, *L. rohita*, *C. mrigala*, the total carbohydrates, serum glucose levels, liver and muscle glycogen concentration were measured.

**Results:** The richmin and vanimin fed fish species muscle and liver showed enhanced levels of their total carbohydrate content over their corresponding control values and the increment was found to be statistically significant ( $P < 0.001$ ) over the control values. Statistically significant ( $P < 0.001$ ) increase in the liver and muscle and liver tissues glycogen content over the control feed fed fish tissues was registered in the present study for the fish tissues fed with richmin and vanimin. Richmin and Vanimin fed fishes serum showed increased levels of their glucose content.

**Conclusion:** The study revealed that synthetic feed Additives have accelerative upon the carbohydrate metabolism of fish species.

**Keywords:** Richmin, Vanimin, *C. catla*, *L. rohita*, *C. mrigala*, Glucose, Glycogen

*Oral Presentation-30*

## **GENOMIC SEQUENCING OF SARS-COV-2 IMPACT ON HUMAN IMMUNE SYSTEM - A REVIEW**

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The discovery of SARS-CoV-2 as the COVID-19's primary cause and the investigation of the disease's international transmission have already been made possible thanks to virus genome sequencing. Genomic sequences can also be used to construct medications, vaccinations, and diagnostic tests, as well as to monitor any potential links between putative changes in their efficacy over time and modifications to virus genomes. Hence, studying the genomes of the SARS-CoV-2 virus can supplement, enhance, and support efforts to lessen the impact of COVID-19. A novel coronavirus called SARS-2 caused a serious acute respiratory sickness to develop in Wuhan, China in December 2019. The illness quickly spread throughout China and other nations. On 30 January 2020, WHO declared this disease to be an international emergency, and on 12 February 2020, the novel coronavirus disease was given the name Coronavirus Disease 2019 or COVID-1. The illness has a wide variety of symptoms and is mainly spread by respiratory droplets. In Wuhan, epidemiological studies have revealed an early link between the fish market and the majority of the patients who worked or frequented these markets. Yet, instances of transfer from person to person have raised the disease's prevalence. Clinical manifestations in patients with COVID-19 include fever, cough, shortness of breath, fatigue, normal or decreased leukocyte counts, and ground-glass opacity in radiographic examinations, which are comparable to symptoms of SARS and MERS infections. The current review was conducted to compare the virus structure, genome organisation, virus life cycle, and pathogenesis. In a study to identify the humoral immune response specific to COVID-19, it was discovered that the patients had IgM and IgG antibodies that did not cross-react with any other human coronaviruses, with the exception of SARS-CoV. IgG was discovered 14 days after the commencement of the initial symptoms, and IgM and IgA antibodies were found 5 days later. Scientists are being drawn to the COVID-19 virus because of the latest outbreak since it poses such a serious threat to public health. Public health, medical, and social research have faced considerable obstacles as a result of the outbreak.

*Oral Presentation-31*

**RECENT STUDIES ON N<sub>2</sub> FIXATION AND ISOLATION,  
CHARACTERIZATION OF NON-HETEROCYSTOUS CYANOBACTERIA  
- A REVIEW**

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As prospective and great sources of physiologically active ingredients produced during primary and especially secondary metabolism, cyanobacteria are currently yet interesting sources for additional research. The term "primary metabolites" refers to low-molecular-weight substances required for growth (Staley and Stanley, 1986). As a result, microbes create these substances when they are actively growing, or in the logarithmic growth phase. These include vitamins, coenzymes, organic acids, amino acids, nucleotides, and other intermediates in the metabolic processes for these substances. Low molecular weight substances that are not required for microbial growth in pure culture continuously grown have been defined as secondary metabolites. N<sub>2</sub> fixation by non-heterocystous cyanobacteria in natural populations and lab cultures is taken into account in this broad study. These organisms' nitrogenase's characteristics and subcellular location are detailed, as well as how it reacts to fixed nitrogen, oxygen, and lighting patterns in the environment. It is also covered how N<sub>2</sub> fixation fits along with other components of cellular metabolism, including photosynthesis. The similarities and differences between several non-heterocystous cyanobacterial strains are emphasised. The two most common kinds of diazotrophic non-heterocystous cyanobacteria are filamentous and unicellular. Most organisms cannot access atmospheric nitrogen because of its extremely strong triple covalent bond. Most people consume fixed nitrogen from a variety of sources. 2 to 20 nitrogen atoms are typically digested for every 100 carbon atoms. The most significant function in maintaining the fertility of tropical soils is played by nitrogen-fixing cyanobacteria, which are free-living nitrogen fixers. In such a biotope, numerous cyanobacterial species can be identified. 14 non-heterocystous nitrogen-fixing isolates have been identified, purified, and described from a waterlogged soil in West Africa. Despite the rarity of aerobic nitrogen fixation in sections I, II, and III cyanobacteria, 12 of them display nitrogenase activity in aerobic conditions. The mechanisms by which nitrogenase in this strain protects against oxygen might be of interest to explore.



*Oral Presentation-32***FIELD EVALUATION OF THE EFFICIENCY OF PHEROMONE TRAPS  
AND MONITORING OF *XANTHOPIMPLA PEDATOR* INFESTATION****Lakshmi Marepally***Department of Zoology, Kakatiya University, Warangal, Telangana- 506009.*

*Xanthopimpla pedator* infestation has caused severe financial losses to sericulture farmers. Numerous loads of the infested cocoons of *Antheraea mylitta* were rejected by reeling industries. To manage the *Xanthopimpla pedator*, a proper monitoring strategy is needed. The objective of this study was to evaluate the efficiency of the pheromone traps in monitoring and control of *Xanthopimpla pedator* infestation. Flat traps, Delta traps and Box traps with sticker were installed during first, second and third crops of *Antheraea mylitta*. Analysis of variance showed significant differences among *Xanthopimpla pedator* population trapped during the three crops. The recorded data showed that *Xanthopimpla pedator* population was maximum during third crop. It is also recorded that the *Xanthopimpla pedator* population was maximum at the beginning of each crop and decreased towards the end of the crop. Results revealed that the flat trap was the most efficient while the delta trap showed medium performance followed by box trap with poor performance.

**Keywords:** *Xanthopimpla pedator* , Infestation, Flat traps, Delta traps, Box traps, Efficiency.

**FISH DIVERSITY WITH RESPECT TO THE ROTIFERA GROUP OF  
ZOOPLANKTON IN LOWER MANAIR DAM, KARIMNAGAR DIST.**

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In Aquatic ecosystem fishes are most dominant vertebrate species. Globally, India is the 3<sup>rd</sup> largest fish producing country and it is one of the economic aspect to both the country & the people. The total 2500 plus fish species were identified in India. In this half of the species were lived in fresh water habitat. Lower Manair Dam is located near to the Karimnagar district municipality. It is 15 km far away from the district head quarter. The Lower Manair Dam (LMD) was constructed across the Manair river at Aljunur village of Karimnagar district in the year of 1974. This dam supports domestic and as well as agriculture practices. Plenty of fisherman's economic balance is associates with this Dam. The samples were collected on monthly basis with help of local fishermen during the year 2021-22. The total 48 fish species were observed during the study period. This species belongs to 8 orders such as Cypriniformes, Siluriformes, Perciformes, Channiformes, Beloniformes, Osteoglossiformes, Mugiliformes and Auguilliformes.

**Key words:** Fish, Manair, Dam, Species



Oral Presentation-34

## EFFECT OF INSECTICIDE, LESENTA ON RATE OF OXYGEN CONSUMPTION IN COMMON CARP (*CYPRINUS CARPIO* L.)

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For the toxicity investigation, the study of the rate of oxygen consumption is one of the indications of an organism's general health. The aim of this study was to see how Lesenta insecticide affected rate of oxygen consumption in the freshwater fish *Cyprinus carpio*. The rate of oxygen consumption in *C. carpio* after exposure to lesenta between 1 mg/L (1/10<sup>th</sup> of LC<sub>50</sub>) and 2 mg/L (1/5<sup>th</sup> of LC<sub>50</sub>) at sublethal concentrations on days 7, 14, 21, and 28 revealed a significant decrease in the rate of oxygen consumption. After 28 days of exposure, the rate of oxygen uptake in *C. carpio* was considerably lower than in the control group of fish. When compared to control, percentage of the rate of O<sub>2</sub> consumption decreased 20% and 38% on the 7th day, 30% and 53% on the 14th day, 46% and 68% on the 21st day, and 64% and 81% on the 28th day at 1 and 2 mg/L sublethal concentrations, respectively. The O<sub>2</sub> consumption rate of fish impacted by Lesenta. The reduction was greater at higher concentrations, which could be due to a slower metabolism caused by toxicant stress.

**Key words:** Toxicity, Oxygen, *Cyprinus carpio*, Lesenta, Insecticide, Sublethal, Metabolism Stress

*Oral Presentation-35*

## **EXPLORING THE ZOOPLANKTON DIVERSITY THROUGH METAGENOMIC ANALYSIS**

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Metagenomic analysis is the study of genetic information from mixed populations of microorganisms rather than from a single organism. This type of analysis is particularly useful for studying complex ecosystems such as aquatic environments, where many different species of microorganisms are present. In the context of zooplankton, metagenomic analysis can be used to study the genetic diversity, including the genes they express and the metabolic pathways they use. Metagenomic analysis of zooplankton can provide a more comprehensive understanding of these microscopic aquatic animals and their role in the ecosystem. This information can be used to understand the role that zooplankton in the ecosystem, their interactions with other organisms, and their impact on the biogeochemical cycles in the water column. Metagenomic analysis can help to determine the genetic diversity of zooplankton populations and how they have evolved over time. This information can be used to understand the mechanisms of speciation and the evolution of new species in these aquatic environments. Additionally, metagenomic analysis can be used to study the presence of harmful pathogens in zooplankton populations, which can have significant implications for human health, especially in the context of seafood safety. Overall, metagenomic analysis is a powerful tool for advancing our understanding of these important components of aquatic ecosystems and the ecological and evolutionary processes that shape them.

**Key Words:** Zooplankton, Ecosystem, Metagenomics, Microorganisms

*Oral Presentation-36***MURRAYA PANICULATA LEAF EXTRACTS LARVICIDAL EFFICACY AGAINST THE LARVAE OF AEDESVITTATUS (DIPTERA; CULICIDAE)**

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Mosquitoes are major carriers of various diseases and pose a significant threat to human health. *Aedesvittatus* which transmits dengue, chikungunya, yellow fever, and Zika viruses, is emerging as a threat to human health. Therefore, the development of effective larvicides against mosquitoes is a crucial step toward controlling the spread of diseases. This study evaluated the larvicidal efficacy of *Murraya paniculata* leaf extracts against *A.vittatus* larvae. Extracts were prepared using water, methanol, ethanol, and hexane, and their toxicity was tested at various concentrations. The obtained results showed concentration-dependent larvicidal efficacy by all the tested extracts. The order of efficacy was methanolic extracts (MLME) > ethanolic extracts (MLEE) > hexane extracts (MLHE) > aqueous extracts (MLAE). The results showed that the MLME had the highest larvicidal activity, with 94.67% mortality at 400 PPM and an LC50 value of 27.08 ppm. MLEE and MLHE also exhibited moderate activity, with 86.67% and 82.67% mortalities at 400 ppm and LC50 values of 51.11 ppm and 72.49 ppm, respectively. MLAE showed low activity, with 77.67% mortality at 400 ppm and an LC50 value of 88.39 ppm. The results of this study suggest that *M. paniculata* leaf extracts have the potential as larvicides against *A.vittatus* and can be further explored as a natural alternative to synthetic insecticides. These findings contribute to the existing body of knowledge on the use of plant extracts as larvicides and can inform the development of integrated vector control strategies.

**KEYWORDS:**

Orange jasmine, biological control, bio-pesticides, dengue, chikungunya, yellow fever, Zika virus, Natural larvicides.

*Oral Presentation-37***THE STUDY OF SEASONAL CHANGES OF ALKALINITY IN  
MATHADIVAGU DAM DISTRICT ADILABAD TELANGANA STATE****K. Rajkumar<sup>1</sup>, T. Shivalingu<sup>2</sup>***Department of Zoology,  
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The existence of all hydroxyl ions capable of interacting with the hydrogen ion defines the alkalinity of water, which is defined as its ability to neutralize a strong acid. Free hydroxyl ions and salt hydrolysis caused by weak acids and strong bases, such as carbonates and bicarbonates, cause alkalinity in natural waters. Increased rate of organic decomposition in summer, when carbon dioxide is freed and combines with water to generate  $\text{HCO}_3$ , raising alkalinity and decreasing alkalinity, was attributed to dilution caused by rains in monsoon. physicochemical examination is critical for determining the quality of water for optimal use and for determining the pollution load on receiving water bodies. Phytoplankton's were observed maximum in the winter or spring season because it is due to the temperature, turbidity, alkalinity, chlorides and nitrates playing key roles in Mathadivagu dam.

**Key words:** Hydrolysis, Decomposition, Monsoon, Alkalinity, Turbidity



*Oral Presentation-38*

## **A STUDY OF PHYSICO CHEMICAL PROPERTIES OF MUPPALA LAKE, JAGTIAL DISTRICT**

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Water is the essential for life and the dominant life is present in water. The amount of fresh water on the earth is very less and it has very much ability for the renewal. India by virtue of geographical position blessed with the number of rivers, lakes and streams. This fresh water resources in India even centralized for the cultural development and resemblance. In Telangana water resources are expanded to a maximum level in number and level. This is because of the construction and development of irrigation projects. In the present study an attempt has made to estimate the physico chemical properties of Muppalam Lake of the Jagtial District. This lake is situated beside the highway of Dharmapuri in the revenue villages of Thippannapet and Thimmapoor of Jagtial Mandal. The municipal corporation of Jagtial has connected this lake with the sewage drain of the town. In this context we tried to estimate the parameters temperature, color, transparency, turbidity, electrical conductivity, phosphates, nitrates, chlorides, carbonates, bicarbonates, hardness, dissolved oxygen. This study revealed that all the parameters were estimated with standard procedure of APHA, AWWA. The study revealed that all the parameters are in permissible limits and the seasonal changes are observed in all the parameters.



Oral Presentation-39

## SEASONAL VARIATION IN DISSOLVED OXYGEN OF POND WATER IN ANTARGAM VILLAGE, JAGTIALMDL, TELANGANASTATE.

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Dissolved oxygen (DO) is a measure of how much oxygen dissolved in the water-the amount of oxygen available to living Aquatic organisms. The amount of dissolved oxygen of Pond can tell us about the water quality. Healthy water should generally have dissolved oxygen concentration above 6.5-8mg/. Land between about 80 to 120/. During the investigation, The dissolved oxygen level was changed from 3.2 to 11.5mg/L. It is a method of estimating the concentration of DO in water. DO is required for the metabolic activity of all aquatic organisms with an aerobic metabolism. It is necessary for many forms of life. Invertebrates, bacteria and plants, these organisms use oxygen in respiration, similar to organisms of land. The Dissolved oxygen was determined using the APHA titrimetric technique (1998) for twelve months and found that Dissolved oxygen was highest in the month of January (10.61) and less in May (6.1).

**Keywords:** Monthly variations of Dissolved oxygen of Pond water.



*Oral Presentation-40***ANTI-DIABETIC ACTIVITY OF SELECTED MEDICINAL PLANT  
EXTRACTS USED BY TRIBALS IN THE ADILABAD DISTRICT OF  
TELANGANA STATE BY *IN VITRO***

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Diabetes mellitus is a metabolic condition marked by high blood glucose levels as well as changes in carbohydrate, lipid, and protein metabolism. The goal of this study was to determine the inhibitory effect of selected plants (*Artemisia vulgaris*- root, and *Angelica archangelica*- leaves) on -glucosidase and -amylase to assess anti- diabetic effectiveness in vitro. By using the Soxhlet extraction method, each plant powder was repeatedly extracted with different organic solvents of increasing polarity. To investigate invitro anti-diabetic efficacy, the various solvent extracts were submitted to a -glucosidase and -amylase enzyme inhibition assay. *Artemisia vulgaris* stem bark crude extracts yielded 22.43 percent, 25.56 percent, 10.14 percent, 12.12 percent, and 1.10 percent in hexane, chloroform, ethyl acetate, acetone, and methanol, respectively. *Angelica archangelica* extracts were shown to have IC<sub>50</sub> values of 57 g/ml, 43 g/ml, 63 g/ml, 64 g/ml, and 70 g/ml in n-hexane, chloroform, ethyl acetate, acetone, and methanol, respectively. In a dose-dependent way, all extracts reduced enzyme activity. Based on the IC<sub>50</sub> values, *Angelica archangelica* chloroform extract was the most active of the two plant species, followed by *Artemisia vulgaris*. The chemicals responsible for *A. archangelica* promise in vivo anti-diabetic effect should be studied further.

**Keywords:** *Angelica archangelica*, *Artemisia vulgaris*,  $\alpha$ - amylase, glucosidase.

*Oral Presentation-41***MORPHOLOGY, PHARMACOGNOSY & SILVICULTURE OF  
STRYCHNOS NUX-VOMICA & S. POTATORUM AND THEIR MEDICINAL  
IMPORTANCE IN TRADITIONAL SYSTEMS: A REVIEW****D. Ravivarma , Ch. Bhargavi, M. Manasa, G.Vaishnavi<sup>1</sup> & K.Chandramohan<sup>2</sup>***Forest College & Research Institute, Mulugu, Siddipet, Hyderabad 502279**<sup>1</sup> Forest Research Institute, Dehradun, Uttarakhand 248195**<sup>2</sup> Forest Survey of India, Central Zone, Nagpur, Maharashtra 440006*

Forests has many medicinal plants which has capacity to heal and prevent various diseases. The rising trend of chemical medications is reducing the value of herbal remedies day by day. *Strychnos nux-vomica* and *Strychnos potatorum* are two important medicinal trees, of which bark, leaves, roots, seeds and fruits have been used in traditional medicine preparations for a long period of time in many Asian countries. *Strychnos potatorum* is a major forest element in dry deciduous forests of Peninsular India and Sri Lanka, while Native of *Strychnos nux-vomica* is India to N. Peninsula Malaysia. Seeds, bark, leaves and roots of *S. potatorum* are traditionally used for treatment of chronic diarrhoea, gastrological disorders, gonorrhoea, leucorrhoea, bronchitis, dysentery, renal and vesicle calculi, diabetes, scleritis, ulcers, conjunctivitis and other eye disease, whereas *S. nux-vomica* is used in treatment of inflammation, microbial infections, gastrointestinal problem, nervous system, bones cells, cardiovascular systems, cancer and blood glucose level. It also has antioxidant activity and antifeedant activity. In this review paper, morpho-phenology, propagation techniques, silvicultural practices, pharmacognosy, medicinal importance of *S. nux-vomica* and *S. potatorum* and their traditional importance in treatment of different ailments have been provided.

*Oral Presentation-42*

## **ISOLATION AND CHARACTERIZATION OF HUMAN HEPATIC STEM CELL**

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Stem cells found in multi-cellular organisms have ability to renew themselves through mitotic cell division and differentiate into a diverse range of specialized cell types in the body during early life and growth. The liver is an organ with tremendous regenerative capacity. Hepatic stem cells possess multi-lineage differentiation potential and self-renewing capability. These cells can differentiate in vitro as well as in vivo into some epithelia capable of reconstituting tissues within the liver, pancreas, and intestine following appropriate transplantation. The liver, normally proliferatively quiescent, invokes a rapid regenerative response to restore liver mass. It has to cope with various infectious pathogens, in particular hepatotropic viruses. The liver has adapted to the inflow of ingested toxins by the evolutionary development of unique regenerative properties. Under normal circumstances the liver shows a low rate of hepatocyte renewal but in the event of liver injury, for example, acute liver damage or drug intoxications, hepatocytes display a remarkable capacity to divide and to restore the liver parenchyma. Because of their enormous capability to regenerate the liver, which is unique among differentiated cells in human organs, hepatocytes function as stem cells. Isolation of liver cells were taken up from aborted fetus at the Center for Liver Research and Diagnostics, Owaisi hospital and research center, Kanchanbagh, Hyderabad. Isolation of stem cells was done by magnetic separation using antibody coated magnetic beads attached to solid matrix by Magnetic Activated Cell Sorter technology (MACS). Stem cells activity test was done by MTT assay which can be used for measuring cellular proliferation. Enriched stem cells were checked for liver specific markers using Anti CD34 marker. The cell surface receptors are the stem cell markers. CD34 cells can be sorted by using Fluorescent Activated Cell Sorter (FACS) or Magnetic Activated Cell Sorter (MACS). Enumeration and Gene expression analysis was done by using RT-PCR (reverse transcriptase PCR) and Flow cytometry. Specific Anti-antibody analysis was identified by immunocytochemistry

**Keywords:** Hepatic Stem Cells, Regeneration, Magnetic Activated Cell Sorter, MTT Assay, RT-PCR.



*Oral Presentation-43*

## **ALGAL BIODIVERSITY IN SELECTED FRESH WATER AQUATIC BODIES IN PAKAL LAKE**

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Farm pond/lake are now a day extensively utilized for irrigation, drinking and fisheries purpose. In the present study the Pakal lake, Ashok Nagar, Warangal District of Telangana State (India) was selected. In order to identify the biodiversity and population dynamic of this lake, the algal samples were collected at regular intervals. These collected samples were observed, identified and micro photographed. Besides these, algal growth can be supported by moist surface such as wet soil, rocks, tree trunks, etc. Algae are found growing in a variety of aquatic and terrestrial ecosystems. Algal specimens were collected in sterilized glass containers from selected different sites of lake. Individual collections were picked in container with detailed field notes like collection number, date, nature of occurrence etc. The collected specimens were carefully cleaned in tap water before being preserved in container. For long term storage and future reference 4% formalin were used as preservative (Glycerin is added to this solution for long time preservation). Identification of Algae Permanent slides were prepared and observed under microscope. Photography was done by an Olympus photomicroscope. It was reported that, the fresh water algae collected for the present research were from three major division's viz. Chlorophyta, Cyanophyta and Bacillariophyta divisions. Total 16 genera were reported in the collected algae. It was also found that these algae were responsible for blocking the drip laterals.

**Key words:** Fresh Water Algae, Pakal lake, Biodiversity.



*Oral Presentation-44*

## **ISOLATION OF RIBOFLAVIN-BINDING PROTEIN FROM THE HENS EGG-YOLK**

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Riboflavin binding protein (Rfbp) was purified from the Hens Egg yolk. A simple and efficient procedure for the purification of the riboflavin-binding protein from hen's egg yolk is described. The Rfbp was purified in two steps; DEAE-SephadexA-50 ion exchange chromatography. The final purification of protein was achieved on Sephadex G-100. The purity of the protein was judged on cylindrical and slab gel electrophoresis, SDS-PAGE technique. Sephadex G-100 fraction Rfbp moved as a single band both on the Slab and Cylindrical gels. This is a novel approach for the study of riboflavin binding protein purified from different avian eggs in two steps and studied electrophoretic characterization with standard molecular weight marker. The protein thus isolated is homogeneous by various physicochemical, immunological, and functional criteria.

**Keywords:** Rfbp purification method, Hen, egg -yolk, SDS



*Oral Presentation-45*

## **CHARACTERIZATION OF ACTINOMYCETES PRODUCING NOVEL ANTIBIOTICS**

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Actinomycetes that may have good potential of producing novel antibiotics against coal mine soil MMKK2 gram positive bacteria most of the isolates (46%) also showed antimicrobial activity *Streptomyces rochei*. These bacteria are known capable of producing secondary and primary metabolites isolation and characterization of actinomycetes were conducted by serial dilution, pour plate method on GAAM, SCA Medias while characterization was by determining morphological, physiological, ecological and genetic analysis of colonies, cell structure and biochemical tests. The results solved by 16SrDNA sequence analysis showing Antibiotic activity related to the genus *Streptomyces* followed by *Microbacterium*, *Agromyces*, *Bacillus megaterium*, rare antibacterial genera accounted for minor proportions.

**Key words:** Actinomycetes, coal mine soil samples, human pathogens primary and secondary screening.



*Oral Presentation-46*

**HISTOCHEMICAL ANALYSIS OF DNA AND RNA IDENTIFIED BY  
METHYL GREEN - PYRONIN 'Y' METHOD AND FEULGEN'S  
REACTION STAINING IN LIVER OF *CHANNA PUNCTATUS***

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The light microscopy was to identify cells, storage products, tissue deposits, and microbial pathogens. The Assessment of surrounding tissue with special stains may reveal aspects of interest for the tissue. We illustrate the expected staining characteristics of control *Channa punctatus* liver tissue with Methyl Green -Pyronin 'Y' and Feulgen's Reaction stains. The aim of this study was to characterize the normal structure of the liver of *Channa punctatus*, a carnivorous freshwater fish found in Hasanparthy Lake, using gross anatomy, histology and histochemistry. Anatomically, the liver presents C-shaped and only two lobes smaller right and bigger left. The gallbladder is located in right lobe and shows elongated shaped. Histological analysis demonstrated that the hepatic parenchyma is made of two hepatocytes plates surrounded by sinusoids. The fish moreover pancreatic tissue was observed in visceral portion of liver, formed by exocrine pancreatic tissue and islet organ, constituting an extrahepatic pancreas. The nucleic acids content in different tissues in the freshwater fish of *Channa punctatus*. The fish were scarified and the tissues such as liver and Pancreas removed and processed for determination of nucleic acids. The results obtained in the present study may provide a contribution to the knowledge of the characteristics of nucleic acid as parameters of estimation of DNA and RNA levels in Liver of the fish.

**Key words:** *Channa punctatus*, Feulgen's Reaction, Liver

*Oral Presentation-47***EVALUATION OF THERAPEUTIC EFFICACY AND UNDERSTANDING  
THE MODE OF ACTION OF A POLYHERBAL FORMULATION ON  
DIET-INDUCED OBESITY: IN VITRO AND IN VIVO STUDIES"****Munipally Praveen Kumar**, Estari Mamidala, Rakesh Davella, and Poornima*Department of Zoology, Kakatiya University, Warangal-506009, Telangana, India*

An increased risk of obesity has become a common public health concern as it is associated with hypertension, diabetes, osteoarthritis, heart diseases, liver steatosis, etc. Pharmacological intervention with natural product-based drugs is considered a healthier alternative to treat obesity. The study investigates the effects of methanolic extracts of *Terminalia paniculate* (MTP), *Piper nigrum* (MPN), *Gymnema sylvestris* (MGS), and a combination of their polyherbal formulation (PHF) against a high-fat diet (HFD) induced obesity in rats. Male SD rats were fed HFD initially for 15 weeks to induce obesity. MTP (200 mg/kg body weight (BW)), MPN (200 mg/kg BW), MGS (100 mg/kg BW), and PHF (500 mg/kg BW) were administered orally for 45 days to high-fat diet (HFD) induced obesity in rats. HFD-induced changes in body weight, body composition, fat percentage, adiposity index, blood pressure, plasma levels of glucose, insulin resistance, leptin, adiponectin, plasma and tissue lipid profiles and liver antioxidants were explained. The activities of lipase, amylase, and lipid metabolic marker enzymes such as HMG-CoA reductase, carnitine palmitoyl transferase (CPT), fatty acid synthase (FAS), acetyl-CoA carboxylase (ACC), lecithin-cholesterol acyl transferase (LCAT) and lipoprotein lipase (LPL) were assessed in experimental rats and these effects were compared with Control rats. Treatment with MTP, MPN, MGS, PHF, and gliclazide for 45 days resulted in significant modulations in the levels of biochemical parameters, obesity marker enzymes, and oxidative markers. We also found PHF effectively altered the expressions of mRNA levels and protein levels of antioxidants, anti-inflammatory, and anti-fibrosis in diabetic mice. The histopathological alteration of the aorta reduced most of the pathological alterations with PHF treatment. The effect of PHF was more pronounced than that of the MTP, MPN, and MGS and brought back all the parameters to near normal. Our study concludes that PHF can be well considered an effective bioactive molecule to suppress body weight and improve insulin and leptin sensitivity, ultimately leading to regulating obesity.





*Oral Presentation-48*

## **SOCIO-ECONOMIC PROFILE ANALYSIS OF DAIRYFARMERS OF HANUMAKONDA DISTRICT OF PARKAL TOWN.**

**Swapna Gurrapu**

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The study was conducted on socio-economic profile analysis of dairy farmers of hanumakonda district, parkal town during the year 2021-2022. Dairy farming plays a key role in social and economic livelihood of the farmers. The socio-economic profile of dairy farmers exposed that majority of the farmers (65.00%) belonged to mid age group. 33.00 per cent and 22.00 per cent were educated up to middle school and high school respectively. Majority (85.00 %) of the farmers had animal husbandry plus agriculture as main occupation, 60.00 per cent were belong to nuclear family and OBC category (62.00%), majority of farmers (78%) having local cattle's with small to medium herd size and large number of farmers belong to low milk production and getting low milk yield from local and cross breed, While, 62.00 per cent of the farmers belonged to medium mass media participation, medium extension contact (55.00 %), medium extension participation (48.00 %), medium economic motivation (50.00 %) and medium scientific orientation (56.00%). Therefore, there is a scope for further improvement in socio economic status, which ultimately lead to animal husbandry development.



*Oral Presentation-49*

## **EFFECTS OF PESTICIDE USE IN AGRICULTURE AND ITS IMPACT ON HUMAN HEALTH**

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India*

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Going by the characterization of pesticides, they are chemical substances that are made use of to eliminate animals, insects, plant and fungal bugs in cultivation, at home as well as in institutions. Therefore, the objective of this study is to evaluate the various aspects of pesticide use in agriculture and to study the effect of pesticides use in agriculture on human health. Agricultural community was taken for this study and areas were randomly chosen. All farmers, both men and women were interviewed if they were working in an agricultural field. The most commonly used pesticides according to the sprayers were Rogar/Dimethoate (55%), Ekalux/Qualphos (49.4 %), Endosulphan (48.5%) and Monocrotophos (45.9%). While pesticides were sprayed, non sprayers (40.1%), including women (19.3%) continued to work in the same field, which exposed them to pesticides (Table 5). Time of reference for the non sprayers was while working in the field during or after pesticide spraying. These signs and symptoms were reported by a large number of sprayers. 373 sprayers (86.1%) and 156 (78.8%) of non-sprayers reported at least one of these signs and symptoms.

**Keywords:** Pesticides, Monocrotophos, Endosulphan, Health, Ekalux, Agriculture.

*Oral Presentation-50***SCREENING OF ANTI-DIABETIC THERAPEUTICS FROM MEDICINAL  
PLANTS USING *IN-SILICO* MOLECULAR DOCKING****Rakesh Davella<sup>1</sup> & Estari Mamidala<sup>2</sup>**

<sup>1,2</sup> *Infectious Diseases Research Lab, Department of Zoology, Kakatiya University,  
Warangal-506009, Telangana State, India*

About 90% of all cases of diabetes are of type 2, which is the most prevalent kind. It is generally characterized by insulin resistance, where the body does not fully respond to insulin. Because insulin cannot work properly, blood glucose levels keep rising, releasing more insulin. The International Diabetes Federation reported number of diabetes adults is 537 million and the trend will rise to 783 million in 2045. The management of diabetes mellitus is very important and essential. Herbal drugs are prescribed in treatment of diabetes mellitus due to their good effectiveness, fewer side effects in clinical experience and relatively low costs. Alpha-glucosidase is one target enzyme for reduce glucose level in the management of type 2 diabetes mellitus. The present study focused on an *In-silico* molecular docking studies of compounds from various medicinal plants by using Auto dock 4.2.6. The docking results showed that Aegeline has the greatest binding affinity against  $\alpha$ -Glucosidase, with -9.97 kcal/mol, and interacts with two hydrogen bonds with LEU:286, SER:521. Therefore, the findings of this study advised Aegeline as a druglike molecule which could be further extrapolated to *In vitro* and *In vivo* studies for the development of therapeutics to treat type2 diabetes mellitus.

**Keywords:**Medicinal plants, Herbal drugs,Docking,  $\alpha$ -Glucosidase,Diabetes mellitus

*Oral Presentation-51***MOLECULAR DOCKING OF PHYTOCHEMICALS FROM *COSTUS IGNEUS* AGAINST  $\alpha$ -AMYLASE FOR ANTI DIABETIC ACTIVITY****Pujala Shivakrishna<sup>1</sup> & Estari Mamidala<sup>2</sup>**

*<sup>1,2</sup>Infectious Diseases Research Lab, Department of Zoology, Kakatiya University,  
Warangal-506009, Telangana State, India*

Diabetes mellitus (DM) is a metabolic disorder that occurs in the body because of decreased insulin activity and/ or insulin secretion. Pathological changes such as nephropathy, retinopathy, and cardiovascular complications inevitably occur in the body with the progression of the disease. The objective of this study is to evaluate the *in silico* activities of *Costus igneus* flavonoids on  $\alpha$ -amylase. Squalene, a compound present in *Costus igneus* has good docking activity with the least e-value of -7.22 kcal/mol and the residues ASN:5, 481; PRO:4, 223, 332; ASP:402, ARG:10, 252, 398, 421; VAL:401, GLY:403, 9, 334; THR: 6, 11; GLN:8; PHE:222, 335 SER:3, 226; LEU:217 were might play important roles in binding with this compound. The results are expected to be useful in conducting *in vitro* screenings on animal model which may lead to the development of more effective and potent new chemical entities with anti-diabetic property.

**Key Words:** Docking,  $\alpha$ -Amylase, *Costus igneus*, Diabetes mellitus.



*Oral Presentation-52*

## **ANALYSIS OF NAGARAM LAKE PHYSICOCHEMICAL PARAMETERS AND ZOOPLANKTON DIVERSITY.**

**Balakrishna Dhatrika & Vinatha Naini**

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Hanumakonda.*

Nagaram lake is located in the village of mucharla nagaram villages of hanumakonda district. It is 10kms far away from kakatiya university campus. The tricity means Warangal, hanumakonda and kazipet domestic drainage is blends with this lake water. The lake is major source to 12 villagers for irrigation purpose. The selected lake is also a major source for fisheries. The present investigation is made an attempt to asses various physical parameters like temperature, transparency, turbidity, pH, dissolved solids, chemical parameters like dissolved oxygen, carbon dioxide, hardness, alkalinity, sulphates, phosphates, chlorides, biochemical oxygen demand , biological parameters like zooplankton were analyzed during the year 2021-22. In this study period there are six different sites were selected. These are fresh water having sites and domestic sewage blending sites. Among the all sites domestic sewage blending sites parameter values showed drastic variation than other sites. The four major group of zooplankton were observed during the study period. Those are Rotifera, Copepoda, Cladocera and Ostracoda. Among the four group of zooplankton rotiferan group is dominated and followed by copepoda, cladocera and ostracoda.

**Key words:** nagaram lake, parameters, zooplankton, group, water.

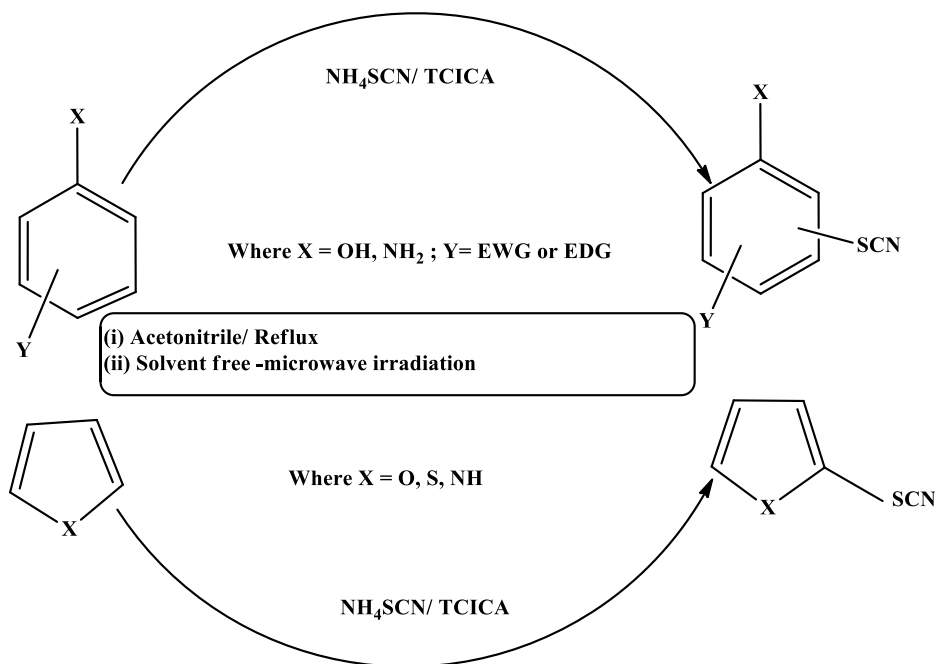


## THIOCYANATION OF AROMATIC AND HETEROAROMATIC COMPOUNDS USING TCICA AND THEIR PHARMACOLOGICAL ACTIVITY

T. Rajamani

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Kakatiya University, Warangal-506001(T.S), INDIA.*

Several thiocyanate compounds are used as important synthons in organic, pharmaceutical, medicinal and agriculture chemistry. These compounds can be easily converted to other functional groups such as thiocarbamate, aryl nitrile, sulfide and thionitrile. have been used as precursors for dyes, drugs, agrochemicals and also used in the preparation of several anticancer, antifungal, anti parasitic agents.



Scheme - 1: TCICA/  $\text{NH}_4\text{SCN}$  triggered Thiocyanation of Aromatic and Heterocyclic Compounds

**Key words:** TCICA, acetonitrile, , MeOH,  $\text{CHCl}_3$ , THF

*Oral Presentation-54*

## **HEMATOLOGICAL METHODS IN FRESHWATER FISH OF *CHANNA PUNCTATUS***

**S. Manjula\*** Podeti Koteswar Rao

*Department of Zoology SVS Degree and PG College - 506 009.*

The hematological analyses are commonly used to evaluate Freshwater fish health and welfare in aquaculture, veterinary practice and scientific research. Hematological parameters were proved to be highly sensitive to various environmental factors including nutrition, water quality, stress or pathogens. Peripheral blood tests involve measurement of various red and white blood cells indices and are often supplemented by biochemical analyses. The use of hematological techniques is arduous and requires experience but high amount of information and relatively low cost are considerable advantages. Manual hematological methods that are most often used in fish hematology do not require highly specialized laboratory equipment; however automatic analyzers adapted for use with fish blood are also in use. The results of hematological analysis may be affected by various pre analytical and analytical factors. The aim of this work was to review the procedures used in fish hematology by various authors. We develop recommendations that can provide practical guidance for fish biologists to help to obtain reliable and reproducible results.

**Keywords:** Blood, Hematology, Physiology, Methodology,



*Oral Presentation-55*

**ISOLATION AND PURIFICATION OF RIBOFLAVIN  
BINDING PROTEIN FROM COMMON CRANE EGG (GRUS GRUS)**

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Telangana State, India.*

Riboflavin (RF) and its active forms, the cofactors flavin mononucleotide (FMN) and flavin adenine dinucleotide (FAD), have been extensively used in the food, feed and pharmaceutical industries and can protect the body against oxidative stress, especially lipid peroxidation, Oxidative stress. Riboflavin binding protein (RfBP) is one of the several nutrient-binding proteins with primary function of depositing riboflavin in the egg. Riboflavin binding protein was isolated and purified from Crane (Grus Grus) egg white and yolk by DEAE Sepharose ion exchange chromatography followed by gel filtration chromatography on Sephadex G-100. The purity of the protein was judged by SDS-PAGE technique. Comparison of the mobility of the purified proteins with the standard molecular weight marker proteins revealed that the Crane RfBP (egg white and yolk) had a molecular weight close to 40 kDa and it was approximately 11 kDa larger than the hen egg white RfBP.

**Key Words:** Common Crane (Grus grus), Egg-Yolk, Egg White, Riboflavin binding Protein (RfBP), Flavin mononucleotide (FMN) and Flavin adenine dinucleotide (FAD),



*Oral Presentation-56*

## **HEALTH PROBLEMS IN SILK INDUSTRIES - SAFETY MEASURES - A NEED OF THE HOUR**

Kaneez Fatima\* & Kuntamalla Sujatha\*

*\*Assistant Professor, Sericulture Unit, Department of Zoology, Kakatiya University,  
Warangal – 506 009, Telangana State.*

In labour abundant and agrarian based economy like India, Sericulture sector acts as a harbinger of prosperity and increase farm income to a greater extent. even though the silk worm life cycle is eco-friendly, it will become prone to many health problems at different stages right from the processing of silk worm rearing to final product. It consists of pesticides and herbicides from mulberry field, carbon monoxide poisoning and problems related to unhygienic rearing. Grainage workers suffer from Asthama, Conjunctivitis, dermatitis amines. Similarly, metal complex dyes damages nervous system which lower energy levels and disturbs blood composition, lungs, kidney and liver disorders. Silk dyes prone to skin irritation, ulcers, sensitization and allergic contact dermatitis. Lead accelate in dyeing affects the human brain as well as reproductive system. Contact with Silk cloth sometimes causes irritation, narcosis, dizziness, fatigue, nausea, headache, eye irritation, risk of miscarriage and serious neurological problems. The smoke of firewood may emit toxic carbon monoxide fume generates air and water pollution to the environment. Hence most of these problems can be avoided if we create awareness on the side effects of the chemicals, in the process of production. Further use face masks, checking of spurious products, testing of cocoons and raw silk with ISI standards are necessary safety measures to be adopted. Finally stringent actions should be taken by the Government whoever adopts unethical practices which leads to health problems in silk industries.

**Key words:** *Silk industry, Health problems in Sericulture, Safety measures.*

*Oral Presentation-57***PREVALENCE OF ANEMIA AMONG THE TRIBAL PREGNANT  
WOMEN OF ADILABAD DISTRICT****Bake Saritha, S. Padmaja***Department of Zoology, Osmania University, Hyderabad, Telangana State, India*

Anemia usually refers to a condition in which your blood has a lower than normal number of red blood cells. Iron deficiency anemia is the most common nutritional deficiency worldwide affecting 1.3 billion people. Primary objective of the study was to estimate the prevalence of anemia among tribal pregnant women of 19-41 years of age of Adilabad District. A cross-section survey in total 72 hamlets and clusters of ( Ankoli PHC ) Of Adilabad District of Telangana. A Primary Health Center based cross-sectional survey was done among the sample of 350 tribal pregnant women aged between 19-41 years in 72 hamlets and clusters. From 1st January 2022 to 31st December 2022. Anemia is diagnosed by estimating the hemoglobin concentration in blood by SHALI'S method. The mean hemoglobin of the study group was 8.08 gm%( standard deviation (SD) 1.20) And coefficient of variance is 18.12%. Prevalence of anemia was found to be 95.7% (N=335 ) standard error = 0.972 and 96 confidence interval ,CI, 95.02 , 98.35 ) Mild anemia (hemoglobin 10-11.9 gm% ) was found to be 25%, moderate anemia is 64% (Hb=7-9.9gm%) prevalence of severe anemia (<7gm%) was found to be 11. Prevalence of anemia was very high among tribal pregnant women of Adialbad District.

**Keywords:** Prevalence, Anemia, Hemoglobin, Tribal Women

*Oral Presentation-58*

## **ECONOMICAL MASS PRODUCTION OF *TRICHODERMA VIRIDE* USING DIFFERENT FRUIT WASTES**

<sup>1</sup>Boddireddy. Sridevi and <sup>2</sup>Birru Anusree

<sup>1 & 2</sup> *Department of Microbiology, Telangana Social Welfare Residential College for Women, Warangal East, Warangal-506005, Telangana*

Indiscriminate use of chemical pesticides has resulted in emergence of resistant pathogen strains and has increased the environmental pollution level in soil and water with adverse effect on food quality and human health. Biological control by an antagonism is a potential, eco-friendly approach for managing plant diseases and a sustainable approach as an alternative to the use of chemicals. *Trichoderma* species have been recognized as antagonists of soil-borne and foliage pathogens and as efficient decomposers of cellulosic waste materials. *Trichoderma viride* is widely used as bio-control agent against several root pathogenic fungi throughout the world. Different mechanisms have been suggested as being responsible for their biocontrol activity, which include competition for space and nutrients, secretion of chitinolytic enzymes, mycoparasitism and production of inhibitory compounds. The major issue involved in mass production and utilization of biocontrol agents are selection of effective strains, development of cost effective methods for mass cultivation and effective methods for storage. In the present study, *T. viride* was isolated from decomposing wood and identified through microscopic observation by using standard keys. *T. viride* was cultivated in different fruit peels of water melon, banana and orange as a substrate in solid state cultivation. The growth and sporulation of *Trichoderma viride* was faster in water melon peels followed by banana peels and orange peels.

**Key Words:** *Biological control, antagonism, Trichoderma sp., mycoparasitism*



## **POSTER PRESENTATIONS**





POSTER PRESENTATIONS (No.1-26)		
Day-2: 25-02-2023 Time: 2.30 – 3.30; Venue: Corridor of 1 <sup>st</sup> Floor		
S.No.	Name	Title
1	CHOPPADANDI AKSHAYA / BOORLA SHAILAJA	“MONITORING OF ALGAL BLOOM IN FRESHWATER LAKES, EXTRACTION AND EVALUATION OF ANTIBACTERIAL COMPOUNDS”
2	M. LINGAIAH	EFFECT OF <i>CHLOROXYLONS</i> <i>WIETENIA</i> BARK EXTRACT ON LIPID PROFILES OF DIABETIC INDUCED WISTAR RATS
3	GATTI MAMATHA	POPULATION DENSITY IN TERMITE MOUND OF <i>ODONTOTERMES</i> <i>OBESUS</i> IN KOTHAGUDA FOREST REGION, MAHABUBABAD DISTRICT, TELANGANA STATE.
4	SWAPNA. K	“ISOLATION AND CHARACTERIZATION ACTIVE CONSTITUENT FROM <i>WITHANIA</i> <i>SOMNIFERA</i> ”
5	BURGULA KAVITHA	STUDY ON SOME MEDICINAL PLANTS USED BY THE TRIBALS OF KHAMMAM DISTRICT, TELANGANA STATE, INDIA
6	VINEETH REDDY KANKANALA	CRE-LOX P RECOMBINATION SYSTEM AND IT'S APPLICATIONS
7	ABISHEK S	NOVEL DNA GYRASE INHIBITORS FOR SARCOV-2 ENTRY LEVEL RESTRICTIONS
8	TARUNIKAA MUPPALA	NATURAL PRODUCTS AGAINST PREDOMINANT UROPATHOGEN; ANTI- BIOFILM AND FIM-H INHIBITION POTENTIALS VALIDATIONS
9	SNEHA G	NOVEL CVD MODULATORS TO TREAT ATHEROSCLEROSIS AND SARS-COV-2 VIA HACE & HACE2 INHIBITION



10	BHAVANA SRIRAM	DISCOVERY OF NOVEL ANTIBIOFILM,ANTIMICROBIAL COMPOUNDS OVERDNA GYRASE INHIBITION MECHANISM
11	DULAM SANDHYA	CRISPR/CAS9 MEDIATED GENOME EDITING FOR TOMATO MOSAIC VIRUS RESISTANCE IN SOLANUM LYCOPERSICUM L.
12	KRANTHI KUMAR GANDE	AGROBACTERIUM-MEDIATED TRANSFORMATION OF BRINJAL (SOLANUM MELONGENA L.) USING NON- ANTIBIOTIC SELECTION MARKER PHOSPHOMANNOSE ISOMERISE (PMI) GENE
13	RAMESH VEMULA	“GENOMIC SEQUENCING OF SARS-COV-2 IMPACT ON HUMAN IMMUNE SYSTEM”
14	VASUDHA MARAPAKA	“DEVELOPMENT OF EFFICIENT AGROBACTERIUM-MEDIATED TRANSFORMATION PROTOCOL IN TOMATO (SOLANUM LYCOPERSICUM L.)”
15	MD SANOBER	EPIGENETIC REJUVENATION
16	LALITHA BHUKYA	LARVICIDAL ACTIVITY OF ELYTRIRIA ACAULIS LEAF EXTRACTS AGAINST CULEX QUINQUEFASCIATUS (DIPTERA:CULICIDAE)
17	VANAJA	DIVERSITY OF BUTTERFLIES AT MALLANNAGUTTA SURROUNDINGS IN THE DISTRICT OF KAMAREDDY
18	P. RACHANA / G. JHANCY	IMPACT OF GANGRENE ON HEALTH CONDITION
19	M. PRATHISH / M. PRATHISH	EFFECT OF INCREASED FLUORIDE CONTENT ON POPULATION
20	B. SHAINI / V. SARITHA	FACTORS CAUSING CARDIOMYOPATHY



21	CHANDRA ANJIAH	SEQUENCE ANALYSIS OF MITOCHONDRIAL COI GENE FRAGMENT FROM FIVE CULICINAE MOSQUITO SPECIES
22	MYAKALA VANAJA	OBESITY AND OVERWEIGHT: A REVIEW ON CURRENT TRENDS
23	D.RAJITHA RANI	ECTOLIFE - A NEW WAY TO BRING LIFE INTO THE WORLD
24	VENNELA	A REVIEW ON PCOS (POLYCYSTIC OVARY SYNDROME) - PROGRESS AND DIFFICULTIES IN UNDERSTANDING
25	MARGAM USHA	A REVIEW ON CORNEA TRANSPLANTION - AN ADVANCE APPROACHES
26	CH. KEERTHANA	GESTATIONAL DIABETES-A REVIEW
27	B.NANDHINI	STUDY OF DRUG INTERACTIONS AND HOMOLOGY MODELING OF HOPX PROTEIN ON CANCER
28	M.MADHAV	STEM CELLS: A PROMISE FOR CANCER TREATMENT: A NEW ERA OF CANCER TREATMENT: THE POTENTIAL OF STEM CELLS
29	K. RAVIKUMAR	A STUDY ON PHYSICO-CHEMICAL CHARACTERISTICS OF FRESHWATER IN OPENCAST COAL MINE IN SATHUPALLY KHAMMAM DISTRICT, TELANGANA, INDIA.
30	K. SANDHYA	MONITORING OF WATER QUALITY PARAMETERS - A STUDY OF ELLANDA FRESH WATER LAKE IN WARANGAL DISTRICT, TELANGANA STATE

*Poster Presentation-1***MONITORING OF ALGAL BLOOM IN FRESHWATER LAKES,  
EXTRACTION AND EVALUATION OF ANTIBACTERIAL  
COMPOUNDS****Shailaja Boorla, Akshaya Choppadhandi, Gunaswetha Kuraganti\****Telangana Social Welfare Residential Degree College (W), Mancherial, Telangana*

Cyanobacteria (Blue-green algae) is a photosynthetic bacteria found in both freshwater and marine habitats. Some of the earliest known life forms on Earth are cyanobacteria, which are also thought to be the first species to produce oxygen as a consequence of photosynthesis. They are significant primary producers in aquatic habitats, giving other creatures energy and nutrients. In industrial and agricultural activities including wastewater treatment, bioremediation, and the creation of biofuels, they are also employed. Algal blooms were tracked as part of the Open Filed Collective Project, and each month their diversity is recorded. The freshwater lake near Adilabad and the Mancherial district is being monitored as part of this study by taking water samples, which are then analysed for physiological features like pH, daytime temperature, the presence of algae in the water, and odour. A spectrophotometer is used to determine the amount of algae in the water, and a foldscope and compound microscope are used to view the cells. In order to develop the algae species in tap water, growth promoters like  $\text{CaCO}_3$  and  $\text{NaNO}_3$  are added. Following filtering, the algal mat is dried by air. The algal dry mat is pulverised and extracted using a liquid-solid mixture of methanol and ether (7:3). Chromatography is then used to examine the chemicals recovered from the extract using the solvent mixture. The Agar well diffusion method is then used to test for antibacterial activity by the crude extract. By evaluating the Zone of Inhibition against *E. coli*, *S. typhi*, and *M. luteus*, antibacterial activity is measured and findings are documented. The zone of inhibition is measured to be 7mm on average. The suggested framework will assist in keeping track of a water body's biodiversity of species as well as its amount of algal bloom. This will allow for the aquatic ecosystem's health to be monitored, maybe allowing for the discovery of new microbial species.

**Keywords:** Algal Bloom, freshwater lakes, Foldscope, Spectrophotometer, Extraction, Antibacterial activity.





*Poster Presentation-2*

**EFFECT OF *CHLOROXYLONSWIETENIA* BARK EXTRACT ON LIPID  
PROFILES OF DIABETIC INDUCED WISTAR RATS**

**Lingaiah M<sup>1</sup>, Estari Mamidala<sup>2</sup> and Nagaraja Rao P<sup>3</sup>**

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Telangana State, India*

*Department of zoology,Kakatiya University,Warangal-506 009,  
Telangana State, India*

Diabetes mellitus is a metabolic disorder and not a disease, characterized by hyperglycemia resulting from defects in insulin secretion/synthesis/induction in to the cell and insulin action or both. This investigation was designed to study the anti lipidemic profiles was investigated in diabetic induced Wistar rats treated with plant extract. Diabetes was induced after a single dose of intraperitoneal injection of Alloxan monohydrate drug (120 mg/ kg). The parameters studied were lipidprofile like Total cholesterol (TC), Triglyceride (TG), High-density lipoprotein (HDL), Low-density lipoprotein (LDL).Theresult of test drug was compared with diabetic control. Glibenclamide (600µg/kg/bw) was selected as standard hypoglycaemic drug. Administration of plant extracts also shows decreased in serum TC, TG, HDL,LDL in diabetic induced wistarrats.The results obtained from the present study revealed the potential Antilipidemic activity of selected medicinal plant extract.

**Key Words:**Traditional healers, Medicinal plants, Ethnobotanical survey, diabetes milletus, lipid profile.



Poster Presentation-3

**POPULATION DENSITY IN TERMITE MOUND OF  
ODONTOTERMESOBESUS IN KOTHAGUDA FOREST REGION,  
MAHABUBABAD DISTRICT, TELANGANA STATE**

**G. Mamatha and E. Narayana**

*Environmental Biology Lab, Department of Zoology,  
Kakatiya University, Warangal, Telangana, India*

The population density of *Odontotermesobesus* was investigated by taking one termite mound varying 215 cm in height and circumference is 295 cm. The population density and percentage of workers were high in the fungus garden of above ground level and ground level than the below ground level of the termite mound. The nymph density and percentage was high in the ground level and below ground level than the ground level fungus garden. High percentage of workers were found in the above ground level fungus garden for feeding royal couple, young ones and for transporting eggs from the royal chamber to fungus garden. The percentage of soldiers in the fungus garden around the royal chamber was high followed by fungus garden at above ground level peripheral fungus garden to guard the royal couple and to get food. High percentage of nymph population observed in the fungus garden around the royal chamber.

**Key words:** *Odontotermesobesus*, Termitemound, Fungus garden, Population density, Kothaguda forest region.

*Poster Presentation-4***ISOLATION AND CHARACTERIZATION ACTIVE CONSTITUENT  
FROM *WITHANIA SOMNIFERA*****Swapna K<sup>1</sup>, Estari mamidala 2\*, Srujana M<sup>3</sup>**<sup>1,3</sup> *Department of Pharmacy, Chaitanya Deemed to be University, Warangal*<sup>2</sup> *Department of Zoology, Kakatiya University, Warangal.*

The study focuses on isolating and identifying the chemical components of the stem bark of *Withania somnifera*, a plant that has been used traditionally as a remedy. The development of applicable chromatographic techniques for the separation, isolation, and detection of the chemicals is the study's main focus. Crude extracts were prepared by maceration method. Isolation of active compounds from crude extracts were done by using TLC, Column chromatography methods. Characterization of isolated molecules were done by UV, NMR, IR, and Mass Spectral studies. The stem bark of *Withania somnifera* were extracted in Chloroform: Ethyl acetate: ethanol and compounds present identified by TLC under iodine vapour. The R<sub>f</sub> values of the three spots are 0.74, 0.76 and 0.86 (bottom to top). The IR, <sup>1</sup>H NMR and mass spectra of the compound 1 and 2 were recorded. The mass spectra of the compound 1 showed molecular ion peak [M + H]<sup>+</sup> peak at m/z 528.9 and compound 2 [M + H]<sup>+</sup> peak at m/z 281.1. Compounds 4-deoxywithaperuvine and 14 $\alpha$ , 17 $\alpha$ -dihydroxywithanolide R, was determined. These compounds were isolated from this plant for the first time. From the present study, it is concluded that chromatographic and spectroscopy has potential as rapid and simple tools in the isolation and analysis of compounds from *Withania somnifera* stem bark.

**Keywords:** Mass Spectrometry, Infrared, Chromatography, Spectroscopy, *Withania somnifera*



*Poster Presentation-5*

## **STUDY ON SOME MEDICINAL PLANTS USED BY THE TRIBALS OF KHAMMAM DISTRICT, TELANGANA STATE, INDIA**

**Kavitha Burgula<sup>1</sup> and Estari Mamidala<sup>2\*</sup>**

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India.*

In Asia, the use of herbal remedies reflects a long history of environmental interactions between people and the environment. There are numerous chemicals found in plants used in traditional medicine that can be utilised to treat both infectious and chronic ailments. This study was conducted in the various Mandals of the Khammam district in Andhra Pradesh in order to record the indigenous peoples' traditional knowledge of medicinal plants and to look at their distribution, abundance, taxonomic variety, and biological activity. On field trips, ethnomedicinal information was gathered through conversations with elders, tribal physicians, and traditional healers. Local names, valuable plant parts, preparation techniques, and dose were noted during the interviews. Using a typical plant press, the voucher specimens were directly dried in the field. Plant species are listed by family, followed by their tribal names and purposes, for Herbarium Voucher specimens. In the current account, 44 angiosperm species from 27 families are listed. By using the preparations in the form of extracts, pastes, juices, and powders, they are employed as ethnomedicines for a variety of serious conditions such as cancer, jaundice, and others. The information gathered about the treatment of various maladies by the indigenous people of Khammam district Bark, roots, leaves, fruits, flowers, stems, seeds, and entire plants were among the plant materials utilised to prepare medicines. By percentage, leaves (42.5%) were the most often used plant part, followed by roots (11.5%), seeds (4%), stem bark (8%) fruits (8.5%), stem (3.5%), and flowers (8%), all of which were used as decoctions, extracts, pastes, juices, and powders. The current analysis showed that medicinal plants continue to be essential to people's basic healthcare, and it also produced a wide range of data on the plants utilised by tribal people. **Keywords:** Khammam, Telangana, Medicinal Plants, tribals.

*Poster Presentation-6***CRE-LOX P RECOMBINATION SYSTEM AND IT'S APPLICATIONS - A  
REVIEW****Vineeth Reddy Kankanala.***Department of Biochemistry, Kakatiya University, Warangal-50609, Telangana.*

Cre-Lox P system is a technique used in variety of research studies that allows for spatiotemporal control over gene deletion, inversion and translocation. This technique utilizes the Cre recombinase enzyme which is a tyrosine recombinase enzyme derived from the P1 bacteriophage. This enzyme uses a topoisomerase I-like mechanism to catalyse site specific recombination due to its efficiency in manipulating genes [such as gene knock out or knock in] and chromosomes in wide range of organisms. It is a powerful tool that is widely used in modern day biochemical and molecular biological research. It is implemented both in eukaryotic and prokaryotic systems. Previous genetic knockout experiments were restricted because the genes of interest were necessary for embryonic survival or if the gene is in functioning in multiple tissues or cell types but Cre-Lox made it possible to conditionally knockout genes solely in subset of cells where Cre recombinase is expressed. This review provides the strategic implementations of Cre-recombinase in conditional cell lineage tracing, conditional mutagenesis and conditional gene knockout that have occurred over past 18 years since the publication of improvements in genome engineering.

*Poster Presentation-7*

## **NOVEL DNA GYRASE INHIBITORS FOR SARCOV-2 ENTRY LEVEL RESTRICTIONS**

**Manikandan A<sup>1\*</sup>, Abishek S<sup>2</sup>,**

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Dual activity drugs are rare and that are the need for the day as SARS-CoV-2 still killing global human community. In this study, we discovered some substituted-indolin-2-one (**4a-d**) as the anti-microbial drug candidates, The synthesis process was a green and eco-friendly approach and the by-product of the reaction is water. All synthesized compounds were characterized by IR, NMR (<sup>1</sup>H, <sup>13</sup>C, <sup>19</sup>F) and Mass spectra (LCMS, HRMS). The significant role for DNA gyrase inhibitors in reducing escaping mechanism of bacteria through negative supercoiling. Mode of interaction and preliminary antimicrobial therapeutic efficacy of all compounds was assessed by molecular docking, MD simulations and DFT & ADMET calculations. Cytotoxicity of **3a-d** and **4a-d** assessed in macrophages. The structure-activity relationship was established by comparing all experimental as well as *in silico* analysis. In the results, excellent DNA gyrase (96.25±2.14 % inhibition and IC<sub>50</sub> 0.004 µM) of compound **5a** was almost correlated with the molecular docking results (IC<sub>50</sub> 0.0039 µM). In conclusion, it is highly possible that the blood pressure effects of DNA gyrase-inhibitors could play a role in the anti-microbial effect shown by these compounds. These compounds were docked in to the active binding site of SARS-CoV-2 spike protein in order to evaluate their inhibitory potential of restricting human ACE-2-SARS-CoV-2 critical and entry level COVID-19 pathogenesis. All compounds were able to inhibit this critical protein-protein interaction by means of good binding affinity (0.0025 to 0.15 nM) and binding energy values (9.58 to 12.25 kcal/mol). Further, we are evaluating the efficacy of these compounds in cellular and animal models presently.

**Keywords:** Anti-microbial; Drug design; Molecular docking; DNA gyrase

*Poster Presentation-8*

**NATURAL PRODUCTS AGAINST PREDOMINANT UROPATHOGEN;  
ANTI-BIOFILM AND FIM-H INHIBITION POTENTIALS VALIDATIONS****Manikandan A<sup>1\*</sup>, and Tarunikaa Muppala<sup>2</sup>**

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Bangalore-54, India*

The main objective of the present study is to unveil the antibacterial activity of natural products extracted from *Myristica fragrans* against the predominant uropathogen. One compound, N-(2-(dibenzo[b,d]furan-2-yl)ethyl)-3-phenylpropanamide, from *Myristica fragrans* was purely isolated and identified by analytical techniques such as TLC, GCMS, FTIR and NMR. Antibacterial activity by means of antibiofilm assay using crystal violet and further confirmation by SEM analysis was executed. N-(2-(dibenzo[b,d]furan-2-yl)ethyl)-3-phenylpropanamide was docked with Fim-H receptor protein, which is highly involved in the adhesion of bacteria to uro-epithelial cells that might serve as supportive evidence. To confirm N-(2-(dibenzo[b,d]furan-2-yl)ethyl)-3-phenylpropanamide drug efficacy, ADME properties were also calculated. N-(2-(dibenzo[b,d]furan-2-yl)ethyl)-3-phenylpropanamide exhibited a remarkable inhibition against the bacterial pathogen. Molecular docking with Fim-H receptor protein (PDB ID: 4X5R) showed a doorstep way to understand the mechanism of action through the molecular interaction as well as the established molecular mechanics values that are including the least binding affinity, ligand efficiency and inhibitory constant (*k<sub>i</sub>*). This helped in determining the mode of action of possible drug moiety that interacts with the target of interest in the best possible way. Thus, our entire focus has been on identifying the anti-uropathogenic bacterial property of natural compounds from *Myristica fragrans* providing a valuable foothold for detailed research in the near future.

**Keywords:**ADME, Biofilm, *E. coli*, Fim-H, *Myristica fragrans*, Uropathogen

*Poster Presentation-9***NOVEL CVD MODULATORS TO TREAT ATHEROSCLEROSIS AND SARS-COV-2 VIA HACE & HACE2 INHIBITION****Manikandan Alagumuthu\*<sup>1</sup>, Sneha Girish Kumar<sup>2</sup>**<sup>1,2</sup> Dept. of Microbiology, M S Ramaiah College of Arts, Science and Commerce, Bangalore-54, India

We report a dual activity of substituted imidazolidine-2,4-dione derivatives (**5a-p**) in search of effective Cardio Vascular Disease (CVD) modulators and SARS-CoV-2 entry level inhibitors. In the three-step involved synthesis, in the step one, methyl ((5-chlorothiazol-2-yl) carbamoyl) tyrosinate (**3**) was obtained from the reaction between 5-chlorothiazol-2-amine hydrochloride (**1**) and 2-(2-amino-3-methoxy-3-oxopropyl)-5-hydroxy benzene-1-ylum hydrochloride (**2**). In step 2, compound **3** undergone cyclization to obtain the parent compound 3-(5-chlorothiazol-2-yl)-5-(4-hydroxybenzyl) imidazolidine-2,4-dione (**4**). In step 3, compounds **5a-p** obtained by substituting various R-Cl entities. All compounds were obtained in moderate to good yield (72-92 %) and characterized by NMR, FTIR, HRMS etc. All compounds were docked into the active site of the human Angiotensin Converting Enzyme (*hACE*, PDB ID: 1O86) and SARS-CoV-2 Spike Protein (PDB ID: 6M17). The ACE inhibitors, through the mechanism of blocking the activation of the renin-angiotensin system, interfere with atherogenesis, constructively remodel the Left Ventricle (LV) and arteries, and possibly will improve the prognosis of atherosclerosis patients. Based on the molecular mechanistic values (Binding Energy (BE) range -8.21 to -10.92 kcal/mol), compounds **5a** (-9.6), **5d** (-9.4), **5j** (-10.92) and **5n** (-9.8) were screened for further *in vitro* and *in vivo* anti-atherosclerosis studies. All values dominated the standard drug we used (Lisinopril, -7.30). Further, **5j** and **5n** were used for the *in vitro*, nitric oxide (NO) radical scavenging potential, *hACE* inhibition, platelet aggregation test, and thrombolytic effect. The promising results obtained for these compounds indicate that these can be the candidate lead drugs to treat atherosclerosis and so they can be the future CVD modulators via *hACE* inhibition mechanism. Meanwhile, the obtained molecular mechanistic values and mode of blocking of interaction of *hACE2*-SARS-CoV-2 spike protein for compounds **5a** (-11.42 kcal/mol) and **5n** (-12.54 kcal/mol) ensured the capability of these 2 compounds in arresting the entry level SARS-CoV-2 pathogenesis.

**Keywords:** ACE, Atherosclerosis, *hACE2*, CVD, Molecular Docking, SARS-CoV-2



*Poster Presentation-10***DISCOVERY OF NOVEL ANTIBIOFILM, ANTIMICROBIAL COMPOUNDS  
OVER DNA GYRASE INHIBITION MECHANISM****Manikandan A<sup>1\*</sup>, Bhavana Sriram<sup>1</sup>***<sup>1</sup>Dept of Microbiology, MS Ramaiah College of Arts, Science and Commerce, Bangalore-54, India*

In this study, we aimed to develop few DNA gyrase inhibitors and antimicrobial agents. Novel fluoroindolines derivatives were synthesized and established through green-chemistry approaches for the same. The inhibitory outcome on DNA gyrase A and B and antimicrobial activities were evaluated through both *in silico* and *in vitro*. The executed agar well diffusion method based antimicrobial activity against Gram<sup>-ve</sup>*Pseudomonas aeruginosa* (MTCC 424) & *Escherichia coli* (MTCC 443), Gram<sup>+ve</sup>*Streptococcus pyogenes* (MTCC 442) & *Staphylococcus aureus* (MTCC 96), and the antifungal activity against a clinical isolate of *Candida albicans* (Fungi) was executed. The cytotoxicity of the fluoroindolines derivatives was assessed by using the macrophages by means of the MTT assay. In the overall results, the fluoroindolines derivatives exhibited a broad-spectrum antimicrobial activity against both bacterial types and fungal as apart from their efficient DNA gyrase inhibition activity. The DNA gyrase activity was dose depended and a range of 10 to 30 nM concentration of compound **4a** and **5a** showed good activity and above and below this value did not show any remarkable values. Compound **4a** showed a maximum DNA gyrase A inhibition at  $0.325 \pm 0.025$   $\mu$ M and DNA gyrase B at  $0.250 \pm 0.03$   $\mu$ M and **5a** showed a maximum activity at  $0.285 \pm 0.025$   $\mu$ M and  $0.225$   $\mu$ M against DNA gyrase A and B respectively. The cell viability of J774A.1 macrophages was evaluated using compounds **4a** and **5a**. Low concentrations (1 to 5 (nM)) did not affect cell viability, whereas 6 and 30 nM **4a** and **5a** did affect cell viability. Consequently, we suggest the concentration 8-10 nM of **4a** and 10-20 nM **5a** in future animal study evaluations. MIC calculated against different Gram-positive and Gram-negative bacteria at a low concentration (MIC ranged between 2.5-5.5  $\mu$ g/mL) and displayed low toxicity towards mammalian cells ( $HC_{50}$  = 980  $\mu$ g/mL and  $EC_{50}$  against HEK = 75  $\mu$ g/mL). Furthermore, these compounds were able to kill metabolically inactive bacterial cells and eradicate preformed biofilms of MRSA.

**Keywords:** Anti-microbial, Biofilm, *Candida albicans*, DNA gyrase, *E. coli*, Molecular Docking

*Poster Presentation-11***CRISPR/CAS9 MEDIATED GENOME EDITING FOR TOMATO MOSAIC  
VIRUS RESISTANCE IN SOLANUM LYCOPERSICUM L.**

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CRISPR/Cas9 mediated genome editing technology has become one of the excellent tools for the development of virus resistance plants. *Tomato mosaic virus* (TMV) is the most prominent pathogen that infects tomato and decrease the yield of the crop. The *ToMV* requires eukaryotic elongation factors for infection and replication of its genomic RNA with the help of other cellular complexes of the host. *TOM1* is a host seven-pass transmembrane protein necessary for efficient *ToMV* multiplication in tomato. The *TOM1* gene is crucial recessive resistance gene that acts against the tobamoviruses in tomato plants. We have prepared the guided RNA in the exon region of the *SITOM1* gene and cloned it into the pHSE401 vector. The pHSE401 binaryvector was transferred into *Agrobacterium tumefaciens* strain LBA4404 for plant genetic transformation. The T0 transgenic plants analysis showed the presence of the *Cas9I* and *HptII* transgenes. The sequence analysis of the *SITOM1* showed the insertions and deletions. This genome editing approach will be a helpful tool for analyzing functional genes and precision editing across different plant species, especially in the *Solanaceae* family.

**Keywords:** CRISPR/Cas9; Genome editing; Tomato; *TOM1*; *ToMV*

*Poster Presentation-12***AGROBACTERIUM-MEDIATED TRANSFORMATION OF BRINJAL  
(*SOLANUM MELONGENA* L.) USING NON-ANTIBIOTIC SELECTION  
MARKER PHOSPHOMANNOSE ISOMERISE (PMI) GENE****Kranthikumar Gande<sup>1</sup>, Vasudha Marapaka<sup>1</sup>, Phanikanth Jogam<sup>2</sup>,  
Venkataiah Peddaboina<sup>1\*</sup>***Department of Microbiology, Kakatiya University, Vidyaranyaपुरi, Warangal-506  
009, Telangana State, India**Department of Biotechnology, Kakatiya University, Vidyaranyaपुरi, Warangal-506  
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Brinjal or Eggplant (*Solanum melongena* L.) belongs to the family of Solanaceae, is the third most important vegetable crop after tomato and potato, and is extensively cultivated worldwide in tropical, temperate, and subtropical regions. The development of an efficient genetic transformation system is necessary for the transfer of novel genes into brinjal. In the present study, a novel positive selection marker, i.e., the *PMI* gene-mediated transformation system, has been developed in brinjal using cotyledon explants. The *PMI/ManA* (6-phosphomannose isomerase) gene has been one of the most widely employed marker systems in the generation of transgenic plants. The pre-cultured cotyledon explants were infected with *A. tumefaciens* LBA4404 carrying the *PMI* gene construct for 10 min, then co-cultivated for two days. The co-cultivated explants were shifted to an SRM medium containing 10 g/l mannose, 20 g/l sucrose, and 400 mg/l cefotaxime cultured for 10-14 days. After four to six weeks of culture, the individual putatively transformed shoots were isolated and transferred to a rooting medium amended with 1.0 mg/l IAA for rooting. The putatively transformed plants were successfully acclimatized and hardened under greenhouse conditions. The putatively transgenic brinjal plants did not show any morphological variations compared to the mother plants. The transformed plants showed the presence of a 623 bp fragment amplified product of the *PMI* gene in PCR analysis confirmed in the T0 transformed plants. The putative transgenic plants showed typical blue colour in the GUS histochemical assay. The leaf pieces of putative transgenic plants were evaluated with chlorophenol red assay, and the transgenic plants expressing the *PMI* gene changed the red colour to orange to yellow.

*Poster Presentation-13***GENOMIC SEQUENCING OF SARS-COV-2 IMPACT ON HUMAN  
IMMUNE SYSTEM - A REVIEW**

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The discovery of SARS-CoV-2 as the COVID-19's primary cause and the investigation of the disease's international transmission have already been made possible thanks to virus genome sequencing. Genomic sequences can also be used to construct medications, vaccinations, and diagnostic tests, as well as to monitor any potential links between putative changes in their efficacy over time and modifications to virus genomes. Hence, studying the genomes of the SARS-CoV-2 virus can supplement, enhance, and support efforts to lessen the impact of COVID-19. A novel coronavirus called SARS-2 caused a serious acute respiratory sickness to develop in Wuhan, China in December 2019. The illness quickly spread throughout China and other nations. On 30 January 2020, WHO declared this disease to be an international emergency, and on 12 February 2020, the novel coronavirus disease was given the name Coronavirus Disease 2019 or COVID-1. The illness has a wide variety of symptoms and is mainly spread by respiratory droplets. In Wuhan, epidemiological studies have revealed an early link between the fish market and the majority of the patients who worked or frequented these markets. Yet, instances of transfer from person to person have raised the disease's prevalence. Clinical manifestations in patients with COVID-19 include fever, cough, shortness of breath, fatigue, normal or decreased leukocyte counts, and ground-glass opacity in radiographic examinations, which are comparable to symptoms of SARS and MERS infections. The current review was conducted to compare the virus structure, genome organisation, virus life cycle, and pathogenesis. The host immune system detects the entire virus or its surface epitopes once the virus has gained entry inside the target cell, triggering the innate or adaptive immune response. In a study to identify the humoral immune response specific to COVID-19, it was discovered that the patients had IgM and IgG antibodies that did not cross-react with any other human coronaviruses, with the exception of SARS-CoV. IgG was discovered 14 days after the commencement of the initial symptoms, and IgM and IgA antibodies were found 5 days later. Scientists are being drawn to the COVID-19 virus because of the latest outbreak since it poses such a serious threat to public health. Public health, medical, and social research have faced considerable obstacles as a result of the outbreak.

*Poster Presentation-14***DEVELOPMENT OF EFFICIENT AGROBACTERIUM-MEDIATED  
TRANSFORMATION PROTOCOL IN TOMATO (*SOLANUM  
LYCOPERSICUM* L.)****Vasudha Marapaka<sup>1</sup>, Kranthikumar Gande<sup>1</sup>, Phanikanth Jogam<sup>2</sup>,  
Venkataiah Peddaboina<sup>1\*</sup>**<sup>1</sup>*Department of Microbiology, Kakatiya University, Vidyaranyaपुरi, Warangal-506  
009, Telangana State, India*<sup>2</sup>*Department of Biotechnology, Kakatiya University, Vidyaranyaपुरi, Warangal-506  
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Tomato (*Solanum melongena* L.) belongs to the family of Solanaceae, is the second most important vegetable crop after potato, and is extensively cultivated worldwide in tropical, temperate, and subtropical regions. The worldwide production of this vegetable crop is severely affected by an extensive range of abiotic and biotic stresses. Efficient plant regeneration and *Agrobacterium*-mediated genetic transformation is prerequisite for overcoming these difficulties through the transfer of agronomically important genes. The *Agrobacterium tumefaciens* (strain LBA 4404 harboring pCAMBIA 2301)-mediated genetic transformation protocol was optimized using cotyledon explants. The different factors influencing the transformation frequency were evaluated and optimized in cotyledon explants, and the explants pre-cultured for two days significantly enhanced transformation efficiency. The putatively transformed tomato plants were morphologically similar to their mother plants and flowered normally. The stable integration of the transgenic gene was confirmed and validated with gene-specific primers that amplified the expected size band of 457 bp in T0 plants and positive control, establishing the *npIII* gene and its integration into the tomato genome using the PCR analysis. The present *Agrobacterium*-mediated genetic transformation protocol will be helpful for the development of new germplasm in tomato with novel candidate genes.



*Poster Presentation-15*

## **A REVIEW ON EPIGENETIC REJUVENATION**

**Md. Sanober**

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Aging is associated by decrease in the functioning of an organism and leads to changes in genetic changes triggering many age related disease neurodegenerative diseases cancer according researches aging is mainly caused due to many factors many complex changes in telomere shortening, gene alteration, improper nutrient intake, environmental factors and many other epigenetic regulation .Biological aging can be calculated mostly by epigenetics. Epigenetics mainly represents the change in phenotype without change in genotype it plays major role in reversing the aging in response to environment. Many scientific researchers has found that we can change reverse aging process by DNA methylation, chromatin remodelling, histone modification, RNA modification. In addition to that exercise, food habits, environmental factors also plays an important role in aging.

**KEY WORDS:** Epigenetics, DNA methylation, Chromatin remodelling, environmental factors.

*Poster Presentation-16***LARVICIDALACTIVITY OF ELYTRIRIA ACAULIS LEAFEXTRACTS  
AGAINST CULEXQUINQUE FASCIATUS (DIPTERA:CULICIDAE)****M. Madhavi\***, Lalitha Bhukya*Department of Zoology, Osmania University  
Hyderabad-500007, Telangana, India*

Culex are among the most important mosquito genera, well known for their public health interest. Having a bloodsucking characteristic, Culex quinquefasciatus. (Diptera:Culicidae) plays an important role in the transmission of arboviruses that infect humans, West Nile virus. (A.E Lalami2021). Culex quinquefasciatus mosquito causes allergic responses that include local skin and systemic reactions such as angioedema and urticaria.(Fouad El- Akhal et al.2021). Humans are suffers extensively due to the nuisance of vector mosquito population in public health manner. Mosquitoes directly transmit diseases such as filarial, malaria and dengue fever. (S Sukumaran and R Maheswaran 2020). In this study, I have chosen Elytraria acaulis belongs to the family Acanthaceae is a small shrub, which grows in shady dry places and it is commonly known as Asian Scalystem. (Dr Rajan Maheswaran2020).



*Poster Presentation-17*

## **DIVERSITY OF BUTTERFLIES AT MALLANNAGUTTA SURROUNDINGS IN THE DISTRICT OF KAMAREDDY**

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Butterflies represent the most familiar and best known group of all insects. Butterflies are classified under the order Lepidoptera. Butterflies are good indicators of climate change and play a significant role in demonstrating remarkable diversity of nature. Moreover wing patterns of butterflies provide the opportunity to address key issues in evolutionary developmental biology, including the evolution of morphological innovations, constraints in evolutionary change and phenotypic plasticity. Hence the present study was to determine the diversity of butterflies in and around the hilly areas of Mallannagutta. Mallannagutta hill is situated in Markal village, Kamareddy district of Telangana, which enjoys a tropical monsoon climate. A detailed survey of butterflies was conducted between June 2021 and November 2021. There were in total 40 species of butterflies identified. Among all the families dominant family was Nymphalidae with 17 genera observed over the Lantana spp. and Leonotis spp. of plants. The second dominant family was Lycaenidae with 10 genera. The third dominant family was Pieridae with 08 genera, the last family was Papilionidae with 5 genera. Butterflies covered in this study were identified visually and photographs were taken by using a Nikon D780 camera.

**Key words:** Butterfly diversity, Mallannagutta, Kamareddy.



*Poster Presentation-18***IMPACT OF GANGRENE ON HEALTH CONDITION****P. Rachana**, G. Jhancy, Dr. C. Padmavati*Vaagdevi Degree & PG College, Hanamkonda*

When the pancreas produces inadequate insulin, diabetes develops. Uncontrolled blood sugar levels can harm nerves, result in regional death, and cause body tissues to break down. Diabetes patients can hurt a foot or toe, which can lead to wet gangrene, which needs to be treated right away since it develops quickly and can be fatal. Type 1 and type 2 diabetic complications include dry gangrene. It results in numbness, leg pain, or the emergence of tiny skin bubbles. In extreme circumstances, it can necessitate amputation or even result in death.

*Poster Presentation-19***EFFECT OF INCREASED FLUORIDE CONTENT ON POPULATION**

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Fluorosis develops as a result of chronic exposure to high fluoride levels in drinking water. It results in skeletal, non-skeletal, and dental fluorosis. Certain regions of Rajasthan, southern Punjab, Gujarat, Karnataka, Tamil Nadu, Madhya Pradesh, and southern Haryana have high fluoride concentrations. Skeletal fluorosis can cause pain and injury to bones and joints in addition to microscopic white streaks in the tooth enamel. Fracture risk may increase as a result of the bones losing their flexibility due to hardening. Joint mobility may be hampered if the bones enlarge and bone tissue builds up. Excessive fluoride can occasionally cause hyperparathyroidism. As a result, bones may become more brittle and less calcium-rich. Lower IQ test results have been linked to higher fluoride levels. Acne, arteriosclerosis, high blood pressure, myocardial damage, decreased fertility, early puberty in girls, thyroid dysfunction, and osteoarthritis are further health issues. Due to an improvement in groundwater levels as a result of Mission Kakatiya, the amount of fluoride in the groundwater in fluoride-affected parts in Nalgonda district has decreased by at least 50%. By providing safe drinking water to every home in communities where fluoride contamination was a problem through Mission Bhagiratha, the State government had already been successful in halting the spread of new instances of fluorosis in the district. Cherlagudem reservoir was filled with water after work on the Shivannagudem reservoir was finished.

*Poster Presentation-20***FACTORS CAUSING CARDIOMYOPATHY****B. Shaini, V. Saritha, Dr. C. Padmavati***Vaagdevi Degree & PG College, Hanamkonda*

Heart failure can result from cardiomyopathy, a condition that affects the heart's ability to pump blood to the body's other organs. Dilated, hypertrophic, and restricted cardiomyopathies are the three primary subtypes of cardiomyopathy. Breathlessness, swelling of the extremities, abdominal bloating, coughing, rapid heartbeats, chest discomfort, dizziness, and fainting are among the symptoms. MYH7, MYBPC3, TNNT2, and TNNI3 are the four most often involved genes. Risk is increased by sudden cardiac arrest, chronic high blood pressure, heart infections, obesity, binge drinking, using illegal substances, some chemotherapy medicines, and conditions like diabetes and thyroid illness. Serious complications from cardiomyopathy might include heart failure, blood clots, heart valve issues, cardiac arrest, and unexpected death.



*Poster Presentation-21*

## **SEQUENCE ANALYSIS OF MITOCHONDRIAL COI GENE FRAGMENT FROM FIVE CULICINA MOSQUITO SPECIES**

**Chandra Anjaiah**

*Osmania University, Hyderabad*

Many insects' mitochondrial COI genes have been sequence-analyzed for molecular taxonomy in order to determine their evolutionary relationships. In order to build a molecular database and determine the phylogenetic relationship among the five Culicinae mosquito species (*Aedes vittatus*, *Aedes albopictus*, *Culex bitaeniorhynchus*, *Culex vishnui*, and *Culex quinquefasciatus*) from the state of Telangana and surrounding areas, a sequence of the mitochondrial Cytochrome Oxidase I (COI (India). The sequences were discovered to be rich in A+T, and in substitution, transition rates outpaced transversion rates. Regardless of the location of the collection, members of the same species tended to cluster together in a Neighbor-Joining tree. While interspecific divergence with K2P was >2% (range = 4.1% to 15.0%), conspecific divergence was 2% (range = 0% to 1.7%).

*Poster Presentation-22***OBESITY AND OVERWEIGHT: A REVIEW ON CURRENT TRENDS**

Myakala Vanaja

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Obesity is a medical circumstances, sometimes considered a disease, [1][2][3] in which redundant body fat has accumulated to such an extent that it may negatively affect health. As a result of this trend, it is becoming an epidemic in some countries of the world with the number of people affected expected to double in the next decade due to enlarging rates in adults and children. Obesity is more habitual in women than in men. Today, obesity is stigmatized in the world. Combination of excessive food energy intake and lack of physical activity as the cause of obesity. Other possible contributors to the recent increase of obesity are: insufficient sleep, endocrine disruptors, and pregnancy at a later age and genetic factors. This review is based on a search of Nature and Hindawi Journals and citation lists of relevant publications. Subject heading and key words used involve obesity and overweight, prevalence and current treatment. Only articles in English were included. Medical organizations tend to classify people as obese based on body mass index (BMI). Obesity is a major cause of disability and is correlated with various diseases and conditions, particularly cardiovascular diseases, type 2 diabetes, obstructive sleep apnea, certain types of cancer, and osteoarthritis. Obesity increases a person's risk of developing various metabolic diseases chief preventable sources of death worldwide. No cure has yet been found for the disease; however, treatment modalities include lifestyle modifications, physical exercises, weight loss, diet etc. Treatment of obesity, biguanide that reduces insulin resistance, is still the recommended first line medication for obese patients. Other beneficial medications include orlistat, lorcaserin, liraglutide, phentermine-topiramate, and naltrexone-bupropion, fluoxetine. Phentermine-topiramate and GLP-1 receptor agonists appear to be the most effective for weight loss among overweight and obese adults. Semaglutide, a GLP-1 receptor agonist, appears effective for weight loss among overweight and obese adults. Phentermine-topiramate and naltrexone-bupropion were associated with the giant risk for adverse actions resulting in interruption.

**KEY WORDS:** Obesity and overweight, body mass index (BMI), treatment, beneficial medications.

*Poster Presentation-23***ECTOLIFE - A NEW WAY TO BRING LIFE INTO THE WORLD**

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M.Sravya.*

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The idea behind Ectolife is to use artificial wombs to create customised children. People might choose their baby's intellectual level, height, eye colour, physical strength, and even skin tone with an upscale package. The idea of Ectolife was developed by Yemeni biotechnologist and scientific communicator Hashem Al-Ghaili. His creation consists of 75 different labs, each holding up to 400 adorable "growth pods" that mimic the environment of a mother's womb. Al-Ghaili asserts that a single structure can produce 30,000 offspring annually. The future your unborn child deserves is here. Just look at all the luxuries the designer foetus will get to enjoy. After being placed in the pod, the embryo is watched over by sensors that record its physical characteristics, vital signs, and screams for aid. Direct notifications of each developmental step are transmitted to the parents' phones. Users can converse with the connected child using the pod's internal speakers, put on a haptic vest to feel its torturous kicks, or watch high-resolution photographs of the child using the mobile app.

**Keywords:** Ectolife, Hashem, Yemeni, Growth pods, womb.



*Poster Presentation-24*

**A REVIEW ON PCOS (POLYCYSTIC OVARY SYNDROME) -  
PROGRESS AND DIFFICULTIES IN UNDERSTANDING**

V. Vennela, R. Ashwini, K. Rajashree, K. Shruthika, SK. Yakub Pasha and G. Saidhulu

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Unlike to other forms of anovulation that include ovarian dormancy or primary insufficiency, polycystic ovary syndrome (PCOS) is a complex illness marked by persistent anovulation and excessive ovarian activity. According to recent studies, PCOS is linked to low-grade chronic inflammation and puts women at higher risk for non-alcoholic fatty liver disease. The cohabitation of insulin resistance and obesity is one explanation for the inflammatory and metabolic abnormalities linked to PCOS, but the excess testosterone is also a contributing factor. The idea that PCOS is a systemic syndrome is supported by recent discoveries about the control of hormones and cytokines in muscle and adipose tissue. The treatment strategy needs to be customised for the patient's phenotype, complaints, and desire for reproduction. Notably, letrozole, an aromatase inhibitor, appears to be more potent than the standard treatment, clomiphene citrate, in treating PCOS-related infertility. Integrated care provided by a multidisciplinary team may assist patients in maintaining lifestyle changes that will lower body fat and improve their metabolic and reproductive health.

**Keywords:** polycystic ovary syndrome, PCOS, insulin resistance, infertility, menstrual irregularity



*Poster Presentation-25*

## **A REVIEW ON CORNEA TRANSPLANTATION - AN ADVANCE APPROACHES**

Margam Usha, H. China Raju, S. Prathyusha, S. Gayathri, E. Manohar Babu

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This review describes, the cornea transplantation and advance approaches for the treatment. The eye is an important and one of the most complex sensory organs that we humans are endowed with. It helps us in visualizing objects and also helps us in light perception, colour and depth perception. Besides, these sense organs are pretty much similar to cameras, and they help us see objects when light coming from outside enters them. Having different refractive indexes is what bends the rays to form an image. The light rays finally are received and focused on the retina. For the estimated 12.7 million people around the world who are blind due to corneal stromal disease, a transplanted cornea from a human donor is the only way of regaining vision. A larger clinical study followed by market approval by regulatory authorities is needed before the implant can be used in healthcare. The researchers also want to study whether the technology can be used to treat more eye diseases, and whether the implant can be adapted to the individual for even greater efficacy.

**Keywords:** Cornea, transplantation, vision, healthcare, sensory organs.





*Poster Presentation-26*

## **GESTATIONAL DIABETES-A REVIEW**

Chittimalla Keerthana

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Telangana, 506009,*

Future effects of gestational diabetes. The goal of this study was to evaluate the efficacy of gestational diabetes and prevent its severe manifestation. Although gestational diabetes is a rare disease, its effects are becoming more prevalent as a result of women's bad lifestyles. There were occasionally only a few cases recorded, but now we could hear at least one case for each person. Only pregnant women are susceptible to this gestational diabetes.



*Poster Presentation-27*

## **STUDY OF DRUG INTERACTIONS AND HOMOLGY MODELING OF HOPX PROTEIN ON CANCER**

Badeti Nandini,

*Department of Biochemistry, Kakatiya University, Vidyaranyaपुरi, Hanumakonda,  
Warangal, Telangana,*

Homeobox-like domain proteins, which lack specific DNA binding residues, are related to homeodomain-only proteins. HOPX was first discovered to interact with serum response factor and be a crucial transcription factor in a variety of normal tissues (SRF). In tumours, HOPX has a low amount of methylation. HOPX are crucial for the phenotypic differentiation process and the stoppage of tumour growth. Epithelium tumours of the oral cavity, oropharynx, nasopharynx, and oropharyngeal carcinoma are included in head and neck carcinoma (SCCHN). In SCCHN, HOPX suppresses tumour growth.

*Poster Presentation-28***STEM CELLS: A PROMISE FOR CANCER TREATMENT: A NEW ERA OF  
CANCER TREATMENT: THE POTENTIAL OF STEM CELLS**

Morla Madhav

*Department of Biochemistry, Kakatiya University, Vidyaranyaपुरi, Warangal,  
Telangana, 506009,*

Stem cells have emerged as a promising approach in the field of cancer treatment. Stem cells are unique in their ability to self-renew and differentiate into various cell types, making them an attractive target for regenerative medicine and cancer therapy. In the context of cancer, stem cells have been shown to play a role in the initiation, progression, and resistance to treatment of many types of cancers. By targeting cancer stem cells, it is possible to selectively eliminate the cells responsible for driving tumor growth and potentially overcome treatment resistance. A number of experimental and preclinical studies have demonstrated the feasibility and efficacy of stem cell-based approaches for cancer therapy, including the use of stem cell-derived exosomes, gene-edited stem cells, and stem cell-based vaccines. While much work remains to be done, the potential for stem cells to revolutionize cancer treatment is rapidly gaining recognition and is an area of intense research and development.



*Poster Presentation-29*

**A STUDY ON PHYSICO-CHEMICAL CHARACTERISTICS OF  
FRESHWATER IN OPENCAST COAL MINE IN SATHUPALLY  
KHAMMAM DISTRICT, TELANGANA, INDIA.**

**K. RAVI KUMAR\* G. RAJENDER**

*Research Scholar Department of Zoology Kakatiya University - 506 009.*

Coal mining is the major mining activity performed in India. Most of the coal production in India comes from opencast mines. Due to increased human population, industrialization and manmade activity water is highly polluted with different harmful contaminants. Natural water contaminates due to weathering of rocks and mining operation. The availability of good quality water is an indispensable feature for preventing diseases and improving quality of life. This Paper presents a study of physico-chemical characteristics of water in opencast coal mine, Sathupally, Khammam, District Telangana. Monthly Changes in Physical and Chemical Parameters such as Water Color, pH, Turbidity, Total Dissolved Solids, Chloride, Calcium, Total Hardness, Total Alkalinity, Fluoride, Iron, Manganese and Nitrate. Were analyzed for a periods of one year from January – December (2021-22). All the water samples were analyzed and found that the quality of the water is good only some of the parameters like turbidity, calcium, fluoride and total hardness are slightly greater than the permissible value. Therefore there is ample scope to utilize this mine water.

**Key words:** Physico-chemical Parameters, Turbidity, Chloride



*Poster Presentation-30*

## **MONITORING OF WATER QUALITY PARAMETERS - A STUDY OF ELLANDA FRESH WATER LAKE IN WARANGAL DISTRICT, TELANGANA STATE**

**K. Sandhya & G. Benarjee**

*Department of Zoology, Kakatiya University, Warangal, Telangana, India*

The Quality of water is an important criterion for evaluating its suitability for drinking, irrigation and Fish culture. The influence of seasonal changes on the physicochemical characteristics of water body is large on the survival of flora & fauna of that water body. Therefore a present study has been conducted for a period of one year i.e. from February, 2021 to January, 2022. Seasonal variations in Physicochemical parameters such as Temperature, PH, Electrical Conductivity, Total Dissolved Solids, Dissolved Oxygen, Biological Oxygen Demand, Turbidity, Free Carbon dioxide, Alkalinity, Carbonates, Bicarbonates, Hardness, Chlorides, sulfates and Nutrients like Nitrates, Phosphates were analyzed. The data obtained on the water samples were analyzed and the observations made on the physicochemical parameters of water samples have been compared with standard values recommended by the World Health Organization. All the Physicochemical parameters are at the nearly permissible limit at all the four sampling stations of the lake where the water samples were collected. This lake has rich biodiversity of flora & fauna. Continued monitoring of water quality parameters is necessary to give a boost to the Fish culture here in this lake. However, human-induced water pollution should be monitored in a proper manner and it needs appropriate management to achieve sustainable development.

**Keywords:** Ellanda Freshwater Lake, Water Quality Parameters.



*Poster Presentation-31*

## **REVIEW ON PRELIMINARY INFORMATION ABOUT CANCER AWARENESS**

M. Narmada, G. Srikanth, E. Bharathi, K. Likitha, G. Keerthana and B. Varsha

*Department Of Zoology, Kakatiya University, Warangal.*

A set of illnesses known as cancer involve abnormal cell proliferation and have the ability to invade or spread to different bodily regions. Oncology is the name of the scientific field that deals with the study of cancer. The term "oncologist" refers to a doctor who specialises in the treatment of cancer. Hippocrates, a Greek physician regarded as the father of medicine, coined the term "cancer" for the first time. William Coley, the founding father of cancer biology. British Physician Percivallpott discovered in 1775 that cancer of the scrotum was a common condition among chimney sweeps, and this was the first cause of cancer to be determined. P53 is a regulatory protein that is frequently altered in human malignancies. It is also known as TumorProteinP53 and Cellular Tumor Antigen P53. Almost 10 million deaths, or roughly one in six deaths, will be caused by cancer in 2020, making it the top cause of death globally. Cancer prevention strategies: Avoid using tobacco. Adopt a balanced diet. Keep a healthy weight and engage in physical activity. Don't expose yourself to the sun. Get a vaccine. Abstain from dangerous behaviour. Obtain routine medical attention. Now that treatment Cancer Therapy Options: Cancer Therapy Biomarker Testing. Chemotherapy, hormone therapy, heat stress, immunotherapy, photodynamic therapy, radiation therapy, stem cell transplant, surgery, and targeted therapy are some examples of treatments. The National Cancer Institute's most current statistics show that 68% of cancer patients were still living five years after receiving their diagnosis.

**Keywords:** Cancer, Oncology, Chemotherapy, Photodynamic Therapy



*Poster Presentation-32*

### **ANTIBIOTIC RESISTANCE – A REVIEW**

J.Sai Kiran, N. Amrutha, Sneha, S.Madhulitha, P. Mounika, D.Lavanya and  
Ch.Ashwini

*Department Of Zoloogy, Kakatiya University, Warangal.*

One of the major risks to modern development, food security, and global health is antibiotic resistance. Everyone, of any age, in any nation, can become susceptible to antibiotic resistance. The abuse of antibiotics in both humans and animals is hastening the natural occurrence of antibiotic resistance. As the effectiveness of the antibiotics used to treat them declines, an increasing range of illnesses, including salmonellosis, TB, gonorrhoea, and pneumonia, are becoming more challenging to treat. Antibiotic resistance increases mortality, costs of care, and length of hospital stays.

**Keywords:** Antibiotic, TB, Gonorrhoea, Pneumonia, Salmonellosis



# **E-POSTER & ONLINE PRESENTATIONS**







<b>E-POSTER &amp; ONLINE PRESENTATIONS-I</b>		
Day-2: 24-02-2023 Time: 2.00 – 3.30; Venue: Online		<b>No.1-11</b>
<b>S.No.</b>	<b>Name</b>	<b>Title</b>
1	SUJATA DEY	PLASTIC DEGRADING METAGENOMES ASSOCIATED WITH PLASTIC WASTE POLLUTED SITES: DIVERSITY AND FUNCTIONAL ANALYSIS THROUGH METAGENOMICS APPROACH
2	SHUKLA DEVNATH	PREVALENCE, MORPHOLOGY AND MOLECULAR STUDY OF SENGAL LUCKNOWENSIS (JOHRI, 1956) FROM FRESHWATER FISH CHANNA PUNCTATA (BLOCH, 1793), RESERVOIR OF KODERMA, JHARKHAND, INDIA
3	MUGDHA KUMARI PANDEY	“IMMEDIATE EFFECTS OF THREE DISTINCT ACUTE NON-TOXIC HIGH DOSES OF CAFFEINE ON BEHAVIOUR AND CARDIAC PARAMETERS IN ADULT MALE WISTAR RATS
4	P JYOTHI	SCREENING, ISOLATION AND IDENTIFICATION OF ASPERGILLUS FROM INFECTED MAIZE KERNELS
5	DASARI THRIMOTHI	ISOLATION AND SCREENING OF LACCASE ENZYME FROM FUNGAL STRAINS FOR BIOREMEDIATION FROM DIFFERENT ENVIRONMENTAL SAMPLES
6	DR.S.HEMAVARHY CHANDRAN	A REVIEW ON STEM CELL OF PLACENTA



7	RAMESH VANAPARTHY	EFFECT OF COVID -19 ON THE ECONOMICALLY MIDDLE-CLASS PEOPLE OF TELANGANA AND SUSTAINABLE ECONOMIC GROWTH
8	DR. RAFIYA SULTANA	IDENTIFICATION OF POTENTIAL INHIBITORS OF MYCOBACTERIUM TUBERCULOSIS PE16 SERINE HYDROLASE DOMAIN THROUGH VIRTUAL SCREENING AND MOLECULAR DYNAMIC SIMULATIONS
9	MODALA MALLESH	“BIODIVERSITY OF SPIDERS (ARACHINIDA: ARANEAE) IN PIGEONPEA [CAJANUS CAJAN (L.) MILLSP.] FIELDS”
10	DIPAK DAS	“SOME ASPECTS ON REPRODUCTIVE BIOLOGY OF CATFISH SPERATA SEENGHALA IN GOMATI RIVER OF TRIPURA, INDIA: PRELUDE TO AQUACULTURE TECHNIQUE DEVELOPMENT”
11	L.NAVYA READDY	VISUAL INSPECTION IN PHARMACEUTICAL DRUG PRODUCTION



<b>E-POSTER PRESENTATIONS-II</b>		
Day-2: 25-02-2023 Time: 2.00 – 3.30; Venue: Online		<b>No. 12-22</b>
<b>S.No.</b>	<b>Name</b>	<b>Title</b>
12	<b>LAVANYA NAGAMALLA / GNANITHA SURYADEVARA</b>	“TURNING WASTE INTO RESOURCE -A COMPOSTING PROJECT FOR THE FRUIT INDUSTRY LED BY STUDENTS”
13	K. DEVAVANI	“ISOLATION AND SCREENING OF MARINE BACTERIA FOR THE POTENTIAL BIOACTIVE METABOLITES”
14	P SUBBULAKSHMI	“AN UPDATE ON CARDIAC BIOMARKERS IN DETECTION OF MYOCARDIAL INFARCTION”
15	DASARI SAMMAIAH	“MAJOR AND TRACE ELEMENTAL ANALYSIS OF SOME ANTI-CANCER MEDICINAL HERBS I.E, ANDROGRAPHIS PANICULATA AND AEGLE MARMMELOS USING NUCLEAR ANALYTICAL-TECHNIQUE”
16	AARJU SHARMA	“A REVIEW ON HOST PLANTS IDENTIFIED FOR SANDALWOOD (SANTALUM ALBUM) CULTIVATION”
17	DR BARATHA JYOTHI.N	ADENOCARCINOMA: A CASE STUDY
18	NANDINI SINHMAR	“LIVE-BIOTHERAPEUTIC- A NOVEL WAY TO TREAT DISEASES”



19	RAGHUNATH SATPATHY	COMPARATIVE PROTEIN-PROTEIN INTERACTION NETWORK ANALYSIS OF MAMMALIAN HEPcidIN ANTIMICROBIAL PEPTIDES BY USING COMPUTATIONAL TOOLS
20	B.KRISHNAIAH	A STUDY OF OPTICAL FIBRE SENSORS IN MEDICAL APPLICATIONS
21	PINGILI TEJASWINI	IMPACT OF ONE YEAR OF MEDITATION ON BLOOD SUGAR, GLYCOSYLATED HAEMOGLOBIN AND INSULIN LEVELS IN INDIVIDUALS WITH CORONARY ARTERY DISEASE
22	J. MARIA JANCY RANI	GC-MS ANALYSIS AND IN VITRO EVALUATION OF ANTIOXIDANT AND ANTIDIABETIC POTENTIAL OF POLY HERBAL FORMULATION

*E-Poster Presentation-1***PLASTIC DEGRADING METAGENOMES ASSOCIATED WITH  
PLASTIC WASTE POLLUTED SITES: DIVERSITY AND FUNCTIONAL  
ANALYSIS THROUGH METAGENOMICS APPROACH****Sujata Dey\***, <sup>1</sup>Ajaya Kumar Rout, <sup>1</sup>Bijay Kumar Behera and <sup>2</sup>Koushik Ghosh*Biotechnology Laboratory, ICAR-Central Inland Fisheries Research Institute,  
Barrackpore, Kolkata 700120, India**Aquaculture Laboratory, Department of Zoology, The University of Burdwan,  
Golapbag, Burdwan 713104, India*

Plastic wastes have become a severe global concern as they are detected in almost every environment due to their worldwide transportability through ocean currents or wind, which allows them to reach even the most remote regions of our planet. Metagenomics plays an indispensable part in decoding the microbial diversity and ecology in the plastisphere. The present study aimed to explore the community structure and functional potential of the plastic waste-associated microbiota. Sampling was carried out with aseptic techniques, retrieving plastic wastes from different polluted locations in West Bengal, India. It was followed by DNA extraction, library preparation, and next-generation sequencing. A total of 27 phyla, 42 classes, 96 orders, 231 families, and 893 genera were predicted. The most dominant phyla detected were Proteobacteria, Planctomycetes, Bacteroidetes, Cyanobacteria, Actinobacteria, and Firmicutes. The presence of microbes that are reportedly associated with the biodegradation of different types of plastics such as polyethylene, polypropylene, polystyrene, polyethylene terephthalate, and polyurethane, was also predicted.

**Keywords:** Microbial diversity, Plastic-microbe interaction, Plastic degrading microbes

*E- Presentation-2*

**PREVALENCE, MORPHOLOGY AND MOLECULAR STUDY OF *SENGA LUCKNOWENSIS* (JOHRI, 1956) FROM FRESHWATER FISH *CHANNA PUNCTATA* (BLOCH, 1793), RESERVOIR OF KODERMA, JHARKHAND, INDIA**

**Shukla Devnath, <sup>1</sup>Anjana Verma, and <sup>2</sup>Bijay Kumar Behera**

*Department of Zoology, Vinoba Bhave University Hazaribagh, Jharkhand 825301  
Aquatic Environmental Biotechnology and Nanotechnology Division, ICAR-Central  
Inland Fisheries Research Institute, Barrackpore, Kolkata, West Bengal 700120, India*

The present study has been done based on the morphological and molecular characteristics of fish parasites. *Channapunctata* belongs to the family Channidae, one of the common fish collected from the reservoir of Koderma, Jharkhand, India. It is collected to study the prevalence, abundance, and intensity of parasites in selected fish based on season and sex. It is difficult to identify the symptoms of occurring disease from external appearance. Post-mortem examination of the selected fish species has acknowledged the presence of cestode in the mucus of the intestine and stomach. The cestode has been identified as *Senga lucknowensis* by microscope. To make certain the taxonomic status of this helminthic endoparasite, an 18S gene marker was used for PCR amplification. To add a declaration to the present evolutionary tree of the order, we generated an 18S partial RNA sequence for the usually occurring pseudophyllidean cestodes and matched its available sequence from NCBI GenBank. The highest seasonal prevalence has been calculated in pre-monsoon and the highest abundance was found in pre-monsoon and the highest intensity was found in post-monsoon.

**Keywords** Morphology, Prevalence, *Senga lucknowensis*, 18S RNA



*E- Presentation-3*

**IMMEDIATE EFFECTS OF THREE DISTINCT ACUTE NON-TOXIC  
HIGH DOSES OF CAFFEINE ON BEHAVIOUR AND CARDIAC  
PARAMETERS IN ADULT MALE WISTAR RATS.**

**Mugdha Kumari Pandey, and Rakesh Kumar Sinha**

*Department of Bioengineering and Biotechnology,  
BIT Mesra, Ranchi*

Caffeine (1,3,7 paraxanthine) is widely consumed Central nervous system stimulant alkaloid known to improve focus and performance. In competitive world the intake of caffeine beyond daily recommended threshold is no exception. This research tends to B examine immediate effects of three distinct acute non-toxic high doses of caffeine on some behaviour and cardiac parameters in adult male wistar rats.



E- Presentation-4

## SCREENING, ISOLATION AND IDENTIFICATION OF *ASPERIGILLUS* FROM INFECTED MAIZE KERNELS

P. Jyothi, V. Rajender<sup>1</sup>, B. Sreelatha\*

*Professor, Department of Biotechnology, Chaitanya Deemed to be University.*

*Professor, Department of Microbiology, Chaitanya Deemed to be University.*

*Kishanpura, Hanumakonda.*

Maize is the most important cereal crop in the world after rice and wheat. Generally, Maize known as Queen of Cereals, because it has the highest genetic yield potential among cereals. It is nutrition rich cereal crop. But a large number of fungi can attack and release mycotoxins, causing ear rots. This leads to affect the productivity and marketability of Maize. The isolation and identification of *Asperigillus* from mature kernels of Maize was demonstrated. Infected maize kernels were collected and inoculated on modified Czapek's Dox Agar medium. In modified CZA  $C_3H_7MgO_6P$  and  $K_2SO_4$  replaced the  $MgSO_4$  and  $KH_2PO_4$  of the original. This MCZA medium prevents the precipitation of  $C_3H_7MgO_6P$ . serial dilutions of  $10^{-3}$ ,  $10^{-4}$  and  $10^{-5}$  have taken and inoculated by pour plate and spread plate methods. Incubated them at room temperature for 7days. Fungal colonies were observed and identified under microscope with 40X magnification. Identified the colonies as *Asperigillus* and then subcultured on same MCZA medium and incubated at room temperature for 10days. White coloured cottony *Asperigillus* colonies were observed and conidial heads were identified under 40X microscope.

**Keywords** Maize, *Asperigillus*, mycotoxins, ear rot, Czapek's Dox Agar medium, serial dilutions, fungal colony.



*E- Presentation-5*

## **ISOLATION AND SCREENING OF LACCASE ENZYME FROM FUNGAL STRAINS FOR BIOREMEDIATION FROM DIFFERENT ENVIRONMENTAL SAMPLES**

Dasari Thrimothi

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Telangana, India*

Laccase (benzendiol:oxygen oxidoreductase; E.C.1.10.3.2) is a copper - containing enzyme, part of the group of so-called blue oxidases. The enzyme catalyzes the oxidation of many phenolic compounds and aromatic amines using molecular oxygen as a terminal electron acceptor. Laccases are widely distributed in higher plants, bacteria and fungi. In the current study, Soil samples were collected from Laknavaram forest, Warangal district. The samples were isolated by serial dilution technique, they were cultivated on Potato Dextrose Agar (PDA) plate with indicator compound Guaiacol to screen for the laccase production. Out of 60 isolates, only 2 isolates have the ability to produce laccase one was presumed to be potent and another showed weak laccase production. The most potent strain was used for further studies. Potent fungus was morphologically identified as belonging to *Marasmius* (PTD 19) and *Penicillium* (PKT10).

*E-Presentation -6*

## **A REVIEW ON STEM CELL OF PLACENTA**

**S Hemavathy Chandran<sup>1</sup>, Mary Antony Praba<sup>\*2</sup> Deepa Rajendran<sup>3</sup>**

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Bharath Institute Of Higher Education And Research*

*<sup>2</sup> Medical Anatomy Department, Balaji Medical College, Chrompet  
Chennai*

*<sup>3</sup>Biochemistry Department, Madha Dental College, Kundrathur, Chennai*

It is a fetomaternal organ, the placenta. It joins the uterine wall of a pregnant woman to the foetus. It functions as a transitory organ that enables the transport of oxygen, water, electrolytes, and nutrients. It is an organ for physiological exchange. It removes carbon dioxide, urea, and other waste products from the foetus into the mother's blood, where they are then carried to the foetus by maternal antibodies called immunoglobulin (IgG) gamma globulins. Early embryos that develop into eggs after sperm and egg fertilisation are harvested for embryonic stem cells in vitro. Before implantation, the placenta contained a large number of stem cells that could be found in the blastocysts' inner layer of mass cells. Early embryos (4 to 7 days after fertilisation) are formed as blastocysts, which are small balls of cells with two layers: an inner mass cell (embryonic stem cell), and an outer trophoctoderm (TE). In a normal embryo, these blastocysts vanish after 7 days and are replaced by three layers of embryonic tissue. Even when a blastocyst successfully conceives, chromosomal disorders including Down syndrome, Klinefelter syndrome, and Turner syndrome remain a possibility. Prenatal stem cells from the placenta have totipotent, pluripotent, multipotent, and unipotent characteristics. Hematopoietic stem cells, mesenchymal stem cells, skin stem cells, neural stem cells, and epithelial stem cells are examples of adult stem cells that are present in bone marrow, organs, and blood after delivery. The most prevalent multipotent undifferentiated cells in diverse parts of the body and organs are adult stem cells, also known as somatic stem cells. Although limited, adult stem cells can give rise to a variety of cells. Pluripotent embryonic stem cells have an unlimited capacity and the ability to distinguish between distinct cell types. Hematopoietic progenitor, also known as hematopoietic stem cells, are blood stem cells derived from the placenta that produce several blood cell types, such as macro and microcytic cells, neurocytic cells, eosinophilic cells, megakaryocytes, and platelets.

**Key Words:** Placenta, Blastocyte, Pluripotent, Hematopoietic, Totipotent, Amnion, Chorion, Trophoctoderm,

*E-Poster Presentation-7***EFFECT OF COVID -19 ON THE ECONOMICALLY MIDDLE-CLASS  
PEOPLE OF TELANGANA AND SUSTAINABLE ECONOMIC GROWTH****Ramesh Vanaparthi<sup>1</sup>, KotteMalleesh<sup>1</sup>, Venkanna Jeedi<sup>1</sup>***Viral Research and Diagnostic Laboratory (VRDL), Department of Microbiology,  
Kakatiya Medical College, Hanmakonda-506001, Telangana*

The SARs Covid-19(coronavirus) pandemic led to a catastrophic burden of many middle-class people on the healthcare system and increased expenditure on supporting medical infrastructure, and it has decreased the socioeconomic conscience. The results identified the empirical patterns of pandemic expenditure: influence on sustainable growth during and after pandemic periods. Fulfilling the research work involves the implementation of two empirical blocks: 1.employing principal component analysis, ranking, and additive convolution to develop a Sustainable Economic Growth Index based on social, environmental, economic, and public health parameters. 2. Modelling the effect of various healthcare expenses (general government, current, private, capital) on the index using panel data regression (random-effects GLS regression). According to regression analysis prior to the pandemic, increased capital and public and private healthcare spending benefited long-term economic growth. Healthcare costs did not statistically substantially affect sustained economic growth in 2020–2021. Therefore, while conditions were more stable, capital healthcare spending might increase economic growth, but during the COVID-19 pandemic, an excessive healthcare spending burden could have severely affected economic stability. Pre-pandemic healthcare spending supported steady economic development, but post-pandemic healthcare expenditure has increased during the pandemic period.

**Keywords:** Covid-19, Expenditure, Economic growth, Sustainable development, Healthcare



*E-Poster Presentation-8*

**IDENTIFICATION OF POTENTIAL INHIBITORS OF  
MYCOBACTERIUM TUBERCULOSIS PE16 SERINE HYDROLASE  
DOMAIN THROUGH VIRTUAL SCREENING AND MOLECULAR  
DYNAMIC SIMULATIONS**

**Rafiya Sultana, E. Hariprasad**

*Assistant Professor, Department of Chemistry, Government Degree College for  
Women, Begumpet*

*Assistant Professor, Department of Chemistry, Vasavi College of engineering,  
Ibrahimbagh, Hyderabad*

The importance of PE and PPE proteins in *Mycobacterium tuberculosis* (Mtb) along with the significant role played by cutinases/esterases/lipases in the cell wall lipid metabolism of pathogenic mycobacteria strongly implicates that the serine hydrolase, PE-PPE domain is a biological receptor to design new anti-tuberculosis potential drug candidates. *in silico* screening of large databases of molecules, molecular docking and molecular dynamics simulations were performed to select potential Rv1430 PE-PPE esterase domain inhibitors. From the MD simulations of the above four protein-inhibitor complexes we identified two molecules ZINC13681668 and ZINC16052749 that show continuous hydrogen bond with catalytic Ser199 and good interactions with amino acid residues in the active site of Rv1430 serine hydrolase domain. These results provide more insights for the design and identification of inhibitors to this drug target with high binding affinities thereby increasing the inhibitory activity.



*E-Poster Presentation-9*

**BIODIVERSITY OF SPIDERS (ARACHINIDA: ARANEAE) IN  
PIGEONPEA [CAJANUS CAJAN (L.) MILLSP.] FIELDS**

Modala Mallesh

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Telangana state, India.*

The study was carried out at Suryapet, Telangana state, India, during 2021-22 to assess the "biodiversity and abundance of spiders in pigeonpea fields." The hand-picking method was used for the collection of spiders. A total of 1585 spiders were collected. Out of those, a total of ten species of spiders were observed, which belonged to five families of the order Araneae. Biodiversity and abundance were lower in the month of July and progressively raised from August to November, then decreased from December until the end of the crop. The decreased biodiversity and abundance of spiders might be due to the absence of host insect pests that serve as food for spiders. Ecological indices were calculated for the analysis of the community structure of spiders.

**Keywords:** Biodiversity, Pigeonpea, Spiders, Ecological indices, and Hand-picking method.



*E-Poster Presentation-10*

**SOME ASPECTS ON REPRODUCTIVE BIOLOGY OF CATFISH  
*SPERATA SEENGHALA* IN GOMATI RIVER OF TRIPURA, INDIA:  
PRELUDE TO AQUACULTURE TECHNIQUE DEVELOPMENT**

**Dipak Das<sup>1\*</sup> and Sukanta Banik<sup>2</sup>**

*Department of Zoology, Ramkrishna Mahavidyalaya, Kailashahar, Tripura, India*

*Department of Zoology, Tripura University, Suryamaninagar, Tripura, India*

Knowledge on reproductive biology for a potential aquaculture practices is necessary to simulate an artificial setting. The present study investigated some important reproductive aspects like maturation stages, length at first maturity, breeding pattern and fecundity of *Sperata seenghala* during January- December, 2022 under natural condition in Gomati River of Tripura, India. It is found that the species is a single spawner and peak of breeding season is observed between July to August. The total length at first maturity of *S.seenghala* at length group of 35-35.9 cm and 40 -44.9 cm in male and female respectively. The absolute fecundity varied between 20123-47376 and had a correlation with total length, total weight and ovary weight. These information are vital for the development of aquaculture techniques for this species in Tripura, North-East India.

**Keywords:** Fecundity; Breeding pattern; Maturity stages; *Sperata seenghala*; Gomati River; Tripura

*E-Poster Presentation-11***VISUAL INSPECTION IN PHARMACEUTICAL DRUG PRODUCTION****L. Navya Reddy***Department of Biochemistry, Kakatiya University, Warangal, Telangana, India*

Visual inspection is the process of observing the presence or absence of visible particles in a drug. It is performed by trained persons with naked eye. It requires a special table for inspection which consists of black and white backgrounds, with an adjustable light intensity for different types of drugs. Liquid vials, powder vials, lyophilised vials, PFS (pre filled syringes) etc, are inspected under this table. All drugs are inspected manually, but some are done using semi-automatic or automatic inspection which are done by machines. Although inspection is done by machine, the entire batch of product are again inspected manually.

*E-Poster Presentation-12*

**TURNING WASTE INTO RESOURCE  
-A COMPOSTING PROJECT FOR THE FRUIT INDUSTRY LED BY  
STUDENTS**

**Lavanya Nagamalla, Gnanitha Suryadevara, Pavan Mutyala, Sai Kiran  
Myadari**

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Composting is one of the waste management techniques for turning organic waste into a nutrient-rich valuable product. Students from an engineering college aimed to develop a sustainable composting method for a fruit-based industry. Four layered composting procedure is developed. Given its capacity to store and provide the necessary nutrients, the bottom layer is taken as soil. The second layer is sawdust, which serves as an absorbent to take up moisture. Organic fruit waste is the third layer, Dry leaves are taken as the last layer which is an excellent source of carbon and balances the nitrogen levels. To enable microorganisms to break down the organic matter, all of the layers are kept at a stable temperature and moisture level. Chemical, physical and biological properties were analysed at regular intervals as per the Indian standards. Analytical results of the final compost have given promising results rich in Nitrogen, phosphorous, and Potassium. The overall project has resulted in the production of 20-23% of compost material from 1 kg of fruit waste. Students were successful in developing a sustainable project converting daily waste of 220-250kg of fruit waste produced in the fruit-based firm to 65 to 70 kg of compost that can be applied to soil remediation.



*E-Poster Presentation-13*

## **ISOLATION AND SCREENING OF MARINE BACTERIA FOR THE POTENTIAL BIOACTIVE METABOLITES**

**1\* Devavani & 2. Uma Maheswara Rao**

*Department of Microbiology, Government Degree College for Women , Nalgonda  
Department of Botany & Microbiology , Acharya Nagarjuna University , Nagarjuna  
Nagar, Guntur .*

Bacteria in marine environment are the most versatile organisms and are capable of producing a wide spectrum of potential bioactive secondary metabolites, some with novel structures. Many of these secondary metabolites of marine bacterial origin have explored to develop new antimicrobial compounds. This study aims to examine the inhibitory ability of metabolites of isolated heterotrophic marine bacteria against the selected test bacteria. Marine water samples were collected from ten different random sites of Bheemli beach, Visakhapatnam, Bay of Bengal coast, Andhra Pradesh. The samples were brought to the lab in sterile containers, made into composite sample and used for isolation of bacteria on Zobell agar medium. A total of 23 representative bacterial isolates were obtained from the water sample after inoculation and incubation on Zobell agar medium. The isolates were designated as C1, C2, C3, C4 and so on. Colony characteristics of all the pure isolates, Gram staining nature and shape of the cells were recorded. The obtained bacterial isolates were screened for their antibacterial activity against some test bacteria of Gram positive and Gram negative groups. Of the 23 bacterial isolates screened, only 12 isolates showed the growth inhibitory activity against the test bacteria. Among the 12 isolates positive for antibacterial activity, the isolates viz., C1, C6, and C7 were found to be potential with relatively high inhibitory activity. The three potential isolates were sent for 16S rRNA gene sequencing for the species identification. Optimization studies of incubation time, temperature, pH and salt concentrations were carried out for the highest metabolite production in terms of inhibition zone formed by C1, C6, and C7 isolates against test bacteria used. From the results obtained, 72 hrs incubation for C1 and C7 isolates and 96 hrs incubation for C6 isolate, 30° C temperature, pH 7.0 and 2% salt concentration were found optimum for the maximum production of bioactive metabolite by the isolates. Further work is in progress.

**Key words :** Marine bacteria, Antibacterial activity , bioactive compounds , Secondary metabolites



*E-Poster Presentation-14*

## **AN UPDATE ON CARDIAC BIOMARKERS IN DETECTION OF MYOCARDIAL INFARCTION**

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*Associate Professor, Department of Biochemistry, Madha Dental College and Hospital, Kundrathur, Chennai*

Myocardial infarction (MI) is defined as significant heart attack occurs when the coronary blood supply is decreased or sudden complete cessation, harming the myocardium due to a lack of oxygen, which leads to ischemic injury to the heart and leads to dead. Globally incidence of MI is increasing day by day, which leads to major cause of cardiac dead compared to other pathological conditions. Early detection and accurate diagnosis of MI can reduce the incidence of mortality and increases the survival rate.



E-Poster Presentation-15

**MAJOR AND TRACE ELEMENTAL ANALYSIS OF SOME ANTI-CANCER MEDICINAL HERBS I.E, ANDROGRAPHIS PANICULATA AND AEGLE MARMMELOS USING NUCLEAR ANALYTICAL-TECHNIQUE**

S. Jyothsna<sup>1</sup>, Dr .D. Sammaiah<sup>2\*</sup> and Dr.T.Ugandhar<sup>3</sup>

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*Department of Botany, G.D.C-Mahabubabad, , Kakatiya University, Telangana, India*

The aim of the present study was to Analysis the major and Trace elements present in some Anti-Cancer Medicinal Herbs i.e, *Andrographis paniculata* and *Aegle marmmelos*X-ray fluorescence spectrometer is one of the most widely used and versatile technique was used to study the trace element analysis. In this present work we measured thirteen elements and determine their elemental composition presence in selected medicinal plant samples of *A. paniculata* and *A.marmmelos* (by using EDXRF technique). From this it should be noted that, the variation in elemental composition of same plants from different regions, which can be compared with Standard certified values of NIST 1515 apple leaf given a good agreement. The variation in elemental composition can be changing of climate conditions and various mechanisms of plants. It is hoped that our elemental composition data of these medicinal plants available in Telangana region is very useful to pharmaceutical labs for invention of new drugs used for curing various Cancer diseases.

**Keywords**— Medicinal herbs, Trace elements,, Plant drugs, Ex-3600 spectromet

*E-Poster Presentation-16*

## **A REVIEW ON HOST PLANTS IDENTIFIED FOR SANDALWOOD (*SANTALUM ALBUM*) CULTIVATION**

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Sandalwood (*Santalum album* L.) belonging to the family Santalaceae is one of the most valuable tree in the world. The unique feature of sandalwood tree is the formation of “haustorial connections” with the roots different host plants. Sandalwood is an evergreen semi-root-parasitic tree, which makes association with the host plants through "haustoria" to meet its nutrient and water requirements. Earlier studies reported that *Cajanus cajan* is best primary nursery host for better growth (Plant height, Diameter, Biomass) and development of *S. album*. In nature, at least 300 species can act as hosts of sandalwood tree, supplying water and nutrients through a unique organ termed the haustorium, especially during early phases of development. Among 150 host plants studied, trees like *Casuarina equisetifolia*, *Phyllanthus emblica*, *Punica grantum*, *Acacia nilotica*, *Pongamia pinnata*, *Alternanthera*, *Wrightia tinctoria*, *Cassia fistula*, *Leucaena leucocephala*, *Syzygium cumini* and *Cassia siamea* are best host for sandalwood at later stages for additional income.

*E-Poster Presentation-17*

## **ADENOCARCINOMA: A CASE STUDY**

**Dr. Baratha Jyothi Naladi<sup>1</sup>, Prof. Sunita Kanikaram\*, Syed Kareena<sup>2</sup>**

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Liver cancer is the third leading cause of cancer death in the world. Adenocarcinoma of the liver and intrahepatic biliary tract. Liver cancer is much more common in Sub-Saharan Africa and Southeast Asia. Patients may exhibit abdominal distension and pain, a palpable abdominal mass, and elevated liver enzymes. Cancer that develops in the glandular tissue that lines certain internal organs and produces and releases substances in the body such as mucus, digestive juices, and other fluids. Adenocarcinomas are the most common form of cancer found in the breast, lung, oesophagus, stomach, colon, rectum, pancreas, prostate, and uterus. The stage of the disease influences survival rates. Global and local efforts require comprehensive assessments of cancer burden, that may be rare or unavailable in some countries. The authors of this paper present a case report on a retrospective study of an adult male subject aged 60 years. Accelerating progress will be extremely crucial given the ongoing COVID-19 pandemic, which has induced delays and disruptions in cancer screenings, diagnosis, and treatment all over the world. Subject suffered greatly as a result of COVID-19's immobility, and unable to meet his medical needs, he died during the second lock down wave in the month of January, 2022. To meet the SDG target, most countries would need to step up their efforts to reduce the burden of NCDs, including cancer.

**Key words:** Adenocarcinoma, COVID-19 pandemic, NCD burden, SDG target

*E-Poster Presentation-18***LIVE-BIOTHERAPEUTIC- A NOVEL WAY TO TREAT DISEASES.****Nandini Sinhmar**<sup>a</sup>, Bindu Battan<sup>b</sup>, Surender Verma<sup>c</sup>*Research Scholar, Assistant Professor, Department of Biotechnology,  
Kurukshetra University, Kurukshetra, Haryana 136119.**<sup>c</sup> Assistant Professor, Department of Pharmacy,  
Kurukshetra University, Kurukshetra, Haryana 136119.*

A complex interplay of metabolic and immunological mechanisms underlies many diseases that represent a substantial unmet medical need. There is an increasing appreciation of the role microbes play in human health and disease, and evidence is accumulating that a new class of live biotherapeutics comprised of live microbes could address specific mechanisms of disease. Live biotherapeutic products (LBPs) could provide an alternative to antibiotics in infection control by restoring microbiota and controlling resistant strains sheds light as therapeutic agents clinically in contrast to conventional drugs. Biotherapeutics are biotech drugs or biologics from living organisms, used to cure living organisms by making or modifying proteins to create therapies. These products include cytokines, growth factors, hormones, interferons and other regulatory peptides and proteins as well as products from novel cell lines. These are basically biological medicines originally extracted from cells and their secretions used clinically. They are considered active pharmaceutical substances used in the treatment and prevention of diseases in humans. Researchers explore regulatory considerations for the selection and development of live biotherapeutics as medicines also discuss strategies for how these therapeutics can be evaluated for their pharmacokinetic and pharmacodynamic properties.

**Keywords:** Live-Biotherapeutics, microbes, pharmaceutical substances.

*E-Poster Presentation-19*

## **COMPARATIVE PROTEIN-PROTEIN INTERACTION NETWORK ANALYSIS OF MAMMALIAN HEPCIDIN ANTIMICROBIAL PEPTIDES BY USING COMPUTATIONAL TOOLS**

**Raghunath Satpathy**

*School of Biotechnology, Gangadhar Meher University, Amruta Vihar, Sambalpur  
Odisha, 768004, India*

Hepcidins are important group of short-cationic peptides with roles in innate immunity and iron homeostasis. Mammalian hepcidins are reported to have both antibacterial and iron-regulatory modes of action. The present study is to identify the protein-protein interaction pattern of the selected mammalian hepcidin peptides. The sequence information of six selected mammalian species (*Homo sapiens*, *Bus tarus*, *Mus musculus*, *Canis familiares*, *Sus scrofa*, *Equus cabbalus*) was retrived from the Uniprot database ([www.uniprot.org](http://www.uniprot.org)). The protein interaction network was obtained from the string database (<https://string-db.org/>). The interaction network was analyzed in the Cytoscape 3.9.1 tool, and potential hub genes were obtained and analyzed. The hereditary hemochromatosis protein (HFE) was observed to interact with hepcidin in the case of all organisms, followed by its binding to transferrin receptor (TFR) and reducing its affinity for iron-loaded transferrin. Similar other iron and metal transporting proteins such as (SLC40A1) and (SLC11a2) was obtained in the interaction network. An uncharacterized protein ENSSSCP00000028037 was obtained to interact directly with the hepcidin in the case of *Sus scrofa*. The analysis of pattern of the mammalian hepcidin protein-protein interaction might be helpful to understand their diversity in function against different pathogens.

**Keywords:** Antimicrobial peptide, liver cell, hepcidin, sequence analysis, protein-protein interaction, hub genes

*E-Poster Presentation-20***A STUDY OF OPTICAL FIBRE SENSORS IN MEDICAL APPLICATIONS****Bogi. Krishnaiah***Government Degree & P.G.College (Autonomous), Siddipet, Telangana State*

This article is focused on discriminating the contemporary applications of Optical fibre sensors in medical field. An optical fibre is a cylindrical dielectric waveguide (non conducting waveguide) that transmits light along its axis through the process of total internal reflection. Optical fibre sensors (OFS), as a result of their unique properties such as small size, no interference with electromagnetic radiation, high sensitivity and the ability to design multiplexed or distributed sensing systems, have found applications ranging from structural health monitoring to biomedical and point of care instrumentation. While the former represents the main commercial application for OFS, there is a body of literature concerning the deployment of this versatile sensing platform in healthcare. Optical fibers have inherent advantages due to their small size, immunity to electromagnetic interferences and their suitability for remote monitoring and multiplexing. The small dimensions of optical fibre-based pressure sensors, together with being lightweight and flexible, mean that they are minimally invasive for many medical applications and, thus, particularly suited to in vivo measurement. This means that the sensor can be placed directly inside a patient, e.g., for urodynamic and cardiovascular assessment. In the medical field, a sensor represents a device that responds to a physical stimulus and transmits a resulting impulse. Therefore, the fundamental purpose of a sensor system is to accurately measure a signal that enables the wellbeing of a patient to be determined. The purpose of this review was to provide an update of the current state-of-the-art in optical fibre pressure sensors (OFPS) for use in the medical field. The sensors highlighted in this review are based on the principles of a Fabry-Perot interferometer (FPI) and fibre Bragg grating (FBG) techniques, whose characteristics and performance (e.g., range, sensitivity) are comparable, superior to other commercially available electronic pressure sensors. It demonstrates the current state of sensor technologies, how far the medical field of OFPS has penetrated into this application area, as well as the research impact. In particular, the latest test results captured in real medical environments demonstrate the excellent potential for future clinical use and emerging application areas for OFPS.

**Key Words:** Optical fibre, Electromagnetic radiation, Cardiovascular, Bragg's grating, Interference, Sensors



*E-Poster Presentation-21***IMPACT OF ONE YEAR OF MEDITATION ON BLOOD SUGAR,  
GLYCOSYLATED HAEMOGLOBIN AND INSULIN LEVELS IN  
INDIVIDUALS WITH CORONARY ARTERY DISEASE**

Pingili Tejaswini

*Vaagdevi Degree & Pg College, Kishanpura, Hanamkoda, Telangana, India*

The present study is to know the importance of role of meditation in improving biochemical parameters such as blood glucose, glycosylated haemoglobin and serum insulin levels in individuals with coronary artery disease(CAD). Coronary artery disease is the leading cause of individual suffering and deaths worldwide. It has been observed that stress, diabetes, hypertension are important in etiology and progression or advancement of CAD. Hundred CAD individuals are divided into two groups of fifty individuals each. One group have meditated and the other did not meditate. Blood glucose, glycosylated haemoglobin and fasting serum insulin levels were measured before and at the end of one year of study in both groups. At the end of study it was observed that people who meditated has significant decrease, compared to the other group who did not meditate. Meditation may regulate the physiological response to stress through the activation of neurohumoral, which may be the target for treatment of coronary artery disease.

**Key Words:** Meditation, Coronary Artery Disease, Stress

*E-Poster Presentation-22***GC-MS ANALYSIS AND IN VITRO EVALUATION OF ANTIOXIDANT  
AND ANTIDIABETIC POTENTIAL OF POLY HERBAL FORMULATION****J. Maria, Jancy Rani**

*Department of chemistry, Annai Vailankanni Arts and Science College (Affiliated to  
Bharathidasan University), Bishop Sundaram Campus, Thanjavur-613007,  
Tamil Nadu, India.*

Ethno medicines utilize phytochemicals in the formulation of drugs with less or no side effects. In this present investigation, a polyherbal formulation (PHF) was prepared using *Catharanthus roseus*, *Cassia auriculata* and *Sauropus androgynus* for evaluation of its antioxidant and antidiabetic efficacy using *in vitro* models. The identification of bioactive compounds present in the ethanolic extract of PHF was carried out using GC-MS analysis. The antioxidant activity was determined using DPPH radical scavenging assay. The antidiabetic activity was assessed by  $\alpha$ -amylase and  $\alpha$ -glucosidase enzyme inhibitory activity of PHF. 9,12-Octadecadienoic acid (53.47%), Oleic acid (12.76) and ethyl linoleolate (12.40%) were the major compounds identified in prepared PHF. Further, the PHF exhibited effective DPPH radical scavenging activity and also possessed significant inhibitory activity against enzyme,  $\alpha$ -amylase and  $\alpha$ -glucosidase with the  $IC_{50}$  of 30.99  $\mu$ g/ml and 38.72  $\mu$ g/ml respectively. The findings of this study, suggest that the developed PHF could be an ideal herbal combination for the management of hyperglycemia and oxidative stress.

**Key Words:** Antioxidants, *Catharanthus roseus*, *Cassia auriculata*, Diabetic mellitus, Polyherbal formulation

*E-Poster Presentation-23***EFFICACY OF BIOFLOC TECHNOLOGY IN MAINTENANCE OF  
WATER QUALITY IN SHRIMP (LITOPENAEUS VANNAMEI)  
CULTIVATED PONDS**

Yenukolu Aparna, Bijjala Ajaynath Reddy, Motireddy Srinivasulu Reddy\*

*Department of Zoology, Sri Venkateswara University, Tirupati-517502*

Aquaculture is one of the fastest growing sector with ample opportunities but the fast and intercontinental development of *L.vannamei* farming contributed to emergency of disease outbreaks with incalculable economic loss to farmers. Intensification in shrimp culture operation is associated with problems including disease spreading and outbreak, reduction in production rate and impact on organism health. To overcome this issue an environmental friendly culture operation Biofloc technology came into progress. The biofloc based culture works by addition of organic Carbon that provides energy source for microbial organisms to convert ammonia, nitrites & nitrates into microbial biomass, thereby lowers ammonia and nitrite levels in water and reduces the need for water exchange. Hence Biofloc technology plays a prominent role in Aquaculture with minimal or zero water exchange and maintain water quality by uptake of nitrogenous compounds and generate insitu microbial protein. Water quality analysis were performed by estimating Dissolved Oxygen, Temperature, pH, Salinity, Total Alkalinity, Total Ammonia Nitrogen & Total Suspended Solids were recorded. Dissolved Oxygen, Total Ammonia Nitrogen, Nitrate, Nitrite and Total Vibrio Bacteria decreased with increase in Total alkalinity, Total Suspended Solids and Total Heterotrophic bacteria in the biofloc enriched ponds. Biofloc technology facilitates Zero water exchange that eliminates pathogens growth, provides stable water quality (DO & pH) and a stable microbial community develops and inhibits the development of removable species like Vibrio. Hence Biofloc technology is an alternative and sustainable method implemented to increase the productivity rates to reduce disease outbreak by zero water exchange. The Bioflocs production not only improves water quality and also enhances the Growth and Productivity rates. The results obtained were monitored and discussed in light of recent literature findings.

Key words: *L.vannamei*, Water quality, Bioflocs, Dissolved oxygen.

*E-Poster Presentation-24***A REVIEW ON CLIMATE CHANGE AND IT'S IMPACT ON LIFE**

V. Ruchitha, Rajkumar, Naresh, Ravali, Meghana, Afshan

*Department of Zoology, Kakatiya University, Warangal-506009 TS.*

Ethno medicines utilize phytochemicals in the formulation of drugs with less or no side effects. In this present investigation, a polyherbal formulation (PHF) was prepared using *Catharanthus roseus*, *Cassia auriculata* and *Sauropus androgynus* for evaluation of its antioxidant and antidiabetic efficacy using *in vitro* models. The identification of bioactive compounds present in the ethanolic extract of PHF was carried out using GC-MS analysis. The antioxidant activity was determined using DPPH radical scavenging assay. The antidiabetic activity was assessed by  $\alpha$ -amylase and  $\alpha$ -glucosidase enzyme inhibitory activity of PHF. 9,12-Octadecadienoic acid (53.47%), Oleic acid (12.76) and ethyl linoleolate (12.40%) were the major compounds identified in prepared PHF. Further, the PHF exhibited effective DPPH radical scavenging activity and also possessed significant inhibitory activity against enzyme,  $\alpha$ -amylase and  $\alpha$ -glucosidase with the  $IC_{50}$  of 30.99  $\mu$ g/ml and 38.72  $\mu$ g/ml respectively. The findings of this study, suggest that the developed PHF could be an ideal herbal combination for the management of hyperglycemia and oxidative stress.

**Key Words:** Antioxidants, *Catharanthus roseus*, *Cassia auriculata*, Diabetic mellitus, Polyherbal formulation

*Oral Presentation-59*

**A STUDY ON ARACHNIDA GROUP OF SOIL  
MICROARTHROPODS IN HASANPARTHY MANDAL OF  
HANAMAKONDA DISTRICT**

P. Suresh

*Department of Zoology, Vaagdevi Degree & PG College, Hanumakonda*

Ethno medicines utilize phytochemicals in the formulation of drugs with less or no side effects. In this present investigation, a polyherbal formulation (PHF) was prepared using *Catharanthus roseus*, *Cassia auriculata* and *Sauropus androgynus* for evaluation of its antioxidant and antidiabetic efficacy using *in vitro* models. The identification of bioactive compounds present in the ethanolic extract of PHF was carried out using GC-MS analysis. The antioxidant activity was determined using DPPH radical scavenging assay. The antidiabetic activity was assessed by  $\alpha$ -amylase and  $\alpha$ -glucosidase enzyme inhibitory activity of PHF. 9,12-Octadecadienoic acid (53.47%), Oleic acid (12.76) and ethyl linoleolate (12.40%) were the major compounds identified in prepared PHF. Further, the PHF exhibited effective DPPH radical scavenging activity and also possessed significant inhibitory activity against enzyme,  $\alpha$ -amylase and  $\alpha$ -glucosidase with the  $IC_{50}$  of 30.99  $\mu$ g/ml and 38.72  $\mu$ g/ml respectively. The findings of this study, suggest that the developed PHF could be an ideal herbal combination for the management of hyperglycemia and oxidative stress.

**Key Words:** Antioxidants, *Catharanthus roseus*, *Cassia auriculata*, Diabetic mellitus, Polyherbal formulation

*Oral Presentation-60***QUICK IDENTIFICATION OF MAJOR ELEMENTS IN  
INDIAN TOAD PAROTOID GLAND SECRETIONS USING  
HPLC AND LC -MS****Naresh Bonagani***University College of Pharmaceutical Sciences, Kakatiya University, Warangal-506009*

Toad parotoid gland secretion or toad venom has been revealed in recent years to have potentially helpful pharmacological effects; this speculation has sparked considerable interest in unravelling the chemical basis of its multimodal actions. We investigated the use of a speedy and accurate analysis approach for systemic evaluation of the parotoid gland chemistry when extracted from Indian toads for this purpose. High-performance liquid chromatography in conjunction with a mass spectrometry system (LC-MS) and several ionisation sources (ESI and APCI) in positive and negative mixed modes were used to gather data of Indian toad venom extract. We verified the presence of important elements by measuring the precise mass differences between the theoretical and measured masses of each postulated compound. The current findings show that the combination of various ionisation sources with HPLC and LC-MS yields exceptional selectivity and sensitivity, enabling quick and precise identification of the components of Indian toad venom.





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The Department of Zoology was started in the year 1976. The Department has well equipped laboratories, advanced research facilities. The Department does exceedingly well in the fields of higher education and research and also establishes the research thrust areas like Physiology, Serl-biotechnology, Infectious Diseases, Bioinformatics, Computational Biology, Environmental Biology, Ecology, Entomology, Pathology, Phyto-chemistry and Toxicology



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