3.3.3.1. Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years (10)

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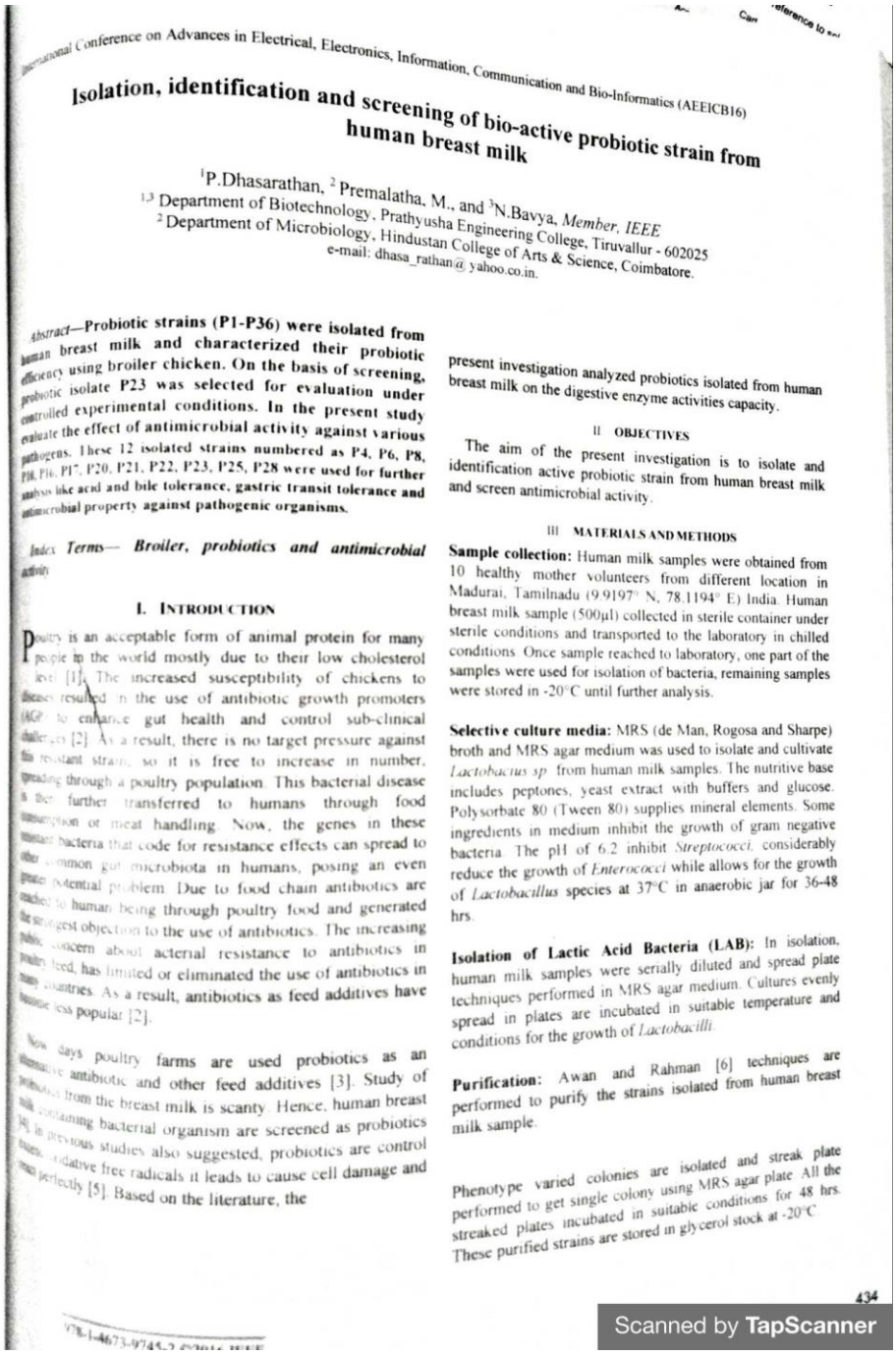

International Conference on Advances in Electrical, Electronics, Information, Communication and Bio-Informatics (AEEICB16)

Isolation, identification and screening of bio-active probiotic strain from human breast milk

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Abstract—**Probiotic strains (P1-P36) were isolated from human breast milk and characterized their probiotic efficiency using broiler chicken. On the basis of screening, probiotic isolate P23 was selected for evaluation under controlled experimental conditions. In the present study evaluate the effect of antimicrobial activity against various pathogens. These 12 isolated strains numbered as P4, P6, P8, P10, P16, P17, P20, P21, P22, P23, P25, P28 were used for further analysis like acid and bile tolerance, gastric transit tolerance and antimicrobial property against pathogenic organisms.**

Index Terms— ***Broiler, probiotics and antimicrobial activity***

I. Introduction

Poultry is an acceptable form of animal protein for many people in the world mostly due to their low cholesterol level [1]. The increased susceptibility of chickens to diseases resulted in the use of antibiotic growth promoters (AGP) to enhance gut health and control sub-clinical challenges [2]. As a result, there is no target pressure against this resistant strain, so it is free to increase in number, spreading through a poultry population. This bacterial disease is then further transferred to humans through food consumption or meat handling. Now, the genes in these resistant bacteria that code for resistance effects can spread to other common gut microbiota in humans, posing an even greater potential problem. Due to food chain antibiotics are reached to human being through poultry food and generated the strongest objection to the use of antibiotics. The increasing public concern about acterial resistance to antibiotics in poultry feed, has limited or eliminated the use of antibiotics in many countries. As a result, antibiotics as feed additives have become less popular [2].

Now days poultry farms are used probiotics as an alternative antibiotic and other feed additives [3]. Study of probiotics from the breast milk is scanty. Hence, human breast milk containing bacterial organism are screened as probiotics [4] in previous studies also suggested, probiotics are control oxidative free radicals it leads to cause cell damage and [illegible] perfectly [5]. Based on the literature, the present investigation analyzed probiotics isolated from human breast milk on the digestive enzyme activities capacity.

II OBJECTIVES

The aim of the present investigation is to isolate and identification active probiotic strain from human breast milk and screen antimicrobial activity.

III MATERIALS AND METHODS

Sample collection: Human milk samples were obtained from 10 healthy mother volunteers from different location in Madurai, Tamilnadu (9.9197° N, 78.1194° E) India. Human breast milk sample (500µl) collected in sterile container under sterile conditions and transported to the laboratory in chilled conditions. Once sample reached to laboratory, one part of the samples were used for isolation of bacteria, remaining samples were stored in -20°C until further analysis.

Selective culture media: MRS (de Man, Rogosa and Sharpe) broth and MRS agar medium was used to isolate and cultivate *Lactobacius sp* from human milk samples. The nutritive base includes peptones, yeast extract with buffers and glucose. Polysorbate 80 (Tween 80) supplies mineral elements. Some ingredients in medium inhibit the growth of gram negative bacteria. The pH of 6.2 inhibit *Streptococci*, considerably reduce the growth of *Enterococci* while allows for the growth of *Lactobacillus* species at 37°C in anaerobic jar for 36-48 hrs.

Isolation of Lactic Acid Bacteria (LAB): In isolation, human milk samples were serially diluted and spread plate techniques performed in MRS agar medium. Cultures evenly spread in plates are incubated in suitable temperature and conditions for the growth of *Lactobacilli*.

Purification: Awan and Rahman [6] techniques are performed to purify the strains isolated from human breast milk sample.

Phenotype varied colonies are isolated and streak plate performed to get single colony using MRS agar plate. All the streaked plates incubated in suitable conditions for 48 hrs. These purified strains are stored in glycerol stock at -20°C.

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DEVELOPMENT OF NANOCOMPOSITES BIO-ORGANIC FERTILIZER

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Abstract—**The overall aim of present investigation is to partially replace the existing chemical fertilizer by developing polymer coated nanocomposites bio-organic fertilizer. Development of nanocomposite fertilizer influences on plant growth promoting activities of nanocomposite fertilizer, nanocomposites fertilizers are analysed using Fourier Transform Infrared Spectroscopy, morphology structures of nanocomposite fertilizer using scanning electron microscope. The root growth of *Allium cepa* for protein humic acid composites was found to be 40mm in 7days. The shoot growth of *Solanumlycopersicum*, *Brassica junceae*, *Trigonella foenumgraecum* has shown average growth in 7 days. In developing countries this system has a higher potential to achieve sustainable agricultural process. Instead of dumping fertilizers in a large amount and affecting soil fertility, these Nano composites in small amount could provide better nutrients for the plant growth.**

Index Terms— **Humus;Nanocomposite; Fourier TransformInfrared Spectroscopy ; Scanning Electron Microscopy**

I. INTRODUCTION

GREEN revolution provides increase in production with introduction of fertilizers but every year with increase in population at faster rate we need to improve agricultural system by harvesting more crops in a faster rate than before. So by cultivating more crops continuously for a year our land has been losing its fertility [1]. The fertility of the soil is being restored again by using manures and fertilizers.Humus is the partially decomposed residue of plants, animals and other organism [2].It is one of the most stable beneficial organic matter, plays a part in supporting soil bacteria such as rhizobacteria and phosphate solubilizing bacteria.Soils that have high humus content will improve soil structure and give rigidity for the soil [3].

Types of Fertilizers:

Organic fertilizer:organic fertilizers are derived from the remains such as dead animal and decaying matter or by products of organism which contains essential mineral nutrients for the plant growth.

Bio-fertilizer: Bio-fertilizer refers to the use of microorganism and organic compound that allows plant to assimilate nutrients for their growth. Though these fertilizers provides high sustainability i.e. they can provide more nitrogen, phosphorus than other fertilizer, it affect adversely on population of microorganism and other parameters. It differs from the conventional fertilizer which simply provides nutrients. It depends mainly on microbes if they aren't right or they affected by pH, temperature, moisture etc. it will not be favourable for harvesting expected yield [4].

Inorganic or chemical fertilizer: Chemical fertilizers provide these nutrients for the plant to grow in case of deficiency. These fertilizers are artificially prepared and costly. It has equal distribution of three essential nutrients nitrogen, phosphorus and potassium [5].

Polymer Coated Nanocomposites: Use of polymer coated Nano composites reduces fertilizer loss, minimizes environmental pollution, decrease photolytic effect, reducemicrobial effect and prolongs nutrient effect in soil. It enhance the utilization of fertilizer by the plants polymer coated Nano composites has been in use for controlled release of nutrients [6].

Humic acid as a growth inducer: Humic acid is one of the naturally occurring acid plays a very important role in plant growth induction. Humic acid has been extensively enhancing the root and shoot growth of plants [7].

Protein sources as essential nitrogen supplier for plant growth: Proteins are large biological molecules which consisting of one or more chain of amino acid residues. These are essential part of all living organism. Each plant requires protein in order to manufacture new cells hence this proteins from various sources are essential nitrogen supplier for plant growth.

Controlled release formulation system of fertilizer: Targeted delivery of fertilizers through controlled release mechanism provides formulation without nutrient loss and supply effective nutrient for the plant growth. It reduces fertilizer loss, minimizes environmental pollution, decrease photolytic effect, reduces microbial effect and prolongs nutrient effect in soil. It mainly enhances the utilization of fertilizer by the plants [8]. Hence in this study planned to prepare nanocomposite fertilizer and analysed their efficiency.

II. EXPERIMENTAL PROCEDURE

Onion (*Allium cepa*) and the seeds of tomato (*Solanumlycopersicum*) and mustard (*Brassica junceae*) were collected from local agro suppliers, Tiruvallur, Tamilnadu. Chicken feather waste was obtained from local poultry

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Molecular Evolutionary Analysis On Insect Acetylcholinesterase

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Abstract: Acetylcholinesterase (AchE2 EC 3.1.1.7) encoded by acetylcholinesterase gene (*ace*) in insects can terminate neurotransmission in the postsynaptic membrane by hydrolysis of the neurotransmitter, acetylcholine (ACh). Evolutionary analysis of 75 Acetylcholine esterase gene sequences belonging to four different orders was determined. Statistical analysis was carried out using MEGA 4. This study will reveal sequence divergence between various species.

KEYWORDS: Acetyl choline Esterase, Insects, Phylogenetic analysis, MEME, MEGA4

INTRODUCTION

Acetylcholinesterase (AChE) catalyses the hydrolysis of the neurotransmitter, acetylcholine, thereby stopping transmission of nerve impulses at synapses of cholinergic neurons in the central and peripheral nervous systems in both vertebrates and invertebrates (Taylor 1991). Consequently, inhibition of AChE leads to paralysis and death. In addition, AChEs are expressed at other sites in animals, where they may act as regulators involved in cell growth and adhesion, probably unrelated to their catalytic properties (Soreq and Seidman 2001). In insects, AChE is a target of organophosphorus and carbamate compounds, which remain widely used pesticides around the world (Harel et al. 2000). Acetylcholine Esterase (AChE) is a key enzyme of the cholinergic system. It regulates the level of acetylcholine and terminates nerve impulses by catalyzing the hydrolysis of acetylcholine. Numerous studies have focused on insect AchE because it is the molecular target of the two major classes of pesticides, Organophosphates and Carbamates. Mutation is the major cause for AChE insensitivity and formation of resistance mechanism in insects. The evolution of insecticide resistance in insects tends to be rapid because selection is strong, populations are large, and generation times are short. The evolutionary analysis of AChE gene sequences among insects of various orders will form the basis for future investigations into the mechanism of OP resistance.

METHODOLOGY

The gene sequences of Acetyl choline esterase from 75 species pertaining to four different Orders were retrieved from NCBI. The sequences were subjected to cluster analysis based on each pairwise alignment score using ClustalW. ClustalW2 is a general purpose multiple sequence alignment program for DNA or proteins. It attempts to calculate the best match for the selected sequences, and lines them up so that the identities, similarities and differences can be seen. The sequence specific motifs present in the target gene were analysed using the tool-MEME (Timothy *et al*, 1994). MEME discovers novel, ungapped motifs (recurring, fixed-length patterns) in your sequences (sample output from sequences). The statistical

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Effect of Monocrotophos and Azadiractin on germination of *Pisum sativum* and *Zea mays*

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ABSTRA The use of pesticides has greatly improved agricultural yield through inhibition of disease caused by [illegible] pests. Also the pesticide residues in the soil affect the crop seed germination and growth. [illegible]ive use of insecticide in agricultural and their potential carcinogenicity strongly suggest the need [illegible]d the cytotoxic evaluations. The active ingredients of the pesticides bind to the cell cycle enzymes [illegible]bit the mitotic cell division of the plants. The objective of the present study focuses on the effect [illegible]nocrotophos and Azadirachtin on green peas (Pisum sativum) and maize (Zea mays) seed germina[illegible]n root tip mitotic index. The difference between Botanical pesticide and Chemical pesticid[illegible]owth of plant was also assessed. The molecular interaction studies were also done using bioinfor[illegible]

Keywo[illegible]crotophos, Azadiractin, Seed germination, Mitotic index, Molecular interaction.

INTR[illegible]N

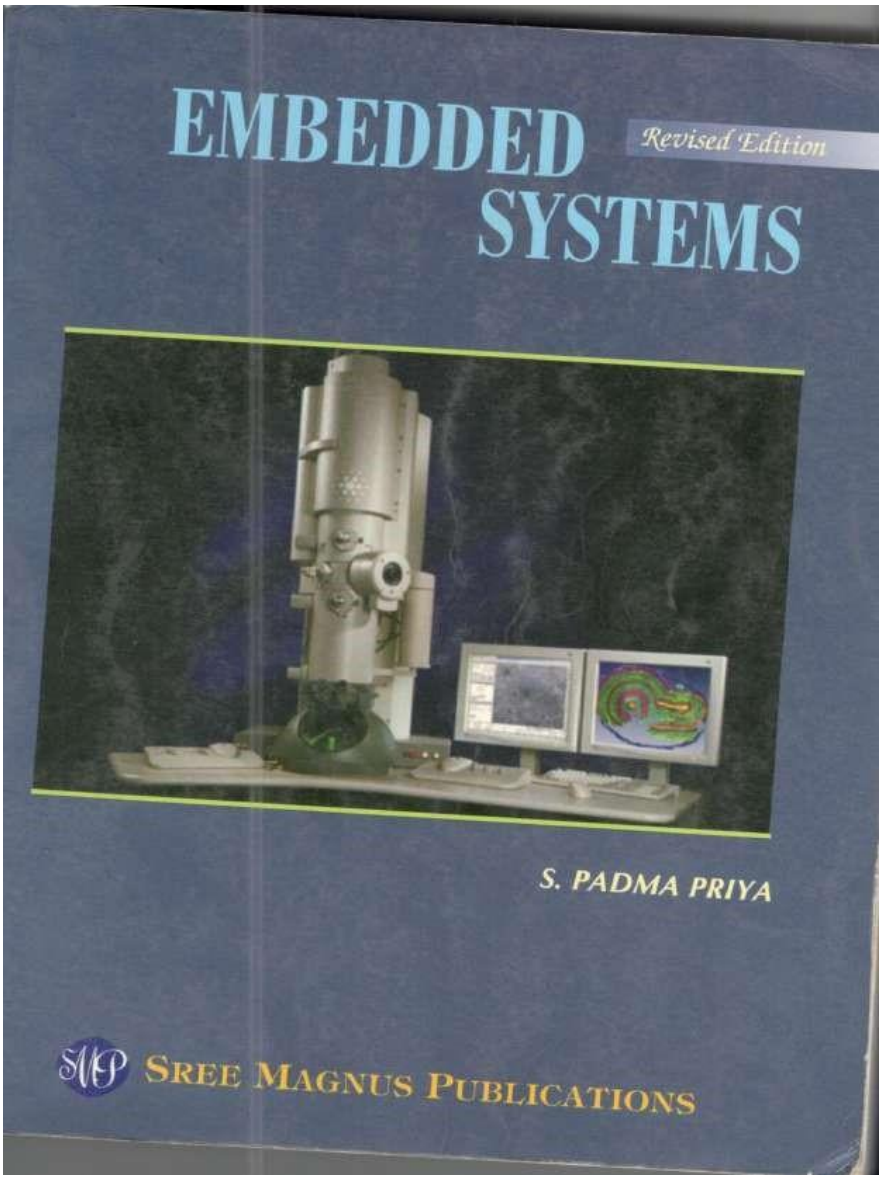
[illegible]ed agricultural system inorganic fertilizers are applied to the soil to supply the essential [illegible]s required for plants. The use of pesticides has greatly improved agricultural yield t[illegible]tion of disease causing and by acting against pest in the field and during storage [illegible]ural products (Taylor *et.al.,* 1997). The killing insect "Pest," insecticides obviou[illegible]potential to harm non-target insects such as beneficial natural predators and pollina[illegible]iously, weed-killers can also be harmful to beneficial insects (Hassan, *et al.* 1988). [illegible]ed that often than 0.1 percent of an applied pesticide reaches the target pest, leaving [illegible]n unintended pollutant in the environment, including in soil, air and water, or on n[illegible]ction (Pimentel, 1995).

[illegible]udy on the effect of insecticides on plant seedling growth and germination along w[illegible]analysis is an essential tool to derive the best insecticide which will provide both d[illegible]ase and improves the crop yield.

MA[illegible] **METHODS**

[illegible]ncentration of Monocrotophos and Azadirachtin 100,200 and 400ppm is taken to stud[illegible]n germination and growth of Green pea and Maize seeds. The test Green pea and M[illegible]sterilized (to avoid fungal infestation) with 0.1% Mercuric chloride solution for 5m[illegible]d by several washing under running tap water to remove the residues. Three replic[illegible]ining 10seeds of Green pea and Maize are arranged in circles on a two layer[illegible]0.1 filter paper placed in 9 cm diameter Petri dishes and to this 3ml of [illegible] concentrations is added. Thereafter, 2ml of insecticide is added on alterna[illegible]e end of the experiment. Distilled water is used as control. The germination of seeds [illegible]3, 5, 7 and 9 days and the seedling length was also measured.

[illegible]riment, Green pea and Maize seeds were placed in a 9cm diameter Petri dishe[illegible]double layered filter paper. Different concentrations ranging from 100, 200 and [illegible]ecticide solution are applied in respective Petri plates and distilled water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WEARABLE ANTENNA FOR BIO SIGNAL MONITORING APPLICATIONS USING ISM BAND

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Abstract— This work presents a simple approach to design a wearable antenna for smart clothing in the ISM or Bluetooth frequency. These smart clothing can be used in designing wearable systems which monitor vital parameters like Bio-Signals of Patients or Soldiers. The microstrip based wearable antenna is simulated using HFSS software and tested after fabrication. This work measures the radiation power levels within a distance of 1m using Antenna Transceiver kits. A current of 120µA was transmitted. Consequently the received power was 85 µA, an efficiency of 70.80%. The final fabricated antenna has an overall dimension of 70mm*70mm. Since it is a wearable antenna, the human body is used as ground plane, making this antenna easy to fabricate and integrate the same effectively into existing fabric materials.

Keywords— **Wearable Antenna, HFSS, ISM Band**

I. INTRODUCTION

Modernization in communication and electronic technologies have enabled the development of compact and intelligent devices that can be placed on the human body or integrated into the clothing, thus facilitating the introduction of Smart Wearable solutions for monitoring of Bio Signals of a person or a soldier, depending upon the focused applications. The huge demand for compact and wearable devices, have led to increasing research and development activities in the area of Wearable applications for many purposes, with main interest being in health care and surveillance and rescue operations. The primary objective of the communication is to design an Smart wearable antenna for the above said applications and measure the characteristics in the ISM or Bluetooth operation range. The dielectric properties of the fabric used as the substrate of the antenna is suitable enough for the development of Wearable antennas. The design work is further extended in order to get the performance characteristics of wearable antennas, such as, Return loss, gain, radiation pattern and efficiency.

In case of wearable antenna technology the designer needs to ensure the optimum performance without affecting the performance of the other electronic units of the Device under focus. Furthermore, in dealing with the wearable devices, the most important need to fit the antenna within an compact area, and the performance of the entire wearable device depend solely on the performance of the proposed antenna only.

In existing research literatures various antenna designs are proposed based use of different materials for the applications. The use of EVA [1], Flectron self adhesive sheet [2], silver plated copper threads [3], artificial magnetic conductors [4] have been proposed in various works. An experimental analysis is also presented in [5] for analysis of different materials to be used as dielectric for the wearable antenna applications. A portable and wearable wireless system to measure the respiratory rate and signal using embedded fiber Bragg grating (FBG) based optical sensor into textile (nylon) has been realized [6]. However with the focus on integrating the antenna within the clothing of the sports person or a patient, this work proposes the use of 100% Cotton material as dielectric for the very purpose. This ensures easy integration into the clothing and also reduces the emphasis in the overall weight of the antenna.

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II. ANTENNA DESIGN THEORY

The theoretical background of the used technique for the design of the wearable antenna is explained in this section.

A. Design Specification for the Wearable Antenna

Wearable antennas are generally designed to meet the requirements of the variety of real time applications, mainly focusing on health monitoring systems. To have a simple planar antenna which can be integrated into day to day clothing, the microstrip antenna topology becomes an inevitable choice. The topology ensures radiation away in a semi hemisphere region around the body surface, which allows for a good coverage area with a sufficient bandwidth. The dielectric constant of the microstrip structure can be chosen with respect to the resonant frequency (f_r) of the antenna. The design equations for the microstrip antenna structure can be derived from the transmission line theory, and the following design equations are used for the antenna design. The effective length of the antenna is generally given as,

$$\Delta L = 0.412h\left[\frac{(\varepsilon_{eff}+0.3)\left(\frac{W}{h}+0.264\right)}{(\varepsilon_{eff}-0.258)\left(\frac{W}{h}+0.8\right)}\right] \quad (1)$$

where,

ε_{eff} = Effective dielectric constant,
W = Width of the microstrip structure,
h = height of the dielectric substrate

$$\varepsilon_{eff} = \text{[illegible]} \quad (2)$$

An Empirical Study of the Impact of E-Learning Tool Developed for Dyslexic Children with Special Reference to Selective Schools in Tamil Nadu, South India

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Abstract:
This research study analyses impact of E-Learning tool named R-U-LEXIC for dyslexic children with special reference to selective schools in Tamil Nadu, South India. The objective of the work is to create a combined and interactive environment, where children may screened on a mass scale for dyslexia by means of an online tool named R-U-LEXIC. The research focuses on developing software platforms, integrating man-machine interfaces in the screening and remediation process and elaborating their technical specifications in view of their later integration within a local or national network.

This study was carried out by allowing 180 students in all the four Grades who are in the age group of 5-12, to use the tool developed for visual and auditory perception. The parents/teacher who assists the child should also answer a set of questions which comprises of Yes/No/Not sure questions that is used to assess their child's behaviour. Based on the score generated by the student, parent and teacher the tool gives the intensity level in terms of percentage which describes whether the child is Dyslexic or not.

The research analysis was performed using SPSS Statistic 17.0. The statistical techniques applied for drawing statistical inferences and conclusions about the study included descriptive statistics, mean and standard deviation, one sample t test, one-way ANOVA and reliability test. The results of this study clearly revealed that there is a positive relationship between the data collected from Parents and Teachers and the students were excited and happy to take the test and could understand and use the E-learning tool easily.

Keywords: Dyslexia, Dyslexics Children, Special Learning Disabilities

I. INTRODUCTION

In India, many children often remain undiagnosed to learning disabilities, because of a general lack of awareness leading to chronic poor school performance, class detention and even dropping out of school. To overcome the drawbacks of the traditional learning methods used for dyslexics, we propose the development of an el earning system for dyslexic children that would largely contribute to their screening and remediation progress and to relieve their difficulties in adapting to the demands of present society. This research study analyses impact of E-Learning System online tool R-U-LEXIC for Dyslexics Children with special reference to selective schools in Thiruvallur District, Tamil Nadu, South India. Children may screened on a mass scale for dyslexia by means of a online tool. The research focuses on developing software platforms, integrating man-machine interfaces in the screening and remediation process and elaborating their technical specifications in view of their later integration within a local or national network.

II. RESEARCH QUESTIONS AND OBJECTIVES

This research study analyses impact of E-learning system online Tool R-U-LEXIC for Children with special reference to selective schools in Tamil Nadu, South India. Dyslexia is a disorder found in learning.

These below mentioned overall questions to be answered by the current study and defined by the following three objectives:

1) To identify the level of student/child intensity of Dyslexia.
2) To identify the behavior of the Student/Child both socially and academically.
3) To study the empirical investigation to identify the learning disabilities of the student/child through E-Learning System online tool R U Lexic.

In this study, the data was collected through a variety of approaches (observations, interviews, tests, curriculum-based assessment, etc.) and from various sources such as parents, teachers, adequate picture be obtained of the child's strengths and weaknesses. By synthesizing this information, we will be able to determine the specific nature of the child's special needs, whether the child needs special services and

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EVALUATION OF FEATURE SELECTION IN BRAIN COMPUTER INTERFACE

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***Abstract*—Brain Computer Interface (BCI) connects the human brain and a computer to help physically disabled and impaired people. Electrocorticography (ECoG) proved an effective modality as a BCI platform. ECoG is a new BCI system signal platform. BCI processes brain signals to extract features which are classified through classification algorithms. Feature sets from signals are large and hence, to optimize a classifier, feature selection techniques choose a discriminative feature subset. This work chooses features using Information Gain (IG), and Mutual Information (MI)..The feature selection method's efficiency is evaluated.**

***Keywords*—Brain Computer Interface (BCI), Electrocorticography (ECoG), Mutual Information (MI), Information Gain (IG), Naïve Bayes and Adaboost**

I. INTRODUCTION

Brain Computer Interface (BCI) research aims to develop a system allowing disabled people to communicate with others and interact with external environments. Various signal modalities were used in BCIs. When compared to other modalities, ECoG noted from "electrodes" on the brain's surface was both a practical and a powerful alternative [1]. Current interest in BCI development is due to the hope that this technology could be a communication option which augments help for those suffering from grave motor disabilities prevent their usage of "conventional augmentative technologies", which need some voluntary muscle control.

BCI can contribute to applications designed specifically for the disabled to play games, social interactions, control of devices, and in comprehending brain activities better and human neural networks. Such applications are predicated upon how the brain works [2]. BCI is another option for "natural communication control". The regular pathways of the body, which are the neuromuscular output channels, are bypassed, in this artificial system [3].

BCIs are differentiated by "signal acquisition techniques", which are "invasive non-invasive" or their signal evocation procedures, which are exogenous endogenous. Evoked potentials are voltage fluctuations in occurring spontaneously (endogenous) from within a subject or after an event (exogenous) like visual stimuli (Event-Related Potential — ERP). BCIs are classified according to brain signal types used for the purpose of communication. BCIs are grounded in electrophysiological signal acquisition methods like [illegible] electroencephalographic (EEG) and individual [illegible] recordings within the brain [4].

Over the last few decades scientific interest in [illegible] signals has undergone a resurgence in varied animal studies. ECoG electrodes placement needs intracranial surgery, [illegible] on humans were limited. Till date most human studies [illegible] conducted on patients suffering from intractable epilepsy [illegible] were selected for invasive monitoring, in order to identify [illegible] eloquent cortex and localize seizure focus. ECoG is a technique [illegible] to record the cerebral cortex's electrical activity by inserting [illegible] placed directly on it, either under dura mater (subdural) or [illegible] it (epidural) but underneath the skull [5].

Though safe, convenient and affordable, it has low [illegible] resolution and is vulnerable to artefacts [illegible] "Electromyographic (EMG) signals", needing extensive [illegible] training. "Invasive BCIs" utilize single-neuron activity [illegible] observed in the brain. Though having greater spatial resolution [illegible] as well as ensuring control signals with higher BCIs which [illegible] on electrodes in the cortex come up against issues in [illegible] and upholding stable long term recordings. Signal degradation [illegible] caused by encapsulation is a real threat to penetrating [illegible] electrodes due to their small recording sites and [illegible] impedance [6].

BCG signals use recently obtained interest as a promising [illegible] platform for translational/basic neuroscience research. [illegible] due to ECoG's robustness and the trade-off it offers [illegible] fidelity and invasiveness. ECoG, as opposed to scalp-recorded [illegible] EEG signals have greater spatial resolution (0.1 cm as opposed [illegible] to 5.0 cm in EEG), larger signal magnitude and [illegible] frequency bandwidth (0–500 as opposed to (–40 Hz). [illegible] BCIs are split into non-invasive, partially invasive and [illegible] devices. Invasive BCIs are surgically embedded directly [illegible] brain and they ensure the best quality of measurements [illegible] signals.

Due to non-availability of computation resources, [illegible] brain signals in the past was restricted to characteristics [illegible] only visually accessible. This limitation was removed [illegible] digital age and ignited researchers and clinicians [illegible] features of ECoG that are more than just [illegible] accessible, like task-related gamma band (40– 80 Hz) [illegible] augmentations that inform cortical function. But the [illegible]

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An interactive Fine motor Movements Screening e-Tool for Dyslexia based on Kinesthetic Perception

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***Abstract*— The aim of this work is to design and develop an online screening tool for dyslexia based on kinesthetic perception without much of manual intervention. Existing methods available for testing Dyslexia are done manually. Also these tests require psychologists and specialists who are scarce. This research aims to exploit the use of multimedia tests for screening of fine motor movements for dyslexia based on kinesthetic perception. Certain online screening tools such as Pearson Test, Dyslexia Determination Test, Slingerlands screening test and BOTS tests are available and used in other countries. For Kinesthetic screening, only manual screening Tool Kits are available. However these kits cannot be used without specialized persons and moreover these screening tools are not affordable to many. Hence, a fully automated multimedia screening tool which consists of various tests to evaluate the fine motor movements in children with dyslexia based on kinesthetic perception is proposed. These tests are developed to identify children with dyslexia at an early stage and to overcome their disabilities early in a child's school career. These tests are integrated and tested with the already developed web based tool R-U-LEXIC which screens visual and auditory dyslexia and the results are encouraging.**

Keywords- **Dyslexia, Kinesthetic,** Fine **motor**

I. INTRODUCTION

The word 'dyslexia' comes from the Greek 'dys-'meaning difficulty with, and '-lexia', meaning words or language. The discovery of Dyslexia which is a difficulty in reading and visual centers in the brain comes from the Greek word meaning "poor with words," "poor reading," or "a disturbance of the ability to read." Dyslexia is characterized by difficulty with learning to read fluently and with accurate comprehension despite normal intelligence. This includes difficulty with phonological awareness, phonological decoding, processing speed, orthographic coding, auditory short-term memory, language skills/verbal comprehension and difficulty in muscle motor movements. Based on these, three evaluation strategies namely Visual, Auditory and Kinesthetic are used for screening of Dyslexia.

Initially a Web based Assessment tool named R-U-LEXIC has been developed for the screening of Visual and Auditory perception, and the results have been implemented and tested [1-3]. Kinesthetic can be described as the form of learning that involves hands on experience or motor skills or movements. Motor skills are further categorized into Fine and Gross motor movements. Fine motor skills are the small movements that occur in the hands, wrists, fingers, feet, toes, lips and tongue. They are the smaller actions that occur such as picking up objects and other small muscle tasks that occur on a daily basis. Whereas Gross motor skills involve the large muscles of the body that enable such functions as walking, kicking, sitting upright, lifting, and throwing a ball.

Common indication of kinesthetic dyslexia includes:

- Lack in Upper-Limb Coordination
- Lack in Bilateral Coordination
- Difficulty in major muscle movements such as walking, jumping, running etc.

This paper elucidate about the design and development of online tool for screening dyslexia based on Kinesthetic perception which included tests for Fine motor movements. All the tools developed were integrated and tested. The results obtained are encouraging.

II. METHODS AND MATERIALS

In the proposed system, online testing tool is intended to examine the individuals who have deficit in fine motor movements. This screening tool is online software which provides assessments for students. Students have to select their grades and take their test. Children are categorized with their academic levels since the tests are framed in such a way that a normal child can complete the task, however a dyslexic child finds it difficult. The tasks were framed based on their grades. The age level and the grade standards are categorized with respect to the grades as mentioned in Table 1.

Table 1. Grade Categories

GRADE	CLASS	AGE
GRADE 1	I,II	5,6
GRADE 2	III,IV	7,8
GRADE 3	V,VI	9,10
GRADE 4	VII,VIII	11,12

A. Online Testing Tool for Fine Motor Movements:

Various assessments similar to video games are framed to screen the fine motor skills (Kinesthetics) of children

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Oppurtunistic Routing Algorithm for Hidden Node Collision Avoidance and Energy Efficient Wireless Sensor Network

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Abstract- Energy utilization has been a major factor in deciding the efficiency of ubiquitous wireless sensor networks. Since most of the wireless nodes are powered by battery an effective algorithm is necessary to use the limited resource effectively. Data collision occurs in Intra-clustered network due to the use of Omni-directional antennas and any introduction of new node in to the network. In this paper, we use an opportunistic routing algorithm so that the energy of nodes are utilized effectively, thereby increasing network lifetime. The data collision is minimized by use of directional antenna and beam scanning technique, to scan for cluster heads, which will minimize data collision in the network, which also indirectly improves network lifetime.

***Keywords*--Opportunistic routing algorithm, Beam scanning, Energy efficiency, Intra clustering.**

I. INTRODUCTION

Wireless sensor network is a growing field. The ease of use and ability of wireless nodes to work as a standalone device has made it easier to set up network just about anywhere. There are also certain repercussions that arise when implementing these wireless networks namely, the energy consumption and data collisions. To improve the network life time opportunistic routing algorithm is implemented to effectively use the limited power supply. The data collision problem occurs when a new node is introduced in the network. The nodes in the network exist as a cluster; each cluster will have a cluster head with sub nodes attached to it. The new node introduced in the network will communicate with cluster head to attach itself with the network. the use of Omni directional antenna will result in use of more energy from the battery and also the data will be transferred to all the nodes in its coverage region, if a directional antenna is used along with beam scanning technique then the use of energy will be minimum and also the data transfer will be limited to particular nodes which will reduce data collision i the network. The use of routing algorithm such a opportunistic routing algorithm improves netwo throughput by means of overhearing transmissio between nodes in its proximity. Initially the nodes ar prioritized such that the low priority data forwarde will not forward the data from a high priority da forwarder node. In this paper, nodes are selected an prioritized to minimize energy consumption of all th nodes. Study is done on both cases where the powe is fixed or dynamically allocated for nodes in th network energy-efficient opportunistic routing EEO performs better than EX-OR protocol in terms o packet loss ratio, delivery delay. The EEOR strateg is simulated on TOSSIM to prove its effectiveness [1]. As the coverage range of each node is limite use of multi hop routing is important to transmit dat over long distance. In this paper, rejoining scheme i used to improve network performance an throughput. The adaptive opportunistic routin algorithm is simulated to evaluate and characteriz energy harvesters [2]. Energy and bandwidth a valuable resources in application driven wirele sensor networks. In receiving nodes data's from group of nodes causes data flooding and maximu use of energy consumption. To keep the loss of dat at a minimal level the nodes are grouped based o data available, cluster head are formed at networ level to reduce energy consumption. Additive an divisive models are used at cluster head which use energy efficiently. Proposed method improved th network life time by 14.94% compared with leac protocol [3]. Utilization of network resource such a energy while maintaining network lifetime an scalability is a challenge. Clustering the availabl nodes is an effective way to improve all of the above Distributed cluster nodes are grouped such that th cluster head falls within their geographical distance The proposed method is simulated and experimente results show low energy consumption and improve lifetime [4]. Wireless senor networks collec information and report to base stations in general. E NAME improves quality of service by mitigating th

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Recognition of Facial Expression using Bit by Bit Scanning and Probabilistic Matching

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***Abstract*- Face recognition is generally insensitive to very large variations in the direction of lighting and facial expression. It is performed by taking dimension of the face image. The particular face has varying illumination but fixed pose without shadowing. The proposed algorithm is based on bit by bit scanning and probabilistic matching and produces well recognized face classes even under various lighting conditions and for different facial expressions. Results obtained due to experimental tests of the proposed "Probabilistic matching" technique has recognition rates that are much higher than the Wavelets with PCA and curvelets with PCA for tests performed on the JAFFE Face Database**

***Keywords*: Face recognition,Recognition rate, probabilistic matching, scanning.**

I. INTRODUCTION

Face recognition although a very important aspect of day to day social interactions, recognizing the faces is at most robust and is easily performed by all humans. In today's world, face recognition with automatic detection is commercially useful and very essential in all applications. It is widely employed in research activities in the field of image processing and bio medical applications. In current scenarios, one needs to have password, pin and any secured method to get access to computer, ATM machines and/ or to internet. Smart rooms are becoming very popular nowadays, due to the technological advancements and higher growth, where cameras, sensors and microphones are embedded together to recognize the persons inside the room and to recognize the gestures to perform further tasks or commands. These smart rooms act as servants. Although finger print recognition is very effective, still individual input of appropriateness is still required. However, face recognition is much more effective without the need of individual participation. Face recognition plays a very important role for identification and recognizing emotional characteristics. Various faces can be recognized by a glance even after many years by individuals and hence, the challenge is same in image processing. Thus, the challenge recognizing same faces due to image variations by illumination and direction viewed are higher than image variations that are due to the facial identities Section II, review the previous work in face Section III addresses the methodology of face Section IV presents simulation results and analysis followed by conclusion.

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II. RELATED WORK

There were various face recognition developed and great challenges are faced illuminations, various pose, partial occlusions, facial expressions, variations in appearance, etc. There various automatic facial recognition for detection expression are based on appearance based [2], geometric based [4], [5] and both [6]. Both approaches have advantages as well as disadvantages the automated system is expected to reach an outcome highest accuracy [7]. The proposed facial expression automated recognition system is based on the Gabor feature using a novel local filter bank using Gabor. This proposed with frequency as well as orientation parameters. In order to evaluate the appropriate performance of the proposed filter bank, a two-step feature based compression technique using Principle Component Analysis (PCA) and Linear Discriminant Analysis (LDA) are used to select as well as compress the Gabor features extracted. Then minimum distance classifier is employed in order to recognize the facial expression.

The results obtained proved dimensionality reduction and high recognition rate as compared to the traditional method employing Gabor filter bank. The facial expression recognition rate for JAFEE database achieved was by 97.33% [8]. Testing done was based on the

Improved Performance of FFT Based Cardiac Analyzer Using Advanced Booth Algorithm

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Abstract— **Cardiac vascular is a disease which plays a high risk factor in the world, where many people leads to death due to sudden cardiac arrest. Doctor uses several test to detect the factors that put people at high risk of Sudden Cardiac Attack like Echocardiography (ECG), Multi Gated Acquisition Scan (MUGA) Test or Cardiac Magnetic Resonance Imaging(MRI), Cardiac Catheterization, and Blood Test which all are in off line analysis of cardiac patient but recently proposed the method of real time Cardiac monitoring system which is used to analyze the abnormality of ECG signal using Fast Fourier Transform (FFT) and send comments to the receiver using short message service(SMS) through Global System Mobile(GSM), where the Fast Fourier Transform (FFT) used in this has more delay, which takes much time in computation due to the presence of multiplier in it. Thus to increase the speed of FFT the Advanced booth algorithm is proposed here, in which the number of slice, number of 4-input LUTs and number of bonded IOB gets reduced when compare to the other existing FFT speed increment algorithm, Hence it is proved that the proposed FFT analyzer improved the overall performance of existing system.**

Keywords- Advanced Booth Algorithm, Cardiac Arrest, ECG, FFT and Multiplier

I. INTRODUCTION

Cardiac arrest is a major problem in the human body which is stops the blood circulation suddenly due to failure of the heart. Heart rate can be measured by using the ECG, where the PQRST waveform occurred by rhythm which is used to analysis the normal and abnormality of the heart rate [1 - 3]. The change in pumping of heart causes changes in rhythm of PQRST wave is called arrhythmia. Cardiac arrest occurs in fraction of second which may not be identifying easily. Hence recently proposed the real time Cardiac patient monitoring using FFT algorithm which is predict the cardiac arrest before it occurs, here the ECG signal is acquired from the sensor module which is given to kalman filter to extract the future ECG signal, from the extracted signal the FFT processor is find whether the future ECG signal is normal or abnormal of Cardiac arrest [4].

The speed of FFT processor is depending on multiplier, where delay occurs in digital processing which will reduce the speed and increases the power consumption. To overcome this problem the high speed multipliers and adders are required to speed up the FFT. Hence we propose the advanced booth algorithm to perform the high speed FFT function.

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Various types of algorithm are available to increase the multiplier speed which helps to increase the performance of FFT at high speed, such as Vedic mathematics it has 16 sutras and 13 sub sutras where each sutra has different operation. Among the 16 sutras nikilam and urthras are applicable for the multiplications purpose this Vedic method performing high speed multiplication with some partial product addition [5 - 7]. Array multiplier is performed the function based on its regular structure here multiplication process followed addition with shifting function and final partial product addition is performed by carry propagation adder it introduce delay for carry propagation. Multiplication based on Booth algorithm increase the speed of the multiplication by reducing the intermediate steps of it. Thus it concluded radix 8 is higher speed than radix 2 and radix 4 [8 - 9]. In this all existing multiplication algorithm reflect performance degradation is more timing waste, high power consumption and it takes more number of slices and input LUTs.

To overcome these existing problems, we propose Advanced Booth algorithm to perform high speed FFT analysis, it eliminates carry propagation delay with less number of logical blocks. The propose method achieves less area, low power and high speed.

II. PROPOSED SYSTEM

Proposed system design the reliable multiplier based on Adaptive hold logic circuit implementation. The multiplier based on the Variable-latency pipelined multiplier architecture with an advanced booth radix-4 algorithm. The proposed algorithm performing multiplication function with three steps, such as partial product generation, performed the partial product addition continuously until the last two rows are remained and finally calculate the multiplication result by workout the last two rows addition.

Proposed algorithm decreases the 50% of partial product in the first step. Proposed system using Advanced Booth encoding (MBE) table to perform the multiplication which is called competent Booth encoding and decoding system, here multiplication performed U by V, U is multiplicand and V is multiplier, using proposed algorithm first grouping multiplier by 3 bits and encoding into one of {-2, -1, 0, 1, 2} which is shown in Table I. The Booth decoder performed the partial products using the encoded signals and finally performed the partial product addition using Wallace tree.

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Millimeter Wave for 5G Mobile Communication Application

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Abstract— **The enormous increase of mobile data growth needs a super-efficient mobile network that provides a superior communication while at the same time judiciously dealing with the shortage ofglobal bandwidth. When the mobile service providers compete among themselves to provide high quality of service (QoS), and low latency video and multimedia applications for wireless applications, the major constrain that impedes the progress is limited available spectrum range between 700MHz to 2.6GHz where each of the service providersare allocated approximately 200MHz across all the different cellular bands of the available spectrum. This can be surmounted by using Millimeter wave (mm-wave).The main focus of the paper is two-fold: to throw some lights on how mm-wave can be used for 5G cellular and to discuss how the next generation mobile users can be highly benefited by prudently using the bandwidth available in the mm-wave spectrumranging from 3 to 300GHz.In addition to the fact that the usage of mm-waves can substantially reduce the size of various components, especially the antenna size, using steerable antennas at both base and mobile stations makemm-wave a paramount and viable option for its usage in cellular mobile applications.**

Keywords- **5G, mm-wave, 28 GHz, 38 GHz, Millimeter wave mobile broadband (MMB)**

I. INTRODUCTION

It may be surprising to most of us that the history of mm-wave technology is not new and goes back to the 1890s. The table shows the progress of the mm-wave technology.

TABLE I DEVELOPMENT OF MM-WAVE [1,2]

Year	Development of mm-wave
1897	J.C.Bose demonstrated mm-wave
1960	Used in Radio Astronomy
1970	Military Apllications
1980	mm- wave IC for commercial Applications
1990	Consumer oriented use of mm-wave above 40 GHz
2003	FCC authorized 71-76 GHz & 81-86 GHz for licensed point to point communication

Mm-wave is a promising technology for future cellular systems. The available spectrum for cellular systems is limited. So to increase the spectral efficiency various techniques are used. These include OFDM, MIMO, efficient channel coding techniques and interference coordination. Recently network densification has also been studied to optimize the area spectral efficiency, in addition to the use of heterogeneous infrastructure such as macro, Pico, Femto cells, relays, distributed antennas [3]. But increased spectral efficiency alone is not sufficient to guarantee high user data rates. The solution is usage of mm-wavespectrum.

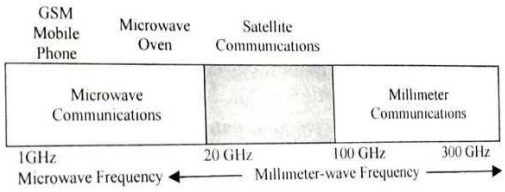

Fig.1 Communication in Millimeter wave frequencies

The figure1 showsthe mm-wave cellular systems which operates in the 30-300 GHz band. 4G Customers use the existing bandwidth of 20MHz channels.The service providers can usemm-wave spectrum to significantly increase the channel bandwidth. Widening the bandwidth of the RF channel increases the data capacity. Also, the latency problem is can be reduced for digital traffic. This provides an enhanced internet based access and applications that require minimal latency. Polarizationand new spatialprocessing techniques such as massive MIMO and adaptive beam formingcan be exploited since Mm-wave frequencies havemuch smaller wavelength.The spectral allocations in mm-wave spectrum are much

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Requirements and Challenges of 5G Cellular Systems

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***Abstract*— The recent research area of the communication engineers are the 5G communication systems. It is expected to provide increased data rate, better spectral characteristics, higher number of simultaneously connected devices, good coverage or lower outage probability, lower infrastructure deployment costs, higher versatility and scalability, higher reliability of communication, higher number of supported devices, best signalling and bandwidth efficiency. So this technology will make a revolution in communication by supporting high speed wireless connections, and a fully realized Internet of things (IoT). This paper comprises the services, requirements and challenges of 5G communication systems.**

***Keywords*— 5G- 5th Generation, IoT – Internet of Things, Simultaneously Connected Devices.**

I. INTRODUCTION

The 1st Generation cellular system is mainly analog system and the bandwidth ranges from10 to 30 KHz. It uses FDMA service scheme and provide voice services with data rate of 10 Kbps [1]. The 2G GSM system offers 9.6 Kbps at the earliest and 300 Kbps at last with the bandwidth of 200 KHz. It offers radio access with TDMA/FDMA services. The 3G scheme with CDMA service offers the peak data rate from 2 Mbps to 50 Mbps with the bandwidth of 5MHz. All the above schemes use Circuit Switching and/or Packet switching. The Generation 3.5 uses the system HSDPA which focus only on packet switching.

In 4G cellular systems the peak data rate starts at 100Mbps with the OFDMA and SC-FDMA systems. 5G denotes the next stage of mobile telecommunications standards in advance to the 4G wireless standards. By 2020 the number of connected IoT is estimated to reach 50 Billion, while the mobile data traffic is expected to grow to approximately 24 Exabytes per month. All this can be overcome by 5G technology. It will make IoT a reality that is, it has the ability to provide network connectivity to all connected devices regardless of location, and time without human intervention like Smart Home, Smart store, Smart Office and Connected Car.

The other major services provided by 5G technology are Virtual Reality (VR) and Augmented Reality (AR). VR provides a world where physical presence of an object is simulated by computer graphics, and the user can actively interact with the simulated elements. Augmented Reality is computer-aided real time information based on user context, and is graphically augmented to the display, delivering added value for the user. In addition to that 5G system is designed by finest Quality of Service (QoS) [2] and high error tolerance. Specifically the 5G systems use the Cloud computing techniques where the remote server provides all content to the consumers to use applications without installation and access their personal files at any computer with internet access.

The following table explains the key use areas of the various generation cellular systems. From this we confirm the growth of wireless mobile technology over each highe generation than the previous one.

TABLE 1. KEY USE AREAS OF VARIOUS CELLULAR GENERATIO SYSTEMS

S.No	Generation	Key use area
1	1st generation	Voice Services
2	2nd Generation	Improved Voice and Text Message
3	3rd Generation	Integrated Voice and mobile Internet
4	4th Generation	High capacity mobile multimedia
5	5th Generation	High speed mobile internet, smart cars, sm rooms, Augmented Reality, Virtual Reali and Internet of Things

This paper is organised as follows, section II expl the requirements of 5G mobile systems, Section III compr the challenges expected to be faced by 5G systems Section IV is composed of services and applications offe by 5G cellular system and the conclusion is given in Sec V.

II. REQUIREMENTS OF 5G MOBILE SYSTEMS

High data rate and all IP principle are the very ir need of any futuristic mobile system [3]. 5G networks aimed at meeting the requirements for mobile communica beyond 2020. Supporting the inexorable rise in mobile consumption is an obvious objective. The major requirem of 5G are provided as 7 Key Performance Indices (KPI Samsung [4]. They are shown in fig 1.

A. Peak Data Rate (Gbps):

5G systems will be required to give better per- data rate compared to its predecessors. This system expected to support data rates of 10-50 Gbps for low-mob users and it will provide gigabit-rate data services regard

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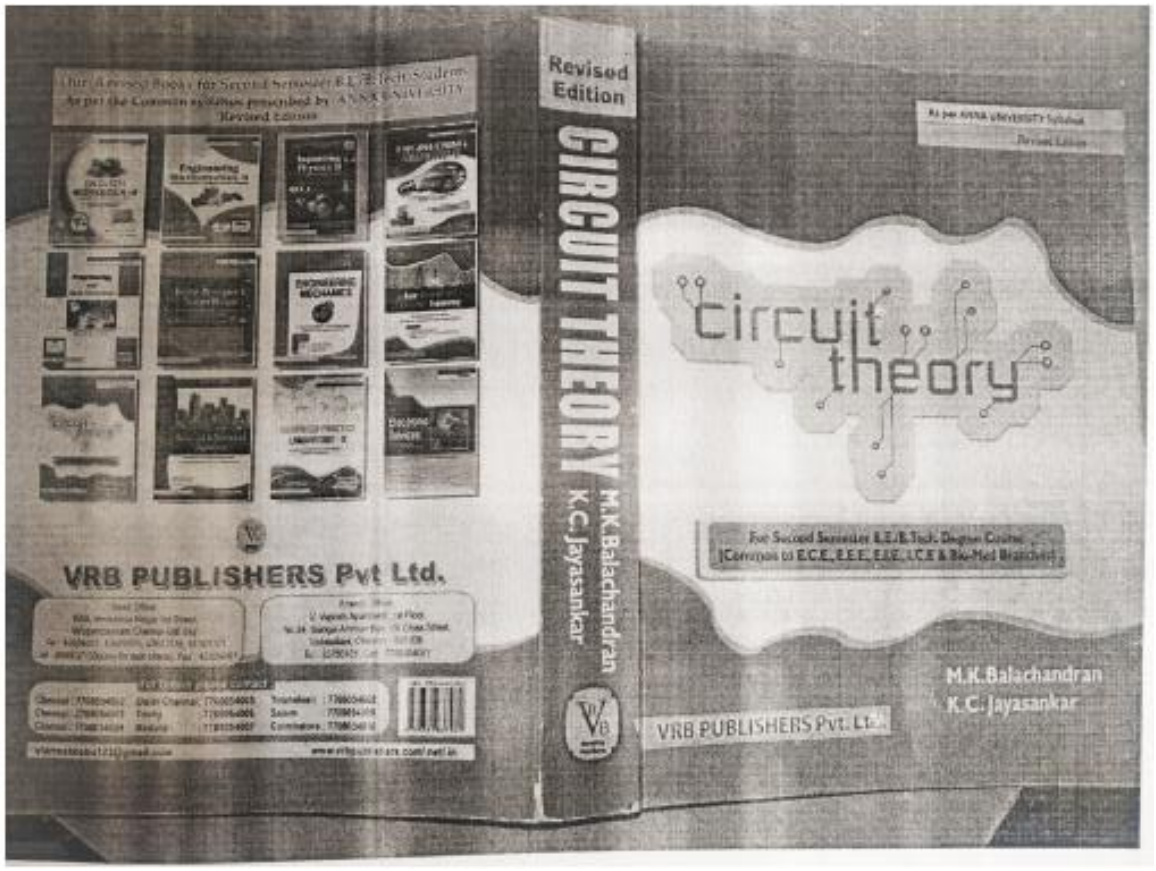
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Multi-response Optimization in Turning of AA6061 T6 Using Desirability Function Analysis

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Keywords: Turning, Orthogonal array, Desirability Function Analysis, ANOVA, Optimization.

Abstract: This paper presents an ideal approach for the optimization of machining parameters on turning of AA6061 T6 aluminium alloy with multiple responses based on orthogonal array with desirability function analysis. In this study, turning parameters namely cutting speed, feed rate and depth of cut are optimized with the considerations of multiple responses such as surface roughness (R_a), roundness (Ø) and material removal rate (MRR). Multi response optimization of machining parameters was done through desirability function analysis. The optimum machining parameters have been identified by a composite desirability value obtained from desirability function analysis. The performance index and significant contribution of process parameters were determined by analysis of variance.

1. Introduction

Aman Aggarwal et al., have used desirability function analysis to optimize the multiple quality characteristics for CNC turning under cryogenic cutting environment [1]. They have concluded that highest desirability could be obtained at low level of cutting speed, feed rate, depth of cut and high

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STAFF MANAGEMENT SYSTEM

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ABSTRACT:

In recent days, with the development of computer sciences, computer technology has been applied to comprehensive fields. Education is one the major fields in the world. We propose a web application which is very useful to the education sector. The Staff details of a institution which involves process to be carried out manually which is time consuming. In this process the staff has to give information to the institution about their details in to a Database. We implement an efficient and user friendly web application which reduces the tedious work to the Staff who are under his/him institution. The main objective of the project is to add automation to the process in an institution. This web application involves two types of individuals, staff & Hod. Each of them has to create the his own id and password. The staff can enter the details in to database. The Hod can monitor the staff performance by viewing his details with in his department. We are notifying the birthdays and special events with messages to their provided Phone numbers. The staff can update their details daily in their PORTAL.

INTERNET OF THINGS(IOT) ENABLED HEART BEAT MONITORING

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Prathyusha Engineering College

ABSTRACT:

In India, everyday many lives are affected because the patients are not timely and properly operated. Also for real time parameter values are not efficiently measured in clinic as well as in hospitals. To deal with these types of situations, our system is beneficial. Our system is designed to be used in hospitals for monitoring Heart Rate using Raspberry Pi. After connecting Internet to the Raspberry Pi board it act as a server S it is connected to the Internet. After this we can monitor the parameter using Web Page anywhere in the world using Laptops, Smart Phones, etc. This data can be accessed by any hospital management system for recommendation to the patients.

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STUDENT HELPDESK SYSTEM

R. JebamalarRoselin[1],A. Lokeshwari[2],S. Sharmila[3],V. VidhyaLaksmi[4],J.Omana[5]

Prathyusha Engineering college

ABSTRACT:

A Student Helpdesk System is used to provide user assistance to the students and staffmembers. Student Helpdesk System provides a simple interface or maintenance of students information. It can be used by education all institutions to maintain the records. The creation and management of accurate up-to-date information is critically important. Student Helpdesk deals with all kinds of information regarding the student. The systemutilizes user authentication and displays information that are necessary for individual student. The system features a complex logging system to track all user access and ensure the conformance of data access guideliness and are expected to increase the efficiency of Student Helpdesk System.

Thereby, It decreases the efforts needed to access **and deliver the information.**

PEC INTERACTION APP BETWEEN STAFF AND PARENTS

Nandhini.R[1],Navya.P[2],P.Anuradha[3]

PRATHYUSHA ENGINEERING COLLEGE

ABSTRACT:

In todays era ,mobile takes the place of human at all aspects.The mobile application has brought drastic improvement globally.We enumerate the development of standalone system which helps in providing the accurate up-to-date information.The present scenario describes a system which involves process to be carried out manually which is time consuming.

We implement an efficient and user friendly android application.Hence the application provides a solution through a simple interface which helps to overcome the earliest system. The project is completely based on student information system where the parents can utilize the app for analyzing the student details.

The utility and main objective of the project is to add mobility and automation to the process in an institute. This is an online based application so it can provide efficiency to acquire,store and process. Each individual parent will be provided with the details of their ward.

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Review on 4G Antenna Design For LTE Application

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***Abstract*— This work aims to provide an overview of the LTE/4G implementation from an RF system Design perspective. LTE and LTE Advance, form the next generation of mobile communication standard. Although LTE has been already been implemented in various parts of the world, researchers are still coming in terms with the finding of design challenges of such complex systems. Much light has been thrown upon the Antenna design aspect of the future LTE/4G based systems. It has been noted that MIMO Technology is best suited for the implementation of such robust technology, which aims in providing better channel utilization and reduced signal correlation between the adjacent channels present in the Communication link.**

Keywords—component; formatting; style; styling; insert (key words)

I. INTRODUCTION

Recent advancements in Wireless communication technologies and Increasing demands of the customers for better Quality of service, has spurred up an urgent need to design efficient RF systems. In continuation to the development of communication standards (Figure 1) from the early GSM based systems to the 3GPP configurations have seen a drastic change in how customers today access data. Furthermore, a greater demand for much higher data rates and reliable infrastructure has kept the infrastructure developers at constant pressure to evolve and prove the network capabilities. So the next move from the RF System designers is going to be to address this need for faster and reliable communication link by developing robust network architecture. Researchers around the globe have proven Long Term Evolution (LTE) or 4G technology as the successor to current 3G based communication systems. LTE/4G based systems would focus on increasing the capacity and speeds by utilizing a different breed of RF Systems which would be based on the existing GPRS and UMTS, and combining the advantages in the said technologies.

Enhanced voice quality, Improved Uplink and Downlink data rates, increased channel capacity, focus on catering more number of users in a cell is little advancement as far as LTE technology has come up with. One crucial addition and advancement in LTE communication systems is the use of Multiple Input and Multiple Output (MIMO) configuration to the fullest to meet the demands of the customers. MIMO based communication provides a completely new way of communication like Multi user downlink, in addition to improving the service of already existing point-to-point user links. And the focus of this work is to give emphasis on design of one crucial component of such MIMO based systems, i.e., Antennas [1], for such future technologies.

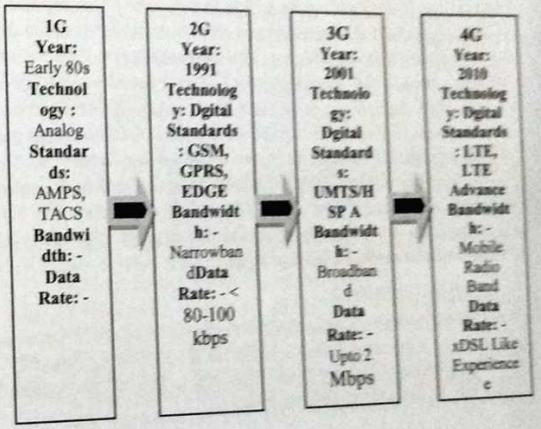

Fig 1: Evolution of Wireless Communication Technologies

II . MIMO CONFIGURATIONS FOR LTE/4G SYSTEMS

As Introduced already in the section above, LTE/4G systems focus mainly to improve the present RF communication system through the usage of MIMO based Communication link configuration [2]. Listed below are the important ways in which MIMO systems can be implemented in wireless applications.

Based on the channel capacity/function and the type of Communication equipment used in the wireless link, there are various efficient ways in which MIMO technique can be harnessed for LTE systems. Following are the types of different MIMO implementations.

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Security using data compression in MANETS

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Abstract— **Energy saving is the main concern in mobile ad hoc network to improve network lifetime. To design a secure geographic routing protocol with data compression, boundaries of mobile ad hoc nodes have been considered. AODV is the basis for SMHSP (Secured multi hop strong path protocol) protocol. AODV refers to Ad hoc on demand distance vector, a routing protocol designed for wireless and mobile ad hoc network. It builds the route with destination only. It supports for both unicast and multicast routing protocol. In this process, broadcast is minimized. For secure routing, data is to be compressed by using Modified Lempel Ziv Welch (MLZW) algorithm. By using the proposed algorithm, the implementation is faster and limited amount of data should be compressed thereby improving the efficiency.**

Keywords— ***SMHSP, Security, Compression, Routing protocol.***

I. Introduction

A mobile ad hoc network is a multi hop wireless network in which each node plays both roles of a host and a router. In wireless communication system, MANET is the most autonomous collection of mobile users. It must be communicate over relatively bandwidth. It is easy to attack nodes in MANET, because of this nature. MANET is an infrastructureless network where each device in MANET can be moved easily in any direction. WSN have many applications which includes military Target tracking and investigation, natural disaster relief, biomedical health monitoring and hazardous environment exploration and seismic sensing. It contains many sensor nodes which are organized over a geographical area for observing physical occurrences like temperature, humidity, vibrations, seismic events. A sensor node is miniature device which contains a sensing subsystem for data acquirement i.e. data acquisition from the physical environment, a processing subsystem for processing and storage of data and communication subsystem for transmission of data. The subsystem contains a power source which gives energy to the device. It is very inconvenient to recharge the battery and it is organized in an unrealizable surroundings [8].Sensor nodes are small, with limited processing and computing resources and thus they should have the long lifetime for serving the requirements of application.

II. Literature Survey

In reference [1], authors implemented a strong path secure geographic routing protocol based on key management. Here the data is secured and the protocol improves the QoS parameters like throughput, packet delivery ratio.

In reference [2], authors have used password security solution in SAODV protocol for each node timeliness to update the routing table. AODV and SAODV were simulated and the performance of both the protocol is evaluated for varying number of nodes and malicious nodes.

In reference [3], authors have proposed a network coding to further reduce energy consumption in MANETs by cutting the security cost and transmission cost. This simulation result of p-coding is compared with AODV mechanisms and AES encryption algorithm.

In reference [4], authors have proposed a novel secured compression algorithm for an ad hoc network in which the packets are encrypted and compressed. It is observed that the proposed security concept may increase the level of confidence in the network.

In reference [5], authors have tried to proved that the data can be transmit low power consumption without any loss of data. This process is used to reducing the battery consumption, thereby increasing battery life.

III. Existing System

In MANETs, each node can sent a number of data to a particular destination. At the time of process, nodes can receive the data and all nodes must cooperate with each other. Suppose the sensor nodes accepted the data but not sending to the particular destination thereby encrypt the data and send it to the neighbor nodes. These great features also come with the serious drawbacks from a security point of view.By sending the data from one node to another node through an IP address of the device, large amount of energy will be reduced. This cause's life time of device may be reduced.

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Survival of ICU Patient Health Monitoring Using IoT

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Abstract

Internet of things serves as a catalyst for the healthcare and plays prominent role in wide range of healthcare applications. In the modern health care environment, the usage of IoT technologies brings convenience of physicians and patients, since they are applied to various medical areas such as real-time monitoring, patient information management, and healthcare management. The Body Sensor Network (BSN) technology is one of the core technology of IoT developments in healthcare system, where a patient can be monitored using a collection of lightweight wireless sensor nodes. Hence, this project proposes IoT based BSN for health care Monitoring and Management. The healthcare parameters such as EMG, BP etc., are sensed by using appropriate sensor and its values are continuously compared with the threshold limits. Whenever the sensed values exceed the threshold limits, the information about the patient's health condition is communicated through IoT. Depending on the criticality of the condition, the patient's health condition is communicated to the care takers of the patient. In this project Raspberry pi is used as a processor and IoT is used to communicate the various sensors output to the care takers. The processor picks up the sensor data and sends it to the network through IoT and hence provides real time monitoring of the healthcare parameters for caretakers like doctors, relatives, ICU etc. The data can be accessed anytime which alert the caretaker about variation in sensor output.

Keywords: Internet of Things; Body Sensor Networks; Healthcare Monitoring; Rasperrypi Processor

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Design of Alpha/Numeric Microstrip Patch Antenna for Wi-Fi Applications

Authors Authors and affiliations

R. Thandaiah Prabu, R. Ranjeetha, V. Thulasi Bai, T. Jayanandan

Conference paper

First Online: 01 June 2017

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Abstract

The Microstrip Patch Antenna's (MPA's) find usability in several day to day applications. They hold several advantages like low-profile structure, low fabrication cost, and they support both

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CHARACTERIZATION OF BIOACTIVE COMPOUIND ISOLATED FROM STRYCHONUS POTATORIUM USING BACTERIAL PATHOGENS

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ABSTRACT

In this study, phytochemical constituents are extracted from seeds of Strychonus potatorium using low polar to high polar solvents (Hexane, butanol, ethanol, cholorofform and aqueous). Active compounds obtained in Strychonus potatorium was analyzed and identified using GC-MS method, it finds out 16-Octadeceonic acid compounds obtained in Strychonus potatorium. The isolated active phyto-constituents could be an alternate way to combat against bacterial diseases and their influence in control of pathogen multiplication in the aspect of microbiome. The higher concentration of extract (100µg/ml) extracts exhibited a pronounced activity against Pseudomonas aeruginosa (21 mm), Proteus vulgaris (19 mm), Citrobacter sp (19 mm), Klebsiella pneumoniae (18 mm), Micrococcus sp (17 mm), Bacillus subtilis (16 mm), Staphylococcus aureus (15 mm), E. coli (14 mm) and Serratia marcescens (5 mm). The minimum inhibitory concentration and minimum bactericidal concentration were found to be 20-40 µg/ml and 80-100 µg/ml respectively for the extracts of S. potatorium against test organisms. In this study confirms S. potatorium extract possess antibacterial activity against a wide range of microbes justify which could its use in traditional medicine as a remedy for the treatment of bacterial diseases.

***Key words*: *S. potatorium*, antibacterial activity, minimum inhibitory concentration and minimum bactericidal concentration.**

I.INTRODUCTION

Strychnos potatorum Linn.(family : Loganiaceae) commonly known as Katakam in Ayurveda, Tettankottai in tamil and Tettamparal in malayalam is a moderate sized tree found in southern and central parts of India, Srilanka and Burma [1]. The ripe fruit is emetic, diaphoretic and alexiteric; it cures inflammation, anemia, jaundice and causes biliousness [2]. In ayurvedic system of medicine, the seeds are used invitiated conditions of kapha and vata, hepatopathy, nephropathy, gonorrhea, gastropathy, bronchitis, chronic diarrhoea, dysentery, renal and vesicle calculi, diabetes, burning sensation, dipsia, conjunctivitis, scleritis, ulcers, some eye diseases etc [3]. Numerous plants used in folk-lore and tribal medical practices for diabetes mellitus in remote villages of India and tribal pockets, are not known to the mainstream medical practitioners. Two such plants *Artemisia*

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BIOSYNTHESIS OF SILVER NANO PARITICLES FROM THE *CLITORIA TERNATEA* AND ITS ANTIMICROBIAL ACTIVITY

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ABSTRACT

Silver nano particle research plays an important role in modern science for eradicating diseases. The Clitoria ternatea flowers are collected and the Silver nano particle is biosynthesized. The present study was aimed to assess the for its antimicrobial activities. The Clitoria ternatea Silver nano particles, showed antimicrobial activity was evaluated using disc diffusion and minimum inhibitory concentration. The Clitoria ternatea flowers synthesized-AgNPs at different concentration (5, 10, 15 and 20 µl/ml) was tested against Vibrio cholerae and Pseudomonas aeruginosa. Clitoria ternatea flowers synthesized-AgNPs inhibited (MIC) the growth of Vibrio cholerae and Pseudomonas aeruginosa at 20 µl/ml concentrations. the present study provides evidence that Clitoria ternatea flowers extract-AgNPs exhibit interesting antimicrobial properties, expressed either by their capacity to phytochemical compound activity.

Key words: *Clitoria ternatea, antimicrobial activity, nanoparticle and minimum inhibitory concnetration.*

I. INTRODUCTION

Nanotechnology is one of the most active areas of research in modern materials science. Nanoparticles exhibit completely new or improved properties based on specific characteristics such as size, distribution and morphology [1]. However, there is still need for economic, commercially viable as well environmentally clean synthesis route to synthesize silver nanoparticles [2]. The use of environmentally benign materials like plant leaf extract, bacteria, fungi and enzymes for the synthesis of silver nanoparticles offers numerous benefits of eco-friendliness and compatibility for pharmaceutical and other biomedical applications as they do not use toxic chemicals for the synthesis protocol [3]. The synthesis of noble metal nanoparticles attracts an increasing interest due to their new and different characteristics as compared with those of macroscopic phase, that allow attractive applications in various fields such as antimicrobials [4], medicine, biotechnology, optics, microelectronics, catalysis, information storage and energy conversion [5].

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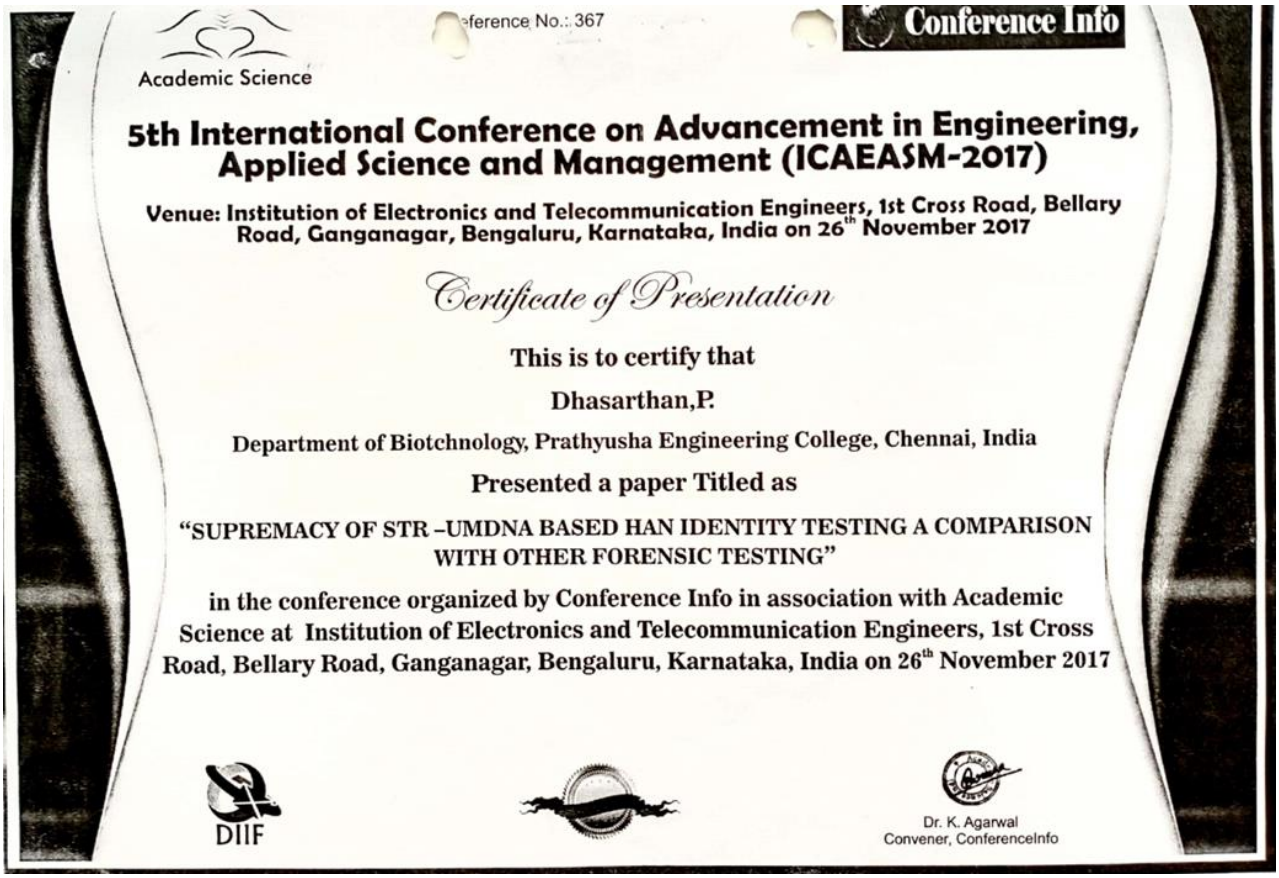

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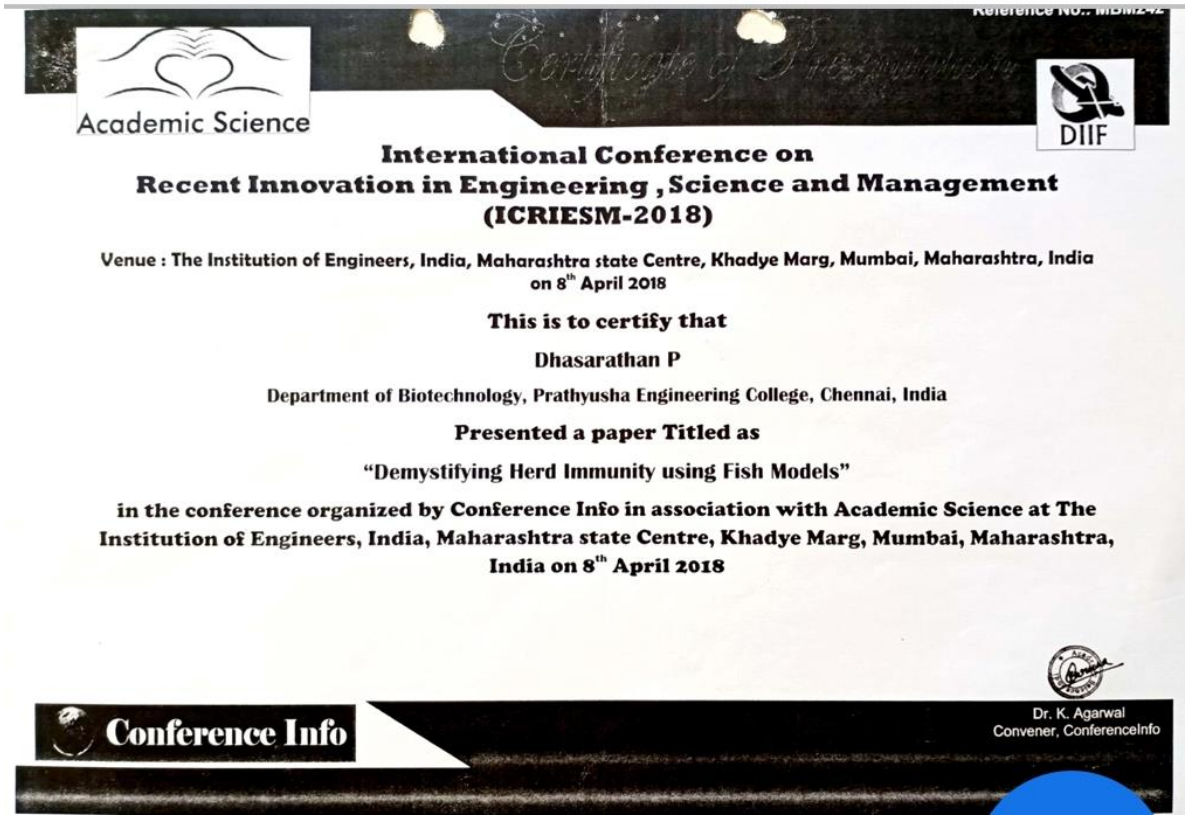

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Microbial Isolates for Enhancement of Seed Germination

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Abstract – Bacteria that colonize plant roots and promote plant growth are referred to as Plant Growth- Promoting Rhizobacteria (PGPR). Rhizobium bacterial isolated from soil samples collected from prathyusa college garden soil. Isolated organisms names as PEC 1 and PEC 2, further used for seed germination efficiency with vigor index. The emergence of seedlings, from the seed at a height of 2 mm was treated as germination. This was carefully recorded for 120 hours. In the present study 2 types of plant growth promoter rhizobium (PGPR) strains were isolated and used as inoculums PEC1 and PEC2. The present study indicates that the germination efficiency of the bhendi seeds is influenced by the rhizobium isolated from the Prathyusha college garden soil. In total effective two isolated sample PEC 1 and PEC 2 showed higher influence in germination efficiency, germination co efficiency and vital index.

Keywords: Plant Growth- Promoting Rhizobacteria (PGPR), Germination, Bhendi and vital index.

I. Introduction

Green revolution has changed the poverty globally. The conventional agricultural practices are modernized and crop yield has been increasing. The synthetic fertilizer input in the form of macronutrients like nitrogen, phosphorus and potassium and many micronutrient supplements has been enhancing agricultural output but at the cost of human health. Nitrogen enrichment in the soil and its leaching into portable water source causes several pollution related problems. Though nitrogen is needed it should not be applied in discriminately. For the regulated provision of nitrogen to the plants, the natural nitrogen production sources in the plants can be achieved. The root nodules of plants harbor many microbes that are capable of fixing atmospheric nitrogen and convert it into nitrate for plant utilization. This nitrogen fixing bacteria called rhizobium and studied by many people [1-5].

In order to enhance agricultural productivity plants need a good nitrogen supply. But due to many manmade activities soil nitrogen level got reduced an 24 billion tons of fertile soil from the world's crops land was lost [6]. In 2030 the demand from agriculture land may increase greatly due to population growth so nitrogen source must compensate the nearly demand [7]. So, microbial source for the supply of nitrogen has to be revitalised. Rhizobacteria near the roots [Rhizospere], root surface (Rhizoplane), root tissue (Endophytic) and root nodules (Root attached) are to be enhanced to produce more nitrogen [8]. In this work, Rhizobacterial action on specific plants productivity was analysed. In the experimental trial the common vegetable, bhendi (*Abelmoschus esculentus*) was chosen. The rhizobium stains were isolated from local soil (Prtahyusha college garden soil). The chief objective of this study is to trace plant growth promoting action in Rhizobacteria isolated from local soil.

II. Materials and Methods

For the present study, the vegetable crop *Abelmoschus esculentus* was chosen.

Soil sampling:

For the isolation of plant growth promoting rhizobacteria (PGPR) soils were collected from a garden in prathyusha engineering college where the plant abelmoschus esculentus was cultivated. The soil attached to the roots [Rhizosphere soil] was collected from 10 plants separately and transferred to ice box for transport to the laboratory. The moisture content in the sample was estimated after the removal of the root material or other plants remain. The storage of the sample was done at 4° C.

For the isolation to PGPR 10g of moist soil was placed in 100 ml of sterile water shaken for 10 minutes. Then 10 ml of this suspension was transferred to 9 ml blank and serially diluted to 1% concentration. Different types of medium (TSA and NA) and basal medium amended with glucose, manitol, sorbital, inosital and sucrose. The plates were incubated at 37°C for 2-3 days. The individual colonies were selected for estimating the population of Rhizobia. This was expressed as number of CFU (Colony Forming Units)/ gram soil.

The individual bacterial colonies were isolated and subcultured on nutrient agar. A total of 100 isolates thus obtained were cryopreserved. The isolates were analysed for morphological characters, gram staining, motility etc.. Biochemical test were done the test indole,

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Utilization of Green Synthesized Silver Nanoparticles for Water Quality Management

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Abstract *- Water is an elixir of life. Many water sources are polluted with algal bloom that discolors the water, reduces dissolved oxygen and questions the survival of organisms inhabiting the water bodies. Further many fresh water bodies are contaminated with microbes. Algal growth and bacterial contaminants in our household water tanks clogs the water taps, affects health and promote several waterborne diseases. To find out a safe solution for this menace, green synthesized silver nanoparticles were tried. In the present study silver nanoparticles ($AgNP_s$) were synthesized using leaves of bamboo plant, Bambus vulgaris and the size of the nanoparticles was confirmed using XRD, EDAX, SEM, TEM, PSA analysis. The antimicrobial activity of the synthesized NP, showed a good antibacterial activity against the waterborne isolated, E.coli, Staphylococcus aureus, Vibrio cholera and Salmonella sp. Further the anti algal activity of the NP, was tested against the algae, Dictyosphaerium pulchellum, and Algoriphagus chordate. The SEM studies revealed that the AgNP, breaks the cell wall of algae and inhibits the growth. The safe dose of AgNP, can be used in aquaculture farms, household water tanks and other small water bodies to wipe out waterborne pathogens and eutrophifying algae.*

Keywords: *Green synthesized AgNP, :antialgal AgNP. : Antimicrobial AgNP. : water cleaning : Aquaculture and domestic water tanks.*

I. Introduction

Water, an elixir of life has now become a source to carry much water borne illness. Bacterial and neurotoxic algal growth in drinking water bodies affects human health. Unclean household water tanks and public water supply system supports many harmful water borne illness through the microbes, *Vibrio cholera, Salmonella typhi, Salmonella paratyphi, Staphylococcus aureus, E.coli* and other enteric pathogens [1]. Algal blooms in water bodies reduce dissolved oxygen content and prevent solar penetration. This leads to eutrophication and challenges to aquatic culturable species. Some algal bloom decolorizes the water and the consumption of the water with the spores cause many neurological problems. Harmful algal blooms known as red tides, blue green algae or cyanobacteria, harmful algal blooms were reported to cause toxic water bodies and affect human health , aquatic ecosystem and economy. Hence it is imperative to protect the drinking water sources and aquaculture ponds from algal bloom and water borne pathogens. The chemical methods of disinfection the water bodies lead to other eco-induced harmfulness in human beings. So a safe, non toxic, eco friendly agent is needed to contain pathogenic microbes and algae in water bodies. In this direction the green synthesized silver nanoparticles are good choice [2,3]. Hence in the present study, silver nano particles were prepared using bamboo leaves and the potential of green synthesized AgNP, was tested against water borne bacterial pathogens and algae causing harmful algal bloom(HAB) in water.

II. Materials and methods

Fresh leaves of, *Bambusa vulgaris* were collected from Anna university Chennai campus, and washed several times with water to remove the dust particles and then air dried to remove the residual moisture and ground to powder form. The plant extract was prepared by mixing 1% of plant material with isopropanol (50 ml) in a 250ml of (borosil, India) conical flask. Then the solution was incubated for 2 days at room temperature. The supernatant was seperated and filtered with (mm filter paper pore size) filter paper. Then the solution was used for the reduction of silver ions Ag^{+1} silver nanoparticles Ag^{0}.

Firstly a 10ml solution of $AgNO_3$ (1mM) is prepared in a beaker then 5ml of bamboo extract solution was prepared. Then 5ml of $AgNO_3$ were mixed the bamboo extracts solution. The solution was kept undisturbed for 6 hours. A change in the colour of the solution was observed and the solution turned pale

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Plant Growth Promotion Using Panchagavya

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Abstract – In the traditional agro practice, people have used organic nutrients panchagavya to promote plant growth. In the present, panchagavya was prepared using a modified methodology incorporating thulasi and neem oil along with traditional panchagavya constituents. Different concentration of the prepared panchagavya were tested using the common vegetable crop *Abelmoschus esculentus* (bhendi). The invigoration of the seed germination was found to depend on the soaking duration of panchagavya and its concentration. Growth hormones and bacteria associated with panchagavya were reported to enhance seed germination and growth.

Keywords – *Panchagavya, Abelmoschus sp. plant growth promoter and germination ability.*

I. Introduction

The current interest to produce organically grown vegetables ensures environmental quality maintenance and consumers health protection. As an alternative to chemical fertilizer, organic products like panchagavya are developed and used. The use of organic nutrients for plant growth enhances the quality of the product and sustain shelf life period [1]. Indira *et al*., [2] reports that the preparation and usage of panchagavya had been reported in vedic literature and such vedic organic agriculture re-enlivens natural law in agriculture, bringing the farmer, the process of farming and the environment in complete harmony with each other. Panchagavya preparation varies with the people although the ingredients are common. Panchagavya has been reported to contain micronutrients, macronutrients, many vitamins, essential amino acids, growth promoting factors and beneficial microbes [3, 4]. In the present study a novel method of panchagavya was prepared and its efficiency to promote plant growth was tested.

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II. Materials and Methods

For the present study *Abelmoschusplant* was chosen to find out the efficiency of the panchagavya was developed.

Preparation

Materials such as Cow dung, Cow ghee, Cow urine, Cow curd, Cow milk, Banana, Jaggery, Tender coconut water, Neem oil and Thulasi extract collected for preparation of panchagavya. Fresh cow dung of 1 kg was taken and it was mixed with 100 gm of cow's ghee kept undisturbed for 4 days. After 4 days 600ml of cow's urine and 600 ml of tender coconut water was added and mixed well. After 15 days the following ingredients were added, 400 ml cow's milk, 400ml cow's curd, 200 gm of ripped crushed banana [palayamvazhai] 100 gm of cane sugar jaggery and 600 ml of water. To this mixture 50 ml of *Ocimum tenuiflorum* [Thulasi] leaf juice and 50 ml of neem oil were added. The contents were mixed well. The entire mixture was prepared in an earthern pot and kept undisturbed for 20 days to allow fermentation. After 20 days the panchagavya preparations with a good odour become ready.

Physico-chemical analysis

The physico-chemical properties of Panchagavya was analysed using standard protocol [5].

Spray preparation

The total panchagavya preparations are treated as stock. From this stock 1%, 2%, 3%, 4% and 5% concentration were prepared by mixing with sterile double distilled water. The prepared dilutions were used for the experiments. The seeds of the plant, *Abelmoschus esculentus* were soaked in the respective concentrations for 12 hrs and 24 hrs for germination tests. After germination

Antimosquito Metabolites from Selected Medicinal Plants and Evaluation of Their Biochemical Toxicity in Culex Sp

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Abstract **– Transmittance of Mosquitoes affects human health every year and resists chemical insecticides with help of vectors. The larvicidal potential of different medicinal plant leaf extracts of three plants (*Vitex trifolia, Vernonia cinerea* and *Premna integrifolia*) was tested against the fourth-instar larvae of *Culex sp*. Chosen plant extracts screened larvicidal effect and found maximum larval mortality was detected in *Vernonia cinerea* (LC50 89.13 and 141.54 ppm) followed by *Premna integrifolia* of methonal extract (LC50 83.5 and 139.5 ppm) and *Vitex trifolia* (LC50 113.0 and 156.0 ppm). In this findings supported to isolate the active compounds to control mosquito without any negative impact.**

Keywords **–** ***mosquitoes repellent ,larvicide, vitex sp., vernonia sp.,premna sp.***

I. Introduction

Seasonal spread of disease due to generic biological factors such as mosquito species. It affects routine activity and develops diseases like malaria, filariasis, Japanese encephalitis, dengue, hepatitis and chikunguaya [1]. Parasitic diseases infect ever year approximately 1.5 to 2.0 million [2]. Chemical methods are used to control the disease spread organism, it create negative effects also. At the same time instead of control mosquito develop resistance. Hence, plant derivatives to be used to control the growth of mosquito. Phytochemial act as mosquito repellent it helps to control in larva stage itself. [3], some effective artificial chemical compounds N, Ndiethyl-3-methylbenzamide used to control different insects [4]. Volatile plant compounds are producing effective control mechanism against insects instead of artificial compounds. In the present study analyzed extract of the plants *Vitex trifolio*; *Premna integrieafolia.* and *Vernonia cinerea* used as a larvicidal agent.

II. Materials and Methods

Plant sample

The flowers of *Vitex trifolia, Premna integrifolia* and *Vernonia cinerea* were collected and authenticated with botanists. Plant sample (10 g) extracted with methanol (100 ml) as solvent and screened preliminary phytochemical studies. It find out the presence of alkaloids, terpenoids, saponin, flavanoid, steroid, phenol, tannin and glycoids.

The Partial characterization of Thin Layer Chromatography in Selected medicinal plants

The Methanol extract of Selected medicinal plants were loaded on to pre coated TLC (60 F2 54) and it was developed using solvent system in the ratio of 1:0.5:0.1 (Hexane, Chloroform and Methanol) visible and the non-visible spot given and it is fluorescent with UV light at 360nm.

Total phenolic content of selected medicinal plants

The total phenolic content of *Vitex trifolia, Premna integrifolia* and *Vernonia cinerea* methanol extracts was determined using the standard method [2].

Larvicidal test of methanol extract from selected medicinal plants

The Methanol extracts administered to the different groups of larva at different doses. Based on the mortality rate lethal dose was estimated by standard formula [5].

Dehydrogenase activities of selected medicinal plants

Dehydrogenase Inhibition effect of chosen extracts (*Vitex trifolia. Premna integrifolia* and *Vernonia cinerea*) was calculated relative to the control.

NADH dehydrogenase Activity Assay

The assay for NADH dehydrogenase was based on the observation that NADH absorbs light at 340nm but NAD does not. This means that a tube containing NADH and NAD dehydrogenase should show a decrease in absorbance which is inversely proportional to the amount of enzyme converting the NADH to NAD. It is estimated with help of spectrophotometer (A340).

AChE Inhibition Assays

Chosen extracts filtered with Millex- GV filter for prepare AChE. It added with 10µL of 7.5mM DTNB in phosphate buffer (pH 7.0) and 100µL of the selected test compounds of various concentrations in 2.5% acetone and kept thirty degree celcius for five minutes then add 10µL of 6.25mM ATChI and read at 414 nm of spectrophotometer.

III. Results

The preliminary (phytochemicals) screening of the selected medicinal plants studied presently showed the

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Invitro Cardiac Risk Reduction Bioactive Substance from The Seedlings of Echinochloa Frumentacea and Panicum Sumantrance

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***Abstract* – Drug replacement with appropriate remedies are required to eradicate existing problem in thrombosis. It rectified with partially purified thrombolytic enzyme from the seedling of *Panicum sumatrance* and *Echinochole frumentacea*. The cell free extract of *P. Sumatrance* and *E. frumentacea* seedling was partially purified by dialysis method and observed 36 and 38 KDa molecular weight protein. The isolated enzyme exhibited optimum blood clotting activity at pH 7 at 30°C. Thrombolytic model used to screen the clot lysis potential of bioactive metabolites and Proteolytic enzyme, extracted seedling. Streptokinase treatment was considered as confirmative and saline water as blank control for this studey. The extracts exhibited a good hemolysis activity and Anticoagulant effect with a maximum activity at 20µl concentration in *in vitro* condition.**

***Keywords* – *P. sumatrance*, *E. frumentacea*, Antithrombosis, Cardiac risk, Phytoremedy.**

I. Introduction

Clotting in blood circulation attack the smooth function of heart it leads to death. Blood clotting is caused different kinds of factors (thrombosis), it increase each year for heart problem. Approximately 1,000,000 patients affected by lung blood clot in USA alone. World Health Organization (WHO) report in 2008 [1], 17.3 million people death recorded in every year by cardiovascular diseases (CVDs). Thromboses are evolved due to reaction between the platelets and blood vessels, which leads to cause cardiovascular diseases [2]. Platelets play major role in blood clot, it reduce the cardiovascular integrity. Some time the platelets are imply on pathological progression of atherosclerotic lesions and arterial vascular thrombosis [3]. Aggregation of platelet is developing the uncontrolled activity in arterial thrombosis; it leads to cause the routine function of heart [3]. This kind of diseases is controlled using antiplatelet agents [4]. Development of aspirin is valuable recovery mechanism of ischemic cardiovascular disorders, it develop hemorrhagic activity and top of gastrointestinal bleeding as disadvantages [3].

From plasminogen, plasmin production initiated by thrombolytic drugs, it defend hemostatic as well as target Thrombo emboli are broken down [4]. Plasmin initiated the activity of fibrin, it destruct the blood clot [5]. Phytochemical isolated from various plant substances are useful to recovery of coagulant, platelet and fibrinolytic activity and there is support consuming such kind of foods in suspected heart patient to avoid heart attack [6]. Rutin is an one kind of phytochemicals integrated with the foods. Flavanol obtained in Rutin initiates dissociation of formation of thrombus in blood vessels. Rutin was found to be a good anticoagulant [7]. Bacterial organism such as *Bacillus natto* secreted the natto enzyme it hydrolyse the thrombi as well as convert plasminogen to plasmin.

P. sumatrance is cultivated in tropics, used as constant food in financially poor background people to

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ANTIMICROBIAL ACTIVITY OF SELECTED NANO PREPARATIONS OF TRADITIONAL MEDICINE AGAINST HUMAN PATHOGENS

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ABSTRACT

Siddha medicine is one of the most ancient medical systems of India. Siddha is the mother medicine of ancient Tamils/Dravidians of peninsular South India. This system has enormous pharmacopoeia containing vegetable, animal and mineral products. Although the Siddha herbo-mineral preparations represent a rich source of antimicrobial agents. The selected Siddha herbo-mineral preparations were tested for antibacterial and antifungal activities. For antimicrobial assay five strains of bacteria viz. *E. coli, S. typhi, S. aureus, K. pneumonia* and *V. cholerae* were used, For antibacterial assay four concentrations of the Siddha drug (for LC, KR, VK and RC - 5 µl, 10 µl, 15 µL and 20 µl were used, Of the five bacteria tested, the growth of all the bacteria were well inhibited by the Siddha drugs. The disc diffusion assay indicated a dose dependent effect of the Siddha drugs to inhibit the growth of bacteria. From the study, it was observed that the Herbo – mineral Drugs such as *Kantha rasayillai* (KR), *Vajara kandi* (VK) and *Rasa chunnam* (RC) was found to have antifungal activity. But the Herbo-mineral medicine, *Linga chendhuram* (LC) has no antifungal activity against the selected five fungal strains. So It is concluded that these three Siddha preparations KR, VK, and RC can be used to control or prevent the fungal infections. Modern techniques are necessary to standardize and bring out high quality herbal products owing to their complex nature.

Keywords: *Antibacterial, Antifungal, Nano medicine, Traditional medicine and pathogen.*

I. INTRODUCTION

Siddha medicine is one of the most ancient medical systems of India. Siddha is the mother medicine of ancient Tamils/Dravidians of peninsular South India. The Siddha system of medicine, which has been prevalent in the ancient Tamil land, is the foremost of all other medical systems in the world. Its origin goes back to B.C 10,000 to B.C 4000 [1,2]. The uniqueness of Siddha system is evident by its continuous service to the humanity for more than 5000 years in combating diseases and also in maintaining its physical, mental and moral health while many of its contemporaries had become extinct long ago.

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Dyeing of traditional fibre materials using Rubia cardifolia (L) dye with various mordants

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***Abstract*: The present study deals with the extraction of natural dye from *Rubia cardifolia* roots. The extracted dye were coated natural fibres like Palmyra leaf, korai grass, banana, screw pine, pineapple, and sisal with the help of sodium chloride, sodium bi carbonate, oxalic acid, tannic acid, ferrous sulphate, tin metal, potassium alum, and tamarind as a mordants. The mordants used dyeing has good fastness properties except sodium chloride. The without mordant dyed fibres has poor fastness property compare than the mordant used fibres. The dye and mordants mixed dyes were characterized by UV spectrum.**

Keywords— Rubia cardifolia; natural dye; natural fibre; mordant.

1. Introduction

The ability of production natural dye is one of the oldest identified to man and dates to the dawn of evolution. It was used for colouring of fabrics and other materials including traditional craft works [1]. The natural dyes are derived from plants, animals, insects, and the minerals [2, 3]. The ancient peoples are used natural dyes for painting, dyeing of mud pot, dyeing of temple tower, etc. In India, the drama actors using natural dyes for in makeup dyes.

Beginning of the 19th century, the development synthetic dyes was completely eradicating the natural dye usage. But these synthetic dyes are not eco-friendly [4]. It may cause many ill effects on human and other organisms. So the recent days return back to the natural dyes usage. The natural dyes applied products are very expensive for their biological properties [5].

The natural fibres are a plant fibres obtained from various plant parts. In example Palmyra leaf, korai, banana screw pine, sisal, and pineapple leaf etc., used as fibre to make various traditional craft works. The child toys, mat, dress materials, jewellery and other house usage products are made by using these natural fibres. These products are dyed by synthetic dyes generate may cause ill effects to the children's [6].

The present study elaborated to the preparation of natural dye from *Rubia cardifolia* (L.) plant roots and dyeing of Palmyra leaf, korai grass, banana, screw pine, sisal, and pineapple leaf fibres with the help of various mordants.

2. Materials and Methods

2.1. Materials

The powdered *Rubia cardifolia* root material was purchased from ayurvedic shop from Kanyakumari district, Tamilnadu, India. The mordants, salt, sodium bi carbonate (soda salt), tin, oxalic acid, tannic acid, ferrous sulphate (Iron), and potassium alum were purchased from merk, India. The tamarind collected from local shop. Natural fibres like palmyra leaf, korai grass, sisal, banana, screw pine, and pine apple fibres were collected from local traditional craft workers in Nagerkoil, Tamilnadu, India.

2.2. Extraction of natural dye

The collected dye material was used to prepare the natural dye using hot extraction method. 200g of dye source was mixed with 1000mL water. Then this mixture was heated at 90°C for 30 minutes. Finally it was filtered using Whatmann No. 1 paper.

2.3. Preparation of Natural fibres

Before dying, the natural fibre materials were soaking in the soft water.

2.4. Preparation of mordants

Sodium chloride: 0.5g of NaCl was dissolved with 10mL of water.

Sodium bi carbonate: 0.5g of $NaHCO_3$ was dissolved with 10mL of water.

Oxalic acid: 0.5g of $C_2H_2O_4$ was dissolved with 10mL of water.

Tannic acid: 0.5g of $C_{76}H_{52}O_{46}$ was dissolved with 10mL of water.

Ferrous sulphate: 0.5g of $FeSO_4.7H_2O$ was dissolved with 10mL of water.

Potassium alum: 0.5g of $KAl(SO_4)_2.12H_2O$ was dissolved with 10mL of water.

Tamarind: One gram of cooking tamarind dissolved in 10mL water.

2.5. Dyeing of natural fibres

The prepared natural fibres were dyed by *Rubia cardifolia* plant dye (100mL) using tip coating method. The fibres are soaking in the natural dye solution for 30 minutes and add 2mL of mordants after 30minutes by meta-mordanting method.

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Technology for developing Eco-friendly coloring material suitable for fibre and handicraft products

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Abstract

As synthetic colorants used in natural fibre products, children's toys and handicraft products cause toxicity to the consumers. To overcome this issue it is imperative to find out safe eco -friendly dyes from natural resources. With this intension in the present study seven types of colors, violet indigo, blue, green, yellow, orange and red yielding plant sources were identified. The color yielding components in the plants were separated. The color imparting extracts were tested in several handicraft products and it was found highly beneficial. Using the barks of the tree Caesalpinia sappan, flowers of the plant Nyctanthes arbortristis, barks of Rubia cordifolia, flowers of Michelia champaca, catch of Acacia catechu and rhizomes of Curcuma longa., the dyes prepared from these plants and were tested for their fastness properties . Dye preparation technology was identified for their application in commercial products.

Key words: Natural dyes, N. arbortristis, R. cordifolia, C. sappan, A. catechu, C. longa and M. champaca.

I. Introduction

Consumer products are liked by the buyers based on their appearance and efficiency. Appearances of the products are enhanced by the brilliant colors present in the products. Color of the product is a deciding factor in marketing. The colors are given to products using synthetic and natural methods. Natural color dye yielding sources are given high attention now a days. Getting coloring material or dye suits paintings, wall images, fabrics, or other form of visual arts from natural products are known to the world several thousand years ago. The pre historic temple, cave paintings, art work etc stands an example for this. The color of the wall or other objects in the houses is believed to drive away evil spirits from the houses (1). As natural dyes are safe, non-toxic ecofriendly and pleasing much attention is focused on Natural dyes. There are many plant sources to get natural dyes but they are less explored.

If the natural product derived colors adorns the consumer goods, fabrics, handicraft products and children toy, there will be a good demand. But there is no experimental proof to explain how different colors can be developed by mixing different plant products. Hence in the present study plats available in the South Tamil Nadu are to be tested to derive most suitable color for different products. This natural dye in fabrics can protect the humans from synthetic color induced skin problems like tumour formation (2).

Of the different natural dyes, the yellow color yielding turmeric has been studied well (1).

In recent days due to increasing awareness of environmental issues and pollutants produced by the synthetic colorant (3) , plant dyes are given importance. The use of natural plant color for the coloring the cloth has become much attraction due to eco friendly textile production and sales (4). Eco- friendly mordant is also used in dyeing (salt mordents) (5). Natural mordents are taken from fruits , leaves, seeds, barks etc. Natural mordants are important for natural dyes to increase the fastness property of the textiles and those mordants are also free from toxic and carcinogenic effect (6). v.The natural dyes also play a role an coloring the fibre from the natural plant source that are used in handicrafts, mat weaving and basketry and other craft work. The natural dye has also an application in producing the products used by kids. It can also be used to prepare fabrics, consumer craft materials toys. Some of the natural dyes can be used to replace synthetic dyes in baby food. From the synthetic colored products, the toxic color can enter children body.

Therefore, there is a need to develop suitable coloring material from natural products (7).

The present study is focused on 6 dye yielding plants which are less known for dyeing consumer products. The studies also stress the need to conserve of those less known natural dye yielding plants.

II. Materials and Methods

The plant *C.sappan* (wood), *M.champaca* (flower), *N.arbor tristis* (flower), *R.cordifolia* (stem), *C.longa* (rhizome) and *A.catechu* (catch) were selected for preparing dyes.

Fibre materials used in dyeing (Consumer Products)

For several consumer goods Sisal fibres are used. The Sisal leaves were collected from Chokkalingapuram, and nearby my village in Tirunelveli district. Then the

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Nutraceutical effects of seaweeds in augmenting silk production in the silk worm Bombyx mori

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***Abstract*— The present study on the nutritive potential of the methanolic extracts of *Sargassum wightii* on the growth of the larvae of Bombyx mori is found to be the first report. A dose dependent influence of the extract of the sea weed on the growth of silk worm larvae was revealed from this study. This suggests that the sea weed extract of *Sargassum wightii* is a good neutraceutical agent to promote the growth of *B.mori*. The contents of the extract might have influenced the palatability of mulberry leaves thereby increasing the digestive potential and metabolic process of *B.mori*. From this result it is suggested that *Sargassum wightii* extract can be given as feed supplementing neutraceutical to *B.mori*.**

Keywords *— Sericulture; Bombyx mori; Sea weed; Neutraceutical; Sargassum wightii; Marine algae.*

I. Introduction

In integrated farming system sericulture is an important component; which is an agro- based rural industry, with tremendous potential for employment generation in rural areas. It provides not only periodical return within a short period of time but also assures potential for family employment opportunities round the year (Jeyapaul et al., 2003). The main outcome from sericulture is the silk for fashionable clothing's. The silk is the conversion of the nutrients present in the mulberry leaves which are the sole source of food for silk worm *Bombyx* mori L. Nutrition is known to play a key role in the larval growth, development and also on the manifestation of economic characters of cocoon. The rate of food consumption and leaf quality influence significantly larval growth rate, weight gain and probability of survival (Amala Rani et al., 2011). The feeding of nutritionally enriched leaves showed better growth and development of silk worm larvae compounds with valuable pharmaceutical potential, Sheeba et al., (2005). Sea weeds are believed to be the rich nutrient source for higher tropic levels. But the available literature revealed that there is no work on the supplementation of sea weeds to enhance the growth of *B.mori*. So in the present study the seaweed *Sargassum wightii* which has been used as nutrient source for plants and aquaculture organisms was experimented to find out whether they can influence the growth of the larvae of *B.mori*.

II. Materials and Methods

Seaweeds collection

The marine brown algae *Sargassum wightii* was collected from Chinna Muttom coast of Kanyakumari district, Tamilnadu, India. The seaweed was washed thoroughly with fresh water thrice to remove the extraneous materials and then it was shade dried for duration of 15 days. Then the seaweed was powdered in an electrical mixture and further subjected to various extraction processes.

Silkworm rearing method

Selection of larvae

For the present study 3rd instar stage of *B. mori* reared in a private farm at Pavoorchathiram, Tirunelveli district, Tamil Nadu, India was chosen. The healthy 3rd instar larvae were isolated and separated into 1 control group and 2 test groups. Each group contained 30 larvae. The rearing operatio ns were carried out according to Krishnaswami *et al.*, (1971). The control larvae were fed with normal mulberry leaves alone. The experimental groups (T_1 & T_2) were fed with mulberry leaves treated with the extract of the sea weed *Sargassum wightii* at a concentration of 10% & 20% respectively. The larvae were fed with sea weed extract from 3rd instar stage to 5th instar stage.

Preparation of Sea weeds extract

The marine brown algae *Sargassum wightii* was collected from Chinna Muttom coast of Kanyakumari district, Tamil Nadu, India. The sea weed was washed thoroughly with fresh water thrice to remove the extraneous materials and then it was shade dried for duration of 15 days. Then the sea weed was powdered in an electrical mixture and further subjected to various extraction process (Fig 1).

The powdered sea weed was subjected to percolation by soaking in methanol (1:5 ratio) for a duration of seven days. After seven days of incubation, the filtrate was concentrated separately in a rotary vacuum evaporator and then the solvent free residue was collected and stored in plastic containers and this served as the methanolic extract.

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Microbial Isolates for Enhancement of Seed Germination

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Abstract – Bacteria that colonize plant roots and promote plant growth are referred to as Plant Growth- Promoting Rhizobacteria (PGPR). Rhizobium bacterial isolated from soil samples collected from prathyusa college garden soil. Isolated organisms names as PEC 1 and PEC 2, further used for seed germination efficiency with vigor index. The emergence of seedlings, from the seed at a height of 2 mm was treated as germination. This was carefully recorded for 120 hours. In the present study 2 types of plant growth promoter rhizobium (PGPR) strains were isolated and used as inoculums PEC1 and PEC2. The present study indicates that the germination efficiency of the bhendi seeds is influenced by the rhizobium isolated from the Prathyusha college garden soil. In total effective two isolated sample PEC 1 and PEC 2 showed higher influence in germination efficiency, germination co efficiency and vital index.

Keywords: Plant Growth- Promoting Rhizobacteria (PGPR), Germination, Bhendi and vital index.

I. Introduction

Green revolution has changed the poverty globally. The conventional agricultural practices are modernized and crop yield has been increasing. The synthetic fertilizer input in the form of macronutrients like nitrogen, phosphorus and potassium and many micronutrient supplements has been enhancing agricultural output but at the cost of human health. Nitrogen enrichment in the soil and its leaching into portable water source causes several pollution related problems. Though nitrogen is needed it should not be applied in discriminately. For the regulated provision of nitrogen to the plants, the natural nitrogen production sources in the plants can be achieved. The root nodules of plants harbor many microbes that are capable of fixing atmospheric nitrogen and convert it into nitrate for plant utilization. This nitrogen fixing bacteria called rhizobium and studied by many people [1-5].

In order to enhance agricultural productivity plants need a good nitrogen supply. But due to many manmade activities soil nitrogen level get reduced as 24 billion tons of fertile soil from the world's crops land was lost [6]. In 2030 the demand from agriculture land may increase greatly due to population growth so nitrogen source must compensate the nearly demand [7]. So, microbial source for the supply of nitrogen has to be revitalised. Rhizobacteria near the roots [Rhizosper], root surface (Rhizoplane), root tissue (Endophytic) and root nodules (Root attached) are to be enhanced to produce more nitrogen [8]. In this work, Rhizobacterial action on specific plants productivity was analysed. In the experimental trial the common vegetable, bhendi (*Abelmoschus esculentus*) was chosen. The rhizobium stains were isolated from local soil (Prathyusha college garden soil). The chief objective of this study is to trace plant growth promoting action in Rhizobacteria isolated from local soil.

II. Materials and Methods

For the present study, the vegetable crop *Abelmoschus esculentus* was chosen.

Soil sampling:

For the isolation of plant growth promoting rhizobacteria (PGPR) soils were collected from a garden in prathyusha engineering college where the plant abelmoschus esculentus was cultivated. The soil attached to the roots [Rhizosphere soil] was collected from 10 plants separately and transferred to ice box for transport to the laboratory. The moisture content in the sample was estimated after the removal of the root material or other plants remain. The storage of the sample was done at 4° C.

For the isolation to PGPR 10g of moist soil was placed in 100 ml of sterile water shaken for 10 minutes. Then 10 ml of this suspension was transferred to 9 ml blank and serially diluted to 1% concentration. Different types of medium (TSA and NA) and basal medium amended with glucose, mannitol, sorbital, inositol and sucrose. The plates were incubated at 37°C for 2-3 days. The individual colonies were selected for estimating the population of Rhizobia. This was expressed as number of CFU (Colony Forming Units) gram soil.

The individual bacterial colonies were isolated and subcultured on nutrient agar. A total of 100 isolates thus obtained were cryopreserved. The isolates were analysed for morphological characters, gram staining, motility etc., Biochemical test were done the test indole,

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Plant Growth Stimulating Activity of Keratinase Producing Bacteria Derived from Poultry Waste

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Abstract **- The fundamental objective of this work is to cease extensive accumulation of the poultry waste in poultry farms which might cause impairment in environmental wealth. It illustrates that the poultry waste can be used effectively as a plant growth inducing material rather than being dumped as waste. In the present study, Keratinase producing bacterial organisms were isolated from the poultry waste soil sample and the seed germination assay was conducted to illustrate its efficiency as plant growth stimulating substance. Further, In- silico studies for emphasizing the role of keratinase along with Indole Acetic Acid in plant growth, was performed. Keratinase producing *Bacillus subtilis* and *Geobacillus stearothermophilus* were isolated from the poultry waste soil sample. The seed germination assay demonstrated that there was approximately 52% more germination in the test soil plants. From the results obtained, it can be positively concluded that poultry waste is an effective and readily available, environmental-friendly plant growth promoting substance and hence can be used for improving growth of crops and plants in fields.**

Keywords— Keratinase, Indole Acetic Acid, Plant Growth Promotion

I. Introduction

The major component of poultry waste is feathers. Proper disposal of the feather waste is necessary for clean and safe environment. Feathers are bio-resource with high protein content [1]. Feathers are made up of keratin protein and feather wastes can be used as an expensive dietary ingredient for animal feeds. Because of a high degree of cross-linking by cysteine disulfide bonds, hydrogen bonding and hydrophobic interactions, the keratin present in the feathers is insoluble and not degradable by proteases such as trypsin, pepsin and papain. Glycine and serine are the major amino acids presents in feather waste [2]. Feather wastes degraded by keratinolytic microorganisms can also be used in agriculture to conserve and recycle nutrients and to reduce waste discharge and use of chemical fertilizers. The digestibility of feather keratin is enhanced by Keratinolytic microorganisms [3, 4]. Thus, microbial degradation of feather represents an alternative for development of fertilizers. During last few decades, many researchers have focused upon improvement in agronomic utilization of organic wastes. Increasing use of composted wastes from animal origin will reduce the costs of commercial fertilizers which have an energy intensive production process. These fertilizers from composted wastes are environmentally friendly as well. The present study was designed to isolate keratinase producing bacteria from poultry waste collected from poultry farm to evaluation the plant growth promotion activity using Seed Germination Assay. In-silico study was carried out to demonstrate the interaction between the keratinase and the chemical compound Indole Acetic Acid.

II. Materials and methods

A. Collection of sample

The soil sample was collected from the dump yards of the poultry farm where the poultry wastes are dumped for disposal at Kakkudi Village, Kamuthi Taluk, Ramnad District, Tamilnadu, India. Soil sample was collected by using sterile scalpel and transferred to sterile polythene bag.

B. Isolation of Bacterial species

The sterilized nutrient agar medium was poured on sterile petri plates and the nutrient agar plates [5] for bacterial isolation were prepared and marked with respective dilutions. With the help of sterile pipettes, 0.1ml of the serially diluted sample was evenly spread on each of the plates except the control with the help of sterilized L-rod. The plates were incubated at 37°C for 48 hours.

C. Morphological and Biochemical Characteristics

The isolated bacteria were gram stained and observed under light microscope. The motility was tested by hanging drop method [6]. The biochemical test such as indole, methyl red, vogues proskauer, simmon citrate, catalase, oxidase,

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In-Silico Evidence for the Insecticidal Activity of Compounds Derived From Musa Sapientum Peels against Helicoverpa Armigera

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***Abstract*— Food waste is considered as non-useful material by many people. But it is not the case; food wastes such as peels of various fruits can be useful in variety of applications like in industries for the generation of electricity, as a natural water purifier and the peels of citrus fruits can be used as insecticides and mosquito repellants. In the present study, the banana peels *(Musa sapientum)* was taken as a source from which the insecticidal activity was studied. The compounds in banana peels were analyzed by Gas chromatography-Mass spectrometry (GC-MS). Totally eight compounds were identified from banana peels. Out of which we selected three compounds that are predicted to have insecticidal activity using Tice rule for analyzing insecticide-likeness of compounds. We have chosen a pest named as *Helicoverpa armigera* which feeds on a wide range of plants, including many important cultivated crops. It is also known as cotton bollworm, corn earworm, old world (African) bollworm. It is a major pest in cotton and one of the most polyphagous and cosmopolitan pest species. Through insilico studies, the structure of important enzyme targets such as Acetylcholinesterase and Carboxylesterase of *Helicoverpa armigera* was predicted and the molecular interaction was studied using docking. Molecular docking was performed using iGEMDOCK software. The docking studies results proved the promising insecticidal activity of Secoobscurinervan 21deoxy -16 methoxy 22 methyl among the identified compounds from banana peel extract against three enzyme targets of *Helicoverpa armigera*, which can be further developed to discover a novel insecticide against *Helicoverpa armigera*.**

Keywords—Molecular docking, Homology modeling, insecticide, target enzymes.

I. Introduction

Banana is the second largest produced fruit after citrus, contributing about 16% of the world's total fruit production as in [2]. Each individual fruit has a protective outer layer which is the peel or skin and a fleshy edible inner portion. The peel which protects the banana fruit is discarded as waste after the inner flesh portion is eaten and possesses an environmental problem due to its nitrogen and phosphorus quantity. However these problems can be reduced by utilizing the high value compounds present in the banana peel. The phytochemical analysis of aqueous and petroleum ether extracts of banana peels reveals the presence of alkaloids, flavonoids, carbohydrates, proteins, Tannins, Terpenoids, Saponins, Steroids and Anthroquinones as in [3]. In that, tannins are phenolic compounds which are highly present in banana peels that precipitate proteins and various other organic compounds such as amino acids and alkaloids. This compound plays a major role in predations and also as insecticides.

In this study, we have chosen the target insect as *Helicoverpa armigera*, which feeds on a wide range of plants, including many important cultivated crops. It is also known as cotton bollworm, corn earworm and old world (African) bollworm. *Helicoverpa armigera* is the most damaging pest and it is difficult to control as in [4]. Apart from cotton, the host species for *Helicoverpa armigera* includes a broad spectrum of families and include important agricultural crops such as tomato, maize, chickpea and sorghum, sunflower, soybean, groundnut and Solanum families. Many insecticides act upon the nervous system of the insect (e.g. Cholinesterase inhibition). In the present study, we found three major compounds in the banana peel extract possessing insecticidal activity according to *Tice rule*. The Molecular docking approach can be used to model the interaction between a small molecule and a protein at atomic level, which allow us to characterize the behavior of small molecules in the binding site of target proteins as well as to elucidate fundamental biochemical processes as in [8]. The interaction between identified compounds and the target enzymes in *Helicoverpa armigera* was studied using Molecular docking. The main aim of the present study is to exploring the binding affinity of identified compounds from banana peel extracts with the target enzymes in *Helicoverpa armigera* using insilico approaches. Applying rational methods in designing insecticides will be useful to overcome problems in conventional methods.

II. Materials and Methods

A. Plant Extract Preparation and Phytochemical Screening

Musa sapientum peels were collected shade dried and the petroleum ether extract was taken using soxhlet apparatus. The GC-MS was used to screen the phytochemicals present in the prepared extract.

B. Molecular Property Analysis Based On Tice Rule

Molecular properties and structures of identified compounds were retrieved from PUBCHEM database (free online resource). The insecticidal property of the ligand molecule

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Analysis Of Various Plant Extracts For Controlling Air Borne Bacteria

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Abstract

In the present investigation, the air sample was collected from the cupboards of bioprocess laboratory (Prathyusha engineering college, Tiruvallur, Tamil Nadu ,602 025). Before the treatment of air, the total heterotrophic bacterial population was determined by plating technique. Then, in order to treat the air against the air borne bacteria, various extracts were used. The extracts includeaqueous extracts (with and without boiling) of pomegranate peel (*Punicagranatum*), curry leaves (*Murrayakoenigii*),dry ginger (*Zingiberofficinale rascoe*), lemon (*Citrus lemon.L*) and ajwain (*Trachyspermumammi*) which were exposed inside cupboards for 24 hour. Then, the effectiveness of plant extracts on bacteria was found, by counting the number of bacterial colonies before and after treatment of air. The antibacterial effect of extracts was predicted as maximumfor aqueous pomegranate peel extract (with boiling)as 90.66 percentage. The susceptibility test was done and zone of inhibition was measured for various air borne bacteria. Finally, the extracts were formulated into natural product using sodium polyacrylate beads replacing toxic chemicals for treatment of air.

Keywords: *Air borne bacteria; aqueous extracts; antibacterial activity; susceptibility test*

I. Introduction

Each day people are exposed to millions of bioaerosols, including whole microorganisms, which can have both beneficial and detrimental effect [1]. One of the indoor air pollutants is air borne microorganisms – bacteria and fungi [2]. These factors are potentially infectious, allergic and immune toxic effects. Indoor microflora is reported to be responsible for health problems, especially among children [3]. The respiratory droplets can carry microorganisms such as bacteria and virus and contribute as a medium for the transmission of infectious diseases [4]. Bioaerosols decrease air quality and affect human health, also causing some diseases such as tuberculosis, diphtheria, legionellosis, fever rhinitis, nausea and asthma [5]. The frequent environmental contaminants within microbiology laboratory create not only diagnostic dilemmas but also poses major risk for health care, worked and patients [6]. The air sampling can be done by active and passive methods which include impingement in liquids, impaction on solid surface, sedimentation, filtration, centrifugation, electrostatic precipitation, thermal precipitation, etc. Of these, impingement in liquids, impaction on solid surface, sedimentation (on settle plate) has been used for various air sampling purposes in health care. In this project, sedimentation methods or passive settle plate method is used for air sampling. The principle of sedimentation method is that the settle plate relies on gravity to bring organisms into contact with surface of agar, thus enhancing the potential for optimal survival of collected organisms. This requires sedimentation plates which are openly positioned in working space [7]. The sedimentation method does not require any instruments and thus cost effective. The aqueous natural extracts avoid the use of chemical solvents for extract preparation following the principles of green chemistry. The usage of toxic chemicals for controlling air borne bacteria in turn affect human by causing skin cancer respiratory ailments, etc. Our study aimed to isolate microorganisms from the air of selected laboratory, to identify microbes, to prepare natural extracts for identifying the control method of air borne microorganisms in the laboratory of bacterial load. The volume of the cupboards chosen was 3770 cubic metre (1m*0.65m*0.85m).

II. Materials and methods

A. *Location of air sample*

Bioprocess laboratory of department of biotechnology at Prathyusha Engineering College, Tiruvallur, Tamil Nadu-602025 was chosen where large number of microbes handling happens every day. The cupboards inside the laboratory were considered for the analysis

B. *Isolation and Controlling of bacteria using natural extracts*

Passive settle plate method was performed for the isolation of bacteria from air. For the collection of bacteria, the basal nutrient media was prepared. The sterile media containing plates was exposed to about ½

Waste Water Treatment by Sponges and Pebbles Using Air-Lift Reactor

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Abstract--**The designed air-lift reactor coupled with sponges and pebbles is to treat the polluted water with the help of elegant techniques. The materials used comprises of cheap cost and readily available and energy saving. In this reactor, the sponges are allowed to float on the top layer of the polluted water, which helps in entrapping the floatable and immersed impurities by aeration provided at the bottom. On the contrary, the pebbles will be lined up at the bottom of the reactor tank, which will be holding the sedimental impurities by the process end. Our air lift reactor equipped with 20 litre bottle can be used to filter 1 litre of polluted water about 10-15 minutes. The water sample was collected from Arumuvoyalkuppam, Tiruvallur, during November rain 2017. This sample consist of high turbidity (19.5 NTU), brownish colour, foul odor, sediment load (0.25%), Total Dissolved Solids (2.85mg/L) and undesirable hydrogen potential (8.9). The sample is subjected to separation, filtration and purification techniques in the designed air lift reactor. The obtained results are found to meet the domestic water standards and was found to consist of low turbidity (7.0 NTU), clear color, inoffensive odor, sediment load (0.0%), Total Dissolved Solids (0.48mg/L) and reduced hydrogen potential (7.2) and therefore can be used for domestic purposes.**

Keywords- waste water treatment, sponges, pebbles, air lift reactor

I. Introduction

There is a continuing need for the development of effective, cheap and environmentally friendly processes for the removal of pollutants from water [1].The development of a convenient method for the removal of oils and organic solvents from water surface is of great significance for water environmental protection, mostly for the cleanup of oil spillage on seawater [2]. Purification of drinking water is routinely achieved by use of conventional coagulants and disinfection procedures. However, there are instances such as flood events when the level of turbidity reaches extreme levels while natural organic matter (NOM) may be an issue throughout the year. Consequently, there is a need to develop technologies which can effectively treat water of high turbidity during flood events and NOM content year round. It was our hypothesis that pebble matrix filtration potentially offered a relatively cheap, simple and reliable means to clarify such challenging water samples [3]. Water-related problems are increasingly recognized as one of the most immediate and serious environmental threats. Discharge of untreated sewage water into lakes and oceans causes serious damage to the society. So far, Airlift reactors are used for treating sewage water by using fruit peels as an adsorbent material [4]. Till now sponges had been in use for filtration of water in aquariums.

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Dehairing Of Leather Using Acalypha Indica Leaf Extract

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Abstract – Processing of leather becomes a prominent economic activity in many developing countries. This paper describes natural dehairing property of *Acalypha indica*. The process was carried out with different combinations of *Acalypha indica*: (1) Leather was treated with crude form of *Acalypha indica*; (2) Leather was treated with crude form of *Acalypha indica* and Carcasse enzyme in the ratio of 2:1; (3) Leather was treated with crude form of *Acalypha indica* and traceable amount of chemicals such as sodium hydroxide, sodium sulphide, and potassium hydroxide as initiator for hair removal process. The results of the present study reports that *Acalypha indica* can be employed for the removal of hair in leather processing industry. Moreover, the usage of minimal concentration of chemicals with *A. indica* leaf extract will be more effective that would help in preventing the chemical based technique to the greener option.

Keywords: Acalypha Indica, Leather, Dehairing, Carcasse enzyme.

I. Introduction

Traditionally, tanneries use different enzymes to attain deep cleaning of the hide. Accumulating evidences suggest that enzyme for the removal of hair has been used in the beginning of the last century before the advancement of chemical processes for hair removal [1]. Leather technology follows different types of process for treating animal skin to produce leather. The waste generated from each process is precarious for the habitat. Due to the usage of chemical for dehairing in tanneries environmental problems has found to rise [2]. Awareness for the environmental issues is greater than before and it becomes a global issue. At present, tanneries are going through a phase change due to global environmental regulations. Leather processing involves many sequential steps from raw hide to the processed leather [3]. All these steps define the quality of leather in order to perform in the prescribed conditions. Dehairing of raw hide is one of the most important steps which define removal of hair, fat and other unnecessary things from raw hide [3]. Dehairing is done in the hide (skin) of the animal. The hide consists of three layers. They are Dermis, Basement membrane and Epidermis. The dermis and epidermis are interconnected by the basement membrane with the help of collage 7 protein [4]. Upper dermis (epidermis) holds the roots of the hair, this region is rich in protein, type I collagen and proteoglycans, by disrupting the Epidermis and dermis the hair can be removed. The drawback of using enzymes is that it is expensive and in case of chemicals the effluent contains hydrogen sulfide which is obtained from dehairing process containing toxic compounds [5]. One tone of hide leads to the production of 20 to 80 m^3 of rutted and foul smelling wastewater, including chromium and sulphide [6], that causes hazards to the environment in order to reduce the effect of toxic compounds over the environment, natural plant based materials can be used, which are ecofriendly to the environment. Plant based dehairing of animal leather processing is considered as greener alternative to conventional chemical and enzyme based dehairing process.

A. indica is a commonly available plant that grows in waste lands, road sides and forest. *A. indica* is a herbaceous plant [7]. It is commonly known as KUPPAIMENI (in Tamil). *A. indica* extract mainly composed of Alkaloids, flavanoids and cyanogenoglycosides, steroids [8], because of this composition *A. indica* has many clinical properties [9] such as,

Suitabiliy Of *Delonix Regia* Seeds and *Syzygium Cumini* for the Production Of Biodiesel

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***Abstract*—The impact of fossil fuels on creating environmental pollution has necessitated the search for alternative energy source. There were some reasons like increasing cost of fossil fuel. The fast depletion of fossil fuels also urges to find the alternative energy resource. The suitable substitute for fossil fuels has been identified as bio-fuels (biodiesel, biogas).The Various research has proved biodiesel as an be used as an feedstock for the production of biodiesel. In the present study comparative analyses of the edible and non edible crops for its suitability as an feedstock for production of biodiesel was done . So, selected non edible and edible crop such as the *Delonix regia* (Gulmohar) and *Syzygium cumini*(Jamun) seeds were selected as an feedstock for the production of biodiesel. The oil was upgraded by transesterification process using sodium hydroxide as a catalyst. The biodiesel produced from non edible feedstock was higher than edible feedstock using the molar ratio of 6:1 propanol and extracted oil. The yield was around 86% in *Delonix regia* and 65% in *Syzygium cumini*.**

Key words*—*Delonix regia*, *Syzygium cumini*, *extraction of oil*, *Trans esterification* , *Biodiesel

I. Introduction

Vegetable oils have attracted considerable attentions as possible renewable energy source for the production of a substitute for petroleum .Different products can be obtained from vegetable oils in case the mixture of vegetable oil with petroleum is proposed as a suitable alternatives [1][2][3].The studies reveals that the vegetable oils directly act as an substitute for petroleum but it should requires some amendments due to high viscosity and also ignition qualities of oil . Due to this characteristics, the vegetable oil has to be chemically processed to convert oil as an useful substitute for petroleum . The biodiesel has proved as a suitable substitute for petrol and it can be achieved by many process amongst which trans esterification is most effective process[4][5] . By this process, the small, straight chain structure of oil can be obtained from large, branched structure of oil.

Though, trans esterification is effective it is a slow process. In order to speed up the reaction catalyst are used to speed up the reaction. Alkaline catalyst like sodium hydroxide (NaOH), potassium hydroxide (KOH) less corrosive in nature are preferred to be suitable for the process . Molar ratio of alcohol and oil, temperature, catalyst concentration , agitation are the factors that affect the rate of trans esterification. Temperature ranges from 50-60°C gives the good yield , so it is considered as the optimum temperature for biodiesel production [6,7]. Optimal alcohol:oil molar ratio of 6:1 gives the good yield .The catalyst concentration of 0.5-1% has been reported with conversion rates ranging between70-90% [8].

Researchers used different feedstocks for the production of biodiesel, but the usage of non edible feed stock such as *Jatropha curcas, Simmondsia Chinesis, Pongamia Pinnata , Azadirachta Indica, Calophyllum Inophyllum* showed the decreased rate of biodiesel. *Jatropha* was reported as the promising feedstock for the production of bio diesel . But *Jatropha* has to be grown in certain climatic conditions like high rainfall, hindered by high acid soils [9]. The aim of the present investigation was an attempt made to search for non edible feedstock effectively used for biodiesel production. In this study, we aimed to evaluate the prospectus of producing biodiesel from *Delonix regia* seeds (flame of forest). We have done this work with non edible seeds of *Delonix regia* and edible seeds of *Syzygium cumini* .By using the edible resources, we will be exploiting the food resources which are already in shortage for living beings. So the seeds which we have been selected *Delonix regia* is an ornamental tree and are collected from the pods shed as wastes from the tree. The selected of this as feedstock to reduce exploitation of edible sources is the aim of our work. The present work was already reported in 'Optimization of biodiesel from *Delonix regia*'. In this the selected feedstock was from Akwa Ibom State .Those seeds selected was grown in different habitant. we have aimed to study them in the seeds which was selected from our college premises which are grown in different habitant, so we analyzed the efficiency of the seeds to produce biodiesel. The method used in our present work was already reported. In our work we follow the same method already available for extraction procedure. But we have selected different solvent namely propanol which were rarely used to extract oils. This was used also in different proportions and found to be effective.

II.Materials and Methods


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(with special reference to magnetic nanoparticles)
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Nanoinformatics: In-Silico approaches in the development of nanomedicine

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There are enormous methods available on identifying active ingredients from natural products and by chemical synthesis in order to discover new drugs. But the outcome is discouraging because of the major side effects and development of drug resistance. Hence, there is a need to bring out unique and safer approach for the development of potent drugs. Nanoinformatics is an emerging field that is revolutionizing medicinal research with in-silico methods. Growth in computational speed and memory storage capacity has led to a new era in the analysis of biological data. The new database initiatives such as ISA-TAB-Nano, caNanoLab and Nanomaterial Registry facilitate data sharing, data standards and depending on the growth of nanomaterials data, the development of methods and tools specific to the nanolevel. Nanoinformatics plays a vital role in the development and implementation of nanoparticles and nanodevices and their application in both the laboratory and living organisms.

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Screening of high lipid producing green algal strains-Potential for biofuel production

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In recent years, research on microalgae production for their potential as feedstock for renewable energy and other high value products has been developed worldwide. Knowledge on microalgae as well as integrating information about lipid production of microalgae is very important to determine the best strains that possess the highest productivity and be applicable to commercial scales. The aim of this research is to screen suitable strains of microalgae for mass cultivation and enhancing lipid productivity for biodiesel production. Green algal strains were isolated from fresh water bodies of Madurai, Tamilnadu. Molecular identification of microalgae was carried out using 18S rRNA. Crude lipids were extracted from dried algal biomass at different day's interval. Nile red staining is a rapid screening method to detect the presence of triacylglycerol. More number of red fluorescence algal cells was observed on the lag phase. The number of lipid bodies emitting yellow fluorescence was greater on the stationary phase. The percentage of lipid content in the green algae was in the following order: Chlamydomonadaceae> Scenedesmaceae> Selenastraceae. TLC separation of lipids revealed the presence of mono, di and triacylglycerol. GC analysis of transesterified algal lipid indicated the presence of major fatty acids such as myristic, palmitic, stearic, oleic linoleic and linolenic acids. Nitrogen stress lead to the accumulation of high amount of lipids in *Chlamydomonas sp* (G15) followed by *Monoraphidium contortum* (G7) and *Scenedesmus deserticola* (G14). Greater proportion of saturated fatty acids and the presence of monounsaturated fatty acids in selected three green algae indicated its potential for production of biodiesel.

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Nanodrug in Cancer Treatment

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Nanoparticles are particles between 1 and 100 nanometers (nm) in size with a surrounding layer which comprises the phase boundary within which the properties of matter are significantly different from the values in the adjoining bulk phases. The interfacial layer typically consists of ions, inorganic and organic molecules, with lower melting point, reduced lattice constants, increased perfection and increased chemical properties. At present, nanomedicine is a new medical science with rapid growth and development. The main aim of my research is to review the available preclinical and clinical nanoparticle technology platforms and their impact for cancer therapy. Focusing on the principles of nanotherapy, the use of novel nanotherapeutic agents aiming at a therapeutic effect at the nano-level is expected. Of several medical disorders, nanotherapy is presently widely studied with respect to the treatment for cancer, a disease with no hope of cure in the past. Eradication of cancer stem cell in cancer therapy is regarded and lauded as a novel approach. Construction of a new nano drug practically demands for an effective nanotherapeutic method. To imagine and test the hypothesis and idea regarding the new hypothesised nanotherapeutic system, there are many issues to be addressed including the change of properties of substances at the nano-level, the use of *in-vitro* studies for testing the new drug and the safety of the new nano-substance. The ability to specifically target nanoparticles along with the controlled delivery of a therapeutic payload provides powerful new ways to treat cancer which are only starting to be realized. The application of nanotechnology to cancer has already produced some exciting results and holds even greater promise for cancer patients in the future.

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Antibacterial and Antifungal Activity of Silver Nanoparticles and its applications

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Nanoparticles are considered to be a powerful tool in the field of designing new antimicrobial drugs.Bio-nanotechnology can be used for developing biosynthesis and eco-friendly technology for synthesis of silver nanoparticles.The present antifungal agents in the market are Amphotericin B, Fluconazole, Griseofulvin, their antifungal activity is competitively less than the silver nanoparticles. The silver nanoparticles show their effective antifungal activity, which is competitively higher and these silver nanoparticles can be synthesised through household microwave method using monosaccharides. This method of the synthesis is handy and economical. To be specific, my research involves the study of the antifungal activity of the silver nanoparticles against *Dermatophytosis*. A common fungus causing the skin infection is studied and the ways to apply the found concentration of silver nanoparticles. The silver nanoparticles are also effective against gram positive and gram-negative bacteria; hence they can be categorised in the broad spectrum of antibiotics. The silver nanoparticles are used to prevent postoperative inflammation and infection against bacteria. Thus, the silver nanoparticles are effective in healing the wounds by preventing contamination, colonization and spreading of infection on wounds. The application of silver nanoparticles has increased the surface-to-volume ratio; this has been reported to be successful in promoting the bactericidal ability and efficiency of the silver ions. The application of nanobiotechnology can revolutionise the field of drug designing. The application of these silver nanoparticles over the infected area may be done by making the silver nanoparticle sprays, creams and bandages.

ICON-BIO 2017/P59

Review of targeted drug delivery of nanoparticles for the treatment of breast cancer

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Cancer is one of the most fatal diseases in today's world that kills millions of people every year. It is one of the major health concerns of the 21st century which does not have any boundary and can affect any organ. Nanoparticles exhibit quantum effect, energy efficient, has high surface-volume ratio, chemically reactive, high mechanical strength, biocompatibility etc. Nanotechnology has wide range of application like bio-imaging, tissue engineering, 3D printing of organs, nanorobots, biomimicry etc. But people rarely consider it for cancer treatment. Targeted delivery of drugs to tumors represents a significant advance in cancer diagnosis and therapy. Therefore, development of novel tumor-specific ligands or pharmaceutical nanocarriers is highly desirable. Our aim is to review nanoparticles for cancer therapy especially for breast cancer treatment. Breast cancer is abnormal growth of cells in breast. It is the second main cancer that occurs in women's after lung cancer. Generally chemotherapy and radiotherapy are used for breast cancer treatment but they have side effects and time consuming. Since nanoparticles are specific in action they can be used for breast cancer treatment via targeted drug delivery. Nanoparticles can be labeled with fluorescent particles for intracellular monitoring. Nanoparticles have the ability for multi-drug delivery system is a not worthy issue for breast cancer. Nanoparticles are biocompatible and highly effective in attaching with cancerous cells. Nanoparticles will not affect the normal healthy cells. Hence we review the use of nanotechnology and it is highly coherent method for cancer treatment avoiding the life threatening side effects can potentially contribute to a positive movement in clinical practice for life saving approach.

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Nano Particle Based Herbal Drug Formulations - A Review

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Nanotechnology has been applied in the production, processing, safety and packaging of foods.Synthesis of nanoparticles is of much interest by the researchers across the globe. Nanoparticles are synthesized by both physical and chemical methods. Approach towards green synthesis of nanoparticles to develop a cost effective method are underway to reduce adverse effects on the environment and humans. Magnetic nanoparticles due to their easy biodegradable nature are reported to be used for fabricating nanoparticles. Silver nanoparticles synthesized through green method have been reported to have biomedical applications as well as in controlling the pathogenic microbes. Nanoparticle based drug delivery methods are highlighted for their potential to increase the solubility of the drugs and increase their bioavailability. Due to less industrial feasibility, microbe mediated synthesis requirements is of highly aseptic conditions and their maintenance is critical, so the use of plant extracts for the synthesis of nanoparticles were studied for the process improvement. This review paper focuses on the synthesis of nanoparticles for the formulation of herbal drugs, various plant extracts identified as potential drugs for its fabrication into nanomaterials. The advantage of green synthesis over physical and chemicals methods were high lightened here due to its environment friendly, cost effective and easy scale up for large scale syntheses. This synthesis method doesn't need high temperature, pressure, energy and toxic chemicals. This also discusses about the different nanoparticles synthesized using herbal plant extracts and also its advanced application in different fields.

Keywords: Nano particle, synthesis, drug, fabrication, application

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Design Of Garbage Segregation of Automatic Smart Trash Bin Using NI Lab VIEW

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***Abstract* - A Smart Trash Bin segregates wastes by itself as degradable wastes and no-degradable wastes with the help of sensors and motors, interfaced with NI myRIO. In most places in India, garbage is dumped as one, mixing degradable and non-degradable wastes, causing the spread of a lot of epidemics. Rapid changes in technology, low initial cost, and planned obsolescence have resulted in a fast-growing surplus of wastes all around the globe. People dump wastes on roadsides, which is not picked regularly by the people responsible. In India, the total generated is expected to cross 800,000 tons in 2012. This figure is expected to grow at a rate of 30 – 50 % year on year. With correspondence to the *Swachh Bharath* Scheme of our Honourable Prime Minister to make India clean and green, this automatic waste sorting trash bin is an initiative taken by us to make it more commendable. Separating the wastes into 2 categories- degradable and non-degradable will be taking place in an effective closed manner, thereby reducing the open decomposition of organic wastes, thus curbing the growth of microorganisms.**

KEYWORDS: Smart trash bin, Automatic, wireless, NImyRIO, waste segregation, epidemics, management, recycling.

I. Introduction

The automatic smart trash bin gets the wastes in and segregates them with the help of ultrasonic, infrared and proximity sensors. By using a conveyor belt, the trash is moved forward along the path of the above-mentioned sensors. The sensed wastes are pushed out into small designated bins for metal, plastic (non-degradable), and paper and vegetable peel (degradable). Water is initially used to wash and separate the dust from the garbage. The water with the residue dust is led out to plants as a means to water them.

The level of the water is sensed and filled automatically, with a water level sensor, or it can be done manually. The bio-degradable wastes (paper and vegetable wastes) are mixed to generate small manure for kitchen gardens. This smart trash bin is suitable for both home and a general office setting. To sort the wastes into degradable and non-degradable using sensors, thus effectively reducing the open decomposition of vegetable wastes and to sort non-degradable into plastics and metals.

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II. Working Mechanism

When a person with intent to dump wastes into the smart bin nears at 30cm from the bin, the IR Sensor would initiate the lid of the bin to open. When the wastes are being dumped, the Ultrasonic Sensor present near the mouth of the bin detects its descent and starts the entire setup.

The wastes fall onto the mesh in the bin, which is present halfway down the water level; the bin is three-quarters filled with water. The motors attached to the mesh cause the movement of it in a to-and-fro pattern, for a total of 5 rotations. Then, one motor stops and the other's working will tilt the mesh towards the rubber conveyor belt. The speed of the conveyor belt is slightly larger than the speed of the motor.

As the waste gets dumped on to the conveyor belt, if any of the wastes is metallic in nature, it gets sensed by the Metallic Sensor, and gets pushed into the corresponding bin by a fibre arm. The rest of the wastes are moved forward along the belt. If the wastes have plastic, it gets sensed by the Plastic Sensor, and the fibre arm pushes it into the corresponding bin. The rest of the wastes are paper and vegetable peel, which are degradable wastes.

If any of the smaller bins are full, the ultrasonic sensor will detect its presence for more than 10 seconds. Then, the LCD Display on the main bin will display "BIN FULL" and the entire system is stopped until the waste is cleared.

The water present in the big bin is monitored by a water level indicator. If the water gets below the level, then water is automatically filled in, and the water out is connected to the nearby backyard or kitchen garden as a method of drip irrigation.

III. Overall Design

The smart dustbin consists of different sections for all kinds of waste disposal which includes:

1. Plastic Waste
2. Metal Waste
3. Liquid Waste
4. Paper waste
5. Organic wastes.

Enhancement of electrolaryngeal speech using Frequency Auditory Masking and GMM based voice conversion

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Abstract—**Laryngectomees lose their voice box after surgery and adapt various methods to restore their voice, one of them being Electrolaryngeal speech. The Electrolarynx suffers from producing natural speech by generating mechanical form of speech with suppressed unvoiced features, device and environment noise. This paper tends to remove the echo noise, device noise and environmental noise thereby enhancing the Electrolaryngeal speech to be more intelligible by spectral mapping using Gaussian Mixture Model (GMM) and auditory masking. The low frequency noise is masked by the pre-emphasised speech signal by determining the absolute threshold of masking. The spectral mapping technique using GMM based voice conversion in association with the source-filter model improves the voice quality and prosody. The objective and subjective evaluation measures, depict the significant enhancement of electrolaryngeal speech compared to previous enhancement methods which removed only low frequency noise and failed to include voice quality.**

Keywords— Electrolaryngeal speech, Gaussian Mixture Model, auditory masking, perceptual weighting filter

I. Introduction

Laryngectomees survive from the surgical removal of larynx and lose their natural voice. These patients rehabilitate themselves artificially by employing one of the rehabilitation techniques such as Esophageal speech, Electrolaryngeal speech or Tracheoesophageal speech. Laryngectomees find Electrolaryngeal speech to be one of the easiest ways of speech recovery. The Electrolarynx is a electromechanical device which produces vibrations that penetrates through the neck tissues and proceeds to the oral cavity to produce a mechanical voice[1]. The main drawback of Esophageal speech though produced without the aid of external device has a mandatory requirement of extensive training and also limited number of words produced followed by a gasp producing unnatural voice[2][3]. The Tracheoesophageal speech requires an surgical valve to be inserted in the trachea to enable voice production but necessitates the frequent removal and monitoring to avoid any inconvenience to the patient. Electrolarynx has been used since a very long time but had a lot of noise generated due to the device and environment that get amplified and modulated the oral cavity producing less intelligible speech. The neck tissues after surgery get toughened after continuous radiotherapy and hence radiate the excitation away from the oral cavity. There has been a lot of research on the study of radiation from the device in different dimensions and activities of the oral cavity and position of the device for various subjects. The radiated noise renders the speech less intelligible due to various reasons. The presence of low frequency noise masks the information bearing low frequency signal during the production of consonants. The acoustic shielding and increasing the size of the device did not prove successful for enhancing the intelligibility of the produced speech. The earlier subtractive algorithms failed to adapt themselves in subsequent frames since they were fixed algorithms and assumed that the environmental noise and the speech signal were uncorrelated. The proposed algorithm analyses the presence of noise in each frequency band and takes advantage of the auditory frequency masking capability by the EL speech. The manuscript is organised with Section II handling the basic concepts of the enhancement algorithm using frequency auditory masking and Section III by GMM based voice conversion techniques. Section IV deals with the experimental results of the hybrid technique.

II. Frequency Auditory Masking for Speech Enhancement

The simultaneous masking properties of the Human auditory system are used to remove the noise occurring at same frequencies in which the strong speech signal masks the weak noise tone. The critical bands are estimated with which the Noise Masking Tone Threshold is calculated. Frequency auditory masking [5] of Electrolaryngeal speech signals have proved to mask the low frequency noise due to the device that can improve the intelligibility of unvoiced speech signals which have low energy. This is due to the capability of the auditory system being more sensitive to the high energy of the

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An Effective Patient Monitoring system using IOT

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Abstract—**Telemedicine is the one of the best applications where IOT plays a major role and has proved to be efficient and effective to the society in healthcare applications especially in the field of Cardiology. Telemedicine integrated with sensors can be applied to a greater extent in the field of cardiology.. This paper elaborates the experience; the methodology adopted and highlights various design aspects to be considered for making telemedicine in patient monitoring system effective. The method adopts Android Technology for uploading in the Webserver and the exploitation of telecommunication technologies for provision of medical information and services. The sensors are used for biological parameter acquisition which is integrated with the Mobile phones for effective parallel access of data by many patients simultaneously.**

Keywords—***Microcontroller unit (MCU); -Peripheral capillary oxygen saturation(SpO2); Medium access control (MAC); Electrocardiogram (ECG-); Universal Asynchronous Receiver/Transmitter(UART)***

I. Introduction

Regular Healthcare monitoring system made available to chronic patients provides safety to them due to self management during their daily activities. The embedded devices connected to the patients are integrated with their Mobile devices for monitoring to be performed by the system associated with Mobile devices. Patients face financial problems related to Healthcare costs. Hence, it is proposed to mitigate these problems with reference to the high demand for medical consultations.

Normally, a healthcare emergency alerting system is deployed on an independent device, wired or wirelessly linked to a gateway, and then connected to the hospital or emergency services [1][2]. The main drawback of the system is the loss of connectivity due to signal coverage of the gateway. The proposed work consists of emergency alert for geriatrics and a reminder for chronic patients for consumption of medication.

The physical medical reports are generated during consultation which are not readily available to the patients [3] [5] and the concerned doctors as a ready reference through an App. The history of the patient is available only with the doctor and is not transparent to the patient for a second opinion. Hence, the medical report is available only as a part of the Hospital Management system. The proposed system comprises of an application readily available to the patient with their own medical history which can be monitored remotely by any doctor. The system has reduced complexity and is compatible with all configurations which ensures data security, accuracy.

II. Methodology of Use

A. Healthcare database creation

The patients need to register through the Mobile App to create their database with their personal details and their previous medical history. The App provides secure data access by the patient and the doctor with privacy maintenance. A database of the registered users will be created and this will help to fetch the details of recent medications and surgical procedure as demanded. The database updation would be done on a regular basis.

B. The App Inventor Environment

The Programming is enabled with App Inventor by opening a browser to ai2. appinventor. mit. edu. and the previous version is called App Inventor Classic, which specifies the behavior of the system (e. g., what happens when a user clicks a button). This site runs and tests the app that is being developed with or without the Android device for which the emulator is exploited.

Fig 1 Components Designer

The Components Designer illustrates the appearance of the App. The project page appears the first time of browsing to

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Multistage Multirate Filtering Technique for Channelization

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Abstract

Channelizer must have the capability of extracting multiple channels of distinct bandwidth corresponding to the different communication standards. Multistage Multirate design structure requires less computation and storage area than single stage multirate filter bank structure. Reconfigurability in multistage filtering is required to design a prototype filter bank structure for selecting the distinct polyphase sub filters and taps for different standards. The coefficient decimated multistage multirate filtering structure is designed for the channelization of the narrow band signals . This technique reduces the overall complexity of the structure. Synthesis report proved that the optimized device utilization is achieved by the proposed technique.

Keywords: Multirate filtering, multistage filtering, Channelization, Decimator,Interpolator

1. Introduction

Multirate filter is a digital filter that changes the sampling rate of the signal into another desired frequency response. These filters are essential important in communications, image processing, digital audio, and multimedia. The channelizer used in CRs enables them to have a time-varying adaptability to transmit/receive signals of multiple communication standards in the detected spectrum holes (vacant frequency bands). Multirate Digital signal Processing is used to filter and shift to baseband all the independent information channels. On the transmitter side, complementary processing is carried out. More stringent filtering is required to avoid adjacent channel interference. FPGAs provide twice as many digital signal processing (DSP) block resources to give customers the flexibility to convert the designs to polyphase without having to move to larger FPGA devices.

Channelization is the extraction of independent communication channels from a wideband signal, performed in the receiver of a communications device .Channelization is achieved by filtering to isolate the channels fordown conversion and to prepare the channels for subsequent baseband processing. Linear phase FIRfilter phase is a linear function of frequency. Each channel is processed by upsampling and then convolving the filter tap coefficients with the channel coefficients.

1.1. Single Stage multirate filter design

The cascade of polyphase CIC decimation and interpolation filters forms an efficient multirate filter.A single stage multirate filter does not ease the filter length requirement but it reduces the computational load. By cascading the filter structures, ripples must be halved for each filter stage and reducing the ripple specifications and tends to increase overall filter length. Choice of decimation factor for each stage allows a degree of optimization across design filters.

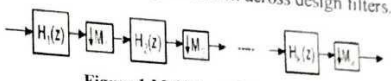

Figure.1 Multistage Decimators

1.2. Cosine Modulated Filter Bank

The Cosine Modulated filter banks emerged as an attractive choice for filter banks due to its simple implementation and the ability to provide Perfect Reconstruction. In this system, the impulse responses of analysis filters $h(n)k$ and synthesis filters $f(n)k$ are the Cosine Modulated versions of a single prototype filter $h(n)$ [18]. Therefore the design of the whole filterbank reduces to that design for the prototype filter. The filter bank has perfect reconstruction if the polyphase components of the prototype satisfy a pair-wise power complementary condition. The detail design of the prototype filter can be found in [1], where the optimization of the prototype filter coefficients is given. Several efficient methods have been proposed to facilitate the design of prototype filter. In [8], proposed a very efficient prototype design method without using nonlinear optimizations. Instead of a full search, it is limited to the class of filters obtained using the Parks-McClellan algorithm. As a result, the optimization can be reduced to that of a single parameter.

In the Kaiser Window method of prototype filter design for Cosine Modulated filter banks [9], the design process is reduced to the optimization of the cut off frequency in the Kaiser Window. Another design method in [10] is based on windowing, which varies the value of 6-dB cut off frequency of the prototype filter so that final prototype filter has its 3-dB cut off frequency located approximately at $\pi / 2M$.

2. Proposed Architecture

2.1. Multistage filtering

Multistage realization of rate change filters is advantageous in both computation andmemory requirements. Multirate signal processing is possible in the polyphase decomposition of a digital filter .This

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Implementation of Sap ERP Based HR Module for an Educational Institute

M.R.Swetha, U.Suganya, S.Purushothaman, R .Ravi Raghavendar, S.Padmapriya, Sree BalaGuru and Varun Kumar

Abstract--- *Mechanization business is increasing in the world, the HR module in Enterprise Resource Planning (ERP) has rich feature which are static in nature and integrate seamlessly with assorted modules. ERP system are adopted by various academic institutes for key management and educational offerings. ERP based HR module provides huge solutions for HR stream and making it feasible for different branches to get access to specific worker record. SAP ERP (Enterprise Resource Planning) is commercial software that integrate all the data in single software, considering numerous factors like time and cost. This helps to manage the complete information and process about the employees in an organization. This paper emphasis on techniques of ERP-based HR module for educational institutes to utilize the human sources.*

Index Terms--- *ERP, Academic Institute,HR module.*

I. Introduction

WITH the presentation of ERP framework, any instructive association, the information in their measurements gadget is a record, an envelope, a digital book, or any computerized data from any electronic gadget. The ERP Device is the quality response for any data framework which remains your framework basic after it has constructed the structure of the framework in over of period. Improvement and asset utilization is the key part of any enterprise which has the tendency to achieve the top of the line result from the overarching framework. Establishment control is the biggest mission for any association to pick up the favoured wants, brilliant quality and the objectives. ERP structure are trailed by the various instructive association for the key administrative and hypothetical administrations. In an instructive association the blend of all venture assets speaks to the blending of framework for human asset the executives (checking of representatives) and fund (bookkeeping, installments, speculations and accounts) that was once fortified through discrete and regularly incongruent information application. These days, Industries are restoring the human resources and transforming them into one of the basic highlights of the test the executives. In an association HR capacities are completely coordinated and mostly concentrating on the executives, recruitment and giving guidance for the general population who are working. The exploration on HRM in the structure of ERP is generally new.

II. Enterprise Resource Planning System

Enterprise Resource Planning (ERP) is programming that joins all stream and capacities over an association onto a solitary PC framework and serves all the office's specific needs. ERP is a typical name for all product give by different merchants. A portion of the ERP merchants are SAP, ORACLE, BANN, Microsoft and so forth. The Enterprise Resource Planning arrangement through SAP (a product bundle) is observed to be appropriate to manage our immense system of business.

A. Benefits Of SAP-ERP

- SAP is fundamentally utilizing in all business the board assignments of an organization which incorporate paying solicitations overseeing item and client data, and controlling accounts.
- SAP is dealing with the errands in modules that all work together in single framework by sharing data.
- Normal database is utilized in SAP R/3 in light of the fact that as you enter the data in the framework and that is made accessible to whatever remains of the association right away.
- Expanding the stock prompts more noteworthy stock rate, poor stock costs, low setup times, and pay work.
- Gives more prominent and viable control on record, quality and less re-work improve supply request linkage with remote areas and branches in various areas.

B. 3-Tier architecture of SAP

Presentation Layer: This layer commonly comprises of parts that make up SAP GUI. This layer goes about as the interface among framework and its clients. The introduction layer gathers the information from the client and sends it to the application layer and shows the information that has recovered back. **Application Layer**: This layer comprise of use servers and message servers. It is utilized to execute the business rationale and procedure the business rationale, customer exchanges and facilitate access to the database

Database Layer: This layer comprises of focal database framework which stores the information, that are stacked into application servers.

III. Need Of Erp System In Educational Institute

For any educational organization, the importance of data for an information system can be a file, a folder, an e-book, or any electronic data from any electronic device. The main

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Rural Drinking Water Supply Using Application

Hari babu R Jayakumar E and S. Padma Priya

Abstract--- *Now a day, water becomes basic requirement need in the environment. In the world 80% of diseases are associated with water is been estimated by world health organization (WHO). So we provide the way by offering service providing and monitoring for the water. In our project we connect the supplier with the customer using an Android application. It is very useful to the customer to order water for a month or for a particular day and the required accessories.*

Keywords--- *Android Studio, Firebase Authentication, Firebase Database, Chabot.*

I. INTRODUCTION

HUMAN begins needs water as the basic need for the survival and development. Now a day's water become demanded, which affects the basic life of the rural area peoples. Water is very basic need for both living and non-living things, which becomes basic need for determinant standard of living. Traditionally, most of the peoples in the rural areas take water from the unprotected ponds or tanks, wells, cisterns and sometimes in streams and rivers. These water sources are frequently used for drinking and in the municipal corporations. Water has price in terms of time, space, quality and quantity

C. Monitoring Rural Water Points in Tanzania with Mobile Phones: The Evolution of the SEMA App

In this paper, they main focus is on mobile phone-based ICT platform for water services, called Sensors, Empowerment and Accountability in Tanzania (SEMA), developed by team in the context of an action research project in Tanzania. Water users in villages and district are mostly engineers in local governments can use it to monitor the functionality status of rural water points in the country.

III. EXISTING SYSTEM

It deals with only ordering and supplying of required services Delivering of products is delayed due to lack of distance. No links between the suppliers for the betterment of providing services.

IV. DRAWBACKS

- Delayed in providing services.
- Lack of location identification.

V. PROPOSED SYSTEM

Iot Enabled Smart Vehicle Safety System

K.R. Shashi Vardhan, S. Shriram and Dr.S. Padmapriya

Abstract--- *The exponential growth of the metropolitan cities of the country has generated and magnified urban sprawl into problematic proportions. Lack of efficient traffic control and management has many times lead to the loss of lives due to ambulances getting stuck in traffic jams.At present criteria, we cannot detect where the accident has occurred and hence no information related to it, leading to the death of an individual. The research work is going on for tracking the position of the vehicle even in dark clumsy areas where there is no network for receiving the signals.Our project will provide an optimum solution to this drawback. The proposed system has a GPS for tracking the position of the vehicle, GSM is used for sending the message and the ARM controller is used for saving the mobile number in the EEPROM and sends the message to it when an accident has been detected. An LCD display is used to display the latitude and longitude values and as well as speed in knots. Once the accident is held up an alert will be sent to the concerned mobile number for rescue. The device is also encompassed with an alcohol sensor in order to sense the alcohol consumption level of the driver. If the* alert message is sent to the rescue team in a short time, which will help in saving valuable lives. A Switch is also provided in order to terminate the sending of a message in a rare case where there is no casualty, this can save the precious time of the medical rescue team. When the accident occurs the alert message is sent automatically to the rescue team and to the police station. The message is sent through the GSM module and the location of the accident is detected with the help of the GPS module. The accident can be detected precisely with the help of accelerometer (ADXL335). This application provides the optimum solution to poor emergency facilities provided to the roads accidents in the most feasible way. The high demand for automobiles has also increased traffic hazards and road accidents.

II. RELATED WORK

[1] proposed an alcohol detection and motor locking system. They used the AT89S51 controller, MQ-3 alcohol sensor, and an LCD to notify the occupiers of a car. The

Crop Management and Irrigation Automation Using Data Analysis Techniques

Preetha P, Pavithra R and Dr.S.Padmapriya

Abstract--- *Our farming face agrarian generation is scattered, rural utilization is differentiated, and association and docking are poor between little scale creation and market. We propose the agrarian promoting data suggestion framework dependent on distributed computing so as to give exact proposals to ranchers. We propose a framework to insinuate ranchers about the harvests to be seeded in the particular season and furthermore make the ranchers mindful of the flow advertise rate of the item. This sort of framework is much gainful for the youthful age to adjust to the conventional cultivating procedure.*

I. INTRODUCTION

COMPUTERIZED crop checking [illegible]

- The hardware which is used in the existing system is very expensive.

III. PROPOSED SYSTEM

We propose the rural advertising data suggestion framework dependent on distributed computing so as to give precise proposals to ranchers. We propose a framework to imply ranchers about the yields to be seeded in the particular season and furthermore make the ranchers mindful of the ebb and flow advertise rate of the item. This sort of framework is much useful for the youthful age to adjust to the conventional cultivating method. Offering is a tedious undertaking yet our proposed framework gives the genuine market rate and after that it illuminates the client about the

Hospital Seeker

Dr.S.PadmaPriya, G.Naveen Kumar and N.Prem Kumar

Abstract--- *In medical emergencies commonly, we face problem in deciding which hospital they should visit for specific disease treatment.We face problem in identification of medical resources like medical facility, medicines, and bloodbanks. Hospital seeker will solve this problem by allowing people to find the specific hospital on basis of disease treatment, specialist doctor's , medicine and blood availability.*

Keywords--- *Hospital Finder, Android App, pharmacy,Diagnostic centre,Blood bank,Disease.*

I. INTRODUCTION

THE application provides an effective way of routing and locating the nearest specialized hospitals for the requested medical treatment.It also providesinformation about the nearest hospital based on the category of disease.In this application there is no registration or login page,so the users can have ease to access application during any emergency time.It also provides rating and review about the hospitals based on the users rating and review.The

IV. METHODOLOGY

A. Flow of Application

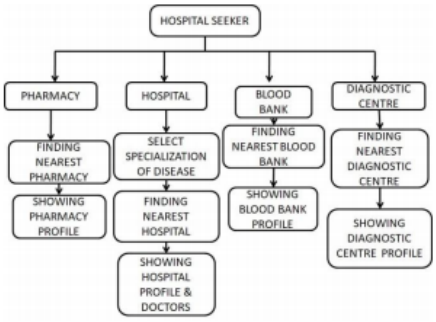

Figure 1:Flow Diagram.

Initially the user can select the any one of the module

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Cloud computing is an emerging technology that lets users to access the cloud server to store their data and access it on-demand, anywhere and at anytime. But it also has many security issues since the CSPs are not in the domain of trust. Thus, to guarantee the safety of data from untrusted sources many securing mechanisms are being adopted since the security of services in a cloud technology is a very important aspect, which cannot be ignored. If certain critical data falls in the wrong hands, it can wreak havoc. The existing systems apply cryptographic methods at a fine-grained access control and data sharing levels for the services of dynamic user groups in cloud, but it poses to be a challenging issue. In fine-grained access control each data item is given its own control policy. If an entity wants to access a data item it will have to provide its credentials to a third party policy enforcer, which is not the owner of the data. These access control policies and the entity credentials might reveal some critical information to the policy enforcer to which it is not entitled to know. In this paper we propose securing cloud technology services using biometric and cognitive methodologies for dynamic cloud user groups. Extraction of unique and different personal characteristics and behavioral patterns are used in management protocols. Cognitive security is based on application of AI technology of human thought process to find the most appropriate solution in a situation, and along with the users Biometric features like palm/finger prints, voice recognition, retina scan, facial recognition and with the addition of cryptographic methods to these an efficient and secure solution is developed.

62.MATERIALS MANAGEMENT MODULE OF SAP ERP IN POWER INDUSTRIES

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Enterprise Resource Planning (ERP) frameworks, likewise called Enterprise Systems (ES) are among the most imperative business data advancements that rose in the most recent decade. While no two ventures ERP frameworks are the equivalent, the essential idea of ERP frameworks is centered around institutionalization and synchronization of data, and thus, improved effectiveness and yield. To execute a coordinated arrangement of materials the board, there must be a focal database wherein anybody in the organization can discover all data about any material going through the plant. ERP streamlines all the business functionalities and gives wanted outcome in a single tick. Customization and setup are portions of ERP execution process. ERPs are constantly arranged, and generally tweaked, when executed. An ERP framework can improve the correspondence inside an association. SAP is a state-of– the-workmanship programming for ERP usage and customization. SAP is easy to understand for example data will be gotten as and when required. We have received a contextual investigation approach for this paper. In this paper, we have focused essentially on chosen

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310. DESIGN OF ADAPTIVE FIR FILTER FOR BIOMEDICAL APPLICATIONS

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Emerging technologies in DSP systems require high performance in order to provide optimal performance. In addition, Adaptive Filtering plays a key role in the implementation of a variety of digital signal processing algorithms and it can change their characteristics to achieve desired output. VLSI implementation of these designs are efficiently used for filtering and communication. This project proposes implementation of Finite Impulse Response (FIR) Adaptive Filter employing distributed arithmetic (DA) circuits for availing improvement in performance. DA circuits explicitly reduces the number of partial product generation. That is existing Design is modified to reduce the delay and hardware requirements. In modified filter, the number of adders and multipliers are reduced which effectively enhances the speed of computation. The VLSI design for 8, 16, 32 and 64 taps are analyzed and compared. These designs are implemented using Altera Quartus II software with family stratix II and device EP2C70F896C6 and the results are reported. The results shows that the Filter design using distributed arithmetic circuits offers good performance when compared with Conventional method.

311.EVENTS FINDER

Dr.S.PadmaPriya1, S.MohanLal2, H.Franklin David Paul3

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2,3Student, Department of Computer Science and Engineering, Prathyusha Engineering College, Tamilnadu, India

The main aim of this project is to build an Android application that helps the students to find all kind of events in a specified location and according to the specified category. The main features provided by the Event Finder application are as follows: Basic Search where the student can search for a particular Event based on any keyword and Advanced search where the user can specify the category and the distance range for the Event location. The users can write a review, see the reviews and invite a friend/colleague to meet at a particular event. Google Calendar where the user can ark an event.

312.DESIGN AND ANALYSIS OF ADDERS AND ITS APPLICATION TO

302.EMOTION DETECTION ON LIVE VIDEO USING DEEP LEARNING

B.Manoj Reddy 1, A.Venkata Sathish2, W.Thamba Meshach3 Final year student(s)1,2, Associate professor3
Department of Computer Science and Engineering, Prathyusha engineering college, Thiruvallur

Detecting emotions from live video frame is a challenge in many of the fields and it would be used as an emotion recognition system in many real time applications .In this project, we have implemented a model, which detects a emotion of a person in live video by using CNN(convolutional neural network) The emotions that the model can recognize are happy, sad, neutral, fear, disguist, surprise etc. By using CNN (convolutional neural network). This model can be used in various real time applications such as patient, monitoring kids, lie detection tests etc

303.IOT ENABLED SMART GARBAGE COLLECTION IN SMARTCITIES

A.Gnanavel, M.Karthick, Dr.S.Padma Priya,PhD Professor. Department of Computer Science and Engineering, Prathyusha Engineering College,Thiruvallur,Chennai.

In our country, many public places are begin filled with garbage and municipal waste, which has become a major issue and remains uncontrollable. It creates many health issues and it is unhygienic for society To solve this problem we are trying to find a solution in our project named Solid waste Management using IoT technology. This Application helps to identify the level of garbage in the dust bin.If the garbage reaches the threshold level, a notification message will be sent to the respective municipality authorities and also it will be alerted in their centralized server. We can also establish a facility to identify the toxic and non toxic waste and it will help us to segregate as well as disposable and recyclable waste. We also help to identify the moisture content of garbage by using humidity sensor.

304.E-FRIEND FOR GOVERNCE SCHEME

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Geographical Profiling of Locations Based on Security and Surveliance

Ajith shankrithi.S, Ganesh prasad.R and Famitha Hussain.S

Abstract--- *In21st century mobile and information technology has a greater impact in our lives. From online food ordering apps to Facebook everything is customised into the palm of our hand. The emerging development of mobile application technology can be used to help the society in many ways. Presently crime is the major problem in our state.Geographic profiling is the process of determining the most probable area of an offender's base of activities through an analysis of his or her crime locations.Using mobile application methodology, we can develop a mobile application that generates and analysed crime report based on particular location This application has a functions like search crimes by locations, posting a crime incident (record crime) on live feed through live video streamingand gives an analysed crime report based on locations through intergrated google map.*

Keywords--- *Android, Mobile technology, Location safety aware,crime detection, crime reporting.*

happened, this app also has additional features of enabling police complaint i.e, you can lodge a complaint of a crime with your details and your category of crime will be stored in the server along with your details . we also has an extended feature of broadcasting the live crime occurrences through live video streaming. We usedWonza streaming engine coupled with JW player and the live feed will be displayed on the WAMP server.

II. EXISTING SYSTEM

In current situation there are many mobile applications for crime reporting.In recent time Tamilnadu police released an application called digicop that is used to report the crimes of theft of mobiles and two wheelers.But the main problem with the existing system is that the application is only limited to some features and does not satisfy all the end users.the main problem is that it doesn't support crime prevention and is only limited to crime reporting.At present Information age, it is not enough just to report the crime but

Entrepreneurs Hub

R.Thiyagarajan, M.Narendra Kumar and S.Surender

Abstract--- *Technology helps entrepreneurs to start to grow and monitor their business.Entrepreneurs need to do research, gather and manage their resources, maintain a communication level, build their brand presence, reach new clients, keep a track of all the accounts, and much more. This application has a search and index mechanism, so people can search other entrepreneurs based on the sectors of their interest. They can also add them to their friend's list which will help them to communicate with them easily. This application also provides entrepreneurs to create a club to form a network of people with similar interest so that they can partner which may help them to grow their business and they can also organize club meetings to share their knowledge with each other which help others especially beginners to enhance their knowledge.*

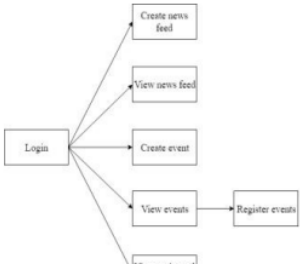
Keywords--- *Entrepreneur, user, admin, event, news fee, and register.*

I. INTRODUCTION

- Highly scalable.
- Compatible with all versions of Android OS.

III. METHODOLOGY

A. The flow of Application



Intelligent Door Lock System

Nandhini V S, Umadevi K and Revathy K P

Abstract--- *Security is one of the important aspect of the home security system. Now a days an unauthorized person access the door. To overcome this we are introducing intelligent door lock system which provides security authentication, flexibility to users. It is based on Internet of Things (IoT).It simply lock and unlock the door from anywhere using cloud.Web cam captures an image, Raspberry-Pi sends an image to Gmail. Firebase database is used to access the door.*

Keywords--- *Raspberry-Pi, Webcam,Relay,Nodemcu, Firebase.*

I. INTRODUCTION

IN every one day to day life, door is common device which can be accessed by everyone.First peoples usedbolts and woodenpegs to lock up their homes. Since then, lock-and-key technology has really evolved, which was used by people widely. Again door lock system was evolved to Electronic keys called cards.It have become

door by using real-time database. It is user friendly. It is made as simple as possible with only basic functionalities.

II. LITERATURE SURVEY

A. Automatic Locking Door Using Face Recognition

The door will open automatically for the authenticated person due to the command of the microcontroller. Since PCA reduces the dimensions of face images without losing important features, facial images for many persons can be stored in the database. Although many training images are used, computational efficiency cannot be decreased significantly. Therefore, face recognition using PCA can be more useful for door security system than other face recognition schemes.

B. Real Time Databases For Applications

A real-time database is one which stores data to database and fetches data from it very quickly but Firebase is not just a real-time database, it is much more than that.

C. Review on door bell notify with image capture and forward through email.

It uses Raspberry Pi as its controller and obstacle detector

Digital Cash: Tracking of Users in Bitcoin Transactions

Gunasundari B, Nithyassree V and Prithikca Lakshmi SP

Abstract--- *Digital cash is a type of cash available in digital form. It exhibits the properties similar to physical currencies, but can allow for instantaneous transactions and borderless transfer-of-ownership. In today's world, amount transfer is happening through normal banking process. The bank finds an easy and convenient option for most people, but they charge excessive fees. To overcome this, we introduce a digital cash transfer that will happen through cryptocurrency called Bitcoin. The process of cryptocurrency transactions will be implemented by blockchain technology. The admin creates a group to add the members. Group members can add other people as a group member, only after getting consent from the admin and the other group members. The new member has permission to add the other people. The mandatory prerequisite imposed to the group members is to link their Aadhar number. Bank transaction details are extracted through their Aadhar number. If any person needs fund they have to give a request to the group members for bitcoin*

of reversal of transactions. Transactions can be reversed by banks if there is a dispute between the trading parties, e.g., the buyer transfers the money, but the seller does not send goods or provide services to the buyer. Merchants get information

About their customers. Merchants do not have to get extra information about their customers like billing address,name,etc.When transactions are irreversible. Inaddition, irreversibletransactions protect merchants from chargeback fraud, i.e., a dishonest buyer says that he did not make the purchase. If dishonest merchants are considered, using security services may be a method for protecting buyers in the case of irreversible transactions.

The blockchain is a decentralized, distributed and a public ledger that can record transactions between two parties. It is an open source technology and a list of records called blocks. Each block contains cryptographic hash functions of the previous block. The blockchain is typically managed by a peer to peer network for communication and validating new blocks. It was invented by a person

Online Certificate Validation Using Blockchain

Shanmuga Priya R, Swetha N and Dr Gopikrishnan M

Abstract---*Lakhs of people getting Degrees year after year, due to the lack of effective anti-forge mechanism, events that cause the graduation certificate to be forged often get noticed. In order to solve the problem of stimulating certificates, the digital certificate system based on block chain technology. All the illegal activities filled against a person and all the activities are updated in the Personal ID. Using the modification process we would monitor not only the degree cortication alone but also entire personality and behavioral activities of that person. We deploy unique based monitoring using this system.*

I. INTRODUCTION

A. Background Information

ADVANCES in information technology, the wide availability of the Internet, and common usage of mobile devices have changed the lifestyle of human beings. Virtual currency, digital coins originally designed for use

However, they often find that they have lost their educational and commendation certificates. Reapplying for hard copies can be time-consuming because certificates are granted by different organizations and in-person application may be necessary. By contrast, applying for an e-copy can save paper and time. By providing information for identity verification, graduates are able to apply for any certificate easily. Nevertheless, because of this convenience, forged degree certificates, licenses, and certificates are prevalent. Consequently, schools and companies cannot instantly validate the documents they receive [5]. To solve this problem, a certificate system based on blockchain was designed in this study. Data are stored in different nodes, and anyone who wishes to modify a particular internal datum must request that other nodes modify it simultaneously. Thus, the system is highly reliable.

C. Objectives

In this study, we developed a decentralized application and designed a certificate system based on Ethereum

Online Voting System Using Fingerprint Sensor

Nishanthi R, Preethi L and Anitha lakshmi V

Abstract--- *Election is a process of selecting the right candidate to rule our nation. The voting system in India is insecure, and voters need to stand in a queue for a long time and the only security check is voter ID verification, which are fake nowadays. To overcome this we are introducing Online voting system which provides security, authentication, accuracy, flexibility and convenience to voters. It is a browser specific web application. The admin stores the voter's details and their finger prints in the database before election to avoid duplication.*

Keywords--- *HTML, CSS, PYTHON, JAVA SCRIPT, JAVA, XAMPP.*

I. INTRODUCTION

VOTING schemes have evolved from counting hands in early days to systems that include paper, punch card, mechanical lever and optical-scan machines. An electronic voting system provides improved features of normal voting system such as accuracy, convenience, flexibility, privacy,

data capture forms, in preparing registration stations together with human resources, and there after advertising the days set for registration process including sensitizing voters on the need for registration, as well as time spent on entering this data to the database. The process involves too much paper work and paper storage which is difficult as papers become bulky with the population size.

Disadvantages In Existing System:

- Expensive and Time consuming.
- Too much paper work.
- Security is not provided for voters.

III. PROPOSED SYSTEM

In the proposed system, we provide user friendly interface which even helps the illiterates to cast their votes, and to avoid duplication by collecting finger prints. The development of such a system which is online will cut out these possibilities and many votes can be saved through this system even if such incidents occur. So Our Online System will ensure that only legitimate voters can cast their vote.

Computer Vision Based Text Scanners (Handwritten Character Recognition)

Sakthi J, Soniya G and Thamba Meshach W

Abstract--- *Humans have unique handwritten styles which makes an obstacles to handwritten character algorithms very difficult. Till to date multiple researches are done on handwritten character recognition to identify the handwritten character styles. In most researches ANN (artificial neural network) has been used which gives an high accuracies. By using real time image processing this system can be implemented to apply multiple handwritten data for schools and universities.*

Keywords--- *Matlab C, Ocr Trainer, Segmentation, Chracter Recognition, Ann*

researchers in the field of handwritten character recognition leading to formulation of efficient least time-consuming classifiers. Most of the times, we easily recognize characters despite the presence of inherent variability in size, slant and styles. But when it comes to implement an unconstrained handwritten character recognition system artificially it is not that much easy. By unconstrained we mean that there are inherent variations in style, thickness and size of the written character.

Disadvantage Of Existing System:

- Human errors are prone to arise
- Problem of over fitting

Efficient Farming – Hiring Equipments for Farmers

B. Jothi Jahnavi, R. Monica and N. Sripriya

Abstract---*In order to improve the economy of India, agricultural growth needs to levitate. This demands small and marginal scale agriculture to become efficient and self-sustaining. A mobile application that the farmers can use to hire tractors as well as other mechanizations at a nominal amount all using their mobile phones. This would not only help them avoid manual labor but can be also be considered as an important step to encourage this profession. Using kiosk software for farmers to hire farming equipment like tractors and other machines. We proposed a system to make the farmers aware of the current market rate of the product. This type of system is much beneficial for the young generation to adopt to the traditional farming technique. It will increase the easy access to farm*

Agricultural mechanization hire enterprises, commonly known as hire services, are service businesses that provide human, animal and mechanical-driven power technologies and equipment services. This article is based on qualitative based descriptive and explanatory research. The outcome of the research found that personal, entrepreneurial, social and brokerage services factors are to be considered alongside the financial/commercial aspects for a better understanding of the how and why of access and use of such services by small-scale actors.

III. PROBLEM IDENTIFICATION

Rural people depend heavily upon agriculture either as farmers, casual laborers, workers in agro-based industries

Three Layer Privacy Preserving Using Fog Computing

Manasa.R, Gayathri.T.K and K.Shankar

Abstract--- *Fog computing is an architecture that uses edge devices to carry out a substantial amount of computation, storage, communication locally and routed over the internet backbone. The development of cloud computing technology with the explosive growth of unstructured data, cloud storage technology gets more attention and better development.The cloud provider does not have suggestions regarding the information and the cloud data stored and maintained globally anywhere in the cloud. The privacy protection schemes are usually based on encryption technology. A three-layer storage framework based on fog computing. The proposed framework can both take full advantage of cloud storage and protect the privacy of data. Here we are using hash- solomon code algorithm is designed to divide data into different parts. In this framework we are using bucket concept based algorithms to*

extracted is a limitation in accurate content distribution, an issue that has been tackled with the creation of metrics that attempt to improve accuracy. Fog networking consists of a control plane and a data plane. For example, on the data plane, fog computing enables computing services to reside at the edge of the network as opposed to servers in a data-center. Compared to cloud computing, fog computing emphasizes proximity to end-users and client objectives, dense geographical distribution and local resource pooling, latency reduction and backbone bandwidth savings to achieve better quality of service (QoS) and edge analytics/stream mining, resulting in superior user-experience and redundancy in case of failure.

II. EXISTING SYSTEM

On Spot Accident Information and Insurance Dispute Resolution

DivyaBharathi.R, Ellakya.S and Kavitha.V.R

Abstract--- *Initially it took long time to claim insurance whenever accident take place for the victim . To overcome this we introduced web portal for the easy use of insurance. There should be a system/portal for gathering of on the spot information during road accidents. This information should include photos of the site,interviews with eyewitnesses, information on injuries and fatalities, reason ,speed, road condition on relative basis, etc. The responsibility for collecting the data could be given either to police, transport authority, ambulance or even ordinary citizens who volunteer for the same.In the same system, there should also be a provision to submit/ exchange insurance numbers/ details in order to settle the dispute if any arising out of accident. It reduces delay of accident reporting and makes even more easy to claim insurance.*

Keyword--- *Insurance, Accident report, Eyewitnesses, Police.*

I. INTRODUCTION

ROAD accidents are undoubtedly the most frequent and, overall, the cause of the most damage. The reasons for this are the extremely dense road traffic and the relatively great freedom of movement given to drivers. Accidents

II. RELATED WORKS

[1] "Methods Of Pre-Generating Insurance Claims", by TM Potter, ME Clauss, DR Carter, DA Graff - US Patent App. 10 Volume : 072018

A system used for pre-generating insurance claims, accident data associated with a vehicle accident involving a driver may be collected. The accident data may be analyzed, and a likely severity of the vehicle accident may be determined based upon the analysis of the accident data. An estimated insurance claim may be generated based upon the determined likely severity of the vehicle accident, and transmitted, via wireless communication, from one or more remote servers to a mobile device associated with the driver to facilitate presenting all, or a portion of, the estimated insurance claim to the driver or the insured.

III. PROBLEM IDENTIFICATION

A lot of efforts have been earlier done on web based information system in case of road accidents, traffic information management, analysis and reporting etc. Also, the system is prone to increase the false positives because there is no filter in place to verify if an accident detected is a real accident or just false.Difficult in retrieving the report back for analysing purpose and time consuming. The

Secure Intra-Communication Information Authority in Organization

Kavitha.R, ChithraDevi.P and Famitha.S

Abstract---*Group data sharing in cloud environments has become a hot topic in recent decades. Group data sharing in cloud is a technique that allows users to conveniently access dataoverthe cloud. An organization is an entity comprising multiple people, such as an institution or an association, that has a particular purpose andgrouping related functions into manageable units to achieve the objectives of the enterprise in the most efficient and effective manner. Daily report which is stored in cloud enables the team manager to have an overview how the team's project is progressing in terms of each team member's individual tasks without having to talk to each one on a daily basis. In Proposed work, whatever the*

types of data in cloud servers, which is also a good option for companies and organizations to avoid the overhead of deploying and maintaining equipment when data are stored locally. The cloud server provides an open and convenient storage platform for individuals and organizations, but it also introduces security problems. For instance, a cloud system may be subjected to attacks from both malicious users and cloud providers. In these scenarios, it is important to ensure the security of the stored data in the cloud. In several schemes were proposed to preserve the privacy of the outsourced data. The above schemes only considered security problems of a single data owner. However, in some applications, multiple data owners would like to securely

Ambulance Service Using Android Application

Gayathrishanmugam. N, A JothiJanifer and B.Gunasundari

Abstract--- *Initially the ambulance driver did not know the exact location of the accident spot because of the heavy traffic due to this we cannot save many people's life. By current technology era everything runs on smart phones and applications so we created an mobile application by live tracking of ambulance service .This app will have ambulance driver's register their availability and location. Either executive emergency helpline or user's on client side will book an ambulance and the user login .The user's location will be pin pointed on the Google map and even the ambulance which is nearby the user will be pin pointed on the map , once the patient is on board the ambulance location is pointed and it will send to the admin this location will be shared to ambulance driver and then the list of hospitals are pointed out on the map which helps the admin to choose the nearby hospital to take the patient on time .The ambulance location is tracked by the navigator geolocation method based on Rest FUL Web Services .This technique will help the ambulance location to be updated in*

Traffic congestion and tidal flow management were recognized as major problems in modern City areas, which have caused much uncomfortable for the ambulance. Moreover accidents in the city have been nonstop and to bar the loss of life due to the accidents is even more Complexity . To implement this scheme called AARS (Automatic ambulance rescue system). The main Function behind this scheme is to provide a smooth flow for the ambulance to enter the hospitals in time and thus minifying the Practical Implementation. The idea behind this scheme is to implement a ITS which would control mechanically the traffic lights in the path of the ambulance. The ambulance is controlled by the MCU which furnishes the most scant route to the ambulance and also controls the traffic light according to the ambulance location and thus reaching the hospital. The server also determines the location of the accident Place through the sensor systems in the vehicle which encountered the accident and thus the server walks through the ambulance to the Exact Place. This scheme is automated,

Expenses Management System

M. Vanitha, Alekhya. K and Sai Gowthami. A

Abstract--- *People do not have track on their monthly expenses and receivables and they do not have any control on what they spend.Developing an application which will be able to keep track on expenses and receivables can solve this problem.To manage our monthly expenses we designed a mobile application. Whatever we spend monthly or daily will be recorded in this application. And it is used to manage our monthly expenses.User can enter their limited budget of the entire month in this mobile application where when the user exceeds their given budget in the respective month will be notified through Expenses Management System Application. And also some mathematical calculations are done to calculate the expenditure on what items users spend a lot and users will be notified that they are spending a lot of amount on the respective item so that they can reduce their expenditure on that item in future.OAuth for authentication via social logins and firebase authentication for respective accounts and firebase, firestore for storing and retrieving respective users data is implemented and Chabot is also included.*

Keywords--- *OAuth, Google Api, Facebook Api, Twitter*

normal users, Proficient people deal with this kind problems by using spreadsheet to record expenses and using a ledger to maintain large amounts data by especially by experts. As this show that it is variable methods used by different people. This make using this data inconsistent.We believe a handy design a handy mobile application which handles these problems.Such that app is capable of recording the expenses and giving comprehensive view with easy to use user interface.

II. EXISTING SYSTEM

In existing system, a mobile application is developed where the user can add the expenses and their receivables to the application. They can view the expenses which they have added earlier. There are no any social authentications for easy logins in the existing system. In the existing system user can only add the expenses by typing it manually, where there is no any option for the addition of image from camera or gallery which is the major disadvantage of the existing system. No any notifications will be given which is of no

Stock Management in Restaurants

W. Thamba Meshach, B. Akshaya and P. Mohana

Abstract--- *Stock Management in restaurants is done in a manual way where a person updates the product details. The product details are updated by entering the details of the product to the database.There is no advanced techniques in updating the stock.We are developing a stock management system using voice recognition.The voice will be converted into text and this will be updated in the database. This makes a person to use the system easily and effectively.*

Keywords--- *voice recognition, stock updation.*

I. INTRODUCTION

IN recent times the technology has improved a lot such that most of the products that we use today is user friendly. The man power has been reduced drastically by using advanced technologies in various industries. For example the testing part in programs are mostly done through automatic systems in the industry. But according to stock management a person is required to check for the

This is the architecture of the system we are developing. In this system the user is first recognized as authorized person. Then the voice commands are recognized through the voice recognizer. Later it is updated to the system database.

IV. METHODOLOGY:VOICE RECOGNITION

Object Recongition and Distance Finding Using Convolutional Neural Network for Blind People

K. Sornalatha, P. Prabhu and G. veeramani

Abstract--- *In light of a legitimate concern for ongoing achievements in the advancement of profound convolutional neural systems (CNNs) for object identification and acknowledgment assignments, another profound learning based article acknowledgment is proposed. An Artificial Neural Network (ANN) is an innovation which used to process the data design, which is motivated by the way organic sensory systems, for example, neurons in the memory, process data. The key component of this example is the novel structure of the data preparing framework. By having the Microsoft coco(common object in setting), it is a substantial scale object recognition, division, and inscribing dataset. In Microsoft coco, it present a point by point measurable examination of the dataset in contrast with PASCAL, ImageNet, and SUN. One ofthe most prevalent kinds of profound neural systems is known as convolutional*

The Microsoft Common Objects in COntext (MS COCO) dataset contains 91 basic item classes with 82 of them having in excess of 5,000 named examples, Fig. 6. Altogether the dataset has 2,500,000 marked examples in 328,000 pictures. Rather than thewell knownImageNet dataset, COCO has less classifications however more occurrences per class. This can help in learning point by point object models equipped for exact 2D confinement. The dataset is likewise significantly bigger in number of occasions per class than the PASCAL VOC and SUN datasets. Furthermore, a basic refinement between our dataset and others is the quantity of marked occurrences per image which may aid in learning contextual information, Fig. 5. MS COCO contains extensively more article examples per picture (7.7) when contrasted with ImageNet (3.0) and PASCAL (2.3). Conversely, the SUN dataset,

Patient Health Care Detector

Poornima. S and Vanitha.M

Abstract--- *Now a day Humans are facing many problems in lack of medical care to patient at right time.During treatment, it is highly important to continuously monitor the patient. In this system a patient will be carrying hardware having sensors ,the sensors will sense the body temperature, heart beat rate,ECG,Spo2 and these data is transferred to Adafruit cloud via Wi-Fi Module. System has the cloud database which stores all information about patient's health and the doctors will prescribe medicine using this information stored on cloud. The Proposed System uses Arduino Board as an IOT device that interfaces three sensors and read the patient health parameters. The three sensors: pulse sensor kit, blood pressure sensor kit and temperature sensor kit sense the patient health parameters and the output of each sensor kit is given as input to the Arduino board. The Arduino sends the data to cloud database (Adafruit), analyze and visualize the normal readings.*

Keywords--- *Internet Of Things, Heart rate sensor, Body temperature sensor, ECG, SPO2, Adafruit.*

using ADC converter.

III. DRAWBACKS

- One way communication.
- Diagnosing with help of a doctor
- Conventional devices that can only measure a particular parameter
- Devices that have to be connected invasively to get measurements
- No automated system exists.

IV. PROPOSED SYSTEM

The Proposed Patient Monitoring System with two-way communication i.e. not only the patient's data will be sent to the doctor through SMS and email on emergencies, but also the doctor can send required suggestions to the patient or guardians through SMS or Call or Emails and also connected to the cloud database(Adafruit).

297.OPTIMISED DESIGN OF SPRAY DRYER

Aishwarya.P, Nisha.B, and Keerthana Narayanan, 4th year B.E.,
Meenakshi Sundararajan Engineering College, Kodambakkam, Chennai – 600 024

Spray dryer represent an important unit in many industries like pharmaceuticals and food. Spray dryer is used in the conversion of liquid to solid particles. It mainly consists of two units where automatic control can be employed. They are atomizer and hot air generator. In this project, the spray dryer is designed to work in a fish farming industry. Spray dryer converts a feed liquid into powder form which is useful for fish growth. This liquid to powder form process is automated by employing control over units of spray dryer. The proposed model consists of speed control based on temperature and speed control based on particle size at the output. By providing these controls over traditional spray dryer, more efficient and desired size of particles is achieved. The simulation results show that with proper feedback and with the use of PI controllers in the system, manual interference can be eliminated completely.

298. ENABLING AUDITING AND DATA SHARING FOR SECURE CLOUD STORAGE

CH. MOUNISH 1 , R. DEEPAK RAJ2 , MS.SORNALATHA3
Final year student(s)1,2, Assistant professor3 Department of Computer Science and Engineering, Prathyusha engineering college

The main goal of our project is to design a mobile application to Auditing and Data Sharing through cloud storage service, users can remotely store their data to the cloud and realize the data sharing with others. Remote data integrity auditing is proposed to guarantee the integrity of the data stored in the cloud. In some common cloud storage systems, cloud file might contain some sensitive information. Encrypting the whole shared file can realize the sensitive information hiding, but will make this shared file unable to be used by others. In this paper we propose a remote document reference id automatically convert to the QR code then just scan user module then download the document integrity that realizes data sharing with sensitive information hiding. Signatures are used to verify the file in the phase of integrity auditing

299.SIMULATION OF SUPERCAPACITOR ENERGY STORAGE SYSTEM WITH BI DC-DC CONVERTERS

Maheswari Muthusamy1, Tripuravaram Chandrasekhar Reddy2, Koki Kesavardhan3 Biyyala Venkatesh4 , ParvathyAyalur Krishnamoorthy5 , Adarsh Vijayan Pillai6
Department of Electrical and Electronics Engineering, Hindustan Institute of Technology and Science, Chennai, India.

FACTS devices are largely used to enhance power system quality and stability. They can exchange

302.EMOTION DETECTION ON LIVE VIDEO USING DEEP LEARNING

B.Manoj Reddy 1, A.Venkata Sathish2, W.Thumba Meshach3 Final year student(s)1,2, Associate professor3
Department of Computer Science and Engineering, Prathyusha engineering college, Thiruvallur

Detecting emotions from live video frame is a challenge in many of the fields and it would be used as an emotion recognition system in many real time applications .In this project, we have implemented a model, which detects a emotion of a person in live video by using CNN(convolutional neural network) The emotions that the model can recognize are happy, sad, neutral, fear, disguist, surprise etc. By using CNN (convolutional neural network). This model can be used in various real time applications such as patient, monitoring kids, lie detection tests etc

303.IOT ENABLED SMART GARBAGE COLLECTION IN SMARTCITIES

A.Gnanavel, M.Karthick, Dr.S.Padma Priya,PhD Professor. Department of Computer Science and Engineering, Prathyusha Engineering College,Thiruvallur,Chennai.

In our country, many public places are begin filled with garbage and municipal waste, which has become a major issue and remains uncontrollable. It creates many health issues and it is unhygienic for society To solve this problem we are trying to find a solution in our project named Solid waste Management using IoT technology. This Application helps to identify the level of garbage in the dust bin.If the garbage reaches the threshold level, a notification message will be sent to the respective municipality authorities and also it will be alerted in their centralized server. We can also establish a facility to identify the toxic and non toxic waste and it will help us to segregate as well as disposable and recyclable waste. We also help to identify the moisture content of garbage by using humidity sensor.

304.E-FRIEND FOR GOVERNCE SCHEME

Ajith Kumar P1, Akash K U2, MS.K.P Ravathy3
1Final year student at Prathyusha engineering college, Department of CSE, Thiruvallur, India 2Final year student at Prathyusha engineering college, Department of CSE, Thiruvallur, India 3Professor at Prathyusha engineering college, Depeetment of CSE, Thiruvallur, India.

E-governance refers to the delivery of government information and services via the Information andcommunications technology (ICT) to citizens or businesses or governmental agencies. The purpose of this paper is to present the status of e-Governance in India.. Mega bot (chat bot) which provides information related to all government sponsored loans/insurance schemes at single place. This interactive chat bot should be able to pull information from various sources like nabard, rbi, etc and should be able to assist the users with the relevant information. We developed interactive web application for all available state government and central government schemes in a single web site. we also create a mega bot(chat bot) using (aws) which provides information related to all government sponsored loans/insurance/scholarships schemes in a single window. User can search all the government schemes in a single web page instead of searching all the web pages in one by one manner. It an easy way to convey the available schemes in government, this web pages is to create awareness to public.user can register and they may use this web page at any time if they needed. while register this web page user can choose the particular schemes whatever user needed to be updated schemes by the state government and central government. The message are delivered to the users using their email id .user can save their time by using this web page .we provide a special web site to show all government schemes and there is no web page like this. People are not aware of all those

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schemes coming from the state government and central government. chat bot plays a vital role in this page,so user can easily interact with us.

305. DESIGN OF MULTI BAND FRACTAL ANTENNA

N.Varnikha, Dr.P.Jothilakshmi
Department of Electronics and communication Engineering
Sri Venkateswara Institute of Science and Technology

This paper presents the design and simulation of multiband fractal antenna with square patch.The feeding technique used is Aperture coupling. The Antenna is designed using CST software. The substrate used is FR4.The designed Antenna operates in six different bands of frequencies in S, C and X band for radio, satellite and TV broadcast applications.

306.CHARACTERIZING AND PREDICTING EARLY REVIEWERS FOR EFFECTIVE PRODUCT MARKETING ON E-COMMERCE WEBSITES

Mr G.Nishaanth1, Mr S.Firoz2, Mr W. Thamba Mescach3
final year student, Department of CSE, Prathyusha Engineering College1,final year student, Department of CSE, Prathyusha Engineering College2, Professor , Department of CSE, ,Prathyusha Engineering College3.

Online surveys have turned into a critical wellspring of data for clients before settling on an educated buy choice. Early audits of an item will in general highly affect the ensuing item deals. In this paper, we step up to the plate and concentrate the practices attributes of early analysts through their posted surveys on two genuine extensive internet business stages, i.e., Amazon and Yelp. In specific, we separate item lifetime into three back to back stages, to be specific early, larger part and loafers. A client who has posted an audit in the beginning time is considered as an early analyst. We quantitatively describe early analysts dependent on their rating practices, the accommodation scores got from others and the connection of their audits with item prominence. We have discovered that an early commentator will in general relegate a higher normal rating score; and an early analyst will in general post progressively supportive audits. Our investigation of item surveys additionally shows that early commentators' evaluations and their got accommodation scores are probably going to influence item prominence. By survey audit posting process as a multiplayer rivalry diversion, we propose a novel edge based implanting model for early analyst expectation. Broad tests on two distinctive internet business datasets have demonstrated that our proposed methodology out plays out various aggressive baselines.

307.DESIGN AND ANALYSIS OF FIR FILTER USING MCM TECHNIQUE FOR

design and analysis of Finite Impulse Response (FIR) filter. FIR filters are highly preferred because of its unconditional stable and linear phase characteristics. This paper discusses the design of direct form FIR filter structure, transposed FIR structure, merged transpose filter design, retimed transposed filter and Multiple Constant Multiplication (MCM) based filter design. Multiplication complexity is eliminated by the usage of MCM approach. FIR filter with 4-tap, 6-tap, 8-tap, 16-tap and 32 taps are considered for the implementation. Synthesis and analysis of the designed filter structures are done using Altera Quartus, Cyclone II family with the device EP2C5T144C6 and the analysis results are reported. From the obtained results, it is understood that the MCM based FIR filter offers good reduction in area, delay and power when examining with retimed structure.

308.SMART AND DYNAMIC TIMETABLE MANAGEMENT SYSTEM

Ms.Meena1,D.G.Vinothkumar2,Polluru John Lawrence3 1Assistant Professor, Department of Computer Science and Engineering, Prathyusha Engineering College, Tamilnadu, India 2,3Student, Department of Computer Science and Engineering, Prathyusha Engineering College, Tamilnadu, India

Institutions are commonly, facing the issue, in case of absents of faculty to manage the timetable. In that case, we can use this timetable management system to manage and avoid this issue. Using this timetable management system we can allocate or modify the existing faculty timetable without interrupting others. It will allot faculties as per their availability by mapping the class and sections. It can be modified and managed by administrator only. Timetable is available to view to everyone in the institution/training centres through web browser

309.DESIGN OF ADAPTIVE FIR FILTER FOR BIOMEDICAL APPLICATIONS

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Emerging technologies in DSP systems require high performance in order to provide optimal

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ATM SECURITY SYSTEM USING DIGITAL SIGNAL PROCESSING

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ABSTRACT

Automated Teller Machine (ATM) has been convenient approach than ever before for accessing bank's account from anywhere anytime. Being an electronic telecommunication device, it helps customer to perform transactions/withdraw cash, make deposits & transfer funds by simply touching few buttons on screen without need for a cashier or bank teller. A survey showed that there is no proper security in withdrawing cash from ATM's. There are no proper authentication methods applied for security during ATM transactions. In ATM there is no proper security in withdrawing and deposit cash of it. There are no proper authentications methods are

solution to this problem with the use of anti-hijack system. "HEART BEAT SENSOR" involving the use of measuring ring the heartbeat rate of passengers and the pilot. Heart beat sensors are placed at the fingers of the passengers. If the heart rate of all the passengers increases it consider as the aircraft will be hijacked. The signal from the sensor is received by the Zigbee transceiver in the base station and the aircraft is landed safely. Thus saving the lives of passengers at large and making air travel a much more trustworthy and a safer experience.

IMAGE CAPTURING ROBOT USING RASPBERRY PI IN ALL DIRECTIONS

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Abstract - The real downside in the present observation lays on the inclusion of human administrators which can undoubtedly be occupied, so we require a framework which can self-rulingly screen locales constantly, settling on choices while distinguishing undesirable or unpleasant things and react as needs are. Protest following utilizing PC vision is critical in accomplishing computerized observation. In this task so as to manufacture a fundamental ball following Robot. Here, robot utilized the camera to take outlines and do picture preparing to find the ball. The highlights of the ball, for example, shading, shape, size can be utilized. In any case, my goal was to make a fundamental model for such a robot which can detect shading and tail it. The robot tries to discover a shading which is hard coded, on the off chance that it finds a wad of that shading it tails it. We have picked raspberry pi as small-scale controller for this venture as it gives incredible adaptability to utilize Raspberry Pi camera module and permits to code in Python which is extremely easy to understand and OpenCV library, for picture investigation.

SMART ENERGY MONITORING SYSTEM USING IOT

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Abstract- Smart application has become more and more popular in recent years. It aims at helping people manage the various devices freely and build an autonomous environment. This project introduces a wireless solution based on Internet protocol to manage the industrial units easily. Smart application system can connect the various units together and provide a unified interface for users to interact with the monitoring block.Some main features are listed such as motor control, load control, temperature control of motor, security and safety. Based this control the energy has consumed which can be monitored using IOT. As with the development of the Internet, Internet based remote monitoring and control solutions for industry has been proposed.

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PREPARATION OF VACCINE FROM BACTERIAL PATHOGEN, *AEROMONAS HYDROPHILA* USING FISH, *CATLA CATLA*

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Abstract:

The present study investigated different types of antigen produced from pathogen. It has been identified that the immune complex of antigen as most suitable one for vaccine development against pathogens. *Aeromonas hydrophila* is a well recognized pathogen particularly of freshwater fish with an almost worldwide occurrence. Blood sample of fish *C.catla* exposed to heat killed *A hydrophila* antigen after third week showed 65% lymphocyte, 16% neutrophils, 8% monocyte and 2% eosinophil. Basophils was absent in heat killed antigen exposed fish blood sample. After third week of vaccine and vaccine with adjuvant exposed fish sample showed 74% lymphocyte, 15% neutrophils and 3% monocyte. Eosinophil and basophils were absent in vaccine and vaccine with adjuvant exposed fish blood sample. Post vaccination the antibody response was high compared to pre vaccination of fish *C.catla* exposed to vaccines substance prepared from *Aeromonas hydrophila*. From this study suggest immune complex substance of *A. hydrophila* was effective to control fish pathogens.

Key Words: Vaccine, antigen, A. hydrophila and fish.

Introduction:

Vaccination of humans and other animals, including fish, is one of the major methods for preventing infectious disease (Potter and Baiuk, 2001). Immunisation primes the immune system of the host against pathogens encountered during infections (Thomson and Adams, 2004). Fish vaccination in the aquaculture industry has been considered to be very important in reducing economics losses caused by disease (Rahman and Kawai, 2000 and Ebanks *et al.*, 2004). Several kinds of vaccines have been investigated / developed against *Aeromonas hydropila* including whole cell (WC), OMPs, ECPs, LPS and biofilms, although currently no commercial vaccine exists. The vaccines in current use require multiple immunizations to maintain effective immunity. For a variety of bacterial and viral infections, there is a well defined threshold for the amount of antibody required for production (Sujatha *et al.*, 2013). Live infections induce a greater frequency of antigen specific cells than immunizations with proteins and DNA vaccines encoding specific antigen. Thus, in order to manufacture an effective vaccine we must know when and where the virulence factors are expressed. These kinds of finding to be initiated develop newer kind of vaccine strategies.

Aeromonas hydrophila is an important pathogen that has caused major loss in the aquaculture industry for decades (Esteve *et al.*, 1995). Many attempts have been made to develop an effective vaccine against *A. hydrophila* (Leung *et al.*, 1997 and Rahman and Kawai, 2000). The effect of number of inactivated WC vaccines has been reported. For example, an increase in serum antibody levels against *A. hydrophila* was showed in common carp immersed in a preparation of heat inactivated *A. hydrophila* (Lamers *et al.*, 1985). A polyvalent vaccine containing heat killed WC and formalin inactivated ECP of *A. hydrophila* has also been tested in two Indian major carp species (rohu and mrigal), but it failed to protect the fish against bacterial challenge (Chandran *et al.*, 2002). Many factors must be considered for developing an effective vaccine. The vaccine produced should be protective and should not cause any adverse effect in the host. In addition, the vaccine should be cost effective for global use in aquaculture industry (Robertsen, 2011). The choice of vaccine depends on the particular case. It will depend on whether protection can be obtained, the duration of the protection possible versus the required duration, the final cost of the vaccine in relation to the benefit to the farmer and the registration limitation imposed by authorities in the countries where the vaccine is marketed (Sujatha *et al.*, 2010). In this study analyze suitable antigenic substance for the preparation of vaccine against fish pathogens.

Materials and Methods:

Preparation of *A. hydrophila* culture and treatmente: A loop full of *A. hydrophila* culture was incubated overnight at 37°C. About 5 ml of culture obtained was inoculated in a 50 ml nutrient broth medium and incubated overnight at 37°C. The culture was then serially diluted and spread plated on nutrient agar medium and incubated overnight at 37°C for enumeration. The culture was simultaneously inactivated with heat treatment and incubated at 37°C for 48 hrs). About 1 ml of culture was then spread on nutrient agar plates and incubated overnight at 37°C to check for inactivation. The inactivated broth culture was then pelleted by centrifugation at 500 rpm for 10 min. The pellet was then suspended in saline and used as vaccine for immunization. Fifty ml of heat killed *A. hydrophila* vaccine was mixed with 50 ml of Montanide Adjuvant ISA

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WATER PURIFICATION PROCESS USING *MORINGAOLEIFERA* AND *VIGNA UNGUICULATA* SEEDS AND COMPARISON OF THE EXTENT OF PURIFICATION

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Abstract:

This project investigates the relative efficacy of *Moringa oleifera* and *Vigna unguiculata* seeds for the purpose of water treatment. Groundwater samples were collected from two different areas of Chennai city. Its parameters including pH, chlorides and total dissolved solids (TDS) were estimated using standard methods. The values for sample 1 and sample 2 respectively were pH =7.88 and 7.38, chlorides = 24.99 mg/L and 9.99 mg/L and TDS = 475 ppm and 504 ppm. Next, sample 1 was treated with *M. oleifera* and sample 2 was treated with *V. unguiculata* for 48 hours. After treatment, the parameters were once again estimated using standard methods. The values for sample 1 and sample 2 respectively were pH = 7.63 and 7.70, chlorides = 170 mg/L and 177 mg/L and TDS = 475 ppm and 504 ppm. It was observed that *V. unguiculata* imparted an orange tint to the water after treatment, and *M. oleifera* clarifies the water relatively better without any obvious coloration. From the obtained results, it is evident that the coagulating protein present in *M. oleifera* has a higher potential to clarify turbid water than that of *V. unguiculata*. Hence, it can be concluded that *M. oleifera* is better suited to water treatment process than *V. unguiculata*.

Key Words: Moringa Oleifera; Vigna Unguiculata; Parameters; Treatment.

Introduction:

The quality and accessibility of drinking water is of paramount importance to human health. More than 780 million people, especially in rural areas, rely on unimproved sources and the need for finding ways of treating water (Bodlund, 2013). The level of purity of water being consumed is very crucial since it has a direct effect on health (Amagloh and Benang, 2009). Drinking water may contain disease-causing agents and toxic chemicals and to control the risks to public health, systematic water quality monitoring and surveillance are required (Nand *et al*., 2012).

Thousands of chemicals have been identified in drinking water supplies around the world and are considered potentially hazardous to human health at relatively high concentrations (World Health Organization, 2004). Heavy metals are the most harmful of the chemical pollutants and are of particular concern due to their toxicities to humans (Manahan, 2005). The five most toxic heavy metals are cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb) and zinc (Zn) (Lata and Rohindra, 2002). The utility of chemical coagulants is limited in developing countries because of the high cost and low availability of chemical coagulants such as aluminium sulphate and ferric salts (Folkard *et al*., 2015). The chemicals used for water purification can cause serious health hazards if administered erroneously during the chemical treatment (Amagloh and Benang, 2009). There are speculations in the scientific community regarding the link between aluminium and Alzheimer's disease, and although it has been disproved, the possibility has not been ruled out entirely (Indira *et al*., 2010). Hence the continuous use of aluminium sulphate as a coagulant in water treatment is not advisable.

M. oleifera is commonly known as drumstick or horseradish tree. Its fully mature, dried seeds are round or triangular and the kernel is surrounded by a lightly wooded shell with three papery wings (Folkard *et al*., 2015). The seed kernels contain significant qualities of a series of low molecular weight, water soluble proteins which, in solution, carry an overall positive charge that acts similarly to positive polymer coagulants. When added to raw water, the proteins bind to the predominantly negatively charged particulates that make raw water turbid - silt, clay, bacteria etc. Under proper agitation, these bound particulates then grow in size to form flocs, which may be left to settle by gravity or be removed by filtration (Folkard *et al*., 2015).

The seeds of *V. unguiculata* (commonly known as cowpea) were found to be cationic in nature and have the molecular mass of about 6 kDa, which is very similar to the coagulant seeds purified from *M. oleifera* seeds. (Marobhe, 2013). These seeds are capable of removing suspended solids and most other pollutants (Marobhe, 2013). Coagulation activity has also been reported from other plant materials such as: Cactus (*Opuntia spp.*), common bean (*Phaseolus vulgaris)*, red bean (*Phaseolus vulgaris sp.*), sugar maize and red maize (*Zea mays sp.*), chestnut and acorn, *Cactus latifaria* and seeds of *Prosopis juliflora*, *Cassia angustifolia*, Grape seeds, Nirmali seeds (*Strychnos potatorum*), *Jatropha curcas* and Guar gum and *Parkinsonia aculeate* (Bodlund, 2013).

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A COMPARATIVE STUDY ON THE PESTICIDAL EFFECT OF *Citrus medica* LEAF EXTRACT AND *Ixora coccinea* FLOWER EXTRACT ON *Tribolium castaneum*

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Abstract:

Botanical insecticides are naturally occurring chemicals extracted or derived from plants or minerals. This study aims to analyze the pesticidal activity of compounds present in essential oils of *Citrus medica* leaves and *Ixoracoccinea* flowers. In this study, essential oils from these two sources are obtained by Solvent extraction approach as some phytochemicals may be heat-labile to use distillation method. The various bioactive compounds present in the essential oil extracts were analyzed by preliminary screening and Gas chromatography-Mass spectrometry Analysis. The essential oil extracts were used for the screening of pesticidal activity against adult insects of *Tribolium castaneum* by fumigation bioassay. The compounds identified from Gas chromatography-Mass spectrometry were screened based onits insecticidal likeliness property using Tice rule for further molecular interaction studies. The Acetylcholinesterase enzymeof *Tribolium castaneum* was selected as target to understand the molecular mechanism on the pesticidal effect of selected essential oils using *in-silico* methods. The fumigation assay results showed that 82% of pest mortality in 80% concentration of essential oil of *Citrus medica* leaf on *Tribolium castaneum*. On comparison from the *in vitro* studies, the essential oil extract of *Citrus medica* leaf has a more pesticidal efficiency than *Ixora coccinea* flower. This study proves that both these natural source can be used for the development of novel potent biopesticide against *Tribolium castaneum*.

Key Words: Pesticidal activity, Essential oil, Tice rule, Solvent extraction, Bioinsectide, *Tribolium castaneum*.

Introduction:

Biopesticides are the compounds that are used to manage agricultural pests by means of specific biological effects rather than by using broader chemical pesticides. Biopesticides generally have several advantages when compared to conventional pesticides (Kalra and Khanuja, 2007; Thakore, 2006). Biopesticides are naturally less toxic to humans and the environment, do not leave harmful residues, and are usually more specific to target pests. In the present study the *Citrus medica* and *Ixora coccinea*were used for analyzing its pesticidal activity against the pest *Tribolium castaneum*.*Tribolium castaneum* have been selected as model pest which affects economically important crops such as wheat. The red flour beetle (*Tribolium castaneum*) is a species of beetle in the family Tenebrionidae. It is a worldwide pest of stored products, particularly food grains, and also a model organism for ethological and food safety research. In the past decades, apart from the pyrethrum which has attained international and commercial approval due to its high effectiveness and broad spectrum pesticidalactivity very few natural insecticides have been developed. Thus, the present study aimed to identify a bioactive compound from essential oil of *Citrus medica* leaves and *Ixora coccinea* flowers against *Tribolium castaneum* as an alternative for harmful chemical pesticides.

Materials and Methods:

Preparation of Essential Oil:

The leaves of *Citrus medica* (Citron) were collected from Noombal, Thiruvallur district, Tamil Nadu. The flowers of *Ixora coccinea* (Jungle geranium, Flame of the woods or Jungle flame) were collected from Aranvoyalkuppam, Thiruvallur district, Tamil nadu. The collected leaves and flowers were washed thoroughly under tap water and shade dried for two weeks. The shade dried plants were chopped into pieces and stored. From the chopped plant material, 30g of semidried chopped pieces of *Citrus medica* leaves and *Ixora coccinea* flowers was soaked in 200mL of Hexane separately. The contents were allowed to stand for 144 hours. Then the contents were filtered using Whatman filter paper. Again the extract was soaked in 100mL of ethanol to extract the essential oil since essential oil is soluble in ethanol. The contents with ethanol were filtered. The mixture was then transferred to 500mL separating funnel and separated by a process called liquid-liquid separation process. The content of the separating funnel was allowed to equilibrium for 2 hours and the contents were separated into two layers depending on the density difference. The upper hexane layer and lower ethanol layer (along with natural essential oil) were separated and stored in dark bottles. The lower ethanol-oil layer was boiled for 5minutes in a water bath at 78°Cto remove the ethanol leaving the natural essential oil (Wang and Weller, 2006 & Dick and Starmans, 1996).

SP – 04

EVALUATION OF IMMUNOLOGICAL CHANGES IN FISH, *CATLA CATLA* ADMINISTERED WITH BACTERIAL PATHOGEN, *AEROMONAS HYDROPHILA*

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ABSTRACT

In the present investigation various types of antigens were formulated using a bacterial pathogen Aeromonas hydrophila. The formulated antigens were characterized after administration in test animal of Catla catla for determination of immunomodulation. Immunomodulatory effect of antigens such as heat killed antigen, whole cell antigen, heat killed antigen with antiserum, whole cell antigen with antiserum and nucleotide antigens were evaluated using antigens administered animals with comparison of control animals. During test periods of three weeks test animals declined 20%of body weight and restless movement. B cell counts of all treated groups showed 50% reduction compared to control animals. Impact of immunomodulation in antigen administered animals reflects PFC formation. PFC assay shows12.7 to 15.8 pfc cells per 10^6 spleen cells (23% reduction) compared to control (37.1 cells per 10^6 spleen cells). T cell counts of all treated groups showed 50% reduction compared to control animals. In DTH response showed high in DNA antigen and whole cell antigen administered animals. Lymphocytes migration assay showed whole cell antigen administered animals showed remarkable changes. From this study revealed that DNA antigen and serum combined antigens were effective to prevent bacterial pathogen in aquaculture system, it indirectly reflects immunity of human through food chain.

KEYWORDS: ***A. hydrophila, Catla catla, B cell, T cell, Lymphocyte migration and immunological study.***

INTRODUCTION

The humoral defense mechanism involves the production of antibodies an important mechanism to prevent bacterial disease through activation of classical complement system[1]. Toxins produced and secreted by bacteria are efficiently neutralized when antibodies bind to them. Prevention of bacterial adherence to fish epithelial cells, antibodies function as anti adhesins by blinding to the adhesins on the bacterial surface. B cells play an important role in the humoral immunity. Together with the T cells, they make up the third line of defense differentiating into specialized antibody producing plasma cells and memory cells after activation[2,3]. Cellular immunity may also play an important role in combating mucosally infectious pathogen. These mucosally committed T cells may function either or prevent mucosal surface from injury by infectious pathogens or by exhibiting cellular cytotoxicity directed against intracellular pathogens[4,5]. Cytotoxic T cells recognize and destroy infected cells and activate phagocytes to destroy pathogens they have taken up[6]. The antigen specific aim of cell mediated immune response consisting, T-Lymphocytes as like as B-cells, which produce soluble antibody that could bind to specific antigen. Hypersensitivity and mixed lymphocyte migration are categorized in accordance with the effectors involved in these reactions. In the present study screening of stimulation of immune response in fish, *Carla catla* administered with bacterial antigen.

MATERIALS AND METHODS

The infected fish samples *Carassius auratus* was collected in pre sterilized container from the fishing area in Srivilliputtur, (931"0.012"N, 7737"59.880"E) Tamilnadu, India. The collected fish sample was transported to the laboratory in an icebox for further analysis. From the infected fish, *C. auratus* pathogenic strains (*Staphylococcus aureus, Aeromonas hydrophila, Aeromonas salmonicida, Escherichia coli* and *Vibrio* sp.)

SP-03

ANALYSIS ON PESTICIDAL PROPERTIES OF CHOSEN PLANT SAMPLES

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ABSTRACT

In the present investigation the pesticidal properties present in essential oils of *Citrus medica* leaves and *Ixora coccinea* flowers were analyzed. The compounds present in the essential oil extracted from the plant sources were studied by preliminary screening and GC-MS method. Fumigation assay method was used to study the pesticidal effect of the essential oil against the adult insects of *Tribolium castaneum*. Further the molecular mechanism of pesticidal activity of the essential oils were screened by *in-silico* method by choosing the A cetylcholinesterase of the *Tribolium castaneum* as target. The compounds obtained from GC-MS which obeyed the Tice rule were used as ligand to study the molecular interaction using docking. The fumigation assay results showed the highest pest mortality of 82±2.6%, 64.33±4.0% in 80% concentration of essential oil of *Citrus medica* leaf and *Ixora coccinea* flowers respectively on *Tribolium castaneum* in 48 Hrs. The molecular docking results showed the compounds Curan,16,17,19,20-tetradehydro- of *Citrus medica* and 3H-Pyrazol-3-one,4-[[4-(dimethylamino)phenyl]imino]-2,4-dihydro-2,5-diphenyl of *Ixora coccinea* have significant molecular interaction with the target with the lowest energy value of -89.65 and -98.83 respectively. Hence the compounds which showed the pesticidal activity can be utilized to develop potent botanical pesticide against *Tribolium castaneum*.

KEYWORDS: Pesticidal activity, *Citrus medica* leaves, Tice rule, fumigation and *Ixora coccinea* flowers.

INTRODUCTION

Biopesticides generally have several advantages when compared to conventional pesticides[1, 2]. Biopesticides are naturally less toxic to humans and the environment, do not leave harmful residues, and are usually more specific to target pests. In the present study the *Citrus medica* and *Ixora coccinea*were used for analyzing its pesticidal activity against the pest *Tribolium castaneum*. *Tribolium castaneum* have been selected as model pest which affects economically important crops such as wheat. The red flour beetle (*Tribolium castaneum*) is a species of beetle in the family Tenebrionidae. It is a worldwide pest of stored products, particularly food grains, and also a model organism for ethological and food safety research. In the past decades, apart from the pyrethrum which has attained international and commercial approval due to its high effectiveness and broad spectrum pesticidal activity very few natural insecticides have been developed. Thus, the present study aimed to identify a bioactive compound from essential oil of *Citrus medica* leaves and *Ixora coccinea* flowers against *Tribolium castaneum* as an alternative for harmful chemical pesticides.

MATERIALS AND METHODS

PRAPARATION OF ESSENTIAL OIL

The fresh leaves of *Citrus medica* were collected from the plant at Noombal, Thiruvallur district, Tamilnadu. The fresh flowers of *Ixora coccinea* were collected from the plant at Aranvoyalkuppam, Thiruvallur district, Tamilnadu. The collected leaves and flowers were washed thoroughly under tap water and shade dried for two weeks. The shade dried plants were chopped into pieces and stored. From the chopped plant material, 30g of semidried chopped pieces of *Citrus medica* leaves and *Ixora coccinea* flowers was soaked in 200mL of Hexane separately. The contents were allowed to stand for 144 hours. Then the contents were filtered

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AN PROFICIENT QUAD VERIFICATION STRATEGY IN CLOUD STORAGE

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Abstract: In this investigation, distributed storage plan is recommended to have a four-factor information security assurance instrument with factor revocability. This framework allows a sender to use a distributed storage server to send an encoded message to a collector. The sender simply requires to comprehend the collector's character, but no other information (for instance, their state's key or authentication). To unscramble the ciphertext, the collector must have two things. The primary thing put away in the PC is its mystery key. The subsequent thing is a particular person. With no piece, it is difficult to decode the ciphertext. All the more critically, this gadget will be pulled back once the wellbeing gadget is looted or lost. No ciphertext can be decoded.. The cloud server can do this, which will quickly play out certain calculations to modify the current ciphertext with the goal that this machine can un-decode it. This strategy is absolutely straightforward to the transmitter. What's more, no ciphertext can be decoded by the cloud server whenever. The appraisal of wellbeing and viability demonstrates that not exclusively is our framework safe yet in addition useful.

Keywords — Cloud Computing; Decryption; Encryption; Integrity

I. Introduction

Disseminated storage is an ordered storage framework model where pools of information are stored which are usually facilitated by third-party collections. Utilizing distributed storage has numerous focal points. Data accessibility is the most critical. Information placed in the cloud can be obtained from anywhere whenever access to the system is available. Capacity support obligations, for example, purchasing additional capacity, might be released to a specialist co-op's risk. Another benefit of distributed storage is the sharing of data from the client to the client. Off possibility that Alice wants to share some data (such as a video) with Bob because of the size of the data, sending it by email may be hard for her. Alice rather transfers the record to a distributed storage framework to enable Bob to download it at any minute. Notwithstanding its advantages, information stockpiling redistributing likewise all the while improves the zone of the assault surface. For example, when data is conveyed, the more noteworthy the danger of unlawful physical access to the data, the more places it is put away. It is also possible for other unapproved customers to access your information through the provision of storage and services to countless separate customers. This might be because of wrong conduct, imperfect apparatus, or criminal purpose on occasion. Conveying encryption innovation is a promising alternative to balance the risk. Encryption can defend data from and to the cloud administration as it is moved. It can also protect the information that the expert organisation puts away. Indeed, since the information has been encoded, even an unapproved opponent has accessed the cloud, the opponent can not obtain data about the plaintext. Lopsided encryption enables only administration data to be used by the encrypter (for example the beneficiary's open key or personality) to deliver a ciphertext while the beneficiary uses its very own mystery key to unscramble. This is the most valuable data progress encryption mode attributable to the disposal in symmetric encryption of key administration.

A.Objectives

In a conventional hilter kilter encryption, there is a lonely mystery key related to an open key or personality. Scrambling ciphertext requires this key as it were. Generally, the key is either placed inside a PC or a confided server and can be secretly phrased. The safety guarantee is sufficient if the PC / server is unlikely to be separated from an opening scheme. Shockingly, that is not what's happening in obvious life. At the stage where the internet connects the PC / server to the globe, there may be a potential danger that programmers may invade it to negotiate the mystery key without telling the important proprietor. When the first PC customer (e.g. the main owner) is away in the physical safety angle (For instance, when the client goes to the latrine for a while without locking the machine), another client can use a PC that stores the client's unscrambling key. Sharing the utilization of pcs is additionally common in an organization or school. For instance, in a school, all understudies remaining on a similar floor will share an open PC in a copier room.In these cases, a few aggressors who can get to the individual information of the unfortunate casualty put away in the cloud framework can