PRECISION MEDICINE IN ALZHEIMER'S DISEASE: UNIFYING GENOMICS AND BIOINFORMATICS

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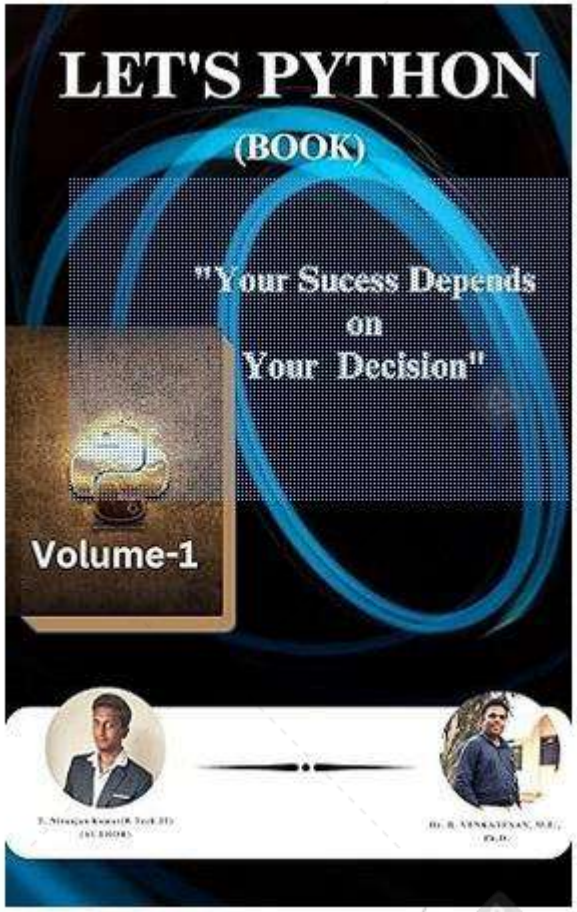
Abstract

Alzheimer's disease (AD) is a neurological condition that affects millions of people around the world. Despite decades of research, the molecular mechanisms of Alzheimer's disease remain unknown. Recent advances in pharmacogenomics and bioinformatics have improved understanding of the genetic and environmental factors that contribute to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RECYCLING AND CONVERSION OF WASTE PET BOTTLES TO PAINT

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Abstract

The global production, consumption and accumulation of pervasive and persistent waste plastic has concomitantly increased in landfills and the environment. Plastics are a large family of different materials, each with its own unique characteristics, properties and applications. These are generally composed of polymers combined with chemical additives and range of materials with 99 % made from carbon from fossil fuels. The societal, ecological, and economic problems of plastic waste/pollution demand immediate and decisive action. Efforts to recycle plastic waste have grown in meteoric fashion over the decades, yet the challenges associated with harnessing post-consumer plastics as feed-stock for new products are sufficiently severe that the relative amount of plastics recycled remains embarrassingly low. Drinking bottles are plastics made from poly (ethylene terephthalate) (PET) with the highest consumption growth. The demand for poly (ethylene terephthalate) bottles is progressing with dramatic applications in beverage containers. PET resins are also in demand for flexible packaging films due to its high clarity, low permeability, and excellent printing capabilities. However, PET waste poses an indirect hazard to the environment. It has high resistance to atmospheric and biological substances. Four major approaches have been proposed for PET recycling in which chemical recycling is preferred much. We choose to recycle the plastic waste into paint wherein the method of the process is simple, practical and low in cost, not only can greatly reduce the production cost of paint, but also can turn waste plastics into treasures, protect the environment, and has huge social and economic benefits. There are several chemical recycling methods proposed for PET depolymerization, such as hydrolysis, methanolysis, ammonolysis, aminolysis, and glycolysis.

Keywords: *Polymer, PET, Recycling, Resin, Packaging, Depolymerization, Hydrolysis, Glycolysis.*

Introduction

PET bottles can be recycled into polyesters in both mechanical and chemical methods according to their needs. There have been instances where PET undergoes primary and secondary recycling, that is, the recycling of plastic bottles. However, a significant remaining problem with recycling of PET is that the mechanical properties of the nonvirgin material are greatly reduced with each reuse. The strain-at-break (the percent of the length that a sample can be stretched before the sample breaks) for virgin PET, for example, is 42%, whereas after only the fifth cycle of extrusion, the strain-at-break was only 0.7%. This downcycling process limits the ability to thermomechanically recycle PET. For this reason, tertiary recycling via chemical processes has been the main focus in the past few years.

There are several chemical recycling methods proposed for PET depolymerization, such as hydrolysis, methanolysis, ammonolysis, aminolysis, and glycolysis. Hydrolysis process uses aqueous reaction medium that can be alkaline, acid or neutral without use of catalyst or neutralizers. This process was reported in patents during the period of 1959-1962. Each bond cleavage of polymer chain in hydrolysis process consumes one water molecule to form the carboxylic and hydroxyl functional groups. The reaction operates at moderate temperatures and pressures to obtain terephthalic acid and ethylene glycol monomers. Reaction time usually takes less than 30 minutes at elevated temperatures and pressures. This method has not been broadly applied industrially compared to glycolysis and

COMPARATIVE STUDY OF KERATIN EXTRACTION FROM BOTH HUBBARD CHICKEN AND INDIAN GAME CHICKEN FEATHERS

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Abstract

The present research was conducted to extract keratin protein from both Indian game chicken feathers and Hubbard chicken feathers. Protein is an important nutrient needed by our body to maintain body structures. Feathers have high levels of keratin protein content and can become a suitable protein source. The main processes involved are first dissolving chicken feathers using sodium sulfide and separating the protein from chemicals. Once the feathers are dissolved using a reducing agent, ammonium sulfate solution is added to the solution to precipitate protein. The precipitated protein is washed with water several times and sodium hydroxide solution are used to get the protein back in the solution form. The percentage of keratin protein is evaluated by means of the Lowry method and FTIR analysis. The analysis by FTIR confirmed the presence of carboxyl acid and an amino group in the protein solution. The Lowry method helps to determine the concentration of protein obtained from this method. Thus, these two tests confirmed protein presence in the solution. From this research, it can be concluded that protein can be extracted from both feathers. Indian game chicken feathers have high protein content compared to Hubbard chicken feathers because of a breakdown of chicken feathers. The keratin protein can be used for several purposes such as anti-aging cream, shampoo and air conditioner.

Keywords: *Protein, Keratin, sodium sulfide, chicken feathers.*

Introduction

The present research work is regarding extraction of natural protein from Hubbard chicken and Indian game chicken feathers by using reducing agent. The reducing agent is helps to break down disulphide bonds, hydrogen bonds and salt linkages in both feathers to dissolve it into protein solution. In this study sodium sulfide is used as a reducing agent. This process is ecofriendly it reduces land filling and incineration for chicken feather disposal. Keratin is a type of protein which form the group of amino acids like cysteine, analine,valine and low amounts of lysine , methionine and tryptophan. Keratin is a non polar organic compound. Protein is a long chain biomolecules it is needed for our body and it is also called building blocks of life.The chemical properties of keratin are week acids and bases. High strength of keratin is influenced by the two cysteine molecules bonded by disulphide bonds. The feathers are biological resource with high numerous protein content, a small

CONVERSION OF BIO – WASTE (BANANA TRUNK) INTO LOW COST PAPER

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Abstract

Banana is one of the important fruit crops grown in almost in every state of India.Apart from fruit it generates huge quantity of biomass in form of pseudo stem, leaves etc. which can be converted into low cost papers. bDisposal of pseudo stem in routine ways like Dumping , Burning etc. can cause severe environmental issuses. The pulp obtained form the pseudo stem can be used instead of wood in paper production which reduces the consumption of wood.Pulp was extracted using sugarcane crusher. Later the pulp is produced in usable papers, cardboards. Inthisstudyoptimizationstudies were taken to convert waste into value-added product.
Keywords: *pseudo stem,sugarcane crusher,pulp.*

Introduction

The Basisc idea behind The project is " **Utilization Of Bio – Waste and its Conversion into Useful Products**" .The motive is to obtain conventional paper by using pulp from waste banana **pseudostem** and converting it into paper.

The pseudostem is the part of the banana plant that looks like a trunk. The True Stem is underground and it produces pseudostem above it .

Once pseudostem bears bananas , it is cut down from base because it will never bear fruits again and becomes a waste.

After some time a new pseudostem grows from true stem and cycle continues.

Banana Production

Banana is one of the important fruit crops grown almost in every state of india (7.1 lakh ha). Maharashtra – Kharif – June – July , Rabi – October – November Tamil Nadu : - February – April , November – December Kerala :- Rain Fed – April – May , August – September Apart from fruit , it generates huge quantity of biomass as waste in the form of pseudostem , leaves , etc, of these , on an average about 60 to 80 t/ha is pseudostem alone .

Benefits

- Pseudostem waste disposal problem and consequently the Environmental pollution issues can be saved .
- It will be a sourceof income for farmers.
- Wood consumption for paper production will be reduced.
- New industrial set ups of banana pseudostem processing will provides job opportunities.

Recent Studies

Bruno s Normberghave investigated A capacitive, conductive and methanol sensor composite have been prepared by a simple process of acid hydrolysis, using potential cellulose source extracted from a residue of banana stem. The material was hydrolyzed with sulphuric acid in the presence of

GREEN SYNTHESIS OF ZINC OXIDE NANOPARTICLES BY *MUSA SAPIENTUM* AND *PUNICA GRANATUM* PEELS AND THEIR ANTIBACTERIAL ACTIVITY

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Abstract

Recent advances in nanoscience and nanotechnology have also led to the development of novel nanomaterial's, which ultimately increase potential health and environmental hazards. The purpose is to minimize the negative impacts of synthetic procedures, their accompanying chemicals and derivative compounds. Biological resources such as bacteria, algae fungi, plants and fruit waste have been used for the production of low-cost, energy- efficient, and nontoxic environmentally friendly metallic nanoparticles. This report provides an overview of various reports of green synthesized zinc oxide (ZnO) nanoparticles (NPs) and highlights their substantial applications in environmental pollution control. In this report, aqueous phase green synthesis of zinc oxide nanoparticle utilizing Musa sapientum and Punica granatum is elucidated. The phytoconstituents of the Musa sapientum and Punica granatum peel extract serve a dual role as reducing and capping agent during the fabrication of zinc oxide nanoparticles. The role of the peel extract in the synthesis of zinc oxide has been briefly demonstrated in this work. The zinc oxide particles were characterized using X-ray diffraction and Antibacterial activity. None the less, X-ray diffraction pattern reveals the mixed phase nature of the ensuing zinc oxide, with and magnetic and super paramagnetic properties. The spherical oxide particles have an average diameter of 67 nm as determined from scanning electron microscopy.

Keywords: *Musa sapientum, Punica granatum, green synthesis, Zinc oxide nanoparticles, XRD, Antibacterial activity.*

Introduction

There are several interesting examples in nature where nanostructures are present and have important functions. In recent years, there is much growing concern towards the ecofriendly production of nanoparticles because of their novelty that make them feasible for various potential applications in different areas of science and technology (Borase et al. 2014). The outstanding progress of nanoscience and technology is the part and parcel of advancement in measurement systems, method and instruments. The recent trend of increased interest from bulk to nanotechnologies raises a number of new explicit problems due to the small dimensions and structures which needs to be addressed and explored in this area. Particularly, in nanotechnology the hypothesis applies: "If you can't measure it accurately, you can't construct it and reproduce it in number of

KINETIC STUDIES ON PHOTOCATALYTIC DEGRADATION OF SYNTHETIC DYES USING ZnO PHOTOCATALYST

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Abstract

Due to the increase in the growth of industries causes the land, air,water pollution. Currently, with the availability of limited resources of water, water pollution is one of the major environmental issues.The various carcinogenic pollutants such as dyes, pharmaceuticals waste, agrochemicals and industrial chemicals made the water unfit for consumption. Amon Every year about 30 million tons of textiles are manufactured worldwide and these textiles require about 700,000 tons of different varieties of dyes. Among different hazardous dyes Methyl Orange, Rhodamine B (RhB) and Methylene Blue (MB) are being used widely for colouring of silk, wool, cotton, nylon etc. Photocatalytic degradation of dyes using ZnO as a catalyst has been extensively researched in recent years due to its potential as an eco-friendly and sustainable method for wastewater treatment. This process involves the use of UV light to activate ZnO nanoparticles, which then generate reactive oxygen species that oxidize and break down the dye molecules. The effectiveness of this process depends on several factors, such as the properties of the dye, the characteristics of the ZnO catalyst, and the reaction conditions. This abstract provides an overview of the photocatalytic degradation of dyes using ZnO, including the underlying mechanism, the factors affecting the reaction, and recent advances in the field. Additionally, it highlights the potential of this method for industrial applications and its impact on the environment.

Keywords: *ZnO,Photocatalyst,Dye degradation*

Introduction

Photocatalytic degradation of dyes using ZnO photocatalyst is a promising approach for the treatment of wastewater containing organic pollutants. Dyes are widely used in various industries, such as textile, paper, and food, but their discharge into the environment can cause serious environmental problems, including the pollution of water bodies and harm to aquatic life.ZnO photocatalyst has attracted considerable attention due to its unique properties, such as high photocatalytic activity, chemical stability, low toxicity, and low cost. When ZnO photocatalyst is irradiated with UV light, it generates electron-hole pairs, which can react with water and oxygen in the environment to form reactive oxygen species (ROS). These ROS can oxidize and decompose organic pollutants, including dyes, into harmless products, such as water and carbon dioxide.In recent years, many studies have been conducted to optimize the photocatalytic degradation of dyes using ZnO photocatalyst, including the optimization of the ZnO synthesis method, the characterization of ZnO structure and properties, and the investigation of the effect of various parameters, such as pH, dye concentration, and irradiation intensity. This approach has shown great potential for the treatment of wastewater containing dyes, and it could be an effective and sustainable solution for environmental protection.

Photocatalytic dye degradation is a complex process that involves various factors. Some of the key factors that can affect the photocatalytic dye degradation are:type of Photocatalyst: The type of photocatalyst used in the degradation process plays a significant role in the degradation efficiency. Common photocatalysts used for dye degradation include titanium dioxide (TiO2), zinc oxide (ZnO),

TREATMENTOFTANNERY EFFLUENT BY PHOTO-ELECTROCHEMICALCATALYSIS – A REVIEW

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Abstract

This review will mainly focus on to remove chromium from tannery effluents. This study is carried out in order to evaluate the Photoelectrochemical catalysis treatment of tannery effluents for the removal of chromium from tannery effluents. The Photoelectrochemical oxidation were applied in these effluents. The tannery wastewater with chromium is one of the important source of pollutants, Photoelectrochemical process is the best removal efficiency process among the other oxidation processes, whereas for chromium, photo catalytic oxidation process using TiO_2 catalyst in the presence of UV Light. This catalyst increases the efficiency of this process when compared with other methods. This integrated combined process is a eco-friendly approach that could meet the stringent requirements for sustainable environmental remediation. After the process, the samples are tested for Biochemical Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Total Dissolved Solid (TDS) and Atomic Absorption Spectroscopy (ASS). As an end, the fabrication of novel photo catalysts with unique electrochemical properties and high catalytic efficiency need importance and adequate attention.

***Keywords**: Chromium, Photocatalyst, Tannery Effluent.*

Introduction

Surface and ground waters are vital to most people's everyday lives all throughout the world. Most industrial effluents in poor countries are discharged directly into the environment without proper management and thus, posing a risk of surface and ground water pollution. So we have to treat the water after its usage in industry. From tannery industry wastewater, we seen more amount of chromium released with the water. This heavy metal may cause serious issues to the environment and people who use that water.

The efficient treatment is not established in order to obtain water in good quality, that it could be reused in the same process. This study was carried out in order to evaluate the photoelectrochemical treatment of tannery effluents. The obtained results indicated a remarkable removal efficiency of more than 98.5% for all ion species present in effluents.Because of the synergistic effects of coupled photochemical and electrolysis reactions, photo-electrochemical approaches are emerging as attractive possibilities among other advanced oxidation processes, resulting in improved treatment efficiency.

Electrochemical processing effectively eliminates nitrogen, phosphorus, chromium, arsenic, and other heavy hazardous metals from raw tannery effluent, but there is a hurdle to applying this method in raw tannery effluent. Electrochemical technology, on the other hand, can be used advantageously in the post-treatment or final finishing stage. The removal efficiency of electrochemical processes is

PRODUCTION OF HYDROGEN GAS BY PHOTO-CATALYTIC METHOD

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Abstract

Hydrogen is widely considered to be the future fuel and energy carrier with numerous applications. During combustion, it produces only water vapor instead of greenhouse gas emissions. Photocatalytic production of hydrogen as a clean fuel from seawater arises as a necessary option that must be considered. The purpose of the present work was to study the efficiency of a TiO_2 photocatalyst for simultaneous hydrogen production from aqueous solutions, under direct solar irradiation, and at pilot-plant scale. In addition, the effect of salt concentration and ionic strength was checked. The TiO_2 catalyst showed remarkable activity towards hydrogen production. The dissolved organic carbon (DOC) concentration showed a positive influence towards the hydrogen production, while the ionic strength showed a clear negative effect. Here, we report the performance of added TiO_2 for hydrogen production from diluted sulfuric water. In addition, a trapezoidal photocatalytic reactor was designed and fabricated in acrylic glass material with a capacity of 4 liters. The photocatalytic hydrogen production was performed using a novel trapezoidal photocatalytic reactor. The feasibility studies were conducted to optimize the operating variables, viz., water concentrations, catalyst amount, light irradiation, and volume of wastewater.

Keywords: *Hydrogen, Sulfuric acid , Trapezoidal reactor, TiO_2 , Solar light.*

Introduction

As society moves towards cleaner and more sustainable forms of energy, hydrogen is increasingly being recognized as a versatile fuel source for powering a variety of applications, from non-polluting vehicles and domestic heating to aircraft.,[1] The abundance of water and sunlight provides an affordable alternative source for hydrogen production that can complement traditional methods using fossil fuels and biomass.[2] Photo-catalytic hydrogen production, which converts solar energy into chemical energy through a suitable photo-catalyst, is one such alternative method that shows great promise. In addition, the photocatalytic process offers a suitable means of recovering hydrogen from sulphide wastewater, providing both economic and environmental benefits. Notably, hydrogen gas is a key ingredient in the synthesis of ammonia, which has numerous applications in agriculture and industry.

In a previous research study, Dengwei Jing et al [3] focused on establishing a photoreactor with effective solar light utilization and a visible light active photocatalyst. Titanium dioxide (TiO_2) was chosen as the optimal photocatalyst due to its excellent electronic properties, high chemical stability, low cost compared to cadmium sulfide, non-toxicity, and eco-friendliness., [4]To remove any gases present in the wastewater, thermal degassing was conducted.

Our recent study has demonstrated a breakthrough in hydrogen production, achieving a maximum output of 300 mL/h from 1 L of synthetic sulphuric wastewater using a novel Trapezoidal Photoreactor and activated titanium dioxide (TiO_2) catalyst under direct solar irradiation. This achievement represents the highest reported rate of hydrogen production from this type of wastewater

EXTRACTION OF WATERMELON SEED OIL USING SOXHLET APPARATUS

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Abstract

Watermelon (Citrullus lanatus) seed oil is edible oil and used for many healthful needs such as absorbing and skin care products. Watermelon (Citrullus lanatus) is a flowering plant species of the family Cucurbitaceae and of its edible fruit. Mostly watermelon seed is discarded after eating these seeds were not used properly. These seeds contain nutrients like protein, essential fatty acids, vitamins and minerals. Researchers has found the high nutrient content and its health care application of watermelon seeds and used it in day to day life. The water melon seed oil is highly antioxidants and prevent in premature aging. The physic-chemical properties of watermelon seed oil show that Specific Gravity-0.93, Density (g/cm^3)-1.4, Kinematic Viscosity-1 (mm^2/sec), Free Fatty Acid (mg/g)-5.02, Saponification value (mg/g)-191.6, Oil Yield (%)-40 Moisture Content (%)-3 Acid Value (mg KOH/Kg), Iodine Value-($gI_2/100g$) -156.8. In this present studies watermelon seed extraction were carried out using Soxhlet extractor with solvent hexane. Optimization studies were carried out to extract maximum yield of oil from watermelon seed by varying solvent ratio and feed weight.

Keywords: *Watermelon seed, Soxhlet extractor, Solvent Extraction, oil yield.*

Introduction

Watermelon (Citrullus lanatus) is a fruit plant of family Cucurbitaceae and contains 92% water and 6% sugar. The fruits outer rind is usually of green and the interior part consists of red pink flesh with brown-black seeds embedded in it. Watermelon is mostly grown in the tropical region with more 25^0 C. The nutrient contents of watermelon seeds consist of protein, vitamin B, mineral (Zinc, Magnesium, Sodium, Phosphorus, Potassium, Iron, Copper and Manganese) and fat content. There are many varieties of watermelon including the sugar baby, sangria, starbrite and many more. Most commercial watermelon seed production ia located in arid or semi-arid areas of the world such as western China, Chile, Mexico, Thailand and the United States. According to USDA Food Data Central, 1 oz or 23.35 g of watermelon seed contains 158 kcal, 8 g protein, 13.4 g fat, 4.34 g carbohydrates, 15,3 mg calcium, 2.06 mg iron, 146 mg magnesium, 214 mg phosphorous, 184 mg potassium, 2.9 mg zinc, 16.4 mcg folate. Watermelon oil has high antioxidant, such as lycopene and helps to prevent premature aging, since it can act as a humectants or moisturizer to the skin. Recent studies show that the oil has been widely used for antiseptic, antitumor, demulcent, diuretic, emollient, febrifuge, hypotensive, moisturize, purgative, and anthelmintic oil. Watermelon seeds are full of proteins, iron, magnesium, zinc and copper which are known to improve the quality of your hairs. These seeds help in strengthening your hair and promote hair growth. Magnesium in the seed help to prevent hair fall and damage. Watermelon seeds are packed with iron and minerals which enhance immune functions. These seeds also contain vitamin B complex also helps in this regard. Watermelon seeds are rich source of vitamin B which helps to keep brain and nervous system healthy. It is also useful in mood disorder, dementia and boost the immunity system. Watermelon seed can prevent bone disorder like osteoporosis as they are rich in magnesium, copper and potassium.

The most common oil extraction process is mechanical pressing, solvent extraction, supercritical CO_2 extraction, aqueous extraction process and enzyme-assisted aqueous extraction process. In food

STUDIES ON EFFECT OF RESISTANCE TIME, CATALYST DOSAGE AND PHOTON FLUX DENSITY IN THE RATE OF REACTION

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Abstract

In the study is TiO_2 was used as the photocatalyst. the TiO_2 has been extensively investigated for the photo catalytic purification of water. It was clearly demonstrated that the adsorption dynamics of substrates and intermediates, the electronic interaction between TiO_2 and adsorbates, and the band structure and morphology of TiO_2 nanomaterials are crucial factors for establishing efficient photocatalytic reaction systems. This review encompasses several advancements made in these aspects, and also some of the new physical insights related to the charge transfer events like charge carrier generation, trapping, DE trapping, and their transfer to surface are discussed for each strategy of the modified TiO_2 to support the conclusions derived. The synergistic effects in the mixed polymorphs of titania and also the theories proposed for their enhanced activity are reported.

Introduction

Semiconductor nanostructure materials with superior physicochemical and optical properties are being employed for potential uses in diverse applications. The semiconductor acts as a photocatalyst for the light-induced photochemical reactions because of its unique electronic structure characterized by a filled valence band (VB) and an empty conduction band (CB). The prerequisite for an efficient photocatalyst is that the redox potential for the evolution of hydrogen and oxygen from water and for the formation of reactive oxygenated species (hydrogen peroxide, hydroxyl, and superoxide radicals) should lie within the band gap of the semiconductor. Since the photocatalytic reaction proceeds in an air-saturated and water-rich environment, the stability of the chosen photocatalyst is vital under these conditions. TiO_2 In 1972, Fujishima and Honda achieved UV light induced water cleavage using a TiO_2 photoanode in combination with a Pt counter electrode immersed in an aqueous electrolytic solution.1 Since then, TiO2 photocatalysis has attracted significant attention because of its promising applications in wastewater purification as well as solar energy conversion.210 The excitation of TiO_2 by photons with light energy greater than the band gap is the primary process underlying its vast area of photochemistry and photo electrochemistry. TiO_2 is used mainly due to its nontoxicity, water insolubility, hydrophilicity, cheap availability, stability and against photo corrosion and for its suitable flat band potential (Vfb) that can induce the desired redox reactions without biased potential. Furthermore, TiO_2 can be supported on various substrates such as glass, fibers, stainless steel, inorganic materials, sand, and activated carbon which allows its continuous reuse.Semiconductor nanostructure materials with superior physicochemical and optical properties are being employed for potential uses in diverse applications. The semiconductor acts as a photocatalyst for the light-induced photochemical reactions because of its unique electronic structure characterized by a filled valence band (VB) and an empty conduction band (CB). The prerequisite for an efficient photocatalyst is that the redox potential for the evolution of hydrogen and oxygen from water and for the formation of reactive oxygenated species (hydrogen peroxide, hydroxyl, and superoxide radicals) should lie within the band gap of the semiconductor. Since the photocatalytic reaction proceeds in an air-saturated and water-rich environment, the stability of the chosen photocatalyst is vital under these conditions. TiO_2

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Dr.Mr.Ms. S.Rajaswari of Paavai Engineering College has participated in the 4th National Conference on "RECENT ADVANCEMENTS IN CIVIL ENGINEERING - RACE'23" held on 15.04.2023 at Kongunadu College of Engineering and Technology [Autonomous],Trichy, Tamilnadu, India.

He/She also presented a paper entitled An Experimental Investigation on Concrete by using Glass Powder and Fly-ash as Partial Replacement for Cement

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Book of Abstracts of ICRIRCMS 2022
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EXPERIMENTAL INVESTIGATION ON HYBRID FIBRE REINFORCED SELF COMPACTING CONCRETE

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ABSTRACT

This project deals with properties of fresh and hardened self-compacting concrete reinforced with a combination of steel and sisal fibres as Hybrid fibre. Two percentages of sisal fibres (0.5%, 1%) are mixed with a uniform 0.4% and 0.8% of steel fibres. Flow properties, Compressive strength and Split tensile strength are evaluated at 7 days and 28 days for various specimens of self-compacting concrete. The experimental results concluded that the sisal fibres have a good capacity of using it as a reinforcement material along with steel for self-compacting concrete mix. In the flow passing experimental techniques like the Slump Flow, T500mm Slump Flow, V-Funnel Test, J-Ring Test, L-Box Test and T5mm V-Funnel Test, the concrete mix design with a lower fibre content of sisal fibres with steels proves to be beneficial for the workability of concrete. The experimental results was observed that high concentration of steel along with sisal fibres in self-compacting concrete improves the compressive strength of 28 days are 29.33, 30.22, 30.67, 31.11, 32 N/mm^2 and split tensile strength of 28 days are 3.74, 3.89, 3.96, 4.03, 4.17 N/mm^2.

Keywords: Flow properties, Compressive strength, Split tensile strength

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This is to certify that

Mrs.K.SUDHA DEVI AP/CSE

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Presented a paper entitled

"Earlier Detection Of Parkinson's Disease From Brain Mri Image Using Deep Learning"

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DR.P.MUTHUSAMY, HOD

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"A CYBER SECURITY MODEL IN CLOUD COMPUTING ENVIRONMENT"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

Convener

Principal

Director - Admin

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International Conference on Adaptive Technologies for Sustainable Growth (Online Mode)

17th March 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

DR.P.MUTHUSAMY, HOD

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"DIGITAL FORENSICS (EVIDENCE HANDLING) USING AUTOPSY"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

Convener

Principal

Director - Admin

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17th March 2023

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This is to certify that

DR.P.MUTHUSAMY, HOD

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"IOT AND ENERGY MANAGEMENT"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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17th March 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

J.VELUMANI,ASP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"ANALYZING PASSWORD STRENGTH"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

Convener

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J.VELUMANI,ASP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"AUTONOMOUS DRIVING IN IMAGE PROCESSING"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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17th March 2023

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This is to certify that

J.VELUMANI,ASP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"A REVIEW ABOUT BLOCK CHAIN TECHNOLOGY"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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J.VELUMANI,ASP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"ETHICAL HACKING: IMPACTS ON SOCIETY"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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This is to certify that

R.LOGANATHAN,AP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"APPLICATION OF CLOUD COMPUTING IN BANKING AND E-COMMERCE AND RELATED SECURITY THREATS"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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This is to certify that

R.LOGANATHAN, AP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"PYTHON-BASED MALWARE ANALYSIS PIPELINE"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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R.LOGANATHAN,AP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"SURVEY OF SECURITY ATTACKS"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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This is to certify that

R.LOGANATHAN,AP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"DEPLOYMENT OF BLOCK CHAIN TECHNOLOGY IN SOFTWARE DEFINED NETWORKS"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

Convener

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17th March 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

R. RAJALAKSHMI,AP

PAAVAI ENGINEERING COLLEGE

Presented a paper entitled

"WEB APPLICATION PENETRATION TESTING"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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Loganathan R & SelvakumaraSamy S

have successfully presented the paper entitled

Blockchain Based Internet of Vehicles (IOV) Information Transmission Mechanisms

at the
International Conference on
Edge Computing and Applications (ICECAA 2022)
organized by Gnanamani College of Technology, Namakkal, Tamil Nadu, India
held on 13-15, October 2022.

Session Chair

Conference Chair
Dr. G. Ranganathan

Principal
Dr. T. K. Kannan

11th INTERNATIONAL CONFERENCE ON CONTEMPORARY ENGINEERING AND TECHNOLOGY 2023

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IN ASSOCIATION WITH

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Medavakkam - Mambakkam Main Road, Ponmar, Chennai - 600 127.

Certificate of Presentation

This is to certify that Mr/Mrs/Dr. **S.Suganya** .....

..... **Paavai Engineering College** ..... *has presented a paper titled*

A MULTI-OUTPUT DC TO DC CONVERTER FOR ELECTRIC CAR APPLICATION

.....

..... *in the "11th International*

Conference on Contemporary Engineering and Technology 2023" held on 1st & 2nd May 2023.

PRINCIPAL
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Dr.Akhatov Akmal Rustamovich	Dr. Christo Ananth	Dr. P. Aravinthan	Prof. A. Krishnamoorthy,	K.Janani,
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CERTIFICATE

This is to certify that

Prof. / Dr. / Mr. / Mrs. / Ms. ..... G. Balaji, HOD, EEE .....

of ..... Paavai Engineering College ..... participated / presented a research paper entitled"

..... Alerting Sensor device using in Transmission Line .....

.....

in the International Conference on Advances in Science, Humanities and Technology (ICASHT-2023) organized by the Department of Materials Physics, SIMATS School of Engineering, SIMATS, Thandalam, Chennai - 602 105, Tamil- Nadu, India. during 9th - 10th January 2023.

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This is to certify that

Prof. / Dr. / Mr. / Mrs. / Ms. Ramachandran . S. Department of EEE

of Paavai Engineering College participated / presented a research paper entitled" Analyses and performance of Static Compensated Voltage and Frequency modulator in the wind energy system using Solar PV Interface QZSI impedance Source Network

in the International Conference on Advances in Science, Humanities and Technology (ICASHT-2023) organized by the Department of Materials Physics, SIMATS School of Engineering, SIMATS, Thandalam, Chennai - 602 105, Tamil Nadu, India, during 9th - 10th January 2023.

Convener

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Dr. B. Ramesh

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(Ministry of Education Initiative)

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International Conference on Adaptive Technologies for Sustainable Growth (Online Mode)

17th March 2023

CERTIFICATE OF PARTICIPATION

This is to certify that

R.SATHEESHKUMAR

Paavai Engineering College

Presented a paper entitled

"Ant Colony Optimization Tuned Pid Controller For Load Frequency Control In Nuclear Power System"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

Convener

Principal

PRINCIPAL
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Coimbatore - 641032

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Accredited with 'A' Grade by NAAC & Accredited by NBA)

DEPARTMENT OF MECHANICAL ENGINEERING
&
Indian Society for Technical Education

This is to certify that ~~Mr~~/~~Ms~~/Dr ARULKUMAR.C
of Paavai Engineering College has presented the technical paper entitled Automated Shopping Cart
in the **ISTE** sponsored two days National Level Conference on **"Emerging Trends in Engineering Science & Technology "ETEST-23"** during 19th – 20th April 2023

Prof.M.Viswanath
Co-ordinator

PRINCIPAL
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Dr.K.M.Arunraja
Organizing Secretary

Hindusthan Institute of Technology
Department of Mechanical Engineering

Dr.S.R.RajaBalayanan
Convener & Head

BANNARI AMMAN INSTITUTE OF TECHNOLOGY
Stay Ahead

Certificate of Participation

DEIVAMANI G

has presented a paper on topic ..... CHARGING CONTROLLER FOR HYBRID SCOOTER .....

.....in 2nd International Conference on Advancements in Automotive Technology (ICAAT) 2023 conducted by the department of Automobile Engineering at Bannari Amman Institute of Technology held on 5th & 6th April 2023.

Dr M BharathiRaja
HOD - Automobile Engineering

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Dr C Palanisamy
Principal

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Rasipuram - 637 408. Namakkal Dt., Tamilnadu, India.

ICETS'23

CERTIFICATE OF PARTICIPATION

This is to Certify that

G.Umamaheswari

Paavai Engineering College, Namakkal

has presented a paper titled

Design and Analysis of BFOA-Optimized Fuzzy PI/PID Controller for AGC of Multi-Area Traditional/Restructured Electrical Power Systems

in

7th INTERNATIONAL CONFERENCE ON ENGINEERING, TECHNOLOGY AND SCIENCE

at Muthayammal College of Engineering, Rasipuram, Namakkal Dt., Tamilnadu

on 31th March 2023

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Rasipuram - 637 408. Namakkal Dt., Tamilnadu, India.

ICETS'23

CERTIFICATE OF PARTICIPATION

This is to Certify that

R.Satheeshkumar

Paavai Engineering College, Namakkal

has presented a paper titled

Design and Analysis of BFOA-Optimized Fuzzy PI/PID Controller for AGC of Multi-Area Traditional/Restructured Electrical Power Systems

in

7th INTERNATIONAL CONFERENCE ON ENGINEERING, TECHNOLOGY AND SCIENCE

at Muthayammal College of Engineering, Rasipuram, Namakkal Dt., Tamilnadu

on 31st March 2023

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CERTIFICATE

This is to certify that

Prof. / Dr. / Mr. / Mrs. / Ms. ....V. Kumara Krishnan, Assistant Professor, EEE

of.....Paavai Engineering College..... participated / presented a research paper entitled"

.....Diverting of birds around Transmission Lines.....

.....

in the International Conference on Advances in Science, Humanities and Technology (ICASHT-2023) organized by the Department of Materials Physics, SIMATS School of Engineering, SIMATS, Thandalam, Chennai - 602 105, Tamil- Nadu, India. during 9th - 10th January 2023.

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CERTIFICATE

This is to certify that

Prof. / Dr. / Mr. / Mrs. / Ms. Balaji G., Department of EEE

of Paavai Engineering College participated / presented a research paper entitled"

Effective Evaluation Technique For using photovoltaic System based on a Fly back Converter to improve Power Quality

in the International Conference on Advances in Science, Humanities and Technology (ICASHT-2023) organized by the Department of Materials Physics, SIMATS School of Engineering, SIMATS, Thandalam, Chennai - 602 105, Tamil Nadu, India. during 9th - 10th January 2023.

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International Conference on Data Analytics and Insights 2023

TECHNO INDIA GROUP

Certificate of Paper Presenter

This Acknowledges that

SATHEESHKUMAR R

has been a paper presenter in the **International Conference on Data Analytics and Insights (ICDAI 2023)** organized by **Techno International New Town** from 11th- 13th May 2023

Dr. Papiya Debnath
General Co-chair, ICDAI 2023
Associate Professor, BSH (Mathematics)
Techno International New Town

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Dr. R. T. Goswami
General Chair, ICDAI 2023
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CERTIFICATE

This is to certify that

Prof. / Dr. / Mr. / Mrs. / Ms. Uma Maheshwari G., Department of EEE

of Paavai Engineering College participated / presented a research paper entitled" Frequency Stability Analysis Of Thermal Power System With different Steam Configurations

in the International Conference on Advances in Science, Humanities and Technology (ICASHT-2023) organized by the Department of Materials Physics, SIMATS School of Engineering, SIMATS, Thandalam, Chennai - 602 105, Tamil Nadu, India. during 9th - 10th January 2023.

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ICETS'23

CERTIFICATE OF PARTICIPATION

This is to Certify that

M.Raja

Paavai Engineering College, Namakkal

has presented a paper titled

Hybrid Based Climatology Lab for Airports

in

7th INTERNATIONAL CONFERENCE ON ENGINEERING, TECHNOLOGY AND SCIENCE

at Muthayammal College of Engineering, Rasipuram, Namakkal Dt., Tamilnadu

on 31th March 2023

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This is to Certify that

R.Muthukumar

Paavai Engineering College, Namakkal

has presented a paper titled

Hybrid Based Climatology Lab for Airports

in

7th INTERNATIONAL CONFERENCE ON ENGINEERING, TECHNOLOGY AND SCIENCE

at Muthayammal College of Engineering, Rasipuram, Namakkal Dt., Tamilnadu

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Recent Innovations in Engineering and Technology

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CERTIFICATE OF PRESENTATION

This certificate is proudly Presented to

Mr./~~Ms./Dr.~~ BALAJI. G., Dept of EEE., Paavai Engineering college, Namakkal DT;

for presenting paper entitled,

INTEGRATION OF LARGE-SCALE RENEWABLE ENERGY SOURCES INTO A LOW-INERTIA POWER GRID WITH A SINGLE SYNCHRONOUS CONTROLLER

in the 4th International Conference on **Recent Innovations in Engineering and Technology** (ICRIET 2023) held on 5th & 6th April 2023.

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Certificate of Participation

This certificate is presented to Dr.S.Ramachandran of PAAVAI ENGINEERING COLLEGE Paper ID: RESET 2023126 for presenting the paper entitled "Intelligent energy-based smart street light with wireless technology" in the International Conference on Renewable and Sustainable Energy Technologies (RESET - 2023) organized by the Department of Electrical and Electronics Engineering, during 22 -23 March 2023.

RESET2023

Organizing Secretaries

Dr.K.T Maheswari Mr.S.Sathishkumar

Assistant Professor Level III,EEE

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Dr.P.Sivaraman

Professor/Head,EEE

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(ICRTE-22)

7th - 8th October-2022

CERTIFICATE OF PRESENTATION

This is to certify that Dr./Mr./Ms. Boopathi D from Paavai Engineering College, Tamilnadu has presented a paper titled Investigation of a Microgrid Power System for frequency regulation by implementing Ant Colony Optimization Technique optimized Secondary Controller in the Second International Conference on Renewable Technologies in Engineering (ICRTE-22) organized by Manav Rachna International Institute of Research and Studies, Faridabad on 7th and 8th October 2022.

Dr. Anita Khosla
Conference Chair

Dr. Leena G.
HOD, EEE

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Dr. Pardeep Kumar
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(ICRTE-22)

7th - 8th October-2022

CERTIFICATE OF PRESENTATION

This is to certify that Dr./Mr./Ms. Jagatheesan K from Paavai Engineering College, Tamilnadu has presented a paper titled Investigation of a Microgrid Power System for frequency regulation by implementing Ant Colony Optimization Technique optimized Secondary Controller in the Second International Conference on Renewable Technologies in Engineering (ICRTE-22) organized by Manav Rachna International Institute of Research and Studies, Faridabad on 7th and 8th October 2022.

Dr. Anita Khosla	Dr. Leena G.	Dr. Pardeep Kumar
Conference Chair	HOD, EEE	General Chair

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(ICRTE-22)

7th - 8th October-2022

CERTIFICATE OF PRESENTATION

This is to certify that Dr./Mr./Ms. Satheeshkumar R from Paavai Engineering College, Tamilnadu has presented a paper titled Investigation of a Microgrid Power System for frequency regulation by implementing Ant Colony Optimization Technique optimized Secondary Controller in the Second International Conference on Renewable Technologies in Engineering (ICRTE-22) organized by Manav Rachna International Institute of Research and Studies, Faridabad on 7th and 8th October 2022.

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Dr. Anita Khosla	Dr. Leena G.	Dr. Pardeep Kumar
Conference Chair	HOD, EEE	General Chair

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at Muthayammal College of Engineering, Rasipuram, Namakkal Dt., Tamilnadu

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DAIRY FREE MILK WITH ITS NUTRITIONAL PROPERTIES – A REVIEW

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Abstract

Incurrent scenario, plant-based milk and milk products are preferred more than the regular milk. As most of the peoples are intolerant and allergic towards lactose and veganism is trending among people nowadays, thus after a series review of various paper, this paper provides the insight of dairy free milk in its nutritional perception.

***Keywords**: Plant based milk, lactose intolerance, Nutritional properties, Health benefits.*

Introduction

Nowadays, the population is gradually increasing where the dairy products are either insufficient for consumer or allergy to the consumer and to introduce or produce a new product to the consumer which is rich in nutrient content. Dairy free milk is mostly consumed by vegans, lactose allergy people, calorie concern, lactose intolerance (beta-galactosidase) and some people want to try it for their nutrient content. These products category currently has a wide and growing health appeal to consumers Functionally in this kind of alternative milks, it is mainly for their nutrient contents like to boost energy, fight ageing, fatigue, stress, specific diseases and these sector will expand further While the lactose-free milk undergone to isocratic elution condition for the determination of lactose by any chance

DEVELOPMENT OF PLANT BASED PACKAGING FROM JUNGLE GERANIUM

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Abstract

Packaging is the technology of enclosing and containing goods for usage, distribution, preservation, storage, and other purposes. Less than 10% of the nearly 2.01 billion tonnes of packaging garbage produced worldwide in 2021 was recycled. By 2020–2021, India produced 9.46 million tonnes of plastic garbage, of which 60% was supposedly recycled and remaining 40% is still uncollected. Zero waste packaging is increasingly highly sought after due to the rising need for safety and environmental awareness. One type of packaging that falls under the category of "smart packaging" is edible packaging. It typically consists of natural, sustainable, biodegradable plant- or animal-based materials applied as a consumable wrapping around the food that can be consumed on-the-go without the need for waste collection, processing, recycling, or disposal. The main objective of this project is to develop an edible packaging material with therapeutic benefits by incorporating Jungle geranium a flowering shrub belongs to the family ***Rubiaceae****. It possesses antioxidative, antibacterial, gastro protective, hepato protective, antimutagenic, chemo preventive effects. An infusion of the leaves or flowers is administrated to treat dysentery, tuberculosis, fever, headache and colic.Jungle geranium serves as a natural pH indicator since it is a good source of anthocyanin. It is also referred as the saffron. The study aims at the development of plant-based packaging material from jungle geranium.*

Keywords *- Jungle geranium,Plant based packaging, Edible packaging, Smart packaging*.

Introduction

Packaging is the technology of enclosing the product for protection, preservation containment and handling. Efficient packaging ensures the nutriments are free from contaminants and remains up to date from warehouse to plate. However, overtime, packaging materials took over the role of silent salesman in order to promoting the brands.

Types of Packaging Materials

When it comes to choosing the most optimal packaging material for your product, one must consider the nature of the food, its uses and mode of transport. There are three packaging options for your product.

Rigid Packaging

This is any type of hard packaging such as glass, wood, hard plastic or metal. They are reusable, recyclable available in different shape and sizes. The shape of the material can’t be altered once its developed.

A REVIEW ON DAIRY FREE MILK WITH ITS PHYSICO-CHEMICAL PROPERTIES.

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Abstract

In terms of Physico - chemical properties of milk, water is the continuous phase in which other constituents are dissolved or suspended. Protein and minerals are found as colloidal suspension, where the milk is amphoteric to litmus paper that turns red litmus to blue. The physico - chemical properties includes certain parameters like pH, density, colour, flavour, freezing and boiling point. These parameters are very essential to verify its quality and purity. The understanding of these properties is important in analysis and determination of the micro - structure and the elucidation of complex reaction in dairy- free milk. In this review,the properties used to determine and identify the quality of milk were discussed.

Keywords: *Colloidal suspension, amphoteric, Amphoteric, pH, colour,flavor, Quality, technology, elucidation***.**

Introduction

In the modern days, the major requirement is alternatives tocow milk for people having lactose intolerance, calorie concern and prevalence of hypercholesterolemia. Hence, there is a great scope to explore plant-based alternatives for the preparation of milk and other related dairy products. All plant-based milks are preferred over cow's milk by consumers who are lactose intolerant or are allergic to milk proteins because of their common benefits of being lactose free, cholesterol free and low in calories and some of them are vegans who aren't consume the milk and its products from all animals. Plant-based milk alternatives are fluids that results from breakdown (size reduction) of plant material (cereals, pseudo-cereals, legumes oilseeds, nuts) extracted with water and further process of such fluids, results in particle size distribution in range of 5 –20 micrometer which imitates cow's milk in appearance and consistency.

PAPER PRODUCTION FROM POULTRY FEATHERS

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Abstract

In worldwide, the poultry industry generates large amounts of feathers as by-products which is about 4 billion for annually. The feathers contain protein like keratin and amino acids like cystine, arginine,Phenylalanine and glycine and small amount of lipids. Waste poultry feathers are processed into Valuable products like fertilizer, the remaining waste are disposed as landfills which takes 5 to 7 years for complete degradation because of its high protein content. In this study, the poultry feather will be converted to Valorized Products like feathers to paper for packaging and also for other purpose. The paper is very brittle or fragile, this study is aim to use the banana Peel as a Supporting material for production of paper where the banana peel is also a by-product which is used as a food for cattle which is also for the Paper produced from by-products are eco-friendly and biodegradable.

Keywords: *Poultry feathers, Banana peel, Supporting material, Packaging material, Biodegradable*.

Introduction

Indian Paper

Traditional Indian paper was made mainly from the recycling of paper or waste textiles, besides, directly from flax, jute, and other vegetable fibers.To overcome the non-compliant nature of such fibers and to reduce the time and effort required for beating, it became common practice to soak the collected materials for many days or weeks. Potassium hydroxide or roasted lime was added to the fibers during the retting treatment. The extended fermentation and hydrolysis, during whichthe wet cellulosic materials became hot, not only softened the materials but also resulted in some loss of yield and degradation of fibers strength. Hand papermaking became associated with Gandhi's efforts to encourage India's local craft traditions like the Swadeshi movement.

Selection of Poultry Feathers

Generally, poultry farm release by-products to the landfills which is responsible toresist the soil fertility by slow degradation. From some previous studies, it is observed that the feathers needed more than 7 years to degrade in soil because they are rich in protein content. Butabout 4 billion feathers are obtained annually as a by-product. Feather fiber has properties in common with cellulose, the starch that forms wood and paper. Feathers are keratin just like wool but the surface area is much larger because the diameter is smaller. The crystal structure of feathers also makes them naturally stable and durable.

REVIEW ON FOOD PRESERVATIVES AND ITS TYPES

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Abstract

The food that we consume often gets deteriorated due to the undesirable changes in sensory attributes of food (visual, flavor, taste and olfactory) which can be simply termed as food spoilage. Food shortages, nutritional deficiencies and numerous economic losses are just some of the massive modifications brought on to the world by food spoilage. According to a data from the FAO, 1.6 Gtonnes of food were wasted globally in 2007. Using preservatives, the impact of this food spoilage can be effectively reduced. Preservatives are substances that can lessen, retard, delay or suppress the growth of micro-organisms that cause food spoilage. The main objective of the preservatives is to preserve and extend the shelf life of the food longer time without any modification in the quality attributes and in nutritional values. This paper first reviews the importance of using preservatives in food and their mode of action in foods. Secondly, the paper moves to explain the types of preservatives (natural and chemical preservatives) used in food. Finally, this paper moves on to the considerable levels to be incorporated in food and its drawbacks.

Keywords: *Food spoilage, preservatives, class I and II preservatives*

Introduction

Food is the group of edible substances that meet the needs of living beings byproviding energy, building, growth &development, regulation, and protection. It can besimply defined as an edible substance that fulfils our daily requirements of nutrition. Anything solid or liquid which when swallowed, digested, and assimilated in the body provides it with essential substances called nutrients. It is the necessity of life. Food supplies energy enables growth and repair of tissues and organs. It also protects the body from disease and regulates body functions. The various components of food include carbohydrates, proteins, fat, vitamins, minerals, fiberwhich is categorized into macro and micronutrients.

Table 1 List of macro and micronutrients in food

S.No	Macronutrients	Micronutrients
1.	Macronutrients are nutrients that are required in larger amounts for our body.	They are called micronutrients since they are needed by our body in small amounts.
2.	They contribute to bulk energy needed for the metabolic system.	Help in various functions of the body like growth & development, and in disease prevention.

PREPARATION OF VALOURIZED FOOD PRODUCT USING *ORYZA SATIVA* (POONGAR RICE) AND BANANA STEM POWDER

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Abstract

In Indian population, about 90% of them are expected to have anaemia and out of which 40% are pregnant women and 29.4% are at reproductive age and 20% are non-pregnant women. Even during pregnancy 'urinary tract infection' may also end up in kidney stone. Our project is to develop a bread using Poongar rice and Musa (banana) stem, which is rich in vitamin B12, and potassium respectively helps to cure the kidney stones and increases the haemoglobin level.The main insight of this project is to have a dietary food which can be consumed by all age people and reducing the risk factor of developing anaemic condition, Urinary Tract Infection (UTI) and enriching the development of womb during pregnancy time.

Keywords*: UTI, anaemia, Poongar rice, Banana Stem Powder*.

Introduction

Bread is a significant part of our diet, as it contains many essential vitamins and minerals like B group vitamins thiamine (B1) and niacin (B3), which are crucial for releasing energy from food and maintaining healthy skin, eyes, and nails. The healthiest types of bread are made from whole grains instead of refined white flour. Sprouted grain bread has a higher concentration of nutrients like iron compared to whole wheat bread. Whole grain sourdough bread is also a good option because of its relatively low glycemic index. However, bread is high in carbs and low in micronutrients, and its gluten and antinutrient contents may cause issues for some people. Nonetheless, it's often enriched with extra nutrients, and whole-grain or sprouted varieties may provide several health benefits. Bread can be enjoyed in moderation as part of a healthy diet.

To compensate for the high doses of simple carbohydrates in refined grains, we use two main ingredients in our bread: Poongar rice and banana stem. Poongar rice is rich in carbohydrates, iron, and vitamin B12, while banana stem is rich in fiber, potassium, and vitamin B6. These ingredients work together to increase the haemoglobin level in the body. So, our bread, which acts as a dietary compound, can also be considered a medicinal food compound that can be consumed by people of all ages.

Materials

A) Poongar Rice

We selected poongar rice for making rice bread because it has more health benefits compared to other types of rice. It is also an ancient and traditional rice that was commonly known as women's rice. We use powdered poongar rice in our bread by grinding and sieving it. We obtain the poongar rice from a local grocery store.

ENVIRONMENTAL AND HEALTH IMPACTS OF FOOD WASTE AND ITS TREATMENT METHODS

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Abstract

Food wastage and its accumulation are becoming a critical problem around the world due to continuous increase of world population. Both developed countries and developing countries are facing this issue. The exponential growth in food waste is imposing a serious threat to our society like environmental pollution, health risks and scarcity of dumping land. According to the report of FAO 2011a one third of the food produced for human consumption is wasted. Taking it into account, waste management system will become one of most important challenges of 21st century. So, it is necessary to treat them. A considerable amount of research has been carried out on food waste with a view recycling and composting. This review focuses on scenario of food waste, its effects, treatment and valorization of the food wastage

***Keywords**: Accumulation, Environmental pollution, Dumping land, Recycling and Composting.*

THE EXTRACTS OF BENINCASA HISPIDA TO CURE THE PEPTIC ULCERS-A REVIEW

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Abstract

Benincasahispida(commonly known as hairy melon, Ash gourd and winter melon) from the cucurbitaceous family. It was recommended in Ayurveda for its Nutritional and Medicinal properties of the fruits. It is used in many countries to cure the different diseases accordingly in their regions like India, Korea, China and other Asian countries were used. The fruit is rich In bioactive components and Therapeutical properties. The most important property known in the fruit (B.hispida) is anti- ulcerogenic for the ulcers especially for peptic ulcers. The other properties like anti- diabetic activity,anti- cardio protective, anti-diarrheal activity, anti-uretic activity and antioxidant. It also rich in nutrition's like amino acid, natural sugars, vitamins and minerals. The fresh fruit extract is used in making different food products like candies, juices, etc. Chronic toxicity studies carried out in the fruit revealed no deleterious effects on B.hispida.The seeds and peel waste of this Ash gourd is re-utilized This review focuses on the cultivation, nutritional and chemical composition, as well as medicinal and therapeutic properties of this fruit, as one of the potential sources of bioactive for functional food and nutraceutical applications.

Keywords *:Benincasahispida, anti-ulcerogenic, peptic ulcers, Therapeutical properties.*

PREPARATION OF SOAP USING SPIRULINA MAXIMA

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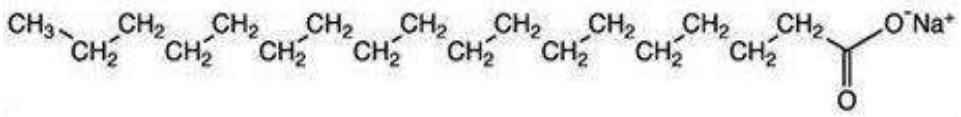
Abstract

Spirulina maxima are microscopic filamentous algae which is commonly known as Cyanobacteria contains numerous health benefits to human beings. It is used as a protein supplement due to its rich amount of protein of about 60% (50% - 70%). These proteins are not only useful to meet out the nutritional requirements of human but also has a wide application in cosmetics. Phycocyanin is a major protein which has immense pharmaceutical and cosmeceutical properties such as anti-aging, antioxidant, anti-acne, anti-wrinkle properties. Soaps are cosmetic products, which are used in our day-to- day life for bathing, hand washing etc. Nowadays, commercially available soaps exhibit lot of side effects over prolonged usage. It may lead to health hazards such as skin dryness, aging and wrinkling in young age. Soaps which exhibit no or less adverse effect is much needed nowadays. This study aims to prepare nature-based soap using Spirulina maxima which nourishes the skin and heal wrinkles. In this study, soaps were prepared using different oils such as coconut oil, castor oil, apricot oil and olive oil to analyze which oil suits the best for the preparation of soap. Other quality parameters for soap preparation are also examined such as moisture content, pH, dissolution time and total fatty matters (TFM).

Keywords: *Spirulina maxima, Cyanobacteria, Phycocyanin, anti-aging, antioxidant, anti-acne, anti-wrinkle*

Introduction

Soaps are salts of compounds known as fatty acids. Soap molecules have one long hydrocarbon chain with a carboxylic acid group at one end, usually in an ionic bond with a metal ion such as sodium or potassium. Hydrocarbon ends are non-polar and highly soluble in non-polar substances and ionic ends are water soluble. The structure of the soap molecule is represented below:



The fats and oils used to make soap combine with sodium hydroxide or lye in a process known as saponification. The fat is hydrolyzed by the lye, to fatty acids and glycerin. Today traditional soaps are often replaced with synthetic detergents or other surfactants. The fats and oils used to make soap are made up of triglycerides. Triglycerides are molecules containing three fatty acid molecules bonded together with one glycerin molecule. Lye is a main ingredient in soap, which is an alkaline or base.

There are two main types of lye: sodium hydroxide (NaOH or caustic soda) and potassium hydroxide (KOH or caustic potash). Sodium hydroxide is commonly used while making bar soaps. Potassium hydroxide makes soap softer and is sometimes used to make liquid soaps and shaving foams. The lye reacts with the triglycerides of the fat or oil molecules and the fatty acids are released from the glycerin and bind to the lye molecules. Both alkalis and acids are neutralized. The by-products of this reaction are salt (soap) and glycerin. Once the process is completed, there will be a ratio of approximately 3 soap molecules to every glycerin molecule. In other words, glycerol accounts for approximately 25% of the final product resulting from saponification.

DESIGNING OF DNA APTAMER AGAINST MPT64 IMMUNOGENIC TB PROTEIN: A RESPONSE ELEMENT BASED APPROACH

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Abstract

Virtual screening, a conventional in-silico approach to design a DNA aptamer against target proteins require huge DNA library. However, in the case of nuclear receptor proteins, screening can be narrowed down by using response element sequences rather than random DNA oligomer library. In this study, we used a novel method to design DNA aptamer against the MPT64 immunogenic TB protein. We started the screening of DNA aptamers (20 nucleotides long). Among the aptamers screened the most suitable aptamer is found by molecular docking. The designed DNA aptamer binds directly bind to the MPT64 immunogenic TB protein. Thus, this novel approach in-silico based screening of the response elements-based DNA aptamer against MPT64 protein will help to generate target- specific DNA aptamers with high affinity. It is possible to develop sensor for rapid detection of tuberculosis and our work will be preliminary for the same.

Keywords: *DNA Aptamer, Molecular docking, sensor, MPT64.*

Introduction

Tuberculosis is a one of the main cause for more number of mortality rate around the global. According to the World Health Organization (WHO), 2015 recorded the highest TB cases than in previous years. 9.6 million people were infected and 1.5 million people died of TB in 2014. It is a human disease caused by mycobacterium tuberculosis, first discovered by Robert Koch in 1882. *Mycobacterium Tuberculosis* has an unusual, waxy coating on its cell surface due to the presence of mycolic acid. It is highly acid-fast. TB first affects the lungs, and it is known as pulmonary tuberculosis. Later TB may spread to other organs like GI system, CNS, Musculoskeletal system, liver, etc. and this condition is known as extrapulmonary tuberculosis.

There are four main stages of tuberculosis. The exposure to the bacteria is the first stage of tuberculosis. Second stage of TB is latent, which is inactive form. Active disease is the third stage of the tuberculosis. The lung cavitation is the final most stage[1].

In generally tuberculosis will be classified into two types such as active TB and latent TB. The active tuberculosis has active bacteria, It has the ability to spread microorganism from one person to another. While latent tuberculosis that has inactive bacteria and it does not spread. It is the 13th leading cause of death and the second leading infectious killer after COVID-19. In 2021, around 10.6 million people fell ill with tuberculosis all over the world, and 1.6 million people died from TB. Unlike other bacteria this *Mycobacterium Tuberculosis* has a unique feature like presence of several lipid in the cell wall including mycolic acid, cord factor, wax-D. Presence of high lipid content has some advantage to the bacteria like resistance to several antibiotic, difficult to staining with gram stain and ability to survive under extreme condition such as high acidic or alkalinity, low oxygen and intercellular survival (within the macrophage).

GREEN SYNTHESIS OF SILVER NANOPARTICLES BY HYDROCOTYLE VERTICILLATA LEAVES EXTRACT

M. Sreenivas, A. Sabarinathan, A. Akash & S. Mukesh Kumar
Department of Pharmaceutical Technology, Paavai Engineering College Namakkal, India

M D S. Rajaruban
Department of Food Technology Paavai Engineering College Namakkal, India

Abstract

Green synthesis of silver nanoparticles (AgNPs) using plant extracts is a promising method that eliminates the use of toxic chemicals and is environmentally friendly. Hydrocotyle verticillata is a medicinal plant that is commonly used in traditional medicine. In this study, silver nanoparticles were synthesized using Hydrocotyle verticillata extract as a reducing agent. The synthesis of AgNPs was confirmed using UV-visible spectroscopy, which showed a peak at 296 nm. The morphology of the AgNPs was determined using Scanning electron microscopy, which showed that the nanoparticles were spherical in shape with an average size of 15 nm. Fourier transform infrared spectroscopy analysis indicated the presence of plant compounds, which could act as stabilizing agents. Overall, the results suggest that Hydrocotyle verticillata extract can be used as a potential source for the green synthesis of silver nanoparticles with potential applications in various fields, including medicine and biotechnology.

Keywords: *Silver Nanoparticles, Hydrocotyle verticillata Leaves, Characterization.*

Introduction

Green synthesis is a sustainable approach to the production of nanoparticles using natural materials and environmentally friendly methods. Hydrocotyle verticillata is a plant commonly found in wetlands and marshes that has been shown to have potential for use in the green synthesis of silver nanoparticles. Silver nanoparticles have a wide range of applications in fields such as medicine, electronics, and catalysis, but traditional methods of synthesis can be costly, time-consuming, and environmentally harmful. In contrast, green synthesis methods using plant extracts offer a more sustainable and cost-effective approach to nanoparticle production. Hydrocotyle verticillata contains various bioactive compounds that can act as reducing agents, stabilizers, and capping agents in the synthesis of silver nanoparticles. The use of this plant in nanoparticle synthesis offers a simple and eco-friendly alternative to traditional methods and has the potential to provide a new source of silver nanoparticles for various applications. Overall, the green synthesis of silver nanoparticles from Hydrocotyle verticillata offers a promising avenue for sustainable and efficient nanoparticle production.

Experimental

Silver nitrate (AgNO3) was obtained from Mercury Laboratory. All glassware has been washed with sterile distilled water and dried in an oven before use.

A. Preparation of Hydrocotyle verticillata leaves extract

Fig 1. Picture of Hydrocotyle verticillata

PRECISION MEDICINE IN ALZHEIMER'S DISEASE: UNIFYING GENOMICS AND BIOINFORMATICS

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M.Tech. Assistant professor
Pharmaceutical Technology Department
Paavai Engineering College
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Vaishnavi B
B.Tech-Pharmaceutical Technology,
Paavai Engineering College,
Namakkal, Tamilnadu, India

Vijayakumar V
B.Tech-Pharmaceutical Technology,
Paavai Engineering College,
Namakkal, Tamilnadu, India

Abstract

Alzheimer's disease (AD) is a neurological condition that affects millions of people around the world. Despite decades of research, the molecular mechanisms of Alzheimer's disease remain unknown. Recent advances in pharmacogenomics and bioinformatics have improved understanding of the genetic and environmental factors that contribute to

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Date:27-NOVEMBER-2022

TITLE: BATTERY MANAGEMENT SYSTEM IN E-VEHICLE USING IOT

AUTHORS: SATHYAA.B.B[1], MOHAMMED RIYAZ.A[2], PRAKASH.G[3], VENKATESAN.B[4]

ISBN-13: 979-8365796164

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in the National Conference on Innovation in Engineering and Technology (NCIET'2 organized by the Department of Information Technology held on 24th & 25th Novembe 2022.

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TITLE: "INDUSTRIAL CART AUTOMATION USING IOT AND AI"

ISBN-13: 978-81-953201-7-8

Dr. P.Balamuralikrishna
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TITLE:- EMERGENCY VEHICLE DETECTION IN HEAVY TRAFFIC USING DEEP CONNET2D AND CV"

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Date:27-NOVEMBER-2022::Google Meet: meet.google.com/ama-xvmh-xed

TITLE: VEHICLE ANTI THEFT SYSTEM USING FACE RECOGNITION

AUTHORS: DR. P.THIYAGARAJAN [1], SIVA.P[2], SNEHA.B[3], RAVEENA.M[4]

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TITLE: CROP DETECTION AND PRECAUTIONS MEASURES WITH CROPS SUGGESTIONS TO GROW IN THE LAND

AUTHORS: CHARULATHA RAMESH[1], MUKUNTHAN[2], MANO RANJANI[3], B. DEEPA[4]

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Organized by International Institute of Research in Multidisciplinary-Skill Development Trust, Chirala, Bapatla, Andhra Pradesh, India::Date: 26 - MARCH - 2023:: Google Meet

Paper Title: "A MUTIMODEL LOW- CODE CHATBOT DEVELOPMENT FRAMEWORK-XATKIT"

Author(s): B.Sneha, M.Raveena, P.Siva, Dr. P.Thiyagarajan

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Organized by National Institute of Computing, Majestic, Bangalore, Karnataka, India

DATE: 04-DECEMBER-2022:: GOOGLE MEET:: https://meet.google.com/nmn-ddsr-ffz?hs=224

Paper ID:: **NIC-ICAEWoT-2022-007**:: Presentation Schedule:: 10:31 Am - 10:40 Am

Paper Title: "TRAFFIC VIOLATION PREDICTION USING DEEP LEARNING BASED ON HELMETS WITH NUMBER PLATE RECOGNITION "

Author(s): MUGUNTHAN R, VENKATESH S, PARTHSARATHI T, M. SARANYA

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SRM Institute of Science and Technology, Kattankulathur-603 203, Tamil Nadu, India

Paper Title:Fake news detection using deep learning techniques

Author(s): S.L.Nivetha R.Swedha S.Yogalakshmi ,M.Pushpalatha

SBN NO:975-654-5447-20

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Organized by National Research Institute of Science and Engineering Technology, Hyderabad, India

Paper Title: "Abnormal event detection and person identification from surveillance cameras using motion vectors with deep learning "

Author(s): M Gokulakannan[1] ,R.S.Sridharan[2], S.karthick[3], S.L.Nivetha[4], M.Babylatha[5]

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St. Ann's College of Engineering & Technology - Chirala, Andhra Pradesh

Dates: 19 – FEBRUARY – 2023(Online) & 20 – FEBRUARY – 2023(Offline)

Google Meet: meet.google.com/rio-iexo-sxi

TITLE: A DECENTRALISED ESCROW PROTOCOL THAT FACILITATES SECURE P2P PAYMENTS BETWEEN TRUSTLESS PARTIES

AUTHORS: K JAYAGANESH, M KAILASH BALAJI, K VARUNPRASATH, Mrs. M SARANYA

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Authors: **Ezhumalai M, Anbarasan N, Kishore M, Mr B Venkatesan**

ISBN-13: 979-8-389-938-205

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Paper Title: Deep Learning Anti-Fraud Model for Internet Loan Prediction

Authors: Pradeep P, Alen A, King Dinakaran R K, Mrs S Subhashini

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Author(s): MITHRA M*, MONIKA K.E*, PAVITHRA V.M*, Dr.P.THIYAGARAJAN*

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Paper Title: Fir system using blockChain technology

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Author(s): MUGUNTHAN R [1] VENKATESH S [2], PARTHA SARATHI T [3], M.SARANAYA [4]

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International Research Institute of Multidisciplinary Engineering and Technology, Visakhapatnam

Paper Title: BEHAVIOR BASED FRAUD DETECTION IN ONLINE PAYMENT SERVICES

Authors: PAVEENA K, VIGNESH S, LOGESHWARAN S, Mrs. M PUSHPALATHA

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02-April-2023: (Google Meet: https://meet.google.com/bnu-acfx-yvt)

Organized by SHOBHIT UNIVERSITY - Gangoh, Uttar Pradesh

Paper Title: AN END-TO-END SYSTEM FOR REMOTE SENSING IMAGE DEHAZING BASED ON LOCAL EXTREMA CNN

Authors: Raghul Napoleon , Rishikeshwar S, Vigneshwaran P,Saranya M

ISBN-13: 979-8-389-938-205

Conference convener

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Title (Oral / Poster): ~~IMPACT~~ IMPACT OF REINFORCEMENT OF THE MECHANICAL PROPERTIES OF AN ALUMINIUM METAL MATRIX COMPOSITE MADE OF ALUMINIUM 7075.

Dr. P. MAADESWARAN	Dr. K. A. RAMESH KUMAR	Prof. Dr. R. BALAGURUNATHAN	Prof. Dr. R. JAGANNATHAN
Organizing Secretary	Convener	Registrar (FAC)	Vice Chancellor

A REVIEW STUDY ON THE BICYCLE WITH A SHAFT DRIVE

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Abstract

The traditional bicycle uses a chain drive to transfer energy from the pedal to the back wheel, and for it to function properly, it needs precise mounting and alignment. The smallest misalignment will cause the chain to drop. Therefore, the shaft drive system can be used to solve this issue. This project entails the design and construction of a bicycle with a shaft drive. Two spiral bevel gears are utilized on the pedal side of this project, and two straight bevel gears are utilized on the rear wheel side. Two gears are installed on the driving shaft, one on each end. The rear wheel end has a straight bevel pinion, while the pedal end has a spiral bevel pinion. The axis of the drive torque from the pedals can be rotated through 90 degrees thanks to the usage of bevel gears. In order to cancel out the first drive torque change of axis, the bevel gear at the rear end of the drive shaft then meshes with a bevel gear rear wheel hub where the rear flywheel unit would be on a traditional bicycle. Coaster breaking system is fitted in this bicycle. For bicyclists of all ages, it is regarded as the safest and most natural transition. In this process, hitting the pedal upside down will stop the bicycle. Upon pedaling backward, the coaster brake hub stops a bike by pushing a brake shoe against the inside edge of the rotating hub. With the brake engaged, the rear hub can't rotate, which then stops the rear wheel of the bicycle.

1. Introduction

The shaft drive has been developed more recently and only few companies are manufacturing those types. The shaft drive uses a shaft instead of a chain to transmit power from the rider's legs to the wheels. Typically, gears are sealed inside a housing that is attached to the main shaft. The number of the shaft drive manufacturers is increasing and public interests are growing as well. It is slowly changing the bike industry. The engineer is constantly conformed to the challenges of bringing ideas and design into reality. New machines and techniques are being developed continuously to manufacture various products at cheaper rates and high quality. So, we are going to make a machine for cycle industry using bevel gear gives mechanical advantages and make it multipurpose. A shaft-driven bicycle is a bicycle that uses a drive shaft instead of a chain to transmit power from the pedals to the wheel. Shaft drives were introduced over a century ago, but were mostly supplanted by chain-driven bicycles due to the gear ranges possible with sprockets and derailleurs. Recently, due to advancements in internal gear technology, a small number of modern shaft-driven bicycles have been introduced.

Shaft-driven bikes have a large bevel gear where a conventional bike would have it chain ring. This meshes with another bevel gear mounted on the drive shaft. The use of bevel gears allows the axis of the drive torque from the pedals to be turned through 90 degrees. The drive shaft then has another bevel gear near the rear wheel hub which meshes with a bevel gear on the hub where the rear sprocket would be on a conventional bike, and canceling out the first drive torque change of axis.

The 90-degree change of the drive plane that occurs at the and again at the rear hub uses bevel gears for the most efficient performance, though other mechanisms could be used, e.g. Hobson's

DESIGN AND ANALYSIS OF LIQUID SUCTION HEAT EXCHANGER IN A VAPOUR COMPRESSION REFRIGERATION SYSTEM

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Abstract

Performance enhancement of the vapour compression refrigeration systems to gain better refrigerating effect and COP is the current need. This study investigates the effect of adding a liquid-suction heat exchanger on the performance of a vapour compression refrigeration system using R134a. In this application the liquid line is usually placed in contact with the suction line, forming a counter flow heat exchanger. The liquid line is welded to the suction line in the lateral configuration. The temperature of the vapour refrigerant coming out from the evaporator is less than the temperature of the liquid coming out from the condenser. Before the expansion process, heat is transferred from the liquid line to the suction line. As a consequence this in turn reduces the refrigerant quality at the inlet of the evaporator and therefore increases the refrigerating capacity. The LSHX is designed using SOLIDWORKS software for the VCR system and the design is based on the rate of sub-cooling and super-heating. Next to that an analysis is done using ANSYS WORKBENCH on the stream of ANSYS fluent simulation on LSHX to analyze the temperature distribution and velocity of fluid flow. The results revealed that the liquid- suction heat exchanger has a significant effect on the system performance as it influences the sub-cooling and super-heating temperatures. A theoretical analysis has been carried out on the effect of liquid suction heat exchanger on the cooling performance of VCR system. The main objective of this project is to evaluate the performance of modified system with liquid-suction heat exchanger and system without liquid-suction heat exchanger by using R134a and compare their performance improvement with the existing system.

Keywords*: *LSHX, R134a, ANSYS WORKBENCH, SOLIDWORKS, VCR system, performance improvement.

1. Introduction

Vapour compression Refrigeration system is an improved type of air refrigeration system. The ability of certain liquids to absorb enormous quantities of heat as they vaporize is the basis of this system.

1.1 Methods of Energy Saving in Refrigeration System

There are four methods of savings in the refrigeration systems are:

1. Liquid Suction Heat Exchanger (LSHX)

DESIGN AND FABRICATION OF CAM OPERATED RECIPROCATING VICE

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Abstract

This project deals with the design and fabrication of "CAM OPERAT ED RECIPROCATING VICE" which works in the principle or eccentric cam mechanism. The main features of the cam vice are promotes mass production, can hold irregular jobs, more rigidity, reduces fatigue. Cam was designed to hold the job at high pressure. The other parts were designed to hold the job in rigid condition. Cam vice is suitable for mass production. It is possible to hold irregular components also, and similar components can be very quickly.

Introduction

The project work subject is one, in which actually we are leaning the theoretical concepts in practical way. Also the practical Experience is one of the aims of this subject. For a developing industry these operating performed and the tool produced should have its minimum possible production cost, then only the industry runs profitably. There are a number of units having used in industries for various purposes.

A vise or vice (see American and British English spelling differences) is a mechanical screw apparatus used for holding or clamping a work piece to allow work to be performed on it with tools such as saws, planes, drills, mills, screwdrivers, sandpaper, *etc.* Vises usually have one fixed jaw and another, parallel, jaw which is moved towards or away from the fixed jaw by the screw.

Literature Survey

Without qualification, "vise" usually refers to a bench vise with flat, parallel jaws, attached to a work bench.

- A woodworker's bench vise is a more or less integral part of the bench.
- An engineer's bench vise is bolted onto the top of the bench.

Other kinds of vise include:

- hand vises (hand-held),
- Machine vises - drill vises (lie flat on a drill press bed). Vises of the same general form are used also on milling machines and grinding machines.
- Compound slide vises are more complex machine vises. They allow speed and precision in the placement of the work.
- Cross vises, which can be adjusted using lead screws in the X and Y axes; these are useful if many holes need to be drilled in the same workpiece using a drill press. Compare router table.

INVESTIGATION OF FACTORS INFLUENCING THE WEAR RESISTANCE OF AN AL-6061 MATERIAL COMPOSITE COATING MADE OF ALUMINA AND ZIRCONIA STABLE TITANIA

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Abstract

Aerospace and automobile silicon, offers better corrosion resistance, excellent castability, good machinability property and easy weldability. In different industries, materials exposed in high temperatures must be high resistant industries widely use Metal–matrix composites (MMCs) dueto their excellent properties, such as hardness, tensile strength, and wear resistance. Commonly usedmetallic matrices include Al, Mg, Ti, and their alloys. Generally, alloys are the preferred matrix materials for MMCs, due to possibilities to additional strengthening effects and flexible property design. For MMCs, fibers, whiskers, and particulates are commonly use das reinforcements. Amongst the alloy systems, Al6061 alloy is a popular choice as a matrix material, due to their high corrosion resistance and strength, which enables the material to be used in various structural applications, including automotive, construction and marine engineering The various properties of these alloys can be further enhanced by the addition of reinforcement materials, such as aluminum (6061) and Zirconium Dioxide (ZrO2) The main use of zirconia is in the production of hard ceramics, such as in dentistry, ZrO2 withother uses including as a protective coating on particles of titanium dioxide pigments, as a refractory material, in insulation, abrasives, and enamels. Among the ceramic reinforcements, has been the most widely investigated. (ZrO2) it is characterized by its high thermal resistivity, mechanical resistance, and abrasive properties, and high tolerance for electrical break down, high hardness, and high mechanical strength. Many researchers have reported enhanced mechanical and wear properties of Al6061 alloysreinforcedwith ZrO2.

1. Introduction

Aluminium alloys with a wide range of properties are used in engineering structures. Aluminium alloys are widely used in automotive engines, particularly in cylinder blocks, pistons and crankcases due to the weight savings that are possible. In this project, an attempt has been made to improve and assess the service life (durability) of pistons made of aluminium alloys coated with Alumina as thermal barrier coating (TBC) on the top surface of the piston. Aluminium alloys with to hostile environmental effects/corrosion and similarity if the component is under heavy load, it must be resistant to deformation. It is usually possible to select a material with suitable combination of properties. Composite materials, which can be produced using metallic matrix and fine ceramics particles, are recent being developed in order to protect the component in the elements of combustion chambers in diesel engine as they are subjected to high loading conditions, high temperatures and corrosion and erosion media.

One possibility to increase durability and performance of the materials for these application is to protect them by using the composite coatings having degree of wear resistance, such coating can be economically produced by co-depositing metallic matrix with fine and inert ceramic particles.

Aluminium alloys are widely used in engineering structures and components where light weight

DESIGN AND FABRICATION OF CAM OPERATED RECIPROCATING VICE

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DESIGN AND TESTING OF IMPROVING FOOT CONTROL HANDYCAPED VECHICLE WITH STEERING SYSTEM

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Abstract

Transportation has become an integral part of people's everyday life. At certain times, in large countries like India, people are forced to travel more than 200 km from their work place to their place of residence. People with disabilities in lower extremities and hands have difficulties in travelling and cannot travel these long distances. They use devices such as wheel chair, crutches and artificial limbs for mobility. These however cannot be used for long distance outdoor transportation. Therefore, the aim of this study is to design and fabricate 'Foot operated system' for armless people. The system will be using "Rack And Pinion" arrangement, which converts rotary motion into linear motion. The system consists of wheels, internal threaded cylinder, lead screw, linkages, rotating pinion and rack. This system is compact and thus will be used for long distance transportation. The main objective of the project is to design a foot operated system for handicapped people and will be useful in military purpose. This system will be cost effective and easy to operate. Key words: Disabled People, Disability, Foot Operated System, Rack and Pinion.

Keywords: *Key words: Disabled People, Disability, Foot Operated System, Rack and Pinion .*

1. Introduction

Now a days transportation has become great difficulty to and individual to reach the destination on time. Everyone has their own vehicle and people with all body parts are fortunate. But it is unfortunate for partially disable people with hands. Disability is the repercussion of an impairment which can be mental, physical, emotional, vision, sensory. Disabilities can occur in upper extremities as well as in lower extremities. Thus these people become more dependants and lose their confidence. Due to this effect, they stand a great disadvantage in using public as well as private transportation facilities. A national level survey conducted in India by the Central Government of India once in ten years revealed that, around 27 million people which are about 2.21% of the Indians are differently able. Among them, around 14.98 million were men while 11.84 million were women. Thus, the percentage of disabled people in rural area was higher than those in ii urban areas. A total of 5.43 million people were identified with disabilities in movement which was the highest among other categories such as hearing, seeing etc. in terms of numbers of people affected.the expansion device may occur frequently.

MODELLING AND SIMULATION OF SOLAR WATER HEATER INTEGRATED WITH AS PHASE CHANGE MATERIAL

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Abstract

Sun is the source of solar energy. So, the solar energy from the sun at all times energy should be stored and used when needed. Solar energy is important one renewable energy resources. The solar water heater has an important place among solar heating collectors due to the fact that construction of the water heater requires less material than others. the solar water heater maybe used for space heating and drying. the main objective of this project is to increase the thermal efficiency of flat plate collector in solar water heater. to improve the efficiency of the flat plate collector, it is integrated with PCM to enhance the heating rate of the solar water heater the PCM is integrated and stored directly in flat plat collector. The solar water heater is designed using SOLIDWORKS. the performance of the flat plate collector is ANSYS analysis with and without using PCM. The efficiency of the solar collector is increased up to 7 to 20 % while compared with and without using PCM.As a result by comparing with and without using PCM. Myristic acid and paraffin wax PCM has a very good thermal capacity and the heat discharge.the system can be reducing by different type of systems integrate with phase change materials into solar collector. This is for efficient way for storing and trapping solar energy. The application of phase change materials in cooling and heating and systems is to improve overall efficiency, reduce electrical power consumption and greenhouse gas emission. The heat storage unit consisting of phase change materials. This study helps to developing a new advancement experimental setup of solar water heating system with phase change materials. The results obtained from ANSYS analysis shows that there is an increase in efficiency of about 6-12 % when we go for solar water heater rather than solar collector.

Keywords**:** *PCM, ANSYS WORKBENCH, SOLIDWORKS, SWH system, performance improvement.*

1. Introduction

Solar collectors are devices that are used to absorb solar radiation and convert it into heat. Phase change materials (PCMs) are materials that can store and release large amounts of heat during phase change, which makes them attractive for use in solar collectors. By incorporating PCMs into solar collectors, it is possible to increase their thermal storage capacity and improve their efficiency. In this report, we will discuss the design and operation of a solar collector with PCM.

1.1 Methods of Energy Saving In Solar Water Heater

The operation of a solar collector with PCM involves the following steps:

- Solar radiation is absorbed by the absorber plate, which heats up and transfers the heat to the PCM.
- The PCM melts and stores the heat.

PERFORMANCE CHARACTERIZATION OF THE MEMBRANE-BASED ENERGY RECOVERY SYSTEM

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Abstract

Recently, the energy conservation demand attracted much attention, due to the depletion of energy resource and environmental impact caused by the increase in energy consumption. As well know, the heating, ventilation, and air-conditioning (HVAC)systems, which provide thermal comfort for occupants in buildings, account for a significant portion of global energy demand. Energy recovery is one of the key energy-efficient technologies, which reveals to deal with the increase of energy usage inbuilding while maintaining indoor air quality.

However, in the conventional heat recovery system, the sensible heat was recovered, but the latent heat was ignored. In this work, to evaluate the total energy saving potential, a novel energy recovery ventilator (ERV) model is developed with a semi- permeable membrane which can transfer both heat and moisture. A conjugate heat and mass transfer model subject to tropical climate condition is investigated by both analytical and numerical methods. The three-dimension ERV model is comprehensively studied by CFD simulation for analysis of critical parameters, such as velocity, temperature, humidity of supply and exhaust airflows. The numerical results showed that both sensible and latent effectiveness could be gained very high. Even that the latent effectiveness is lower than sensible effectiveness, the energy saving impact

1. Introduction

As a consequence of economic development and population explosion, the energy consumption of the world steadily increases at an alarming rate [1].

According to US Energy Information Administration (EIA), with the recent growth rate, the world energy demand in 2040 would be 48% higher than the level in 2012 [2]. This situation raises a concern about the depletion of energy resources and environmental issues. Globally, the energy usage is classified into three mains economic sectors: building, transportation, and industry, where the building sector constitutes about 40% of total annual energy consumption of the world [3]. As well know, the heating, ventilation, and air-conditioning (HVAC) systems which provide the thermal comfort for occupants in buildings, representing the largest energy portion of approximately 50% in both residential and commercial buildings, followed by lighting, water cooling/heating, and equipment usage. Moreover, it is estimated that buildings contributed one-third of global greenhouse gas emissions which is the major reason for global warming, climate change, and ozone layer depletion constitutes about 40% of total annual energy consumption of the world [3]. As well know, the heating, ventilation, and air-conditioning (HVAC) systems which provide the thermal comfort for occupants in buildings, representing the largest energy portion of approximately 50% in both

TRIBOLOGICAL STUDY OF GRAPHENE REINFORCED ALUMINIUM METAL MATRIX COMPOSITES

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Abstract

This review aims to explore the fundamental mechanical and tribological behavior Aluminum matrix composites (AMCs) reinforced with different reinforcements. Aluminum matrix composites are considered to be the new emerging class of materials which are having the tailoredproperties for specific applications. AMCs are the advanced engineering materials having superior properties as comparison to other conventional aluminum alloys. AMCs exhibits attractive properties such as high hardness, better yield strength, strength to weight ratio, high thermal conductivity, low coefficient of thermal expansion, superior wear and corrosion resistance. In recent times, because of these properties they have repealed keen interest for various potential applications in aerospace, automotive and various other structural applications.. Extensive research and development has been made in the Al- based MMCs with every possible alloy and different reinforcements so as to get the material of desired properties. By suitable use of different reinforcements in the Al metal matrix a wide range of properties combination can be obtained. The fundamental mechanical and tribological behavior of different reinforcement sunder dry and wet lubricated sliding conditions is recently being studied. It is reported that various reinforcement were successfully employed to decrease friction and wear in various applications. A comprehensive review is provided with the aim to analyze such properties of different reinforcements.

Keywords: *Metal Matrix Composites (MMCS); Aluminum Matrix Composites (AMCS); Reinforcement; Wear; Coefficient of Friction (COF).*

Arrangements and distribution and the relative measure of each contribute to the general performance of the composite.

Introduction

The Composite materials are playing vital and major role in research and developmentof various engineering and aeronautical sectors. In the past three decades composite materials are replaced most of the traditional materials because of obtaining superior properties such as higher specific strength,

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in the **National Conference on Computational Intelligence and Data Analytics CIDA – 23** held on **March 30th and 31st 2023.**

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P Arun Srinivas
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FORMULATION OF POLYHERBAL FILM FORMING SPRAY FOR DIABETIC FOOT ULCER

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Abstract

Diabetic foot ulcer is an open sore or wound that typically develops on the bottom of the foot. Patients who have uncontrolled diabetes mellitus may develop diabetic foot ulcers as one of the most common secondary effects which including diabetes duration, poor circulation, abnormalities of the foot, trauma, irritation (from pressure) and irritation (from heat) can cause ulcers. If, ulcer develops unfortunately, the treatment is challenging, expensive and may need long duration to get cure or it may never get cured. Now the goal has decreasing the amputation rate of diabetic foot ulcer by polyherbal film forming spray. The PFF spray was create by using an active substance as Cassia fistula, Musa paradisiaca and Cocos nucifera, excipients as film forming polymer, penetration enhancer and plasticizers. The current aims to identify the phytochemical constituents and pharmacological activities present in active substances of C. fistula, M. paradisiaca and C. nucifera. These plants are enriched with numerous therapeutically important phytochemicals such as polyphenols, alkaloids, flavonoids, tannins, glycosides, anthraquinones and amino acids exhibiting antioxidant activity. PFF spray was applied directly to the skin and it forms transparent film. In situ upon solvent evaporation as creates supersaturated systems immediately after application to the skin. Thus, it improves the drug permeation through skin compared to other transdermal dosage forms. Film forming spray have been used as tissue glues for the closing of operative wounds. These systems form a stable fast drying, non-irritating, high flexibility, reduce the toxicity, easy to peel off.

Keywords: *Cassia fistula, Musa paradisiaca, Cocos nucifera, Phytochemicals, Antioxidant activity, Ethyl cellulose, Propylene glycol, menthol, camphor, film forming spray.*

Introduction

A. Diabetic foot ulcer

Diabetes is typically a side effect of insulin synthesis and blood glucose control in the human physiology, which can be caused by a lifestyle factor or a hereditary one. (Bowering et al.,2001). Because of a person's eating habits, which undoubtedly dysregulate the body's regular functioning, blood glucose issues are becoming increasingly serious nowadays. According to statistics from 2012, there were 7% of people globally who had diabetes, but that number is expected to rise to 8.3%, which could cause other serious consequences including diabetic foot ulcers (DFU) (Khanolkar et al., 2008). Diabetic foot ulcers are one of the biggest difficulties that patients with diabetes experience, and they have an impact on their social and economic lives. The lack of angiogenesis during a cut in the posterior area of the foot is at the centre of the entire pathophysiology associated with diabetic foot ulcers (DFU). Disruption of the vascular system, damage to peripheral neuropathy, chronic wound infection, and microbial invasion are complications that make diabetic foot ulcers a major issue. Physical injury to the distal part of the foot has been linked to diabetic neuropathy; this injury typically goes unrecognized and results in foot deformities and altered foot pressure, both of which lead to foot ulcers (Allan J et al., 2016). High blood sugar levels are linked to vascular peripheral neuropathy because it harms nerve cells, which results in numbness, foot deformity, and, in more advanced stages, foot gangrene. Additionally, vascular neuropathy causes trauma at the subcutaneous level, which manifests physically as corns, calluses, or digital gangrene (Fikri et al., 2011). Regularly

FORMULATION AND EVALUATION OF HERBAL CREAM

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Department of Pharmaceutical Technology, Paavai Engineering College, Namakkal

Abstract

Skin infections are primarily controlled by antibiotics. Medicinal plants which are seemed to be candidate for the replacement of the conventional antibiotics for skin infections and allergic reactions. This study was conducted to perform the formulation and evaluation of the herbal cream for skin infection against Staphylococcus aureus and Candida albicans. Psidium gujava leaf extracted by using different combination solvent as chloroform, methanol and Petroleum ether (1:1:1) by using soxhlet extraction. The result of GC-MS shows the presence of phthalic acid di-ester (39.25%) and phthalic acid butylnonyl ester (28.73%). The formulation of base cream was based on composition. The base cream was prepared by eleven different formulations with crude extract of Psidium guajava and Calotropis procera were subjected to various evaluations testing studies. These formulated creams are evaluated by using different physicochemical parameters as pH, appearance, Irritancy test, type of smear was determined. The pH of the cream base was found to be in range of 4 to 6 which is good for skin pH. It found that the irritancy test shows no edema, redness and inflammation. In type of smear depends on greasy or non-greasy formation. Formulations F5 and F6 were shown better stability in room temperature. Further studies are needed to investigate the antibacterial & antifungal activity of optimized herbal cream.

Keywords: *Phytochemical analysis, GC-MS analysis, Antibacterial activity, Antifungal activity.*

Introduction

The skin is one part of the body that is susceptible to infection by microbial pathogens fungi and fungi, such as *Candida albicans, Staphylococcus aureus*, and pathogenic microbes that infect other skin. *Candida albicans* is one of the pathogenic fungi that often infects the skin and is one of the normal flora of the skin[1]. *Staphylococcus aureus* is a group of gram positive bacteria which is a normal flora in the human body and has the ability to infect, the skin. Treatment of diseases caused by microbial pathogens, especially those that infect the skin has been carried out, one treatment uses chemicals that have proven to be effective faster in inhibiting or killing the pathogenic microbes. On the other hand, the use of chemicals in the long term as a skin disease drug has an impact that can lead to microbial resistance to the drug so that other safer alternative treatments such as the use of plants as traditional herbal treatments are proven to have low toxicity[2]. Many types of plants have been known to have phytochemical content that has the potential as an antimicrobial material, so it is widely used as an alternative to traditional treatment. One use of these herbal ingredients is as a treatment, especially for the treatment of skin diseases, namely in the form of cream preparations. Skin cream is one form of semi-solid dosage with a composition of more than one material which is dispersed into a suitable base material and has a small moisture content of less than 60% and has moisturizing and safe to use properties on the skin [3]. guava leaf extracts introduces many biological activities i.e., Antibacterial, antioxidant and analgesic, antiinflammatory, antimicrobial, phytotoxic, hepatoprotection and anti hyperglycaemic and anti-cancer activities [4]. The inhibitory effects of aqueous and alcoholic extract of *P.guajava* on *staphylococcus aureus, Streptococcus mutants, Bacillus Cereus, Escherichia coli* were examined using in vitro agar well diffusion method[5]. *Psidium guajava* leaves showed significant anti-inflammatory activity with an inhibition of 58%[6].

IDENTIFICATION OF PHYTOCHEMICAL COMPOUNDS ACCOUNTABLE FOR ANTHELMINTIC ACTIVITY IN *CISSUS QUADRANGULARIS*

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Abstract

The Global population suffers from helminthic diseases, caused by parasitic worms. The practice of Ayurveda can truly enhance the quality of human life. Cissus quadrangularis is a traditional medicine plant that is used for its anthelmintic property and the plant extract is used as a liquid herbal supplement to prevent toxicity and to preserve nutritional value and palatability. The aim of this study was to prepare an extract from Cissus quadrangularis. The qualitative test of the plant extract shows that it contains secondary metabolites like tannins, alkaloids, flavanoids and saponins. The chloroform fraction was analysed by GCMS which revealed the presence of many diversified compounds including phenols, hydrocarbons, quinazolines, coumarins, steroids, terpenes and tannins. The quantitative and qualitative results of the plant extract shows that it contains tannins. Tannins are responsible for the anthelminthic activity.

Keywords: *Helminthiasis, Tannins, Cissus quadrangularis, Anthelmintic property.*

Introduction

Plants have been an important source of medicine for thousands of years. Mainly on traditional remedies such as herbs for their history, they have been used as popular folk medicines. Most traditional medicines are developed from nature. They have not yet fulfilled the scientific requirements so as to be classified as modern medicines.Usually, most components that are useful for medicinal purposes are secondary metabolites.

Helminthiasis or worm infestation is one of the most prevalent diseases and one of the most serious public health problems in the world. Hundreds of millions if not billions of human infections by helminths exist worldwide with increased world travel and immigration from the developing countries.

Cissus quadrangularis L., commonly known as 'Veld grape' and locally called 'Hadjod', is an important member of the family Vitaceae which is a large deciduous, succulent, rambling perennial shrub present throughout tropical Africa, the Arabian Peninsula, Indian subcontinent, Thailand,

Myanmar, Philippines, and Indonesia. Plant formulations have been used in traditional, and alternative medicine in almost all parts of the world. Traditional medicines is common in developing countries due to its approachability and affordability, whereas in developed countries, it is consumed as an alternative of chemical drugs.

Materials and Methods

A. Sample collection

The plant *Cissus quadrangularis* was collected from Pachal, Namakkal, Tamil Nadu. The plant was identified and authenticated (specimen no. BSI/SRC/5/23/2022/Tech/104) by Dr.V.SAMPATH KUMAR Scientist-'E' in charge Botanical Survey of India, Southern regional centre, Coimbatore-641003 where a voucher specimen has been deposited.

INVESTIGATING THE HAEMOSTATIC PROPERTIES (COAGULANT ACTIVITY) OF MARIGOLD LEAF AND PHYSIOCHEMICAL PROPERTY OF BANANA PSEUDO STEM FIBRE

Nema Viswalingam, Vijay Anand D, Hasrath S P, Janarthanan P & Aiswarya P S
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Abstract

Marigold (Tagets erecta L.) is an ornamental plant which has antimicrobial, wound-healing, and blood-coagulating properties. Banana pseudo stem as herbaceous plant of the Musaceae family. It contains many metabolites which may have wound healing property, coagulation, antibacterial and antifungal property. Our recent research mainly focuses on the ability of extracts from marigold leaves to cause blood clots. Using the Owren method's prothrombin time (PT) measurement, the blood clotting capacity of leaf extract was evaluated. Coagulation studies assess the capacity of plant extracts to clot and speed of clotting. The results of the experiments revealed that the coagulation time decreased as extract content increased. In smaller doses, or in the region of µl an extract of marigold leaves demonstrated excellent blood coagulation properties. Additionally, phenolic compounds (such as gallic acid, scopoletin, ferulic acid, and quercetin) were discovered through qualitative analysis, and this indicates that due to their existence, marigold leaf extract. To characterise banana fibre and consider ways to use mechanical extraction to improve the grade of the extracted fibre (decortication machine).The length, girth, density, tensile strength, tenacity, fineness, moisture recovery, and elongation are some of the physical and chemical characteristics of banana stem was identified . It can be applied to the production of goods, analysis of moisture absorption and biodegradable properties. In further research it can be developed as a coagulant transdermal bio patches combining the property of marigold leaf and banana fibre. They actively promote biological healing with excellent mechanical properties and low infection risk.

Keywords: *Tagetes erecta L, Banana Pseudo stem, phytochemical, Coagulant test.*

Introduction

Life will inevitably involve cuts and wounds. Yet, life- threatening wounds can occur when there is considerable or severe bleeding (hemorrhage) at the site of the injury [1]. Often, the amount of overall blood loss is correlated with how serious the injury is. Due to low blood pressure brought on by blood loss, numerous organ failure and potentially fatal infections might occur right away [2]. For survival, it's essential for hemostasis, a physiological process that occurs after an injury to stop bleeding [3]. Once an injury is encountered by the body, a complicated chain of events known as haemostasis begins at the site of the injury as a counter response. Since ancient time plants are used to cure disease including plants that shows haemostatics [4]. Asteraceae plant family have haemostatic potential. Marigold is an Asteraceae family. It is an ornamental plant and extract is used to treat wound healing, coagulating, anti-septic, anti- microbial [5]. By using a prothrombin time test, it was revealed that the plant exhibited haemostatic activity. to evaluate these plants' efficacy and confirm their usage in bleeding. Analyses of phytochemicals are done to pinpoint the extract's bioactive ingredients. The extract of marigold leaves exhibits good coagulation, and phenolic compounds are also detected [6].

To evaluate the historical record of banana stem used, biological activities, chemical composition and compositional changes during ripening behaviour in both edible and non-edible part of banana.

PHYTOCHEMICAL AND ANTIFUNGAL ACTIVITY OF HERBAL PLANTS

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Abstract

Candidiasis is a type of fungal infection caused by Candida albicans diseases. Candida albicans developed on skin, inside the body as a gut, vagina, mouth. In nature, a huge variety of herbs having medicinal properties and they are used to prepare the herbal medicines. Among the traditionally used antifungal herbal plants are cassia alata, Trachyspermum ammi and Gingiber officinale commonly known as Candle bush, Bishop's weeds. These herbal extracts doesn't contain synthetic or toxic for us. Phytochemical analysis on these herbal extracts have been performed. The methanol extracts were used to evaluate antifungal activity source provides us with bioactive molecules such as Anthraquinone, Gingerol or Thymol which have been used against tinea corporis, candida as fungal diseases. This study showed that cassia alata, Gingiber officinale and Trachyspermum ammi had antifungal activity.

Keywords: *Candida albicans, antifungal activity, Senna alata,Gingiber officinale, Candidiasis.*

Introduction

Medicinal plants are rich source of antimicrobial agents, it inhibit the growth contagious fungal infections caused by common mold like parasite that live on cell in outer layer of skin Dermatophytes are fungi that invade and multiply within keratinized tissue (skin, hair ,nails) causing infection. Microsporum canis, Trichophyton, Epidermophyton, these types of fungi that cause Ringworm. Pathogenesis of fungal keratins binding site to lamanin, fibronectin, collagen cause ringworm. A fungi thrives in moist, warm areas. It can be spread by utensils & sharing things etc. Redness, Itchness and scaly patches are the symptoms of the Ringworm diseases. This study showed that *cassia alata, Gingiber officinala and Trachyspermum ammi* had antifungal activity. The plant(*Senna alata*) contains several bioactive compounds, including anthraquinones and flavonoids, which are thought to be responsible for its medicinal properties. *Senna alata* has also been studied for its potential pharmacological effects, such as anti-inflammatory, antifungal, and antioxidant properties.

In addition to its medicinal uses, It has also been used for other purposes. For example, in some cultures, the leaves are used to make a yellow dye for textiles, and the plant has been used as a natural insecticide and as fodder for livestock.

Ginger (Zingiber officinale) is a flowering plant belonging to the family Zingiberaceae, native to Southeast Asia. It has been widely used for its medicinal properties for thousands of years in various cultures around the world. The plant produces a knotty, thick, and brownish rhizome (an underground stem) with a spicy and aromatic flavor. The rhizome contains a variety of active compounds, including gingerol, shogaol, and thymol ,which are responsible for its medicinal properties. Gingerol contains high amount of antifungal activity and also it inhibits the growth of *Candida albicans*.

Trachyspermum ammi, commonly known as ajwain or carom, is a plant species in the Apiaceae family, native to the eastern Mediterranean region, Egypt, and Iran. Ajwain oil is used topically for its analgesic and anti-fungal effects.

FORMULATION OF POLYHERBAL LIQUID SHAMPOO

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Abstract

Now a days, most people suffering from hair loss and dandruff use chemical shampoos. This shampoo is available at a low cost but it causes many problems such as in skin cancer, skin dryness, skin and scalp irritation, hair fall. The solution is polyherbal liquid shampoo. Polyherbal liquid shampoo does not contain any chemical substance and it is only containing natural herbal substance. This shampoo extracts the bioactive compound from Murraya koenigii, Eclipta prostrate and Salvia rosemarinus using the soxhlet extract method with methanol. These herbal plants contain phytochemicals, such as terpenoid, flavonoid, saponin, protein, steroid, phenol and glycosides. The phytochemicals help promote hair growth and control dandruff. The murraya koenigii, Eclipta prostrate and salvia rosemarinus crude samples are qualitative by phytochemicals analysis and the Murraya koenigii crude sample is quantitative analysis by using GC-MS. The GC- MS results show the presence of maximum area 1-methyl- pyrrolidine-2-carboxylic acid (31.67%), mahanine (21.37%) and mahanimbine (20.81%). The optimization scale of the prepared shampoo was based on composition. The shampoo was prepared by fifteen different formulations and optimizations and three different formulations were subjected to various evaluations testing studies. This shampoo has different parameters as pH, appearance, foam test, stability and thickness test. The pH of the shampoo was found to be in range of 4.5 to 5.5 this range of shampoo is good for hair. Appearance of shampoo was brown color and foaming was found. Further studies to investigate the anti- dandruff and anti-fungal activity.

Keywords: *Phytochemical analysis, GC-MS analysis, Antidandruff and antifungal activity.*

Introduction

Polyherbal liquid shampoo is a type of shampoo that is formulated using a combination of different herbal extracts. The formulation of polyherbal liquid shampoo involves selecting and blending different herbs in specific proportions to create a product that is effective in cleansing, nourishing and promoting healthy hair growth. This shampoo is typically made from natural and plant-based ingredients, which makes them a popular choice for people who prefer a more natural approach to hair care. These shampoos are known for their ability to nourish and strengthen hair while reducing scalp irritation and inflammation. These shampoos can contain a variety of herbs, each with its own unique benefits. Some of the most common herbs used in polyherbal liquid shampoos include curry leaves, false Daisy, rosemary, Brahmi, liquorice, soapnut, ginger. The benefits of using polyherbal liquid shampoo include improved hair texture, reduced hair fall, reduced dandruff, and increased hair growth. Overall, polyherbal liquid shampoo is an excellent choice for people looking for a natural, gentle, and effective hair care product that can provide numerous benefits for their hair and scalp health.

Material and Method

A. Collection of plants source

Different types of plants were selected to study hair care property. The fresh leaves of Murraya koenigii (Curry leaves) were collected from Pachal, Namakkal. The leaf sample was washed thoroughly in running tap was used for further studies.

PHARMACOLOGICAL ACTIVITIES OF TRIDAX PROCUMBENS

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Abstract

Tridax procumbens is commonly referred as 'cotton buttons' and it is well- known for treating anemia, inflammation, skin infection, diarrhea, and for healing wounds. It has been used as antimicrobial and antifungal agents among tribal communities. The aim of the present study is to extract the bioactive components from the whole plant of Tridax procumbens. Ethanol is used as an extracting solvent. This study focused on identification of different phytochemical present in it and to determine the pharmacological activities expressed by this whole plant extract. The phytochemical screening reveals the presence of flavonoids, Alkaloids, and phenols.For determining the antimicrobial activity, disk diffusion method was performed against Bacillus subtilis, Staphylococcus aureus, Pseudomonas aeruginosae, coliand candida albicans. The ethanolic extract showed better zone of inhibition against various organisms at 60, 80 and 100 µg/ml concentration. This whole plant extract also showed a good antioxidant activity as compared to standard i.e., ascorbic acid, it exhibits IC50 value of 19.62 µg/ml for DPPH assay and 79.90 µg/ml for FRAP assay. Since the whole plant extract shows better pharmacological activity it is used in transdermal drug delivery system.

Keywords: *Tridax procumbens, Antimicrobial Activity, Antifungal activity, Antioxidant, Phytochemical screening, and Bioactive compounds.*

Introduction

The *Tridax procumbens* is a perennial herbal plant belongs to family Asteraceae native to central and south America. It is also known as Coat buttons. Since ancient times, this is species is used in Ayurveda in India. Some of the medicinally important species of genus *Tridax* are *T. angustifolia*, *T. bicolour*, *T. dubia, T. erecta.* The plant contains yellow cantered white flowers, and the leaves are basically arrow shaped. The fruit have stiff hairs provided. The formatter will need to create these components, incorporating the applicable criteria that follow.[1]

It contains Flavonoids, alkaloids, carotenoids, hydroxycinnamates, lignans, benzoic acid derivatives, phytosterols, tannins, crude proteins, crude fibre, soluble carbohydrates, and calcium oxide. *Tridax procumbens* is used in various diseases or it has been used in Indiantraditional medicine for wound healing, antifungal, antibacterial, insect repellent. Leafextract is used for or treat to various skin Infectious diseases. It also used in '*Bhringraj*' which is well known medicine for liver disorders. Also, hair growth activity has been found and antioxidant activity have been demonstrated. *Tridax procumbens*, also known as "coat buttons," is a perennial plant from the Asteraceae family, native to Central and South America (Hilliard, 1977; Ravikumar et al., 2005).[2]

Fig 1: Tridax Procumbens

EXTRACTION AND QUANTIFICATION OF ANTI-MICROBIAL PEPTIDES FROM *Moringa oleifera* RESIN

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Abstract

Natural sources have become an indispensable source of new pharmaceuticals, because of its functionally relevant secondary metabolites extracted from microbial and plant species. Moringa oleifera, native to India, grows in the tropical and subtropical regions of the world. It is estimated that 80% of the world's population relies primarily on traditional medicine. Moringa oleifera plays an important role in protecting the liver from damage, oxidation, and toxicity due to the high concentrations of polyphenol in its leaves. Misuse of antibiotics leads to the development of widespread of numerous drug resistant pathogenic bacteria. Usage of an anti-microbial peptides (AMPs) instead of antibiotics was found to exhibit better antibacterial activity even against resistant bacteria with minimal side effects. AMP has great common features that are small molecules with a molecular weight of 2 to 10 kDa, are amphoteric in nature, and are predominantly positively charged at physiological and neutral pH values. AMP can be extracted from a novel source namely Moringa oleifera, in particularly resin sample are used owing to its improved antibacterial activity and higher concentration of polyphenolic components as compared to leaves and seeds. Salting Out method using ammonium sulphate was utilized for the extraction of bioactive peptides from the resin sample. The quantitative analysis of aqueous extract of Moringa oleifera resin reveals that the resin contains 86mg/ml.

Introduction

Biologically active compounds with a range of properties can be found in plants. Some of them have uses in both agriculture and medicine. Even though many species of higher plants are known to produce beneficial biologically active compounds, as reported by anthropologists working with tribal people, scientific research on these plants has not yet been conducted. They can be used safely and without causing any side effects because they are natural in origin. The use of plants as a rich source of novel bioactive compounds for drug discovery has a long history. India is referred to as the botanical garden of the world because it is well known for its herbal medicines, which are officially recognized as a significant component of the herbal drug system.

Moringa oleifera is a type of tree that thrives in many tropical and subtropical regions. It is also known as the drumstick tree, horseradish tree, or bene oil tree because of the shape of the immature seed pods, the flavor of the ground root preparation, and the oil produced by the seeds. Other terms used for moringa are horseradish tree, murangai, muronge, benzolive, drumstick tree, sajina, keror, saizihan and marango. Due to its high content, it is often used as a staple food, are found to be pharmacologically active compounds. Indigenous moringa is a kind of traditional medicine now known in tropical and subtropical countries (Sonika, S. D. Et.al., 2020). M. oleifera uses seeds, leaves, oils, sap, bark, roots, and flowers. Herbal plants, known as medicine, are still trusted because of their affordability, and are widely used as one of the alternative methods in the medical field.

Fig.1 ***Moringa oleifera***

EXTRACTION OF ANTIDIABETIC PEPTIDES FROM FOXTAIL, SORGHUM AND PEARL MILLET

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Abstract

Millets are whole grain that contains protein, antioxidant and health beneficial phenolic compounds. Sorghum (sorghum bicolor), Foxtail millet (setaria italica), Pearl millet (Pennisetum glaucum) were found to have high nutritive value and comparable to that of major cereals such as wheat and rice. Millet were found to possess health promoting unique protein composition which has beneficially effects in the prevention of diabetes. According to International Diabetic Federation it was estimated that India had an estimated incidence of 77 million diabetic patients and 1.5 million deaths are directly attributed to diabetes. Metformin and glipizide are generally prescribed for diabetes mellitus, it has many side-effects such as headaches, rashes, dizziness, anxiety and cough. Ultrasonic Assisted Extraction were employed for the extraction of antidiabetic peptides from the powdered sample (size <75mm) of various millets. The effect of hexane pre-treatment on peptide yield was assessed. From the data it is inferred that the hexane pre- treatment does not have any significant effect on the isolation of peptides from the millets. One variable at a time (OVAT) reveals that the solid to liquid ratio of 1:15 ml/g, temperature of 40^{o}C, pH of 7 and 60 minutes of sonication time were found to be the optimum level for the extraction of antidiabetic peptides. Maximum yield of 67 mg/ml of bioactive peptides was recovered at this optimum level.

Keywords: *component, formatting, style, styling, insert (key words)*

Introduction

Type 2 Diabetes

The burden of diabetes is high and increasing globally, and in developing economies like India, mainly fueled by the increasing prevalence of overweight obesity and unhealthy lifestyles. The estimates in 2019 showed that 77 million individuals had diabetes in India, which is expected to rise to over 134 million by 2045. Approximately 57% of these individuals remain undiagnosed. Type 2 diabetes, which accounts for majority of the cases, can lead to multiorgan complications, broadly divided into microvascular and macrovascular complications. These complications are a significant cause for increased premature morbidity and mortality among individuals with diabetes, leading to reduced life expectancy and financial and other costs of diabetes leading to profound economic burden on the Indian health care system. The risk for diabetes is largely influence by ethnicity, age, obesity and physical inactivity, unhealthy diet, and behavioral habits in addition to genetics and family history. Good control of blood sugar blood pressure and blood lipid levels can prevent and/or delay the onset of diabetes complications. (Rajendra Pradeepa *et al.,* 2021)

Biopeptides

Bioactive peptides from several food sources shows antidiabetic activity by inhibiting carbohydrate digesting enzymes (α-amylase and α-glucosidase) and DPP IV (Figure 1), enhancing pancreatic insulin secretion, controlling satiety, and reducing glucose absorption from the gut. Antidiabetic peptides could decrease blood glucose level, improve insulin uptake and inhibit key enzymes involved in the development and progression of diabetes. The vast majority of widely used antidiabetic medications mainly focus on stimulating the release of insulin from the pancreas or improving insulin- stimulated glucose uptake. (Priya Antony *et al.,* 2021)

ORAL PRESENTATION (physical mode)

EXTRACTION OF PHYCOBILIPROTEIN (ALLOPHYCOCYANIN) FROM *Arthrospira platensis* BY CAVITATION METHOD

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Phycobiliproteins (PBPs) is a light harvesting pigment commonly found in *Arthrospira platensis* (*Spirulina*). PBPs is classified into three categories namely C-Phycocyanin (C-PC), Allophycocyanin (APC) and Phycoerythrin (PE). Since PBPs is a water soluble membrane protein-pigment complex, conventional methods like homogenization, ultrasonication, etc., were used to extract PBPs. This present study is focussed on selective extraction of allophycocyanin from *Spirulina* by using ultrasound assisted aqueous two-phase extraction with deep eutectic solvents. This technique favors the enrichment of allophycocyanin to the top phase along with DES. Twelve DES were used as an extracting solvents and 0.1 M sodium phosphate buffer serve as a standard. The concertation and purity of allophycocyanin in the top phase was determined by Bennet and Bogorad equation. The maximum purity of 5.64 was achieved from DES 6. Further increase in purity was enhanced by gel filtration chromatography. The concentration and purity of purified fractions were determined and also, they were evaluated for antioxidant activity, anticoagulant activity and antibacterial activity against *Escherichia coli* and *Pseudomonas aeruginosa.* Therefore, this study proves itself as a feasible method for yielding highly pure allophycocyanin compared to other conventional methods.

Keywords: Phycobiliprotein, Spirulina, Ionic liquids, Deep eutectic solvent, Ultrasound.

ORAL PRESENTATION (physical mode)

EXTRACTION OF BIO-ACTIVE COMPOUNDS FROM *MELALEUCA CITRINA* AND EVALUTION OF THEIR PHARMACOLOGICAL ACTIVITIES

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Melaleuca citrina is commonly referred as 'red bottle brush and it is well known for its anticough, antibronchitis, insecticidal activities and its volatile oil has been used as antimicrobial and antifungal agents among tribal communities. The present study focus on the extraction of active Phytoconstituents of the essential oil obtained from the methanolic leaf extract of Melaleuca citrina. The present study on methanolic leaf extract of *Melaleuca citrina* focus on identification of different phytochemical present in it and to determine the pharmacological activities expressed by this leaf extract. The phytochemical screening reveals the presence of flavonoids, Alkoloides, saponin, Tanins, terpenoids and phenols and by using GC-MS analysis the presence of 15 different bioactive compounds were identified in which eucalyptol were eluted in high peak when compared to Desaspidinol, Chrysophanol and 2-Bromophenanthridin-6-ol. As for the antimicrobial activity, disk diffusion method using cultures of *Bacillus subtilis*, *Staphylococcus aureus*, *Pseudomonas aeruginosae*, *E.coli* and *Candida albicans* were carried out. The methanolic extract showed better inhibitory activity at 60, 80 and 100 µg/ml. The methanol extract showed good antioxidant activity as compared to standard i.e. ascorbic acid, it exhibits IC_{50} value 11 µg/ml for DPPH assay and 50.59 µg/ml for FRAP assay. Since there is no detailed research on pharmacological activities the leaf extract shows better antibacterial and antioxidant activity.

Keywords: *Melaleuca citrina*, Antimicrobial, Antifungal agents, Antioxidant, Phytochemical screening and Bioactive compounds.

ORAL PRESENTATION

DEEP EUTECTIC SOLVENTS APPLICATIONS: A REVIEW

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Deep Eutectic Solvents (DESs) are a class of non-aqueous, environmentally friendly solvents that are composed of two or more components which form a low melting point, highly viscous liquid. DESs have several unique properties that make them attractive and alternatives to traditional solvents like ethanol, methanol, chloroform, ionic liquids and so on. Their features includes: high solubility, low toxicity, and low volatility. They have a wide range of applications, including extraction, separation, and synthesis, in various industries such as pharmaceuticals, food and agriculture, and renewable energy. DESs are also considered as the most promising green solvents. Despite their potential, the full extent of their application is still under investigation, with ongoing research aimed at improving the performance and scalability of DESs for various applications.

Keywords: Deep eutectic solvent, Ionic liquids, Extraction, Green solvent, Melting point, Viscosity

ORAL PRESENTATION

DEVELOPMENT OF TRANSDERMAL DRUG DELIVERY SYSTEM FROM THE WHOLE PLANT EXTRACT OF *Tridax procumbens*

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Tridax procumbens is commonly referred as 'cotton buttons' and it is well known for treating anemia, inflammation, skin infection, diarrhea, and for healing wounds. It has been used as antimicrobial and antifungal agents among tribal communities. The aim of the present study is to extract the bioactive components from the whole plant of *Tridax procumbens*. Ethanol is used as an extracting solvent. This study focused on identification of different phytochemical present in it and to determine the pharmacological activities expressed by this whole plant extract. After screening the presence of pharmacological activities, the crude extract is used to develop transdermal drug delivery system.

Keywords : *Tridax procumbens*, antimicrobial activity, Antifungal activity, Antioxidant, Phytochemical screening, Bioactive compounds and patches.

ORAL PRESENTATION (physical mode)

EXTRACTION AND PURIFICATION OF LACTOPEROXIDASE FROM COW MILK AND EVALUATION OF ITS KINETIC PARAMETERS

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Lactoperoxidase is an enzyme belongs to the peroxidase family commonly found in fresh raw milk, saliva, tears and other mucosal glands. Separation of proteins by conventional methods such as precipitation, adsorption, filtration, etc., suffer from drawbacks with respect to purity and yield. To overcome the drawbacks, Aqueous two phase extraction is an emerging technique consisting of PEG and salts like potassium phosphate, ammonium sulphate and magnesium sulphate can be employed for the separation of lactoperoxidase from milk whey. ATPE was carried out using milk whey and the resulting protein fractions were subjected to gel filtration chromatography to remove the contaminants like salts. The fractions obtained from gel filtration chromatography was further purified by using Ion exchange chromatography. The finally obtained fractions are used to study the enzyme kinetic parameters to check the stability of the protein molecule. Therefore, the study may prove itself as a feasible method for yielding highly pure lactoperoxidase from milk whey having wide range of applications in food processing and health care industries because of its potent antibacterial effect.

Keywords: lactoperoxidase, aqueous two phase extraction, milk whey, chromatography, purification.

ORAL PRESENTATION (physical mode)

MULTIFUNCTIONAL EDIBLE STRAW

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Plastics a major problem in our environment, though we ban plastics in current scenario. Straws account for roughly 0.03% of plastic waste in the ocean. Worldwide more than 1000 million plastic straws are used to serve environmental issues. This project is concerned with replacement of plastic straws with natural edible straws. The main objective of this project is to extract starch from Dioscorea alata by sedimentation method, the starch extracted from this method is subjected to optimization and production of edible straw, Citrus hystrix is used for isolation of pectin. Edible straw was prepared and studied for their characteristics along with their medicinal values and several tests were taken which include validity test, Molisch test, water resistant test, drinking test. Out of 4 best trials trial 3 which is better than every trial is underwent for the antioxidant activity DPPH assay which has value of IC50 was 660.58 showed that the straw prepared from white yam has more antioxidant activity than normal straw. Then nutritional analysis has also been done which include carbohydrate, protein, fibre and phenolic content which has respective values of 42.56 g/100g,11.24 g/100g, 10.38 g/100g and 25.56 g/100g respectively from all these it was clearly shown that the naturally prepared edible straw has more nutritional benefits than normal prepared straw, which is followed by the preparation of preloaded straw in which the straw is filled with juice mixture and then covered with thin sheets and packed. Their powerful antioxidants may help reduce your blood pressure and blood sugar levels and are also versatile with vibrant colour, it can act as a cancer deterrent, it helps to increase the production of red blood cells in the body.

Keywords: Dioscorea alata, Citrus hystrix, DPPH Assay, Physio-chemical Properties.

POSTER PRESENTATION (physical mode)

CHARACTERIZATION AND ISOLATION OF BIO-FUNCTIONAL LIPIDS FROM BLACK SEA URCHIN (*Stomopneustes variolaris*) AND ITS MULTI-POTENTIAL *in-Vitro* ACTIVITIES

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Gonads of sea urchin are rich source of bioactive lipids with several medicinal properties. The present study discusses about the extraction of lipid fractions from gonad tissues of Stomopneustes variolaris; characterizing the biochemical constituents using spectroscopic tools and evaluating its in-vitro biological activities. FT-IR spectra identified presence of functional groups of esters in the lipid fraction. Especially, GCMS identified different fatty acids and among them, 13,16- octadecadienoic acid methyl ester (50.13%) and 9-octadeceonic acid methyl ester (46.84%) were detected to be major fatty acids. ^{1}H NMR resonance spectra detected peaks of benzene ethyl and aromatic groups. The lipid fractions isolated from the gonads exhibited significant in-vitro biological activities. Notably, lipid fractions S15 and S16 showed effective bactericidal activities against Gram positive bacteria: *S.aureus, B.subtilis, P.aeruginosa* and Gram negative bacteria: *E.coli* pathogens. DPPH and lipid peroxidation tested revealed that fraction S11 showed efficient antioxidant effects than S15. MTT assay results also confirmed that fraction S11 demonstrated increased cytotoxic effects than S15 against HeLA cells. Based on the obtained results, it is concluded that lipids isolated from gonad tissues of Stomopneustes variolaris possess multiple biological activities. Further clinical studies with these bio functional lipids will validate its scope in the manufacturing of novel pharmaceutical drugs for treating various diseases.

Keywords: Sea urchin; lipids; antibacterial activity; lipid peroxidation; cytotoxicity.

ORAL PRESENTATION (physical mode)

PREPARATION OF DETOXIFYING AND SKIN WHITENING FACE CREAM

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A new skin whitening cream using a natural extracts from arbutin, caffeine, propylene glycol and by using naturally derived chemicals is to be prepared. The cream is an O/W emulsion contains suitable combination of oil phase and aqueous phase along with preservatives. The GC-MS analysis of extracts analysis revealed the presence of arbutin from *Arctostaphylos uva-ursi*, caffeine from *Camellia sinensis*, and propylene glycol from *Daucus carota* extract as major constituents. Gas chromatography mass spectrometry (GC-MS) analysis revealed the presence of 29 compounds in *Arctostaphylos uva-ursi*, 12 compounds in *Camellia sinensis* and 21 compounds in *Daucus carota* extracts. The GC-MS results the active compounds eluted at 24.248 m for caffeine and the peak area is 80.26%. Propylene glycol eluted at 13.400 m and area of peak is 2.08%. The developed procedure was applied to the analysis of a number of creams. Ten formulations were prepared and formulation values of (F9 and F10) were optimized. The various evaluation test like, pH, viscosity, skin irritation test were carried out. The pH of the cream base was found to be in range of 4 to 6 which is good for skin pH. It was found that the viscosity of the cream increases when the shear rate is decreased, the viscosity of the cream is inversely proportional to the rate shear (rpm). The new composition of skin whitening cream helps to lightens spots, provides additional sun protection, prevents oxidative damage, delivers glowing skin. The alternative natural arbutin are combined with *Camellia sinensis* helps to enhance the detoxifying nature of skin. The face cream prepared is cost effective and prone from side effects. In conclusion the topical O/W cream is prepared and displayed as a potential cosmetic product.

Keywords: Caffeine, GC-MS, Detoxifying agents, Propylene glycol, Arbutin.

ORAL PRESENTATION (physical mode)

PRODUCTION OF GREEN PLASTIC FROM NATURAL SOURCES

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Plastics are synthetic or semi-synthetic organic compounds which are mostly derived from petrochemicals. Thus, it is persisting in the environment for many years. Generally, it contains bisphenol A which is insoluble in water and contains two hydroxyphenyl groups. Bisphenol A have the ability to bind to nuclear estrogen receptors. Thus, it mimics the action of estrogen and antagonize estrogen. It results in birth defects. Burning of plastics will leads to air pollution and dumping in aquatic sources results in aquatic pollution. In this study, we produced green plastic from natural sources (navy beans, *Gracilaria corticata* and jigat powder). Navy beans used as carbon source, due to the gelling properties of *Gracilaria corticata*. Also, various tests such FTIR, XRD, water solubility, degradability and optical properties analysis was conducted. From the studies, it is very clear that the bioplastic formed is amorphous, can bear the load up to 60L (L – Load), thickness of the film was 30 microns. It was proved that the film has good light transmittance property which is 98.3%. No change found in pH range 1 to 12. In water, the film degraded after 18 days which shows that the film has good water-resistant property. Film degraded after 10 days in the soil. From these studies, it was confirmed that this film can be used as food packing material and it won't affect the environment.

Keywords: *Gracilaria corticate,* FT-IR, Film, Bio plastics

FORMULATION OF AMP LOADED HYDROGEL USING MORINGA OLEIFERA RESIN EXTRACT AGAINST MULTI DRUG RESISTANT *STAPHYLOCOCCUS AUREUS*.

*Ezhilarasan. G, Gokul. K, Jasmine. A, Raj. M, Ponmanian. M**

Paavai Engineering College, Namakkal-637018

ABSTRACT

Natural sources have become an indispensable source of new pharmaceuticals, because of its functionally relevant secondary metabolites extracted from microbial and plant species. Moringa oleifera, native to India, grows in the tropical and subtropical regions of the world. It is commonly known as the "drumstick tree". Moringa oleifera plays an important role in protecting the liver from damage, oxidation, and toxicity due to the high concentrations of polyphenol in its leaves. The naturally present peptides in the resin have the high anti-microbial activity and also having many pharmacological activities. Misuse of antibiotics leads to the development of widespread of numerous drug resistant pathogenic bacteria. Usage of an anti-microbial peptides (AMPs) instead of antibiotics was found to exhibit better antibacterial activity even against resistant bacteria with minimal side effects. The smaller anti-microbial peptides act largely by disrupting the structure or function of microbial cell membranes. AMP can be extracted from a novel source namely Moringa oleifera, in particularly resin sample are used owing to its improved antibacterial activity higher concentration of polyphenolic components as compared to leaves and seeds. Finally, the obtained AMPs was cross-linked with hydrogel that detects the coagulase enzyme which is produced by the Staphylococcus aureus. The formulated hydrogel has the high biocompatibility and high stimuli response. Thus, the formulated AMP loaded hydrogel can be used as a potential antimicrobial wound dressing for *Staphylococcus aureus* infection.

***Keywords*:** Moringa, resin, AMP, Hydrogel, *Staphylococcus aureus*

EXTRACTION AND EVALUATION OF ANTIDIABETIC PEPTIDES FROM FOXTAIL, SORGHUM AND PEARL MILLETS.

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Paavai Engineering College, Namakkal-637018

ABSTRACT

In 2021 according to International Diabetic Federation it was estimated that India had an estimated incidence of 77 million diabetic patients and 1.5 million deaths are directly attributed to diabetes. Metformin and glipizide are generally prescribed for diabetes mellitus. It has side effect such as headaches, rashes, dizziness, anxiety, cough, and dry mouth. Still now there is no cure for diabetes. People with type 2 diabetes who ate a special diet with added millets lowered their blood sugar, cholesterol, and triglyceride levels. People who switched from rice to millets at breakfast led to lower blood sugar levels after the meal. Peptides are short strings of amino acids, typically comprising 2–50 amino acids. Peptides act as structural components of cells and tissues, hormones, toxins, antibiotics, and enzymes. Peptides regulate specific cellular functions and facilitate an innumerable amount of biochemical process in the body. Peptides with antidiabetic potential could decrease blood glucose level, improve insulin uptake and inhibit the development and progression of diabetes. The antidiabetic peptides have high stability, and safety than other drugs. So, the peptides with antidiabetic potential in foxtail millet, Sorghum millet and Pearl millet has the ability to normalize the glucose level in the body. The antidiabetic peptides from these millets can treat diabetes more effectively than other drugs and it can be produced with no side effects. Eventually we are going to formulate the antidiabetic peptides obtained from these millets into a chewable tablet because chewable tablets have many advantages such as palatability, stability, precise dosing, portability, and ease of delivery, so these tablets will be more efficacious than other tablets for diabetes.

***Keywords*:** Type 2 diabetes, Antidiabetic peptides, Foxtail millet, Sorghum millet, Pearl millet, chewable tablets.

DEVELOPMENT OF WOUND HEALING PATCH FROM THE WHOLE PLANT EXTRACT OF TRIDAX PROCUMBENS

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ABSTRACT

Tridax procumbens is commonly referred as 'cotton buttons' and it is well- known for treating anemia, inflammation, skin infection, diarrhea, and for healing wounds. It has been used as antimicrobial and antifungal agents among tribal communities. The aim of the present study is to extract the bioactive components from the whole plant of Tridax procumbens. Ethanol is used as an extracting solvent. This study focused on identification of different phytochemical present in it and to determine the pharmacological activities expressed by this whole plant extract. The phytochemical screening reveals the presence of flavonoids, Alkaloids, and phenols. For determining the antimicrobial activity, disk diffusion method was performed against Bacillus subtilis, Staphylococcus aureus, Pseudomonas aeruginosae, E. coli and candida albicans. The ethanolic extract showed better zone of inhibition against various organisms at 60, 80 and 100 µg/ml. The ethanol extract performed shows a good antioxidant activity as compared to standard i.e., ascorbic acid, it exhibits IC50 value 19.62 µg/ml for DPPH assay and 79.90 µg/ml for FRAP assay. Since there is no detailed research on pharmacological activities the whole plant extract shows better antibacterial and antioxidant activity.

Keywords: Melaleuca citrina, Antimicrobial, Antifungal agents, Antioxidant, Phytochemical screening, and Bioactive compounds.

FORMULATION OF POLYHERBAL LIQUID SHAMPOO

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Department of pharmaceutical technology, Paavai Engineering college, Namakkal.

ABSTRACT

Now a days, most people suffering from hair loss and dandruff use chemical shampoos. This shampoo is available at a low cost but it causes many problems such as in skin cancer, skin dryness, skin and scalp irritation, hair fall. The solution is polyherbal liquid shampoo. Polyherbal liquid shampoo does not contain any chemical substance and it is only contain natural herbal substance. This shampoo extracts the bioactive compound from Murraya koiengii, Eclipta prostrate and Salvia rosmarinus using the soxhlet extract method with methanol. These herbal plants contain phytochemicals, such as terpenoid, flavonoid, saponin, protein, steroid, phenol and glycosides. The phytochemicals help promote hair growth and control dandruff. The murraya koiengi, Eclipta prostrate and salvia rosmarinus crude samples are qualitative by phytochemicals analysis and the Murraya koiengii crude sample is quantitative analysis by using GC-MS. The GC-MS results show the presence of maximum area 1-methyl-pyrrolidine-2-carboxylic acid (31.67%), mahanine (21.37%) and mahanimbine (20.81%). The optimization scale of the prepared shampoo was based on composition. The shampoo was prepared by fifteen different formulations and optimizations and three different formulations were subjected to various evaluations testing studies. This shampoo has different parameters as pH, appearance, foam test, stability and thickness test. The pH of the shampoo was found to be in range of 4.5 to 5.5 this range of shampoo is good for hair. Appearance of shampoo was brown colour and foaming was found. Further studies to investigate the anti-dandruff and anti-fungal activity.

***Keywords*:** Phytochemical analysis, GC-MS analysis, Antidandruff and Antifungal activity.

SYNERGIC TREATMENT OF HERBAL CREAM FOR SKIN INFECTION

*Evanjalinejoice S., Gowtham R., Mohammed irfan U., Swathi S., Karthih.M.G**

Department of Pharmaceutical Technology, Paavai Engineering College, Namakkal-637018

ABSTRACT

The skin problems of the bacterial, fungal are primarily controlled by antibiotics. Medicinal plants and herbs which are seemed to be candidate for the replacement of the conventional antibiotics for skin infections and allergic reactions. Research for the ideal dressing material continues as skin care professionals are faced with several challenges. The herbal remedies show high therapeutic potential and efficacy against the skin allergy and skin infection by microorganism. Herbal plants such as Acalypha indica, Piper betle, Calotropis procera and Psidium guajava were selected. Selected plant parts are dried and extracted using various combination of solvents like methanol, petroleum ether, and chloroform (1:1:1). Qualitative phytochemical analysis was firstly carried out to determine the possible active compounds in the herbal samples. The phytochemical screening reveals the presence of flavonoids, saponin, tannins, terpenoids and phenols. The result of GC-MS shows the presence bioactive compounds. The formulation of base cream was based on composition. The base cream was prepared by eleven different formulations with crude extracts were subjected to various evaluations testing studies. These formulated creams are evaluated by using different physicochemical parameters as pH, appearance, Irritancy test, type of smear was determined. The pH of the cream base was found to be in range of 4 to 6 which is good for skin pH. It found that the irritancy test shows no edema, redness and inflammation. In type of smear depends on greasy or non-greasy formation. Formulations F5 and F6 were shown better stability in room temperature. Further studies are needed to investigate the antibacterial & antifungal activity of optimized herbal cream.

***Keywords*:** Crude extract, Phytochemical analysis, GC-MS analysis, Antibacterial and Antifungal agents.

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"A STUDY ON THE IMPACT OF COVID-19 ON THE PSYCHOLOGICAL WELL BEING OF STUDENTS WITH SPECIFIC REFERENCE TO PAAVAI ENGINEERING COLLEGE"

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Abstract

The recent Covid-19 pandemic has had significant psychological and social effects on the population. Research has highlighted the impact on psychological well-being of the most exposed groups, including children, college students, and health workers, who are more likely to develop post-traumatic stress disorder, anxiety, depression, and other symptoms of distress. The social distance and the security measures have affected the relationship among people and their perception of empathy toward others. From this perspective, telepsychology and technological devices assume important roles to decrease the negative effects of the pandemic. These tools present benefits that could improve psychological treatment of patients online, such as the possibility to meet from home or from the workplace, saving money and time andmaintaining therelationship between therapists and patients. The aim of this paper is to show empirical data from recent studies on the effect of the pandemic and reflect on possible interventions based on technological tools.

1. Introduction:

The first outbreak of the novel coronavirus disease (COVID-19) was reported at the end of December 2019 in Wuhan, China and rapidly the virus spread globally on March 11, 2020, the World Health Organization declared a pandemic state. The first country affected in Europe was Italy, where the epidemic began on February 21, with Lombardy being the epicentre of COVID-19 cases and deaths (representing 39 and 48% of the total, respectively). As of November 01, 2020, the Italian national surveillance system had reported 309,335 cases and 38,826 deaths from COVID-19, or study. While during the first phase of the pandemic the highest case fatality rate and one of the highest case mortality rates in Europe was reported. To limit the diffusion of the virus, the Italian government established a series of decrees aimed at containing the spread of the epidemic. First, on February 23, 11 municipalities in Northern Italy, including Lombardy, were placed on lockdown. Two days later, the measures were extended to six regions, and on March 11, 2020, the lockdown was extended to the whole national territory until May 3, 2020. During this period, people could leave their homes only for specific needs (work, health emergencies, and food and drug supplies), schools and universities were closed, inter-regional mobility was suspended, and all types of gatherings were prohibited. Inter-regional mobility was allowed after June 3, and for the first time since May 3, 2020, it was for persons, residing in different regions, possible to return to their places of residence. In some regions, trustee home isolation was compulsory when individuals entered the region. University students are a special social group with active life habits based on relationships and contacts, physical and university

"A STUDY ON CUSTOMER SATISFACTION TOWARDS AAVIN MILK IN SALEM"

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Abstract

Milk is an essential item used by the people as vegetarian diet more consumption of milk depend not only on its factor but also on the availability of children and also by practice of taking coffee, tea, etc.The chief factor which influence the consumption of milk are availability level of income of people and prices Milk is not only an essential items but also most frequently and commonly used by the people complaint that fat in milk increases the content of cholesterol in their body in their body causing some disease.During this research I have interacted with people of Salem, and how people perceive these products on the variables like price, quality, advertisement, satisfaction, taste, packaging, brand loyalty etc.

Keywords: *Coffee, Butter, Sweet items, Ice cream*

I. Introduction

The modern milk supply system to urban consumer's dates back to Colony of Bombay milk supply scheme launched the supply of pasteurized in bottles.In the busy world of ours, each human being is running like a machine. This makes him to prefer every product to be is such a state which will be easily available to him for consumption. Milk is not an exception. Since the time a person gets up from his bed till he goes to sleep, milk plays a key role. Mostly milk is consumed either adding it to prepare complain etc.

It is also used to prepare curd, sweets, in each and every house. The availability of milk in packets further helps the busy people (producers and consumers) by reducing their time.There is no need for them to wait for the milk man,whenever it is required for them. They can more to the dealer. People complaint that fat in milk increases the content of cholesterol in their body in their body causing some disease. To get rid of this complaint people can go for skimmed milk. Previously, the availability of cattle farm was more and the population was less.To carry out all the day-to-day life activities, energy is needed. Food gives energy. Hence it is irritable for any human being to intake food.One of the important factors that must be considered in food is its nutritious value. Nutritious is the science of food.

It is the process by which the organism ingests, digests, absorbs, transports, utilizes, nutrients and dispose sits end products. Collectively, it is the process of intake, digestion and assimilation of food. Consumer's preference for a readily available, good quality producthas lead to the increased demand for packet milk.

Milk is an essential item used by the people as vegetarian diet more consumption of milk depend not only on its factor but also on the availability of children and also by practice of taking coffee, tea, etc.

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Hospital Visitor Management System

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ABSTRACT

Health is the major factor for a happy and healthy life in today's world. Due to the advanced technology development, it is very mandatory to administrate and manage the healthcare industry, particularly maintaining the patient track record and many others has become a existing and Complex task. To overcome these problems, the Hospital Visitor Management system provides the better solutions for the complete one-time comprehensive solution and systematic approach for accurate control of administrative processes by RFID hospital management system. The RFID Hospital Visitor Management System provided by IOT solutions and it is also Known as a centralized hospital management application. This Hospital administration provide the effective ways to reduce the overall burden of the administrative division of the health care industry so that they can focus on Strategic planning for the improvement of their services while fetching an information from the patient and monitoring their functions and operations. By hospital management solution it provides pharmacy management, patient identification , patient tracking, patient medication, and monitoring process only accessed and controlled by authorized people.

Keywords: Photoplethysmography, RFID, Heart rate measurement, Missing beat detector, real time monitoring, pulse sensor, Microcontroller.

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Associate Professor, PAAVAI ENGINEERING COLLEGE

for attending & giving an Oral Presentation for the paper entitled

Wireless and Solar power Charging for E-vehicles with IoT

in International Conference on recent trends in Management, Engineering and Technology (ICMET-2022) organized by Vidya Vihar Institute of Technology, Purnea, Bihar & Global Conference Hub, Tamilnadu, India on 26th & 27th December 2022

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Conference Convener
ICMET - 2022

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Dr. Asheshwar Yadav
Director
Vidya Vihar Institute of Technology,
Purnea, India

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Certificate of Appreciation

This Certificate is Proudly Presented To

A.Samundeeswari

AP, Paavai Engineering College

for attending & giving an Oral Presentation for the paper entitled

Design of Smart Antenna system based on Memcapacitor Phase shifters

In Third International Conference on advances in Science & Technology (ICOST -2023) organized by Global Conference Hub, Tamilnadu, India on 28th & 29th January 2023

DR. T.C.MANJUNATH
Conference convener
ICOST - 2023

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Department of Mechanical Engineering

in technical association with

BARANI GROUP COMPANIES,COIMBATORE

CERTIFICATE OF PARTICIPATION

This Certificate is awarded to ~~Dr~~ ~~Mr~~ ~~Ms~~ Dr.M.Sudha, Professor & Head of Paavai Engineering college for presenting a paper entitled Smart enterprises Network using cold computing in 2nd National Conference on Recent Innovations in Mechanical Engineering (RIME'2K22) Organized by the Department of Mechanical Engineering on 18th November 2022.

Prof.S.Karthikeyan Prof.P.Rajkumar
Coordinators

Dr.R.J.Golden Renjith Kumar
Convenor

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FIRST INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND BLOCKCHAIN (ICAIBC-2023)

This is to certify that Mr. VENKATACHALAM K

has presented the paper entitled Smart Home Appliance and Control System using Machine Learning

in the INTERNATIONAL CONFERENCE ON ARTIFICIAL INTELLIGENCE AND BLOCKCHAIN (ICAIBC-2023), organized by the Department of Artificial Intelligence and Data Science & Department of Artificial Intelligence and Machine Learning, Bannari Amman Institute of Technology, Sathyamangalam on 5th and 6th January 2023.

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Organizing Secretary

Dr.A.Fazila Banu
Convener

Dr.C.Palaniswamy
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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

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INNOVATIVE ENGINEERING TECHNOLOGIES 2022

Certificate of Appreciation

This is to certify that Dr./Mr./Ms. Mohana Priya. R
of Paavai Engineering College has presented
a paper titled Accident Prevention for Hairpin Bend using Arduino UNO
in the **National Conference on "Innovative Engineering Technologies " (NCIET 2022)**
held at Karpagam Academy of Higher Education, Coimbatore
on 19th December 2022

Mr. P. SUSEENDHAR	**Dr. K. G. DHARANI**	**Dr. A. AMUDHA**
COORDINATOR	HoD/ECE	DEAN/FoE

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"U.G Student, Dept. of E.C.E, Paavai Engineering College (Autonomous), Namakkal, Tamilnadu"

Has presented the manuscript at Virtual Conference:: Google Meet

"The International Conference on Innovations in Electrical, Electronics &Communication Engineering" - ICIEECE-2023:: Dual Mode

St. Ann's College of Engineering & Technology - Chirala, Andhra Pradesh

Dates: 08 – JANUARY – 2023(Online) & 09 – JANUARY – 2023(Offline)

Google Meet: meet.google.com/cih-tjpw-owd

TITLE: IOT BASED SMART WATER POLLUTION MONITORING SYSTEM

AUTHORS: M. AJAYKUMAR, R. HARIPRASANTH, R. GOKULAKRISHNAN, R. BHUVANESHWARI

ISBN-13: 979-8372932128

Dr. K. Jagadeesh Babu	Dr. M. VenuGopala Rao	Dr. Parameshachari B D
Conference Convener	Principal	Organizing Chair
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Dr. N. ANGAYARKANNI

"Professor, Dept. of. Electronics and Communication Engineering, Paavai Engineering College"

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ON

ADVANCES IN ENGINEERING AND WEB OF THINGS - ICAEWoT -2022

Organized by National Institute of Computing, Majestic, Bangalore, Karnataka, India

DATE: 04-DECEMBER-2022:: GOOGLE MEET:: https://meet.google.com/nmn-ddsr-ffz?hs=224

Paper ID:: **NIC-ICAEWoT-2022-006**:: Presentation Schedule:: 10:21 Am - 10:30 Am

Paper Title: **"DETECTION OF DRIVER DROWSINESS USING IMAGE PROCESSING "**

Author(s): GOPI S, HARISANJAI A, Dr. N. ANGAYARKANNI

Mr. K. Hemasundararao	**Er. M. Sivudu**	**Dr. J. Ravindra**	**Dr. D. Rajendra Prasad**
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NIC:: https://www.nicsdt.com/

ISBN-13: 979-8-3668-5750-5

Google Meet Link: https://meet.google.com/nmn-ddsr-ffz?hs=224

Certificate

OF PUBLICATION

This is Awarded to:

Sudha M

For the paper titled

NON HYDRAULIC SOLAR PANEL SLANG

Published in International Journal of Engineering Technology and Management Sciences (IJETMS)
Vol-06 Issue-06 November-December 2022. DOI: 10.46647/ijetms.2022.v06i06.101 ISSN: 2581-4621

B.Mahesh
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This is to certify that

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"Asst. Professor, Dept.of. Electronics & Communication engineering, Paavai Engineering College"

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Organized by National Institute of Computing, Majestic, Bangalore, Karnataka, India

DATE: 04-DECEMBER-2022:: GOOGLE MEET:: https://meet.google.com/nmn-ddsr-ffz?hs=224

Paper ID:: **NIC-ICAEWoT-2022-021**:: Presentation Schedule:: 12:51 Pm - 01:00 Pm

Paper Title: **"SOUND RECHARGEABLE POWER BANK "**

Author(s): SNEGA S, PRIYADHARSHINI S, NAVEENA V K, S. VIJAY MURUGAN

Mr. K. Hemasundararao	**Er. M. Sivudu**	**Dr. J. Ravindra**	**Dr. D. Rajendra Prasad**
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Has presented the manuscript At Virtual Conference:: Google Meet

The International Conference on "Recent Trends in Computer Science and Communication Engineering" ICRTCSCE- 2022:: BLENDED MODE

NRI Institute of Technology (NRIIT) - Medikonduru, Guntur, Andhra Pradesh

Date: 11 & 12 -DECEMBER-2022:: Google Meet: meet.google.com/pyz-funv-rek

TITLE: SMART SYSTEM FOR AGRICULTURAL GREENHOUSE MANAGEMENT

AUTHORS: DR. R MOHANA PRIYA, SMITHA M, THARANI K, SOWMIYA K

ISBN-13: 979-8367894165

Dr. K. Srihari Rao
Conference Convener
ICRTCSCE-2022

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Principal
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St. Ann's College of Engineering & Technology - Chirala, Andhra Pradesh

Dates: 08 – JANUARY – 2023(Online) & 09 – JANUARY – 2023(Offline)

Google Meet: meet.google.com/cih-tjpw-owd

TITLE: INSTRUCTIVE WALL PAINTING BOT

AUTHORS: MR. S. SATHEESHKUMAR, S. SRINITHI GAYATHRI, S. VINISHA

ISBN-13: 979-8372932128

Dr. K. Jagadeesh Babu	Dr. M. VenuGopala Rao	Dr. Parameshachari B D
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Department of Mechanical Engineering

in technical association with

BARANI GROUP COMPANIES, COIMBATORE

CERTIFICATE OF PARTICIPATION

This Certificate is awarded to ~~Dr~~ /Mr /~~Ms~~ Satheesh kumar. S of Paavai Engineering College, Namakkal for presenting a paper entitled Invisibility of Gas Leakage Detection Using Gsm module in 2nd National Conference on Recent Innovations in Mechanical Engineering (RIME'2K22) Organized by the Department of Mechanical Engineering on 18th November 2022.

Prof.S.Karthikeyan Prof.P.Rajkumar
Coordinators

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Has presented the manuscript At Virtual Conference:: Google Meet

The International Conference on "Recent Trends in Computer Science and Communication Engineering" ICRTCSCE- 2022:: BLENDED MODE

NRI Institute of Technology (NRIIT) - Medikonduru, Guntur, Andhra Pradesh

Date: 11 & 12 -DECEMBER-2022:: Google Meet: meet.google.com/pyz-funv-rek

TITLE: SMART ENERGY METER USING IOT

AUTHORS: MR. S. LOGANATHAN, SWATHIGA. G. V, SOBANA. M, SHEELA JENEFER. A

ISBN-13: 979-8367894165

Dr. K. Srihari Rao	**Dr. K. Srinivasu**	**Dr. M. Sreedevi**
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For the paper titled

SELF CIRCUITRY PERCEPTION FOR PHYSICAL ENVIRONS

Published in International Journal of Engineering Technology and Management Sciences (IJETMS)

Vol-06 Issue-06 November-December 2022. DOI: 10.46647/ijetms.2022.v06i06.100 ISSN: 2581-4621

B.Mahesh
Editor-in-Chief

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Certificate of Appreciation

This Certificate is Proudly Presented To

Mr. VENKATACHALAM K

for attending & giving an Oral Presentation for the paper entitled

ENVIRONMENTAL CHICKEN HOUSE MONITORING

in Fourth International Conference on Innovation in Engineering Sciences (ICIES) organized by Techno Engineering College, Banipur and Global Conference Hub, [illegible], India on 25th & 26th February 2023

Dr. Maloy Kumar Chandra
Principal
Techno Engineering College, Banipur

Avijit Kumar Chaudhury
Head of Department
Techno Engineering College, Banipur

Dr. Indrajit Sadhukhan
Conference convener
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This is Awarded to:

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For the paper titled

SMART PREVENTIVE INSOLE FOR DIABETES

Published in International Journal of Engineering Technology and Management Sciences (IJETMS)
Vol-07 Issue-01 January - February 2023. DOI: 10.46647/ijetms.2023.v07i01.005 ISSN: 2581-4621

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17th March 2023

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Presented a paper entitled

"GPS BASED VEHICLE THEFT IDENTIFICATION SYSTEM BASED ON GSM"

In the International Conference organized by Paavai Engineering College (Autonomous) , Namakkal, Tamil Nadu on 17th March 2023

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"The International Conference on "Recent Trends in Computer Science and Engineering" - ICRTCSE-2023:: Blended Mode
St. Ann's College of Engineering & Technology - Chirala, Andhra Pradesh
Dates: 19 – FEBRUARY – 2023(Online) & 20 – FEBRUARY – 2023(Offline)

Google Meet: meet.google.com/rto-iexq-sxi

TITLE: TRAFFIC LIGHT MANAGEMENT SYSTEM
AUTHORS: Dr. S. VIJAYAKUMAR, SANJAY M, VENKATESH G S, VIGNESH M
ISBN-13: 979-8378014330

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ICRTCSE-2023

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Organized by National Institute of Computing, Majestic, Bangalore, Karnataka, India

DATE: 04-DECEMBER-2022:: GOOGLE MEET:: https://meet.google.com/nmn-ddsr-ffz?hs=224

Paper ID:: **NIC-ICAEWoT-2022-010**:: Presentation Schedule:: 11:01 Am - 11:10 Am

Paper Title: "SECURED E-VOTING SYSTEM USING TWO FACTOR BIOMETRIC AUTHENTICATION"

Author(s): SANJAY.A, RAJARAJAN.R, OMNATH BALAJI.E, Dr. N. ANGAYARKANNI

Mr. K. Hemasundararao	**Er. M. Sivudu**	**Dr. J. Ravindra**	**Dr. D. Rajendra Prasad**
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Has presented the manuscript at Virtual Conference:: Google Meet

"The International Conference on Innovations in Electrical, Electronics &Communication Engineering" - ICIEECE-2023:: Dual Mode

St. Ann's College of Engineering & Technology - Chirala, Andhra Pradesh

Dates: 08 – JANUARY – 2023(Online) & 09 – JANUARY – 2023(Offline)

Google Meet: meet.google.com/cih-tjpw-owd

TITLE. , Bridge Crack Identification and Monitoring using IOT

AUTHORS: ARUN E, BHARATH S, GOPINATH P, MR. S LOGANATHAN

ISBN-13: 979-8372932128

Dr. K. Jagadeesh Babu
Conference Convener
ICIEECE-2023

Dr. M. VenuGopala Rao
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The International Conference on "Recent Trends in Computer Science and Communication Engineering" ICRTCSCE- 2022:: BLENDED MODE

NRI Institute of Technology (NRIIT) - Medikonduru, Guntur, Andhra Pradesh

Date: 11 & 12 -DECEMBER-2022:: Google Meet: meet.google.com/pyz-funv-rek

TITLE: IOT BASED SMART HELMET FOR MINING INDUSTRY APPLICATION

AUTHORS: Dr.M.SUDHA, SANTHOSHKUMAR V, SATHIS KUMAR R, THEPANRAJ R

ISBN-13:979-8367894165

K. Srihari Rao

Dr. K. Srihari Rao
Conference Convener
ICRTCSCE-2022

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"Professor, Dept. of ECE, Paavai Engineering College, Tamil Nadu"

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ON

Recent Trends in Emerging Technologies and Engineering – ICRTETE – 2023

Organized by International Institute of Smart Engineering and Technology, Madhapur, Hyderabad, India

DATE:05-FEBRUARY-2023::GOOGLE MEET

Google Meet: meet.google.com/xnd-evsg-sxp

Paper Title: **DETECTION OF LANDMINES USING IOT**

Author(s): KOKANTI PAVANKUMAR, NARUBOINA CHARANSAI, THAMBU GANESH, DR. M. SUDHA

ISBN-13: 979-8376373958

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General Chair	**Session Chair**	**Organizing Chair**
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"Associate Professor, Department of ELECTRONICS AND COMMUNICATION ENGINEERING, PAAVAI Engineering College, Tamil Nadu"

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ADVANCED RESEARCH ON MULTIDISCIPLINARY PERSPECTIVES IN ENGINEERING & TECHNOLOGY-ICARMPET : 2023

DATE:22-JANUARY-2023: GOOGLE MEET

Organized by National Research in Science and Engineering Technology, Hyderabad, India

Paper Title: **"Prediction Of Fake Transaction On Credit Card Using Machine Learning And Deep Learning With Visual Studio "**

Author(s): Sri Krishn, K[1], Sri Viknesh.S[2] ,Udhayanithi.E[3]

Session Chair
Dr. Abhay Bhatia
Roorkee Institute of Technology

Conference Convener
Dr. Mourya

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organized Chair : Dr. Ashok Matani
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Mrs.S.Usha, AP

,Paavai engineering college

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Design and development of an EOG-based system to control wheelchair for people suffering from quadriplegia or quadriparesis

in International Conference on recent trends in Management, Engineering and Technology (ICMET-2022) organized by Vidya Vihar Institute of Technology, Purnea, Bihar & Global Conference Hub, Tamilnadu, India on 26th & 27th December 2022

Er. Om Prakash Singh
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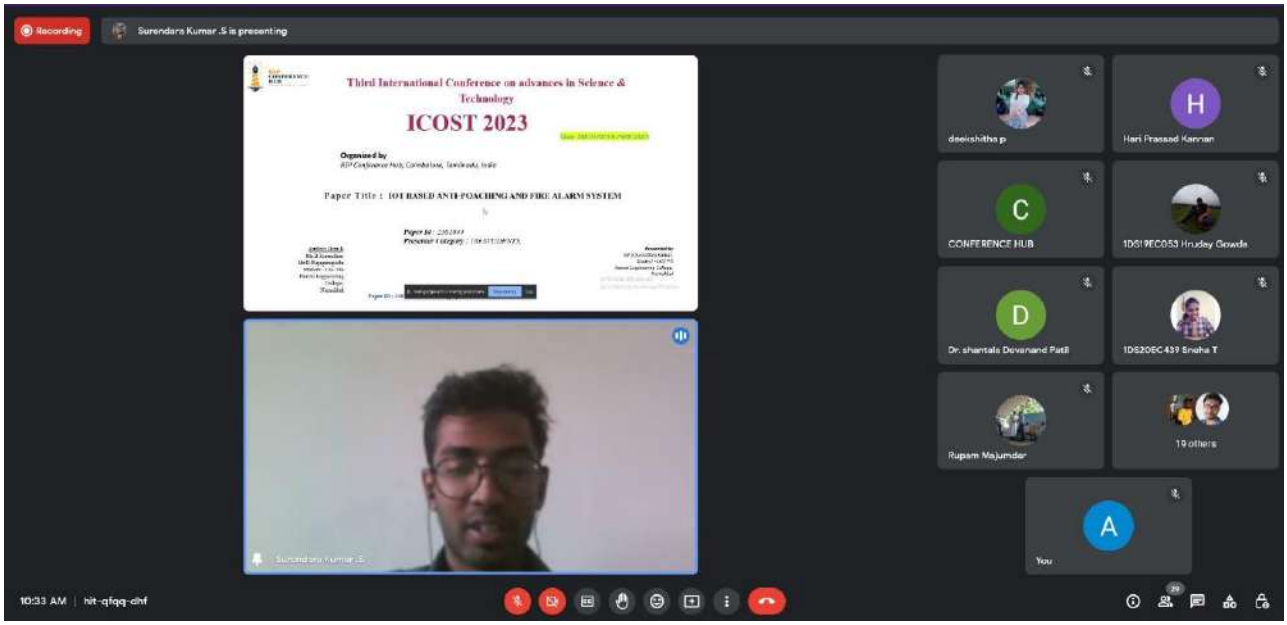
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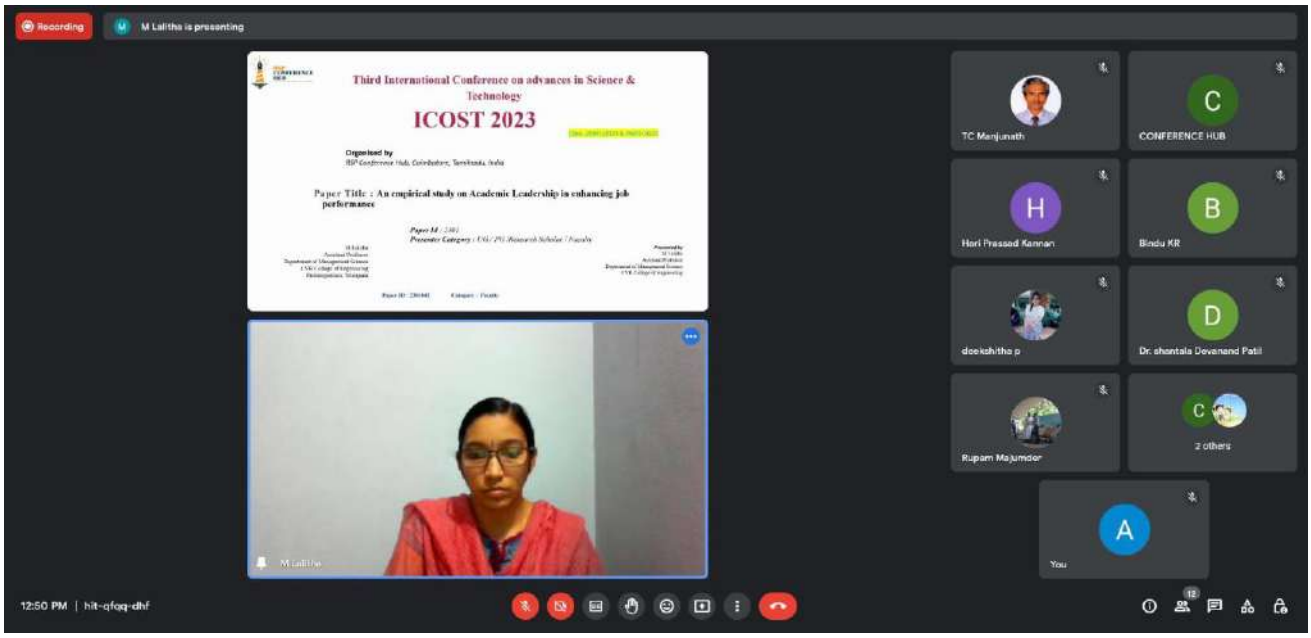
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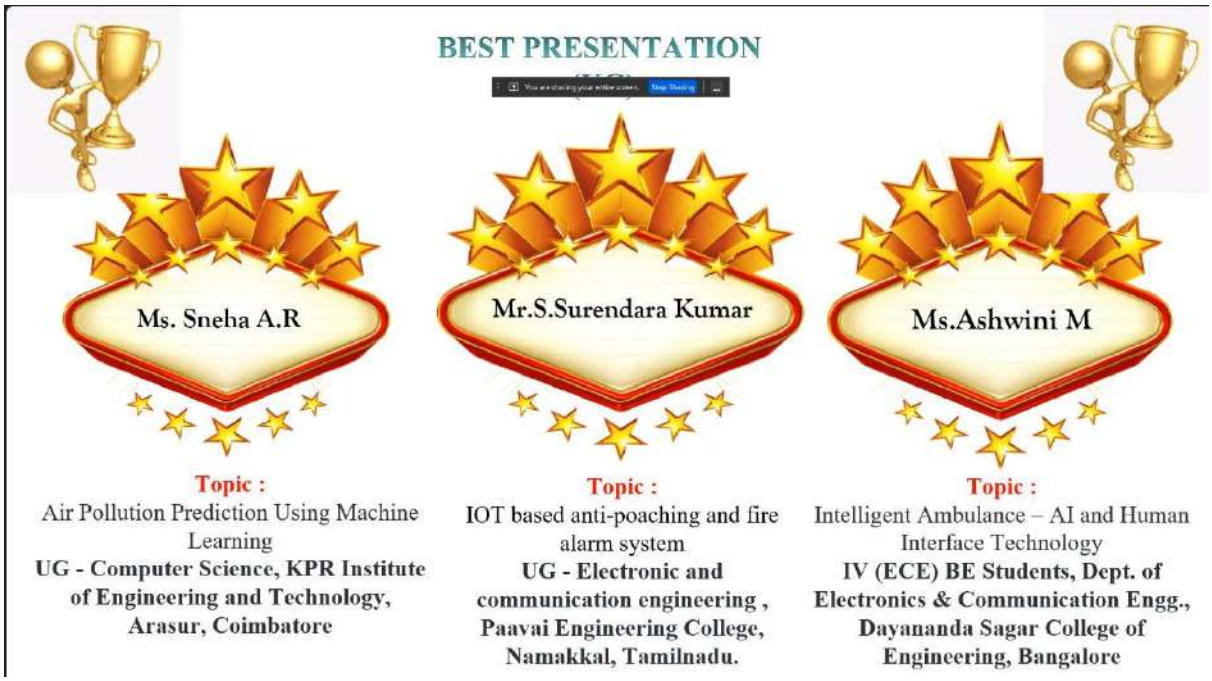

Topic :
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Topic :
IOT based anti-poaching and fire alarm system
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Topic :
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IOT Based Anti-Poaching and Fire Alarm System

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ABSTRACT

Poaching of wild animals and forest fire have been a major concern in many countries. The recent fire incident in Australia has highlighted the need of detecting forest fire in its initial stages. Poaching has a huge imbalance in the ecosystem, due to poaching many endangered species are now on the brink of extinction. A framework of IoT based Anti-poaching and Fire alarm System (IAFS) designed in this paper comprises of three sensors, i.e., temperature sensor, smoke sensor and Light Dependent Resistors (LDR) sensor. The proposed IoT based IAFS device consists of Arduino board which collects all the data from these sensors and relays the information to the cloud. The cloud platform continuously monitors the data and sends an alert notification via SMS to the forest officials whenever there is any intrusion detected. The aim of this proposed IAFS is to be able to remotely monitor forest cover and poaching of wild animals. Even with all the addition of extra manpower to curb the poaching activities and safeguard the forest, it is still inefficient owing to the large and dense forest area. The proposed IAFS enables forest officials to monitor the forest area and collect data of any intrusion remotely.

Keywords—Anti-poaching, Arduino Board, IOT

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