PEERS ALLEY MEDIA

Euro-Global Summit on

Advances in Structural Biology & Protein Chemistry

JUNE 20-21, 2024

BARCELONA, SPAIN

2
DAYS WITH MORE THAN 45 SESSIONS, KEYNOTES & ORAL PRESENTATIONS

12+
INNOVATIVE FEATURED SPEAKERS

20+
HOURS OF NETWORKING EVENTS

60+
INTERNATIONAL SPEAKERS

125+
EDUCATIONAL SESSIONS

Theme:

" The current trends, innovations and breakthroughs in structural biology and protein chemistry; Future tools and methods applicable to the study proteins at the molecular and structural levels "

Adv. Structural BIO 2024

https://advanced-structural-biology.peersalleyconferences.com/

Chemists | Biotechnologists | Structural Biologists| Molecular Biologists | Bioinformaticians | Pharmaceutical Researchers | Mathematicians | Biologists | Computer Scientists | Medical Researchers and Clinicians | Statistical Researchers | Biomedical Researchers | Health Informaticians | Protein Chemists | Biophysicists | Computational Biologists | Graduate Students and Postdoctoral Researchers

PRESENTATION FORUM

KEYNOTE FORUM / MINI-PLENARY SESSIONS

Presentations under Keynote Forum or Mini-Plenary Sessions includes abstracts with remarkable research value selected by the program committee. These significant speeches are delivered by globally recognized honorable speakers and it is open to all registrants.

DISTINGUISHED SPEAKERS FORUM (ORAL ABSTRACT SESSIONS)

In this forum, speakers and experts of the research field gets an opportunity to showcase their noble research work that involves comprehensive research findings. These formal oral presentations include a wide range of talks covering basic research to advanced research findings in accordance to the theme and scientific sessions of the conference.

STUDENT FORUM

POSTER SESSION

This session is particularly introduced to encourage more number of student participation at international conferences, however it is not restricted only to students since it is also available for the participants with language barrier. There are specific guidelines to be followed to prepare the poster. Poster topic should be selected only from relevant scientific sessions with in-depth technical details.

YOUNG INVESTIGATORS FORUM

An exclusive opportunity for students and young investigators to present their research work through a formal oral presentation. Young Investigators Forum provides a global platform for young researchers and scholars to showcase their valuable contribution to the scientific world and to get acknowledged by the global scientific community of experts. It is an excellent opportunity to recognize young scientific assets with promising research ideas. These oral presentations are of shorter time duration with 10-15 minutes of informative and precise presentations in relevant scientific sessions.

EDUCATIONAL WORKSHOPS/RESEARCH WORKSHOPS/ CORPORATE WORKSHOPS/MINI- SYMPOSIA

With an aim of transferring knowledge among the participants, workshops are introduced as a part of international conferences. These interactive and occasionally practical sessions gives an opportunity for participants to engage in detail discussion. Workshops are mostly scheduled for 60 to 90-minutes. It may range from learning about a specific topic relevant to international education, products and research which sometimes involves practical demonstration. It helps in enhancing skills, knowledge and understanding of the research field in depth through interactive discussions.

MEET THE PROFESSOR @ NETWORKING SESSIONS

This session involves open discussion between the experts and session attendees, it gives enough time for getting answers to specific questions and doubts. It is an opportunity for attendees to increase their professional networking, sometimes also leads to an excellent collaboration opportunity.

HIGHLIGHTS OF THE DAY SESSIONS

"Highlights of the Day Sessions" is introduced to discuss and focus a ray upon previous day ORAL ABSTRACT presentations by experts to summarise the key findings. It helps in getting better insights into the various dimensions of the topic.

EDUCATIONAL SESSIONS/ TRAINING PROGRAMS

Educational Sessions or training programs are specifically designed for a better understanding of the latest findings and technologies. These are generally 45-minute sessions that gives an exposure to the multidisciplinary field, that provides in-depth learning experiences and address educational needs.

REGISTER & PARTICIPATE

in

ADV. STRUCTURAL BIO 2024

https://advanced-structural-biology.peersalleyconferences.com/

TYPES OF ACADEMIC REGISTRATIONS

- SPEAKER REGISTRATION
- COMBO A (REGISTRATION + 2 NIGHT ACCOMMODATION)
- COMBO B (REGISTRATION + 3 NIGHT ACCOMMODATION)
- DELEGATE REGISTRATION

TYPES OF BUSINESS REGISTRATIONS

- SPEAKER REGISTRATION
- COMBO A (REGISTRATION + 2 NIGHT ACCOMMODATION)
- COMBO B (REGISTRATION + 3 NIGHT ACCOMMODATION)
- DELEGATE REGISTRATION

TYPES OF STUDENT REGISTRATIONS

- REGISTRATION
- YIF
- COMBO A (REGISTRATION + 2 NIGHT ACCOMMODATION)
- COMBO B (REGISTRATION + 3 NIGHT ACCOMMODATION)
- POSTERS

TYPES OF ADDITIONAL REGISTRATIONS

- ACCOMPANYING PERSON
- E-POSTER
- VIRTUAL PRESENTATION
- WORKSHOPS
- START-UPS

"TIME TO CONNECT WITH YOUR PEERS"

CONCURRENT EDUCATIONAL SESSIONS

THURSDAY
JUNE 20
2024

- Molecular Biology
- Structural Biology

- Folding and Binding
- Protein Structure Database

GROUP PHOTO | COFFEE BREAK

- Protein Engineering
- Sequence Analysis and Topology

- 3-D Structure Determination
- Computational Structural Biology

LUNCH BREAK

- Molecular Modelling and Dynamics
- Drug Designing and Biomarkers

- Macromolecular Machines
- Gene Regulation
- Cell Signalling
- Structural Enzymology

COFFEE BREAK

- Structural Bioinformatics
- Biochemistry and Biophysics
- Cell Biology

- Carbohydrate-Protein Interactions and Glycosylation
- Proteomics and Genomics
- Structural Biology in Cancer Research

NO SECRET IS SAFE SHARE YOUR RESEARCH

CONCURRENT EDUCATIONAL SESSIONS

FRIDAY
JUNE 21
2024

- Molecular Biology Techniques
- Advancements in Structural Biology

- Protein-Nuclic Acid Interactions
- Membrane Structural Biology

GROUP PHOTO | COFFEE BREAK

- Biophysical and Molecular Biological Methods
- Catalysis and Regulation

- X-ray Crystallography
- NMR Spectroscopy
- cryo-EM

LUNCH BREAK

- Structural Biology in Drug Discovery
- Structural Biology in Immunology

- Data Mining in Structural Biology
- Protein Engineering
- Protein-Protein Interactions

COFFEE BREAK

- Protein-Nuclic Acid Interactions
- Plant Structural Biology

- Mass Spectrometry in Structural Biology
- Advances in Structural Biology
- Biomolecular Simulations

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Regulation of mTOR by phosphatidic acid

Speaker Name: Maria Serrano de Sousa Frias

Affiliation: Biology Department, St Francis College, USA

Abstract:

mTORC1, the mammalian target of rapamycin complex 1, is a key regulator of cellular physiology. The lipid metabolite phosphatidic acid (PA) binds to and activates mTORC1 in response to nutrients and growth factors. After reviewing structural findings, we propose a model for PA activation of mTORC1. PA binds a highly conserved sequence on α4 helix of the FKBP12- rapamycin binding domain of mTOR. It is proposed that PA binding to two adjacent positively charged amino acids breaks and shortens the C-terminal region of α4-helix. This leads to profound consequences for substrate binding and catalytic activity of mTORC1.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Dendritic crystal formation and growth of biological solutions and its AI aided image analysis for medical applications

Speaker Name: Yao-Xiong Huang

Affiliation: Jinan University, China

Abstract:

The studies on the dendritic crystallization of biological solutions are significant for medical applications. This manuscript reports our systematic study on the solution dendritic crystallization as a function of temperature, pH value, and the concentrations of its major components. And the factors that cause the variation in the crystal patterns, the distribution of the main components in the crystals, and the sequence of their deposition or crystallization. By summarizing the general crystallization behaviour and formation mechanisms of biological solutions, we proposed the methods of crystal pattern analysis for the solution characteristics tests or growing the crystals with desired patterns for different purposes. By the methods, one can conduct a quantitative test on a solution by analysing its evaporated crystallization patterns. Therefore, the chemical compound measurements that usually need to use analytical instruments can be transferred to simple pattern recognition and analysis and make it become an objective test. With a smartphone-based portable imaging device, the crystal pattern analysis method can be a powerful means for daily use of medical and biochemical point-of-care testing (POCT). On this basis, we developed a simple smartphone-based salivary crystallization imaging system with functions of AI-aided rapid automatic pattern recognition and analysis to help pregnant women monitor their fetal status daily at home and predict their delivery date by analysing their saliva crystallization. The method combines the information of the fractal dimension with some specific forms of crystals in the salivary crystallization and estimates the delivery date in both quantitative and qualitative manners. The accuracy of the prediction was satisfactory, with 100% delivery in the predicted week, 93.3% within the three days, and 86.7% on the day as the prediction.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

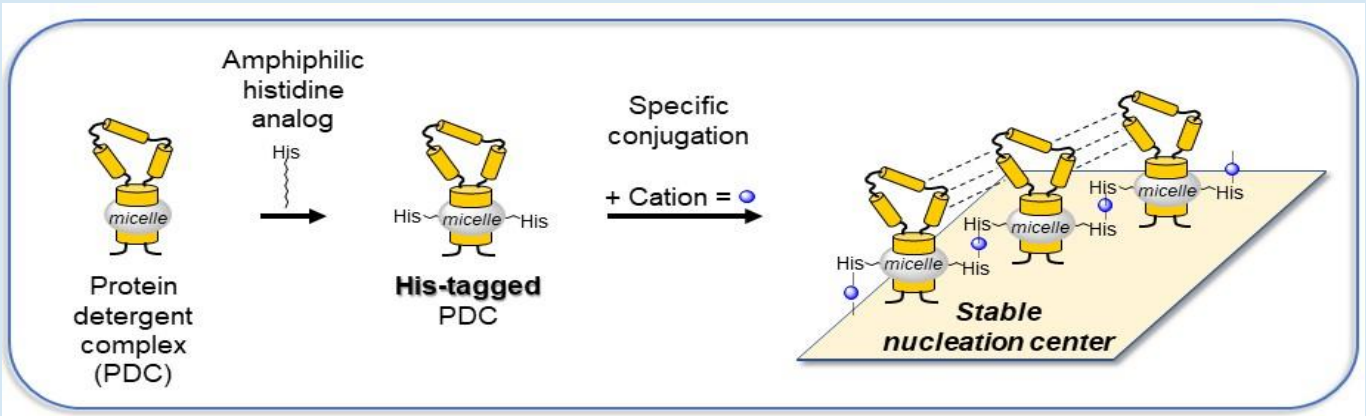
Title: His-tagged micelles as a potential tool for crystallization of membrane-proteins

Speaker Name: Guy Patchornik

Affiliation: Ariel University, Israel

Abstract:

We present a new concept for crystallization of integral membrane proteins. Our working hypothesis relies on the assumption that by conjugating-micelles containing the target membrane protein, one would bring the latter into proximity and stabilize nucleation centers that would support crystal growth. Micellar conjugation is achieved with amphiphilic [metal:chelator] complexes generated at the micelle\water boundary. The binding affinity between the metal and the hydrophobic chelator used, defines the (i) strength of binding between: protein detergent complexes (PDCs) as well as (ii) the rate at which PDCs dissociate & reassociate until the most ordered PDCs assembly, is reached. Thus far, 3D crystals of two membrane proteins belonging to the retinal family were obtained *via* this approach, but these were either too small or too thin to allow structure determination. Therefore, ***His-tagged micelles*** are being developed as a potential alternative (see illustration).



PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Competitive inhibition and synergistic effects of nutraceutical and metabolite molecules on anti-acetylcholinesterase activity

Speaker Name: Nigar Kantarci - Carsibasi

Affiliation: Uskudar University, Turkey

Abstract:

The rapidly increasing prevalence of Alzheimer's disease (AD) poses a significant global public health threat. While medications such as Donepezil, Galantamine, and Rivastigmine are used, their serious side effects and limited healing fail to provide a definite cure. Consequently, combination therapies are being explored to enhance the efficacy of existing drugs. We recently conducted a comprehensive in silico screening to identify effective natural source molecules as potential inhibitors of acetylcholinesterase enzyme (AChE) for the treatment of AD. Queuine, Etoperidone, and Thiamine yielded promising docking scores and interactions estimated by molecular docking. Stable complex formation was observed as explored by molecular dynamics simulations, and effective half- inhibitory concentrations were achieved in neuroblastoma cell lines. Combined use of Queuine with Donepezil, Etoperidone, and Thiamine on acetylcholinesterase enzyme inhibition is also evaluated.

The effects of the drug combinations on cell viability and acetylcholinesterase inhibition were investigated by using safe doses determined for each drug. The cytotoxic effect of drug combinations was investigated on the SH-SY5Y cell line using the RTCA method. All the individual or drug combinations were non-toxic to neuronal cells. Anti-acetylcholinesterase activities were estimated by Ellman's method yielding the inhibition percentages as 70%, 61%, 45%, and 51% for Donepezil, Etoperidone, Queuine, and Thiamine, respectively. When drug combinations were analyzed, competitive inhibition resulted for Queuine+Donepezil and Queuine+Thiamine, the enzyme inhibition percentages being diminished to 47% and 21%, respectively. A significant synergistic effect was observed for Queuine+Etoperidone with the highest inhibition of 74%. Queuine, a nutraceutical molecule, had been previously linked to amyloid beta (Aβ) related cascade in AD (ref). Queuine also shows potential neuroprotective effects linked to the anticholinergic mechanism as well, as it was found to be more effective than the approved drug Galantamine at inhibiting AChE activity, and synergistic boosted activity in combined use with Etoperidone, surpassing the effectiveness of Donepezil. This suggests that Queuine may be a potential multi-target drug (MTD) that can inhibit multiple proteins involved in AD pathogenesis.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: New Reflections on the Motive Power of Fire

Speaker Name: Claudio Zamitti Mammana

Affiliation: University of Sao Paulo, Brazil

Abstract:

In this presentation I intend to expose the necessary modifications in the Kinetic Theory of Gases, in Statistical Mechanics and in the foundations of Quantum Mechanics, to obtain a version of Quantum Theory that conforms both with Thermodynamics and Special Relativity. It allows derive the thermodynamic properties of a chemical substance in the vapor state, expressed in terms of a hypothetical substance, called Perfect Vapor that appropriately describe the fundamental properties of Carnot's working substance.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Expansivity Measurements Made Using Capacitance Dilatometers between 2K and 873K

Speaker Name: Thomas L. Altshuler

Affiliation: Former owner of the Advanced Materials Laboratory, USA

Abstract:

Capacitance dilatometers have been used to measure the thermal expansivity of various materials from 2K to 873K. Expansivity measurements were made using an Andeen Hagerling bridge with a 0.5 attofarad sensitivity and a ten digit readout.
Expansivity readings were made every degree Kelvin for both warming and cooling of the specimens. For temperatures between 293K and 873K a push rod dilatometer was used within a furnace to measure thermal expansivity of silicon. The hysteresis loop between the warming and cooling curves was less than 7 µstrain. The specimen chamber had helium that did not flow during the tests. For temperatures between 2K and 293K two types of dilatometers were used. One was a hanging capacitance disk supported by three specimens of a graphite resin composite. As the specimen changed length the bottom capacitance disk, attached at the bottom of the specimens, moved relative to the top capacitance disk which was attached to the top of the specimens. The other dilatometer was a push rod dilatometer.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Single Nanoparticle Molecule Sensors for Imaging of Single Live Cells

Speaker Name: X. Nancy Xu

Affiliation: Old Dominion University, USA

Abstract:

Innovative sensing and imaging tools for probing functions of individual live cells in a highly heterogenous cell population in real time would revolutionize early disease diagnosis and treatments. Current tools are unable to real-time probe molecular functions of single live cells with adequate quantitation, spatial and temporal resolutions and over an extended period of time. We have pioneered the development of a suite of highly innovative nanobiotechnologies, including photostable single plasmonic nanoparticle imaging probes, single molecule nanoparticle optical biosensors, and farfield photostable optical nanoscopy (PHOTON). We have demonstrated that these new tools can overcome the drawbacks of fluorescence-based imaging platforms for dynamic, single molecule and multiplexing imaging of single live cells with superior temporal and spatial resolutions and over a desired extended period of time. We have used these new tools to real-time study: (i) molecular cascades of signaling transduction pathways of single live cells, (ii) molecular mechanisms of multidrug resistance of single live cells, (iii) efficacies of individual drug nanocarriers, (iv) rare subsets of single cancer stem cells in tissue, and (v) native environments of developing embryos. In this plenary presentation, I will describe the design and development of these innovative singlenanoparticle optical biosensors and their wide ranges of applications. The work was supported by NIH and NSF.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: From Intelligent Sensors to Digital Twin for Healthcare

Speaker Name: Xueji Zhang

Affiliation: Shenzhen University, China

Abstract:

The convergence of biosensors and artificial intelligent technology represents a pivotal advancement in the healthcare domain. This presentation embarks on a journey exploring the transformative potential of harnessing intelligent biosensors to create digital twins for healthcare applications. It delves into the evolution of biosensor technology and its critical role in the realization of digital healthcare ecosystems.

The presentation will commence with an overview of intelligent biosensors, showcasing their development, capabilities, and the diverse range of applications within the healthcare sector. Emphasis will be placed on the continuous improvements in biosensor accuracy, miniaturization, and connectivity, which are fundamental in gathering real-time physiological data. Subsequently, we will delve into the concept of digital twins and their relevance in healthcare. Digital twins are virtual representations of real-world entities, and in the context of healthcare, they serve as dynamic models of patients, enabling personalized and proactive healthcare interventions. We will discuss the integration of biosensor data into digital twin models, facilitating the creation of highly accurate and responsive patient profiles. Furthermore, this presentation will highlight emerging trends and future directions, including the potential for real-time remote patient monitoring, predictive diagnostics, and the advancement of precision medicine through digital twins.

In conclusion, the presentation aims to provide a comprehensive understanding of the journey from intelligent biosensors to digital twins for healthcare. Attendees will gain insights into the technological advancements, ethical considerations, and transformative potential that this fusion of technologies brings to the healthcare landscape.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Microfluidic Sliding Paper-Based Device for Pointof-Care Determination of Albumin-to-Creatine Ratio in Human Urine**

Speaker Name: Szu-Jui Chen

Affiliation: National Cheng Kung University, Taiwan

Abstract:

This paper presents a novel assay platform comprising a microfluidic sliding double-track paper-based chip and a handheld Raspberry Pi detection system for the quantification of the albumin-to-creatinine ratio (ACR) in human urine. The ACR is a clinically significant parameter with implications for the early detection of conditions such as renal insufficiency. In this proposed method, the microchip's sliding layer facilitates the movement of the urine sample through two parallel filtration channels, directing it to the reaction and detection areas of the chip, thus enabling the completion of the detection reaction. This straightforward approach is well-suited for self-diagnosis of the ACR index in human urine. The assay relies on the analysis of RGB (red, green, and blue) value intensity signals generated by the reaction complexes in these two reaction zones, with data processed by a Raspberry Pi computer to derive ACR values, specifically albumin (ALB) and creatinine (CRE) concentrations. These results demonstrate a linear relationship between the G + B value intensity signal and the ALB and CRE concentrations, yielding correlation coefficients of R2 = 0.9919 and R2 = 0.9923, respectively. Furthermore, this proposed result conducted a validation study using 23 urine samples obtained from patients suffering from chronic kidney disease (CKD), confirming that the ALB and CRE concentration results obtained through our proposed method closely align with those acquired using a conventional high-reliability macroscale method. In summary, our findings establish the utility of our method as a convenient, real- time, reliable, and costeffective solution for point-of-care CKD diagnosis and monitoring in clinical applications.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **A CRISPR-Cas System -Based Metal-Enhanced Light-Up Aptamer Fluorescence Biosensor for Profiling Exosome-Associated Breast Cancer**

Speaker Name: Yan Jiaxiang

Affiliation: The Hong Kong Polytechnic University, Hong Kong

Abstract:

Cancer cells possess the ability to instruct other cells within the tumor microenvironment through a paracrine mechanism, facilitated by the secretion of nano-sized extracellular vesicles, specifically exosomes (Exo). This process contributes to the rapid expansion of tumor mass. Exosomes have been identified as potential prognostic, diagnostic, and therapeutic agents, possessing specific biomarkers in patients with various tumor types. This is due to the fact that the exosomal cargo, rich in information, can mirror alterations in metabolic and proteomic profiles of the originating tumor cells. However, the analysis of exosomal protein markers in blood samples presents a significant challenge due to the extensive sample preparation required and the lack of sufficient sensitivity. To overcome this obstacle, we have engineered a novel metal-enhanced light-up aptamer fluorescence biosensor, leveraging the recognition and amplification capabilities of the CRISPR-Cas system. Our newly developed detection platform offers selective and sensitive detection by (i) amplifying the metal-enhanced light-up aptamer fluorescence signal and (ii) utilizing the CRISPR-Cas signaling amplification system for sensitive exosomal protein detection, thereby characterizing cancer cells. In summary, we posit that our CRISPR-Cas System- Based Metal-Enhanced Light-Up Aptamer Fluorescence Biosensor for exosome detection not only introduces a novel tool for the detection of exosomal proteins and cancer diagnosis, but also suggests a new strategy for the detection of non-nucleic acid analytes using the CRISPR-Cas system.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Electronic Muscle Stimulation Jumpsuit Optimization: Conductivity, textiles and performance

Speaker Name: Mary Ruppert-Stroescu

Affiliation: Washington University in St. Louis, USA

Abstract:

Electronic Muscle Stimulation (EMS) via wearable electronic textile-based systems have the potential to transform human performance. Textile-based EMS systems are gaining interest in the academic and commercial domains of sports performance, occupational therapy, remote monitoring and more, yet the quality and consistency of the EMS garments commercially available varies greatly and standards for wearable electronic textile-based systems are emerging but not yet comprehensive. To contribute to the body of knowledge concerning EMS garments, the objectives of this study were to assess the performance of a commercially available EMS suit, to optimize the EMS suit's functionality, and to determine a framework that will aid in assuring quality when manufacturing an EMS suit at scale.

An experimental study evaluated fifteen jumpsuits for electronic, ergonomic, and body fit both in the lab and on human subjects. This thorough analysis of a) stimulation efficacy positioned in ten distinct locations on the body, evaluation of b) conductive paths, c) conductive threads d) connectors, e) battery packs, and f) application interfaces resulted in a model of design criteria for an optimized production-ready EMS jumpsuit. Results of this study provide sport trainers and therapists, as well as manufacturers of EMS textiles, with a baseline for assuring the performance of textile- based EMS products.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: An Innovative Prosopis Cineraria Pod Aqueous Waste

Speaker Name: Prashant Kumar

Affiliation: RMIT University, Australia

Abstract:

Yeast-produced Single Cell Oil (SCO) stands out as a promising alternative owing to its elevated lipid yield within confined spatial parameters, coupled with the inherent ability to manipulate lipid quality. In this investigation, banana peel serves as the carbon source for biotransformation by Rhodotorula mucilaginosa into lipids. Additionally, the lipid's quality and quantity are augmented through the utilization of discarded aqueous Prosopis cinerareia pod extract as a natural inhibitor.Quantification of the P. cineraria aqueous extract, accomplished through High-Performance Liquid Chromatography (HPLC), revealed the presence of phenylpropenoids, including epicatechin (0.068%), gallic acid (0.29%), quercetin (0.34%), epigallocatechin (0.091%), rutin (0.141%), ellagic acid (0.141%), along with glucose (1.22%) and sucrose (2.36%). Subsequently, sucrose and glucose were isolated from the aqueous extract and characterized through Nuclear Magnetic Resonance (NMR) and Thermogravimetric Analysis (TGA). This natural inhibitor proves advantageous compared to the chemical inhibitor (statin) concerning lipid production with desirable quality. The inhibition occurs through blocking the yeast competitive mevalonate pathway, promoting heightened lipid accumulation in microbial cells. The anti- cholesterolemic activity of this natural inhibitor potentially influences lipid accumulation by impeding the mevalonate pathway. The collaborative action of reducing sugars and phenylpropenoids synergistically enhances the accumulation of unsaturated lipids in microbial cells. Phenylpropenoid may inhibit the key enzyme HMG reductase, which governs the mevalonate pathway for ergosterol formation, thereby inducing lipid accumulation. The isolation of lipids from yeast cells is optimized using a green solvent, namely liquid-CO2. This liquid-CO2 extract is enriched with unsaturated lipids (46.96%), including ω-fatty acids such as linoleic (17.61%) and linolenic (5.35%). Consequently, SCO is generated utilizing food waste both as a carbon source and an inhibitor, and the resulting lipid is deemed natural and suitable for nutritional purposes.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Semiconductivity in Molecules of Life

Speaker Name: Vengadesh Periasamy

Affiliation: Universiti Malaya, Malaysia

Abstract:

Molecular biology has been moving towards development of high throughput, small-scale platforms for various applications from medical research to molecular diagnostics. Advancedtechnologies, although mostly precise and sensitive, are expensive, time-consuming and require laboratory equipment and technical expertise. In addition, these tools are designed totarget certain types of biomaterials (genomics and proteomics), or even more specific target samples (specific protein arrays). Hence, there is lack of a universal tool capable of identification of living organisms through detection of biomolecules (DNA, RNA, proteins) or characterization of cells in a rapid, costeffective and user-friendly manner. The novelty of the proposed technology however originates from the individually specific electronic nature of the biomaterial of interest. Looking at biomaterials and living organisms from an electronicpoint of view is a very interesting research subject which has never been put into practice commercially. The electronic method developed involves direct measurements of electronic fingerprinting signals from the respective biological (or non-biological) materials. Using the idea of semiconductivity (for the first time) and other characteristic electronic properties, we have developed a first of its class of patented solid-state sensors which can detect electronicsignals arising from nucleic acids and cells and convert them into quantitative solidstate parameters. Integrated within a fully electronic Lab-on-PCB system now named eProfiler-L and operated via a Cloud-based platform, these signals can then be analyzed to help characterize and identify unknown samples. The technology relies on the electronic properties and charge transfer capabilities of the biomolecules in solution, thin film or monolayer forms. Based on how the sample reacts or ‘behaves’ when exposed to an electricfield, a characteristic eProfile is created. This behavior is attributed to the interactions at the sample/electrode interface without the need for any reagents (enzymes, antibodies, dyes, etc.). Therefore, the fingerprint eProfiles can also be scrutinized to yield surprisingly novel insights into understanding various elusive cellular and biological pathways. In this lecture, I will explain the fundamentals behind these eProfiles and how the eProfiler-L platform will be instrumental towards establishing the first fully digital database of pathogens and biomolecules for digital diagnosis (eDiagnostics) and connected healthcare in the nearfuture.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Recent Advances of Magnetic Gold Hybrids and Nanocomposites, and Their Potential Biological Applications**

Speaker Name: Mirza Muhammad Faran Ashraf Baig

Affiliation: The Hong Kong University of Science and Technology, HKSAR, China

Abstract:

Magnetic gold nanoparticles (mGNP) have become a great interest of research for nanomaterial scientists because of their significant magnetic and plasmonic properties applicable in biomedical applications. Various synthetic approaches and surface modification techniques have been used for mGNP including the most common being the coprecipitation, thermal decomposition, and microemulsion methods in addition to the Brust Schiffrin technique, which involves the reduction of metal precursors in a two-phase system (water and toluene) in the presence of alkanethiol. The hybrid magnetic– plasmonic nanoparticles based on iron core and gold shell are being considered as potential theragnostic agents. Herein, in addition to future works, we will discuss recent developments for synthesis and surface modification of mGNP with their applications in modern biomedical science such as drug and gene delivery, bioimaging, biosensing, and neuro- regenerative disorders. I shall also discuss the techniques based on my research related to the biological applications of mGNP.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Characterization of Alginate–Gelatin–Cholesteryl Ester Liquid Crystals Bioinks for Extrusion Bioprinting of Tissue Engineering Scaffolds**

Speaker Name: Alyaa Idrees Abdulmaged

Affiliation: Universiti Tun Hussein Onn Malaysia, Malaysia

Abstract:

Bioink development is an innovative approach to fabricate bio-substitutes for tissue engineering applications. The research on bioink attempts to offer a 3D complex architecture and control cellular behavior that improve cell physical properties and viability. This research proposed a new multimaterial bioink based on alginate (A), gelatin (G), and cholesteryl ester liquid crystals (CELC) biomaterials, namely (AGLC) bioinks. The development of AGLC was initiated with the optimization of different concentrations of A and G gels to obtain a printable formulation of AG gels. Subsequently, the influences of different concentrations of CELC with AG gels were investigated using a microextrusion-based 3D bioprinting system. The AGLC bioinks were formulated using AG gel with 10% w/v of A and 50% w/v G (AG10:50) and 1%, 5%, 10%, 20%, and 40% of CELC, respectively. The printed filament has a minimum width of 1.3 mm at a 1 mL/min extrusion rate with 10% w/v A, 50% w/v G, and 40% v/v CELC (AGLC40). Post-printing polymerization of the AGLC bioinks with calcium (Ca^{2+}) ions shows well - defined and more stable structures. The physicochemical and viability properties were examined by FTIR, DSC, contact angle, FESEM, MTT assay, and cell interaction evaluation methods. The FTIR spectra of the AGLC bioinks exhibit a combination characteristics vibration of AG10:50 and CELC. The DSC analysis indicates the high thermal stability. Wettability analysis shows a reduction in the water absorption ability of the AGLC bioinks. FESEM analysis indicates that the surface morphologies of the bioinks exhibit varying microstructures. In vitro cytotoxicity by MTT assay shows the ability of the bioinks to support the biological activity of HeLa cells. The AGLC bioinks show average cell viability of 82.36% compared to the control (90%). Furthermore, cultured cells on the surface of AGLC bioinks showed that bioinks provide favorable interfaces for cell attachment.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: State of the art review on automatic sorting system

Speaker Name: Thierno Gueyee

Affiliation: Northwestern Polytechnical University, China

Abstract:

The idea for the Internet of Robotic Things (IoRT) comes from activities. IoRT allows smart devices to combine sensor information from multiple sources, use broader nearby insights to determine the best reason for the activity and display events on-screen. The Internet of Things can connect web applications to other gadgets to make them smarter. Automated engineers combine the two and arm themselves with sensors that can analyze the current situation. Mechanical improvements such as ordinary voice links (PC) vision sensor innovations and artificial intelligence (AI) have resulted in a turn of events and programmed placement frameworks under advanced machinery. This article examines frameworks for arranging programmed objects to assemble robots and innovative patterns in ordinary language programmed programming, and threedimensional (3D) visual insight. The relevant statement "regulation scene" should describe the combination of all three modules. This computation enables people to relate through a three-tiered information scene and guides managers to use discourse to provide reasonable criteria whenever an order is legitimate. After receiving precise criteria, the robot can use this diary's planned execution calculations and programmed programming to direct the placement of programmed items. The play area provides a context for the natural product, while the landscape design provides a valuable part of the framework.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: EEG changes in intensive care patients diagnosed with COVID-19: a prospective clinical study Speaker

Name: Javid Shafiyev

Affiliation: University of Health Sciences Gulhane Faculty of Medicine Department of Neurology, Ankara, Turkey

Abstract:

Introduction:

Coronavirus disease (COVID-19) is an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The disease was declared a pandemic on March 11th, 2020, by the World Health Organization (WHO). There has been a substantial increase in the epileptic seizures and status epilepticus reported in the pandemic period. In this context, it is aimed with this study to identify the electroencephalography (EEG) features of patients admitted to the intensive care unit with the diagnosis of COVID-19 and to look for any specific patterns in these features.

Material and method:

The material of this study primarily comprised the neurological evaluations and continuous EEG recordings of 87 intensive care patients who were diagnosed with COVID-19. In addition, demographic and clinical features and comorbid conditions of these patients were also analyzed, and any correlation thereof was investigated.

Results:

The EEG data of 87 patients who were diagnosed with COVID-19 and were followed up in the intensive care unit were recorded and then analyzed. Abnormal EEG findings were detected in 93.1% (n = 81) of the patients, which were found to increase significantly with age ($p<0.001$). The mean age of patients with specific epileptiform abnormalities on EEG was found to be significantly higher than those with non-specific abnormalities. Epileptiform discharges were seen in 37.9% (n = 33) of the patients. Nonconvulsive status epilepticus (NCSE) was detected in 5.7% of the patients, and antiepileptic drugs were started in 25 (28.7%) of the patients.

Discussion:

Statistically significant EEG changes were observed in the continuous EEGs of the patients followed up in the intensive care unit due to COVID-19 infection. However, further studies are needed to associate the EEG changes observed in the COVID-19 patients with the epileptogenesis of COVID-19 infection.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Investigating the Potential of Lipids for Use as Biomarkers for Glioblastoma via an Untargeted Lipidomics Approach

Speaker Name: Serap Sahin Bolukbasi

Affiliation: Afyonkarahisar Health Sciences University, Turkey

Abstract:

The types and functions of lipids involved in glioblastoma (GB) are not well known. Lipidomics is a new field that examines cellular lipids on a large scale and novel aplication of lipidomics in the biomedical sciences have emerged. This study aimed to investigate the potential of blood lipids for use as biomarkers for the diagnosis of GB via untargated lipidomic approach. Gaining a deeper understanding of lipid metabolism in patients with GB can contribute to the early diagnosis with GB patiens and also development of novel and better therapeutic options. This study was performed using blood samples collected from 14 patients (eight females and six males) and 14 controls (eight females and six males). Lipids were extracted from blood samples and quantified using phosphorus assay. Lipid profiles of between patients with GB and controls were compared via an untargeted lipidomics approach using 6530 Accurate-Mass Q-TOF LC/MS mass spectrometer. According to the results obtained using the untargeted lipidomics approach, differentially regulated lipid species, including fatty acid (FA), glycerolipid (GL), glycerophospholipid (PG), saccharolipid (SL), sphingolipid (SP), and sterol lipid (ST) were identified between in patients with GB and controls. Differentially regulated lipids were identified in patients with GB, and these lipid species were predicted as potential biomarkers for diagnosis of GB.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Long-Term Clearance and Biodistribution of Magnetic Nanoparticles Assessed by AC Biosusceptometry**

Speaker Name: Erick Guilherme Stoppa

Affiliation: São Paulo State University - UNESP, Brazil

Abstract:

Once administered in an organism, the physiological parameters of magnetic nanoparticles (MNPs) must be addressed, as well as their possible interactions and retention and elimination profiles. Alternating current biosusceptometry (ACB) is a biomagnetic detection system used to detect and quantify MNPs. The aims of this study were to evaluate the biodistribution and clearance of MNPs profiles through long-time in vivo analysis and determine the elimination time carried out by the association between the ACB system and MnFe2O4 nanoparticles. The liver, lung, spleen, kidneys, and heart and a blood sample were collected for biodistribution analysis and, for elimination analysis, and over 60 days. During the period analyzed, the animal's feces were also collectedd. It was possible to notice a higher uptake by the liver and the spleen due to their characteristics of retention and uptake. In 60 days, we observed an absence of MNPs in the spleen and a significant decay in the liver. We also determined the MNPs' half-life through the liver and the spleen elimination. The data indicated a concentration decay profile over the 60 days, which suggests that, in addition to elimination via feces, there is an endogenous mechanism of metabolization or possible agglomeration of MNPs, resulting in loss of ACB signal intensity.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Developing an electrochemical non-enzymatic biosensor based on PdNPs/Carbon dots/Silica hybrid Nanostructure**

Speaker Name: Thiago Canevari

Affiliation: Mackenzie Presbyterian University, Brazil

Abstract:

The hybrid nanostructures formed by PdNPs/Carbon dots/Silica were prepared in a single step, without external catalysts, by mixing TEOS with PdNPs/Cdots, where the Cdots have been previously prepared by electrochemical means using n- propanol as carbon source. Palladium nanoparticles (PdNPs) containing Cdots (PdNPs-Cdots) were prepared from the palladium chloride complex Na2[PdCl4].

The printed carbon electrode, CSE, was used as a working electrode, which had its surface modified by adding 60 uL of an aqueous solution of the PdNPs/Carbon dots/SiO2 nanostructure. The CSE/PdNPs/Carbon dots/SiO2 electrode showed an excellent electrocatalytic response for the simultaneous determination of dopamine and serotonin in the presence of AA, as shown in figure 1, in which the electrocatalytic current increased, I, proportionally in function of the increase concentration, for both species. Measurements were performed differential pulse voltammetry in PBS, pH 7.0, in the presence of ascorbic acid, with the attention fixed at 1 x 10-4 mol/l and concentrations of dopamine and serotonin ranging from 5 x 10 -7 to 7 x 10 -6 mol/L. The detection limits were 36 nmol L-1 of dopamine and 33 nmol L-1 of serotonin.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Prospective evaluation of the Hill model in nanomaterials' bioassays

Speaker Name: Paulo Cesar De Morais

Affiliation: Catholic University of Brasilia, Brazil

Abstract:

This talk presents a prospective immersion on the Hill's model, introduced more than a century ago, initially aiming to explain the binding of oxygen molecules to hemoglobin and subsequently used to explain a huge variety of biological data. Evaluation of cell viability using standard approaches (e.g. MTT bioassay), challenged by a particular bioactive compound, including bioactive nanomaterials, is among the experiments Hill's model has been currently applied. More recently, however, the Hill model was successfully and pioneering extended to account for the standard disc diffusion (DD) bioassay traditionally used to evaluate antimicrobials. Nevertheless, even after half of a century has passed since the "NANO" term was coined and introduced into the scientific literature, proposal on how to incorporate the morphological characteristics (mean size and size dispersity) of a nanomaterial in the description of in vitro bioassays, as for instance MTT and DD assays, is very much recent. Moreover, in recent years, the standard Hill's model has been used to describe standard cell viability assays performed with nanomaterials. In view of this gap in the literature, the present talk aims to present a recently-developed Hill-inspired model that successfully accounts for the description of MTT and DD assays performed with nanomaterials, emphasizing the impact of the mean size and size dispersity in the biological response. The concept of "biological polydispersity" of a nanomaterial is then introduced, meaning the size characteristics of a nanomaterial while recognized by a particular biological assay. Last, but not least, for a nanomaterial, the "biological polydispersity" is compared with the morphological polydispersity, the latter assessed from high-resolution microscopy micrographs.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Navigating SARS-CoV-2 Transmission: Detection and Adsorption Perspectives

Speaker Name: Daniela Dobrynin

Affiliation: Technion – Israel Institute of Technology, Israel

Abstract:

The emergence of SARS-CoV-2 in late 2019 triggered a global pandemic and rapidly developed several mutated variants, specifically the Delta and Omicron, characterized by higher transmissibility and escalating infection cases worldwide. Aerosol transmission via human-to-human contact is the primary transmission pathway. Another possibility is through contact with SARS-CoV-2-contaminated surfaces. This pandemic emphasized the importance of understanding the transmission mechanism and early detection of infected patients to reduce the viral spread.

Rapid Antigen Tests (RATs) have emerged as a widely adopted solution for SARS-CoV-2 detection since they offer an easy-to-use kit and rapid results. The RAT detects the nucleocapsid protein, which is naturally located inside the virus. However, the sensitivity varies between the commercially available kits, and the test result might fluctuate due to diverse factors. Here, we assess the detection limit of seven commercially available RATs by introducing them to known amounts of the nucleocapsid protein from the Omicron variant.

It allowed to establish the detection limits while eliminating the influence of external factors. Our results reveal a detection limit ranging between protein concentrations of 9.8–78.6 ng/mL in the test solution, highlighting both the general detection limits of RATs and the substantial variation among different RATs, underscoring the need for improvement.

Quartz Crystal Microbalance (QCM), a robust biosensing platform, offers another approach to studying SARS-CoV-2 transmission. We compared the adsorption capacities of Spike protein subunits from the original, Delta, and Omicron variants on self-assembled monolayers using QCM. Results indicated significant differences among variants and subunits. Omicron exhibited enhanced adsorption compared to Delta, surpassing the original strain. Additionally, we explored pH conditions, finding the strongest adsorption at pH 7.4, which mirrors physiological conditions. Our study underscores a robust correlation between Spike protein adsorption capacity and the transmissibility of SARS-CoV-2 variants.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Synergistic Advancements: Integration of Artificial Intelligence and Machine Learning in Biosensors and Bioelectronics**

Speaker Name: Koffka Khan

Affiliation: The University of the West Indies, Trinidad and Tobago

Abstract:

The integration of Artificial Intelligence (AI) and Machine Learning (ML) techniques into biosensors and bioelectronics has ushered in a transformative era in the fields of healthcare, biotechnology, and environmental monitoring. This discussion explores the symbiotic relationship between AI/ML and biosensing technologies, highlighting their collaborative potential in enhancing sensitivity, accuracy, and real-time data analysis.

Biosensors, traditionally reliant on biochemical recognition elements, have greatly benefited from AIdriven data processing. Machine Learning algorithms enable rapid, automated data interpretation, enabling biosensors to detect and quantify analytes with unprecedented precision. Moreover, AI has facilitated the development of self-calibrating biosensors, reducing the need for constant recalibration and maintenance.

Bioelectronics, on the other hand, have leveraged AI for signal amplification and noise reduction. Neural networks and deep learning algorithms have been pivotal in deciphering complex electrochemical and physiological signals, paving the way for novel diagnostic tools and therapeutic interventions. AI-driven bioelectronic devices have been particularly impactful in personalized medicine, where they enable tailored treatment strategies based on real-time patient data.

Furthermore, AI and ML have revolutionized sensor design and optimization. Generative algorithms can rapidly explore a vast design space, leading to the creation of highly sensitive and specific biosensors. Additionally, AI-powered simulation and modeling have streamlined the prototyping process, accelerating the development of next-generation biosensing technologies.

In conclusion, the integration of AI and ML into biosensors and bioelectronics represents a powerful synergy that promises to reshape healthcare, environmental monitoring, and beyond. The collaborative efforts of these fields hold immense potential for early disease detection, personalized medicine, and sustainable resource management, offering a brighter future for human health and the environment.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Adaptive user interface based on accessibility context

Speaker Name: Yousra Bendaly Hlaoui

Affiliation: University Of Tunis El Manar, Tunisia

Abstract:

The substantial involvement of Adaptive User Interfaces (AUI) in providing adaptive and accessible interactive systems has created the need to establish a multimodal framework based on scalable adaptation rules. This paper presents an Adaptive User Interface to Accessibility Context (AUIAC) framework that provides a generic adaptation approach according to the model-driven engineering. It is based on a sequential and layered transformation from platform independent model (PIM) to platform specific model (PSM). It supports different reifications and transitions using adaptive transformation rules specified for each disability and modality. We illustrate the application of some rules on a sample user interface for the case of blind people. Then, we present some usability evaluation results from an empirical study.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: A health data analytics maturity model for hospitals information systems

Speaker Name: Alvaro Rocha

Affiliation: University of Lisbon, Portugal

Abstract:

In the last five decades, maturity models have been introduced as reference frameworks for Information System (IS) management in organizations within different industries. In the healthcare domain, maturity models have also been used to address a wide variety of challenges and the high demand for Hospital IS (HIS) implementations. The increasing volume of data exceeds the ability of health organizations to process it for improving clinical and financial efficiencies and quality of care. It is believed that careful and attentive use of Data Analytics in healthcare can transform data into knowledge that can improve patient outcomes and operational efficiency. A maturity model in this conjuncture, is a way of identifying strengths and weaknesses of the HIS maturity and thus, find a way for improvement and evolution. This speech presents a proposal to measure Hospitals Information Systems maturity regarding Data Analytics. The outcome is a maturity model, which includes six stages of HIS growth and maturity progression.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Genetic Association of rs2237572 Cyclin- Dependent Kinase 6 Gene with Breast Cancer in Iraq

Speaker Name: Dalya Shakir Obaida Al-Owaidi

Affiliation: Amustaqbal University

Abstract:

This case–control study is aimed to evaluate serum concentration of Cyclin- Dependent Kinase 6 (CDK6) and the genetic association between rs2237572 CDK6 gene and breast cancer (BC) in Iraq. To attain this goal, 80 patients with BC as cases and 80 healthy individuals as controls were included. Further, BC patients were sorted according to the molecular classification into four subtypes of Luminal A, Luminal B, Her2/neu enriched and TPN. Serum concentration of CDK6 enzyme, allelic and genotypic frequencies of rs2237572 CDK6, and the occurrence of BC phenotype and its subtypes in the studied population were investigated. ELISA technique was used to perform the biochemical testing, while the molecular analysis was achieved by real- time PCR, high resolution melting analysis, conventional PCR, as well as sequencing analysis. The results revealed no significant difference in serum concentration of CDK6 enzyme between patients and healthy controls ($p > 0.05$). Also, no significant differences were shown between BC patients' subtypes ($p > 0.05$). The rs2237572 CDK6 genotypes were associated with the BC and affirmed that allele Cwas inherited as a recessive risk factor. Moreover, a highly significant difference between patients subtypes in genotypic frequency of rs2237572 ($p<0.01$) was noted. Furthermore, the association of rs2237572 genotypes and CDK6 serum concentration in BC patients showed a considered significant difference between C/C and T/T, C/C and T/C and the CDK6 level ($p< 0.05$). Nevertheless, T/T and T/C did not show any significant difference with the CDK6 level. Hence, it was concluded that the rs2237572 of CDK6 gene is significantly correlated with BC.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Comprehensive transcriptional, proteomic and in silico profiling of 51 uncharacterized proteins in Vibrio cholerae unravels potential drug-target(s) and vaccine candidate(s) by reverse vaccinology**

Speaker Name: Sritapa Basu Mallick

Affiliation: Indian Institute of Science Education and Research Kolkata

Abstract:

Cholera is an extremely fatal, water-borne diarrheal disease which affects approximately around 1.3-4 million people every year and is still continuing to be a major global threat. It is caused by the intake of contaminated water infested with Gram-negative, pathogenic bacteria, *Vibrio cholerae*. Due to the significant upsurge of the persistent and Multidrug Resistant (MDR) strains of *V. cholerae*, new potential drug-targets and vaccine candidates are needed to be discovered and studied extensively to imbibe a better understanding of the bacterial pathogenesis. CgtA, an essential Ribosome-associated GTPase protein, which is ubiquitously expressed in all bacteria, is a potential drug-target since it plays a monumental role in a plethora of cellular functions. Our recent works revealed that upon the knockdown of *cgtA* from the genome of *V. cholerae* and employing high-throughput techniques like transcriptional profiling by RNA-sequencing and label free proteomics, expression of a myriad of proteins are altered i.e., either upregulated or downregulated. Out of all the proteins whose expression patterns are altered upon knockdown of *cgtA*, several proteins are still unidentified and yet to be characterized. We have carried out a comprehensive *in-silico* analysis on these uncharacterized proteins whose size ranges from approximately 5kDa to 92KDa, which helped us to hypothesize and design *in vitro* and *in-vivo* experiments to characterize these proteins. Furthermore, we cloned, expressed, and purified few such novel proteins for validation purposes. Moreover, our transcriptomic, proteomic and *in-silico* analysis and results allowed us to screen the potential vaccine candidates and drug targets that will enhance our understanding of the cholera pathogenesis. This study will undoubtedly unfold new facets and avenues towards drug-discovery and put us a step forward towards novel therapeutic intervention against a deadly disease like Cholera.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Formulation and in vitro Evaluation of pH-Sensitive Cross-linked Xanthan Gum-Grafted Acrylic Acid Copolymer for Controlled Delivery of Perindopril Erbumine (PE)"

Speaker Name: Hira Ijaz

Affiliation: University of Sargodha

Abstract:

A novel xanthan gum-co-acrylic acid superabsorbent hydrogel composite was formulated by free radical polymerization reaction of acrylic acid on xanthan gum. Effect of variables like dynamic swelling ratio, equilibrium swelling ratio, drug loading and drug release was investigated. Swelling ratio increases with decrease in crosslinker concentration. Drug release studies were conducted in pH 7.4 and 0.1N HCl. In acidic environment, drug release was low whereas it was sustained release in alkaline. XG4 showed significant swelling and drug release up to 24 hr. Physicochemical evaluation also confirmed it was optimized formulation. Hence XG4-co-AA was optimized for once daily dose of Perindopril Erbumine.

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Effect of the Subtilosin P19 on Bacillus Spores

Speaker Name: Viktor Danilovich Pokhilenko

Affiliation: State Research Center for Applied Microbiology and Biotechnology

Abstract:

The antimicrobial properties of the activity and mechanism of action of subtilosin – bacteriocin isolated from a natural *Bacillus subtilis* strain P19 have been investigated. Its activity against gram-positive microorganisms, including *Bacillus anthracis, B. cereus, Staphylococcus aureus, Clostridium perfringens, C. difficile* and *Listeria monocytogenes*, has been established. Bacteriocin is resistant to pH fluctuations in the range of 2-10 units, boiling, but is destroyed by proteolytic enzymes. Bacteriocin P19 is a 3.4 kDa peptide whose production is responsible for the sba-atb gene cluster (locus BSU_37350).

In electron microscopic investigation of the effect of bacteriocin on Bacillus anthracis spores. He effectively killed dormant *B. anthracis* spores at concentrations of 0.5–35 μg/mL after 60-min exposure. Our data, combined with analysis of the known mechanisms of the action of bacteriocins, suggest that the mechanism of spore inactivation was apparently based on multiple disruptions of the integrity of membranes of the dormant spore. It is also likely that the molecular configuration of subtilosin P19
allows it to penetrate through the outer integuments and to damage the vital membrane structures of the spores. *In vivo* experiments have established the protective effect of the drug P19 in case of lethal listeriosis in mice. A similar result was demonstrated by the antibiotic co-trimoxazole.

The activity of subtilosin against pathogen spores, including clostridia, which cause dangerous diseases and food spoilage, makes it attractive for use as a promising source of new antimicrobial drugs of natural origin, including, possibly, new targeted probiotics.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

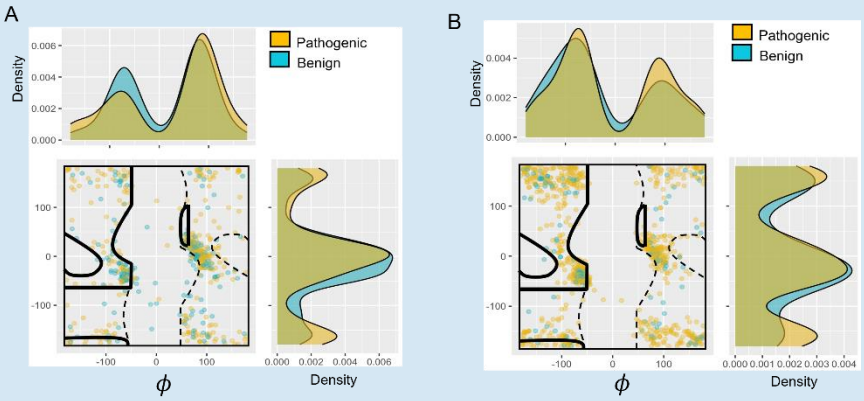
Title: Preferred left-handed conformation of glycyls at pathogenic sites

Speaker Name: Purva Mishra

Affiliation: Indian Institute of Science Education and Research

Abstract:

The role of glycyl residues in the protein structure has lingered within the research community for the last several decades. Glycyl residue is the only amino acid that is achiral due to the lack of a side chain and can, therefore, exhibit Ramachandran conformations that are disallowed for L-amino acids. The structural and functional significance of glycyl residues with L-disallowed conformation, however, remains obscure. Through statistical analysis of various datasets. We found that the glycyls with L-disallowed conformations are over-represented at disease-associated sites and tend to be evolutionarily conserved. The mutations of L-disallowed glycyls tend to destabilize the native conformation, reduces the protein solubility, and promotes inter-molecular aggregations. We uncovered a structural motif referred as “β-crescent” formed around the L-disallowed glycyl, which prevents β-sheet aggregation by disrupting the alternating pattern of β-pleats. The L-disallowed conformation of glycyls also holds predictive power to infer the pathogenic missense variants. Altogether, our observations highlight that the L-disallowed conformation of glycyls are selected to facilitate the native folding and prevent inter-molecular aggregations. The findings may also have implications in designing more stable proteins and prioritizing the genetic lesions implicated in diseases.



PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Gene as a dynamical notion: An extensive and integrative vision. Redefining the gene concept, from traditional to genic-interaction, as a new dynamical version**

Speaker Name: Marcos Lopez-Perez

Affiliation: Universidad Autónoma Metropolitana

Abstract:

The current concept of gene has been very useful during the 20th and 21st centuries. However, recent advances in molecular biology and bioinformatics, which have further diversified the functional and adaptive profile of genetic information and its integration with cell physiology and environmental response, have contributed to focusing on additional new gene properties besides the traditional definition. Considering the inherent complexity of gene expression, whose adaptive objective must be referred to the Tortoise-Hare model, in which two tendencies converge, one focused on rapid adaptation to achieve survival, and the other that prevents an over-adaptation effect. In this context, a revision of the gene concept must be made, which must include these new mechanisms and approaches. In this paper, we propose a new conception of the idea of a gene that moves from a static and defined version of hereditary information to a dynamic idea that preponderates gene interaction (circumscribed to that established between protein-protein, protein-nucleic acid, and nucleic acid-nucleic acid) and the selection it exerts, as the irreducible element that works in a coordinated way in a genomic regulatory network (GRN).

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: The synergistic effect of using bacteriophages and chitosan nanoparticles against pathogenic bacteria as a novel therapeutic approach

Speaker Name: Aghapy Yermans Yakoup

Affiliation: Zewail City for Science and Technology

Abstract:

Public health and environmental security are seriously at risk due to the growing contamination of pathogenic microorganisms. Therefore, effective antimicrobials are urgently needed. In our study, the antimicrobial effects of three types of nanoparticles were investigated with phage. The biosynthesis of nanoparticles was confirmed based on the color change and shapes, which tended to be mono-dispersed with a spherical shape with a size range of 20–35 nm for Ag-CS-NPs; 15–30 nm for Phage- CS-NPs (Ph-CS-NPs); and 5–35 nm for Propolis-CS-NPs (Pro-CS-NPs). Nanoparticles displayed peaks between 380-420 nm, 335–380 nm, and below 335 nm for Ag-CS- NPs, Pro-CS-NPs, and Ph-CS NPs, respectively. Throughout the three synthesized nanoparticles, Ag Cs NPs represented a higher antibacterial effect in combination with phages. It showed MIC against S. sciuri, S. Typhimurium, and P. aeruginosa between 31.2 and 62.2 µg/mL and MBC at 500, 62.5, and 31.2 µg/mL, respectively, while in combination with phages showed MIC at 62.2, 31.2, and 15.6 µg/mL, respectively and MBC at 125, 62.2, and 15.6 µg/mL, respectively. Furthermore, a significant killing efficiency was observed with 16.5– 30.1 µg/mL of Ag-CS NPs combined with phages. In conclusion, Ag-CS-NPs with phages present potential bactericidal and inhibitory effects against Gram-positive and Gramnegative bacteria, as well as against the production of biofilms.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Evaluation of the effectiveness of propolis-pollen nano-emulsion against MDR E. coli O157 treatment in the broiler

Speaker Name: Dalia Mohammed Ali Ragab Elmasry

Affiliation: Agricultural Research Center (ARC)

Abstract:

Escherichia coli O157 causes huge chicken industry losses. Propolis and pollen have many biological qualities, however, their limited water solubility makes them challenging to employ. Nanotechnologies allow propolis and pollen nanoemulsions to be produced to increase their qualities.

Escherichia coli O157 causes huge chicken industry losses. Propolis and pollen have many biological qualities, however, their limited water solubility makes them challenging to employ. Nanotechnologies allow propolis and pollen nanoemulsions to be produced to increase their qualities.

The PP-NE minimum inhibitory concentration was detected 12.5%. A total of 120 one-day-old chicks were placed into six groups: Group 1 was a negative control (non-infected, untreated); Group 2 was a positive control (infected with E.coli O157); Group 3 was supplemented with PPNE only (0.5 mL/mL water/10 days); Group 4 was supplemented with PP-NE and infected; Group 5 was supplemented with ofloxacin (10 mg/kg body weight/ /for 5 days) and infected; and Group 6 was supplemented with ofloxacin (same dose)+ PP-NE (same dose). All groups were raised for 21 days and daily clinical symptoms and mortality were recorded.

At the 10 days post-inoculation, PP-NE+ ofloxacin chicks had weak lesions, less mortality, and E. coli O157 count. Ofloxacin concentrations in tissues were detected 24 h after the last oral dosage then drop consistently and staying above the LOQ for 72 h. The PP-NE+ ofloxacin group had the lowest relative expression of E. coli O157 toxin and ESBL-resistant genes. As conclusion E. coli O157-infected broiler hens treated with nanomaterials and antibiotics had milder lesions and lower toxin and antibiotic-resistant gene expression.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Synergistic integration of wastewaters from second generation ethanol plant for algal biofuel production

Speaker Name: Preeti Mehta Kakkar

Affiliation: Indian Oil Corporation Limited

Abstract:

This study introduces system for algal biofuel production that synergistically integrates with treatment and usage of chemicals in waste waters generated from 2G ethanol pretremnet plant. The study was conducted using a mixture of wastewaters of pH 4.3 generated after washing of acidic and alkaline-soaked lignocellulosic biomass prior to pre-treatment process. The growth studies indicated that the inhouse developed thermotolerant strain of Chlorella pyrenoidosa M18 exhibited higher cell proliferation in wastewaters as compared to freshwater. About 20–25% enhancement in biomass and lipid productivity was observed in Mixed Waste waters (MW). The spent wastewater medium obtained after harvesting the auto-flocculated biomass was also reused up to three successive growth cycles. The recycled medium without any nutrient addition could be used for two subsequent rounds with enhanced biomass (520 $mgL^{-1}d^{-1} \pm 4.07$) and lipid (157.71 $mgL^{-1}d^{-1} \pm 1.09$) productivities.

This synergistic approach of cultivating thermotolerant microalgae with wastewater from 2G pre-treatment plant provides an economical setup for development of commercial algal biofuel technology.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Short-Term and Long-Term Stability of Medial Olivocochlear Reflex in Adults with Typical Hearing

Speaker Name: S. Ruba

Affiliation: SRM Institute of Science and Technology

Abstract:

Objective: This study aimed to assess the stability of Medial Olivocochlear Reflex (MOCR) function in typical hearing adults with the use of Contralateral Suppression (CS) of Distortion Product Otoacoustic Emissions (DPOAEs).

Method: This study included fifty-three (90 ears) participants between the ages of 18- 30. Participants were divided into 3 groups (Group A-daily stability, Group B-short-term stability, and Group C- long-term stability). For each group, 4 measurements (30 × 4 = 120sessions) were taken. Group A measurements were taken daily, Group B measurements were taken weekly and Group C measurements were taken monthly.
DPOAEs and Contralateral Suppression of DPOAEs were measured for each group.

Results: Analyses indicated that Medial Olivocochlear Reflex (MOCR) measured through contralateral suppression of DPOAE was unstable. This result indicates a DPOAE-based measure of the MOCR was not repeated across time. Figure 1. displays the reliability metrics for contralateral suppression of DPOAE during daily, short-term, and long-term test sessions.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Development of advanced nanostructures-based platforms for sensing and removal of pollutants from aqueous solutions

Speaker Name: Monika Nehra

Affiliation: Panjab University

Abstract:

In current era, technological advancements and industrialization are excessively burdening the environment through the release of hazardous waste in large quantities, e.g., pesticides, antibiotics, heavy metals, and others. These contaminants can cause serious damage to ecosystem by inducing serious health issues in humans and animals. Recent technological advancements based on nanomaterials have allowed the development of novel techniques for detection of these contaminants. These techniques can offer several advantages over laborious and complex conventional techniques (like ELISA and chromatography), e.g., fast detection, simple sample preparation, easy to operate, in situ sampling, on-site detection, and reduced cost.

Here, we have discussed colorimetric/fluorescent platforms based on nanomaterials for detection of contaminants. After the detection of contaminants, it is imperative to develop the treatment approaches in order to clean the water resources. In comparison to conventional water treatment methods (such as flocculation, filtration, chlorine disinfection, and sedimentation), the nanomaterials-based treatment processes (especially adsorption) can offer remarkable performance in removal of these contaminants. Here, synthesis of different nanostructures is discussed that can be effectively utilized as nano-adsorbents.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Complete degradation of the endocrine disruptor di-ethylhexyl) phthalate by Brevibacillus brevis strain and its application to bioremediation of contaminated soil

Speaker Name: Madhavi Rashmi

Affiliation: Patliputra University

Abstract:

Phthalates are a class of compounds which is made up of esters of phthalic anhydride. DEHP (di-2-ethyl hexyl phthalate) is widely used as a plasticizer and it adversely affects humans. In this study, different promising DEHP-degrading strains had been isolated from rubbish landfill soil. The selected bacterial strain was capable of consuming DEHP as a sole source of carbon and energy. By analyzing morphological, biophysical, biochemical characteristics followed by the analysis of 16s rRNA phylogenetic studies, the strain was identified as Brevibacillus brevis (T2). The mechanism of biodegradation and its characterization at different environmental parameters as pH, temperature, salinity influencing the degradation process in contaminated soil have also been examined. The results of this study showed the optimal pH value ranges 7.0 optimal temperature ranges 37˚while salinity could tolerate up to 15% which influenced the degradation rate in soil. We also investigated the effect of various carbon sources, nitrogen sources and different DEHP concentrations on its degradation. We hope that these findings can provide some information in the bioremediation of DEHP from contaminated soil.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Diving into the Depths: Exploring Underwater Electronic Sensor Technology

Speaker Name: Pooja Prasenan

Affiliation: Cochin University of Science and Technology

Abstract:

Sensors are used to perceive events or parameters in the environment where it is kept. Underwater electronic sensors play a crucial role in collecting various types of data for scientific research, environmental monitoring, industrial applications, and defense purposes. These sensors are designed to operate in challenging underwater environments, where factors such as pressure, temperature, and corrosion resistance must be carefully considered. The common types of underwater electronic sensors includes pressure sensors, temperature sensors, salinity sensors, sonar system, Acoustic Doppler Current Profilers (ADCP), pH sensors, optical sensors, magnetic sensors, underwater cameras, gas sensors, hydrophones, CTD sensors etc. As marine water pollution is increasingly affecting the water bodies especially oceans it becomes important to monitor the causes influencing pollution. Most water bodies are significantly polluted, thus decreasing the potability of water. Due to increase in population, industrialization and urbanization, large quantities of sewage and industrial waste water are discharged into water bodies which has considerably contributed to the marine pollution. Water quality assessment has to be conducted, from time to time, to implement pollution control measures to rejuvenate the marine water quality. Water quality monitoring relies on taking a suite of measurements of ocean water. In order to measure water quality, ocean scientists use sampling equipment that measures some basic parameters of the water. The equipment's (underwater sensors) may consist of a moored instrument that takes water quality measurements continuously. These instruments can also be lowered from the surface to the bottom of the ocean limited to few meters. Some of the typical measurements which can be made with underwater sensors include temperature, salinity, density, transparency, water current and its direction, Sea Surface Temperature etc. Studies estimates that, up to 75% of the world population have settled within a sixty-kilometre distance from the shoreline by 2020, which will most likely lead to increase more anthropogenic pressures on coastal systems and to more serious environmental issues. Anthropogenic activities including industries, urbanization, extensive agriculture, tourism etc represent the major sources of pollutants which continually contribute to exacerbate the already serious situation of coastal systems.

Therefore, underwater sensors plays an important role for monitoring of marine water parameters. Key research should be instituted on evaluating real-time monitoring of marine parameters and real-time processing of huge amounts of information generated. It will improve the comprehensive utilization of marine resources and marine pollution warnings, as well as marine ecological and environmental protection capabilities.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Effective Anomaly Detection Approach to Classify Noisy Data Using Robust Noise Detection and Removal Technique in IoT Healthcare Data**

Speaker Name: S. Subha

Affiliation: Bishop Heber College

Abstract:

In IoT, it is a collection of connected devices or sensors that allows data to be collected and shared over the internet. Sensor data quality is critical in IoT applications since they become unusable if the information is substandard. When the IoT sensors' data seems to be of bad quality, the analysis findings should be altered, resulting in smart service misdirection. Anomalies or aberrant behavior the data that these devices acquire may be affected via attacking problems or system failures.

Cleaning One of the most vital and necessary processes is dealing with noisy sensor data for accurate data interpretation. This paper proposes an effective anomaly detection approach to classify noisy data using robust noise detection and removal technique called RoNDaR. There are two phases in the proposed approach. In the initial stage, the archived data (labeled) is initially clustered using the modified weight- based Self Organizing Map clustering algorithm called MWSOM. In the next phase, the noise score is computed, and based on the nearest neighbors the noise data is detected. Three classification algorithms (K-nearest Neighbor) KNN, RF (Random Forest) and SVM are used to evaluate the performance of the data on noise detection. The real-time data is used to assess the performance of the proposed method. The experimental results show that the proposed approach increases the classification accuracy after removing the noise data.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Study of the Role of Titanium and Iron Cathodic Cages on Plasma-Nitrided AISI 430 Ferritic Stainless Steel

Speaker Name: Mirza Muhammad Zaheer Uddin Babar

Affiliation: Riphah International University

Abstract:

In contrast to austenitic and martensitic stainless steels, ferritic stainless steels have a lower hardness and wear resistance but exhibit excellent corrosion resistance. Due to this fact, their use in the aerospace, automobile, and house construction industries is restricted. Several methods have been utilized to enhance the tribological characteristics of ferritic stainless steels. In this work, titanium nitride coating has been carried out by using a cathodic cage of titanium material, and later on, the titanium cathodic cage is replaced by an AISI-304 cathodic cage in a CCPN chamber to form iron nitride coating on AISI-430 ferritic stainless-steel coupons through a plasma nitriding process for 4 h at a fixed temperature of 400^0 C. The microstructures and mechanical traits of all processed and control coupons were analyzed using scanning electron microscopy, X-ray diffraction, ball-on-disc wear tester, and microhardness tester techniques. The results showed that hardness increased up to 1489 HV with the titanium cage, which is much higher than the hardness of the base material (270 HV). The titanium cage-treated coupons have high layer thickness, smooth surface morphology, and a minimum crystallite size of 2.2 nm. The wear rate was reduced up to 50% over the base material after the titanium cage plasma treatment. The base coupon exhibited severe abrasive wear, whereas nitrided coupons exhibited dominant adhesive wear. In the iron nitride coatings, this effect is also important, owing to the more influential cleaning process in a glow discharge, and the better adhesion with enhanced interlayer thickness is attributed to the fact that the compliance of the interlayer minimizes shear stresses at the coating–substrate interface. The use of a graded interface improves adhesion compared with the case where no interlayer is used but a titanium interlayer of comparable thickness provides a significant increase in measured adhesion. For both titanium and iron nitride films, there is a reduction in wear volume which is a function of interlayer thickness; this will have a substantial effect on wear lifetime. Thus, by careful control of the interlayer thickness and composition, it should be possible to improve coating performance in tribological applications.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Raft forming gastro retentive tablets incorporating solidly dispersed Curcumin-Eudragit E100; In-vitro and invivo approaches for treatment of gastric ulcer

Speaker Name: Nabeela Ameer

Affiliation: Bahauddin Zakariya University Multan

Abstract:

Purpose: Most common complications of the gastric ulcer are hemorrhage, perforation, ulcer penetration into adjacent organs, and gastric outlet obstruction which can be fatal if untreated. The present study aimed to improve gastric ulcer complications by using naturally occurring compound curcumin (Cur) and its modified complex with Eudragit E- 100 (SD-Cur-Eud2)

Method: Solubility of Cur was enhanced by using first-generation solid dispersion (SD) technique and confirmed by physicochemical analysis. Optimized SD-Cur-Eud2 was used for the compression of gastroretentive raft tablets (SD-Cur-Eud2-RT) by direct compression method and all quality control tests, in-vitro floating time, raft resilience, in- vitro dissolution studies, and dissolution efficiency were also observed. Stability studies was performed to estimate shelf life by using Rgui software.

Results: All the confirmatory tests of SD-Cur-Eud2-RT were found within limits according to Pharmacopeial standards. 60-70% release of Cur within 6h in acidic medium (pH = 1.2), 40-65% permeation on rat gastric mucosa, and 68% ulcer inhibition in Indomethacin® (IND) induced gastric ulcer. Furthermore, cumulative amount of diffused (CADD), flux (Jss) and permeability coefficient (Kp) of Cur were 6-10-fold increased with shelf life of 23 months. Fortunately, SD-Cur-Eud2-RT (50mg/kg once daily) tablets exhibited showed better therapeutic effect on gastric ulcers in terms of ulcer index 2.5±0.2 as compared to Omeprazole®.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Enhancing Dielectric Strength of Polyester Insulation in Ignition Coils using Nano and Micro Fillers: A Comparative Study of Al2O3 and ZnO

Speaker Name: Sara Islam

Affiliation: University of Engineering and Technology

Abstract:

This study primarily investigates the challenges related to polyester insulation in ignition coils and explores the potential of utilizing nano and micro fillers, specifically ZnO and Al2O3, to tackle these issues. The research focuses on examining the dielectric strength of these fillers and observes that with an increase in filler concentration, certain properties are influenced by environmental temperature and humidity variations. Notably, ZnO-filled composites exhibit enhanced interfacial polarization, but a decrease in dielectric strength due to moisture absorption and elevated temperatures. Conversely, Al2O3 filled specimens demonstrate improved dielectric strength. The estimation of the relationship between relative humidity (RH), temperature, and dielectric strength can be achieved through the utilization of a mathematical model based on the finite element method (FEM).

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Enhanced Structural and Dielectric Properties of InMn substituted M-type Hexaferrites

Speaker Name: Hassan Mehmood Khan

Affiliation: The Islamia University

Abstract:

Effect of rare earth and Divalent (InMn) substitution on the structural electrical and dielectric properties of W-type hexaferrites prepared by sol–gel auto combustion is reported. The synthesized samples were characterized by Fourier transform infrared spectroscopy, X-ray diffraction, scanning electron microscopy electrical and dielectric properties (resistivity and conductivity). The X-ray diffraction analysis confirmed single phase M-type hexa-ferrite structure. The lattice parameters were found to increase as In Mn contents increases, which is attributed to the ionic sizes of the implicated cations. The InMn seems to be completely soluble in the lattice. The results of scanning electron microscopy shows that the grain size decreases with increase of In Mn substitution. The increased anisotropy and fine particle size are useful for many applications, such as improving signal noise ratio of recording devices.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Electrospun PVA/CuONPs/Bitter Gourd Nanofibers with Improved Cytocompatibility and Antibacterial Properties: Application as Antibacterial Wound Dressing

Speaker Name: Aiman Shahbaz

Affiliation: The University of Lahore

Abstract:

Antibacterial and cyto-compatible tricomponent composite electrospun nanofibers comprised of polyvinyl alcohol (PVA), copper II oxide nanoparticles (CuONPs), and Momordica charantia (bitter gourd, MC) extract were examined for their potential application as an effective wound dressing. Metallic nanoparticles have a wide range of applications in biomedical engineering because of their excellent antibacterial properties; however, metallic NPs have some toxic effects as well. The green synthesis of nanoparticles is undergoing development with the goal of avoiding toxicity. The aim of adding Momordica charantia extract was to reduce the toxic effects of copper oxide nanoparticles as well as to impart antioxidant properties to electrospun nanofibers. Weight ratios of PVA and MC extract were kept constant while the concentration of copper oxide was optimized to obtain good antibacterial properties with reduced toxicity. Samples were characterized for their morphological properties, chemical interactions, crystalline structures, elemental analyses, antibacterial activity, cell adhesion, and toxicity. All samples were found to have uniform morphology without any bead formation, while an increase in diameters was observed as the CuO concentration was increased in nanofibers. All samples exhibited antibacterial properties; however, the sample with CuO concentration of 0.6% exhibited better antibacterial activity. It was also observed that nanofibrous mats exhibited excellent cytocompatibility with fibroblast (NIH3T3) cells. The mechanical properties of nanofibers were slightly improved due to the addition of nanoparticles. By considering the excellent results of nanofibrous mats, they can therefore be recommended for wound dressing applications.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Integration of Biosensors and Bioelectronics for Advanced Point-of-Care Monitoring in Chronic Kidney Disease (CKD)"

Speaker Name: Muhammad Subhan

Affiliation: Allama Iqbal Medical College

Abstract:

Chronic Kidney Disease (CKD) is a prevalent and debilitating health condition characterized by the gradual loss of kidney function, necessitating consistent monitoring for effective management. Early detection and continuous monitoring of CKD progression are paramount for timely intervention and improved patient outcomes. This study proposes the integration of biosensors and bioelectronics for advanced point-of-care monitoring, offering a promising solution to address the critical need for real-time, non-invasive assessment in CKD patients.

Biosensors, with their biorecognition elements and transducers, provide a means to detect specific biomarkers associated with CKD progression. Incorporating bioelectronics, encompassing signal processing, amplification, and data analysis, enhances the accuracy and reliability of biosensor outputs. This integration facilitates the creation of portable, user- friendly devices for convenient point-of-care monitoring.

The utilization of biosensor-bioelectronics hybrids holds the potential to measure crucial CKD biomarkers, such as creatinine, blood urea nitrogen, and electrolyte levels, directly from a small volume of patient samples (e.g., blood, urine). The real-time data obtained enables proactive management, precise dosage adjustments, and timely medical interventions, optimizing the overall management of CKD.

In conclusion, this research advocates for the synergistic integration of biosensors and bioelectronics, presenting an innovative and promising avenue for enhanced point-of-care monitoring in CKD. Such technological advancements offer transformative opportunities to improve patient outcomes, potentially revolutionizing the management of CKD and advancing healthcare practices.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: The ameliorative effects of topical gemifloxacin alone or in Combination with clobetasol propionate on imiquimod-induced model of psoriasis in mice

Speaker Name: Hayder Ridha Salman

Affiliation: Al- Mustaqbal University

Abstract:

Psoriasis is a lifelong immune-driven skin condition characterized by excessive epidermal overgrowth and inflammatory cell infiltration. Gemifloxacin is a fourth-generation fluoroquinolone with improved immunomodulatory and anti-inflammatory properties that are believed to possess an attractive role in psoriasis via suppressing the production of cytokines, chemokines, and eosinophil and neutrophil chemotaxis. The aim of this research is to investigate the ameliorative effects of prolonged topical gemifloxacin (GMF) alone and combined with clobetasol propionate (CLO) on an imiquimod (IMQ)- induced mouse model of psoriasis. Fortyeight Swiss albino mice were divided into six groups of eight. All groups except the negative controls got 62.5 mg of IMQ 5% topically for 8 days. Mice in the control group (controls) got Vaseline instead. Following the induction in the IMQ 5% group, mice in treatment groups CLO 0.05, GMF 1%, GMF 3%, and CLO + GMF obtained clobetasol propionate 0.05%, GMF 1% and 3%, and a combination of both, respectively, for an additional 8 days, rendering the experiment 16 days long. Our results revealed that gemifloxacin alleviated erythematous, thickened, and scaly psoriatic lesions and inhibited the tissue level of inflammatory cytokines, including interleukin (IL)- 8, IL-17A, IL-23, tumor necrosis factor-α (TNF-α), and transforming growth factor-β1 (TGF- β1). The anti- inflammatory effect also occurred by hindering nuclear factor-kappa B (NF- κB) signaling and reversing histopathological problems. Gemifloxacin acts effectively in mitigating psoriasis- associated lesions and restricting NF-κB-mediated inflammation, recommending gemifloxacin as a promising adjuvant candidate for additional studies on the long-term treatment of autoimmune and autoinflammatory dermatoses like psoriasis.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Sealing ability in vitro study and biocompatibility in vivo animal study of different bioceramic based sealers**

Speaker Name: Tara Hasan Haji

Affiliation: Kurdistan Board for Medical Specialist

Abstract:

Introduction: The effectiveness of root canal therapy in endodontic practice is largely determined by achieving a compact fluid-tight closure at the apical end of the root canal, which inhibits irritant entry and buildup, which leads to a biological breakdown of the attachment mechanism and failure. During obturation, root canal sealers are used in conjunction with gutta percha to fill voids and seal root canals. Root canal sealers come in a variety of shapes and sizes, each with its own set.

Aim: Biocompatibility was tested on animal models, and sealing ability was assessed using Scanning Electronic Microscope.

Materials &methods: This study utilised two bio_ ceramic sealers (BioRoot RCS and meta Biomed bio_ ceramic sealer (CeraSeal RCS) and compared the findings to a control of Zinc oxide eugenol sealer. Biocompatibility was determined by examining histopatholigcal biopsy specimens collected from rabbits. Each rabbit had four dentin tubes implanted into the subcutaneous tissues, one for BioRoot RCS, one for CeraSeal RCS, and one for ZOE RCS, with the fourth tube being empty.
Histological sections were stained with haematoxylin and eosin and assessed with light microscope. Extracted human single canal premolars were used to test the sealing ability. The root canals were divided into 3 sections (coronal, middle, and apical). SEM was used to assess the adhesion quality at the sealer-dentin interface.

Results: BioRoot and CeraSeal sealers have excellent sealing adaptation and biocompatibility, as well as rapid tissue recovery, while ZOE sealers have a slower recovery of inflammatory reaction results when compared to bio_ root and ceraseal sealers, as well as less sealing adaptation than the two other bio_ ceramic sealers.

Conclusion: In general, all sealers tested were biocompatible and capable of sealing or adhesion.

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Fabrication of Novel Graphene oxide Electrodes for Electrochemical Applications

Speaker Name: Haleemat Iyabode Adegoke

Affiliation: University of Ilorin

Abstract:

The preparation, characterization and electrochemical performance of graphene oxide (GO) and reduced graphene oxide (rGO) based materials have been reported. The synthesis of GO was achieved through the modified Hummers' method. The rGO was obtained by thermal exfoliation and synthesized Polyaniline (PANI) was doped on rGO to obtain a novel nanocomposite, GOPANI, through the chemical polymerization of aniline monomer.

The GO and GO-PANI, were characterized using Fourier Transform Infrared spectroscopy (FT- IR), Scanning Electron Microscopy (SEM) and Energy Dispersive X-ray (EDX). These analyses provided insights into the structural properties and elemental composition of the materials, cyclic voltammetry (CV) was also conducted.

The electrochemical behavior of modified glassy carbon electrodes (GCE), including GCE/RGO and GCE/RGO/PANI demonstrated enhanced electron transfer kinetics as evident from redox peak shifts to lower voltages and increased peak currents compared to the bare GCE. Specifically, for the bare GCE, the anodic and cathodic peak potential are 0.2774 V and 0.09535 V, while anodic and cathodic peak current are 3.8407E-05 A/cm² and 4.2695E-05 A/cm². The GCE/RGO and GCE/RGO/PANI electrodes showed anodic peak potential of 0.37628 V and 0.39733 V with their respective cathodic peak potential of -0.0066032 V and - 0.39762 V.

These findings suggest the promising potential of rGO and PANI modifications for improving the electrochemical performance of GCE and pave the way for their application in various environmental pollutants sensing.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Geomagnetic Field Anomalies Associated With Natural And Man-Made Phenomena

Speaker Name: Valijon Yusupov

Affiliation: Seismology Institute of Sciences Academy of the Republic of Uzbekistan

Abstract:

In the article, "Anomalies of the geomagnetic field on micro-polygon Charvak associated with earthquakes" details the analysis of long-term observations of the geomagnetic field on the territory of the Charvak reservoir is conducted. Which revealed, that local anomalies geomagnetic field connected with a simultaneous and total manifestation of the processes, in accordance with change the volume of the water reservoir and change to activities local seismicity, considered questions of the use these result at forecasting of the earthquakes.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Decoherence and Relaxation Time of Magnetopolaron in the Presence of Three Dimensional Impurity Under Strong Parabolic Potential**

Speaker Name: Donfack Bernard

Affiliation: University of Dschang

Abstract:

In order to protect coherence of quantum states and reduce the impact of environment on quantum information, we investigate decoherence and relaxation time of magnetopolaron in the presence of three dimensional impurity under strong parabolic potential. The first states energies have been evaluated using the Lee Low Pine transformation and Pekar-type variational method. Parameters such as: decoherence time, transition frequency, spontaneous emission, Shannon entropy, relaxation time and probability density, have been evaluated. It has been seen that the impurity and electron-phonon coupling constant have a considerable effect on formation, protection of quantum qubit and quantum transport. The information exchange measured by the rate of Shannon entropy, has a great dependence on impurity and with its interaction with electrons. The relaxation time τr exhibits increasing behavior as a function of, α, β, and ωc. The electron-phonon coupling constant, impurity and cyclotron frequency are useful parameters to prevent decoherence phenomena. This study paves the way to prolong quantum effect in nanostructure and favor the realization of the future quantum computer.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Computational model and simulations of contact angle and geometry effects on centrifugal microfluidic step-emulsification

Speaker Name: Maximilian Fahland

Affiliation: Dublin City University

Abstract:

The generation of droplets in microfuidic systems is extensively applied in various chemical and biological applications. For two-phase immiscible micro-droplet formation, both actively and passively driven systems are being employed. Active systems typically include pump-based, magnetic actuation or centrifugal fow control-based methods that employ cross fowing, fow- focusing or co-fowing microfuidic architecture to assist formation. Numerical modeling using Computational Fluid Dynamics (CFD) allows for an in-silico approach in the understanding of the micro-droplet formation behavior and the efect of several parameters on the size and rate of droplet formation. Although several such models have been presented pre viously for pump-driven cross- fowing, fow focusing or co-fowing microfuidic architectures, systems typically employing centrifugal actuation methods are limited. We investigate here a CFD method for modeling and simulating step-emulsifcation of water-in-oil, on a centrifugal microfuidics platform. The efects of contact angles, supply channel geometry, and capillary number were studied using the numerical model and compared to experimental data from previous work.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: High conducting Biopolymer electrolyte based electrochemical devices

Speaker Name: Pramod Kumar Singh

Affiliation: Sharda University

Abstract:

This paper deals the overall response of mixing ionic liquid into biopolymer matrix. Ionic liquid is frequently used as novel electrolyte in various electrochemical devices. For device application high conducting biopolymer electrolyte is necessary which can easily be provided by this ionic liquid when used as dopants. Mixing ionic liquid into biopolymers plays dual role. One side it plays as source of charge carriers while in other side it acts as plasticizer when incorporated in polymer matrix. It is also necessary to understand detail conduction mechanism within ionic liquid incorporated polymer electrolyte. Possible reasons of conductivity enhancement are discussed in detail in present work.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Safety and health risks associated with illegal municipal solid waste disposal in urban Zimbabwe. "A case of Masvingo City"**

Speaker Name: Amato Chireshe

Affiliation: Midlands State University

Abstract:

Municipal solid waste management (MSWM) is a worldwide problem as most local authorities are unable to dispose Municipal solid waste (MSW) safely. The study sought to evaluate safety and health risks associated with illegal MSW disposal in Masvingo City. Descriptive cross-sectional design was employed in which quantitative and qualitative data were collected concurrently. Questionnaires with both close and open-ended questions, semi-structured interviews, observations and secondary data sources were used during data collection. The study population comprised participants from Masvingo City's residential areas, Masvingo City Council employees and Environmental Management Agency (EMA) officials. A sample of 406 participants, comprising 354 residents from high-density, 16 residents from medium-density, 24 residents from low-density suburbs. Six interviewees were included during the study. Interviewees were selected purposively. Quantitative data was entered into Microsoft Excel Spreadsheet for analysis and content analysis was used to analyse qualitative data. Results showed that Cholera, skin problems, injuries and malaria were the main health problems. Results also indicated that flooding and fire were the main safety risks associated with illegal municipal solid waste disposal in Masvingo. Based on the findings of the study, it can be concluded that MSW disposal in Masvingo was a threat to safety and human health. The study recommends that Masvingo City council provide receptacles and collect waste frequently.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Real-time transient stability detection in the power system with high penetration of DFIG-based wind farms using transient energy function

Speaker Name: Hamid Reza Shabani

Affiliation: Iran University of Science and Technology

Abstract:

In this paper, a new approach for real-time transient instability detection (TID) is presented. The purpose of presenting this approach is to have the lowest computational load and the highest accuracy and speed and to be suitable for real- time applications. The main idea is TID without directly calculating the unstable equilibrium point (UEP). In fact, transient instability is detected only by identifying the characteristics of the UEP and the kinetic energy function along with the potential energy boundary surface (PEBS) function. A new and standard single machine in nite bus system with high penetration of wind farms is used for simulation. First, dynamic modeling of various components of doubly fed induction generator (DFIG) and synchronous generator are described. Then, a model for the grid-connected DFIG is developed and a new PEBS-based index (NPI) for TID is presented. The NPI requires only post-fault data and can be applied as a general tool to any power system with any change in topology and operating conditions. Also, the impact of increasing the penetration of wind power, changing the operating conditions of the power system, different fault locations, and the power system strength on the transient stability is investigated. The simulation results show the effectiveness of the proposed approach for TID in a shorter time.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Naïve Bayes: A Classical Approach for the Epileptic Seizures Recognition

Speaker Name: Surita Maini

Affiliation: SLIET

Abstract:

Electroencephalography (EEG) is used to classify several Epileptic Seizures worldwide. It is a very crucial task for the neurologist to identify the epileptic seizure with manual EEG analysis, as it takes lots of effort and time. Human error is always at high risk in EEG, as acquiring signals need manual intervention. Disease diagnosis using Machine Learning (ML) is continuously being explored since its inception.

Moreover, where a large number of datasets have to be analyzed, ML is acting as a boon for doctors. In this research paper, authors proposed two different ML models i.e., Logistic Regression (LR) and Naïve Bayes (NB) to predict epileptic seizures based on general parameters. These two techniques are applied to the epileptic seizures' recognition dataset, available on the UCI ML repository. The algorithms are implemented on an 80:20 train test ratio (80% for training and 20% for testing) and the performance of the model was validated by 10-Fold cross-validation. The proposed study has claimed accuracy of 81.87%, and 95.49% for LR and NB, respectively.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Biochemical and Biocompatibility assessment of Everolimus eluting vs Sirolimus eluting stents in Coronary artery aneurysms with a possible role of Methacrylate as inciting agent**

Speaker Name: Aditya Vikram Ruia

Affiliation: Meditrina Hospital

Abstract:

Background: Coronary artery aneurysms are rare, found in 0.2 to 2.3% of patients after coronary angioplasty. Cases have been reported to occur varying from 3 days to 4 years post percutaneous intervention (PCI). Here we present a case series of coronary aneurysms related to Everolimus eluting second generation stents and compare it with Sirolimus eluting second generation stents at our Centre including patients developing giant aneurysms with a toxic course.

Case Presentation: Over a span of 3.5 years at our centre 2,572 patients were implanted Everolimus eluting stents out of which 4 patients developed coronary type II aneurysms an incidence of 0.00156 whereas 5,838 patients were implanted Sirolimus eluting 2nd generation stents out of which 2 patients developed similar aneurysms with an incidence of 0.00034. The slight increase in incidence in Everolimus stents does not reach statistical significance (p=0.054) and is limited by single centre non randomized study.
We also propose a hypothesis that the slight increase in the incidence maybe due to allergy to Methacrylate present in Everolimus eluting Xience stent's primer previously known to cause allergy in Cypher stents which is absent in other Sirolimus eluting stents used but that needs to be further investigated.We also found some patients developed giant aneurysms including Left main aneurysms with a toxic course.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Statistical analysis of a wide range of foxtail millet (Setaria italica L) germplasms of based on yield and some agronomic traits

Speaker Name: Mehdi Yazdizadeh

Affiliation: University of Zabol

Abstract:

Food security and nutrition concerns are putting an ancient, climate-smart grain back on our plates; Farm to fork, there has been a revival of interest in millet.
Foxtail millet, as a multi-purpose product, has nutritious and medicinal potentials. According to the phenotypic correlation coefficient, the seed yield had the highest correlation between forage and biological yield as well as the number of leaves under normal conditions. Similarly, seed yield was most correlated with biological, forage yield, plant height, and the number of leaves as well as the seed germination percentage under salinity stress. By breaking down the properties studied under normal conditions into principal component analysis, we found that the first four principal components accounted for more than 77.91% of the total variance, and similarly, we discover that the first three principal components accounted for more than 92.35% of the total variance under salinity conditions. The dendrogram obtained by cluster analysis revealed four groups of genotypes under both normal and salt conditions. Analysis of phenotypic data showed that the wide germplasm of the Iranian foxtail millet has a significant variation with respect to the measured properties.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Effects of edible alginate coating enriched with organic acids on quality of mango fruit during storage

Speaker Name: Rasoul Etemadipoor

Affiliation: University of Hormozgan

Abstract:

Application of edible coatings containing organic acids is an effective method to preserve the quality and improve the storability of fresh product. For this purpose, 2% sodium alginate (Al) alone as well as in combination with 1% citric acid (CA), malic acid (MA) and ascorbic acid (AsA) was used on 'Langra' mango. The samples were stored at 10 ± 1 °C and 90 ± 1% relative humidity for 32 days. The results indicated that all the Al-treated fruit maintained the quality of mango fruit. Al/AsA treatment was showed the lowest chilling injury whit ~ 54% difference compared to the control. Moreover, the minimum weight loss (4.18%) was observed in the Al/AsA treated fruit and the lowest firmness (3.61 N) was obtained in the control fruit while there were no significant difference between other treatments. Al/AsA treatment was showed the maximum content of AsA (18.29 $mg100g^{-1}$ FW), total phenol (175.36 $mgGAE100g^{-1}$ FW), flavonoid (40.94 mg quercetin 100 g^{-1} FW) and antioxidant activity (34.43%) at the end of storage while the highest level of the soluble solids content and the lowest level of titratable acidity were obtained in the control. Overall, these findings showed that the Al edible coating treatment by incorporation of' organic acids, especially with AsA, can be useful for preserving the quality of stored mango fruit.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Innovations in Safeguarding Food Supply: A Comprehensive Analysis of Biosensors and AI Integration for Enhanced Quality and Safety**

Speaker Name: Bahareh Rezazadeh

Affiliation: Science and Research Branch of Islamic Azad University

Abstract:

In a time dominated by automation, Artificial Intelligence (AI), and the widespread use of the Internet of Things (IoT) and biosensors, we explore how blending AI and biosensors in the food industry can significantly enhance food quality and safety.

The primary objective of this study is to investigate the synergistic impact of integrating AI and biosensors within the context of the food industry, specifically focusing on how this integration can substantially elevate both food quality and safety. The study aims to provide a comprehensive understanding of the diverse applications of biosensors across the entire food supply chain.

The scope of the study encompasses an in-depth breakdown of how biosensors are deployed to regulate food health. This includes managing raw materials, their progression through factories, processing stages, quality control measures, packaging processes, and distribution to retailers. The study proposes a taxonomy to categorize and elucidate the varied applications of biosensors, ensuring a holistic perspective on their role in maintaining consistent food safety and quality throughout the supply chain.

The methodology used in this study is the Systematic Literature Review (SLR), which involves an extensive review and comparison of recent papers in international journals. The analysis includes assessing main ideas, novel findings, applied techniques, weaknesses, and strengths. A taxonomy is introduced to classify biosensor applications in the food industry and used to create a comprehensive comparison table and identify gaps in existing research. Advanced techniques for ensuring food quality and safety are explored by investigating the latest biosensor technologies.

The study draws on a review of recent papers from reputable international journals, analyzing their main ideas, novel findings, applied techniques, weaknesses, and strengths. A comprehensive comparison table addresses gaps in previous research and showcases how the study fills these deficiencies. Additionally, a classification of references based on biosensor applications is presented through the proposed taxonomy. The investigation identifies advanced techniques and practical methods derived from the latest biosensor technologies, offering a pathway for transforming how food safety is monitored and ensured.

This paper concludes by addressing the challenges inherent in the interdisciplinary field, highlighting open issues for further exploration. A detailed roadmap is provided for future endeavors, guiding researchers, industry practitioners, and policymakers. The study positions itself as a beneficial resource that surpasses conventional studies, offering insights into the dynamic intersection of biosensors and the food industry. By advocating for a future where innovation and industry success are intertwined, the study signifies a notable shift in the pivotal role biosensors play in guaranteeing the safety and quality of the global food supply.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Oscillatory thermal process in gas-bearing coal that occurs during desorption methane induction in a sealed volume

Speaker Name: Vyacheslav Alexandrovich Bobin

Affiliation: N.V. Melnikov of the Russian Academy of Sciences

Abstract:

The report presents the results of mine and laboratory studies of the phenomenon of adsorption methane induction in sealed volumes (respectively, in a sealed well formed in the formation by drilling through a rock plug, and a thermobaric flask) filled with gas-bearing coal, as well as the oscillatory thermal process in this coal that occurs during this.

A physical model of the process occurring in the objects of research has been created, and its mathematical description is obtained.

At the same time, the phenomenon of desorption methane induction was revealed as a result of mutually opposite processes, namely desorption from fine coal or from coal located in the reservoir in the zone of influence of the well, which forms the pressure of methane in the free space of objects, which, with an increase in its value, promotes the reverse sorption of the released methane into coal and, thus, slows down desorption from it, which caused its appearance, which ultimately reduces it to zero.

The formula mathematically describing the phenomenon of desorption methane induction shows that its quantitative induction characteristics are determined by the natural gas saturation of coal and the rate of methane release from it. Coal itself, in the process of desorption induction, experiences a continuous change in the temperature of the damped oscillatory harecter in each of its layers, which is associated with both methane desorption and heat exchange between coal layers having different granulometric composition and different macrostructure of granules.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Modification of Flexible Electrodes for P-Type (Nickel Oxide) Dye- Sensitized Solar Cell Performance Based on the Cellulose Nanofiber Film

Speaker Name: Habtamu Fekadu Etefa

Affiliation: Walter Sisulu University

Abstract:

The preparation of flexible electrode, including working electrode (WE) and counter electrode (CE), for dye-sensitized solar cells (DSSCs) utilizing metal oxides using environmentally friendly sustainable TEMPO-oxidized cellulose nanofibers (TOCNFs) is reported in this work. A new type of flexible electrode for the DSSCs, which were made of cellulose nanofiber composites with nickel hydroxide [CNF/Ni(OH)2] substrate films and cellulose nanofiber composites with polypyrrole (CNF/PPY). Nickel hydroxide, Ni(OH)2, has been prepared hydrothermally in the presence of TOCNFs, [TOCNF@Ni(OH)2]. Similarly, the conductive polymer substrate has also been prepared from a composite consisting of TOCNF and PPY, TOCNF@ PPY film, by means of polymerization for the CE. Overall, the prepared electrodes both WE from CNF/Ni(OH)2 substrates and CE from the TOCNF@PPY substrate film were revealed as the novelty of this work and which no one has introduced previously. Although NiO nanoparticles (NPs) coated on the Ni (OH)2/TOCNF electrode also produced a good power conversion efficiency, PCE (0.75%); nevertheless, the NiO NP treatment with carbon dots boosted the efficiency up to 1.3%.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **A Hybrid Nano Material Based Highly Sensitive Surface Plasmon Resonance Biosensor for Waterborne Bacteria Detection**

Speaker Name: Quazi D.M. Khosru

Affiliation: University of Engineering and Technology

Abstract:

Developing low-cost sensors for the detection of bacteria causing dangerous waterborne diseases like cholera and typhoid is a worldwide problem. In view of the unfortunate reality that clean and safe drinking water, free in particular from waterborne bacteria, is not generally accessible. Infections spread by water can be caused by a wide variety of bacteria, including common ones like Vibrio cholera, Serratia marcescens, Escherichia coli, and Micrococcus lysodeikticus. Several methods have been described over the past decade, but optical methodology stands out as a robust, low-cost, and dependable approach to biological sensing. In this work, a new SPR biosensor is proposed based on a BaTiO3-BlueP/WS2 hybrid structure, using a CaF2 prism coupled to a ZnO adhesion layer, which is connected with an Ag plasmonic layer. A protective affinity layer is deposited on top of the BlueP/WS2 hybrid nanomaterials to improve the detection of waterborne bacteria. For each potential bacterial detection, different types of affinity layers are considered. Each of the four types of waterborne bacteria is attracted to their respective affinity layers. Several performance parameters are evaluated and compared with the variation of the sensing medium to identify those specific bacteria. The optimal thickness of the proposed structure is decided by attenuated total reflection technique and analysis performance parameters by using angular interrogation technique, which is simulated by using the transfer matrix method and finite- difference time-domain analysis. The proposed sensor demonstrated a very high sensitivity of 333.59 to 345.56 deg/RIU, quality factor 120.65 to 123.11 (1/RIU) with higher figure of merit from 119.2 to 121.92 respectively. The biosensor also achieved very high detection accuracy 1.206 to 1.231 with a higher limit of detection of 2.894×10-6 to 2.998×10-6. These results indicate a balanced sensing performance for all four types of waterborne bacteria detection.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Selective and Simple Determination of Isoquinoline Alkaloids in Papaver Species by Ion Mobility Spectrometry**

Speaker Name: Seied Vahid Ghasemi

Affiliation: Institute of Medicinal Plants

Abstract:

In this study, a fast and precise method for determining three opium alkaloids (morphine, codeine, and thebaine) in different parts of some Papaver species was developed and validated with a low limit of detection (LOD) of 0.05 - 0.20 mg/L. The proposed method was based on three extraction steps by alkaline aqueous solution/chloroform/acidic aqueous solution and analysis by ion mobility spectrometry (IMS) and high-performance liquid chromatography (HPLC). After optimizing IMS parameters based on an experimental design, IMS was applied to analyze the extracts of seeds, stems, leaves, and capsules of seven Papaver species collected from different regions of Iran. All prepared samples were analyzed by HPLC and IMS at the same time. Then, the obtained results of the two instrumental methods were compared. The HPLC did not detect morphine in the prepared samples, while IMS results showed trace amounts of morphine in the capsules and leaves of four Papaver species. Other results were comparable and showed that IMS is more sensitive, affordable, and faster than HPLC for alkaloid analysis.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Corrosion, mechanical and bioactivity of HA – CNT, HA- GE composite coatings on anodized Ti6al4V and AZ31 Mg alloy

Speaker Name: Mohsen Saremi

Affiliation: University of Tehran

Abstract:

The use of body implants has increased rapidly due to the aging, diseases and incidents. Titanium and its alloys are often used as permanent implants for their stable chemical properties, bioactivity and mechanical properties. Mg alloys are also considered as temporaryimplants because of their bioactivity and biodegradability. However a percentage of implants need to be renovated because of their undesirable properties and infection. An efficient strategy is to modify the surface of the implant by roughening, porosity or apply surface coating.

Hydroxy Apatite (HA), is a biocompatible compound, with composition similar to bone, is widely used as coating on implants, but it has some mechanical shortcomings especially at joints and load bearings. Composite coating of HA with ceramic and GE particles may overcome difficulties.

In this work in the first try, composite coating of HA with CNT (CNT) is applied on anodized Tl6Al4V alloy, having rough surface, using electrophoretice method in a Butanol2 electrolyte including HA particles with different amounts of CNT (2-5%). The surface morphology and characterization were done using FESEM and XRD. The results showed the Ti surface with nano tube oxides before coating which provided an adherent coating with uniform distribution of CNT with 5% CNT at optimum concentration. Electrochemical polarization and EIS tests appliedon the composite coated substrate in SBF solution showed improved corrosion resistance. Bioactivity in SBF for 14 days was positive and cell viability increased by 74% over HA-3%CNTcoating.

In the second try HA-CNT and HA-Graphene applied on AZ31 Mg alloy with similar improvementin corrosion resistance and bioactivity. Moreover, it showed a reduction in H2 gas formation on the coating which is a significant breakthrough. It is concluded that HA composite coatings withCNT and grapheme increase corrosion resistance, adhesion and bioactivity of the coating.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: A Comparative Reconnaissance Review on Cybersecurity and Ethical Considerations in Bioelectronics

Speaker Name: Maitri Patel

Affiliation: Institute of Advanced Research

Abstract:

The integration of bioelectronics into healthcare marks a pivotal transformation, highlighting significant challenges in cybersecurity and ethical deliberations. This review systematically explores the imperative of strengthening bioelectronic technologies while delving into the ethical complexities intertwined within this domain. At the core of this analysis lies the identification and mitigation of looming cyber threats affecting bioelectronic systems. A meticulous examination of vulnerabilities and associated risks emphasizes the critical need for implementing robust safeguards to protect sensitive biological data's integrity and confidentiality. Furthermore, this review scrutinizes the inherent ethical dimensions of bioelectronics, elucidating concerns encompassing informed consent, data ownership, privacy preservation, and ensuring fair access. By synthesizing these crucial aspects, this paper provides a comprehensive exploration of the intricate interplay between cybersecurity and ethics within the realm of bioelectronics. It advocates for the development of comprehensive frameworks that not only fortify technological advancements against cyber threats but also uphold ethical responsibilities. Drawing insights from a diverse range of scholarly sources and industry perspectives, this comparative reconnaissance review offers a synthesized understanding of imperatives governing security and ethical considerations in the burgeoning sphere of bioelectronics. Ultimately, it underscores the necessity for holistic approaches that harmonize technological innovation with ethical principles, fostering a secure and ethically inclined landscape for the future of health tech in bioelectronics.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Environmental Enteropathy and Its Association with Water Sanitation and Hygiene in Slum Areas of JimmaTown Ethiopia

Speaker Name: Redeit Regassa Woldegeorgis

Affiliation: Jimma University

Abstract:

Background: Environmental Enteropathy is an inflammatory condition of the gut that leads to intestinal barrier dysfunction. It is a common problem in resource-limited countries and results from exposure to larger quantities of fecal bacteria to poor personal hygiene and environmental sanitation. Due to poor intestinal permeability, there is a problem with absorption of nutrients, which in turn leads to growth faltering, poor cognitive development, and oral-vaccine failure. The aim of this study was to identify the children with an elevated lactulose to mannitol ratio (indicative of possible environmental enteropathy) and its association with water sanitation and hygiene in slum areas of Jimma Town so as to mitigate the problem of malnutrition in under-five children.

Methods: A community-based cross-sectional study was carried out from January to April 2021. A Lactulose mannitol test was performed to determine the prevalence of elevated lactulose to mannitol ratio (possibly environmental enteropathy) in children aged 12 to 59 months. A pretested questionnaire was used to collect data on water sanitation and hygiene (WASH) indicators and sociodemographic characteristics. A multivariable logistic regression analysis was used to isolate independent predictors for possible environmental enteropathy. All tests were two-sided and statistical significance was declared at $P<0.05$.

Results: the results of this study showed that 19.3% (95%CI: 14.8–23.7) of children had an increased lactulose to mannitol ratio (>0.15). On multivariable logistic regression analysis, the variables drinking water from unimproved water sources (AOR 3.741; 95%CI: 0.914– 15.310,p=0.048), unsafe coverage of water storage (AOR 0.363; 95%CI: 0.169–0.777, P=0.009), public latrine utilization (AOR 0.139 95%CI: 0.024–0.816, P=0.029),and hand washing less than 3 critical time of hand washing practices (AOR 4.369;95%CI: 1.411–13.524,P=0.011) were significantly associated with an increased in lactulose mannitol ratio(possible indicative of intestinal permeability/environmental enteropathy).

Conclusion: This study showed that one-fifth of under-five children in Jimma Town had an elevated lactulose to mannitol ratio (possibly environmental enteropathy). The WASH sectors and other governmental organizations should give emphasis to areas with poor water sanitation and hygiene to mitigate the problem of environmental enteropathy and related consequences like growth faltering, poor cognitive development, and oral-vaccine failure in the study area.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Neoadjuvant Therapy in Non-Metastatic Breast Cancer in Kurdistan, Iraq

Speaker Name: Karez Sarbast Namiq

Affiliation: Hawler Medical University

Abstract:

Background: Breast cancer is the most common cancer in women. Locally advanced breast cancer (LABC) is defined as inoperable breast adenocarcinoma without distant metastases. Patients with LABC require a multidisciplinary approach. Its core management includes surgical removal of the tumor either by breast conserving surgery (BCS) or mastectomy, and there is a great variability in surgical practice for treating that cancer in different countries. Neoadjuvant chemotherapy has been the standard treatment for locally advanced breast cancer for the purpose of downstaging or for conversion from mastectomy to BCS.

Purpose: This study aimed to assess the treatment approach for nonmetastatic breast cancer in the Kurdistan region of Iraq and to compare its alignment with the current international recommendations for cancer treatment.

Patients and Methods: We retrospectively reviewed the records of 1000 eligible patients who underwent either breast-conserving surgery or mastectomy for non-metastatic invasive breast cancer at oncology centers located in the Kurdistan region of Iraq between the period 2016– 2021.

Results: Out Of 1000 patients (median age, 47 years (range, 22–85 years)), 60.2% underwent a mastectomy and 39.8% underwent breast conserving surgery. The proportion of patients treated with neoadjuvant chemotherapy has increased over time, with 8.3% of patients receiving neoadjuvant treatment in 2016 compared to 14.2% in 2021. Similarly, breast-conserving surgery has risen from 36.3% in 2016 to 43.7% in 2021. Most patients who underwent breast-conserving surgery had early breast cancer with a low nodal involvement burden.

Conclusion(s): The increasing trends of breast-conserving surgery practice in locally advanced breast cancer along with the increased use of neoadjuvant chemotherapy in the Kurdistan region in recent years comply with international guidelines. Our large multicenter, real-life series emphasizes the urgent need to implement and discuss more conservative surgical approaches, enhanced with the broader use of neoadjuvant chemotherapy, through education and information programs for health providers and patients, in the context of multidisciplinary team discussions, to deliver high-quality, patient centric breast cancer care.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Design of a stress meter based on the electrodermal activity

Speaker Name: Edmore Utete

Affiliation: University Of Zimbabwe

Abstract:

This research project aims to design and develop a stress meter to measure stress levels in people, particularly in Low and Middle-Income Countries (LMICs). Stress is a prevalent issue that can have significant negative impacts on both physical and mental health. The electro dermal activity (EDA) measurement technique was chosen as a non-invasive and cost-effective method to measure stress levels. The stress meter design block diagram comprises several components, including the stress sensor electric circuit, filter and amplification circuit, stress alarm, and power supply. The stress sensor electric circuit consists of electrodes that act as variable resistors and produce an output voltage that changes based on the electrode resistance value. The filter and amplification circuit are used to filter and amplify the signal from the stress sensor electric circuit. The stress alarm system uses traffic light colors to indicate stress levels, with red representing high stress levels accompanied by a beeping sound from the buzzer. The power supply consists of a 9V battery that supplies power to the Arduino Uno R3 board, which in turn supplies 5V to the GSR circuit.

Simulation studies were conducted to evaluate the performance of the stress sensor electric circuit and the filter and amplification circuit. The simulation results showed that the stress sensor electric circuit was sensitive to changes in skin resistance, with higher skin resistance resulting in a higher output voltage. The filter and amplification circuit were effective in filtering and amplifying the signal from the stress sensor electric circuit.

Further testing and validation of the stress meter using actual physiological data from human subjects are necessary to determine its accuracy and reliability in real-world scenarios. The stress meter has the potential to improve stress measurement in LMICs, where stress-related issues may be more prevalent and resources for stress measurement may be limited. The stress meter could also be useful for individuals, such as students and parents, who are experiencing chronic stress due to various stressors.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: The Future of Biosensors and Bioelectronics: Time to Consider Broader Ethical Issues in the Use of their Outputs

Speaker Name: Okechukwu Ethelbert Amah

Affiliation: Pan-Atlantic University

Abstract:

Biosensors and bioelectronics have made remarkable progress in medicine, environmental monitoring, food/safety, and various industries. The data collected by these tools include biochemical, electrophysical, biomechanical, temperature and gas concentration, biometric and environmental data. These data provide help in medical diagnosis, continuous monitoring of the health of individuals, and environmental monitoring and help professionals make informed decisions. Recently, smartwatch manufacturers have used the output of biosensors and bioelectronics in developing products that add value to their smartwatches. The emphasis of the manufacturers is always the value-added, which elevates the economic value of the watches in the eyes of the user and gives the manufacturers a competitive advantage. However, the ethical implication of the use by their customers is not given appropriate attention except for some caveats that are included.

The measurements captured by the watches include monitoring heart rate and activities during physical exercise, tracking sleep, blood oxygen, electrocardiogram, stress monitoring, and monitoring temperature. Customers take the measurements as given and may or may not make further consultations when they obtain suspicious results. The watch manufacturers try to give direction on using the measures, but more actions are required to protect the users. The future of biosensors and bioelectronics must factor in the ethical implications of using their output by a third party. They must be interested in how the third party uses these measures and take full responsibility to ensure that ethical issues around the use are adequately articulated and analyzed. The presentation will address how the users of smartwatches adopt the measures they obtain and what actions they take to protect themselves. It will also address the input they got from the watch manufacturers besides just writing a non-involvement clause. Ethics has moved from law-driven to using virtue ethics that is internally cultivated and used. The outcome will help redesign the future of biosensors and bioelectronics.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Temperature sensor with enhanced sensitivity across a broad temperature range utilizing a twin- core photonic crystal fiber

Speaker Name: Sonal Singh

Affiliation: Delhi Technological University

Abstract:

This article introduces a temperature sensing application employing twin-core photonic crystal fiber (TC-PCF). In the TC-PCF structure, two solid cores positioned in the cross- section and separated by a vertical elliptical air hole function as independent waveguides. The unique arrangement of circular and elliptical air holes in our proposed structure offers a distinct advantage, enabling high sensitivity compared to other existing structures. The sensor, characterized by high birefringence, operates on the principle of mode coupling between the two fiber cores. Practical implementation of this TC-PCF-based temperature sensor involves coupling one fiber core to a broadband source at the input end and the other fiber core to an optical spectrum analyzer at the output end. Utilizing the finite element method, we conducted simulations and quantitative analyses of the proposed TC- PCF temperature sensor. The numerical simulations demonstrate that the optimized 3 cm-long TC-PCF sensor exhibits a remarkable temperature sensitivity of approximately 21.5 pm/°C across an extensive temperature sensing range from 0 to 1200 °C. Additionally, we investigated the influence of variations in air hole diameter on the sensitivity of the proposed model.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Metabolic surgery versus usual care effects on diabetes remission: a systematic review and meta-analysis

Speaker Name: Erean Shigign Malka

Affiliation: Salale University

Abstract:

Background: Bariatric surgery is superior to usual care for diabetes remission. Previous meta- analyses were limited by pooling observational and randomized trials, using various definitions of diabetes remission, and not controlling for various diabetes medications. The current meta- analysis aimed to compare bariatric surgery and usual care regarding the same.

Methods: We searched PubMed MEDLINE, Web of Science, SCOPUS, and Cochrane Library for relevant articles from the date of the first inception up to February 2023. The keywords diabetes remission, Bariatric surgery, metabolic surgery, lifestyles, usual care, GLIP-1 agonists, insulin use, gastric banding, biliopancreatic diversion, sleeve gastrectomy, and Roux-en-Y gastric bypass, were used. A datasheet was used to extract the relevant data.

Results: Diabetes remission (complete and prolonged) was higher among bariatric surgeries compared to usual care, odd ratio, 0.06, 95 CI, 0.02–0.25 and 0.12, 95 CI, 0.02–0.72, respectively. bariatric surgery patients were younger, had higher HbA1c, odd ratio, − 3.13, 95 CI, − 3.71 to 2.54, and 0.25, 95 CI, 0.02–0.48, respectively, insulin use was higher, and glucagon-like peptide agonists use was lower among bariatric surgery patients, odd ratio, 0.49, 95% CI, 0.24–0.97, and 3.06, 95% CI, 1.44–6.53, respectively.

Conclusion: Bariatric surgery was better than usual care in diabetes remission. Bariatric surgery patients were younger, had higher HbA1c, and received more insulin and lower GLP-1 agonists. No differences were evident regarding body mass index and the duration of diabetes. Further trials comparing the new anti-diabetic medications and different forms of bariatric surgery and controlling for the level of exercise and diet are recommended. Keywords Bariatric surgery, Metabolic surgery, Diabetes remission, Usual care, Lifestyles.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: An effective combined method for data aggregation in WSNs

Speaker Name: Razieh Asgarnezhad

Affiliation: Aghigh Institute of Higher Education

Abstract:

A wireless sensor network consists of many wireless sensors in a specific area to collect information from the environment and send the collected data to the base station. In this type of network, a sink node is applied to improve data aggregation with a mobile sink.
Many methods have proposed for the use of mobile sinks and a detailed evaluation of the performance of these methods has not been provided. In this paper, the current authors present an effective and new method by combining three data collection methods and mobile sinks. Results reveal that the proposed method has a better performance in terms of parameters than other methods. A main difference is that in addition to the mobile sink, it uses other nodes called advanced nodes that direct data from the header nodes to the sink path, which ultimately results in better performance. The results show that the proposed method has more significant superiority over its comparative techniques, particularly on energy consumption, network lifetime, delay, and missing data.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Designing and Managing Advanced, Intelligent and Ethical Health and Social Care Ecosystems

Speaker Name: Bernd Blobel

Affiliation: Deggendorf Institute of Technology

Abstract:

For meeting the financial, quality and safety challenges as well as expectations of the patients, health and social care systems around the globe currently undergo a transformation towards personalized, preventive, predictive, participative precision medicine (5PM), supported by technology. It considers individual health status, conditions, genetic and genomic dispositions in personal social, occupational, environmental and behavioral context, understanding the pathology of diseases and turning health and social care from reactive to proactive. The aforementioned transformation is strongly supported by technologies such as micro- and nanotechnologies, advanced computing, artificial intelligence, autonomous systems and robotics, knowledge representation and management, etc. Beside their opportunities, those advanced technologies also bear risks to be managed, requiring the detailed consideration from a humanistic, moral and ethical perspective. For enabling communication and cooperation between all actors from different disciplines involved, using different methodologies, perspectives, intentions, languages, we shall understand and formally and consistently represent the multidisciplinary, highly complex and dynamic 5PM ecosystem. The outcome is a system-theoretical, architecture-centric, ontology-based, policy-driven approach for designing and managing intelligent and ethical 5PM ecosystems. The necessary model and framework has been developed by the author and meanwhile standardized as ISO 23903 Interoperability and Integration Reference Architecture. The formal representation of any ecosystem and its development process including examples of practical deployment of the approach are presented in detail. This includes correct systems and standards integration and interoperability solutions.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Correlation between the Prevalence of Sick-Building Syndrome and Safe Indoor Air Quality Concept in Private Residential Housing in Jordan

Speaker Name: Ghaida Mohd Ghazi Ahmad Freihat

Affiliation: The University of Jordan

Abstract:

Indoor air quality (IAQ) and related health problems have witnessed remarkable attention recently. The prevalence of sick-building syndrome (SBS) is considered the most common health issue. This study conducted in the Al-Dahrieh neighbourhood in Jordan showed for the first time how indoor air quality (IAQ) factors affect the prevalence of sick-building syndrome among occupants in residential buildings. The study investigated the concentration levels of air pollutants and comfort parameters. Architectural and urban design configurations were collected through site observation. In addition, daily activities for occupants were gathered through an online questionnaire. All statistical and descriptive analyses of the data collected for this study were carried out by Spearman's rho correlation test (SPSS) and Excel 2016. It was done using two-tailed (2-tailed) tests and a 1% statistical significance level (< 0.01); interestingly, all expected parameters checked using SPSS are acceptable according to the significant factor of < 0.05. The research explored low air quality in the selected case studies and suggested simple mitigation strategies to reduce pollutants concentration in the buildings, such as natural ventilation and control of pollution from internal sources. Moreover, architects may take these findings to enhance neighborhood and building design to achieve the goal of constructing healthier buildings.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: The Impact of Zn2+ Ions on Dielectric Properties and Initial Permeability of Ba-Ni Ferrite Nanoparticles through Nonmagnetic Doping

Speaker Name: Sadiq Hassan Yahya Khoreem

Affiliation: Al-Razi University

Abstract:

The effects of composition, temperature, and frequency-dependent dielectric properties of barium-nickel-based ferrites have been investigated. The conventional ceramic technique prepared the compositions BaNi2-xZnxFe16O27 (at x = 0.0, 0.4, 1.2, and 2). According to the frequency and Zn concentration, the dielectric parameters were properly set. Overall, the dielectric properties of this sample make them a suitable candidate for flexible super capacitors and are best suited for high-frequency region applications. The initial magnetic permeability of the prepared sample was increasing as the Zn ions contents increase. The produced samples were suitable for application as microwave absorbers, data storage appliances, and magnetic recording mediums. Generally, the decrease in dielectric parameters such as loss tangent and increased dielectric constant resulting from the incorporation of Zn+2 ions advocate appropriation of these materials in high-frequency applications such recording media, sensors, circulators, microwave devices, electronic devices, and phase shifters. The samples' frequency- dependent ac conductivity has grown as their frequencies got higher. The samples' initial permeability to magnetic fields showed an upward trend as Zn concentrations rose and displayed ferromagnetic activity. As Zn2+ ion replacement increases, the initial magnetic permeability increases. This might be accounted for by magnetic Ni2+ ions replacing non-magnetic Zn2+ ions. Based on the generated samples may be employed in microwave absorbent and data storage devices based on their magnetic characteristics.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Comprehensive Investigation of Stress-Strain Distributions for Predicting Femur Fracture Risk: Finite Element Analysis and Age-Related Variations

Speaker Name: Rahul A. Gujar

Affiliation: Pimpri Chinchwad College of Engineering

Abstract:

This study endeavors to comprehensively investigate the stress-strain distributions in order to predict the fracture risk of the femur bone utilizing advanced finite element analysis. Employing state-of-the-art techniques, a meticulously constructed 3D model of the femur bone was generated from high-resolution computed tomography image data, utilizing the cutting-edge capabilities of Simpleware ScanIP software. This sophisticated femur bone 3D model, incorporating realistic heterogeneous material properties, was further subjected to rigorous analysis utilizing the powerful Altair HyperMesh software. The investigation involved the application of boundary conditions, subjecting the femur head to an incremental compression loading, ranging from 1000 N to 8000 N, at selected inclinations of 0°, 8°, and 15°, as elegantly depicted in Figure 1. The ensuing analysis evaluated the von Mises stress and strain distributions for each distinct tilting condition, thereby successfully finding the precise scenarios exhibiting the highest risk of femur fracture. Importantly, a comprehensive selection of eighteen human femur bone samples was employed, expertly classified into four distinct age groups: 21-35 years, 36-50 years, 51-65 years, and 66 years and above. Subsequently, meticulous finite element analyses were judiciously performed, assessing the influence of age, bone tilt, and compressive load on the fracture risk of the femur bone. The comprehensive study successfully unveiled that the von Mises stress and strain distributions exhibited notable variations, intrinsically linked to the age of the subjects, the tilting of the bone, and the magnitude of the applied loading. Strikingly, the highest risk of fracture was consistently observed at a higher inclination under identical loading conditions across all age groups.

Furthermore, the analysis revealed a pronounced trend, with individuals belonging to the higher age groups exhibiting the maximum fracture risk, emphasizing the critical role of age in determining susceptibility to femur fractures.

These groundbreaking findings possess profound implications for the realm of clinical practice, as they offer immense potential in terms of fracture risk prediction and the formulation of personalized treatment strategies. By diligently considering subject-specific factors and harnessing the full potential of advanced computational techniques, healthcare professionals can significantly augment their ability to identify individuals at heightened risk of fractures and, in turn, expertly implement tailored preventive measures. This study represents a significant leap forward in our understanding of femur fracture risk assessment, paving the way for enhanced clinical decision-making and improved patient outcomes.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Parasite Habitat Suitability Modelling as Demonstrative Tool of Bioinvasion using Artificial Intelligence**

Speaker Name: Anita Yadav

Affiliation: A Constituent College of the University of Allahabad

Abstract:

The utility of Maxnet Permutation importance substantiated the suitability of a habitat model. The six variables identified as most important abiotic factors for the potential distribution of nematode species were- mean sea/riverine surface temperature, land distance, salinity, depth, sea surface temperature range as well as primary production. These six variables facilitated support to the modelled habitat suitability for the definitive host species. The sea shore and freshwater river Ganges being two units, the effect of environmental and host variables over long term studies were monitored. The investigations were conducted to produce long term data on marine as wells as freshwater riverine habitats that involved as many as 10 marine fish species as well as 28 species from the latter habitats. The comparative operational data among abiotic and biotic factors were subjected to analysis using tools of artificial intelligence for elaborate substantiation of characteristics of bioinvasive bioindicators. Biostatitical applications of R and Principal Component Analysis were applied.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Anisakid Nemic Worms Find Microvesicular Support in Their Role as Zoonotic Bioindicators

Speaker Name: Sandeep K. Malhotra

Affiliation: A Constituent College of the University of Allahabad

Abstract:

The organisms of Anisakidae, *Anisakis typica*, occurring in India are in possession of a variety of mechanorecptor performing, as well as chemoreceptor performing role of cephalic, body papillae. Other members of this family closeted with these human- parasitic roundworms of zoonotic significance, within the same tropical water body, the life-line of India, *i.e.* River Ganges, also share extracellular vesicles distributed on body organs. The very advantage of the conducting duct between dorsal tooth and excretory pore having adapted through a typical curvature at both ends near the dorsal pore underneath tooth and the ventral pore proved advantageous for microvesicles to be extracted out of excretory pore while certain few were spilled over different parts of body emanating from dorsal and ventral orifices. The critical role of microvesicles in survival and adaptation of anisakid worms have been reported (Mattiucci, 2018). The infectivity by these worms under natural conditions has been reportedly moderately low in terms of pathogenicity. It has been supposedly facilitated as they co-evolved over a longer period of time along with cetaceans, and as such along migratory fishes, as seen in freshwater river Ganges in India as well (Jaiswal and Malhotra, 2016). The cold-blooded aquatic vertebrates in which they survived effectively transferred these worms to heterothermic hosts in the long stretches of the same water body, therefore, enabling their larval forms and developmental stages merrily survive. These indeed present a unique case where haemoadaptive capacity regulating their thermoregulatory characteristics provide fascinating opportunity for parasitic worms to perform the role of bioindicators in Indian environment.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Effect of Bone Marrow Mesenchymal Stem Cells on a Short Term Induced Diabetic Retinopathy in Adult Female Albino Rats

Speaker Name: Nema Soliman Abd El-Kareem Seliem

Affiliation: Suez Canal University

Abstract:

Background: Worldwide, diabetic retinopathy (DR) remains the leading cause of visual impairment that often leads to irreversible vision loss. Despite the screening programs and treatments, DR affects approximately 17.9% of type II diabetes patients in Egypt.

Aim: To assess the curative effect of intravitreally injected bone marrow mesenchymal stem cells on experimentally induced diabetic retinopathy. Methods Thirty adult female albino rats were randomized into 5 groups: group (I), received no treatment; group (II), received intravitreal injection of phosphate buffer saline; group (III), subjected to diabetes induction using intraperitoneal injection of streptozotocin; group (IV), received intravitreal injection of bone marrow mesenchymal stem cells (BM-MSCs); and group (V), received intravitreal injection of BM-MSCs post-diabetes induction. After 30 days, the right eyes were enucleated and prepared for histological stains (H&E and PTAH), histochemical stain (PAS), and immunohistochemical stains (anti-CD34, anti-caspase-3 active, and anti-fbronectin), and the left eyes of group (V) were prepared for PCR analysis.

Results: Group (V) revealed preserved retinal tissue integrity, and the cellular organization appeared nearly normal in comparison to control groups. Less gliosis was seen in group (V) in comparison to group (III).
Morphometric analysis of group (V) revealed a statistically significant increase in retinal thickness and decrease of the optical density of CD34 and fbronectin immunoreaction compared to group (III). PCR results revealed that all recipient rats contain SRY-positive gene.

Conclusion: BM-MSCs significantly reduced neurovascular retinal degeneration and gliosis within treated animals. BMMSCs might be beneficial in preventing DR progression.

Lay Summary: Diabetic retinopathy remains the leading cause of visual impairment which could progress up to visual loss. Vaso-regenerative stem cell therapy could be an effective therapeutic approach to prevent progression of retinal nerve cell damage in patients with ischemic retinopathies including diabetic retinopathy. In the present study, we investigated the therapeutic effect of intravitreally injected BM-MSCs in a short-term experimentally induced diabetic retinopathy. BM-MSCs could provide a partial curative effect on the retina through decreasing retinal nerve cell degeneration, microangiopathies, fibrosis, and gliosis. Further studies focusing on the quality and timing of stem cell injection in different diabetic retinopathy stages and effectiveness of cell therapy as well as the possible adverse effects are recommended.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Understanding the Effect on the State of Health of a Lithium-Ion Battery Caused by Charging at a High Current Rate

Speaker Name: Andres Valverde Saborio

Affiliation: University of Costa Rica

Abstract:

Numerous studies have delayed into exploring the degradation of lithium-ion batteries (LIBs) under various discharge conditions. However, scant attention has been paid to the impact of the charging process on the remaining useful life of these batteries. Typically, the charging process adheres to the well-known Constant Current – Constant Voltage (CCCV) protocol. While many datasheets exposed the degradation phenomenon during the battery discharge at nominal current levels, they often underscore that the charging process is conducted at a current equal to half the full value of the battery's nominal rating. It's widely acknowledged that charging at higher currents can detrimentally affect battery lifespan. Yet, a pertinent question arises: Is there an optimal higher current rate value that can reduce charging time without significantly compromising battery lifespan. This study aims to address this question by investigating the charging behavior of two Samsung INR18650-20S LIBs cycled under nominal discharge conditions but charged at different C-rates: 1C and 2C. Over a span of 400 cycles, the evidence reveals that the battery charged at 1C experienced a nominal capacity loss of nearly 5%, whereas the one charged at 2C suffered an approximate 9% capacity loss. Despite the faster charging rate associated with higher C-rates, the adverse impact on battery lifespan becomes apparent, particularly when assessed through Electrochemical Impedance Spectroscopy (EIS) analysis, which indicates significant changes in internal impedance.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Development of Regularization Method for Soft X-ray Tomography in Alvand Tokamak

Speaker Name: Mahsa Moazzemi-Ghamsari

Affiliation: University of Kashan

Abstract:

The Soft X-ray (SXR) tomography system is used as an important diagnostic tool to evaluate the performance of plasma and measuring its important parameters in tokamak devices. the SXR system consists of several pinhole cameras that are installed around one poloidal plane of tokamak vacuum vessel. In each camera, the linear photodiode arrays can measure the intensity of SXR through the lines of sight. This system provides the possibility of two-dimensional(2D) reconstruction of plasma emissivity. In tokamak devices, due to the limited diagnostic ports in each poloidal cross section, the number of lines of sight is usually limited and there is not enough experimental data to perform the reconstruction process. In this case, the SXR emissivity reconstruction is mathematically ill-posed with sparse data set due to limited access to the tokamak and its solution faces many challenges.

Thus, to compensate for the lack of experimental data and to achieve a physical solution, it is necessary to use effective reconstruction algorithms. In this research, the arrangement and performance of such a system was investigated in Alvand tokamak. According to the diagnostic ports available on the system, the optimal placement has been obtained for the maximum coverage of the detectors. By choosing three synthetic plasma emissivity profiles, including Gaussian, Hollow and Banana profiles, the lined-integrated data reached to detector were simulated. Two-dimensional reconstruction of plasma emissivity was done using the Tikhonov regularization method. In this method, the regularization term and parameter were calculated using the Laplace matrix and iteration method, respectively. The minimum number of pixels for discretizing the poloidal cross section of plasma was 400. For this number of pixels, the root mean square derivation of reconstruction emissivity was obtained for Gaussian, Hallow and Banana models 0.016, 0.029 and 0.031, respectively. In addition, the convergence and stability of the reconstruction method was investigated by adding random noise to the primary data. For Gaussian and Hallow profiles, adding noise up to about 20 % has not significantly affected on reconstruction results. Meanwhile, in the Banana model, the reconstruction process will lose its effectiveness only for noise more than 2 %.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: **Advancing Healthcare through Digital Twins: A Multimodal Approach with Emphasis on Explainability and LLM Integration**

Speaker Name: Suchit Bhai Patel

Affiliation: BITS-Pilani

Abstract:

This presentation explores the transformative potential of digital twin technology within the healthcare domain, particularly focusing on its multimodal capabilities, explainability features, and integration with Large Language Models (LLM). Digital twins, virtual replicas of physical assets or systems, offer unprecedented opportunities for personalized medicine, predictive analytics, and treatment optimization. By incorporating diverse data modalities such as medical imaging, electronic health records, and wearable sensor data, healthcare practitioners can gain a holistic view of patients' health status and anticipate potential complications.

Moreover, ensuring the explainability of digital twin models is crucial for fostering trust among clinicians and patients, enabling transparent decision-making processes and facilitating regulatory compliance. Leveraging LLM enhances the interpretability of complex medical data, enabling clinicians to extract actionable insights and refine treatment strategies. This presentation will delve into case studies and real-world applications where digital twin technology, supported by multimodality, explainability, and LLM integration, has demonstrated significant advancements in disease diagnosis, prognosis, and patient management.

PEERS ALLEY MEDIA

Euro-Global Summit on
ADVANCES IN STRUCTURAL BIOLOGY & PROTEIN CHEMISTRY
JUNE 20-21, 2024 | BARCELONA, SPAIN

FEATURED TALKS

Title: Effect of Nanoparticles on the Structure and Function of Bovine Heart Cystatin

Speaker Name: Aamir Sohail

Affiliation: Aligarh Muslim University

Abstract:

Cystatins are a family of cysteine protease inhibitors that are found in all living organisms. They play important role in regulating the activity of proteolytic enzymes, which are involved in a variety of cellular processes, including cell growth, differentiation, and apoptosis.

Cystatins are also involved in the defence against pathogens. A novel cystatin was isolated from bovine heart and its interaction with nanoparticles were studies. A novel cystatin was isolated from buffalo heart through a three-step process involving ammonium sulphate fractionation, pH treatment, and gel filtration chromatography and based upon its physico- chemical characterization it was classified as a variant of type I cystatin or Stefins. The cystatin was interacted with nanoparticles to assess their effect on structural and function of the cystatin. The results showed that the binding of cystatin with both nanoparticles (ZnO and Fe_2O_3) decreased its anti-papain activity. This was accompanied by a decrease in the secondary structure of cystatin, as determined by circular dichroism (CD) spectroscopy, and an increase in its surface hydrophobicity, as determined by fluorescence spectroscopy. The formation of a stable intermediate molten globular state was also demonstrated by ANS fluorescence spectroscopy. However, there were no signs of aggregation, as determined by Thioflavin T (ThT) fluorescence spectroscopy. The extent of decrease in anti-papain activity and structural changes were more pronounced in case of Fe_2O_3 than ZnO. This suggests that Fe_2O_3-NPs are more potent in causing structural and functional change to cystatin than ZnO- NPs. In conclusion, the interaction of cystatin with nanoparticles exerted structural and functional changes in cystatin, which may have implications for its biological activity. It may be attributed to the side effects of using nanoparticles-based drugs, therapies, imaging and cosmetics etc. The extent of these effects depends on the type of nanoparticle.

NETWORKING…CONFERENCING…FOSTERING

ATTENDING A CONFERENCE ISN'T ALL ABOUT LEARNING AND NETWORKING

DISCOVERING

A right choice of conference destination is an important aspect of any international conference and keeping that in consideration, *Adv. Structural BIO 2024* is scheduled in the Beautiful city "Barcelona".

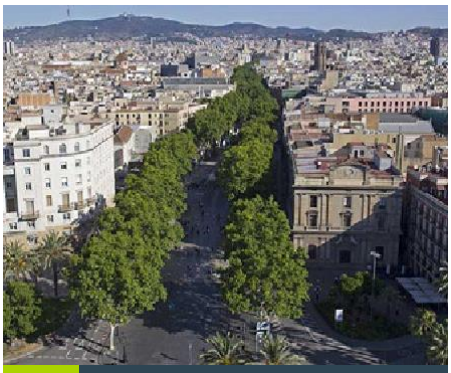
BOQUERIA MARKET

CAMP NOU STADIUM OF FC BARCELONA

CASA BATTLÓ

CASA MILÀ (LA PEDRERA)

HOSPITAL DE SANT PAU



LAS RAMBLAS

PALAU DE LA MÚSICA CATALANA

SAGRADA FAMILIA

PARK GÜELL

SPONSORS | MEDIA PARTNERS

NO SECRET IS SAFE SHARE YOUR RESEARCH

CONTACT US

Program Director

Adv. Structural BIO 2024

Peers Alley Media

1126 59 Ave East, V5X 1Y9, Vancouver BC, Canada

WhatsApp No: +1 778-244-7702

CONNECT US