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Bengaluru, India

2nd International Conference on

**“Global Trends in Applied Sciences,
Medial and Health Sciences”**

28th to 29th October 2022

School of Applied Sciences

in collaboration with

**Faculty of Medicine and Health Sciences
Universiti Malaysia Sabah**

Souvenir

radiation of a narrow light spectrum to meet the requirements of plants for their growth and development. Different LED-generated spectra with uniform intensity are used in the plant tissue culture system to improve plant growth, development, and proliferation. Continuous acquisition of new concepts and knowledge in photobiology and morphogenesis, complemented with the rapid development of LED technology will make the application of solid-state lighting more remunerative. Development of the smart LED plant tissue culture technology system (SLT), which incorporates intelligence to achieve the function as well as cost efficiency, and utilizing different LED operated spectra of uniform intensity determined for enhancing the plantlets production efficiency. Exposure to different LED wavelengths induces the synthesis of bioactive compounds and antioxidants, which in turn can improve the nutritional quality of horticultural crops. The improved production of various valuable secondary metabolites through light elicitation has unlocked a new area of research that could have significant economic benefits for the pharmaceutical and nutraceutical industry. In addition, research and development of commercially-viable in-door farming systems for high-premium vegetables including lettuces, basil, microgreens, and strawberry plants were developed in our laboratory. Optimization of the growth, marketable yield, and characteristics of selected plants grown in an automatically-controlled vertical farming system was established based on soilless crop cultivation, environmental control, and automated nutrient dosing developed in combination with the synergistic integration of IoT, AI, and computer vision technologies.

Keywords: Plant Tissue Culture, Indoor Farming, Light-emitting diodes (LEDs), Plant Growth, Secondary metabolites

AMH-03: Role of Honey and its Chemical Constituents on Neuroprotection

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Abstract: Honey is a viscous, sweet food substance made by honeybees. It has been consumed since ancient time due to its nutritional and medicinal values. Honey is composed of a variety of chemical constituents such as sugars, amino acids, proteins mainly of enzymes, vitamins, minerals and polyphenols such as flavonoids and phenolic acids. The composition and quality of different types of honey vary depending on the geographical location, floral sources, honeybees, climate changes etc. In recent times there is an increasing trend towards understanding the effects of honey in wound healing, diabetes, cancer, neuroprotection etc. The neuroprotective potential of honey has been shown in many studies and is suggested to be due to the synergistic action of polyphenols and other bioactive compounds present in it. Oxidative stress and neuroinflammation play the key role in the mechanism of neurodegeneration. In oxidative stress, there is an excessive generation of reactive oxygen species (ROS) and reduction of antioxidant capacity leading to oxidation of cellular structures such as lipids, protein and nucleic acids. Honey ameliorates the

oxidative stress by attenuating the levels of lipid peroxidation, protein carbonyl content and DNA damage, while it also enhances the antioxidant defence system and reduces the neuroinflammation by minimizing the elevation of pro-inflammatory markers. In our study also we have shown the neuroprotective action of Malaysian Tualang honey in the kainic acid induced excitotoxic rats where the pre-treatment with Tualang honey significantly reduced the elevation of thiobarbituric acid reactive substances (TBARS) and increased the total antioxidant status, reflecting the reduction of oxidative stress. Further, reduction in the neuroinflammation was evidenced by low elevation of TNF- α , IL-1 β , glial fibrillary acidic protein etc. and suppression of elevation of apoptotic marker caspase-3 in rat brain. Although pre-clinical studies with honey showed encouraging results, further clinical studies are warranted to elucidate its potential role in neuroprotection.

Keywords: Honey, Polyphenols, Oxidative stress, Neuroinflammation, Neuroprotection.

AMH-04: Strengthening Assistive Technology (AT) in India through Centre-State Partnership

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Abstract: Assistive Technology (AT) includes aids, appliances, instruments, equipment's, products, and software's along with services which help in habilitation, rehabilitation and improvement of functioning in people with various health conditions and disabilities as defined in Rights of persons with Disability Act (RPwDA) 2016. Assistive technology is a subset of health products used by persons with chronic diseases, older persons, persons with functional impairments, persons with mental illnesses, persons with burns-trauma-injury, children with neuro-developmental disorders, children with learning disorders, persons with cognitive declines, post infectious conditions like polio, leprosy, etc. Assistive products may be physical products such as wheelchairs, spectacles, hearing aids, prostheses, walking devices or continence pads; or they may be digital, available in the form of software's and apps that support interpersonal communication, access to information, daily time management, rehabilitation, education and training etc.

Keywords: Assistive Technology, Person's disability, learning objects, instruments and software's in Assistive technology.

AMH-05: Role of Ion beams in luminescence studies of materials

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20/09/2022

Prof. Dr. KNS Sirajudeen,
Head, Department of Basic Medical Sciences,
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MALAYSIA

INVITATION AS SPEAKER FOR 2-DAYS INTERNATIONAL CONFERENCE ON "GLOBAL TRENDS IN APPLIED SCIENCES, MEDICAL AND HEALTH SCIENCES"

Dear Prof. Dr. KNS Sirajudeen,,

Greetings from REVA University!!

It gives me an immense pleasure and honour to invite you as a Keynote Speaker for the upcoming International Conference "Global Trends in Applied Sciences, Medical and Health Sciences" during 28th – 29th of October 2022 at REVA University, Bangalore in association with Universiti Malaysia Sabah. I am extremely thankful for having accepted our invitation and we look forward to hearing your session. Please find the draft copy of the brochure attached for your reference. I will share the final brochure and schedule details at earliest.

Thank you for providing us the tentative title "**Role of Honey and its chemical constituents on Neuroprotection**".

The local transportation, travel and hospitality will be taken care by REVA University.

Thanks, and Regards,



PROF. P. SASUPULETI VISWESWARA RAO, FAPAS, FMSA
Director - International Relations and Research Collaborations
REVA UNIVERSITY



2nd International conference on
GLOBAL TRENDS IN APPLIED SCIENCES,
MEDICAL AND HEALTH SCIENCES (ICGTAMH-2022)

28th - 29th October, 2022

Prof. Dr. K.N.S. Sirajudeen

★ **Plenary Speaker** ★

We appreciate your presence and
express our gratitude and
thank you for joining us in making
this event a grand success.

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