

J.J. College of Arts and Science (Autonomous)

Sivapuram, Pudukkottai

Department of Biochemistry

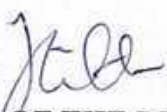
Report on Guest Lecture Program on “Antioxidative and Antiproliferative Potential of Astaxanthin from Unicellular Green Algae *Hematococcus Lacustris*”.

The Summer's club of Biochemistry organized a Guest Lecture Program on “Antioxidative and Antiproliferative Potential of Astaxanthin from Unicellular Green Algae *Hematococcus lacustris*” on 12/07/2022. Dr.S.Nagaraj, Assistant Professor, Centre for Advanced Studies in Botany, University of Madras, Chennai, was the chief guest.

The invited talk started at 11.00 am. Dr. S.Nagaraj explained about Astaxanthin, a Xanthophyll carotenoid, which has strong antioxidant properties and the effectiveness of this compound on the prevention and treatment of cancer. Astaxanthin, belonging to the family of carotenoids, has a very strong antioxidant activity, often called the “king of carotenoids”, due to its significant impact on human health, by strengthening the immune system, preventing and treating various types of cancers and ageing process and including the prevention of cardiovascular disease. The students become aware of the methodologies to be adopted to learn how to grow and extract Astaxanthin and purify the antioxidant compound from *Hematococcus Lacustris* known to be the main source of natural astaxanthin. Alga, *Haematococcus lacustris* inhibited the cell growth and trigger the apoptosis in A549 human lung adenocarcinoma cancer and MDA-MB-231 human metastatic breast cancer cell lines in a dose and time dependent manner.

Each and every student learnt about the importance of astaxanthin and its medicinal importance. Dr. Nagaraj answered the queries raised by the students.

The session ended with the vote of thanks delivered by Ms. Bharathi, Department of Biochemistry.


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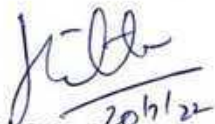
Department Of Biochemistry

Report on Guest Lecture Program on "Theories of Evolution"

The Summer's club of Biochemistry organized a Guest Lecture Program on "Theories of Evolution" on 20/07/2022. Dr. A. Mary Helitha, Assistant Professor, Department of Zoology, Government Arts College for Women (Autonomous) Pudukkottai acted as the resource person.

The invited talk started at 11 am. Dr.S.Kanitha, Head of the department of Biochemistry welcomed the gathering. Dr. A.Mary Helitha explained about Theories of Evolution and the modern concept of evolution by Charles Darwin and his book, "On the Origin of Species" in 1859. The resource person highlighted the work of Charles Darwin which was regarding the organisms, over a period of time, change as a result of behavioral or physical traits which are passed down from generation to generation. In the theory of natural selection, organisms produce more offspring than can survive in their environment was explained in detail. She emphasized in her talk that those that are better physically equipped to survive, grow to maturity, and reproduce. Natural selection is sometimes summed up as "survival of the fittest" because the "fittest" organism those most suited to their environment are the ones that reproduce most successfully, and are most likely to pass on their traits to the next generation.

Each and every student learnt about the Theories of Evolution in detail. The resource person answered the queries raised by the students. Ms. Bharathi, final year undergraduate, Department of Biochemistry delivered the vote of thanks


20/7/22
Head of the Department


20/7/2022
Principal

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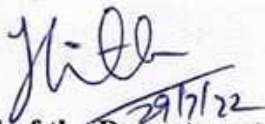
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Department of Biochemistry
Report on Guest Lecture Program
on
Biochemistry and their Future Opportunities

The summer's club of Biochemistry organized a Guest Lecture Program on "Biochemistry and their Future Opportunities" on 29/07/2022. Dr. M.Anusuyadevi Jayachandran, Associate Professor, Department of Biochemistry, Bharathidasan University, Trichy was the resource person.

The invited talk started at 11 am. Dr.S.Kanitha, Head of the department of Biochemistry welcomed the gathering. Dr. Dr. M.Anusuyadevi Jayachandran explained about main branches of Biochemistry - Enzymology, Immunology, Molecular Biology, Plant Biochemistry, Animal Biochemistry, Metabolism, Cell Biology, and Medical Biochemistry. She gave detailed information about future scope of Biochemistry. She emphasised the point that a biochemist inculcates the ability to comprehend the chemical combinations and reactions that take place because of the biological processes such as growth, reproduction, metabolism, heredity, etc. She also threw light on the companies in the public sector as well as the private sector like the drug manufacturing companies, public health entities, industrial laboratories, cancer research institutes, research departments, hospitals, forensic science and cosmetic industries related to biochemistry and their future perspectives.

The resource person answered the queries raised by the students. Ms. Bharathi, final year undergraduate, Department of Biochemistry delivered the vote of thanks


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Report on Guest Lecture Program

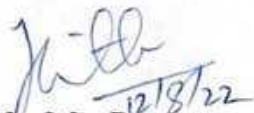
On

Classic and Contemporary Role of Biochemistry in Biomedical Research

The summer's club of Biochemistry organized a Guest Lecture Program on "Classic and Contemporary Role of Biochemistry in Biomedical Research" on 12/08/2022. Dr.S.D. Saraswathy, Associate Professor, Department Of Biomedical Science, Bharathidasan University, Trichy was the resource person.

The invited talk started at 11 am. Dr.S.Kanitha, Head of the department of Biochemistry welcomed the gathering Dr. S. D. Saraswathy, explained about the importance of Biochemistry. Being a unique discipline it sits at the interface between chemistry and biology and consequently it is an underpinning subject for many disciplines in the biological and biomedical sciences. Biochemistry is concerned with the study of the structure and function of the building blocks of life, i.e. proteins, carbohydrates, lipids and nucleic acids, and how these various components work together in living organisms. All major pharmaceutical companies invest heavily in biochemistry to help aid their development of new drugs for cancer, infectious diseases and other pathological conditions. Biochemistry is also an essential component of biotechnology, where processes for the production of foods and fuels, and enzymes and other proteins are developed. Currently biochemistry graduates work in hospitals, commercial laboratories dealing with analysis, biotechnology, food science, pharmaceuticals or diagnostics. Biochemistry graduates also benefit from their training in critical thinking, analytical reasoning and presentation and communication skills. Examples of companies where biochemistry graduates are employed include, Johnson & Johnson, Sun Pharmaceutical Industries, Novartis, and Pfizer.

The resource person answered the queries raised by the students. Ms. Bharathi, final year undergraduate, Department of Biochemistry delivered the vote of thanks


12/8/22
Head of the Department




Principal

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Department of Biochemistry

Report on One day International Workshop

ON

Frontiers of Life sciences in Human welfare

The summer's club of Biochemistry organized a One day International workshop on "Frontiers of Life sciences in Human welfare" on 16/09/2022. The International workshop began on a very auspicious note with the invocation of God's blessing followed by the Tamil Thai Vaazhthu and Lighting the Kuthuvilakku. The International workshop started with an inaugural session with a welcome note and conference overview by Dr. J. Parasuraman, Principal, J.J college of Arts and Science(Autonomous), Pudukkottai. He delivered a valuable speech and wished the organizers a grand success of International workshop. This was followed by the Presidential Address by Dr.Kavitha Subramanian Management Trustee..

The first session set the tone of the conference with eminent personality Dr.C.Ravinder Singh, Chief scientist AAKASH plantation, UAE, Dubai. delivering the lead lectures covering a whole range of issues, Opportunities and Challenges in Medicinal Plants and Natural Product Research received an overwhelming response from wide range of participants on single platform in discussing large number of issues related to medicinal plants and natural products for human welfare. Over 100 students actively participated in the international workshop and discussed relevance of medicinal plants and natural products in the Indian and global context through different sessions.

In the afternoon session Dr.J. Joseph Sahayarayan, Assistant Professor, Department of Bioinformatics, Alagappa University Karikudi, delivered keynote talk on Role of Plant Based

Transgenic Products and Drug Discovery. He explained about Molecular pharming with transgenic plant systems become prominent among other production systems with its low cost, absence of human or animal pathogen contaminants, and the ability to use post-translational modifications such as glycosylation. The ability to produce recombinant pharmaceutical proteins in plant seeds, plant cells and various plant tissues such as hairy roots and leaves, through the stable transformation of the nuclear genome or transient expression, allows for the establishment of different production strategies.

Each and every student learnt about the Conservation of Plant Biodiversity and Plant Based Transgenic Products and Drug Discovery. The resource person answered the queries raised by the students. Dr. S.Kanitha, Head, Department of Biochemistry delivered the vote of thanks.


16/9/22
Head of the Department

Mrs. S. KANITHA, M.Sc., M. Phil.,
Assistant Professor & Head
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Department of Biochemistry
Report on Guest Lecture Program
On
Industrial training programme

The summer's club of Biochemistry organized a Guest Lecture Program on "Industrial training programme" on 23/12/2022. M. Srinivasan, Galileovasan Offshore & Research and Development Private Limited, Nagapattinam, was the resource person.

The invited talk started at 11 am. Dr. S. Kanitha, Head of the department of Biochemistry welcomed the gathering. M. Srinivasan, explained about the importance of Biochemistry. Being a unique discipline it sits at the interface between chemistry and biology and consequently it is an underpinning subject for many disciplines in the biological sciences. He explained about bio paint, bio plastic and biological water purification system and demonstrates about organization's commitment to sustainability. He insisted that, Company and university boardrooms have become fully aware that consumers have a heightened sensitivity to the environment and are rejecting organizations who do not help to preserve it. Organizations that strive to reduce their carbon footprint and maintain proactive sustainability programs are benefiting from this shift in the public's psyche. Biochemistry graduates also benefit from their training in the bio based eco friendly product development.

The resource person answered the queries raised by the students. Ms. Bharathi, final year undergraduate, Department of Biochemistry delivered the vote of thanks


23/12/22
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6th National Siddha Day Celebration

Guest Lecture Program

On

SIDDHA-THE WORLD'S COMPREHENSIVE, EXHAUSTIVE AND COMPLETE THERAPY

The Sumner's club of Biochemistry organized a Guest Lecture Program on "Siddha-The world's comprehensive, exhaustive and complete therapy" on 09/01/2023. Dr. S. SHAHJAHAN, Siddha medical consultant, Pudukkottai, was the resource person. National Siddha Day is celebrated every year on the birthday of Siddhar Agathiyar, the father of Siddha Medicine. A special guest lecture programme by Siddha Dr. S. SHAHJAHAN gave brief history, Siddha is one of the oldest medicinal systems originated in Tamil Nadu. The word 'Siddha' is derived from a Tamil word 'Siddhi' which means 'achievement' or 'perfection'. The Siddha medicinal system not just focuses on treating the disease but it also takes into account the patient behaviour, environmental aspects, age, habits and physical condition. He also insisted about the Ayush System of medicine has greatly helped the nations frontline line workers and covid - 19 with mild infections in building up the immunity against the corona virus and siddha system and other Indian systems can be boasted of India's gift to the medical world.

The resource person answered the queries raised by the students. Ms. Bharathi, final year undergraduate, Department of Biochemistry delivered the vote of thanks


9/1/23
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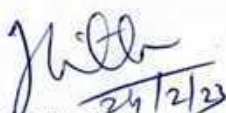
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Department Of Biochemistry
Guest Lecture Programme
24.02.2023

The summer's club of Biochemistry organized a Guest Lecture Program on "Smart Nanomaterials In Biomedicine: Emerging Trends for Next Generation Therapy" on 24/02/2023. Dr.N.Suganthi, Assistant Professor, Department of Nanoscience and Technology, Alagappa University, Karaikudi, was the resource person.

The invited talk started at 11 am. Dr.N.Suganthi, explained Richard Feynman's lecture in 1959 "There's plenty of room at the bottom" which led to the development of the nanotechnology concept. He is respected as the "Father of Nanotechnology". Norio Taniguchi derived the term nanotechnology in the year 1974. Nanotechnology is the science of design, synthesis, characterization, and application of materials and extremely small devices". Extensive molecular interactions occur in the body at the nanometers (nm) scale in particles of less than 100nm size. The nanomaterials show drastically different behavioral properties related to melting point, conductivity, and reactivity compared to the larger particles. The Quantum wells, quantum wires, and quantum dots (dots) are nanomaterials characterized at the nanometer scale in one, two, or three dimensions respectively.

Every student learnt about the Nanomaterials in Biomedicine. Students raised many questions about the nanomaterials and the resource person answered the queries raised by the students. finally, Ms. Monika, final year student of under graduation programme proposed the vote of thanks.


24/2/23
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J.J. College of Arts and Science (Autonomous)
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Department of Biochemistry
One day State level Workshop
On
Experimental Animal's Model: Care, Maintenance and Handling
17.03.2023

The Summer's club of Biochemistry organized a **One day State level Workshop on "Experimental Animal's Model: Care, Maintenance and Handling"** on 17.03.2023. Dr. S. Kamala Kannan, Assistant Professor, Department of zoology, Bishop Heber College (Autonomous), Tiruchirappalli was the chief guest.

Dr. S. Kanitha, Head, Department of Biochemistry welcomed the gathering. The workshop started with a lecture delivered by the chief guest. He initially started with the protocols to be followed while handling and care of laboratory animals. Ethical Considerations in Handling Laboratory Animals according to CPCSEA guidelines were then discussed in detail. The chief guest also highlighted on the Maintenance and care of Various Laboratory Animals like Cage, bedding, feeding, cleaning, disposal etc. Later he discussed about the General Physiology, Sexing, Marking techniques, Body Condition Scoring (BS), Grimace Scoring. The students were also made aware of the method to be adopted for the Selection of Appropriate Animal Models for various diseases. Handling & restraining various animals, routes of administration of drug and withdrawal of body fluids were taught to the participants. Non-Surgical procedures such as Paw Edema, generation of ulcers were also dealt with. In the later session the chief guest explained elaborately about the Cell Line derived Xenograft (CDX) for Cancer study. At the end of the lecture the participants were enlightened about the Analgesics & Anesthesia methods, Surgical procedures which included Biopsies, Implants, Wound healing studies, etc.

After the lunch break the participants were taken to the Animal House facility where the handling of the animals were taught to the participants. The chief guest cleared the doubts of the participants. At the end of the workshop the Dr. Kamala Kannan distributed the certificates to the participants.

Ms. Priyanka, the final year undergraduate student delivered the vote of thanks.


17/3/23
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