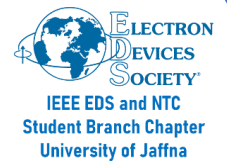


Faculty of Science University of Jaffna - Sri Lanka



Events of the Months June – July, 2023



Faculty of Science, University of Jaffna

Events held in June and July, 2023

Opening of the Laboratory for Energy Conversion and Storage Department of Physics

July 05, 2023

As part of the ongoing AHEAD-DOR (Development Oriented Research) project funded by the World Bank and administered by the Ministry of Higher Education, Laboratory for Energy Conversion and Storage (LECS) at the Department of Physics was extended and this two-story wing was ceremonially opened by the Vice-Chancellor Professor S. Srisatkunarajah on July 05, 2023.

Dean of the Faculty of Science, Professor P. Ravirajan, Head of the Department of Physics, Dr. A. Thevakaran, DOR Project Co-ordinator and the Principal Investigator, Professor K. Vignarooban, other DOR research team members, Heads of Departments, staff and students of the Department of Physics joined with the Vice-Chancellor and graced the opening ceremony.

This DOR project is ongoing for the past 4 years and the major theme of research is the synthesis and characterization of novel electrolyte and electrode materials for batteries beyond lithium-ion, such as sodium-ion and magnesium-ion batteries.



Faculty of Science, University of Jaffna

Events held in June and July, 2023

Programme on Life Skills for Personality development of the New Entrants enrolled in the Academic Year 2021 / 2022

The Faculty Board of Science at its 195th meeting held on 20.06.2023 approved the implementation of the LifeSkills for Personality Development programme to the New Entrants from the Academic Year 2021/2022 on the recommendation of the Internal Quality Assurance Cell at its 20th meeting held on 15.06.2023. This Pre- Semester programme, which includes modules on gender, identity and culture, social responsibilities, organizational management and group project planning, was developed by Prof. K. Gajapathy, Department of Zoology, Faculty of Science.

Since this pre-semester programme consists of community-based projects, Jaffna University Graduates Association (JUGA) in Australia headed by our alumnus, Mr. Michael Galister has been supporting and facilitating the Life Skills for Personality Development programme to the new entrants in the Academic Year 2021/2022. With the permission of the council, the AUD 2000.00 (LKR 400,000.00) was received by the university from JUGA for meeting expenses towards stationeries, refreshments to students and expenses to social action projects.

The Faculty Board of Science at its 196th meeting appreciated the financial contribution from the Jaffna University Graduate Association (JUGA), Australia and the following resource persons for their voluntarily service as resource persons:

- Dr. Mrs. S. Dilogini, Faculty of Management Studies and Commerce
- Dr.K. Guruparan, Faculty of Medicine
- Dr. T. Sathiyamoorthy, Director, Teaching Hospital, Jaffna
- Rev Fr Joshua, Kaveri Kalamamram, Jaffna
- Dr. Sithamparanathan, Director-Theatre action group/cultural centre, Jaffna

- Prof. K. Gajapathy, Faculty of Science
- Dr. Mrs. L. Pradhaban, Faculty of Agriculture
- Dr. Mrs. T. Suvanthini, Faculty of Agriculture
- Mrs. K. Abhiramy, Faculty of Agriculture
- Mrs. Grace Hensmon, Faculty of Management Studies and Commerce
- Mrs. S. Rajashanthan, Faculty of Arts
- Mr. S. Arthiyar, Faculty of Science

The students were highly motivated to do social action projects in their respective region and provided highly comments on the programme. The details of the programme sent by the coordinator is hereby annexed.

Report on Life Skills for Personality development programme

The personality development through life skill programme, an initiative to empower the freshmen from the Faculty of Science, University of Jaffna was conducted at the University of Jaffna main campus from 11 to 14 July 2023 with the financial support and guidance of Jaffna University Graduates' Association (JUGA), Australia.

The event started on 11 July 2023 at 8.30 am at the Kailasapathy Auditorium with the introductory speeches by the Dean, Faculty of Science; Prof.P.Ravirajan and the Vice Chancellor of the University of Jaffna; Prof.S.Srisatkunarajah.

Faculty of Science, University of Jaffna

Events held in June and July, 2023



The first session was conducted by Dr. Mrs. S. Dilogini from the center for Gender Equity and Equality of the University of Jaffna. She has introduced the concept of gender and the issues related to University life. Dr.K. Guruparan (Consultant Obstetrics & Gynaecology) has discussed with the students about the sexual and genderbased violence. At 11 am Dr. T. Sathiyamoorthy (Director, Teaching Hospital, Jaffna) and Rev Fr Joshua (Kaveri Kalamannam, Jaffna) conducted an activity about self-inspiration and the students performed some activities with them.



After the lunch break, Mr. S. Sugirtharaj (Director, Jaffna Social Action Center) discussed drug abuse among youth in the region. At 3 pm, Dr. Sithambaranathan and his crew members conducted a performance with the participation of the freshmen about stress-relief. The first day session ends at 5pm.

The next three-day sessions were conducted in groups where 5 groups were created among the students and the following facilitators have facilitated the sessions for each group;

Dr. Mrs. L. Pradhaban, Faculty of Agriculture
Dr. Mrs. T. Suvanthini, Faculty of Agriculture
Mrs. K. Abhiramy, Faculty of Agriculture
Prof. K. Gajapathy, Faculty of Science
Mrs. Grace Hensmon, Faculty of Management Studies and Commerce
Mrs. S. Rajashanthan, Faculty of Arts
Mr. S. Arthiyan, Faculty of Science

Each group has followed similar sessions with activities conducted to cover the following themes;

- Identify
- Understanding cultural differences

Faculty of Science, University of Jaffna

Events held in June and July, 2023

- Cross-cultural communication
- Listening
- Community engagement
- Teamwork and leadership
- Organizational management
- Project planning

The sessions were conducted from 9 am to 4 pm for the first two days and from 9 am to 1 pm on the last day.



Faculty of Science, University of Jaffna

Events held in June and July, 2023



There were 5 groups voluntarily formed after the end of the sessions on day 3 to initiate social action projects. Objectives of the proposed projects are;

- Improve education level in a rural school in Kandy
- Give awareness about balanced nutrition in school in Naathandiya
- Create awareness about mental health among primary school students in Gampaha
- Create awareness about SGBV and drug in Sandilippai
- Give basic life-skill programme for school children in Anuradhapura

There are few other projects being developed by students who wanted to join after the deadline. There are 16 projects proposed so far, and the groups discussed with the facilitators from 25th July 2023 to work on the proposals. The projects will be conducted at various dates in August and September 2023. The final presentation will be conducted in October 2023.

The formal feedback was obtained through a google form. 99% of the students liked the programme and more than 160 students are involved in the group projects.



Faculty of Science, University of Jaffna

Events held in June and July, 2023

AHEAD Project Completion Report (September 2019 – June 2023)

AHEAD ELTA ELSE Faculty DP – Results Area 2

Faculty of Science, University of Jaffna

Final Report

The activities of the AHEAD ELTA ELSE Faculty DP came to an end on 30 June 2023. The following procurements, works and knowledge sharing workshops have taken place under this project since the reporting in the Progress Report 11:

GOODS Procurement Completed

Serial No	Item	Department	Nos.	Amount
1.	Printer Toners	Botany, Computer Science, Fisheries, Mathematics & Statistics		802,526.50
2.	Power Adapters for IoT Laboratory	Computer Science	36	39,240.00
3.	Wire mesh and Related hardware items	Botany		36,300.00
4.	Electrical fixtures for the Language laboratory	Language Laboratory		126,887.00
5.	Wire mesh	Computer Science		30,000.00
6.	A4 Photocopy Papers	All 7 departments, 10reams each, 40 reams for the Office of the Dean, 15 reams in the custody of the Coordinator	125	268,619.10

Workshops Conducted

A number of workshops have been conducted by the activity coordinators of 2, 4 & 5.

- (i) Workshop on “Modern Trends in Global Instructional Techniques for Higher Education”, conducted by Dr. Upali M. Sedera, in held on 18 May 2023, as part of Activity 2
- (ii) Workshop on “Environmental friendly waste management – Bio degradable Waste and Non-bio Degradable Waste “, held on 27 May2023, as part of Activity 5, conducted by Mrs. Archana Sriranganathan, Deputy Provincial Director of Agriculture, Thirunelvely and Mr. J. J. Joy Nirojan, Farm manager, Thirunavukarasu Model Farm, Maviddapuram.
- (iii) Laboratory Training session entitled “Laboratory safety and handling of equipment” for the technical Officers of the Faculty of Science, held at the Analytical, food and microbiology laboratory of Palmyrah Research Institute, Kaithady, Jaffna, on 01st and 02nd June 2023, as part of Activity 5.
- (iv) Workshop entitled “Organic Farming”, held on 29th and 30th April 2023, at Urumpirai and Field Work Center Thirunelvely as part of Activity 5.
- (v) The third Students’ Research symposium organized by the Zoological Students Association, Department of Zoology in collaboration with Activity-4 on 20th May 2023 at B1 Lecture Hall, Natural

Faculty of Science, University of Jaffna

Events held in June and July, 2023

Science Block I, Faculty of Science.

- (vi) Financial support for conducting the “World Ocean Day 2023 - Protecting the marine environment” organized by the Fisheries Science Society, held on 08 June 2023.

ELTA - ELSE, Faculty Development Project, Faculty of Science				
Approved Grant - LKR 120,000,000.00				
Savings as at 24.07.2023				
Detail s	GOODS	WO RKS	OVA A	Total
Estimated Cost (6th PAT Revision)	86,220,729.35	22,795,999.96	10,983,270.69	120,000,000.00
Subsequent Adjustment	-54,704.57	-49,290.18	103,994.75	
Final Revised Cost	86,166,024.78	22,746,709.78	11,087,265.44	120,000,000.00
Total Spending	86,166,024.78	22,235,353.67	10,371,952.63	118,795,559.46
Balance as at 24.07.2023	0.00	511,356.11	693,084.43	1,204,440.54

In the capacity of the Project Coordinator, I take this opportunity to sincerely acknowledge the great service rendered by the Technical Evaluation Committee members, Assistant Registrar of the Faculty of Science, Staff of the OTS office and staff of the OMTS office in Colombo to achieve the project objectives.

This report is submitted to the Faculty Board of Science as specified in the proposal under monitoring and effective implementation of the grant.

AHEAD Project Completion Report (September 2019 – June 2023)

ELTA-ELSE Development Project (Department Level) Department of Chemistry, University of Jaffna Project Completion Report (September 2019 – June 2023)

The Department of Chemistry won the competitive grant of LKR 15 Million (with an additional allocation of LKR 3 Million) under the AHEAD Operation, ELTA-ELSE Development Project (Department level) and the project was implemented during the period from September 2019 – June 2023 by the following team:

Position	Name	Period
Project Coordinator	Prof. (Mrs.) M. Senthilnanthanan	09/2019 – 06/2023
Activity Coordinators	Prof. G. Sashikesh	09/2019 – 06/2023
	Dr. (Mrs.) S. Yohi	09/2019 – 09/2021
	Dr. (Mrs.) J. Prabagar	09/2021 – 06/2023
Head of Department	Prof. P. Abiman	09/2019 – 06/2020
	Dr. P. Iyngaran	06/2020 – 05/2023
	Prof. K. Velauthamurty	06/2023 – To date
Project Assistant	Ms. T. Kensika	10/2019 – 03/2020
	Mr. S. Kapilan	05/2020 – 08/2020
	Ms. K. Menusha	09/2020 – 06/2023

The project consisted of 5 activities and 13 sub-activities.

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Events held in June and July, 2023

Activity		Sub-activity	
1	Improving subject specific English language proficiency of students specializing in Chemistry	1.1	Facilitating academic reading and writing in English among students through compulsory assignments
		1.2	Introducing subject specific innovative activities in English
2	Enriching Chemistry related digital-based teaching-learning process	2.1	Training staff and students on Chemistry related digital-based teaching, learning and assessment strategies
		2.2	Introducing Chemistry related digital-based teaching-learning process
		2.3	Introducing Chemistry related digital-based course evaluation
		2.4	Upgrading facilities to support digital based teaching-learning process
3	Strengthening laboratory-based research skills of students specializing in Chemistry	3.1	Training staff on operation and maintenance of advanced laboratory equipment
		3.2	Introducing compulsory research related workshops for students
		3.3	Encouraging quality research
4	Augmenting socio-emotional skills of students through action projects	4.1	Introducing workshops on developing proposals for action projects for students
		4.2	Assisting students to implement their action projects through the revitalized Chemical Society
5	Enhancing career development of Chemistry graduates	5.1	Introducing internship at research institutes/industries
		5.2	Developing integrated graduate web portal for graduate marketability

Faculty of Science, University of Jaffna

Events held in June and July, 2023

Objectives, Actions and Outcomes:

The project focused on improving the intellectual and professional capabilities of our graduates by targeting the following areas:

- English language proficiency
- Digital-based teaching-learning strategies
- Laboratory-based research and socioemotional skills development and
- Graduate employability

With the view of providing a supportive learning environment for the students to develop their communication skills in English, a UoJ English Speakers Club was established and subject specific activities such as dialogues, debates, poster, speech and drama competitions were organized. This improved English communication skills and promoted self-confidence, leadership and teamwork qualities among students.



Further, a **Computer Laboratory** consisting of 25 PCs with internet connectivity and *ChemDraw* software was established in the department to facilitate self-learning.

In order to promote digital-based T-L process, the learning environment was upgraded with relevant tools and staff and students were trained on handling the same. As a result,

blended T-L and assessment strategies are being widely practiced now.



Performing quality research was encouraged among staff and students through training on research conduct and advanced analytical techniques and upgrading research laboratories which had led to **scholarly publications**, such as presentations (12 nos.) at national and international conferences and research papers (11 nos.) in reputed/indexed journals.

To impart socioemotional skills, a new course unit on **Action Project** was incorporated into the curriculum of BScHons (Chemistry) degree programme. Simultaneously, the revitalized UoJ Chemical Society and the recently established UoJ English Speakers Club had also implemented several action projects.



To expand our students' horizons in developing career paths by interacting and networking with related industries, institutions, business enterprises and academia, an **integrated graduate web portal** was developed by enrolling 81 members.



Faculty of Science, University of Jaffna

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Further, a new course unit on **Industrial Training** was incorporated into the curriculum of BScHons (Chemistry) degree programme. So far, two batches of students have undergone industrial training and three students have received job offers from the training providers.

The sustainability of all activities initiated under this AHEAD – ELTA ELSE Development Project is ensured as

- students are actively participating in the events and competitions organized by the UoJ EnglishSpeakers Club and improving their communication skills in English;
- the newly established Computer Laboratory contributes to self-learning of students and junior staff members to a great extent;
- blended T-L and assessment strategies are being widely practiced with the help of modernized learning environment and training on the use of relevant tools (zoom, LMS, ChemDraw and OriginPro software);
- quality research culture is introduced with the upgraded research environment and the related training to staff and students;
- the newly introduced course units on Action Project and Industrial Training enhance socioemotional skills and employability of our graduates; and
- timely guidance to students on appropriate career opportunities and assistance to industries and academia to identify potential candidates will be offered through the newly developed graduate web portal.

Overall Financial Disbursement:	LKR 17,999,999.42
Goods:	LKR 10,513,600.34
Works:	LKR 3,883,199.87
Non-consultancy Service:	LKR 350,000.00
OAAA:	LKR 3,253,199.21

Physical Progress: 100%

Financial Progress: 99.99%

Faculty of Science, University of Jaffna

Events held in June and July, 2023

Technical Talk on “Astrobiology and Nasa’s search for life in Universe”

The Physics Society and Department of Physics at the University of Jaffna in Jaffna hosted a one-day technical presentation on "Astrobiology and NASA's search for life in the Universe" on July 4, 2023. The event was introduced to the audience by Ms. S. Savithri (President, Physics Society), who also welcomed our principal guest. The guest was welcomed to the stage by Dr. T. Pathmathas (Senior Treasurer, Physics Society), who also

presented him with a token of appreciation. Dr. Henry Throop, Program Scientist, Planetary Division, NASA Headquarters, presided over the discussion.



The speaker covered topics ranging from fundamental astrophysics to the search for extraterrestrial life. He also demonstrated the most recent advancements and successes in the field of astronomy. His electronic presentation kept the audience interested, and he inspired students to learn by sharing many amazing tales and ground-breaking findings. He also engaged them in a question- and-answer session. Dr. T. Pathmathas presented Dr. Henry Throop with a memorial as a token of respect and remembrance. A formal vote of gratitude to the Resource Person and all the participants was given by Miss. R. Archcana (Secretary, Physics Society) to conclude the session.

Dr. Henry Throop unlatched his astronomical telescope, demonstrated how to put it up, and made sure that everyone had a view of "The Sun" as the concluding activity. All participants were then brought to the university grounds. He then instructed many students on how to continue on their academic route while displaying meteorite fragments.



Faculty of Science, University of Jaffna

Events held in June and July, 2023



2023 IEEE Summer School on Computational Intelligence: Theory and Applications 12-14 July 2023

Department of Computer Science, University of Jaffna

The IEEE Computational Intelligence Society Student Branch Chapter of the University of Jaffna (IEEE-CIS-SBC-UoJ) successfully hosted the 2023 IEEE Summer School on Computational Intelligence: Theory and Applications. This significant event took place from 12-14 July 2023 at the Department of Computer Science, University of Jaffna. Notably, the University of Jaffna's IEEE Computational Intelligence Society Student Branch Chapter is the only chapter of its kind in Sri Lanka. To the best of our knowledge, this marks the inaugural summer school organized by the University of Jaffna and is also the first summer school on computational intelligence conducted by any higher education institution in Sri Lanka.

The IEEE-CIS-SBC-UoJ received a competitive grant worth USD 3,900 (\approx LKR 1.2 million) from IEEE to conduct the summer school. Remarkably, only nine proposals worldwide were selected to host IEEE CIS Summer Schools. Prof. A. Ramanan played a crucial role as the Advisor of the IEEE-CIS-SBC-UoJ. He was instrumental in preparing and submitting the grant proposal to IEEE and additionally served as the General Chair for the 2023 IEEE Summer School on Computational Intelligence.

The summer school featured a well-thought-out programme dedicated to a specific theme each day. Day 1 focused on Artificial Intelligence, Machine Learning, and Deep Learning, providing participants with a strong foundational understanding of these cutting-edge technologies. Day 2 delved into the intricacies of Natural Language Processing, highlighting the significance of language in intelligent systems. Finally, Day 3 explored the domains of IoT and Robotics, showcasing how intelligent systems interact with the physical world. This carefully curated programme promised to offer both theoretical foundations and real-world applications, complemented by hands-on training for an enriched learning experience.

The occasion gathered an outstanding assembly of speakers hailing from esteemed institutions across the globe, such as the University of Melbourne, Australia; Imperial College London, UK; and the University of Southampton, UK. Moreover, three distinguished speakers from other state universities in Sri Lanka, such as the University of Moratuwa and the University of Peradeniya, participated in the programme. In addition to the external experts, the faculty from the University of Jaffna, consisting of six esteemed speakers, shared their invaluable insights and experiences. Furthermore, six speakers from leading software industries, including 99x, H2O.ai, and SenzAgro Solutions, conducted hands-on training sessions on computational intelligence in the Department of Computer Science's laboratory.

The summer school saw enthusiastic participation from 81 students representing a diverse range of institutions, including SLIIT, the University of Peradeniya, the Eastern University Sri Lanka, the University of Ruhuna, the University of Vavuniya, the University College of Jaffna, and the University of Jaffna itself. Faculty members from the Department of Computer Science and the Faculty of Engineering at this university actively participated in the teaching-learning process of the summer school. Overall, the summer school witnessed a total of 104 participants.

The opening ceremony of this milestone event was graced by the presence of the respected Vice Chancellor, Prof. S. Srisatkunarajah, and the Dean of the Faculty of Science, Senior Prof. P. Ravirajan, whose support and approval were instrumental in making the summer school possible. In addition to the talks and hands-on training sessions, nearly 100 participants relished the enjoyable social gatherings arranged by the

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students of the University of Jaffna. The banquet dinner, held on the second day of summer school at Valampuri Hotel, provided a delightful experience for all attendees.

The organizing committee and volunteers were deeply praised for their unwavering dedication and unwavering commitment, which were instrumental in the successful execution of this exceptional summer school. Their tireless endeavors ensured the event's resounding success. Furthermore, we extend our heartfelt gratitude to our long-standing supporter, WSO2 Inc., and our newly partnered sponsor, Treats: Bakery & Café, whose generous sponsorship greatly contributed to the event's triumph. Moreover, we are immensely grateful to the Department of Computer Science for providing the essential space, necessary equipment, and manpower to successfully organise this summer school. Their support has been invaluable.









Faculty of Science, University of Jaffna

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Faculty of Science, University of Jaffna

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IEEE Summer School on Emerging Photovoltaic Technologies – 2023 (22-25 July 2023)

**Department of Physics, University of Jaffna and Department of Electrical and Electronic Engineering,
Faculty of Engineering, University of Jaffna, Kilinochi**

The IEEE Summer School on Emerging Photovoltaic Technologies 2023 (SSEPVT 2023) was successfully conducted at the Department of Physics, University of Jaffna. The summer school program was jointly organized by the Department of Physics, Department of Electrical and Electronics Engineering, and IEEE Electron Devices Society, and Nanotechnology Council Student Branch Chapter, University of Jaffna (IEEE EDS & NCT SB, UoJ). The IEEE Summer School on Emerging Photovoltaic Technologies 2023 was one of only three summer school programs funded by the IEEE Electron Devices Society in 2023. It is also noteworthy that this was the first such program funded by the IEEE in Sri Lanka.

Dr. M. Thanishaichelvan, advisor of the IEEE EDS & NCT SB, UoJ, wrote the proposal and secured a grant of USD 7,500 (LKR 2.3 million) from the IEEE Electron Devices Society to conduct the summer school. He also served as the general chair of the program. Dr. (Ms.) U. Sutharsini and Dr. P. A. Amalraj from the Department of Physics coordinated the first three days of the event. Events on Day 4 were coordinated by Prof. A. Atputharajah at the Faculty of Engineering premises in Kilinochchi. The IEEE Power and Energy Society Student Branch Chapter (IEEE PES SB, UoJ) joined us as co-organizers of the Day 4 program.

The summer school program was designed to incorporate theoretical basics and laboratory demonstrations. It was also designed to enable participants to make their own solar cells. Applications were invited from final-year undergraduate and postgraduate students, and IEEE members around the island. A total of 147 applications were received from the state universities from Sri Lanka, but only 46 participants including graduate students and industrial persons were allowed to participate due to restrictions on lab space and consumable usage. However, 85 participants were allowed to attend the invited sessions on Day 1, and 100 participants attended the keynote sessions on Day 4 at the Faculty of Engineering at Kilinochchi.

The program was ceremonially inaugurated by Prof. K. Kandasamy, Emeritus Professor of Physics at the Department of Physics, and Former Competent Authority, University of Jaffna. The event was also attended by Prof. P. Ravirajan, Dean of the Faculty of Science; Dr. A. Thevakaran, Head of the Department of Physics; Prof. A. Atputharajah, Professor of electrical and electronics engineering at the University of Jaffna; and many other academic staff from the Faculty of Science and Faculty of Engineering.

Day 1 focused on giving the fundamental ideas about various solar cell technologies to the participants. Six invited talks from experts were organized, and each talk was accompanied by on-the-spot demonstrations and hands-on experiment trainings for the participants. The participants were engaged with the activities throughout the day. The Summer School dinner was arranged at the Yugan Hall, J Hotels, Jaffna. 85 participants, Lecturers, and Speakers participated in the dinner and the mementoes were distributed to the invited speakers during the dinner.

Day 2 was assigned for laboratory instrument training. The trainings were conducted at the Clean Energy Research Lab at the department of Physics. The participants were trained on how to use the high-end equipment in the lab, and they were allowed to use the equipment on their own after basic trainings and safety measures. Dr. P. A. Amalraj, Dr. (Ms.) U. Sutharsini, and Dr. M. Thanishaichelvan coordinated the laboratory training sessions. Ms. Pranave Sritharan (MPhil student) served as an instructor to demonstrate thin-film making techniques.

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On Day 3, the participants were trained on testing solar cells using a solar simulator and external quantum efficiency measurements. They were then divided into four groups and asked to make their own solar cells. All four groups made their solar cells successfully and managed to get power conversion efficiencies of over 1%. Group 3 won the competition by making a solar cell with 2.96% of power conversion efficiency. This is an excellent achievement for the participants, considering that they had only been trained for three days. Dr.P. A. Amalraj coordinated the solar cell making competition.

The events on Day 4 were jointly organized by the IEEE PES SB, UoJ, IEEE EDS & NTC SB, UoJ, and Department of Electrical and Electronics Engineering at the Faculty of Engineering premises in Kilinochchi. Two keynote speeches by top administrative offices in the energy sector were organized. Eng. S. Prabhakaran (Deputy General Manager, Northern Province, Ceylon Electricity Board) and Eng. Ranjith Sepala (Chairman of the Sustainable Energy Authority Sri Lanka) joined us as the keynote speakers. The keynote session was started with the presence of about 100 members in Kilinochchi, Jaffna.

After the insightful keynote sessions, the participants were taken to site visits. Prof. A. Atputharajah coordinated the field visit. The participants visited the rooftop and floating solar farms at the faculty of engineering premises. They were also trained on testing and installing large solar panels. They also had an opportunity to visit the biogas plant at the Kilinochchi premises. While returning to Jaffna, the participants also visited the Palai Wind Farm, which was operating at its maximum power. They had an opportunity to learn the operation principles and transmission of power through the national grids.

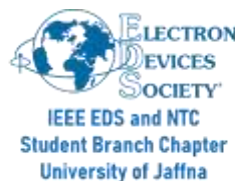
The summer school program was well-recognized by the participants. The feedback was overwhelming, and the volunteers who were involved in organizing the events were acknowledged by the participants. On behalf of the organizing committee, we extend our sincere thanks to the Keynote speakers, Invited speakers, Resource persons, and Advisors of the event for their tireless support. We also extend our sincere thanks to all the funding partners, especially the IEEE Electron Devices Society, for providing full financial support to conduct this event. We also extend our sincere thanks to Mr. V. Tharshan (Technical Officer) and Mr. K. Sharmilan (Laboratory Attendant) for helping us in organizing this event throughout the first three days at the Department of Physics, University of Jaffna.

Dr. A. Thevakaran,
Head, Department of Physics

Dr. M. Thanishaichelvan,
Advisor, IEEE EDS & NCT SB, UoJ and General Chair, IEEE SSEPVT 2023



Department of
PHYSICS



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Guest Lecture on

'Empowering communities through seaweed farming and thriving seaweed Industry' Seaweeds which comprise marine algae are one of the potential candidates in the marine aquaculture industry. Due to the presence of carrageenan, they show **high demand in the food industry**. In addition, they have potential in the production of **pharmaceuticals, organic fertilizers, biofuel**, etc. Even though the farming of seaweeds was introduced to Sri Lanka very long ago, it is not much developed as other sectors. However, it is becoming one of the emerging sectors of marine aquaculture in Sri Lanka as it has high potential in the export market.



In this regard, a guest lecture on *'Empowering communities through seaweed farming and thriving seaweed Industry'* was jointly organized by the **Faculty of Science, University of Jaffna** in collaboration with the **National Aquaculture Development Authority (NAQDA)** under the joint project of the University of Peradeniya, **Japan International Cooperation Agency (JICA)** and **Suriya Company Limited, Japan** on this 17th June 2023 (Saturday) from 9.30 am to 12.00 pm at the P3 Hall of the Department of Physics, University of Jaffna. Dr. (Mrs.). Thulasitha W. Shanthakumar, Senior Lecturer, Department of Zoology, UOJ, and Mr. B. Niruparaj, Assistant Director, Coastal Aquaculture Development, NAQDA Sri Lanka (Alumnus) coordinated the event at the University of Jaffna.



Mr. Sivasundaram Suharnan (President of Axiohelix, Tokyo Japan, and the Director, Suriya Company Limited, Japan) introduced the guest speaker and facilitated the event. Prof. Masao Ohno, Professor Emeritus, Kochi University, Japan delivered an interactive talk on *'Empowering communities through seaweed farming and thriving seaweed Industry'*. Prof. Masao Ohno is a renowned scientist and an expert in the field of renowned scientist and an expert in the field of ecology of seaweed beds, the ecology of tropical seaweeds, and the taxonomic ecology of seaweeds.

Also, Mr. Sameera Rajapaksha (MPhil student, PGIS, Peradeniya) presented his research findings under the above project on **'Seaweed farming potential in the northern region'**. More than fifty participants including academic staff and undergraduates of the Faculty of Science, University of Jaffna, officers of the NAQDA, academic staff and students of the University of Peradeniya who were involved in this project, Aquaculture industrialists and farmers attended the event. JICA sponsored the event



17th June 2023 (Saturday)
Morning 9:30 AM

HARVESTING THE OCEAN'S POTENTIAL

Guest lecture on "Empowering communities through seaweed farming and thriving seaweed industry"



P-3 Lecture Hall
Department of Physics
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Prof. Masao Ohno

Professor Emeritus, Kochi University, Japan

A renowned scientist and an expert in the field of ecology of seaweed beds, ecology of tropical seaweeds, and taxonomic ecology of seaweeds

Organized by the project on " Assessment of quantity and quality of *Kappaphycus alvarezii* Doty (Doty) yield under different cultivation systems for viable commercial farming in Sri Lanka " conducted by the University of Peradeniya with funding support from the Japan International Cooperation Agency (JICA) and Suriya Company Limited , Japan

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Tutorial Seminar Series on Advanced Material Characterization Techniques

Tutorial Seminar Series on Advanced Material Characterization Techniques is being organized by inviting relevant experts from world-renowned universities/research institutions for providing virtual training on Advanced Material Characterization Techniques under 'Higher Education and Research Collaboration on Nanomaterials for Clean Energy Technologies (HRCNET)' project (<https://project.jfn.ac.lk/hrcnet/>).

These sessions are great opportunities not only for the Final Year Honours and Master/PhD degree students in Physics/Chemistry/Material Science/Engineering students but also for the young academic staff who pursuing research work in Material Science/Engineering. Participation certificates will only be issued to those who followed the entire tutorial seminars which are to be conducted throughout this year. With the permission of the resource persons, the edited version of the Zoom video will be uploaded on the website, <https://project.jfn.ac.lk/hrcnet/> for the benefit of the slow learners and future research students.

More than one hundred research students and staff from the universities in Sri Lanka, India and a few other countries attended the four tutorial seminars conducted on Mondays by the eminent material scientists from Pacific Northwest National Laboratory, United States. The tutorial seminars were focused on basic principles, key concepts in XPS, and its applications in Battery and Solar cell Materials.



[Dr. Shuttha Shutthanandan](#) [Dr. Theva Thevuthasan](#) [Dr. Ajay Karakoti](#)

Material Scientists, Pacific Northwest National Laboratory, United States



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Donation of indoor sports items to SSU and LKR 500,000 to the Community Kitchen for mid-day meals by the Physical Science students of the 1982/83 batch of the Faculty of Science

More than thirty Physical Science students of the 1982/83 batch of the Faculty of Science visited the faculty on 25.05.2023 after more than four decades to rejoice at the place where they studied, played, and enjoyed the friendship and to commemorate university life.

On their visit, they donated indoor sports items: Table-Tennis boat with bats, carrom, and chess boards to the Science Students Union (SSU). On behalf of the Faculty of Science Alumni Association

(FOSAA), its exco members received the Indoor sports items and then handed over the same to the SSU. Furthermore, they wholeheartedly donated LKR 500,000.00 to the Community Kitchen project towards sustaining the provision of midday meals to the students. Their contribution was greatly appreciated by the university community. The faculty and FoSAA facilitated their Reunion Event at the Faculty. Finally, they thanked the executive committee members of FOSAA for their arrangements to hold the reunion at the Faculty premises and for their participation.



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Summary Report

Training programme on handling of equipment and laboratory safety

The Biosafety committee of the Faculty of Science and the AHEAD ELTA ELSE of the Faculty of Science jointly organized a training programme on handling of equipment and laboratory safety for laboratory staff of the Faculty of Science from 1st of June to 2nd of June at Palmyrah Research Institute, Kaithady. Laboratory staff was selected by nominations from the heads of the departments. Nine laboratory staff from department of botany, fisheries, physics and zoology were nominated and participated in the training programme. First day programme was started with the inauguration at PRI.



Mr.S.Srivijendran, deputy general manager, Palmyrah development board and Dr (Ms). N.Krishnapillai, Chairperson, Biosafety committee and the Activity coordinator, activity 5 of the AHEAD ELTA ELSE Faculty DP, Faculty of Science were addressed in the inauguration. Mr. Srivijendran explained the activities of PRI. Accredited laboratory facilities at PRI and he introduced the resource persons of the programme. Dr (Ms).N.Krishnapillai described the need of the training programme to the newly recruited laboratory staff.

Then, training programme was started in the analytical Laboratory with the resource persons of Ms.T.Suganya, Ms.S.Sangeetha, Mrs.A.Kirushanthi and Mr.A.Samsan Kapil under the guidance of Dr. (Ms). B. Anuluxshy. The participants learned about moisture analyser, muffle furnace, hot air oven, Ebulliometer and refractometer. Then after tea break, they trained with UV spectrometer with the principles and sample analysis.

After lunch they did practical on bomb calorimeter and learned about working principles and quantification of energy content of different samples. They observed HPLC and GC in the HiTec laboratory.

Second day programme was started on 2nd of June at 9 am with a presentation of activities of PRI by Dr. (Ms). B. Anuluxshy. Then the participants moved to microbiology laboratory and they observed sterilization room, media preparation room, inoculation room and incubation room. The participants learned about safety precautions in the microbiology laboratory, sterilization of media and glassware, media preparation methods, inoculation and incubation of microbes. The trainers trained to use autoclave and laminar flow chamber. Further they discussed about the procedures to get accreditation of laboratory. Every year calibration of equipment is important to renew the certificate for the equipment. Mrs. P. Robika and Ms.N.Sobini were the resource persons under the guidance of Dr. (Ms). B. Anuluxshy in the microbiology laboratory. Finally Dr (Ms). N.Krishnapillai, Chairperson, Biosafety committee did a presentation on biosafety. She explained about personal protective equipment, lab safety practices, chemical storage and chemical handling methods, biosafety levels starting from level 1 to 4, biohazards and safety symbols. Finally certificates for participants was awarded by Mr.S.Srivijendran, deputy general manager, Palmyrah development board and Dr (Ms).

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N.Krishnapillai, Chairperson, Biosafety committee and the Activity coordinator, activity 5 of the AHEAD ELTA ELSE Faculty DP, Faculty of Science. Vote of thanks was delivered by one of the participants.



Following objectives were achieved in this training programme

1. Participants trained at analytical and microbiology laboratory at PRI.
2. The trainees had an opportunity to work in the accredited laboratories.
3. They learned about the biosafety measures including laboratory safety in microbiology and analytical laboratory.
4. They trained on reducing laboratory accidents, handling toxic chemicals and harmful organisms.

Report on meeting of the National flower committee

National flower committee was appointed by the division of biodiversity, ministry of environment with the guidance of Ministerial Advisory Committee on Environmental Affairs and they advised that the committee should be appointed with senior academics to make recommendations. National flower committee meeting was held on 3rd of May 2023 in the 7th Floor Meeting Room of ministry of environment. Meeting was chaired by Dr. R.D.S. Jayathunga, Chairman of the Committee and Additional Secretary, (Environmental Development) Ministry of Environment to resolve the problem of the name of the national flower of Sri Lanka. Twenty-five members participated in the meeting including senior academics from universities and senior staff members from ministry of environment and other ministries. Objective of this meeting was to clarify the Sinhala and scientific name of the national flower.

Dr. R. D. S. Jayathunga, chairman of the committee welcomed the members of the committee who were present physically and connected through the zoom. After that, Ms. Nilmini Ranasinghe presented the history and evolution of the national flower so far. There, the ministerial paper No. MPA/1986/116(40)



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dated February 25, 1986 named the lily with the scientific name *Nymphaea stellata* as the national flower, and then various documents published the photo of a purple foreign lily species as the national flower. Then the Minister of Environment submitted a cabinet paper dated 27.10.2011 in order clarify the correct name and photo of the flower, Accordingly, on 16.11.2011, with the approval of the Cabinet, a technical committee headed by the Secretary of the Ministry of Environment was appointed and an administrative committee consisting of the Prime Minister's Secretary, State Administration Secretary and the Secretary of the Environment Ministry was appointed to examine the recommendations of the committee and submitted the final conclusion to the Cabinet with the scientific name of the national flower as *Nymphaea nouchali*. The Ministry of Mahaweli Development and Environment had submitted a Cabinet paper on 31st March 2015 recommending the use of the name "Manel" and approved it on 10.06.2015.

Then, Prof (Mrs). Deepti Yakandawala senior professor, University of Peradeniya made a brief explanation about the history of the problem about the Sinhala name of the national flower.

The following recommendations were made after a lengthy discussion.

1. It is more appropriate to use "blue water lily" in English and "neelotpalam" (நீலஊற்பலம்) in Tamil for the species *Nymphaea nouchali*.
2. In 1986, the selection committee considered several criteria while selecting the national flower. All these criteria were met by "Blue Lily" and not by the name "Lily". Removal of the prefix "blue" is not appropriate.
3. In scientific nomenclature, nomenclature up to the variety level can cause difficulties in common use. Therefore, in the scientific documents that it is suitable to be used as *Nymphaea nouchali* var. *nouchali* and in general use as *Nymphaea nouchali* (blue variety).
4. It is essential to display the correct picture related to the national flower so that the national flower can be correctly identified

Nymphaea nouchali var. *nouchali* found in Upparu lagoon in Sarasalai (9° 41' 0" North, 80° 10' 0" East) Smooth, glossy lamina floats on the surface with pale blue fading with a dull blue colour flowers.

Nymphaea nouchali belongs to family Nymphaeaceae is an important and well-known medicinal plant, widely used in the Ayurveda and Siddha systems of medicines for the treatment of diabetes, liver disorders and urinary disorders. Nymphayol, a steroid isolated from the flowers has been scientifically proved to be responsible for the traditionally claimed antidiabetic activity. It reverses the damaged endocrine tissue and stimulates secretion of insulin in the β -cells.



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Workshop on environmental friendly waste management II – Biodegradable and non - biodegradable waste management - jointly organized by BIOSOC Department of Botany, University of Jaffna and AHEAD, ELTA-ELSE Faculty DP



The above workshop on environmental friendly waste management was held on 27th of May 2023 from 9.00 am to 5.30 pm at 1B lecture hall, Faculty of Science, University of Jaffna. This workshop commenced with the registration of participants at 9.00 am and continued with the welcome address by the president BIOSOC Mr.T.Kathurjan, followed by an address by Dr. E.C. Jeyaseelan, head, department of botany. He highlighted the benefits of environmental friendly waste methods and hands on training. After that Dr.K.Thabotharan, Project coordinator, AHEAD, ELTA-ELSE Faculty DP emphasised that the students should utilize the facilities provided by AHEAD without any hesitation. Then, Prof. P. Ravirajan, Dean, Faculty of Science addressed the gathering and he insisted the significance of the workshop to the students.

There were around 75 participants participated in the workshop including first year and second year students, demonstrators, senior academics, workshop assistants and staff from department of agriculture. Session was started after tea break with the management of biodegradable waste by Dr. (Ms). N. Krishnapilai and she continued with the status of waste in Sri Lanka and the importance of generating income by using waste. Then, Prof (Mrs) Meena Senthilnathanan talked about the types and management of non-biodegradable waste. She explained the problems of e.waste and other plastic waste. Further she discussed about Eco bricks, safety landfills and generating electricity from waste.



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After lunch break students went to the department of agriculture accompanied with the staff by university bus for demonstration and hands on training on composting. Evening session was started at department of agriculture, Thirunelvely by 2 pm and it was conducted by Mrs. Anchana Sriranganathan, Deputy Provincial Director of Agriculture. Department of Agriculture. Thirunelvely and other staff including farm manager. Mrs. Anchana Sriranganathan described the methods and procedures of composting, components of compost and the benefits of composting. Undergraduate students actively participated in the hands-on training on composting by using green waste, brown waste, cow dung, rock phosphate and biochar. They discussed about the income generation by composting. Working principles and operations of plant chopper and rotary compost screener were demonstrated by the staff of the Department of Agriculture. Group presentations by the students were also conducted as a part of the session.



Students came to the department of botany by 4.30pm and certificates for participation was awarded by Prof. P. Ravirajan. Finally, Ms. S. Thiruvili, Vice President, BIOSOC delivered the vote of thanks and session was concluded by 5.30 pm with the workshop photo.

The ultimate goal of the workshop was achieved by providing knowledge and skills to the participants to reduce their waste through sustainable waste management practices.



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Annual Science Week Report - 2023

Introduction:

The Annual Science Week was a highly anticipated event held in our faculty from 22nd May to 04th June 2023. The purpose of this event was to promote physical fitness, sportsmanship, and cultural exchange among the students. As a secretary, I am pleased to present this report summarizing the highlights and outcomes of the event.

Events and Activities:

Opening Ceremony: The two-week event was filled with a variety of activities. On the first day, the week was started at 1.30 pm in front of PARAMESWARAN temple with dance droop. Then we arrived the university play ground around 2.45 pm. After that the lighting the oil lamps, the first event was the



friendly cricket match between staff vs students, in which two teams participated with great excitement.

Sports Competitions: A variety of sports competitions were organized throughout the week, including football, basketball, volleyball, athletics etc. Participants showcased their skills, teamwork, and sportsmanship, creating a lively and competitive atmosphere.

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Cultural Showcases: In addition to sports events, cultural showcases took place to celebrate and appreciate the diverse cultures within our students. Different performing arts groups presented traditional dances, and music performances, highlighting the richness of our heritage.

Awarding Ceremony: The week concluded with a grand awarding ceremony where winners of the



sports competitions were honored and cultural performances by local artists were showcased. It provided a fitting end to the event and served as a platform to express gratitude towards all participants, organizers, and volunteers.

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Outcomes and Achievements:

Physical Fitness: The event encouraged community members to actively participate in sports and physical activities, promoting a healthy lifestyle and overall well-being.

Sportsmanship and Teamwork: Through the sports competitions and friendly matches, participants developed and displayed sportsmanlike behavior, teamwork, and respect for one another.

Cultural Exchange: The cultural showcases facilitated a better understanding and appreciation of different cultural traditions and practices, fostering a spirit of harmony and unity among the participants and attendees.

Talent Promotion: The platform provided by the event allowed talented individuals to showcase their skills and talents in both sports and cultural performances, giving them recognition and encouragement.

Conclusion:

The Annual Science Week proved to be a successful event that celebrated physical fitness, sportsmanship, and cultural diversity within our students. Through a range of sports competitions, cultural showcases, and friendly matches, the event fostered unity, engagement, and a sense of pride in our collective heritage. We look forward to organizing more such events in the future to continue promoting physical well-being, cultural exchange, and community harmony.