American International University-Bangladesh (AIUB)

SDG Activity Report 2023

SDG 12: Responsible Consumption and Prodiction

Ensure sustainable consumption and production patterns

American International University-Bangladesh (AIUB) is committed to promoting responsible consumption and production, aligning with Sustainable Development Goal 12. Events such as the World Environment Day celebration organized by the AIUB Environment Club emphasize sustainability awareness and encourage participation in waste management practices.

The university extends its sustainability policies to suppliers and outsourced services, ensuring that partners adhere to similar standards for reducing waste and promoting sustainable practices. AIUB's initiatives like the Design and Implementation of Low-Cost Solar Charged Portable Disinfectant Chamber reflect its commitment to innovative, sustainable solutions.

AIUB also fosters collaboration with organizations like Grameen Shakti and promotes circular value creation in business models to enhance supply chain sustainability. By continuing to measure and track its sustainability progress, AIUB is helping create a more sustainable future through responsible consumption, waste reduction, and ethical sourcing.

#AIUB #SDG12 #SustainableConsumption #WasteManagement #Sustainability

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University Activities towards SDG 12

Seminar on Occupational Health & Safety Management

The Department of Management & HRM, Faculty of Business Administration, organized a seminar on Sunday 13 August, 2023 for the major students of the HRM entitled “Occupational Health & Safety Management”. The speaker of the seminar was Md. Khairujjaman, Manager, HRD, Green Life Hospital Limited, conducted the session. The main objective behind the session was to provide a comprehensive understanding of “Occupational Health & Safety (OHS) Management Systems” to the students of Occupational Health & Safety Management course. Mr. Md. Khairujjaman stressed on the management of employee health and safety that has gained paramount importance in today's rapidly evolving business landscape. He also mentioned about the well-being of employees not only aligns with ethical and legal considerations but also contributes significantly to an organization's overall productivity and success.

The seminar was arranged by Dr. Md. Aftab Anwar, Associate Professor & Head, Department of Management & HRM. Dr. Rezbin Nahar, Director of BBA Program, exchanged her views regardings health and safety issues with the esteem guest for future development and sustainability of the organzations. Dr. Partha Prasad Chowdhury, Professor and Head, Department of Marketing concluded the session with vote of thanks. The Department of Management & HRM humbly appreciates the openhanded support extended by the AIUB management.

https://www.aiub.edu/seminar-on-occupational-health--safety-management

AIUB Environment Club celebrated World Environment Day

The AIUB Environment Club (AEC) of the American International University-Bangladesh (AIUB) celebrated the World Environment Day on June 05, 2023, by organizing different events to create awareness among students of AIUB. Professor Dr. Md. Abdur Rahman, Pro-Vice Chancellor of AIUB inaugurated the event by planting a tree on the campus. Prof. Dr. A. B. M. Siddique Hossain (Dean, Faculty of Engineering, AIUB), Professor Dr. Mohammad Abdul Mannan (Associate Dean, Faculty of Engineering, AIUB), Professor Dr. S. Mosaddeq Ahmed, (Head, Department of Chemistry, AIUB), Dr. Md. Saniat Rahman Zishan (Director & Associate Professor, Faculty of Engineering, AIUB), Dr. Mohammad Mahbub Rabbani (Associate Professor and Deputy Director of the Dr. Anwarul Abedin Institute of Innovation, AIUB), Dr. Md. Rifat Hazari (Senior Assistant Professor , Deputy Director of Dr. Anwaril Abedin Institute of Innovation, AIUB), Ms. Munira Sultana, ndc (Chairman, Sustainable and Renewable Energy Development Authority, SREDA), Dr. Khandker Md. Abdul Hye, (Joint Secretary, SREDA), several other faculty members from different departments, administrative officers, and members of AEC were present at that time.

After the tree plantation, a rally displaying various placards marched across the campus to extend awareness and inspire students to take necessary steps to save our environment. Members of the AIUB Environment Club, general students, faculty members, and administrative officers of AIUB participated in the rally. After the rally, saplings were distributed among students.

Prior to arranging these events, AEC decorated entrance of AIUB and campus with various types of posters containing different messages and instructions to keep our environment sustainable and specially to build awareness of plastic pollution as this year, the theme for World Environment Day 2023 is #BeatPlasticPollution.

https://www.aiub.edu/aiub-environment-club-celebrated-world-environment-day

Empowering Agribusiness with Blockchain Technologies

The Department of Management Information Systems hosted a seminar titled " Empowering Agribusiness with Blockchain Technologies" at the Multipurpose Hall, D-Building on the AIUB campus on July 30 at 10:30 a.m. Mr. Sayed Zubaer Hasan, founder and chief executive officer of "Krishi Shwapno," was the keynote speaker at the seminar. He discussed the transformative potential of blockchain in agribusiness and how it can have a positive effect on the entire agricultural value chain. As the chief executive officer of "Krishi Shwapno," he provided concrete examples of how blockchain is reshaping the cultivation, distribution, and consumption of agricultural products. He emphasized the capacity of blockchain to increase transparency and trust in the agribusiness industry as one of the most important aspects. He explained how Agro-businesses can ensure that every step of the supply chain, from farm to table, is recorded and verifiable by implementing decentralized ledger technology. This level of transparency not only inspires consumer confidence, but also enables stakeholders to make decisions based on data for improved efficiency and sustainability. In addition, he discussed how blockchain can be used to address persistent issues in agribusiness, such as food traceability, supply chain inefficiencies, and equitable pricing for producers. The audience participated enthusiastically, and he engaged in thought-provoking discussions about the practical implementation of blockchain solutions in the agricultural context of Bangladesh. In addition, the seminar offered a unique platform for networking and industry-academic collaboration. Students who were interested in pursuing a vocation as a blockchain specialist learned how to acquire the necessary skills through a lively Q&A. This seminar has assisted the academic community in adopting innovation, collaboration, and sustainability in order to advance the transformation of agribusiness and work towards a more resilient and prosperous agricultural sector in Bangladesh. The seminar was attended by FBA faculty members Ms.Nazia Farhana, Shahnaz Zarin Haque, Sanjida Akhtar, and Mohammad Baijed. Mehzabul Hoque Nahid, department head of MIS, delivered the vote of thanks. Administrative stuffs of AIUB, extended their immaculate support for making the event a success.

https://www.aiub.edu/empowering-agribusiness-with-blockchain-technologies

AIUB Shomoy Club: The IDEAS Challenge 2K23

We cannot become what we want by remaining what we are. To improve one must change, and to perfect oneself, one must change often. Embracing change is about adopting a growth mindset, and that is abundantly clear in the youth of tomorrow who seem to have the drive to bring about not just change in this community, but a positive one at that. And here at the American International University – Bangladesh (AIUB), that is the notion with which students are nurtured for a better future. And to that end, the AIUB Shomoy Club undertook the initiative of creating a platform that focused on solving issues of social development - The IDEAS Challenge - Innovative Development Efforts & Actions for Sustainability (IDEAS). The 3rd Season of the flagship event, The IDEAS Challenge 2K23 was a resounding success! The event, which was held on 22nd of July 2023 at the AIUB Campus, brought together social innovation ideas of over 350 participants, many accompanied by their respective parents, guardians, and college teachers, in nearly 100 teams in the category of project posters and prototypes, from more than 30 different colleges of Dhaka.

The diversity of the ideas covered a wide range of social issues, ranging from rural development, disadvantaged groups, clean water & sanitation, unemployment, traffic, and e-waste, based on the 'Social Development Goals (SDGs)' of the United Nations. The intense level of competition made it very difficult for the judges to as there were many strong proposals. The panel of judges, that comprised of teachers from the 4 distinct Faculties of Arts & Social Sciences (FASS), Faculty of Business Administration (FBA), Faculty of Engineering (FE), and Faculty of Science & Technology (FST), commended the participants on both their innovative ideas as well as their efforts in its execution. In the poster category, Team 17 from Manarat Dhaka International College, proposed their idea on how to manage food waste using biodegradable plastics, vending machines, and different wastebins, winning the 2nd Runner-Up position. "Capso Clicks" Team from AKM Rahmatullah College, presented their idea of a camera that can be inserted into the GI tract with the options for photos and videos to diagnose diseases like tumors and ulcers, becoming the 1st Runner-Up. The Champion Team was "Beyond Shadows" from Manarat Dhaka International College who presented their idea on mental health by creating multifaceted platforms ranging from academic curriculum, internships, and counselling to break the stigma and support those in need. In the category of prototype, Team 85 from Nirjhor Cantonment Public School & College, won the 2nd Runner-Up position for their idea on SDG implementation, addressing 16 goals through innovative agricultural initiatives and plastic pollution management. Team "Catastrophe Getaway" from Manarat Dhaka International College became the 1st Runner-Up with their idea of introducing inflatable getaway slides and chutes in high-rise buildings for people to escape in case of fire hazards and other catastrophes. And the Team Shikor took the Champion position with their idea of an app that makes gardening and farming in households easy with features like area scanner for sun exposure, real time consultancy for first timers, AI assistance, automated plant watering system, children's gardening kit, vertical gardening tools, etc.

The IDEAS Challenge 2K23 was a great opportunity for students to share their ideas on social development and to learn from each other. Everyone was able to see firsthand the creativity and enthusiasm of the next generation of social innovators. The enthusiasm of the participants proved

their clear passion for their ideas as they were eager to share them with the judges and the audience. AIUB takes great pride in its students for continuously innovating creative platforms for the leaders of tomorrow and looks forward to the next season to bear witness to all that these young innovators accomplish in the future.

https://www.aiub.edu/aiub-shomoy-club-the-ideas-challenge-2k23

THE TOURISM & HOSPITALITY MANAGEMENT DEPARTMENT ORGANIZES SEMINAR ON “GUEST RELATIONS MANAGEMENT”.

Bangladesh is on a mission to promote tourism through traditional and innovative investments services for the development of a competitive and sustainable economic growth. Sustainable tourism should also maintain a high-level of guest satisfaction and educational, esthetic, escapist, and entertainment experiences for the tourists.

The Department of Marketing, & THM, Faculty of Business Administration (FBA) of American International University Bangladesh, organized a seminar on " Guest Relations Management" on 26th July 2023 at Room # 3203, Annex 3 for the students of Tourism and Hospitality Management. The seminar was presented by Mr. Mohammad Maniruzzaman - Front Office Manager, Sheraton, Dhaka.

Mr. Maniruzzaman, who is an alumnus of AIUB has significant experience in the hospitality industry of Bangladesh. The Resource speaker shared his real-life experiences, and in this knowledge sharing session, students learned about various hospitality and service recovery models. Mr. Maniruzzaman enlightened students about guest communication techniques and the importance of guest loyalty.

The session was ended by giving a vote of thanks to the resource speaker by Dr. Rezbin Nahar, Director, BBA Program. The guest speaker was presented with a Gift pack by Professor Dr. Partha P. Chowdhury, Chartered Marketer (UK).

On behalf of Department of Marketing, & THM Mr. Soumendra S. Das, Associate Professor, Department of Marketing and Mr. Mahmudul Hasan, Lecturer, Department of Tourism & Hospitality Management organized the event in consultation with Prof. Dr. Partha P. Chowdhury, Head, Department of Marketing, & THM, FBA. Mr. Stanley S. Rodrick, Sr. Assistant Professor, Department of Marketing, also attended the event.

https://www.aiub.edu/the-tourism--hospitality-management-department-organizes-seminar-on-guest-relations-management

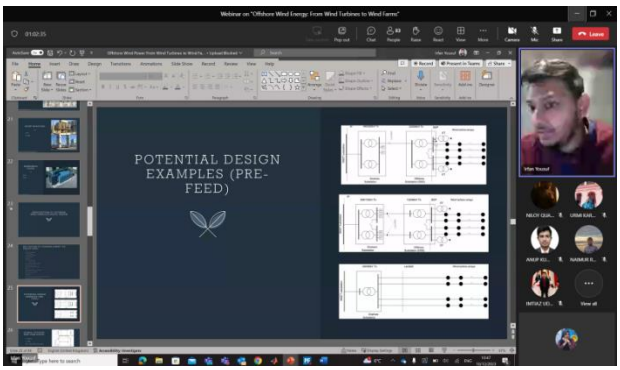
Webinar on “Offshore Wind Energy: From Wind Turbines to Wind Farms”.

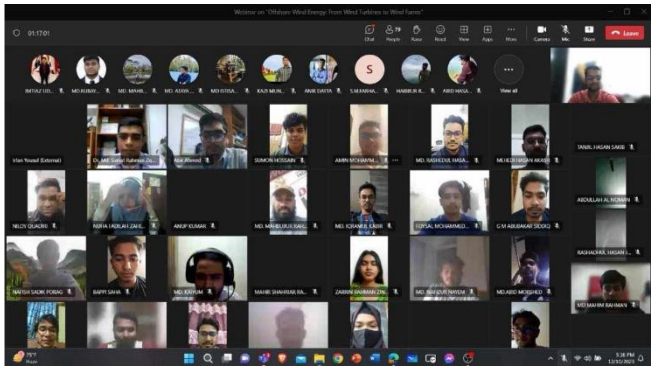
On December 10, 2023, AIUB Community of Engineering Students-(ACES) organized a webinar titled "Offshore Wind Energy: From Wind Turbines to Wind Farms". The program started at 4 PM with 91 participants through Microsoft Teams. The purpose of the webinar was to learn about harnessing the wind's energy and converting it into usable electricity, contributing to more sustainable energy while reducing reliance on fossil fuels and decreasing carbon emissions, thus achieving SDG goal 7: Affordable & Clean Energy.

The event started with a warm introduction of the distinguished speaker, Mr. Mohammad Irfan Yousuf (R&D Power Systems Engineer, Offshore Renewable Energy Catapult, Northumberland, UK). He began the session by providing a scenario of offshore wind energy consisting of clusters of wind turbines installed in the water, Turbine Functionality, Switchgears, and their roles to capture the kinetic energy from the wind, rotation of the blade’s spins connected to a generator. Also, he explained the electrical components in an offshore wind farm as well as showed the HVDC linkage of an offshore substation to an onshore substation. Furthermore, he reviewed the techno-economic discussion for the use of high voltages which makes offshore wind energy an increasingly viable and promising renewable energy source.

Then, the Q&A session was held for the participants. Dr. Md. Saniat Rahman Zishan (Associate Professor, Director, Faculty of Engineering, AIUB) concluded the webinar by thanking and presenting a virtual crest and certificate to the honorable speaker.

https://www.aiub.edu/webinar-on-offshore-wind-energy-from-wind-turbines-to-wind-farms



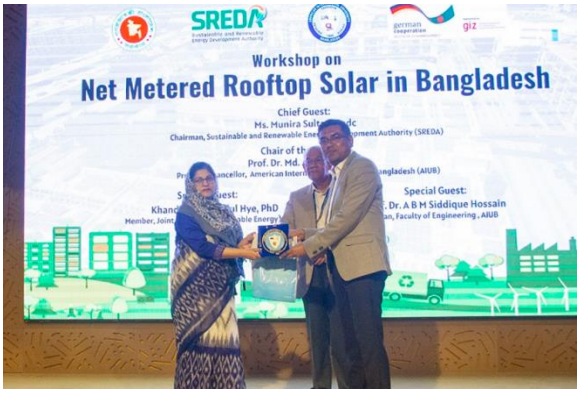


SREDA Organized a Workshop on “Net Metered Rooftop Solar in Bangladesh” at AIUB

On June 5, 2023, the Sustainable and Renewable Energy Development Authority (SREDA) organized a workshop titled "Net Metered Rooftop Solar in Bangladesh" at American International University-Bangladesh (AIUB). The program started at 10:30 AM with 230 participants at the Auditorium, Building D, AIUB. The purpose of the workshop was to inform the students about the benefits, implementation, and regulatory aspects of net-metered rooftop solar systems in Bangladesh.

Dr. Md. Saniat Rahman Zishan (Director & Associate Professor, Faculty of Engineering, AIUB), provided an introductory overview of net metered rooftop solar in Bangladesh during his opening remarks. Following that, Mr. K. M. Ali Azam (Deputy Director, Renewable Energy (Solar), Sustainable and Renewable Energy Development Authority, SREDA), took the stage to deliver his presentation. He highlighted the importance of solar energy in meeting energy demands, reducing dependence on traditional sources, and emphasized SREDA's role in promoting renewable energy in Bangladesh. After that, the second speaker, Mr. Md. Rashedul Alam (Assistant director, Renewable Energy (Solar), Sustainable and Renewable Energy Development Authority, SREDA) discussed business models for net metered rooftop solar systems, covering capital expenditure (CAPEX) and operational expenditure (OPEX). He explained the energy calculation and settlement process and provided insights into the PV module monitoring structure. Later on, special guest Prof. Dr. A. B. M. Siddique Hossain (Dean, Faculty of Engineering, AIUB) thanked the speakers. He hoped that SREDA will take more initiative to popularize renewable energy to save the future generation. Following that, Special guest Mr. Khandker Md. Abdul Hye, PhD (Member, Joint Secretary (Renewable Energy), SREDA) provided a comprehensive overview of the workshop, summarizing the key points discussed throughout the event. Lastly, chief guest of the workshop Ms. Munira Sultana, ndc (Chairman, SREDA) took the stage. She emphasized the importance of carbon training, highlighted different types of renewable energy, and discussed the positive impact of utilizing renewable energy sources on the environment. Concluding the workshop, Chair of the Session Prof. Dr. Md. Abdur Rahman (Pro Vice-Chancellor, AIUB), delivered the closing speech. In his remarks, he expressed gratitude to SREDA for their remarkable efforts in advancing sustainable energy practices in Bangladesh.

https://www.aiub.edu/sreda-organized-a-workshop-on-net-metered-rooftop-solar-in-bangladesh-at-aiub



Workshop conducted by “Grameen Shakti”

On Tuesday, 26th September 2023, IEEE AIUB Student Branch WIE Affinity Group participated in a workshop organized by the non-profit company Grameen Shakti. The event emphasized the significance of greenhouse gases, as well as the impacts of global warming and climate change.

The workshop was hosted and inaugurated by Mr. Abdul Arif, Manager, Project Development, Grameen Shakti, Engr. Md. Arafath Mostafa, Deputy Manager, Grameen Shakti, and Ms. Rubaya Nasrin, Assistant Manager, Project Development, Grameen Shakti. They addressed the topics of global warming and climate change, delving into the concept of greenhouse gases. Additionally, they explored various forms of renewable energy, particularly focusing on solar energy and the diverse types of solar panels. The discussion revolved around the significance of solar energy, highlighting its associated benefits.

Moreover, they specifically talked about the solar panel installations at AIUB, following which they visited the solar panels installed at AIUB campus. The workshop concluded as Prof. Dr. Mohammad Abdul Mannan, Associate Dean, Faculty of Engineering, American International University – Bangladesh; Advisor, IEEE AIUB Student Branch and Dr. Md. Saniat Rahman Zishan, Director, Faculty of Engineering, AIUB; Advisor, IEEE AIUB Student Branch provided the closing remarks and handed over the tokens of appreciation to the hosts.

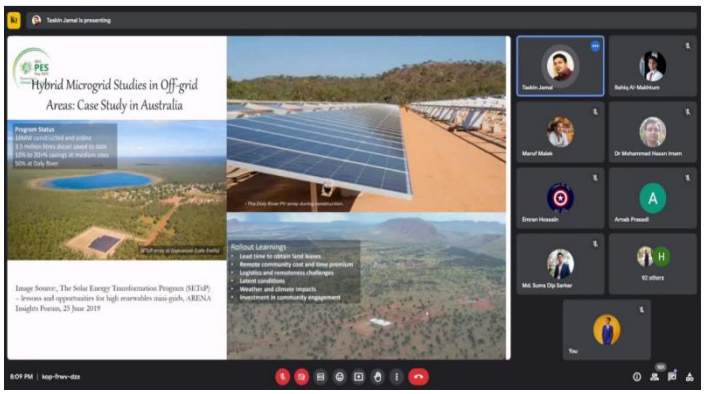
The workshop effectively accomplished its objective by raising awareness about the consequences of global warming and climate change among participants. It also highlighted the merits of renewable energy sources and the advantages associated with various solar panel technologies. As this workshop emphasized the significance of providing affordable and sustainable energy access for everyone in the fight against climate change and its effects, it ultimately aligned with SDG-7 (Affordable and Clean Energy) and SDG-13 (Climate Action).

https://www.aiub.edu/workshop-conducted-by-grameen-shakti

IEEE AIUB Student Branch Celebrated PES Day 2023 with Engaging Webinar

On Sunday, May 21st, 2023, the IEEE AIUB Student Branch successfully organized a webinar session titled “Advancements in Renewable Energy Technologies: Shaping the Future of Power and Energy” in celebration of the 6th IEEE PES Day. The webinar started at 7:10 PM and ended at 8:40 PM. A total of 100+ participants attended the webinar. The webinar aimed to inform students about the latest developments in the power and renewable energy sectors, including advancements in wind, solar, and hydro technologies. It highlighted the potential of renewable energy to meet growing energy demands while addressing the climate crisis, inspiring students in their career choices.Advisor of IEEE AIUB Student Branch Dr. Md. Saniat Rahman Zishan, Director, Faculty of Engineering, American International University - Bangladesh inaugurated the event by emphasizing the significance of PES Day and its relevance to the participants. He shed light on the power and energy sector, setting the stage for an insightful session. Advisor of IEEE Power and Energy Society AUST Student Branch Chapter Dr. Taskin Jamal, Assistant Professor, Department of EEE, AUST took the floor as the speaker of the session. His session revolved around sustainability and its crucial role in combating the global energy crisis. He delved into topics such as the impact of climate change, the revolution in renewable energy, and the importance of achieving a carbon emission-free environment. The webinar's objective aligned with United Nations Sustainable Development Goals (SDGs) 7 and 13. SDG 7 aims to ensure access to affordable, reliable, sustainable, and modern energy for all, while SDG 13 calls for urgent actions to combat climate change and its impacts. The webinar aimed to inspire participants to contribute to a more sustainable future by addressing these goals. The discussion further explored the volatile energy market, shifting energy forecasts, and the expanding capacity of renewable resources.Dr. Taskin emphasized China's dominance in renewable energy manufacturing and the potential for wind and solar energy to double within the next five years. He also touched upon alternative fuels, fuel cells, and the increasing adoption of renewable energy in various sectors. Following the completion of the speaker's session, an engaging Q&A session took place, allowing participants to further delve into the topics discussed. Motivator of IEEE AIUB Student Branch Dr. Shameem Ahmad, Assistant Professor, Department of EEE, Faculty of Engineering, AIUB concluded the session by expressing gratitude to the esteemed speaker and presenting a token of appreciation on behalf of the IEEE AIUB Student Branch. Overall, the webinar served as an educational platform, fostering awareness and understanding of sustainable energy solutions while emphasizing the importance of taking action to combat climate change in line with United Nations SDGs 7 and 13.

https://www.aiub.edu/ieee-aiub-student-branch-celebrated-pes-day-2023-with-engaging-webinar



Seminar on “Responsible Marketing and Sustainable Consumer Behavior”

American International University-Bangladesh organized a seminar on " Responsible Marketing and Sustainable Consumer Behavior " on 9th August 2023 at Media Studio, Annex 2 for the students of marketing core and major students of MBA program. Mr. Khan M.R. Taufique PhD, ACIM, FHEA, Visiting Associate Professor, Department of Marketing, FBA presented the seminar. The seminar started with a short introductory speech by Dr. Rezbin Nahar, Associate Professor, & Director, BBA program.

Mr. Taufique, who is a Senior Lecturer of Oxford Brookes University, UK, has significant research experience in consumer behavior. The Resource speaker shared his research experiences, and in this knowledge sharing session, students learned about climate crisis, major causes of climate change, role of marketing and consumption behavior on climate crisis.

The speaker also highlighted seventeen (17) sustainable development goals (SDGs) of the United Nations and explained how multinationals like Unilever and Nestle addressed these SDGs. The seminar was indeed a fruitful knowledge sharing forum that was followed by a question-answer session from the participating students.

The session was ended by giving a vote of thanks to the resource speaker by Dr. Faridul Alam, Associate Professor, & Director, MBA Program. Professor Dr. Partha P. Chowdhury, MCIM, Chartered Marketer (UK) Head, Department of Marketing, & THM, FBA handed over a gift item to the resource person.

https://www.aiub.edu/seminar-on-responsible-marketing-and-sustainable-consumer-behavior

THM Department Study tour - Asian Tourism Fair 2023

The Department of Marketing, and Tourism & Hospitality Management (THM), Faculty of Business Administration (FBA) of American International University Bangladesh, organized a study tour on September 21, 2023, at 10th Asian Tourism Fair, 2023 & Bangladesh Tourism Development Summit 2023. The 10th Asian Tourism Fair, 2023 which was held on 21st – 23rd September was organized by most popular tourism magazine in Bangladesh named 'The Parjatan Bichitra' held at Bangabandhu International Conference Center (BICC), Dhaka, Bangladesh.

The students of the Tourism and Hospitality Management courses were delighted to be present at the event. Many prominent figures from the tourism industry presented their thoughts at the Tourism Development Summit. Companies like tourism clubs, tour operators, educational institutions, hotels, airlines, and resorts joined this exhibition. Several organizations from different countries like India, Nepal, Bhutan, China, South Korea, Malaysia, and Sri Lanka participated in this fair with their tourism products. Students visited most of the stalls and enriched their knowledge of multi-dimensional tourism products. Mr. AKM Kamrul Haque, Sr. Associate Professor, Department of Marketing; and Mr. Mahmudul Hasan, Lecturer, Department of Tourism and Hospitality Management coordinated the tour and guided the students.

The objective of this study tour was in line with key sustainable development goal (SDG) of the United Nations "Quality Education." The focus of the Department of Marketing and THM on organizing this type of study tour reflects AIUB's commitment to excellence in education and its dedication to nurturing future professionals in the marketing domain.

https://www.aiub.edu/thm-department-study-tour---asian-tourism-fair-2023

AIUB Students became Champions in WICBBDB 2023

On August 28, 2023, students from AIUB achieved the title of champions at the Workshop on International Conference on Bangabandhu and Digital Bangladesh 2023 (WICBBDB 2023), hosted by the United International University (UIU). WICBBDB 2023 was dedicated to exploring the convergence of ICT and the Sustainable Development Goals, with the goal of fostering collaboration between academia and industry on a global scale. During the event, 42 research project papers were accepted and presented throughout the day.

Among these 42 research projects, the project paper titled "IoT-Based Smart Poultry and Fish Farming System Using Arduino," authored by AIUB students Sajid Ibna Mahbub, Saima Sadia Ratri, and Sultanul Arifeen Hamim from the Computer Science and Engineering (CSE) department, secured the first position. This exceptional project was the result of their efforts during the "Microprocessor and Embedded Systems" course at AIUB.

Their work was conducted under the guidance of Prof. Dr. Muhibul Haque Bhuyan, a distinguished professor from the Department of Electrical and Electronic Engineering (EEE) within the Faculty of Engineering at AIUB. Notably, Prof. Dr. Bhuyan also led a technical session titled "IoT and ML-based Embedded System" during the workshop.

https://www.aiub.edu/aiub-students-became-champions-in-wicbbdb-2023

Faculty Research and Publication on SDG 12

Cases on Uncovering Corporate Governance Challenges in Asian Markets

NIAZ MOHAMMAD et el.

This chapter is intended to understand how environmental, social, and governance issues are integrated in the annual report of Bangladeshi banking companies from 2020 to 2022. This understanding, in turn, can help investors determine how to integrate ESG analysis into their own investment processes. This study considered the top 30 banks operating in Bangladesh for three years (2020 to 2022). Discourse analysis was used to identify the textual narratives disclosed in this study. Finding of this study showed that many banking organizations are presenting their ESG disclosure in a separate section of annual report and other organizations report such information in the form of sustainability report or corporate social responsibility section. Despite all the regulatory interventions, the level of ESG reporting especially governance is not up to mark in Bangladesh. The main factor for integrating ESG is to face risks and opportunities that can impact the long-term performance and sustainable finance.

https://www.igi-global.com/book/cases-uncovering-corporate-governance-challenges/320523#table-of-contents

An Affordable Solution for the Rural Farmers for Irrigation Purpose Including Hybrid Power Source using Solar and Biogas

DR. CHOWDHURY AKRAM HOSSAIN et el.

The use of fossil fuels to generate the ever-increasing demand for energy is proving to be a very strong reason behind the global warming issue. The hybrid power system is a combination of different technologies to produce Electricity. In Bangladesh, farmers experience several irrigation-related problems due to a shortage of energy. This paper deals with an economical hybrid power system that uses the grid, solar, and biogas generator that offers a fresh approach to solve this problem. Since it is impossible to always have sunlight, a biogas generator would be used to generate electricity and charge a battery to satisfy the requirements and a grid connection will be a backup for both biogas and sunlight absence. Based on the priority, the user will be able to switch among the three sources for efficient use of power. This hybrid system will contribute to our country's increasing demand for power management by serving the less resourceful farmers from rural areas. In this research, hardware and simulation findings have been examined from Bangladesh's perspective. Since it is based on renewable energy sources, this initiative presents a novel solution to Bangladesh's emerging power crisis issue.

Design and Implementation of a Low-cost Solar Charged Portable Disinfectant Chamber

DR. CHOWDHURY AKRAM HOSSAIN et el.

Health safety is always one of the key concerns for human lives. During this current pandemic, people have become more aware of this fact and have started following different precautions. In this paper, we have discussed a prototype of a cost-efficient and environmentally friendly disinfection chamber that can help to solve the public health risk that was brought to our attention. Currently, power generation costs have also increased due to inflation and fuel price hikes. There is a lack of power supply for that. To ensure the proper demand for power, the whole world focused on renewable energy. While developing the prototype, we tried to use the widely available resources in our local market so that it reduces the cost as well as can be easily repairable and upgradeable. Although we have used solar panels in the system, due to the portability and availability of power, we have also used a battery system which can supply power to the chamber for over 8 hours. We also discussed a few future works on the proposed system, with a focus on solar system improvement.

Performance Analysis of the AVR Using An Artificial Neural Network and Genetic Algorithm Optimization Technique

NILOY GOSWAMI et el.

The Automatic Voltage Regulator (AVR) is required to maintain a steady output voltage from the generator, and it relies heavily on the Proportional Integral Derivative (PID) controller. For the function of controlling industrial loops, a controller known as the PID controller is frequently used on account of its straightforward architecture, uncomplicated implementation, and excellent dependability. Traditional approaches to tuning the PID controller have their limits, but those limits may be overcome by incorporating more sophisticated tuning approaches. The main aim of this study is to provide the ideal design for tuning a PID controller using a Genetic Algorithm (GA) and an Artificial Neural Network (ANN) in order to further improve the PID-based AVR system. The performance of the suggested approach is afterward compared with one another. The results of a simulation carried out in MATLAB show that GA tuning techniques give better performance.

https://ieeexplore.ieee.org/xpl/conhome/10068861/proceeding

Performance Analysis of Load Frequency Control for Power Plants Using Different Optimization Techniques

NILOY GOSWAMI et el.

In this paper, several optimization techniques including the Particle Swarm Optimization (PSO) technique, the Genetic Algorithm (GA), and the Adaptive Neuro-Fuzzy Inference System (ANFIS) are applied to determine the most efficient output for load frequency control. These optimization

techniques analyze the optimal level of system performance. The goal of this paper is to identify the most effective optimization technique for this sophisticated LFC system. In this research, three strategies (PSO, GA, ANFIS) are used in the LFC system to analyze frequency fluctuation and compare the load change rate. The model consists of the transfer function of the governor, turbine, rotating mass, and load. In this analysis, the ideal performance is examined across three separate case scenarios. The MATLAB/SIMULINK software simulates the performance analysis, which offers more realistic data and is generally preferred in this sort of optimization strategy work.

https://ieeexplore.ieee.org/xpl/conhome/10068861/proceeding

Success History Moth Flow Optimization for Multi-Goal Generation Dispatching with Nonlinear Cost Functions

MD. SHAORAN SAYEM et el.

Combined Economic Emission Dispatch (CEED) is resolved by combining Success History Moth Flow Optimization (SHMFO) and valve-point loading of thermal generators. This SHMFO the valve-point loading problem is a multi-objective nonlinear optimization problem including generator capacity limits and power balance. The valve-point loading causes oscillations in the input-output characteristics of generating units, hence rendering the CEED problem an imperfect optimization problem. As a benchmark test system for validating the efficacy of SHMFO, IEEE 30-bus systems are studied. Comparing the SHMFO method to other optimization strategies revealed its superiority and proved its capacity to resolve the CEED issue. The OPF is framed as a single or multiobjective problem with restrictions on generator capability, line capacity, bus voltage, and power flow balance to minimize fuel cost, emission, transmission loss, voltage deviation, etc. The numerical findings indicate that the SHMFO algorithm can provide cost-efficiency, diversity, and convergence in a single run. SHMFO performs better than the other algorithms and is an excellent choice for addressing the OPF problem, as shown by the results. On non-dominated solutions, a method adapted from the Technique for Ordering Preferences by Similarity to Ideal Solution (TOPSIS) is used to establish the Best Compromise Solution (BCS).

https://ieeexplore.ieee.org/xpl/conhome/10068861/proceeding

Blockchain based Agriculture Using the Application of UAV and Deep Learning Technique: Alexnet CNN

KAZI SADIA et el.

Due to the warm and humid environment of Bangladesh, it is highly exposed to occurring perpetuation of various viruses which cause diseases in crops. A huge number of crops are wasted because of these occurring diseases and it directly hurts the production rate and forces import of crops in bulkier amount. Unmanned aerial vehicle usage is one of the smart agriculture technologies being researched for agricultural applications (UAVs) in these days. UAV technology allows farmers to quickly gather information on field conditions by providing overhead images of their agricultural

fields or even allowing them to zoom in on a particular area. Using UAV technology, farmers may identify specific areas that need immediate attention and perform the necessary agricultural improvements. Drones collect data that farmers can use to detect crop disease by applying deep learning algorithms to make long-term decisions about planting, land mapping, damage control, and other things. This research uses blockchain technology to establish connection between suppliers and customers by enabling information to be tracked throughout the supply chain and enhances food supply chain safety. It offers a secure method of broadcasting data, focusing on enhancement of supply chain management and prediction of crops which makes it possible to implement and deploy data-driven technologies for smart farming. The research uses UAVs as a means of collecting crop images, implements a prediction model using AlexNet CNN and analyses how it performs with a real Bangladeshi crop disease dataset to help farmers from excessive crop damage. Furthermore, the overall process is carried out using the Blockchain technology to enhance the existing supply chain management process.

https://mjsat.com.my/index.php/mjsat/article/view/147

Circular value creation: business models and supply chain strategies.

DR. MOHAMMAD FARIDUL ALAM et el.

This paper aims to advance research on the circular economy, sustainable innovation through adopting a circular business model (CBM), and circular supply chain management (CSCM). The circular economy is gradually acknowledged as promising to attain ecological growth by minimising resource input, waste, emissions and energy loss. This article investigates the environmental efficacy of circular value creation and its implications for business models and supply chain strategies. It intends to incorporate CBM and CSCM for sustainable innovation and ecological growth, relying on a review of the literature and four case analyses. The context identifies five distinct CBM propelling supply chain strategies and sustainable innovation, supply chain loops, which differ in intricacy and worth. The study demonstrates that circular business models (CBM) and circular CSCM models can facilitate organisations in accomplishing ecological objectives. The companies examined in the study have different characteristics, but all face comparable challenges in persuading consumers and suppliers to adopt circular business models and supply chain management. A significant challenge is that customers perceive products made from recycled or remanufactured materials as inferior to traditional products, leading to lower prices despite meeting comparable quality standards. Therefore, we review the current literature on the business model background to technological, organisational and social innovation. Since the existing literature does not provide a general conceptual definition of sustainable innovation and circular business mode for circular supply chain management, we present normative examples of requirements that circular business models should meet to support sustainable innovation. Finally, we outline the research agenda by asking some guiding questions.

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Assessing the impact of blockchain technology on the overall performance of sustainable supply chains: an analytical perspective.

DR. MOHAMMAD FARIDUL ALAM et el.

Supply chain control and sustainability can be signifcantly improved using distributed ledger technologies such as blockchain. The blockchain has the potential to facilitate responsible sourcing appropriately, compliance with weather requirements, and sustainable delivery chains. The purpose of this study is to address the hassle of managing conservatism when approaching era adoption and to explore the performance enhancements in blockchain-generated implementations. To achieve this goal, we introduce a scientifc approach aimed at studying the outcomes of various factors in the adoption process in the blockchain era and verifying their impact on the overall performance of the delivery chain. Furthermore, a team of multidisciplinary professionals will establish causal relationships among these elements through a consensus-based approach. Ultimately, fuzzy reasoning tools can be used to determine the relative weights between identifed factors and delivery chain performance goals. We will assemble causal representations of diagnoses using a dense scientifc map model and dynamically generate scenarios for each. The study demonstrates that the integration of blockchain power generation can signifcantly improve the efectiveness of mineral supply chains. It uses smart contracts to promote environmental sustainability, traceability, and transparency.

Unfired Earth: A comparative analysis for finding appropriate earthen construction technology as an alternative to kiln-burnt bricks

MEHEDI AMIN et el.

Most of human civilization was once sheltered by earthen structures. Even today, approximately 1.7 billion people worldwide reside in earthen structures. In the developing world, the raw earth is being replaced by its fired counterpart - the brick. But making fire mostly involves burning of fossil fuel – a non-renewable source that pollutes. In the age of standardization and rapidly evolving technology, the malleable and organic raw earth cannot compete. But perhaps the same ingenuity that gave us the brick can transform earth into something new that is fit for construction in the 21st century. This paper evaluates all the existing earthen technologies available; in an effort to determine the most practical unfired counterpart of the modern-day clay bricks.

https://seu.edu.bd/seuja/downloads/vol_02_issue_01_Jun_2022/SEUJA-Vol02Issue01-3.pdf

Transforming Slum Dwellings into Better Livable Units: An Approach through Minimum Intervention

AJMERI NUSRAT SHOMA et el.

Dhaka, the capital of Bangladesh and the 9 th largest city in terms of population, is like an urban melting pot bubbling over with population and a city which is forever changing and never finished for it's over population. When Cities are out of control of population density problems, informal urban development is perceived as a consequence of uneven urban growth. The crisis of Dhaka city disables the conventional planning faculty and requests the formulation of alternatives that will integrate architecture of informality into the whole urban structure. This paper tried to figure out the poor living conditions at Duaripara slum which is in the northwestern part of Mirpur Thana at Dhaka North City Corporation. Through research and hands-on inclusive solutions, the paper proposed options for their better living condition. Analyzing the present condition of light, ventilation and temperature inside the houses, this research shows how quality of life might be improved through nurturing the opening condition and insulation system of the existing house, which is very much affordable for the slum dwellers, but unfortunately, they are unaware of it. The innovative solutions and increase in skills of informal builders can uplift the permanent up-gradation to informal settlements. Literature study and field survey have helped to develop module design for the improved living conditions that can be retrofitted in existing built forms with minimum intervention. As we are now living in the cutting edge of technology, this small but inclusive initiative may open up big opportunities to upgrade the living conditions of the settlement of slums in Bangladesh and elsewhere with similar existing context.

Effects of biochar and modified biochar on chromium contaminated soil properties 22(1), 82-93.

PROFESSOR DR. MD. FARUQUE HOSSAIN et el.

In recent years, increasingly more soils are getting contaminated with organic and inorganic toxins globally due to waste emissions. Among inorganic pollutants, heavy metals like carcinogenic chromium (Cr) are alarming to our environment, even though its environmental management is also ignored. As a result, Cr accumulates in plant tissues at toxic concentrations and ends up in the food chain. Therefore, pot experiments were conducted to investigate the effects of biochar and modified biochar application on the propertiesof Cr polluted soils and interaction of Cr with other soil nutrients. Two different biochar viz. rice stubble and saw dust were slowly pyrolyzed (450 ± 50ºC) and modified with 1MKOH. All biochars were applied at a rate of 20 t ha-1on soils artificially polluted with Cr at the levels of 0, 100, 200 and 300 µg g-1. The biochars and modified biochars had significant effects ($P<0.05$) on available K, P, CEC, EC, and N of incubated soils. Therefore, it has convincing evidence that application of biochar and modified biochar is very imperative to improve soil health, ameliorate Cr pollutedsoils, reduce the amount of carbon produced due to biomass burning and thereby enhances plant growth.Keywords-Biochars, Cr contamination, Cr remediation, modified biochars, physicochemical properties, soil properties

Rampal Power Project in Bangladesh and its Ramifications: Interplay between Environment Protection and Foreign Investment ProtectionRampal Power Project in Bangladesh and its Ramifications: Interplay between Environment Protection and Foreign Investment P

DR. SYEDA AFROZA ZERIN et el.

The Rampal power project in Bangladesh, a joint venture between India's National Thermal Power Corporation and Bangladesh Power Development Board, has faced opposition due to its potential adverse impact on the Sundarbans, a UNESCO-declared world heritage site and Ramsar site. The Project's environmental impact has raised concerns among environmentalists, civil society, and the public. However, the Government remains committed to implementing the Project, raising questions about the interplay between environmental protection and foreign investment protection. This research examines the Rampal power project's ramifications in the complex relationship between ecological legal provisions and investment law. It explores the legal frameworks governing the Project and analyzes the implications of the India-Bangladesh Bilateral Investment Treaty on Bangladesh's ability to withdraw from the Project in case of adverse environmental effects. This research is relevant to international environmental law, investment law, and domestic legal regimes and can contribute to the ongoing discourse on balancing environmental protection and foreign investment protection.

Unmasking Deception: A Comprehensive Survey on Fake News Detection Strategies and Technologies

NUSRAT JAHAN TRISNA et el.

Fake news threatens public debate and decision-making in a digital age. This comprehensive paper, "Unmasking Deception," methodically covers false news detecting tactics and technology. We summarize a wide range of study results, methods, and technological advances to give a thorough overview of disinformation detection and mitigation. Our research covers linguistic, content-based, machine learning, and deep learning false news identification. We examine emerging misleading strategies and propose novel remedies using natural language processing, network analysis, and other innovative methods. In addition, we evaluate current detection systems in real-world circumstances and address the ethical implications of their use. The findings of the research help scholars, policymakers, and technology developers understand false news and advance the area. The primary objective is to enhance the safeguarding of the information environment against misinformation by a critical evaluation of existing methodologies.