

SDG AT AIUB

American International University-Bangladesh (AIUB) is committed to achieve the United Nations 17 Sustainable Development Goals through different initiatives. These reports outline year-long different activities, such as research & publications, enhancing social inclusion, encouraging environmental sustainability, partnerships, good governance, and diversity among students and employees as well as its associated mapping to different SDGs.



American International University-Bangladesh (AIUB)

SDG Activity Report - 2022

SDG 15: Life On Land



Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss

AIUB SDG Activity Report 2022

SDG 15: Life On Land

American International University-Bangladesh (AIUB) is actively championing Sustainable Development Goal 15: Life On Land through a diverse array of university activities and faculty research initiatives. These endeavors underscore AIUB's commitment to fostering biodiversity, promoting sustainable land use, and engaging the community in the preservation of terrestrial ecosystems.

In the realm of university activities, AIUB's Photography Club (AIUBPC) has emerged as a dynamic force in raising awareness about Life On Land. The Photography Exhibition, Photography Workshop, and Travel Photography Workshop organized by AIUBPC serve as platforms to capture the beauty of nature, wildlife, and landscapes. By showcasing the intricate details of the natural world through the lens, AIUB encourages a deeper appreciation for the diversity of life on land among its students and the wider community.

The Architecture Department at AIUB has also played a pivotal role in contributing to SDG 15. Winning the 2nd Prize in Design Charrette and securing the 1st Prize for an architecture student exemplify AIUB's dedication to incorporating sustainable and environmentally conscious practices in architectural design. These achievements underscore the university's emphasis on instilling a sense of responsibility among future architects to create spaces that harmonize with and contribute positively to the surrounding ecosystems.

Complementing these university activities, AIUB's faculty members are actively engaged in research that aligns with the principles of SDG 15. Research on "Nickel content in soils, rice, and wheat grown in Damietta governorate, Egypt" reflects AIUB's commitment to understanding and mitigating the impact of contaminants on land and crops. The investigation into alkali modification of biochar and the study on Para-Phenylenediamine (PPD) in Henna preparations in Bangladesh demonstrate AIUB's dedication to sustainable agricultural practices and consumer safety, contributing to the protection of life on land.

AIUB's research and development efforts on "Embedded System Design to Attain Sustainable Development Goals" further showcase the university's forward-thinking approach. By leveraging technology in line with SDG 15, AIUB emphasizes the role of innovation in monitoring and managing land resources sustainably. The research on "Plant Disease Identification from Leaf Images using Deep CNN's EfficientNet" is another stride toward ensuring the health and vitality of plant life, an integral component of terrestrial ecosystems.

In conclusion, AIUB's commitment to SDG 15 is evident through a holistic approach that combines engaging university activities and impactful faculty research. From capturing the beauty of nature through photography to integrating sustainability principles in architectural design and conducting research to safeguard soil and plant health, AIUB stands as a beacon of positivity in its efforts to preserve and promote Life On Land. Through these initiatives, AIUB is shaping future leaders and professionals who recognize the importance of responsible land stewardship for the well-being of the planet.

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University Activities

Photography Exhibition by AIUBPC

AIUB Photography Club (AIUBPC) began 2022 with optimism, tenacity, and productivity. Following a successful recruitment and several workshops, AIUBPC organized an intra-photography exhibition for AIUBians. This indoor exhibition was a groundbreaking opportunity for bringing life back to the club after a two-year halt due to pandemic. Talented students, faculty members, officials, and alumni of AIUB submitted their photographs in three categories for the exhibition- single photo submission, photo story submission, and BACK TO CAMPUS LIFE submission (special category which included pictures related to AIUB campus). 93 deserving photos from over 2400 photo submissions were selected for exhibition. The exhibition was held at the Amphitheatre of AIUB campus from April 18 to 22, 2022. Faculties, officials, and students attended to experience a world of colorful and black-and-white photographs.

Prof. Dr. Siddique Hossain (Honorable Dean of Faculty of Engineering), Prof. Dr. Tazul Islam (Honorable Dean of Faculty of Arts and Social Sciences), and Ms. Shama Islam (Assistant Professor, Special Assistant, OSA & VC's Office) inaugurated the exhibition. The closing ceremony was held on April 20th, during which Ms. Shama Islam was present alongside the judges to distribute the prizes to the winners and runners-up.



Photography workshop by AIUBPC

On October 18th, 2022, AIUB Photography Club (AIUBPC) organized a workshop titled "Portrait photography, lighting techniques, and event coverage". The workshop was conducted by AIUB Alumni Fahim M. Islam and Sohel Mahmud.

The program took place in Annex 3 at 3.30 pm. The workshop began with a brief introduction of a respected individual, director and lead photographer of K. Nasif Photography: Wedding and Events, Mr. Sohel Mahmud. Following his introduction, he shared some memories from his past experiences at different events. Later, the participants learned about several important aspects of portrait photography, such as gear requirements, lighting techniques, the usage of different types of lights, some unique frames, and so on. Then, he showed the participants some of his previous works. Following Mr. Sohel, Mr. Fahim M. Islam, former president of AIUBPC, director and one of the lead photographers of K. Nasif Photography: Wedding and Events, enlightened the participants. He also discussed several vital aspects of event coverage as well as lighting techniques and shared some of his experiences. He encouraged the participants to polish their talents and showed everyone some of his phenomenal work. At the end of their presentation, a short question and answer session was held where both speakers addressed all the queries raised by the participants. Later, all the registered participants were awarded certificates by the speakers. At the end, both of the speakers were honored with tokens of appreciation, and all the participants gathered for a group picture with the speakers while cheering for a productive and successful workshop.



Workshop on Travel Photography by AIUBPC

On Wednesday, 12th October 2022, AIUB Photography Club (AIUBPC) organized a workshop titled "Travel Photography by Jubaer Talukder" in the Multipurpose Hall of D-Building in the AIUB campus. The program started at 3:30 PM with around 250 pre-registered participants.

Renowned filmmaker and content creator, Jubaer Talukder conducted the workshop. He gave the participants an overview regarding his lifestyle as a travel photographer. Following his introduction, he shared some memories from his past experiences in different parts of India and Nepal. Later, the participants got to know several crucial aspects of travel photography, such as gear requirements, research before visiting a particular place and so on. Then, he showed the participants one of his most famous travel vlogs as an example to give them an idea regarding film-making. At the end of this presentation, an interactive question and answer session was held where the speaker addressed all the queries raised by the participants. All participants were awarded certificates by the speaker as appreciation of their dedication towards photography. At the end, the speaker was honored with a token of appreciation from AIUB, and all the participants gathered for a group photo with the speaker while cheering for the successful workshop.



Architecture Team Wins 2nd Prize in Design Charrette

A team from AIUB Architecture Department has received 2nd prize out of 48 groups from 12 universities in a Student Design Charrette organised by Institute of Architects Bangladesh [IAB]. The Design Charrette was part of STUDENT CONGRESS organized by IAB at Bangabandhu International Convention Centre on November 8, 2022 on the occasion of golden jubilee celebration of the institute. 1st prize was won by NSU, while 2nd prize by AIUB & 3rd prize by Khulna University. Two commendations went to BUET and UAP. Honorable Education Minister Dr. Dipu Moni MP distributed the prizes among the winners. Congratulations to the winning team members Sazzadul Habib Shachow, Shahira Sarawat, Sajib Molla and their mentor Mehedi Amin. You make us proud!



Head of Architecture Department participates in ARCASIA FORUM 21

FORUM 21 was organized by the Architects Regional Council of Asia [ARCASIA] from September 3 to September 9, 2022 at Ulaanbaatar, Mongolia. ARCASIA is an organization comprising of member national institutes of architects of 22 Asian countries that are divided in 3 zones. One of the key features of ARCASIA is the ARCASIA Forum which is a platform for the on-going discussion of current architectural ideas pertinent to the region. This is a gathering of prominent architects and thinkers intended to serve as an Asian 'catapult of minds' on matters concerning architectural and environment in the Asian context. This year's theme was "The Future of sustainable urban development."

Head of Architecture Department at AIUB, M. Arefeen Ibrahim participated at this prestigious event as the official country representative for Education Committee of ARCASIA [ACAE] from Institute of Architects Bangladesh [IAB]. He took part in the official meetings, Award Ceremony, Keynote presentations and associated events. Mr. Ibrahim was also invited with others at the State Palace where Mongolian Minister of Construction & Urban Development B.Munkhbaatar and other government high officials were present. A team of total 24 Bangladeshi architects of whom 8 were official delegates from Bangladesh - from academia and practice took part in the Forum this year. More than 100 participants from other Asian countries like Japan, Korea, Singapore, Philippines, Indonesia, Malaysia, Vietnam, Laos, India, Pakistan etc joined the event. It is expected that, this international platform of Asian architects will play a very vital role in the coming days in increasing cross-border collaboration and exchange of ideas for the benefit of inhabitants of Asian countries and betterment of architecture in this region.



1st PRIZE AWARDED TO ARCHITECTURE STUDENT OF AIUB

A Student Design Competition was introduced online on May 10th, 2022 with the topic “Public Toilets in Post-Pandemic Times” on the occasion of Kitchen & Bath Expo Bangladesh organized by WEM Bangladesh Ltd. Around 25 universities from different parts of world participated with over 149 entries.

The Winner Declaration and Award ceremony was held on June 04th, 2022 at ICCB, Dhaka. Adrita Islam Sajuti, from Architecture Department of AIUB who recently completed Design Studio VII won the FIRST POSITION at the competition. Another student from the Department, Sanzima Binte Islam Miva’s entry too - was shortlisted among the top 16 submissions.

The second and third positions were awarded to Shahjalal University of Science and Technology and North South University, followed by Honourable mentions for Khulna University, Shahjalal University of Science and Technology, Dhaka University of Engineering and Technology.

The Jury panel included architect Naushad Ehsanul Huq from University of Asia-Pacific, architect Nabi Newaz Khan Shomin from Archeground and entrepreneurial architect Ms. Farhana Rashid Tonu from Bhumijo. Adrita’s work was praised by all as she not only covered the requirements but thought out of the box, with possible innovative technologies such as UV ray and touch free appliances, a simple form and most importantly, provided a solution for sustaining and maintaining hygiene in public toilet.

The ceremony was attended by chief guest, Ar. Mubasshar Hussain, IAB President, architect Bayejid Mahbub Khondker, special guest Mr. Shahriar Sajjad, Managing Director of Tillotoma Bangla Group and My Kitchen, presided over by Mr. Raeq Alam, Director of Bagnodesign. Ar. Saimum Kabir was the Competition Director.

Architecture Department is very proud of this remarkable achievement by its students and congratulates them on this occasion. This accomplishment is an inspiration for the other students as well.



STUDENT PHOTOGRAPHY COMPETITION: ORGANIZED SUCCESSFULLY BY ARCHITECTURE DEPARTMENT OF AIUB

Multipurpose Hall at Annex 7, of AIUB accommodated a spectacular event titled “Student Photography Competition - Prize giving Ceremony” on Saturday, 2nd April, 2022. This successful program was organized by the Department of Architecture. The event was followed by Student work Exhibition from Architecture Department and a Campus Tour that made the occasion more interactive. The scope of expressing “creativity” in our existing schooling system is very limited. Therefore, Architecture Department as part of its outreach program initiated this “Photography Competition” for college students. The eligible participants were the ones who have passed HSC/SSC (or equivalent exam) but not enrolled in any undergraduate program. The theme of the competition was “My City and Me” or “Creative Me”. The total number of online registration was 385, while the number of submission was 92. The members of the Jury board were Ar. Ashik Vaskor Mannan, Ar. Ashik Ikbal, Ar. Ajmeri Nusrat Shoma and Ar. Md. Sariful Islam Sajib, while Ar. Rashed Hasan was the Coordinator of the competition event. The number of total participants in the prize giving ceremony was around 83. The prize giving program at the multipurpose hall commenced with an opening speech from the Head of the Department, Ar. M. Arefeen Ibrahim. After that an audio-visual presentation on the AIUB Campus and the Department of Architecture was shown to the audience. Later, prizes were distributed among the winners. The 1st prize winner is Muhammad Saidul Islam from Kumilla (college: DKMHC), 2nd position and 3rd position were taken by Safayet Hossain Shanto from Barisal (Barisal Collectorate School & College) and Muhammad Nazmul Hossain from Chittagong (College: Cambrian College Chittagong). There were two Commendation awards as well. The winners for the commendation awards are Shreyas Podder from BAF Shaheen College, Dhaka and Minhajul Alif from Milestone College. The winners thanked AIUB for creating this opportunity and shared their feelings which were inspiring for the audience. After announcing the winners name an encouraging speech for the students was delivered by the Ar. Ashik Ikbal. At the end, the participants were guided to the student work exhibition space and went for a tour of AIUB campus. The tour was coordinated by the faculties Ar. Nandita Barai, Ar. Chowdhury Farah Zaki, Ar. Nushrat E Huq along with enthused student volunteers from AIUB Architecture department.

Arefeen Ibrahim encouraged the students with his presence and inspiring speech. In addition, he also conveyed special thanks to the organizers of the event who put their spontaneous hard work to brought up this big event. The organizing team included Ar. Farzana Siddiqua, Ar. Md. Sariful Islam Sajib, Ar. Irfat Alam, Ar. Tabassum Zarin Tithi, Ar. Md. Rashed Hasan, Ar. Nandita Barai and Ar. Nushrat E Huq. At the end of the program certificates were distributed to the student volunteers who put great effort along with the faculty members. Spontaneous participation of students and faculties, and cordial support from the university administration & OSA made this workshop a vibrant and successful one, which was much required after the long-break in physical classes due to the pandemic. Following the enthusiastic response received from participants, Architecture Department wishes to continue similar events in future as well.



Faculty Research and Publication

Nickel content in soils, rice (*Oryza saliva* L.) and wheat (*Triticum aestivum* L.) grown in Damietta governorate, Egypt

Author: PROFESSOR DR. MD. FARUQUE HOSSAIN et al.

Brief Description:

Nickel (Ni) concentration in soils is highly depended on the parent materials and the types of pollutant sources that plays a beneficial role in plant growth however; at high concentration it may cause toxicity for plants and creating hazards to animals and human. Therefore, this study aimed to estimate the levels of Ni in soils, straw and grain of rice and wheat plants grown in the soils contaminated with Ni and evaluate its effect on human health. In the surface soil layers the total (31.4 ± 8.02 mg kg⁻¹) and available Ni concentration (3.10 ± 0.91 mg kg⁻¹) are slightly higher by 1.25 ± 0.14 and 1.24 ± 0.25 fold respectively, than the subsurface layers. Available Ni increased linearly with increasing Ni in soil ($r = 0.91$). A significant positive correlation was found between available Ni and soil OM content ($r = 0.89$), while a significant negative correlation was observed for soil CaCO₃ percent ($r = -0.72$) and soil pH ($r = -0.90$). Rice Ni content of the straw (2.1 ± 0.32 mg kg⁻¹) and grains (0.44 ± 0.07 mg kg⁻¹) were significantly correlated with soil total Ni ($r = 0.89$ and 0.86) and available Ni ($r = 0.84$ and 0.74), respectively. Wheat Ni content of straw (1.68 ± 0.28 mg kg⁻¹) and grains (0.28 ± 0.04 mg kg⁻¹) were significantly correlated with soil total Ni ($r = 0.87$ and 0.81) and available Ni ($r = 0.84$ and 0.85), respectively. By increasing straw Ni content grains increased ($r = 0.89$ for rice and $r = 0.95$ for wheat). Grains of rice and wheat exhibited lower Ni concentration than that of the straw ($20.9\% \pm 1.64$ and $16.7\% \pm 1.04$, respectively). According to FAO/WHO rice and wheat grains contain normal Ni concentration and no evidence of possible potential human health risk with grains consumption.

Source:

[https://www.researchgate.net/publication/359759996 Nickel content in soils rice Oryza saliva L and wheat Triticum aestivum L grown in Damietta governorate Egypt](https://www.researchgate.net/publication/359759996_Nickel_content_in_soils_rice_Oryza_saliva_L_and_wheat_Triticum_aestivum_L_grown_in_Damietta_governorate_Egypt)

Alkali modification: An approach to improve surface properties of biochar from available feedstocks

Author: PROFESSOR DR. MD. FARUQUE HOSSAIN et al.

Brief Description:

Biochar is a stable carbon-rich material whose potentials can be greatly enhanced by modification with simple treatments. Easily available two different biochars such as rice stubble biochar (RSB) and saw dust biochar (SDB) were slowly pyrolyzed ($450\pm 50^{\circ}\text{C}$) and modified with KOH as RSB-M and SDB-M respectively. Represented biochars were analyzed to know their physicochemical characteristics and nutrient contents. Results revealed that nutrient contents such as total N, P and S of RSB and SDB were found maximum whereas RSB-M and SDB-M showed the lowest nutrient contents. All the biochars possessed pH value higher than 7. In case of organic C, the values of RSB-M (19.97%) and SDBM (17.83%) were the highest and RSB (17.32%) and SDB (14.80%) were the lowest. All the biochars showed very low concentration of heavy metals (such as Cr, Cd, Pb and Ni). Water holding capacity, average particle size and surface area were higher in the RSB-M and SDB-M compared to unmodified RSB and SDB. These findings showed that alkali-modified biochars had better surface properties than unmodified biochars.

Source: <https://doi.org/10.3329/dujbs.v31i2.60880>

Para-Phenylenediamine (PPD) in commercially available Henna preparations in Bangladesh

Author: DR. FARZANA KHALIL et al.

Brief Description:

In Bangladesh Henna is one of the most popular cosmetic products. The leaves of Henna are dried to make powder on which oil or water is mixed to get a paste to stain the body or hair. Although the occurrence of contact allergic dermatitis in natural Henna is not so common, but this risk is increased by adding para-Phenylenediamine (PPD), which is used to make the Henna color dark to deep black. According to Scientific Committee on Consumer Products (SCCP), para-Phenylenediamine (PPD) is treated as an allergen and is considered as a very strong potential skin sensitizer. The presence of PPD in the commercially used tube Henna increases the risk of allergic contact dermatitis and several cases have already been reported worldwide. For this study, about 10 Henna samples were randomly collected from 10 selected areas of Dhaka city. The presence of PPD in Henna samples was determined by using High Performance Liquid Chromatography (HPLC). The result showed the presence of PPD in all of the Henna samples at substantial concentrations, ranging between 79.12-204.77 mg/kg where the average range is 142.36 mg/kg, which is much higher than the permissible levels (<2% or 0.1 mg/m³). The finding suggests that there should be a regulation and monitoring condition for the production and distribution of these adulterated Henna products in Bangladesh. Bioresearch Commu. 8(1): 1088-1092, 2022 (January)

Source: https://www.researchgate.net/publication/357334968_Para-Phenylenediamine_PPD_in_commercially_available_Henna_preparations_in_Bangladesh

COVID-19 and Sustainable Development Goals: Bangladesh Perspective

Author: MD. MORTUZA AHMMED et al.

Brief Description:

The objective of this study is to evaluate the state of the Sustainable Development Goals (SDGs) in Bangladesh before the arrival of COVID-19 along with its apparent impact on the accomplishment of SDGs in the future. Data from several national and international sources have been utilised to serve the analytical purpose of the study. Obliteration of the commendable accomplishments regarding some of the SDGs so far and resetting of the goals in terms of precedence are going to be the main consequences of COVID-19 concerning SDGs in Bangladesh which would impede attaining SDGs. However, constrictions in the production of industries along with a massive drop in fossil fuel usage through vehicles would give some respite to nature leading to notable progress regarding SDG 13, SDG 14 and SDG 15. But it would never recompense significantly for the overall effect resulting from COVID-19.

Source: <https://www.inderscience.com/info/inarticle.php?artid=125098>

Research and Development on Embedded System Design to Attain Sustainable Development Goals

Author: DR. MUHIBUL HAQUE BHUYAN et al.

Brief Description: In 2000, world leaders adopted the Millennium Development Goals (MDGs) to eliminate certain critical problems from this earth. Then in 2015, The United Nations adopted the well-known 17 Agenda of the Sustainable Development Goals (SDG) to realize a sustainable world by 2030. It was recognized that poverty and other problematic issues in this world must be resolved jointly by initiating a group of action plans to obtain sustainable developments through signs of progress in the areas of poverty, health, energy, education, gender inequality, economic growth, environment and climate changes, social issues, collection, and preservation of natural resources, etc. The 17 SDGs comprise 169 sub-targets, all of which must be achieved within 2030 through an integrated approach and cooperation. To achieve these goals, engineering research, innovations, development, and commercialization of the designed products can assist us in the respective areas. In this talk, I shall emphasize the recent research and innovations in embedded system design to achieve the SDGs. These ventures will help both societal and economic repayments in the world for sustainable growth. In this talk, I shall also focus on the seven areas of the SDGs where embedded system design has an important role to execute. These are mainly related to good health and well-being, quality education, clean water and sanitation, affordable and clean energy, sustainable cities and communities, life below water, and life on land. In fine, we may conclude that the advancement of embedded system design surely helps electrical and electronic engineers to design and develop complex engineering problems' solutions to achieve the mentioned specific SDGs, and hence to realize a sustainable world for humanity.

Source: <https://dspace.aiub.edu/jspui/handle/123456789/845>

Plant Disease Identification from Leaf Images using Deep CNN's EfficientNet

Author: DR. MUHAMMAD FIROZ MRIDHA et al.