BAS
ACTIVITY REPORT
JULY 2022-JUNE 2023

বাংলাদেশ বিজ্ঞান একাডেমী

Bangladesh Academy of Sciences

BAS ACTIVITY REPORT

July 2022-June 2023

EDITED BY

Prof. Dr. Haseena Khan
Secretary, BAS

COMPILED BY

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BANGLADESH ACADEMY OF SCIENCES
National Science and Technology Complex
Agargaon, Dhaka-1207, www.bas.org.bd

MESSAGE FROM THE PRESIDENT BANGLADESH ACADEMY OF SCIENCES

I am very happy to write a few lines as the President of the Bangladesh Academy of Sciences (BAS) on its Activity Report 2022-2023. During this period, we at the BAS continued our efforts to achieve two main goals, promoting the cause of science and technology and advising the government to this effect. The present report reflects the activities pertaining to those objectives.

The activities have been organized in major sections such as Policy & Advocacy, Achievements of BAS Fellows, BAS recognition of outstanding scientists, BAS publications, continuing professional education, promotion of science among young researchers, activities of the BAS-USDA Program, activities of the Library Consortium of Bangladesh (LiCoB), BanglaJol etc. The increasing efforts of BAS in getting involved in advanced science-based policies on contemporary issues are evident in various sections of the Report.

BAS has always been generously supported by the Ministry of Sciences & Technology of the Government of the People's Republic of Bangladesh. The personal encouragement and support of the Honorable Minister, Architect Yeafesh Osman, have greatly catalyzed BAS efforts.

Activities mentioned in this Report have been possible only due to the continued active involvement of BAS Fellows in guiding the organization. Members of the BAS Council as well as various committees/subcommittees have played a special role in steering the activities. The officials and staff of BAS have also been of crucial help in this regard. I would like to mention that recently a Government Order (GO) has been issued on exempting the source tax in remitting foreign exchange for e-resources by the National Board of Revenue (NBR). It has happened due to combine a efforts of the BAS. I am also delighted to note that a Standard Operating Procedure (SOP) for gene edited plants in Bangladesh has been prepared and submitted to the Bangladesh Agricultural Research Council (BARC) under the leadership of the BAS. Now the SOP is in the Ministry of Agriculture and waiting for final approval. We express our thanks to all of them and we hope that BAS's efforts in different issues will be intensified in the coming year.

Emeritus Prof. AK Azad Chowdhury
President, BAS

EXECUTIVE SUMMARY

The Annual Report of the Bangladesh Academy of Sciences, 2023 covers the period from 1 July, 2022 to 30 June 2023.

During this period a new Council was elected and the Academy continued to disseminate scientific knowledge and foster a scientific way of thinking especially among our young population through the arrangement of Academy Lectures, Popular Lectures, Science Olympiads and Young Scientist Congress. The activities of advancing and popularizing science as highlighted in the report was spearheaded by BAS's success in getting a GO (Government Order) not to impose Advanced Income Tax (AIT) in the procurement of scientific e-resources through LiCoB (Library Consortium of Bangladesh) a flagship activity through which the Academy has been providing scientific e-resources to the scientific community of Bangladesh for the past 16 years. The imposition of 20% AIT and its rigorous enforcement in the recent times had almost threatened a shutdown of LiCoB. You will be glad to let you know that LiCoB has sprung back into activity and most of you and the research community at large who access the valuable e-resources will know who to thank for the same.

Another achievement at the advocacy level involved sensitizing the government in developing a guideline for gene edited crops. Over the last ten years gene editing of crop has emerged as a promising tool for the introduction of new and altered traits precisely and swiftly into plants for enhancing growth, product quality, nutrition, and sustainable agriculture without almost making no change in the genetic makeup of the plant. BAS was instrumental in preparing a Standard Operating Manual (SOP) for Gene Edited Plants. The SOP is now under active consideration by the Ministry of Agriculture.

As you will read in the Report, BAS has been continuously working to maintain liaison with the global network of academies like the AASSA (Association of Academies and Societies of Sciences in Asia), IAP (Inter-Academy Partnership) ISC (International Science Council), TWAS (The World Academy of Science) etc. Such collaboration assures science diplomacy, youth and women participation and provides a unique platform for cooperation on research and development, capacity-building and networking to share information across the globe.

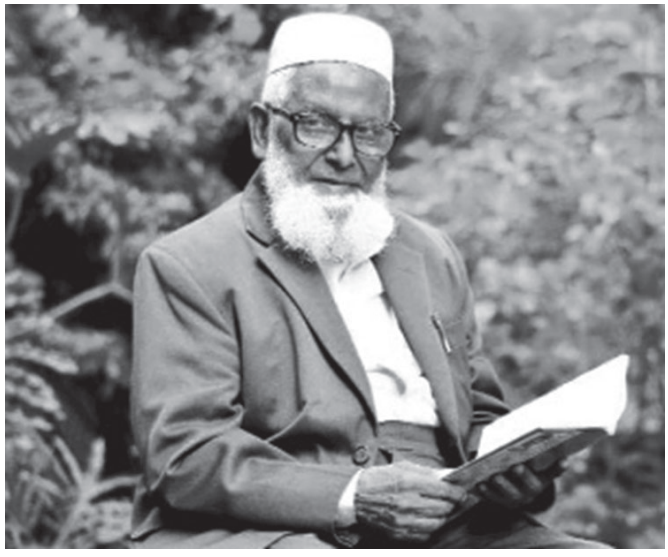
As for the other program of BAS, known as the BUEP (BAS-USDA Endowment Program) or in short the BAS-USDA, it has over the years developed into an efficient platform for quality research funding and monitoring. Strict and rigorous monitoring throughout the project period ensures the maintenance of research excellence. As you will read the technical Advisory committee (TAC) of BAS-USDA is also working on technology transfer of some research outputs so that the benefits of the research reaches the general people of the country. Recognizing the merit of BAS-USDA funding process the Agricultural Attache, US Embassy, Dhaka has agreed to our request for an increase in the BAS-USDA management fee.

During this period, the Academy for the first time after the approval of the first ever organogram in the last AGM streamlined the promotion, posting and pay fixation criteria of Academy personnel.

WE REMEMBER

Bangladesh Academy of Sciences (BAS) has lost an honorable Fellow, National Professor Dr. AKM Aminul Haque on August 2022. BAS remembers with deep respect his incomparable contribution to science and research and prays for his departed soul.

NATIONAL PROFESSOR DR. AKM AMINUL HAQUE



National Professor Dr. AKM Aminul Haque (1929-2022)

National Professor Dr. AKM Aminul Haque expired on 29 August 2022 (Inna Lillahi wa Inna Elaihi Rajiun) a distinguished Fellow, BAS and former Vice Chancellor, Bangladesh Agricultural University. Professor Haque was one of the few scientists of his time, who did research on Fisheries Biology and Cetacean (dolphin, porpoise and whale) Biology in the country.

The news came as a great shock to the Fellows of Bangladesh Academy of Sciences. The Academy has put on record the great services and contributions of Professor Haque to the cause of science and technology, particularly, for his dedicated contribution to Fisheries and Cetacean Biology in the country.

On his sad demise, the country has lost a valued scientist and a great human being. The Fellows of the Academy conveyed their heartfelt sympathy to the members of his bereaved family and prayed to the Almighty Allah, the Most Gracious and the Most Merciful, to grant eternal peace to the departed soul of late Professor Aminul Haque and to give strength and courage to the members of his family to bear the loss with fortitude.

COMMITTEES AND MEETINGS

There are several Committees are working together to run the activities of the BAS smoothly, those are:

BAS ENDOWMENT FUND BOARD OF TRUSTEES

Chairperson

Prof. AK Azad Chowdhury

Member-Secretary

Prof. Mesbahuddin Ahmed

Member

Prof. Haseena Khan
Prof. Choudhury Mahmood Hasan
Dr. Mubarak Ahmed Khan
Joint Secretary, MoST
Mr. Md. Moinul Islam

BAS-USDA ENDOWMENT FUND BOARD OF TRUSTEES

Chairperson

Prof. AK Azad Chowdhury

Member-Secretary

Prof. Haseena Khan

Member

Prof. Mesbahuddin Ahmed
Prof. M. Shamsher Ali
Dr. MA Hamid Miah
Prof. Shariff Enamul Kabir
Representative, UGC, Member
Representative, Additional Secretary, ERD, Ministry of Finance, GoB, Member
Representative, USDA, Dhaka, Observer

TECHNICAL ADVISORY COMMITTEE (TAC)

Chairperson

Prof. Zahurul Karim

Member

Dr. M Idris Ali
Prof. ZN Tahmida Begum
Dr. MA Hamid Miah
Maj. Gen. (Retd.) Prof. ASM Matiur Rahman
Prof. Mesbahuddin Ahmed
Prof. Choudhury Mahmood Hasan
Prof. Yearul Kabir
Prof. M. Jahiruddin
Prof. M. Tofazzal Islam
Dr. Khan Shahidul Huque
Prof. Abu Tweb Abu Ahmed

Member-Secretary

Prof. Haseena Khan

EDITORIAL BOARD OF THE JOURNAL OF BANGLADESH ACADEMY OF SCIENCES (JBAS)

Editor

Prof. Yearul Kabir

Member

Prof. ZN Tahmida Begum
Prof. Liaquat Ali
Prof. Md. Saidur Rahman
Prof. Md. Abdul Alim
Prof. Saleh Hasan Naqib
Prof. M. Tofazzal Islam
Prof. Md. Abu Hasan Bin Susan
Prof. Mirza Hasanuzzaman

BAS-GOLD MEDAL AWARD COMMITTEE (PHYSICAL SCIENCES)

Convener

Prof. M Shamsher Ali

Member

Prof. AKM Azharul Islam
Prof. Shariff Enamul Kabir
Prof. Mesbahuddin Ahmed
Prof. AA Mamun

BAS-GOLD MEDAL AWARD COMMITTEE (BIOLOGICAL SCIENCES)

Convener

Prof. AK Azad Chowdhury

Member

Prof. Zahurul Karim
Prof. ZN Tahmida Begum
Prof. Ziauddin Ahmed
Prof. Yearul Kabir

BAS-NATIONAL PROFESSOR DR. M INNAS ALI MEMORIAL GOLD MEDAL AWARD COMMITTEE

Convener

Prof. Mesbahuddin Ahmed

Member

Dr. M Idris Ali,
Prof. Md. Saidur Rahman
Prof. Md. Muhibur Rahman
Prof. Md. Abu Hasan Bin Susanr
Dr. Husne Ara Ali, Trust Representative

BAS-M.O. GHANI MEMORIAL GOLD MEDAL AWARD COMMITTEE

Convener

Prof. AK Azad Chowdhury

Member

Dr. MA Hamid Miah
Maj. Gen. (Retd.), Prof. ASM Matiur Rahman
Prof. M Feroze Ahmed
Prof. Md. Abdur Rashid
Prof. M. Sohel Rahman
Trust Representative

BAS SULTAN AHAMED CHOUDHURY GOLD MEDAL AWARD COMMITTEE

Convener

Prof. Chowdhury Mahmood Hasan

Member

Prof. Liaquat Ali
Prof. Firdausi Qadri
Prof. Mamun Al Mahtab
Mrs. Zakia Rouf Chowdhury, Trust Representative

BAS DR. SULTAN AHMED CHOUDHURY SCIENTIFIC TALENTS NURTURE FUND AWARD COMMITTEE

Convener

Prof. M Shamsher Ali

Member

Prof. Z N Tahmida Begum
Dr. Md. Serajul Islam
Prof. Md. Abdul Alim
Prof. Yearul Kabir
Prof. M. Jahiruddin

EXPATRIATE AND FOREIGN FELLOW EVALUATION COMMITTEE

Chairperson

Prof. AK Azad Chowdhury

Member

Prof. Mesbahuddin Ahmed
Prof. M Feroze Ahmed

Member-Secretary

Prof. Haseena Khan

FELLOW AND ASSOCIATE FELLOW SCRUTINY COMMITTEE

Prof. Haseena Khan
Prof. Liaquat Ali

EDITORIAL BOARD FOR MANAGEMENT OF BANGLADESH JOURNAL ON-LINE (BANGLAJOL)

Chairperson

Prof. Mesbahuddin Ahmed

Member

Prof. ZN Tahmida Begum
Prof. Liaquat Ali
Prof. Mirza Hasanuzzaman

Member-Secretary

Prof. Haseena Khan

EDITORIAL BOARD OF BAS NEWSLETTER COMMITTEE

Editor

Dr. MA Hamid Miah

Member

Prof. Mesbahuddin Ahmed
Prof. Liaquat Ali

ORGANIZING COMMITTEE OF THE BAS-FSIBL-SCIENCE OLYMPIAD

Convener

Prof. M. Shamsher Ali

Member

Prof. ZN Tahmida Begum
Prof. Haseena Khan
Prof. Yearul Kabir
Prof. M Sohel Rahman
Prof. Mohammed Almujaddade Alfasane, Associate Fellow

SECTIONAL COMMITTEE 1. PHYSICAL SCIENCES:

*P*hysics, Applied Physics and Electronics, Mathematics, Statistics, Meteorology and Computer Science

Convener

Prof. M. Shamsher Ali

Member

Prof. AKM Azharul Islam
Prof. Mesbahuddin Ahmed
Prof. Md. Saidur Rahman
Prof. Md. Abdul Alim
Prof. Jiban Poddar

SECTIONAL COMMITTEE 2. CHEMICAL SCIENCES:

Chemistry, Applied Chemistry and Marine Chemistry

Convener

Prof. Mesbahuddin Ahmad

Member

Prof. Shariff Enamul Kabir
Prof. Choudhury M Hasan
Prof. Md. Muhibur Rahman
Prof. Md. Abu Bin Hasan Susan

SECTIONAL COMMITTEE 3. BIOLOGICAL SCIENCES:

Botany, Zoology, Marine and Estuarine Biology, Biodiversity, Entomology, and Tissue Culture

Convener

Prof. ZN Tahmida Begum

Member

Prof. Zia Uddin Ahmed
Dr. Md. Sirajul Islam
Prof. M. Jahiruddi
Dr. Khan Shahidul Huque

SECTIONAL COMMITTEE 4. AGRICULTURAL SCIENCES:

Crop Sciences, Animal Sciences, Agronomy, Horticulture, Plant Pathology, Crop Breeding, Soil Science, Forestry, Veterinary Science, Fisheries, and Agricultural Engineering

Convener

Dr. MA Hamid Miah

Member

National Emeritus Scientist Dr. Kazi M. Badruddoza
Prof. Zahurul Karim
Dr. M Idris Ali
Prof. M. Tofazzal Islam
Prof. Mirza Hasanuzzaman

SECTIONAL COMMITTEE 5. ENGINEERING SCIENCES:

Civil Engineering, Chemical Engineering, Mechanical Engineering, Electrical Engineering and Electronics, Computer Science, Architecture and Disaster Management

Convener

Prof. Mohammad Rezwan Khan

Member

Prof. Mohammad Kaykobad
Prof. Md. Saidur Rahman
Prof. M. Sohel Rahman

SECTIONAL COMMITTEE 6. MEDICAL SCIENCES:

Medicine, Pediatrics, Diabetes, Endocrinology, Cardiology, Oncology, Ophthalmology, Dental Science and Pharmacy

Convener

Prof. AK Azad Choudhury

Member

Prof. Hajera Mahtab
Prof. Liaquat Ali
Prof. Azad Khan
Eme. Scientist Dr. Firdausi Qadri
Prof. Md. Abdur Rashid
Prof. Mamun Al Mahtab

SECTIONAL COMMITTEE 7. BIOCHEMICAL SCIENCES:

Biochemistry and Molecular Biology, Microbiology, Biotechnology and Genetic Engineering

Convener

Maj. Gen. (Retd.) Prof. ASM Matiur Rahman

Member

Prof. Haseena Khan
Prof. Yearul Kabir
Prof. Zeba I Seraj
Prof. Choudhury Rafiqul Ahsan
Dr. Munirul Alam

SECTIONAL COMMITTEE 8. EARTH SCIENCES:

Geography, Geology, Oceanography, Environmental Sciences and Disaster Management

Convener

Prof. M Feroze Ahmed

Member

Prof. KM Sultanul Aziz
Prof. Saleh Hasan Naqib
Dr. Mubarak Ahmed Khan

PROMOTION, POSTING AND PAY FIXATION COMMITTEE FOR BAS EMPLOYEES

Convener

Prof. Mesbahuddin Ahmed

Member

Prof. Zahurul Karim
Prof. ZN Tahmida Begum
Prof. Dr. Haseena Khan

ANNUAL GENERAL MEETING (JULY 2021-JUNE 2022) OF BAS

The Annual General Meeting (AGM) of Bangladesh Academy of Sciences (BAS) for the year, July 2021-June 2022 was held on 27 August 2022 in the Seminar Room, Academy Office, 3rd floor, National Science and Technology Complex, Agargaon, Dhaka 1207. Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS presided.

Emeritus Prof. Dr. AK Azad Chowdhury, President; Prof. Dr. ZN Tahmida Begum, Treasurer; Prof. Dr. Haseena Khan, Secretary, BAS at the AGM 2022

Fellows at the AGM.

Prof. Haseena Khan, Secretary, BAS placed the Activity Report for the year July 2021-June 2022 in the meeting. Prof. ZN Tahmida Begum, Treasurer, BAS presented the Annual Financial Report and the Audit Report for the year July 2021-June 2022 and the budget for the year July 2022-June 2023. After discussion at length, both the reports and the budget were approved in the AGM. The proceedings of the AGM were circulated among the Fellows on 02 October 2022.

NUMBER OF COUNCIL AND OTHER MEETINGS HELD

During July 2022-June 2023, following meetings of different committees were held:

Annual General Meeting	:	01
BAS Council meeting	:	08
BAS Endowment Fund (BoT)	:	01
Sectional committees meeting	:	09
Editorial Board meeting of JBAS	:	03
Science Olympiad (Organizing+ Question setting + moderation) Committee meeting	:	09
Young Scientist Congress (YSC) Organizing committee meeting	:	06
Examination the candidatures of BAS	:	03
Examination of candidatures of Expatriate Fellow and Foreign Fellow	:	02
BAS Fellow election committee meeting	:	01
BAS-Gold Medal selection committee meeting	:	03
AASSA workshop organizing committee meeting:		03
BAS staff service rules committee meeting	:	01
Promotion, Posting and Pay Fixation Committee meeting	:	02
BanglaJOL Editorial committee meeting	:	02
SCA Conference committee meeting	:	01

Total number of meetings were 55.

WELCOMING NEW MEMBERS





WELCOMING NEW FELLOWS

Election of BAS Fellow 2020

In accordance with the BAS Constitution and Regulations Article 9 the following candidate was elected as BAS Fellow, 2020.

Prof. Dr. Mamun Al Mahtab

Department of Hepatology
Bangabandhu Sheikh Mujib Medical University, Dhaka

Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS congratulating Prof. Dr. Mamun Al Mahtab, a newly elected Fellow

Election of BAS Associate Fellow 2021

In accordance with the BAS Constitution and Regulations Article 5 (iv) g the following candidates were elected as BAS Associate Fellows:

Chemical Sciences:

Prof. Dr. Abu Yousuf

Department of Chemical Engr. & Polymer Science,
Shahjalal University of Sciences and Technology

President, Treasurer and Secretary, BAS congratulating Prof. Dr. Abu Yousuf, a newly elected Associate Fellow

Biological Sciences:

Prof. Dr. Mohammed Almujaddade Alfasane

Department of Botany , University of Dhaka

Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS and Prof. Haseena Khan, Secretary, BAS congratulating Prof. Dr. Mohammed Almujaddade Alfasane, a newly elected Associate Fellow

Agricultural Sciences:

Prof. Dr. Kamrun Nahar

Department of Agricultural Botany
Sher-e-Bangla Agricultural University

Prof. AK Azad Chowdhury, President, BAS and Prof. ZN Tahmida Begum, Treasurer, BAS congratulating Prof. Kamrun Nahar, a newly elected Associate Fellow

Engineering Sciences:

Prof. Dr. Samia Subrina

Department of Electrical and Electronic Engineering,
Bangladesh University of Engineering and Technology (BUET)

Prof. AK Azad Chowdhury, President, BAS and Prof. Haseena Khan, Secretary, BAS congratulating Prof. Samia Subrina, a newly elected Associate Fellow

ADVANCING SCIENCE

PUBLICATIONS

Journal of Bangladesh Academy of Sciences (JBAS)

Two issues of Journal of the Bangladesh Academy of Sciences (JBAS) were published: Vol. 46, No. 2; December 2022 and Vol. 47, No. 1; June 2023, Editor: Prof. Dr. Yearul Kabir, Fellow, BAS. The publication has been regularized and getting more articles for publishing. The Academy also has been trying for indexing in Scopus, Clarivate-Web of Science Master Journal List, CABI (Centre for Agriculture and Bioscience International), pubmed, pubmed-central and MDPI (Multidisciplinary Digital Publishing Institute).

BAS gratefully acknowledges the OMC (Overseas Marketing Corporation Pvt. Ltd) for financing the printing of the JBAS issues.

BAS NEWSLETTER

Three issues of BAS Newsletter, Vol. 11, No. 2 (May-August 2022); Vol. 11, No. 3 (September-December 2022); and Vol. 12, No. 1 (January-April 2023); Editor: Dr. MA Hamid Miah, Fellow, BAS, were published.

ONLINE RESOURCES

BAS-BanglaJOL Program

A total of 178 journals are now on BanglaJOL!

Recently, 11 more journals have been included on the BanglaJoL web portal, the list of which is as follows:

- Journal of Monno Medical College
- Journal of Rangpur Medical College
- Green University Review of Social Sciences
- Eastern Medical College Journal
- Spectrum: Journal of the Department of English
- Journal of Science and Technology Research
- Journal of National Institute of Ophthalmology
- IIUC Business Review
- IUBAT Review
- Dhaka University Journal of Business Studies
- Teachers World

During July 2022-June 2023 a total of 170 issues were published which includes 2200 articles. BanglaJOL Statistical Reports:

Demographics: Country wise (Top Ten)

	Country	Sessions	% Sessions
1.	Bangladesh	295,507	27.78%
2.	India	203,068	19.09%
3.	United States	81,013	7.62%
4.	Philippines	58,911	5.54%
5.	Indonesia	38,455	3.62%
6.	Pakistan	34,918	3.28%
7.	United Kingdom	25,041	2.35%
8.	Malaysia	18,832	1.77%
9.	Nigeria	18,555	1.74%
10.	China	17,392	1.64%

Viewer/Reader Statistics (Top Ten):

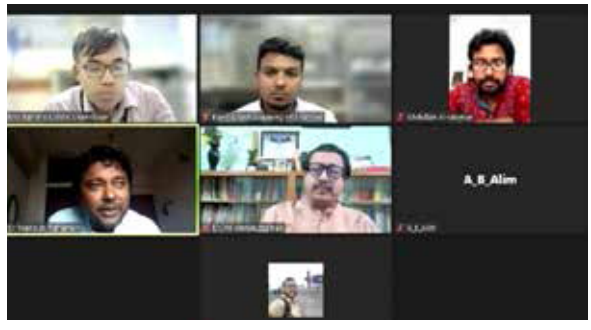
Page	Pageviews	Unique Pageviews	Avg. Time on Page	Entrances	Bounce Rate	% Exit	Page Value
	1,852,758 % of Total: 100.00% (1,852,758)	1,469,898 % of Total: 100.00% (1,469,898)	00:01:56 Avg for View: 00:01:56 (0.00%)	1,063,609 % of Total: 100.00% (1,063,609)	76.97% Avg for View: 76.97% (0.00%)	57.41% Avg for View: 57.41% (0.00%)	$0.00 % of Total: 0.00% ($0.00)
1. /index.php/JSR	26,948 (1.45%)	18,182 (1.24%)	00:01:05	17,223 (1.62%)	28.49%	29.72%	$0.00 (0.00%)
2. /index.php/BJMS	21,234 (1.15%)	16,020 (1.09%)	00:01:25	14,306 (1.35%)	40.58%	37.60%	$0.00 (0.00%)
3. /index.php/AFJ/article/view/12929	15,278 (0.82%)	11,669 (0.79%)	00:03:50	11,643 (1.09%)	80.56%	76.01%	$0.00 (0.00%)
4. /index.php/BJB	14,082 (0.76%)	10,162 (0.69%)	00:01:25	9,524 (0.90%)	35.25%	35.89%	$0.00 (0.00%)
5. /index.php/JSR/login	9,503 (0.51%)	6,135 (0.42%)	00:02:36	1,308 (0.12%)	54.43%	46.62%	$0.00 (0.00%)
6. /index.php/JSR/announcement/view/2	8,093 (0.44%)	4,468 (0.30%)	00:01:13	445 (0.04%)	52.58%	20.89%	$0.00 (0.00%)
7. /index.php/BJMS/about/submissions	7,593 (0.41%)	5,198 (0.35%)	00:02:54	1,612 (0.15%)	55.96%	38.38%	$0.00 (0.00%)
8. /index.php/PP/article/view/17681	7,194 (0.39%)	5,249 (0.36%)	00:03:05	5,235 (0.49%)	78.47%	72.67%	$0.00 (0.00%)
9. /index.php/BJSIR/article/view/5714	6,747 (0.36%)	5,457 (0.37%)	00:05:35	5,451 (0.51%)	83.91%	80.58%	$0.00 (0.00%)
10. /index.php/JSR/issue/archive	6,376 (0.34%)	3,032 (0.21%)	00:00:20	271 (0.03%)	35.79%	7.43%	$0.00 (0.00%)

	July	August	September	October	November	December	January	February	March	April	May	June
Pageviews (21-22)	141605	125233	131343	113151	103133	106541	137721	147174	158875	151952	149665	171069
Total visits (21-22)	82027	75175	78733	72576	63069	60219	76415	83367	94011	88152	85147	106370
Pageviews (22-23)	119817	137708	145314	151057	163257	139701	155602	139537	159700	139601	155698	130273
Total visits (22-23)	67556	77852	83313	88961	95593	74488	86209	79713	90398	77994	87867	72057

As a part of the self-sustainability goal and achieving the Journal Publishing Practices and Standards (JPPS), BanglaJOL is continuously providing on and off-line training on JPPS and online editorial process.

Day long workshop at Khwaja Yunus Ali Medical College (KYAMC), October 01, 2022

Day long workshop at the Bangladesh Agricultural Research Council (BARC), December 01, 2022



Online Meeting with Members of the Institute of Education and Research (IER), University of Dhaka, May 15, 2023

BAS-LICOB ACTIVITIES

The Library Consortium of Bangladesh (LiCoB) is one of BAS's flagship efforts to support high quality research and education in Bangladesh. The BAS has been running this consortium for about 16 years. Under this arrangement, academic libraries of Bangladesh come together to negotiate and obtain access to journals as well as some eBooks and databases. The BAS makes the agreements with the publishers, collects the subscription from the institutions and makes payments to the publishers. Supports are also provided on technical issues related to access of the e-resources.

This year, LiCoB is providing access to journals from Springer Nature (including Palgrave-Macmillan and Scientific American), CUP, OUP, EBSCO (a collection of mostly archival access), Project Muse, AIP, APS, ASABE, ASCE, ASME, De Gruyter, Indian Journals, Intl Forestry Review, RSC and eBooks from Project Muse. It may be noted that OUP and RSC have been added this year, while ASME was added last year. Around 35 active institutions including the leading public and private universities, and research organizations, are members of this consortium.

At present subscription from 18 publishers have been subscribed for the year 2023. The list is given below:

LIST OF RESOURCES

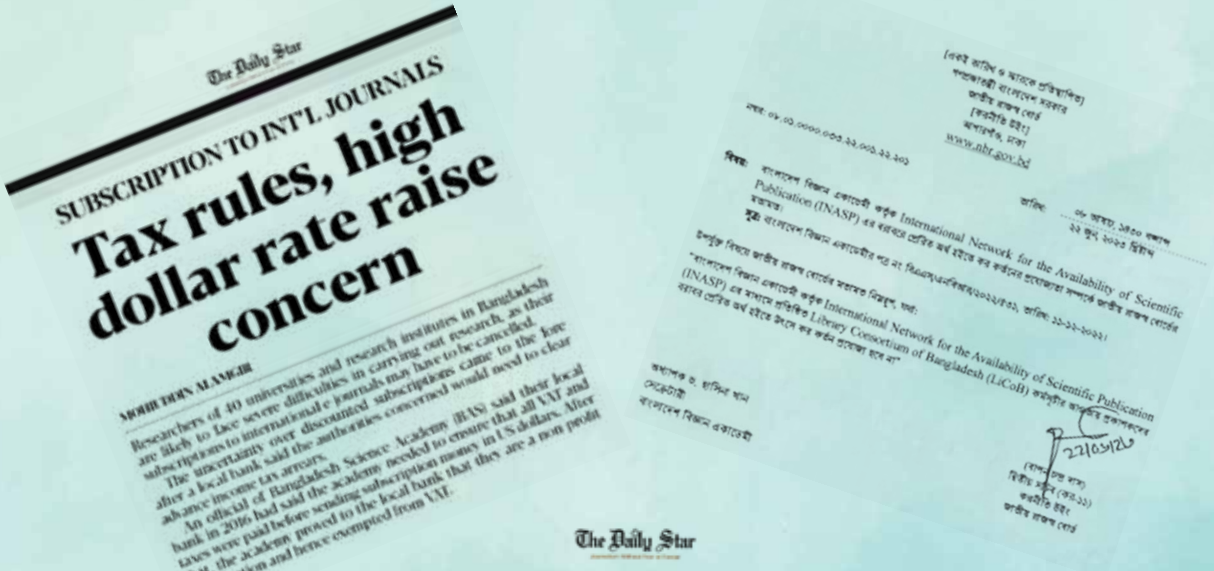
E-Journals

1. American Institute of Physics (AIP) [including JASA, AAPT, SOR, AVS]
2. American Society of Agricultural and Biological Engineers (ASABE)
3. American Society of Civil Engineers (ASCE)
4. American Society of Mechanical Engineers (ASME)
5. Cambridge University Press (CUP)
6. De Gruyter Journals
7. EBSCO including CMMC
8. Nature -Nature Research Journals (48 titles)
9. Nature -Palgrave Macmillan Journals
10. Nature -Academic Journals
11. Oxford Journals
12. ProjectMUSE Journals
13. Royal Society for Chemistry (RSC)
14. Scientific American
15. Springer ALL (2000+ titles)
16. Springer - Adis Collection
17. Indian Journals

E-Books

18. Project MUSE books 2022 collection [tbc] (not confirmed yet, only if funds permit)
[*2010-2016, 2019-2021 collections already purchased-approx. 25,000 titles-available to past subscribers]*

SCIENCE POLICY ADVOCACY



The Daily Star

SUBSCRIPTION TO INT'L JOURNALS

Tax rules, high dollar rate raise concern

MOHIB UDDIN ALAMGIR

Researchers of 40 universities and research institutes in Bangladesh are likely to face severe difficulties in carrying out research, as their subscriptions to international e-journals may have to be cancelled.

The uncertainty over discounted subscriptions came to the fore after a local bank said the authorities concerned would need to clear an advance income tax arrears.

An official of Bangladesh Science Academy (BAS) said their local bank in 2016 had said the academy needed to ensure that all VAT and taxes were paid before sending subscription money in US dollars. After that, the academy proved to the local bank that they are a non profit organisation and hence exempted from VAT.

The Daily Star

Taxing e-journal subscription illogical

What can we possibly gain from depriving researchers of access to knowledge?

We are quite befuddled to learn that an advance income tax (AIT) is being imposed on subscriptions to international electronic journals (or e-journals). This will also include payments of arrears from previous years which may adversely affect research work in about 40 universities and research institutes, as subscription costs would also go up leading to their potential cancellation. At a time when we should be patronising a knowledge based society, it is quite absurd that such a move that may curb our researchers' access to scientific knowledge is being thought of.

BAS meets the challenge of LiCoB and the 20% tax at source

LiCoB operations were running smoothly, but suddenly, due to the devaluation of BDT and a shortage of foreign currency, the exchange rate of the USD rose abnormally, and because of the global crisis, the government reduced financial allocations to its various institutions, which resulted in a decrease in the amount of subscription received. Also in the meantime, National Board Revenue (NBR) wrote to BAS for payment of 20% tax at source (AIT) on remittances and without which the banks refused to make further remittances. This almost caused a shutdown of LiCoB activities.

In this situation, an application was sent to NBR with the recommendation of Mr. Abdul Mannan, Hon'ble Minister of Planning, for waiving the tax at source. On the other hand, arrangements were for publishing a report in the local newspaper on this unjustified imposition of AIT. When approached, the Editor of the Daily Star saw the merit in documenting this and accordingly a report by Mr. Mohiuddin Alamgir, Senior Staff Reporter was published under the title 'Subscription to Int'l Journals: Tax rules, high dollar rate raise concern' on 29th April 2023 in the Daily Star. A sub-editorial was published in the same newspaper on April 30, 2023 titled 'Taxing e-journal subscription illogical: What can we possibly gain from depriving researchers of access to knowledge?'

Prof. Abdullah Shams bin Tariq, Associate Fellow of BAS also devoted a lot of his time, and made earnest efforts to meet relevant persons on several occasions at the NBR for the tax waiver.

With the combined efforts of all concerned, finally on 22 June 2023, NBR issued an official order waiving the tax at source, stating as "বাংলাদেশ বিজ্ঞান একাডেমী কর্তৃক International Network for the Availability of Scientific Publications (INASP) এর মাধ্যমে প্রতিষ্ঠিত Library Consortium of Bangladesh (LiCoB) কর্মসূচির আওতায় প্রকাশকদের বরাবর প্রেরিত অর্থ হতে উৎসে কর প্রযোজ্য হবেনা"।

BAS would like to express its gratitude to the NBR for its cooperation throughout this process. BAS remains committed to maintaining a proactive approach in addressing any future challenges.

The Daily Star

SUBSCRIPTION TO INT'L JOURNALS

Tax rules, high dollar rate raise concern

MOHIUDDIN ALAMGIR

Researchers of 40 universities and research institutes in Bangladesh are likely to face severe difficulties in carrying out research, as their subscriptions to international e-journals may have to be cancelled.

The uncertainty over discounted subscriptions came to the fore after a local bank said the authorities concerned would need to clear advance income tax arrears.

An official of Bangladesh Science Academy (BAS) said their local bank in 2016 had said the academy needed to ensure that all VAT and taxes were paid before sending subscription money in US dollars. After that, the academy proved to the local bank that they are a non-profit organisation and hence exempted from VAT.

Report on the Daily Star on 29 April 2023

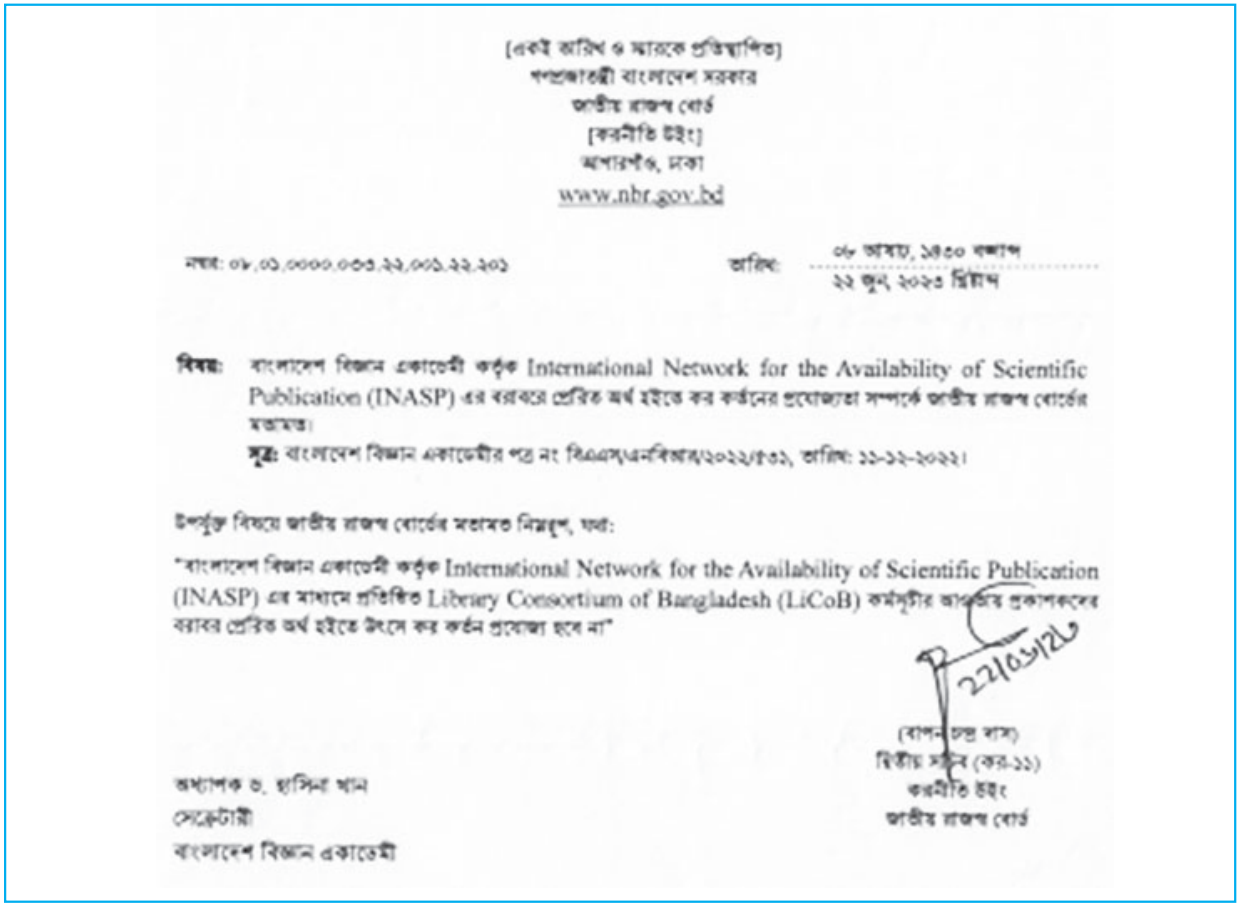
The Daily Star

Taxing e-journal subscription illogical

What can we possibly gain from depriving researchers of access to knowledge?

We are quite befuddled to learn that an advance income tax (AIT) is being imposed on subscriptions to international electronic journals (or e-journals). This will also include payments of arrears from previous years which may adversely affect research work in about 40 universities and research institutes, as subscription costs would also go up leading to their potential cancellation. At a time when we should be patronising a knowledge-based society, it is quite absurd that such a move that may curb our researchers' access to scientific knowledge is being thought of.

A Daily Star editorial on April 30, 2023



(একই তারিখ ও স্মারকে প্রতিস্থাপিত)
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
জাতীয় রাজস্ব বোর্ড
[করনীতি উইং]
আগারগাঁও, ঢাকা
www.nbr.gov.bd

নম্বর: ০৮.০১.০০০০.০৩৩.২২.০০১.২২.২০১ তারিখ: ০৮ আষাঢ়, ১৪৩০ বঙ্গাব্দ / ২২ জুন, ২০২৩ খ্রিষ্টাব্দ

বিষয়: বাংলাদেশ বিজ্ঞান একাডেমী কর্তৃক International Network for the Availability of Scientific Publication (INASP) এর বরাবরে প্রেরিত অর্থ হইতে কর কর্তনের প্রযোজ্যতা সম্পর্কে জাতীয় রাজস্ব বোর্ডের মতামত।

সূত্র: বাংলাদেশ বিজ্ঞান একাডেমীর পত্র নং বিএএস/এনবিজার/২০২২/৫৩১, তারিখ: ১১-১২-২০২২।

উপর্যুক্ত বিষয়ে জাতীয় রাজস্ব বোর্ডের মতামত নিম্নরূপ, যথা:

"বাংলাদেশ বিজ্ঞান একাডেমী কর্তৃক International Network for the Availability of Scientific Publication (INASP) এর মাধ্যমে প্রতিষ্ঠিত Library Consortium of Bangladesh (LiCoB) কর্মসূচীর আওতায় প্রকাশকদের বরাবর প্রেরিত অর্থ হইতে উৎসে কর কর্তন প্রযোজ্য হবে না"

22/06/23

(বাপন চন্দ্র দাস)
দ্বিতীয় সচিব (কর-১১)
করনীতি উইং
জাতীয় রাজস্ব বোর্ড

অধ্যাপক ড. হাসিনা খান
সেক্রেটারী
বাংলাদেশ বিজ্ঞান একাডেমী

The Government Order issued on 22 June 2023

The Bangladesh Academy of Sciences takes initiatives for developing plant gene editing protocol

Genome editing offers revolutionized solutions for plant breeding to sustain food production. Translating such research initiatives into products requires enabling policies. In this regard, the Bangladesh Academy of Sciences (BAS) took a time demanding leadership to put forward genome editing protocol in Bangladesh so that scientists understand and carry out their research activities on the same. BAS together with South Asia Biosafety Program (SABP) convened a scientific community to formulate a pathway so that research and release of genome edited plants of categories Site-Directed Nuclease-1 (SDN-1) and SDN-2 in Bangladesh comply with the national and international legislations.

The initiative started with a knowledge-sharing webinar entitled "Genome Editing in Agriculture: Potential Opportunities and Way Forward in Bangladesh" on 4 October 2021, which focused on developments in gene editing and the need for enabling policies in Bangladesh.. The webinar brought together diverse stakeholders from the Government, National Agricultural Research System (NARS), Universities, other public and private sector organizations.

Another follow-up webinar entitled "Genome Editing in Agriculture: Status in Bangladesh and Way Forward" held on 1st of June 2022, to provide

the participants with a platform to discuss status of activities involving gene editing in plants in Bangladesh at research institutions and how these improved plants can be made easily available to the farmers enabling them and the consumers to put to use the benefits of genome-edited plants.

In light of the suggestion from the webinar a 14 membered "Expert Committee on Policies for Gene Edited Plants in Bangladesh" was formed by BAS on 19 July 2022 led by Prof. Dr. Zahurul Karim, Vice President, BAS as Chairperson and Prof. Dr. Haseena Khan, Secretary, BAS as Member Secretary. This committee convened their First Meeting on 20 September 2022 at the BAS office where the committee discussed the work plan and structure of the document to be prepared. A three membered sub committee was formed to prepare the draft "Standard Operating Procedure (SOP)" following the existing rules and regulations practicing in Bangladesh and neighboring countries.

The "Expert Committee on Policies for Gene Edited Plants" convened their Second Meeting on 19 December 2022 at the BAS office. In this meeting, the committee discussed the draft "Standard Operating Procedure (SOP) for genome edited plants in Bangladesh. After finalization, BAS forwarded the document to BARC for further action on 10 January, 2023.

BARC organized a workshop entitled "Standard Operating Procedure (SOP) for genome edited plants in Bangladesh" on 25 May 2023 where researchers from NARS institutes, and academicians took part on discussions. Some recommendations were given by the participants to improve the draft SOP. BARC communicated the recommendations to BAS on 07 June 2023.

Upon getting the recommendations from the workshop organized by the BARC, the "Expert Committee on Policies for Gene Edited Plants" convened their Third Meeting on 15 June 2023 to make necessary corrections to the SOP. The corrected and finalized version of the "Standard Operating Procedures for Research and Release of Genome Edited Plants of Categories SDN-1 and SDN-2 in Bangladesh" along with necessary supporting documents was forwarded to the BARC on 19 June 2023.

ACHIEVEMENTS OF FELLOWS

AWARDS AND RECOGNITIONS

A. Fellows of BAS:

Prof. Dr. Arun Kumar Basak

Noble Teacher Honors Award 2021 from Ethics Club Bangladesh in 2023.

Prestigious Award Gitanjali Sommanana Padak 2022 from Gitanjali Academy of Fine Arts, Bangladesh for glorious contributions as an outstanding Educationist in Bangladesh.

Celebrity Award Kirtiman Padak 2022 from Rajshahi Chamber of Commerce and Industry for outstanding Research Contributions.

Dr. MA Hamid Miah

Awarded "Lifetime Achievement Award" jointly by Channel i and Standard Chartered Bank on 5th March 2023.

Prof. Dr. AKM Azharul Islam

According to Alper-Doger (AD) Professor AKM Azharul Islam has been cited in Scientific Index for World Scientist and University Rankings 2023: Ranked 1 (Rajshahi University), 2 (Bangladesh), 1464 (Asia) and 9313 (World) in Physics.

Prof. Dr. Liaquat Ali

Received the Indian Association for Study of Asian Traditional Medicine (IASTAM) 2022 Award.

Prof. Dr. Haseena Khan

Received the RTV 'Joya Alokito Nari' award-2023.

Emeritus Scientist Dr. Firdausi Qadri

Received the 'Independence Day Award 2023' for her extraordinary contribution in the field of research and training from Sheikh Hasina, Honorable Prime Minister of the Government of Bangladesh.

Prof. Dr. Mohammad Abdur Rashid

Received the Best Faculty Award at the 6th Convocation of State University of Bangladesh (SUB) held on November 30, 2022.

Received the Federation of Asian Pharmaceutical Associations (FAPA) Award 2020 in Pharmaceutical Research at the 28th Federation of Asian Pharmaceutical Associations Congress (FAPA-2022) and National Pharmacists Convention 2022 held in Kuala Lumpur, Malaysia from November 8-12, 2022.

Prof. Dr. Yearul Kabir

Elected as Fellow of The World Academy of Sciences (TWAS) 2023.

Prof. Dr. Saleh Hasan Naqib

Received the Dean's Award 2021 in research from the Faculty of Science, University of Rajshahi, as the best researcher in the Physical and Mathematical Sciences Category (awarded in June 2023).

Prof. Dr. M. Sohel Rahman

Received 'Forum 86 Research Excellence' Awards 2023 (Senior Group).

Prof. Dr. Md. Anwar Hossain

Received the Ekushey Padak, 2022 a prestigious national award on Science and Technology category from the Government of the People's Republic of Bangladesh.

Prof. Dr. Mirza Hasanuzzaman

BAS Gold Medal Award-2022 in Biological Sciences (Senior Group)

Society for Plant Research Young Scientist Award (Agriculture)-2023 for outstanding contribution to the field of agriculture.

Recognized as Highly Cited Researcher 2022 by Clarivate

Best Paper Award by the journal, Antioxidants, 2023

Elected Fellow of International Society of Environmental Botanists

Appointed as Eminent Scholar and Visiting Professor at Kyung Hee University, Seoul, South Korea.

Dr. Mubarak Ahmad Khan

Awarded an innovative award on Jute Cellulose Based Totally Biodegradable Biopolymer as an Alternative to Single Use Plastic in the 6th International Conference on Natural Fiber, Funchal, Portugal 19-21 June 2023.

B. EXPATRIATE FELLOWS OF BAS

Prof. Dr. Mohammad Ataul Karim

Elected as Fellow in 2022, The Asia-Pacific Artificial Intelligence Association, Hong Kong.

Prof. Dr. Golam Abu Zakaria

Honored by the International Organization of Medical Physics (IOMP) as IOMP Fellow for his outstanding contribution to the medical physics development.

Prof. Dr. Shahjahan Khan

Conferred a certificate of Emeritus Professor Award, 2023 by the University of Southern Queensland, Australia.

Prof. Dr. Sultana N. Nahar

Elected as Fellow of The World Academy of Sciences (TWAS)-UNESCO

Recognized as "Hidden Figures: Women in Science" of the Ohio State

University in celebration of the International Day of Women and Girls in Science, 2023

Prof. A.H. Siddiqi (Founder of Industrial Mathematics in India)

Lectureship Award, Sharda University, India, 2022

Featured at the Ohio State University news for founding the Chapter, International Society of Muslim Women in Science (ISMWS) in Kashmir, India, 2022.

CONTINUED PROFESSIONAL EDUCATION

ACADEMY LECTURES AT A GLANCE

Fellow	Topic	Date and Venue	Chief Guest/Special Guest/ Moderator and Chairperson
Prof. Dr. M. Sohel Rahman Professor of Computer Science and Engineering, Bangladesh University of Engineering and Technology (BUET)	Combating COVID-19: a computing Perspective (BUET)	21 July 2022 on a Zoom platform at 4:00 pm	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Chairperson: Prof. Dr. M Shamsher Ali Moderator: Prof. Dr. Haseena Khan
Prof. Dr. Chowdhury Rafiqul Ahsan Professor, Department of Microbiology, University of Dhaka	In search of protective antibodies against Streptococcus pneumoniae and their uses	16 August 2022 at 10:45 am at the auditorium of the Microbiology Department, University of Dhaka	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Chairperson: Prof. Dr. Choudhury Mahmood Hasan Moderator: Prof. Dr. Haseena Khan
Prof. Dr. Mubarak Ahmad Khan Scientific Adviser, Bangladesh Jute Mills Corporation	Black and White Chemistry of Jute	24 January 2023 at 11:00 am at the Conference Room of the Centre for Advanced Research in Sciences (CARS), University of Dhaka	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Chairperson: Prof. Dr. Md. Muhibur Rahman Moderator: Prof. Dr. Haseena Khan
Prof. Dr. Yearul Kabir Professor of the Department of Biochemistry and Molecular Biology, University of Dhaka	Personality Traits of Drug Addicted Subjects and Association of Single Nucleotide Polymorphisms (SNPs) with Drug Addiction in Bangladeshi Population	21 March 2023 at 12:00 noon at the Training Room of the Centre for Advanced Research in Sciences (CARS), University of Dhaka	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Chairperson: Prof. Dr. Choudhury Mahmood Hasan Moderator: Prof. Dr. Haseena Khan
Prof. Dr. Md. Abdur Rashid Professor, Department of Pharmaceutical Chemistry, University of Dhaka	Drug Discovery: Bioactive compounds from Medicinal Plants, Microbes and Marine Organisms"	13 June 2023 at 11:00 am at the Pharmacy Lecture Theatre, Faculty of Pharmacy, University of Dhaka	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Special Guest: Prof. Dr. Sitesh Chandra Bachar Dean, Faculty of Pharmacy, DU Chairperson: Prof. Dr. Zahurul Karim Moderator: Prof. Dr. Yearul Kabir
Prof. Dr. Jiban Podder Professor, Department of Physics, Bangladesh University of Engineering and Technology (BUET)	Nonlinear Optical Single Crystals: Its Beauty and Importance in Technology	20 June 2023 at 11:00 am at the Council Building, BUET	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Special Guest: Prof. Dr. Abdul Jabbar Khan Pro-VC, BUET Chairperson: Prof. Dr. Zahurul Karim Moderator: Prof. Dr. Yearul Kabir
Prof. Dr. Mustafizur Rahman Expatriate Fellow, BAS & Professor of Mechanical Engineering, National University of Singapore	Innovation keeps us relevant	17 August 2022 at 4:00 p.m. on a Zoom platform	Chief Guest: Emeritus Prof. Dr. AK Azad Chowdhury Chairperson: Prof. Dr. Zahurul Karim Moderator: Prof. Dr. Haseena Khan

POPULAR SCIENCE LECTURE

Fellow	Topic	Date and Venue	Chief Guest/Special Guest/ Moderator and Chairperson
Prof. Dr. Saleh Hasan Naqib Professor, Department of Physics, University of Rajshahi	Observing the Universe: From Antiquity to the James Webb Space Telescope	26 October 2022 in the Auditorium of the Physics Department, University of Dhaka	Chief Guest: Professor Dr. Mesbahuddin Ahmed Chairperson: Prof. Dr. Supriya Saha Chairman, Dept. of Physics, DU Moderator: Professor Dr. Yearul Kabir

ACADEMY LECTURE BY FELLOWS

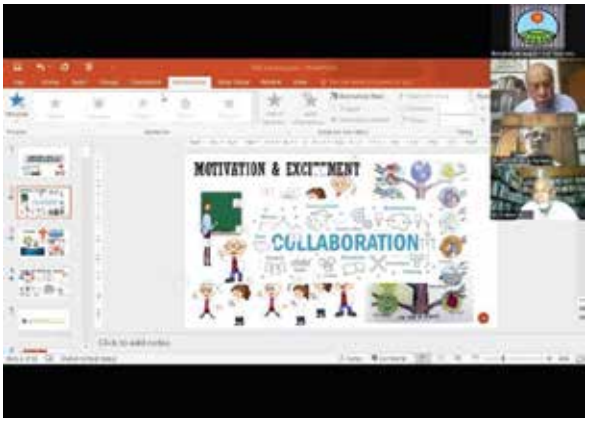
Lecture on "Combating COVID-19: a computing Perspective" by Prof. Dr. M. Sohel Rahman

Bangladesh Academy of Sciences (BAS) organized an Academy Lecture on "Combating COVID-19: a computing Perspective" on 21 July 2022 on a Zoom platform at 4:00 pm. Dr. M. Sohel Rahman, Fellow, BAS and Professor of Computer Science and Engineering, Bangladesh University of Engineering and Technology (BUET), was the speaker. Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS joined the Lecture as the Chief Guest. Prof. Dr. M Shamsher Ali, Former President, BAS presided over the occasion. Prof. Dr. Haseena Khan, Secretary, BAS, moderated the lecture. About 35 Fellows, scientists, researchers and faculty members participated in the lecture.

Prof. M. Sohel Rahman delivering his lecture (virtually)

A summary of his presentation is given below:

Prof. Rahman started with a brief discussion on the possible tools and methods from general computing area that could be leveraged to do research related to COVID-19 along different dimensions. These methods included Artificial Intelligence and various sub-topics there under Natural Language Processing (NLP), Machine Learning (ML), Deep Learning (DL), Data Mining and analytics, Agent Based Modeling etc., computational biology (e.g., Phylogenetic analysis) etc. The rest of the lecture was divided into some independent sections highlighting some of the research works conducted by his research group.



Participants at the virtual Academy Lecture

The first research work presented the power of Natural Language Processing and Deep Learning architectures to automatically mine data from the relevant literature to identify various associations and interactions between two biomedical entities (e.g., disease-drug association). The main motivation was to provide a knowledgebase (COVID-19Base 2.0; https://COVID-19base.hbku.edu.qa/) in a short time with reasonable accuracy for researchers working on COVID-19 so that they can jump-start their work by getting all the relevant information in one place. Since this was done extracting meaningful relationship from the relevant literature through an automated pipeline, the work inherited the limitations and errors of the relevant methods applied. Despite these limitations, the success and usefulness of the Knowledgebase became quite evident when Prof. Rahman presented some interesting cases (e.g., Dexamethasone, Ivermectin etc. were identified quite early by their pipeline as positive drugs for COVID-19 and Hydroxychloroquine was termed as a negative drug despite a huge hype about the latter in an early stage of COVID-19).

In the second section, Prof. Rahman presented a phylogenetic analysis that was carried out on the hCOV sequences from the GISAID initiative (https://www. gisaid.org/). Through this analysis Prof. Rahman's team identified the relationship among the different sequences that was deposited from different countries. And many of the perceived relationships were verified through this analysis and perhaps more crucially some interesting relationship was unearthed which remained apparently shrouded by raw data.

Prof. Rahman had another research activity which is Agent Based modeling. His research group developed agent based models for COVID-19 quite early and showed how such a model could be leveraged to understand the disease transmission dynamics and conduct various scenario analyses including retrospective and forecasting analyses. Through the model analysis, Prof. Rahman also discussed a very interesting concept of Digital Herd Immunity that advocates the idea of a smart-phone ownership (for facilitating contact tracing) and contains the spread of the disease thereby achieving the same effect of the normal herd immunity. Towards the end, Prof. Rahman presented the models developed for Bangladesh (in collaboration with Bangladeshi epidemiologists) and some interesting analysis thereof.

In the beginning Prof. Rahman mentioned that the goal and motivation of his talk was to present something that would be of interest to the many scientists present in the session and he tried to do that by presenting a number of his work using various tools of computational analysis and related the same to different branches of science. He hoped his lecture will open the door for further meaningful collaborations among the most revered scientists of Bangladesh thereby advancing the current state-of-the-art research (in different fields). The subsequent Q/A session did open up some insightful comments and discussion which hinted the possible fulfillment thereof.

This Academy Lecture was followed by a long and stimulating discussion and a Q&A session which was participated by Fellows, BUET faculty and students.

Lecture on In search of protective antibodies against *Streptococcus pneumoniae* and their uses by Prof. Dr. Chowdhury Rafiqul Ahsan

The Academy Lecture on "In search of protective antibodies against *Streptococcus pneumoniae* and their uses" presented by Prof. Dr. Chowdhury Rafiqul Ahsan, Fellow, Bangladesh Academy of Sciences and Professor, Department of Microbiology, University of Dhaka was held on 16 August 2022 at 10:45 a.m. at the auditorium of the Microbiology Department, University of Dhaka, Dhaka 1000.

Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS attended the Lecture as the Chief Guest. Prof. Dr. Choudhury Mahmood Hasan, Vice President, BAS presided over the occasion. Prof. Dr. Haseena Khan, Secretary, BAS moderated the Academy lecture. A good number of Fellows, Faculty and students of the Department of Microbiology, DU and other departments attended the lecture.

Prof. Dr. Chowdhury Rafiqul Ahsan presenting his Academy Lecture

Participants at the Academy Lecture

A summary of the Academy Lecture is given below:

Professor Ahsan talked about *Streptococcus pneumoniae* (the pneumococcus) a human pathogen that causes life threatening invasive diseases such as pneumonia, bacteremia, and meningitis with high morbidity and mortality throughout the world. In developing countries, an estimated five million children under the age of five years die each year from pneumonia, with S. pneumoniae being the single most common causative agent. In Bangladesh, it is a common cause of pneumonia and the second leading cause of meningitis with high mortality. In this study, we tried to demonstrate the protective efficacy of a unique 74 KDa pneumococcal surface antigen against S. pneumoniae infections on mouse model. For this Western blot experiments were done, where sera from 40 pneumonia or meningitis patents recognized the common 74 kDa antigenic components from the surface materials of serotype 7F and 12F, whereas, this antigenic band was absent, when normal and healthy human sera were tested. In the mice challenge experiments, eleven of the 12 mice, which were immunized with the 74 KDa proteins, survived the live cell challenge for more than 45 days, whereas, all the control mice died within a period of 17 days. All these results demonstrate that the 74 KDa surface protein of S. pneumoniae has strong protective efficacy in immunized mice and may be incorporated as a potential candidate for the protein portion of a pneumococcal polysaccharide-protein conjugate vaccine, which may allow broad protection against pneumococcal infections.

The lecture was followed by an interesting and stimulating discussion.

Address by Emeritus Professor Dr. AK Azad Chowdhury, President, BAS at the Academy Lecture

Lecture on "Black and White Chemistry of Jute" by Prof. Dr. Mubarak Ahmad Khan

Bangladesh Academy of Sciences (BAS) organized the Academy Lecture "Black and White Chemistry of Jute" on 24 January 2023 at 11:00 am at the Conference Room of the Centre for Advanced Research in Sciences (CARS), University of Dhaka, Dhaka 1000. Prof. Dr. Mubarak Ahmad Khan, Fellow, BAS and Scientific Adviser, Bangladesh Jute Mills Corporation was the speaker.

Prof. Dr. Mubarak Ahmad Khan presenting his Academy Lecture

Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS was present at the Lecture as the Chief Guest. Prof. Dr. Md. Muhibur Rahman, Fellow, BAS presided over the occasion. Prof. Dr. Haseena Khan, Secretary, BAS, moderated the lecture.

Chief Guest, Emeritus Prof. Dr. AK Azad Chowdhury delivering his speech at the Academy Lecture

About 100 Fellows, Faculty members, scientists, researchers and students of different disciplines were present and enjoyed the presentation.

Participants at the Academy Lecture

A summary of of the Academy Lecture is given below:

A novel facility from green technologies is highlighted to integrate cellulose (white) and lignin (black) based bio-materials extraction and transformation into a broader spectrum of marketable and value-added products with a zero-waste approach. With ever-increasing scientific knowledge, worldwide economic and environmental consciousness, demands of legislative authorities, and the manufacture, use, and removal of petrochemical-based by-products, from the last decade, there has been increasing research interests in the value or revalue of cellulose and lignin-based materials. The potential characteristics like natural abundance, renewability, recyclability, and ease of accessibility all around the year, around the globe, all make residual biomass an eco-attractive and petro-alternative candidate. In this context, many significant research efforts have been taken into account to change/replace the petroleum-based economy with a bio-based economy, with an aim to develop a comprehensively sustainable, socially acceptable, and eco-friendly society. It was developed a new generation of sustainable and low-cost biodegradable different materials which are alternatives to plastic materials from jute such as packaging materials (Sonali Bag), antimicrobials resistant and disposable PPE, transparent and antimicrobials resistant masks, sanitary napkin, superabsorbent, straw, one-time glass and plate, egg rack, etc. others composite materials such as fire resistant composite, bulletproof composite, building composite (block, jutin, tiles, etc) were also developed. He also developed a newly vegan leather from cellulose. His Recent trends have been shifted to produce composites of micro and nano-cellulose fiber and crystal for numerous applications among which the most important ones are its use in a medical and environmental perspective. Biodegradable glue, bio-oil, cement materials, and other composite materials were developed from lignin. The present research work mainly focuses on various aspects of bio-refinery as a sustainable technology to process cellulose (white) and lignin (black) 'materials' into value-added products. Innovations in the bio-refinery world are providing, a portfolio of sustainable and eco-efficient products to compete in the market presently dominated by petroleum-based products, and therefore, it is currently a subject of intensive research.

The lecture was followed by an extensive and stimulating discussion.

Participants at the Academy Lecture

Lecture on "Personality Traits of Drug Addicted Subjects and Association of Single Nucleotide Polymorphisms (SNPs) with Drug Addiction in Bangladeshi Population" by Prof. Dr. Yearul Kabir

Bangladesh Academy of Sciences (BAS) organized the Academy Lecture "Personality Traits of Drug Addicted Subjects and Association of Single Nucleotide Polymorphisms (SNPs) with Drug Addiction in Bangladeshi Population" on 21 March 2023 at 12:00 noon at the Training Room of the Centre for

Advanced Research in Sciences (CARS), University of Dhaka, Dhaka 1000. Prof. Dr. Yearul Kabir, Fellow, BAS and Professor of the Department of Biochemistry and Molecular Biology was the speaker.

Emeritus Professor Dr. A K Azad Chowdhury, President, BAS was present at the Lecture as the Chief Guest. Prof. Dr. Choudhury Mahmood Hasan, Vice President, BAS Council presided over the occasion. Prof. Dr. Haseena Khan, Secretary, BAS, moderated the lecture.

Prof. Dr. Yearul Kabir delivering his Academy Lecture

Participants at the Academy Lecture

The Academy Lecture was attended by a good number of BAS fellows and faculty and students of relevant departments of Dhaka University.

A summary of the Academy Lecture is given below:

Dr. Yearul Kabir'slecture was based on multiple studies performed in his laboratory on drug-addicted cases in Bangladesh and how specific genetic polymorphisms are linked to developing an addiction to drugs.

The first few slides of Dr. Kabir's presentation detailed the overall drug addiction scenario worldwide and in Bangladesh. Drug addiction is a severe public health issue growing in developed and developing countries, which causes significant social and economic burdens. According to an international drug report, the use of drugs has seen a 26% increase in the last 10 years and is causing the deaths of millions every year. Cannabis and opioids are the most popular drugs worldwide but differ slightly from the Bangladesh scenario. Yaba has seen a massive rise in popularity in this country and has shifted the scenario from drugs like heroin and phensedyl. Genetic factors cause an easier transition of individuals from being users of drugs to getting addicted to drugs in about half of the cases. Most addiction cases in Bangladesh fall within the age group of 21-30 years, and the most significant cause of drug addiction is the influence of friends, and environmental factor. Among the addicted, more than half are addicted to multiple drugs, and Dr. Kabir's studies have found the sense of feeling better and the sense of adventure to be the leading reasons behind changing of drugs.

His lab hypothesized that polymorphisms in a handful of interactively interconnected genes could be causing drug addiction in the Bangladeshi population. One of his studies showed that DRD2 Taq1A polymorphism in its homozygous mutated form caused a significant three-fold increase in the possibility of developing a drug addiction. The study also included BDNF polymorphisms but did not find any significant association. He also demonstrated that HTR1B and GRIN1 mutations were significantly linked to drug addiction in both heterozygous and homozygous mutated genotype forms, with homozygous mutations causing a three to four-fold increase in risk.

Dr. Kabir also explored the role of PDYN and DRD2 Taq1B gene polymorphisms on drug addiction and presented that PDYN mutation reduced the possibility of developing a drug addiction, whereas

DRD2 Taq1B mutation increased the likelihood. He also mentioned that COMT in the heterozygous genotype and DRD4 in both heterozygous and homozygous mutated genotypes were significantly associated with the risk of substance abuse. Dr. Kabir then moved on to different aspects of drug addiction and linked them to genetic polymorphisms. He mentioned that the BDNF gene mutation was found to be linked to the age of onset for drug addiction among his study subjects. Moreover, DRD2 Taq1A mutation significantly influenced the development of addiction to multiple drugs. Finally, he discussed polymorphisms' effect on the relapse behavior and mentioned that PDYN and HTR1B polymorphisms are connected to developing relapse behavior.

It is common among drug-addicted cases to also be nutritionally deficient. Dr. Kabir's studies have demonstrated depleted vitamin C, E, and antioxidant levels in addicted patients. On the other hand, his studies have shown that addicted people have higher levels of PHP and TBARS and increased oxidative stress. In the end, Dr. Kabir talked about the limitations of his studies, e.g., small population size and lack of more stratified analysis because of a lack of information and recommended more association studies to be performed. He expressed that studies like these will help prevent addiction and improve addiction treatment strategies. He concluded his lecture by saying that being prone to addiction does not mean one would certainly become addicted; rather, it means that the person has to be careful.

Address by Emeritus Prof. Dr. AK Azad Chowdhury, Chief Guest and President, BAS at the Academy Lecture

The lecture led to interesting and thought provoking questions and a stimulating discussion.

Lecture on Drug Discovery: Bioactive compounds from Medicinal Plants, Microbes and Marine Organisms by Prof. Dr. Md. Abdur Rashid

Bangladesh Academy of Sciences (BAS) organized the Academy Lecture "Drug Discovery: Bioactive compounds from Medicinal Plants, Microbes and Marine Organisms" on 13 June 2023 at 11:00 a.m. at the Pharmacy Lecture Theatre, Faculty of Pharmacy, University of Dhaka. Dr. Md. Abdur Rashid, Fellow, BAS and Professor, Department of Pharmaceutical Chemistry, University of Dhaka was the speaker.

Dr. Md. Abdur Rashid delivering his Academy Lecture

Participants at the Academy Lecture

Emeritus Professor Dr. AK Azad Chowdhury, President, BAS was present at the Lecture as the Chief Guest. Prof. Dr. Sitesh Chandra Bachar, Dean, Faculty of Pharmacy, University of Dhaka was present at the Lecture as the Special Guest and Prof. Dr. Zahurul Karim, Vice President, BAS presided over the occasion. Prof. Dr. Yearul Kabir, Associate Secretary, BAS, moderated the lecture.

Address by Emeritus Professor Dr. AK Azad Chowdhury, President, BAS at the Academy Lecture

About 120 Fellows, faculty members, scientists, researchers and students of different departments were present and enjoyed the presentation.

A summary of the Academy Lecture is given below:

Prof. Rashid started his deliberation saying that the cure for a disease in a particular geographical location is available in the natural resources and emphasized the importance of working with naturally-derived substances, especially plants, microbes and marine sources. Accordingly his lecture was organized into several sections, including natural products combating antimicrobial resistance (AMR), AIDS, cancer, diabetes, pain, oxidative stress, and hypertension.

Traditionally, natural products (NPs) have been the primary sources of therapeutic substances and continue to play a significant role in advancing the fields of chemistry, biology, and medicine due to their extensive range of diverse structures and chemical properties. According to the WHO, approximately 80% of the global population still relies on traditional medicines as their primary form of healthcare. Out of the 1,394 new small molecule drugs approved by the US-FDA between 1981 and 2019, 71 were in their original natural form, 14 were botanical drugs consisting of defined mixtures, 356 were derivatives of natural products, 65 were synthetic drugs based on the pharmacophores of natural products, and 424 were mimic of natural products.

Antimicrobial resistance (AMR) has emerged as a serious global public health problem. It occurs when microorganisms undergo modifications over time, yielding them unresponsive to medications. As a result, infections become challenging to treat, and the likelihood of disease transmission, severe illness, and death increases. Currently, nearly one million people lose their lives per year due to AMR. Scientists and researchers predict a further escalation, with a projected death toll of over 10 million people annually by 2050, even in basic surgeries or infections due to AMR. At this stage, currently, antimicrobial products of natural origin have been positioned as compounds of great scientific interest due to their enormous chemical diversity and intrinsic properties.

Prof. Rashid emphasized the importance of volatile oil of *Nigella sativa* (black seed, Kalojira) against bacterial infections based on his research findings. It was observed that in-vitro anti-shigella activity against eight multi drug-resistant strains of Shigella flexneri. In vivo model, the serum of monkeys showed anti-shigella activity within 45-60 minutes of receiving 0.5 and 1.0 ml of the volatile oil orally. When tested on monkeys with shigellosis, the oil displayed significant in-vivo anti-shigella activity against the same strain, completely curing the infected monkeys in just 3 days.

Prof. Rashid also spoke about very promising antimicrobial compounds, such as garuganin V (diarylheptanoid) and usnic acid, isolated from *Garuga pinnata* and *Parmelia kamtschandlis*, respectively. Both compounds exerted higher or comparable zone of inhibition against various gram positive and gram-negative bacteria than the standard antibacterial drugs. Four compounds belonging to the diphenylpropanoid class were isolated from *Quisqualis indica*. All compounds underwent testing for anti-staphylococcal activity

to assess their effectiveness against multidrug-resistant and methicillin-resistant *Staphylococcus aureus* strains. The minimum inhibitory concentrations (MICs) for these compounds ranged from 128 to 256 µg/ml. Similarly, the antimicrobial properties of the petroleum ether extract from the stem bark of *Polyalthia longifolia* var. pendulla and the diterpenes isolated from the species were investigated. Among the diterpenoids, 16-oxocleroda-3,13 E-dien-15-oic acid demonstrated the highest antimicrobial potential against several bacteria and kanamycin-resistant fungal strains, including A*spergillus fumigatus, Saccharomyces caulbequence, S. cerevaceae, Candida albicans,* and *Hensila californica,* surpassing the effects of kolavenic acid and 16β-hydroxycleroda-3,13E-dien-15,16-olide. The minimum inhibitory concentrations of all these compounds were determined, which revealed 8 to 64 µg/mL against various microbial strains.

Two novel compounds, stellettapeptins A and B, were obtained from a marine sponge called Stelletta sp., obtained from northwestern Australia. These compounds effectively prevented the infection of human T-lymphoblastoid cells by HIV-1RF, with EC50 values of 23 and 27 nM, respectively. These unique tridecapeptides consist of several uncommon non-proteinogenic amino acids. Notably, they are the first naturally occurring peptides to contain a β-hydroxy-p-bromophenylalanine residue. Additionally, another promising compound named microspinosamide was isolated from a collection of the marine sponge *Sidonops microspinosa,* originating from Indonesia. Microspinosamide is a cyclic depsipeptide consisting of 13 amino acid residues. In an XTT-based in vitro assay, it exhibited significant inhibition against the harmful effects of HIV-1 infection, with an EC50 value of approximately 0.2 µg/mL.

Poecillastrin A, a new polyketide-derived macrolide lactam, was obtained from a deep-water collection of the marine sponge Poecillastra species. The compound exhibited cytotoxicity and antiproliferative effects with EC50 that ranging from <25 nM to >10000 nM, which were comparable to those observed with the chondropsins. Haligramides A and B were purified from *Haliclona nigra*, which displayed cytotoxic properties in a 2-day in vitro assay with promising IC50 (µg/mL) 3.89-15.62 against the lung (A-549), colon (HCT-15), CNS (SF-539 and SNB-19) human tumor cell lines.

Eclalbasaponin II, a saponin isolated from Eclipta prostrata (L.), demonstrated significant antidiabetic property in rat model. The blood sugar lowering efficacy was almost identical to that of the standard drug, glibenclamide after 7 days of treatment. In another study, antidiabetic megastigmane glycoside namely (E)-4-hydroxy-4-[3 -(β-D-glucopyranosyloxy) butylidene]-3,5,5-trimethyl-2-cyclohexen-1-one, isolated from the leaves of *Pterospermum semisagittatum,* showed a significant insulin releasing effect on rat pancreatic islets.

Moreover, several phenolic constituents isolated from *Wendlandia tinctoria* var. grandis (Roxb.) DC., which exhibited promising antioxidant capacity with IC50 ranging from 6.20 ± 0.10 to 16.11± 0.02 µg/mL.

At the end Dr. Rashid discussed an interesting study with *Moringa oleifera,* locally known as drumstick tree or Shojna. Various parts of this plant such as the leaves, roots, seed, bark, fruit, flowers and immature pods are being employed for the treatment of different ailments in the indigenous system of medicine, particularly in South Asia. Traditionally, *M. oleifera* is reputed for antihypertensive activities. Prof. Rashid and his team were able to prove its safety through *in vivo* studies on rat model and blood pressure lowering efficacy through extensive investigation on animal model. In a clinical study, they found statistically significant blood pressure lowering effect of oral administration of *M. oleifera* leaf at 1500 mg/day.

Lecture on Nonlinear Optical Single Crystals: Its Beauty and Importance in Technology by Prof. Dr. Jiban Podder

An Academy Lecture was delivered on "Nonlinear Optical Single Crystals: Its Beauty and Importance in Technology" by Dr. Jiban Podder, Fellow, BAS and Professor, Department of Physics, Bangladesh University of Engineering and Technology (BUET) on Tuesday, 20 June 2023 at 11:00 am at the Council Building, BUET,. Emeritus Professor Dr. AK Azad Chowdhury and President of Bangladesh Academy of Sciences attended the lecture as the Chief Guest. Prof. Dr. Abdul Jabbar Khan, Pro-Vice-Chancellor, Bangladesh University of Engineering and Technology as the Special Guest and Professor Zahurul Karim, Vice President of the Bangladesh Academy of Sciences presided over the occasion and Prof. Dr. Yearul Kabir, Associate Secretary of BAS, gave the opening address and introduced the speaker to the audience.

Prof. Dr. Jiban Podder delivering his Academy Lecture

This very well attended Academy Lecture was participated by a good number of BAS Fellows, BUET Faculty members and students.

Participants at the Academy Lecture

Prof. Podder discussed the importance of crystallization of single crystal as an important field both for basic research and industrial applications in many scientific disciplines. Crystals always captivate the eye with their wondrous geometric shapes, transparency, shiny and glittering surfaces, sharp bounded planes and hardness. Single crystals are highly ordered structures that give them unique properties. Today, crystals are the backbone of modern technology. Without crystals, there would be no electronic industry, no photonic industry, and no fiber–optic communications. The rapid development of optical communication systems has led to the demand for high-performance nonlinear optical materials in electronic and optoelectronic devices.

In this regard, the growth of artificial single crystals from small to large sizes has received considerable attention. The advantage of single crystal over polycrystalline is that it has fewer point defects and dislocations. They have the uniformity of composition and there are no grain boundaries between individual grains. Thus, there is no optical absorption, no scattering effects, or trapping of conduction electrons. From a technical point of view, some potential organic, inorganic, and semi-organic single crystals have been grown in the laboratory by low-temperature solution growth techniques. Further, the growth mechanism, nucleation kinetics, origin of nonlinearities and the effect of transition metal impurities on the habit modification of some nonlinear optical crystals viz. Potassium dihydrogen phosphate (KDP), ammonium dihydrogen phosphate (ADP), KDP-ADP mixture, potassium acid phthalate (KAP), potassium chloride (KCl), urea, thiourea, triglycine sulfate (TGS), L-alanine, MgSO4, ZnSO4, K2SO4, etc., and their structures, mechanical and optical properties, and second harmonic generation properties are discussed in detail.

The solubility data at different temperatures and the width of the metastable zone are found very important to determine the saturation level and

the faster growth rates by employing faster cooling rates. In a supersaturated system, few atoms or molecules join together and a change in energy takes place in the process of formation of the cluster. Nucleation is the initial stage of all modes of crystal growth. Both the rate of formation of nuclei and the rate of crystallization are affected by the nature of the crystallizing substance, the concentration, the temperature, pH, agitation, and the impurities present in the solution.

Nonlinear processes can be used in optical communications, signal processing, laser medicine, parallel image processing, and the emerging fields of integrated optics. The nonlinear optical properties arise from the polarization of the molecules, which depends on the higher power of the applied field. Nowadays, nonlinear single crystals with sufficient second-order nonlinearities are very attractive for photonic applications, especially terahertz (THz) photonics. Laboratory-grown L-asparagine monohydrate doped with magnesium sulfate heptahydrate semi-organic crystals have shown the possibility of terahertz generation using picosecond/femtosecond laser pulses.

The lecture addressed the accumulated experience of Dr Jiban Podder's of work in the field of crystal growth research at BUET.

After the persentation the full audience was engaged right away by asking lots of questions to the speaker and this led to a very invigorating discussion.

ACADEMY LECTURE BY EXPATRIATE FELLOW

Lecture on Innovation Keeps us Relevant by Professor Dr. Mustafizur Rahman

Bangladesh Academy of Sciences (BAS) organized the Academy Lecture on "Innovation keeps us relevant" presented by Professor Dr. Mustafizur Rahman, Expatriate Fellow, BAS & Professor of Mechanical Engineering, National University of Singapore on Wednesday, 17 August 2022 at 4:00 p.m. on a Zoom platform. Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS joined the Lecture as the Chief Guest. Prof. Dr. Zahurul Karim, Vice President, BAS was in the Chair. Prof. Dr. Haseena Khan, Secretary, BAS, moderated the lecture.

About 35 Fellows, Associate Fellows and Expatriate Fellows, scientists, researchers and faculty members participated in the lecture.

Prof. Dr. Mustafizur Rahman presenting his Academy Lecture (virtually)

Participants at the virtual Academy Lecture

Prof. Rahman highlighted in his presentation that everyone needs to keep himself relevant to have a meaningful life. He started his presentation mentioning why and how a person can make himself relevant to his family, community, profession and even after retirement. He explained that most important factor to make someone relevant is that he needs to find an innovative solution of an existing problem to solve the same and preferably that solution should be unique. If there is a solution of an existing problem which is sufficient enough, he should try to come up with a much better solution to make a significant impact.

Prof. Rahman gave the example of remaining relevant to his siblings by helping all of them by tutoring. One of his significant innovative ideas to make himself relevant to the Bengali Community in Singapore, where he lives now, by uniting and inspiring the community to approach Singapore Govt. to allow their children to take Bengali as the 2nd language instead of Chinese, Malaya or Tamil. It needs to be mentioned here that a 2nd language is compulsory for students in Singapore. He along with his other community leaders managed to convince the Singapore Govt. to allow them to start Bengali School for their children. Now, Bengali is one of the recognized 2nd languages in School Education System and Bengali Language School is also partly funded by the Singapore Govt.

He explained how he made himself very relevant in his teaching and research profession in the National University of Singapore by conducting research in the area of micromanufacturing. He had rightfully predicted that micro manufacturing will be much necessary in the immediate future. Micro-manufacturing is now pervasive in every area of manufacturing. He established that micro machining can successfully be carried out by hybrid and compound machining processes and he successfully developed the machining processes and machines for such hybrid machining. He patented the machines and the machining processes. His breakthrough research brought in large amount of funding from Singapore Govt. as well as from companies both in Singapore and Japan.

To keep himself relevant, he later started working on nano manufacturing and predicted that nano manufacturing will be the next trend of manufacturing. He established that nano machining is different from conventional machining which is known as 'Shearing and Processes' and he established 'Extrusion-like mechanism and Burnishing mechanism' in ultra-precision machining. He has also developed the most advanced machines for nano machining.

On retirement from the National University of Singapore (NUS), he has continued his work and research on nano manufacturing with a NUS spin-off company, Mikrotools Pte Ltd. He is currently the Managing Director of the company. With a research and development funding from Singapore Govt. he has developed a Smart Ultraprecision machine for nano machining. This machine has made a significant impact in the market.

He concluded by saying that everyone needs to be involved in some form of innovative activity to keep oneself relevant without which one would become obsolete and redundant.

Prof Mustafizur Rahman's presentation ended with a refreshing discussion by the Fellows on the innovative powers of the village people of Bangladesh.

POPULARIZING SCIENCE

POPULAR SCIENCE LECTURE

Observing the Universe: From Antiquity to the James Webb Space Telescope by Prof. Dr. Saleh Hasan Naqib, Fellow, BAS

The Bangladesh Academy of Sciences (BAS) organized the Popular Science Lecture entitled "Observing the Universe: From Antiquity to the James Webb Space Telescope" at 11:00 am on 26 October 2022 in the Auditorium of the Physics Department, Dhaka University. Dr. Saleh Hasan Naqib, Fellow of BAS and Professor, Department of Physics, University of Rajshahi, was the speaker. Prof. Dr. Mesbahuddin Ahmed, Treasurer, BAS was present in the lecture as the Chief Guest. Prof. Dr. Supriya Saha, Chairperson, Dept. of Physics, University of Dhaka presided over the occasion. Professor Dr. Yearul Kabir, Associate Secretary of the BAS, moderated the lecture. Eminent physicist, Emeritus Professor Dr. M. Shamsher Ali, Fellow and Former President of BAS was also present.

Prof. Dr. Saleh Hasan Naqib presenting the Popular Science Lecture

Participants at the Popular Science Lecture

Around 140 participants including Fellows, scientists, researchers, faculty members and students of different universities were present in the lecture.

A Summary of the Popular Lecture:

The term universe originates from the Latin word universus and it consists of all of space and time and their contents (visible and invisible), including planets, stars, galaxies, and all other forms of matter and energy. In reality, the term implies the observable universe which is almost 13.8 billion years old and expanding. Telescopes, on the other hand are instruments that collect electromagnetic wave energy to form 'image' of distant bodies. The electromagnetic energy spectra encompass a huge range from the very long wavelength radio waves to the extremely short wavelength gamma rays. Telescopes are designed to operate at particular wavelength range of the electromagnetic wave spectra.

The lecture was followed by a lively discussion and question-answer session. In his presentation, Dr. Naqib talked about the content and timeline of the observable universe. He discussed about telescopes of different types–both ground based and space stationed. A chronology of the advancement of telescopes to observe the universe was presented. The lecture started with the earliest observation of the sky by mankind and culminated with the detailed description of the most recent James Webb Space Telescope.

Chief Guest, Prof. Dr. Mesbahuddin Ahmed delivering his speech at the Popular Science Lecture

5TH YOUNG SCIENTIST CONGRESS

The 5th Young Scientist Congress was organized on 25-27 November 2022, with the theme, Young Scientists for Health and Environment, by the Bangladesh Academy of Sciences, supported and sponsored by the Akij Group, Union Bank Ltd, ACI Limited, Incepta Pharmaceuticals Ltd, NRBC Bank Ltd. and also supported by the National Museum of Sciences & Technology.

The Program was organized at the National Science & Technology Complex, Agargaon, Dhaka, Bangladesh. About 350 participants of diverse organizational background, ranging from academia to industry and public to for-profit private sector, attended the event.

Address by the Chief Guest, Mr. MA Mannan, MP, Honorable Minister, Ministry of Planning, Government of Bangladesh

Participants at the Congress

The Inaugural Ceremony of the Congress was held at 15.30 hrs. on 25 November 2022. Emeritus Prof. Dr. AK Azad Chowdhury, President of the Bangladesh Academy of Sciences, chaired the Ceremony, and Mr. M A Mannan, MP, Honorable Minister, Ministry of Planning, Government of the People's Republic of Bangladesh graced the occasion as the Chief Guest. The Guest of Honor of the Ceremony was Mr. Mohammad Zahangir Alam, Head of Market Intelligence, Akij Group Ltd., Maj Gen (Retd) Prof Dr. ASM Matiur Rahman, the Chairperson of the Organizing Committee, delivered the Address of Welcome, and Prof Dr. Haseena Khan, the Secretary of the Bangladesh Academy of Sciences introduced the activities of BAS to the audience. The vote of thanks was delivered by Prof. Dr. Liaquat Ali, the Organizing Secretary of the Congress.

Address by Maj Gen (Retd) Prof Dr ASM Matiur Rahman, Chairperson, 5th YSC, Organizing Committee

Address by Prof. Dr. Haseena Khan, Secretary, BAS

All the speakers emphasized the need for prioritization of science and technology for the economic and social prosperity of the country which is now become a role model of the developing world in many respects. It was also expressed that time has

now come to give more concentration on the quality aspects of science education and research in parallel to their quantitative development. Highlighting the pro-science policies of the Government of the People's Republic of Bangladesh, the Honorable Chief Guest assured his whole-hearted support to the initiatives of BAS. Citing a number of examples the Chairperson of the Ceremony inspired the young scientists to emphasize on the innovation aspects of science & technology to counter the problems in the country and they were assured of all possible support by the Academy.

Address by Guest of Honor Mr. Mohammad Zahangir Alam, Head of Market Intelligence, Akij Group Ltd.

Address by Chair of the Congress, Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS

The Inaugural Ceremony was followed by the Theme Lecture delivered by Dr. Qazi Kholiquzzaman Ahmad, Chairman, Palli Karma Sahayak Foundation (PKSF), Dhaka, Bangladesh, Govt. of the People's Republic of Bangladesh.

Theme Lecture delivered by Dr. Qazi Kholiquzzaman Ahmad, Chairman, Palli Karma Sahayak Foundation (PKSF)

Dr. Qazi Kholiquzzaman Ahmad emphasized upon the role of young scientists for the development of the country. He encouraged, enthused and impressed upon the young scientists for their future role in the development of science research and education for ultimate building of the country towards prospects and prosperity through improvement of the health of our population and the environment of the country. The program of the day ended with a reception dinner.

Guests and participants at the Congress

On the second day of the Congress there were 1 Plenary Lecture, 13 Invited Lectures and 56 Oral Presentations. The Plenary Lecture was delivered by Maj Gen (Retd) Prof Dr ASM Matiur Rahman, Fellow, BAS and it was chaired by Prof Dr. Haseena Khan, Secretary, BAS. All the Invited Lectures and Oral Presentations were held in 4 parallel sessions divided into the following 4 tracks: i) Biological & Agricultural Sciences; ii) Physical, Chemical, Natural Resource & Environmental Sciences; iii) Mathematical,

Engineering and Computer Sciences; and iv) Health, Nutrition & Pharmaceutical Sciences. In parallel to the Invited Lectures and Oral Presentations 152 posters were displayed in the Poster Area (on the same 4 tracks) and poster discussion were held at prefixed times.

On the third day of the Congress there were 1 Plenary Lecture, 11 Invited Lectures and 25 Oral Presentations. The Plenary Lecture was delivered by Prof. Dr. Abdul Hamid, Dept. of Agronomy (Former Professor), Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU) and it was chaired by Prof. Dr. Zahurul Karim, Fellow, BAS. All the Invited Lectures and Oral Presentations were held in 4 parallel Sessions divided into 4 Tracks as mentioned earlier.

The Concluding Session of the congress was held at 17.15 hrs on 27 November 2022. Emeritus Prof. Dr. AK Azad Chowdhury, President of the Bangladesh Academy of Sciences, chaired the Ceremony, and Mr. Ziaul Hasan, NDC, Senior Secretary, Ministry of Science & Technology, Government of the People's Republic of Bangladesh attended the Session as the Chief Guest. Maj. Gen (Retd) Prof. Dr. ASM Matiur Rahman, the Chairperson of the Organizing Committee, and Prof. Dr. Haseena Khan, the Secretary of the Bangladesh Academy of Sciences delivered their remarks and Prof. Dr. Liaquat Ali, Organizing Secretary of the Congress moderated the discussion. A lively discussion followed and important suggestions were generated on the continuation and organization of the Congress and activities of the Academy in general.

A special supplement of Journal of Bangladesh Academy of Sciences (JBAS) was published with the abstracts of the oral and poster presentation of the participating young scientists of the 5th Young Scientist Congress. The best oral presentations of four thematic areas and best posters were recognized with prizes.

Address by the Chief Guest, Mr. Ziaul Hasan, NDC, Senior Secretary, Ministry of Science & Technology, Government of Bangladesh.

A participant receiving an award for his presentation

Secretary, BAS presented the report in the meeting. The meeting expressed satisfaction for organizing the YSC 5 in a successful manner and thanked the organizers. It was also decided that a circular for YSC should be announced in the printing and electronic media 2-3 months ahead of the event.

BAS-FSIBL NATIONAL SCIENCE OLYMPIAD 2023, 11 FEBRUARY 2023

The 13th BAS-FSIBL National Science Olympiad 2023 was held successfully this year at both the divisional and the national levels under the sponsorship of the First Security Islami Bank Ltd (FSIBL).

The Science Olympiad 2023 at the divisional levels was held on Friday 13 January 2023 at 6 centers in the metropolitan Dhaka and 28 centers throughout the country.

The 13th Science Olympiad 2023 at the national level was held on Saturday 11 February 2023 at the Curzon Hall Premises, Dhaka University. The event started at 9.00 am with the National Anthem and flag hoisting. Pigeons, balloons and festoons were released by the Fellows and guests during inauguration. Prof. Dr. M Shamsher Ali, Prof. Dr. Haseena Khan, Prof. Dr. Abdul Alim, Prof. Dr. Yearul Kabir, Prof. Dr. Mohammed Almujaddade Alfasane and Mr. Abdur Rahim Khan of First Security Islami Bank spoke in the inauguration and encouraged and inspired the students to study science for the development of the country. The Olympiad 2023 examination started in the Curzon Hall on all the three floors of auditorium at 10:00 am and continued for one and a half hours.

Address by Prof. Dr. M Shamsher Ali, Convener, Science Olympiad 2023

Participants taking part in the Olympiad examination

After the examination, there was an open discussion session for questions by the participating students. The invited speakers present in the open discussion were Prof. Dr. M. Tofazzal Islam, Prof. Dr. Mirza Hasanuzzaman and Prof. Dr. Mamun Al Mahtab, Fellows of BAS.

Emeritus Prof. Dr. M Shamsher Ali, Convener of the 13th BAS-FSIBL Science Olympiad was present as the Olympiad Speaker.

Question and Answer session of the Olympiad

Prof. Dr. Haseena Khan, Secretary, BAS delivering her speech

The Prize Distribution Ceremony for the winners of the National Science Olympiad 2023 began at 3:30 pm. Dr. Dipu Moni, MP, Hon'ble Minister, Ministry of Education, Govt. of the People's Republic of Bangladesh joined the ceremony virtually, as the Chief Guest and Mr. Syed Waseque Md. Ali, Managing Director, FSIBL was present as the Special Guest. The ceremony was chaired by Dr. MA Hamid Miah,

Fellow, BAS. The Convener of the Olympiad, Organizing Committee Prof. Dr. M Shamsher Ali and Secretary, BAS Prof. Dr. Haseena Khan delivered the welcome speech and vote of thanks respectively. Then Prof. Dr. Yearul Kabir, Associate Secretary, BAS declared the names of the winners during the Prize Distribution Ceremony.

Chief Guest, Dr. Dipu Moni, MP, Hon'ble Minister, Ministry of Education, Govt. of the People's Republic of Bangladesh joined the ceremony virtually and spoke to the Olympiad participants

A successful participant receiving an award

The Chief Guest, the Special Guest and BAS Fellows distributed prize money, medals, certificates, and science books to the winners of the School and College Groups of the Olympiad. About 450 students participated in the National Science Olympiad 2023. Certificates of participation were presented to the all the participants.

Guests with the successful Olympiad participants

BAS HONORS OUTSTANDING SCIENTISTS

SCIENTISTS SELECTED FOR DIFFERENT GOLD MEDAL AWARDS 2022

Physical Sciences, senior group

Prof. Dr. Md. Akhtarul Islam
Dept. of Chemical Engineering and Polymer Science
Shahjalal University Science and Technology

Biological Sciences, senior group

Prof. Dr. Mirza Hasanuzzaman
Department of Agronomy
Sher-e-Bangla Agricultural University

Physical Sciences, junior group

Dr. Abdul Mannan
Associate Professor, Dept. of Physics
Jahangirnagar University

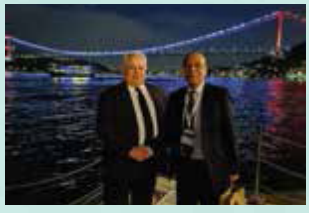
Biological Sciences, junior group

Dr. Md. Farhadul Islam
Associate Professor, Dept. of Biochemistry and Molecular Biology, University of Rajshahi

BAS-National Prof. Dr. M Innas Ali Memorial Gold Medal Award

Dr. Mohammod Jobayer Chisty
Senior Scientist
Nutrition and Clinical Service Division, Icddr,b

INTERNATIONAL RESPONSES




International Science Council Asia Pacific Members Meeting, Wednesday 26 April 2023

Emeritus Prof. AK Azad Chowdhury, President, BAS participated in the International Science Council Asia Pacific Members Meeting, Wednesday 26 April 2023 on a Zoom platform.

AASSA-TUBA joint symposium on "The role of Science Academies towards the future of Basic Sciences", Istanbul, Turkey, 28-29 April 2023

The Executive Board (EB) of AASSA, was held in conjunction with the AASSA-TUBA joint symposium on "The role of Science Academies towards the future of Basic Sciences", in Istanbul, Turkey, on 28-29 April 2023. Emeritus Prof. Dr. AK Azad Chowdhury, President, Bangladesh Academy of Sciences represented the Academy.

Prof. Dr. Muzaffer Şeker, President, Turkish Academy of Sciences (TÜBA) and Emeritus Prof. AK Azad Chowdhury, President, Bangladesh Academy of Sciences (BAS) at the AASSA Executive Board (EB) Meeting

Members present in the EB meeting of AASSA

International Science Council (ISC) mid-term meeting in Paris, May 10-12, 2023

The International Science Council held its mid-term meeting in Paris, France from May 10-12, 2023. This was the first physical meeting after the pandemic. Prof. Haseena Khan was invited as the Secretary of the Bangladesh Academy of Sciences for participation.

ISC mid-term meeting in Paris

There was representation of about 150 Science Academies, Unions and Affiliated Bodies in this event. This ISC meeting had a few take home messages. Among them one was the gender bias in all Science Academies. There is a general recognition that women need greater representation in the Academies. The case of the Royal Netherlands Academy of Arts and Sciences was discussed. The Dutch Academy had taken a bold step in 2017 to have a women-only election in order to reduce their perpetual gender imbalance.

In this regard the Academies have been asked to take effective and visible measures to increase female representation. There were even discussions of disallowing fellowships/ grants to member academies which fail to take steps in this direction.

Another issue which came up very strongly was the value of science in decision-making, and the importance of taking steps for multilateral cooperation and exchange of information and data. In this regard there was discussion on a group recently launched by UN called the 'Friends on Science for Action'. This initiation by Belgium, India and South Africa was announced during the second scientific

briefing of the UN General Assembly in April 2023. It is meant to be a platform to help Member States during the future negotiations and way beyond.

At this ISC meeting the Member States have been encouraged to join this informal forum. ISC requested the member Academies to request their Foreign Ministers to take initiatives to join this forum.

The BAS Council looked through the activities, expressed their satisfaction and decided to take steps for increasing female representation in the BAS and to follow up the inclusion of Bangladesh in the UN body called 'Friends for Science'.

STEMCON: A Conference of the Bangladesh Stem Cell & Regenerative Society

STEMCON, the annual scientific conference of Bangladesh Stem Cell & Regenerative Society is held annually since 2017. The Society was established by a group of enthusiastic clinical scientists from across specialties interested in stem cell research. The Society tries to engage non-clinical researchers to create a platform whereby research with stem cells can be carried from bench to bedside in the country.

Mr. Mubibul Hassan Chowdhoury, MP and Deputy Minister, MoE. Emeritus Prof. AK Azad Chowdhury, President, BAS and other guests on the dias

For the first time Bangladesh Academy of Sciences was on board for the 2022 STEMCON meeting held on December 06, 2022. It was held in the National Science and Technology Complex, where BAS is housed. BAS provided important support in spreading the conference to faculty of different public and private universities and institutes. Thus, STEMCON-2022 saw the maximum number of non-clinical scientists participating and contributing to this conference. The scientific content was of global standard and discussions at par with any such meeting at any developed centre.

Emeritus Prof. AK Azad Chowdhury, President, BAS delivering his speech

Chaired by BAS Fellow, Prof Dr Mamun Al Mahtab, Shwapnil, the Chief Guest of the conference was Mr Muhibul Hassan, MP and Deputy Minister, Ministry of Education. BAS President, Emeritus Prof. AK Azad Chowdhury graced the inuagural session of the daylong conference as the Special Guest. BAS President commended the organizers for the overall arrangements and specially the scientific content of the meeting. The meeting was an important leap in providing opportunities for extensive collaboration between clinical and non-clinical scientists.

The 108th Indian Science Congress, 2-7 January 2023, India

Dr. Mirza Hasanuzzaman, Fellow, Bangladesh Academy of Sciences (BAS) and Professor of Agronomy, Sher-e-Bangla Agricultural University and Dr. Kamrun Nahar, Associate Fellow, BAS and Professor of Agricultural Botany, Sher-e-Bangla Agricultural University attended the 108th Indian Science Congress held on 2-7 January 2023, Nagpur, Maharashtra, India as BAS delegates. The theme was "Science and Technology for Sustainable Development with Women Empowerment".

Dr. Mirza Hasanuzzaman attended the 108th Indian Science Congress

Dr. Kamrun Nahar attended the 108th Indian Science Congress

Global Assembly on Futures of Education (GAFE) 2023.

GEIST International Foundation, in collaboration with Aspire to Innovate (A2i), ICT Division, Ministry of Posts, Telecommunications and Information Technology and the Bangladesh Academy of Sciences jointly organized the Global Assembly on Futures of Education (GAFE) on 23 February 2023. Collaboration, sharing success stories, emulating best practices, mitigating challenges, developing collaborative research works are potential action areas in education and these were discussed in the Assembly.

The event was arranged in a hybrid mode where some speakers and presenters participated in person and others virtually. Nearly 40 participants from 7 countries joined GAFE in-person.

Mr. Mustafa Jabbar, Minister of Posts and Telecommunications of Bangladesh was the chief guest of the session and Prof. Dr. Liaquat Ali, Fellow, BAS was the special guest.

Mr. Mustafa Jabbar, Minister, Posts and Telecommunications, Prof. Dr. Liaquat Ali, Fellow, BAS and other guests in the GAFE Assembly

Representing BAS at S-20 in Lakshadweep, Kerala, India

Dr Mamun Al Mahtab represented Bangladesh Academy of Sciences at S-20, which was one of the four Science-20 meetings organized in connection with G-20 summit scheduled in New Delhi in September, 2023. This meeting was held at Lakshadweep, an archipelago in the Indian Ocean off the coast of Southern Indian State of Kerala from May 01 to 02, 2023. The four S-20 meetings are part of the over hundred meetings that are being organized in every corner of India in connection with the G-20. Focus of the Lakshadweep S-20 was universal holistic health. The meeting was held in a make shift tent overseeing the pristine, turquoise waters on the sandy beach of Bargaram island. The meeting on universal health was participated by top scientific brains and policy makers of G-20 member and observer states. Dr. Mahtab's talk at the S-20 meeting which highlighted Bangladesh's achievements in ensuring health for all its' citizens was highly appreciated and frequently referred to during the meeting and when the participants met in private.

Prof. Dr Mamun Al Mahtab delivering his speech in the S-20 Conference on Universal Holistic Health in Lakshadweep, Kerala, India

WORKING FOR YOUNG SCIENTISTS

Nominations for Young Physician Leadership (YPL) 2022, Berlin, Germany

Bangladesh Academy of Sciences nominated the following two candidates for Young Physician Leadership (YPL) 2022, Berlin, Germany:

Dr. Syeda Fatema Alam
Post-Graduate Trainee and Honorary Medical Officer
Department of Psychiatry
Dhaka Medical College Hospital

Dr. Kamrun Nahar Koly
Assistant Scientist, Health System and Population Studies Division, International Centre for Diarrhoeal Disease Research, Bangladesh

Nomination for Prof. Yoo Hang Kim Young Women Scientists Award 2023

The Bangladesh Academy of Sciences nominated the following candidate for Prof. Yoo Hang Kim Young Women Scientists Award 2023.

Dr. Tahirah Yasmin
Assistant Professor
Dept. of Biochemistry and Molecular Biology
University of Dhaka

Nomination for Science Diplomacy Workshop, 12-16 September 2022, India

Bangladesh Academy of Sciences nominated the following candidates for Science Diplomacy Workshop, September 12-16, 2022, India in two categories: as Speakers and as Participants:

Nominee	Name and Address	Themes	Category
	**Dr. Mst. Noorjahan Begum (Maliha)** Assistant Scientist Infectious Diseases Division, International Centre for Diarrhoeal Disease Research, Bangladesh (icddrb)	Healthcare	Speaker
	**Dr. Md Jasim Uddin** Associate Professor School of Pharmacy BRAC University	Healthcare	Speaker
	**Dr. Sabrina M Elias** Assistant Professor Independent University Bangladesh (IUB)	Impact of Climate Change	Speaker
	**Md. Enayet Chowdhury** Lecturer, Institute of Water and Flood Management, Bangladesh University of Engineering and Technology (BUET)	Agriculture/Water Resources and Others	Speaker
	**Ms. Fahmida Sharmin** Assistant Professor Dept. of Natural Sciences Stamford University, Bangladesh	Energy Solutions	Speaker
	**Ms. Shampa** Assistant Professor Institute of Water and Flood Management Bangladesh University of Engineering and Technology (BUET)	Disaster Management	Speaker

Nominee	Name and Address	Themes	Category
	**Dr. Mahatabuddin Sheikh** Senior Research Officer Bangladesh Forest Institute (BFRI), MoEFCC, Chattogram		Participant
	**Dr. Ronok Zahan** Associate Professor Dept. Of Pharmacy University of Rajshahi		Participant
	**Sakia Shabnam Kader** Senior Lecturer (Physics) Daffodil International University		Participant
	**Mahbub-Ul Alam** Associate Scientist Environmental Interventions Unit, Infectious Diseases Division, icddr,b		Participant
	**Dilshad Noor Lira** Associate Professor Department of Pharmaceutical Technology University of Dhaka		Participant
	**Dr. Mst. Rejina Afrin** Assistant Professor Department of Pharmacy East West University		Participant

Nomination for the 14th HOPE Meeting, Japan

Bangladesh Academy of Sciences nominated the following three (3) young scientists for the 14th HOPE meeting held during 27 February-03 March 2023 in Tsukuba-city, Japan.

Dr. Jagodish Chandra Sarker
Associate Professor
Department of Chemistry
Jagannath University

Prof. Dr. Ayatun Nesa
BIRDEM General Hospital
122, Kazi Nazrul Islam Avenue
Shahbag

Mr. A. B. M. Foisal
Senior Lecturer
Dept. of Textile Engineering
Southeast University

Nomination for TWAS Regional Partner Award 2023

The Bangladesh Academy of Sciences nominated the following candidates for TWAS Regional Partner Award in the subject area "Development of Scientific Educational Material":

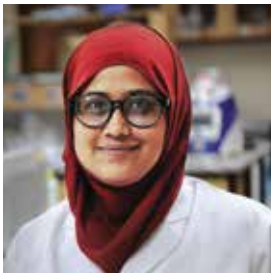
Dr. Mustak Ibn Ayub
Assistant Professor
Department of Genetic Engineering and
Biotechnology, University of Dhaka

Dr. Sabrina Moriom Elias
Assistant Professor
Department of Life Sciences
Independent University Bangladesh (IUB

Nomination for TWAS Young Affiliates 2023

The Bangladesh Academy of Sciences nominated the following candidates for TWAS Young Affiliates 2023:

Dr. Tahirah Yasmin
Assistant Professor
Department of Biochemistry and Molecular Biology, University of Dhaka



Dr. Marjahan Akhtar
Assistant Scientist
Mucosal Immunology and vaccinology Unit, Infectious Diseases Division, icddr,b

Dr. Jagodish Chandra Sarker
Associate Professor
Department of Chemistry
Jagannath University

Dr. Mst. Rejina Afrin
Associate Professor
Department of Pharmacy
East West University

Nomination for the 72nd Lindau Nobel Laureate Meeting dedicated to Physiology and Medicine, 25-30 June 2023, Germany

Bangladesh Academy of Sciences nominated the following candidates for the 72nd Lindau Nobel Laureate Meeting dedicated to Physiology and Medicine held on 25-30 June 2023:

Sahadat Hossain
Lecturer in Public Health and Informatics
Jahangirnagar University, Bangladesh

Afifa Anjum
Dept. of Public Health and Informatics
Jahangirnagar University, Bangladesh

INDIA SCIENCE AND RESEARCH FELLOWSHIP (ISRF) PROGRAM FY 2022-23

Bangladesh Academy of Sciences nominated 12 (twelve) candidates suitable and eligible for India Science and Research Fellowship (ISRF) 2022-23.

The Department of Science & Technology, Government of India recommended 11 candidates for the award of India Science and Research Fellowship (ISRF) 2022-23.

Selected candidates from Bangladesh

Name and present position	Area of Research	Candidates
Prof. Dr. Md. Abu Sayed Department of Biochemistry and Molecular Biology Hajee Mohammad Danesh Science and Technology University, Dinajpur-5200, Bangladesh	Life Sciences	
Dr. Elora Sharmin Associate Professor Dept. of Pharmacology Bangabandhu Sheikh Mujib Medical University Shahbagh, Dhaka, Bangladesh	Medical	
Mr. Niaz Md. Farhat Rahman Senior Scientific Officer (SSO), Agricultural Statistics Division Bangladesh Rice Research Institute (BRRI), Gazipur-1701, Bangladesh	Agriculture	
Dr. MM Towhidul Islam Associate Professor Dept. of Biochemistry and Molecular Biology University of Dhaka, Dhaka 1000, Bangladesh	Molecular Biology	
Prof. Ahmedul Kabir, PhD Assistant Professor Asian University for Women Chattogram, Bangladesh	Biochemistry	

Name and present position	Area of Research	Candidates
Ms Mumita Jerin Nilav Clinical Psychologist Nasirullah Psychotherapy Unit Dept. of Clinical Psychology University of Dhaka, Dhaka 1000,	Clinical Psychology	
Dr. S. M. Nizam Uddin Assistant Professor Department of Chemistry Shahjalal University of Science and Technology, Sylhet-3114, Bangladesh	Chemistry	
Dr. Md. Golam Hafez Professor Department of Mathematics Chittagong University of Engineering and Technology, Chattogram-4349. Bangladesh	Mathematics	
Dr. Mohebul Ahsan Research Assistant Dept. of Chemistry Shahjalal University of Science and Technology, Sylhet, Bangladesh	Engineering	
Dr. Najmun Nahar Assistant Professor Life and Earth Science Group, Academic Building 11 th floor National University, Gazipur -1704 Bangladesh	Agriculture	
Ms Tania Sultan Centre for Excellence Scholar in Observational Oceanography, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Helgoland, Germany	Climate & Environment	

SOCIAL ACTIVITIES

EID REUNION AND FAREWELL PROGRAM

All Fellows and Associate Fellows of BAS were invited to an Eid Reunion on 26 April 2023 at 4:00 pm at the Bangladesh Academy of Sciences, 3rd floor, National Science and Technology Complex, Agargaon, Dhaka 1207. Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS was the Chief Guest. Prof. Dr. Zahurul Karim, Vice President, BAS was the Chair, Prof. Dr. M Shamsher Ali, senior most Fellow, BAS and Dr. MA Mazed, Director, BAS were on the dais. Prof. Dr. Haseena Khan, Secretary, BAS moderated the program. Fellows, Associate Fellows and BAS staff were present in the program.

Eid Reunion, April 2023

BAS bidding farewell to Dr. M A Mazed, Director, BAS

It was a combined program to celebrate Eid reunion and to bid farewell to Dr. M A Mazed, Director of BAS for 17 years. President, BAS greeted everyone present and requested Prof. Haseena Khan, Secretary, BAS to start the event. As this was also a farewell event for Dr Mazed the Secretary commented on how the BAS has become synonymous to Dr. M A Mazed who has served the Academy very well and that during his time the BAS attained greater heights in terms of its activities. She then requested Prof. Shamsher Ali to speak a few words about Dr. Mazed. Prof. Shamsher Ali briefly described the long history of the BAS and mentioned the participation and contribution of Dr. MA Mazed since his joining BAS in 2006 till date. Then Major General (Rtd.) Prof. Dr. Matiur Rahman, Dr. M Idris Ali, Prof. Dr. Mesbahuddin Ahmed, Prof Dr Liaquat Ali and Prof. Dr. Zahurul Karim spoke on the occasion and everyone acknowledged the amiable and cooperative nature of Dr. Mazed and the impact of the reunion in improving the connectivity among the Fellows. Everybody also praised and expressed their gratitude to the BAS Council particularly the Secretary, BAS Prof. Haseena Khan for her sincere efforts in expanding the activities of BAS. On behalf of the BAS personnel, Dr. Md. Samiul Haque, Additional Director addressed the august gathering and presented a brief biography of Dr. Mazed including his education, past positions, contributions and some of his social activities. Prof. Haseena Khan, Secretary, BAS then requested Dr. Mazed to share his feelings to the audience. Dr. Mazed formally addressed everyone and expressed his thanks and gratitude to all the Fellows and sought forgiveness for his inability to contribute more to the cause of the Academy. The moderator of the event, Prof. Haseena Khan then introduced Emeritus Scientist Dr. Firdausi Qadri who has recently been awarded the Independence Day Award 2023, the highest civilian award by the government of Bangladesh. The chief guest Emeritus Prof, AK Azad Chowdhury, President, BAS congratulated her and presented her a floral bouquet for her enormous contribution to research and training. On this occasion Dr. Firdausi Qadri expressed her gratitude to the BAS and also praised the contribution of Dr. Mazed. The chief guest, Emeritus Prof. Dr. AK Azad Chowdhury then congratulated

Dr. Mazed with a floral bouquet and presented some mementos to him. Prof. Chowdhury then delivered his concluding speech, highlighting the activities of BAS and the contribution of Dr. Mazed.

OTHER ACTIVITES

Bangabandhu Corner:

It is natural that many individuals across the world are interested in knowing about the childhood, student life, politics, social policy, patriotism, foreign policy, humanitarianism, etc. of Bangabandhu Sheikh Mujibur Rahman, the greatest Bengali of all time, and the Father of the Nation.

Bangladesh Academy of Sciences has established a Bangabandhu Corner in the library of the Academy on March, 2023, to have such information on Bangabandhu in one place. The corner is open to public (during office hours). The Academy is proud to have created such an opportunity to learn about the Father of the Nation, Bangabandhu Sheikh Mujibur Rahman.

A part of the Bangabandhu Corner at the Bangladesh Academy of Sciences

Participation in social activities:

The Academy has actively participated and contributed in establishing a beautiful children's corner in the premises of the National Museum of Science and Technology, Agargaon, Dhaka. Children from different institutions throughout the country are visiting the museum and enjoying different rides in the children's corner round the year.

Children's corner at the National Museum of Science and Technology

Digital Display:

A digital display with necessary accessories has been installed near the entrance, an easily visible corner of the office to highlight the activities of the BAS. It has multipurpose uses. It can also be used as a presentation display monitor and as a TV.

This has created an opportunity for visitors to be acquainted with the major activities of the Academy.

Digital Display at the BAS Office

ACTIVITY REPORT OF BAS-USDA ENDOWMENT PROGRAM

ACTIVITY REPORT OF BAS-USDA ENDOWMENT PROGRAM JULY 2022 - JUNE 2023

01. Meeting of the Board of Trustees (BoT) of BAS-USDA Endowment Program

The BoT is the authority to define the operational policies and management of the BAS-USDA Endowment Program with the assistance of Technical Advisory Committee (TAC).

The BoT is formed by the BAS Council. It consists of nine eminent scientists of the field of agriculture and natural sciences, a representative from the Economic Relations Division (ERD), Ministry of Finance, GoB and a member of the UGC. A representative from USDA is an observer of the BoT meeting.

The composition of the Board of Trustees is as follows:

President of BAS	Chairman
Treasurer of BAS	Member
Five reputed scientists (one each from Agricultural Sciences, Natural Sciences, Agricultural Trades, Life Sciences and Agricultural Engineering/ Food Engineering)	Member
Chairman /Representative of UGC (not below the rank of Member)	Member
One representative of ERD of the Ministry of Finance (not below Joint Secretary rank)	Member
Secretary, BAS	Member Secretary

During the financial year (July 2022-June 2023), one BoT Meeting (26th) was held.

The 26th Meeting of the Board of Trustees (BoT) of BAS-USDA Endowment Program was held in the Conference Room of Bangladesh Academy of Sciences, National Science and Technology Complex, Agargaon, Dhaka -1207 on 23 November 2022. Emeritus Prof. Dr. A K Azad Chowdhury, President, BAS and Chairman, BoT presided over the meeting. This meeting recommended all 30 project proposals under 5th phase selected by TAC for funding.

A request was made in this meeting to USDA for the increase of the management fee of the BAS-USDA Endowment Fund from the present 2% to 4%. An application was forwarded to USDA, Dhaka on 19 December 2022 for the increase of management fee. USDA gave an approval of the proposal to increase management fee from 2 to 4 percent of the BAS-USDA Endowment Fund to BAS through a letter dated 2nd April 2023.

26th BoT Meeting held on 23 November 2022

The following members were present:

1. Emeritus Prof. Dr. AK Azad Chowdhury, President, BA - Chairman
2. Prof. Dr. Mesbahuddin Ahmed, Treasurer, BAS - Member
3. Prof. Dr. M Shamsher Ali, Fellow, BAS - Member
4. Dr. M A Hamid Miah, Fellow, BAS - Member
5. Prof. Dr. Shariff Enamul Kabir, Fellow, BAS - Member
6. Prof. Dr. Dil Afroza Begum, Member, UGC - Member
7. Ms. Mahbooba Panna, Additional Secretary and Wing Chief, America and Japan, ERD, Ministry of Finance - Member
8. Ms. Megan Francic, Agricultural Attaché, USDA, US Embassy in Bangladesh - Observer
9. Prof. Dr. Haseena Khan, Secretary, BAS - Member Secretary

Dr. Tanvir Mahmud, Agricultural Specialist, U.S. Department of Agriculture (USDA), U.S. Embassy in Bangladesh who had accompanied Ms. Megan Francic was also present in the meeting.

02. Technical Advisory Committee (TAC) Meeting

The Technical Advisory Committee consists of eleven eminent professionals from different relevant fields. This committee is formed by the Board of Trustees (BoT), BAS-USDA Endowment Program (BUEP). The Academy Fellows in the relevant fields are given preference for the membership of TAC. The senior most Fellow of TAC acts as the Chairperson. TAC assists the BoT in managing and implementing the BAS-USDA Endowment Program (BUEP).

The composition of the TAC is as follows:

Chairperson			
Treasurer, BAS			Member
Expert Members (8)			
	Crop Sciences	2	Member
	Fisheries	1	Member
	Livestock	1	Member
	Agro-forestry/Life Sciences	1	Member
	Agricultural Trades	1	Member
	Natural Sciences	1	Member
	Food Safety	1	Member
Secretary, BAS			Member Secretary

During the financial year (July 2022-June 2023), four Technical Advisory Committee Meetings (76th – 79th TAC Meeting) were held:

The 76th meeting of TAC was held on Monday, 12 September 2022 in the Conference Room of the Academy, National Science and Technology Complex, Agargaon, Dhaka -1207. Prof. Dr. Zahurul Karim, Chairperson, TAC, BAS-USDA Endowment Program presided over the meeting. Main discussion topics in the meeting were:

- Review and follow up of rapporteurs' report on the presentations by PIs of the 5th phase projects
- Identification of prospective projects (transferable technology) from on-going projects (4th phase)
- Discussion on the progress of monitoring of on-going projects (4th phase)

The 77th meeting of TAC was held on Tuesday, 11 October 2022 in the Conference Room of the Academy, National Science and Technology Complex, Agargaon, Dhaka -1207. Prof. Dr. Zahurul Karim, Chairperson, TAC, BAS-USDA Endowment Program presided over the meeting. As per a decision taken in the 76th TAC meeting, Principal Investigators of the projects (30) preliminarily accepted for funding under 5th phase were requested to revise their projects following suggestions given by members of TAC/BoT and BAS Fellows during the project presentation. Principal Investigators revised their projects and submitted the same to BAS. The 30 projects were assigned to some TAC members in the meeting for overview of their compliance. The respective TAC members gave their comments on compliance of the revised projects.

The 78th meeting of TAC was held on Thursday, 16 February 2023 in the Conference Room of the Academy, National Science and Technology Complex, Agargaon, Dhaka -1207. Prof. Dr. Zahurul Karim, Chairperson, TAC, BAS-USDA Endowment Program presided over the meeting.

As per a decision taken in the 26th Meeting of the Board of Trustees (BoT) of BAS-USDA Endowment Program held on 23 November 2022, a list of 30 projects recommended by TAC and BoT was forwarded to USDA, Dhaka for the concurrence of the Agricultural Attaché on 28 November 2022. USDA, Dhaka had approved 25 proposals including two proposals that required further revision and disapproved five proposals. The letter from USDA regarding approval of the 5th phase projects and the list of disapproved proposals along with two proposals that required further revision were discussed in this meeting. It was decided to request the Principal Investigators of two proposals that required further revision to revise their proposals in consultation with selected TAC members and submit the same to BAS. It was also decided to hold a discussion meeting on the five project proposals disapproved by USDA to have the comments provided by USDA on the five rejected proposals reviewed by TAC members in presence of the respective PIs.

The 79th meeting of TAC was held on Tuesday, 18 April 2023 in the Conference Room of the Academy, National Science and Technology Complex, Agargaon, Dhaka -1207. Prof. Dr. Zahurul Karim, Chairperson, TAC, BAS-USDA Endowment Program presided over the meeting. The Principal Investigators of the on-going projects (4th phase) were requested to submit a two-page Summary Report of their project progress. The Summary Reports of the on-going projects were reviewed in the meeting. In this meeting, Monitors for the 5th phase projects were selected.

76th TAC Meeting on 12 September 2022

77th TAC Meeting on 11 October 2022

78th TAC Meeting on 16 Feb 2023

79th TAC Meeting on 18 April 2023

03. BAS-USDA Project Monitoring

Third monitoring of 27 projects out of 30 and fourth monitoring of 3 projects out of 30 under the 4th phase have been completed in the reporting period.

An online Zoom meeting was held on 21 September 2022 to monitor the field activities of the Project entitled "On-farm Testing and Scaling-up of Assisted Reproductive Technology (ARTs) in Sheep Production through Public-Private Partnership (LS-23)", PI: Professor Dr. Farida Yeasmin Bari, Dept. of Surgery & Obstetrics, Bangladesh Agricultural University at Fulchori, Gaibandha, and Paba, Rajshahi districts. Professor Dr. Zahurul Karim is the monitor of the project. A discussion meeting was held with the local livestock officers, partner NGO representatives and farmers about the project activities in their sheep farms (training, induction for oestrus, artificial insemination (AI), pregnancy rate, lamb production, growth rate of the lambs).

Online zoom meeting was held on 21 September 2022

Prof. Dr. Z N Tahmida Begum, Fellow, BAS and Mr. Md. Habibur Rahman, Finance & Accounts Officer, BAS-USDA Endowment Program monitored the activities of the project "Good agricultural practices for maximizing production of black pepper in the varied agro-ecological regions of Sylhet ", PI: Prof. Dr. Masudur Rahman, Dept. of Crop Botany and Tea Production Technology, Sylhet Agricultural University on 09 October 2022.

Field visit on 09 October 2022.

Prof. Dr. Md. Sherazul Islam, Dept. of Fisheries and Marine Bioscience has been implementing the research project entitled "Mud crab (Scylla olivacea) habitat potential mapping in the Sundarbans mangrove forest, Bangladesh using Remote Sensing and GIS" under the 4th Phase of BAS-USDA Endowment Program. Prof. Dr. Abu Tweb Abu Ahmed, Member, TAC, BAS-USDA Endowment Program and Mr. Md. Mokshead Ali, Deputy Director (Program), BAS-USDA Endowment Program monitored the project activities in Technical and Financial aspects on 29 November 2022.

Hatchery visit (to JUST) on 29 November 2022.

Prof. Dr. Zahurul Karim, Fellow, BAS & Chairperson, TAC, BAS-USDA Endowment Program and Mr. Md. Mokshead Ali, Deputy Director (Program), BAS-USDA Endowment Program monitored the activities of the project "Processing for value addition of some underutilized local fruits and vegetables", PI: Prof. Dr. S. M. Kamrul Hasan, Dept. of Food Processing and Preservation, Hajee Mohammad Danesh Science and Technology University, Dinajpur in Technical and Financial aspects on 21 December 2022.

Presentation session at HMDSTU on 21 Dec. 2023

A private fruits' processing factory visit at Dinajpur

Dr. Nirmal Kumar Dutta, Chief Scientific Officer, Entomology Division, Bangladesh Agricultural Research Institute, Gazipur has been implementing the research project entitled "Development of mass rearing protocol of beneficial predatory mites and their field application to control harmful mites in vegetable crops" under 4th Phase of BAS-USDA Endowment Program. Prof. Dr. Mahbuba Jahan, Department of Entomology, BAU and Mr. Md. Mokshead Ali, Deputy Director, BAS-USDA Endowment Program monitored the project activities in Technical and Financial aspects on 10 January 2023. A PowerPoint presentation on the on-going activities of the project so far carried out was given by the PI Dr. Nirmal Kumar Dutta. The details of the project activities were explained elaborately by the project team.

A visit to the Plant Pathology Lab, BARI

The activities of the project entitled "Safe and low cost Gur production from Date palm juice in Bangladesh" implemented by Prof. Dr. Md. Nazrul Islam, Department of Horticulture, Sher-e-Bangla Agricultural University (SAU), Sher-e-Bangla Nagar, Dhaka were monitored by Dr. M A Hamid Miah, Fellow, BAS and Member, TAC, BAS-USDA Endowment Program and Mr. Md. Mokshead Ali, Deputy Director (Program), BAS-USDA Endowment Program on 15 February 2023.

Field visit at Khajura, Jashore on 15 February 2023

04. Presentation of Project Proposals under 5th Phase

A call for preliminary research project proposals under the 5th phase of BAS-USDA Endowment Program had been published in two national dailies "Daily Star" and "Daily Ittefaq" on 10 August 2021. The deadline of submission of proposals was 10 September 2021. In response to this call, a total of 306 preliminary project proposals had been submitted to BAS. One hundred and ten preliminary project proposals out of 306 were selected for detailed project proposal. These 110 detailed project proposals were peer-reviewed. Fifty six project proposals out of 110 were selected for presentation by the Technical Advisory Committee (TAC). The day-long presentation of these 56 project proposals was held in four days (16 July, 3 August, 13 August, and 21 August 2022) in the Seminar Room of Bangladesh Academy of Sciences between 9.00 am and 5.00 pm each day. Principal Investigators of the projects gave their presentation before the Fellows of BAS and members of TAC & Board of Trustees (BoT), BAS-USDA Endowment Program.

Welcome address by Prof. Dr. Haseena Khan, Secretary, BAS

Presentation by PIs at the BAS Office

05. Budget Rationalization Meeting

Two meetings on budget rationalization of the 30 projects under 5th phase of BAS-USDA Endowment Program were held in the Meeting Room of Bangladesh Academy of Sciences, National Science and Technology Complex, Agargaon, Dhaka on 22 and 24 October 2022.

Budget Rationalization Meetings (22 and 24 October 2022)

06. Discussion meeting on the comments given by USDA on the 5th phase projects.

As per a decision taken in the 26th Meeting of the Board of Trustees (BoT) of BAS-USDA Endowment Program held on 23 November 2022, a list of 30 projects recommended by TAC and BoT was forwarded to USDA, Dhaka on 28 November 2022 for the concurrence of the Agricultural Attaché. USDA, Dhaka had approved 25 proposals including two proposals that required further revision and disapproved three. The letter from USDA and the list of disapproved proposals along with two proposals that required further revision were discussed in the 78th TAC meeting held on 16 February 2023. As per decision taken in the 78th TAC meeting, a discussion meeting was held on 22 February 2023 on the five project proposals disapproved by USDA under the 5th phase. The TAC members overviewed the comments provided by USDA on the five rejected proposals in the presence of the respective Principal Investigators and the overview comments were sent to USDA, Dhaka for reconsideration. USDA approved the five projects that it had earlier rejected.

Discussion meeting on the comments given by USDA

07. Project Fund Award Ceremony of the 5th Phase Projects

Total of thirty projects in the fields of Crop, Fisheries, Livestock, Health & Nutrition, Natural Resources, Economics and Marketing, Climate Change, System Research, Microbial Practices in Agriculture have been selected for funding.

The Project Fund Award Ceremony of the 5th phase projects was held in the Seminar Room of the Bangladesh Academy of Sciences on 16 April 2023. Prof. Dr. Zahurul Karim, Fellow, BAS and Chairperson, TAC, BAS-USDA Endowment Program presided over the ceremony. Emeritus Prof. Dr. A K Azad Chowdhury, President, BAS was present as the Chief Guest and Ms. Megan Francic, Agricultural Attaché, USDA, US Embassy in Bangladesh was present as the Special Guest. Most BAS Fellows, Associate Fellows, TAC and BoT members attended the ceremony.

Project Fund Award Ceremony held on 16 April 2023

08. Summary Report on the achievements of the 3rd Phase Projects

As per a decision taken in the 68th TAC meeting held on 31 March 2021, 40 project completion reports under 3rd phase (April 2017 – August 2020) were sent to respective evaluators and they submitted their evaluation report to BAS.

In the 73rd Meeting of the Technical Advisory Committee held on 27 February 2022 (Zoom Online), a Committee for Report Compilation of 3rd Phase Projects was constituted which is as follows:

1. Dr. M A Hamid Miah - Convener
2. Dr. M Idris Ali - Member
3. Major Gen. (Retd.) Prof. Dr. A S M Matiur Rahman - Member
4. Dr. Khan Shahidul Huque - Member
5. Prof. Dr. Abu Tweb Abu Ahmed - Member

A series of meetings were held in the reporting period to publish the Summary Report and the report was finally published in December 2022.

Discussion Meeting on 3rd phase Summary Report on 18 December 2022

09. Presentation and Discussion Meeting on Sustainable Ram Semen Production and artificial insemination (AI) in field sheep through Technology Transfer

Prof. Dr. Farida Yeasmin Bari, Dept. of Surgery and Obstetrics, Faculty of Veterinary Science, Bangladesh Agricultural University has been implementing the project entitled "On-farm testing and scaling up Assisted Reproductive Technology (ARTs) in Sheep production through public-private partnership" under 4th phase. The Principal Investigator organized a Presentation and Discussion Meeting on "Sustainable Ram Semen Production and AI in field Sheep through Technology Transfer" at the Conference Hall of Department of Livestock Services, Farmgate, Dhaka on 31 January 2023.

The Presentation and Discussion Meeting was chaired by Prof. Dr. Zahurul Karim, Vice President, BAS and Chair-person, TAC, BAS-USDA Endowment Program. The Director General, DLS was present as the Chief Guest. The personnel of DLS administration, District Livestock Officers and Upazila Livestock Officers, In-charge of Local Government Sheep Farm; Director, Bangladesh National Zoo; Director, Local Government Poultry Farm, Sylhet; Friendship NGO Representatives; PI and Co-PI of the project, PhD students and Deputy Director (Program), BAS-USDA Endowment Program were the participants in the seminar. Prof. Dr. Farida Yeasmin Bari, the Keynote Speaker and PI of the project talked in details about the activities and achievements of protocol development on semen preservation, AI, and multiple ovulation embryo transfer (MOET) Technique in sheep made in the 6 years of her research on ARTs (BAS- USDA LS-11 and BAS-LS 02). These achievements have been obtained by AI in the field sheep using produced chilled and frozen semen (estrus synchronization rates, pregnancy, lambing, lamb survival and growth rates) in selected Government and NGO Sheep Farm under the on-going project. A question & answer session was also conducted in this meeting. The Chair put emphasis on transfer of the technologies to the DLS to be implemented with a DLS project as soon as possible. Some recommendations on the ram semen production and AI technology transfer to DLS came out in the discussion meeting which are as follows:

1. Development of DLS project for the sustainable ram and buck semen production and AI in the field sheep and goat;
2. Existing Govt. Sheep Farm and Laboratory (Bogura and Rajshahi) will be used under the project.
3. Nucleus flock will be developed as a resource for speeding up of quality sheep production speed up through AI technique.
4. MOET techniques will also be adapted besides AI in the field.
5. DLS projects will include NGOs for better performance of the work.
6. The resource persons of the ARTS will serve as consultant of the AI and MOET works under the project.
7. The BAS-USDA, the donor of 9-year project work on reproductive performance, Ram semen preservation, AI and MOET works in sheep will be acknowledged during the transfer of technology to DLS.

Presentation and Discussion Meeting at the Conference Hall of DLS, Farmgate, Dhaka

10. Inception Workshop of 5th Phase Projects (April 2023-March 2026)

In the 5th phase of BAS-USDA Endowment Program, a total of 30 projects have been awarded and these projects commenced in April 2023. Inception Workshop and Orientation on Accounting System for Part-time Accountants of these projects is going on. Inception Workshop and Orientation on Accounting System of 26 projects out of 30 have already been completed within June 2023.

Inception workshop at BSMRAU on 04 June 2023

Inception workshop at DU on 08 June 2023

Orientation on accounting system at BAU on 04 June 2023

Orientation on accounting system at DU on 08 June 2023

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