



# Bangladesh Academy of Sciences NEWSLETTER

**Vol. 9 No. 2, May-August 2020**

## **Condolence on the death of late Professor Dr. Quazi Abdul Fattah, former President, BAS**

Professor Dr. Quazi Abdul Fattah, former President, Bangladesh Academy of Sciences and former Senior Most Professor of the Department of Botany, University of Dhaka breathed his last on 13 July 2020 at 09:00 am (Inna Lillahi wa Inna Ilaihi Rajiun) at his own residence.



Professor Dr. Quazi Abdul Fattah

Professor Fattah was a renowned scientist, devoted academician and courageous professional of the country. The news came as a great shock to the Fellows of Bangladesh Academy of Sciences. The Academy would like to put on record the great services and contributions of late Professor Dr. Quazi Abdul Fattah to the cause of science and technology particularly, for his dedicated contribution to the development and application of biological sciences in the country.

On behalf of the Bangladesh Academy of Sciences (BAS), Prof. Dr. Haseena Khan, Secretary, BAS has expressed condolence to the wife and family members of Late Professor Fattah.

## **Condolence on the death of late Professor Dr. Mohammad Ali Asgar, Fellow, BAS**

Professor Dr. Mohammad Ali Asgar, Fellow, Bangladesh Academy of Sciences and former Professor & Head, Department of Physics, Bangladesh University of Engineering and Technology (BUET) expired on 16 July 2020 at 09:00 am (Inna Lillahi wa Inna Ilaihi Rajiun) in a city hospital.



Professor Dr. Mohammad Ali Asgar

Professor Ali Asgar was a renowned physicist and a very popular science book author, particularly for the young generation of the country. At his death, the Academy has lost a very dedicated scientist and a great son of the nation. The Academy would like to put on record the great services and contributions of late Professor Dr. Mohammad Ali Asgar to the cause of science and technology, particularly, for his dedicated contribution to the development and application of semi-hard and soft magnetic materials for technological development in the country.

On behalf of the Bangladesh Academy of Sciences (BAS), Prof. Dr. Haseena Khan, Secretary, BAS has expressed condolence to the wife and family members of Late Professor Asgar.

## NATIONAL EVENTS

### **RT-LAMP technique for SARS-CoV2 detection in Bangladeshi population has been validated and optimized at Dhaka University by BAS fellow Dr. Zeba I. Seraj and her team**

Real time RT-PCR is now a days a commonly discussed term not only in Bangladesh but also in the whole world. This is the test which is being performed for the diagnosis of the COVID-19 disease caused by the mighty Corona virus officially known as SARS-CoV2.

Time RT-PCR costs a lot. There exists a method for many years now, which can rapidly detect a nucleic acid apart from PCR, which is less costly and takes less time compared to RT-PCR test. This technique is called Loop-mediated Isothermal Amplification. When this is used for detecting RNA it is called Reverse Transcription LAMP or RT-LAMP. Dr. Zeba Islam Seraj, Professor and Chair, Department of Biochemistry and Molecular Biology, a Fellow of Bangladesh Academy of Sciences and her team at Dhaka University came out with the idea of using RT-LAMP technique for detecting SARS-CoV2 on Bangladeshi patient sample.

This RT-LAMP technique is claimed to reduce the cost of a test to one seventh of the current one which is around Tk.500-700 per test. Also it does not require an expert to analyse data and it gives the result within 30 min to 1 hour the scientists expect.

Dr. Zeba and her team did the trial experiment on Bangladeshi patient samples both by taking RNA samples as well as the nasopharyngeal swab samples from Center for Advance Research in Science at Dhaka University. Her team includes Dr. Sabrina Elias (IUB), Dr. Richard Malo (DU), Mr. Salman Promon (BRACU), Dr. Rakibul Islam (DU), Mr. Umer Mohammed Sharif Shohan (DU), Ms. Saima Sadia (DU). Dr. Zeba and the team have submitted an application to the Bangladesh Medical Research Council (BMRC) and Drug Administration Board for an approval of this test to be used as a point of care test along with the Real time

RT-PCR test. In the meantime, FDA (Food and Drug Administration) has approved the RT-LAMP technique to be used as an EUA diagnosis technique and certified an USA based initiative called Color Genomics for this assay. RT-LAMP technique along with the RT-PCR diagnosis is expected to help isolate the corona positive patients and reduce the spread of this contagious virus.



*Positive and Negative Swab Samples*



*Positive Sample RNA*



*Negative Sample RNA*

### **Approval of Project Proposals of the 4th Phase under BAS-USDA Endowment Program**

The program supports need based agricultural research projects. Out of more than 300 project proposals, under the fourth phase. Thirty-four project proposals were finally recommended by the Technical Advisory Committee (TAC), BAS-USDA Endowment Program and sent to Mr. Tyler Babcock, Agricultural Attaché, Foreign Agricultural Service, Office of Agricultural Affairs (OAA), American Embassy, Dhaka for soliciting concurrence on 11 February 2020. After evaluating the proposed projects, USDA approved 30 projects and disapproved 4 projects. The list of approved 30 project proposals is shown below:

Sl No.	Name & Address of PI	Project Title
1	Dr. Md. Anisur Rahman, PSO and Head, Agril. Engg. Division, Bangladesh Sugarcrop Research Institute, Ishurdi, Pabna. Cell: 01712 087717 Email: anis.aed.bsri@gmail.com	Developing a cost-effective cultivation system for sugarcane
2	Prof. Dr. Jamilur Rahman, Dept. of Genetics and Plant Breeding, Shre-e-Bangla Agricultural University, Dhaka. Cell: 01552 323928 Email: jamilsau@gmail.com	Development of Canola Grade <i>Brassica juncea</i> Mustard Variety to Meet the Edible Oil Security and Climate Change Challenges in Bangladesh
3	Prof. Dr. M.M.R. Jahangir, Department of Soil Science, Bangladesh Agricultural University, Mymensingh. Cell: 01719 648448 Email: mmrjahangir@bau.edu.bd	Development of a Field Scale Nutrient Balance Calculator for Crops of an Intensively Managed Agricultural System
4	Dr. Nirmal Kumar Dutta, Principal Scientific Officer, Entomology Division, Bangladesh Agricultural Research Institute, Gazipur, Cell: 01794 714560 Email : nk Dutta83@yahoo.com	Development of mass rearing protocol of beneficial predatory mites and their field application to control harmful mites in vegetable crops
5	Dr. Md. Mostafizar Rahman, Associate Professor, Dept. of Agricultural Engineering, Faculty of Agriculture, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur.	Development of Automated Micro Irrigation Systems for Fruits and Vegetables Farming

Sl No.	Name & Address of PI	Project Title
	Cell: 01730 575960 Email: mostafizar-age@bsmrau.edu.bd	
6	Md. Masudur Rahman, Associate Professor, Dept. of Crop Botany and Tea Production Technology, Faculty of Agriculture, Sylhet Agricultural University, Sylhet. Email: masudur.cbot@sau.ac.bd Cell: 01714 064577	Good agricultural practices for maximizing production of black pepper in the varied agro-ecological regions of Sylhet
7	Prof. Dr. M. Jahedur Rahman, Department of Horticulture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka. Cell: 01716 590216 Email: jrahman04@yahoo.com	Updating hydroponic culture of tomato and upscaling of hydroponic technology developed during the earlier studies with small scale public private partnership
8	Prof. Dr. Md. Toufiq Iqbal, Dept. of Agronomy and Agricultural Extension, Faculty of Agriculture, University of Rajshahi, Rajshahi. Cell: 01819 529813 Email: toufiq_iqbal@yahoo.com	Crop diversification in mulberry ecosystem for access to more income generation by poor silkworm rearing people
9	Prof. Dr. M. Rafiqul Islam, Dept. of Soil Science, Bangladesh Agricultural University, Mymensingh. Cell: 01711 985414 Email: mrislam58@bau.edu.bd	Silicon, an alternative of agrochemicals for mitigating biotic and abiotic stresses, and improving grain quality and yield of rice
10	Dr. M. G. Mostofa, Associate Professor, Department of Biochemistry & Molecular Biology,	Genetic manipulation of strigolactone biosynthesis pathway

Sl No.	Name & Address of PI	Project Title
	Bangabandhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur. Cell: 01743 420123 Email: mostofa@bsmrau.edu.bd	using CRISPR/CAS9 technology for the production of non-transgenic high-yielding rice variety
11	Dr. S. M. Kamrul Hasan, Associate Professor, Department of Food Processing and Preservation, Hajee Mohammad Danesh Science and Technology University, Basherhat, Dinajpur. Cell: 01712 646107 Email: hasan.kamrul@hstu.ac.bd	Processing for value addition of some underutilized local fruits and vegetables
12	Prof. Dr. Md. Nazrul Islam, Department of Horticulture, Sher-e-Bangla Agricultural University, Sher-e-Bangla Nagar, Dhaka. Email: nislams2000@gmail.com Mobile : 01552 498640	Safe and low cost <i>Gur</i> production from Date palm juice in Bangladesh
13	Dr. Shah Mohammad Naimul Islam, Associate Professor, Department of Biotechnology, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur. Cell: 01717 719735 Email: naimul@bsmrau.edu.bd	Preparation of biopesticide formulation of <i>Beauveria bassiana</i> , isolated from Bangladesh, effective against <i>Helicoverpa armigera</i> larvae
14	Prof. Dr. Md. Sherazul Islam, Department Fisheries & Marine Bioscience, Jashore University of Science and Technology, Jashore. Cell: 01913 241344 Email: tuhinkk@yahoo.com	Mud crab ( <i>Scylla olivacea</i> ) habitat potential mapping in selected sites of Sundarbans based on field sampling and high-resolution Remote Sensing image

Sl No.	Name & Address of PI	Project Title
15	Prof. Dr. Mohammad Shamimul Alam, Department of Zoology, University of Dhaka, Dhaka. Cell: 01839 886472 Email: shamimul@du.ac.bd	Identification and utilization of genetic diversity towards higher production of commercially important fish <i>Labeo rohita</i>
16	Prof. Dr. Md. Shahidul Islam, Department of Biotechnology, Bangladesh Agricultural University, Mymensingh. Cell: 01738 867466 Email: m.s.islam@bau.edu.bd	Genetic audit of hilsa shad ( <i>Tenualosa ilisha</i> ) across its distribution range
17	Dr. Md. Sazedul Hoque, Associate Professor & Chairman, Department of Fisheries Technology, Faculty of Fisheries, Patuakhali Science and Technology University, Dumki, Patuakhali. Cell: 01716 244719 email: sazedul.fst@pstu.ac.bd sazedul_haque@yahoo.com	Quality Dried Fish and Fish Powder for Nutritional and Livelihood Improvement of Pregnant, Lactating Women and Infants in Coastal Area of Bangladesh
18	Prof. Dr. Md. Sagir Ahmed, Department of Zoology, University of Dhaka, Dhaka. Cell: 01552 422621 Email: sagir@du.ac.bd	DNA Barcoding of Shrimps, Lobster and Crabs ( <i>Crustacea: Decapoda</i> ) of Bangladesh: Implication for Conservation and Management
19	Prof. Dr. Md. Amzad Hossain, Department of Aquaculture, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur. Cell: 01711 150059 Email: amzad@bsmrau.edu.bd	Use of Microalgae as Feed Additives for Enhanced Growth and Immune Response of High Valued Fishes



SI No.	Name & Address of PI	Project Title
20	Dr. Mohammad Abdus Sattar, Address: Rose Dale(Flat: A-3) Plot#7/A, Road#136, Gulshan 1, Dhaka 1212 (Krishi Foundation). Cell: 01715 001281 Email:mdabdussattar1953@yahoo.com	Studies on the Climate Change and Man-made Impacts on the Spawning grounds and Spawning Performance of Major Carps in Bangladesh
21	Dr. Md. Lifat Rahi, Associate Professor, Fisheries and Marine Resource Technology Discipline, Khulna University, Khulna. Cell: 01796 875647 Email: lifat.rahi@gmail.com	A Cyto-genomic Approach for Sex Determination in Hilsa ( <i>Tenualosa ilisha</i> )
22	Prof. Dr. Md. Ariful Islam, Department of Microbiology & Hygiene, Bangladesh Agricultural University, Mymensingh. Cell: 01711-390939 Email: islamma@bau.edu.bd arifmicro2003@yahoo.com	Development of inactivated brucella vaccine from local isolates
23	Prof. Dr. Farida Yeasmin Bari, Department of Surgery and Obstetrics, Faculty of Veterinary Science, Bangladesh Agricultural University, Mymensingh. Cell: 01745 996622 Email: fybari61@yahoo.com.au	On-farm testing and scaling up Assisted Reproductive Technology (ARTs) in Sheep production through public-private partnership
24	Dr. Sadek Ahmed, Senior Scientific Officer, Bangladesh Livestock Research Institute, Savar, Dhaka-1341. Cell: 01712 189212 Email: sadek_11@yahoo.com	Piloting lamb value chains using local sheep sourced from the south delta

SI No.	Name & Address of PI	Project Title
25	Dr. Md. Rakibul Hassan, Senior Scientific Officer, Poultry Production Research Division, Bangladesh Livestock Research Institute, Savar, Dhaka. Cell: 01712 511183 Email: mdrakibulhassan@gmail.com	Piloting of LED technology (LED TECH) as a replacer of AMRs for poultry
26	Prof. Dr. Bahanur Rahman, Dept. of Microbiology and Hygiene, Bangladesh Agricultural University, Mymensingh. Cell: 01718 218080 Email: bahanurr@bau.edu.bd	Polyvalent Vaccine Development for Mastitis in Dairy Cow
27	Prof. Dr. Badiuzzaman, Dept. of Economics and Sociology, and Dean, Faculty of Business Administration and Management, Patuakhali Science and Technology University, Patuakhali. Cell: 01716 287109 Email: bzaman_pstu@yahoo.com	Entrepreneurship Development and Value Chain Improvement of High Value Crops in the Char areas of Three Regions in Bangladesh
28	Dr. Salekul Islam, Associate Professor, Department of Microbiology, Jahangirnagar University, Savar, Dhaka. Phone: 01715 029136 Email: salekul@gmail.com; salekul@juniv.edu	One-Health Assessment of Emerging Antimicrobial Resistance Genes (ARGs) in Bangladeshi Livestock, Feeds, and Manure

SI No.	Name & Address of PI	Project Title
29	Dr. Md. Wasikur Rahman, Associate Professor, Department of Chemical Engineering, Jessore University of Science and Technology, Jessore. Cell: 01732291688 E-mail: w.rahman@just.edu.bd; mwrahman.ump@gmail.com	Biodegradable polymeric matrices for state-of-the-art technology of food packaging
30	Prof. Dr. Md. Manjurul Haque, Department of Environmental Science, Bangabandhu Sheikh Mujibur Rahman Agricultural University, Salna, Gazipur. Cell: 01716 513602 Email: haque_bes@bsmrau.edu.bd	Bioremediation of Industrial Wastewater by Bacterial Biofilm Consortia

**Sub-sector wise Projects:** Crop (CR) = 13, Fisheries (FI) = 8, Livestock (LS) = 5, Agricultural Marketing Development (AMD) = 1, Health & Nutrition = 1, Others (O) = 2

## INTERNATIONAL EVENTS

### President, BAS participated in AASSA Webinar on July 10, 2020 at 11:00 am (Bangladesh standard Time)

National Emeritus Scientist, Professor Dr. A K Azad Chowdhury, President, Bangladesh Academy of Sciences (BAS) joined a webinar on ‘National Academy’s Response to COVID -19’ organized by the Association of Academies and Societies of Sciences in Asia (AASSA) and supported by the Korean Academy of Sciences and Technology (KAST) held on July 10, 2020 at 11:0 am (Bangladesh standard Time).

The AASSA Webinar was held to share among its member academies their experiences/initiatives to

efficiently combat this pandemic and to devise successful exit strategies. Professor Yoo Hang Kim, President, AASSA made the opening remarks and Professor Mooha Lee, Executive Director, AASSA moderated the webinar.

Professor Chowdhury mentioned in his speech the plans and activities taken up by BAS in commensuration with national plans and programs.

The Co-President of IAP, President of KAST and representatives of AASSA, member academies from Armenia, India, Iran, Kyrgyzstan, Nepal, Pakistan, Indonesia, Japan, Korea, New Zealand, Philippines, Singapore and Thailand also participated in the webinar.

### Nomination for TUBA Academy Prizes 2020 in Basic Engineering Sciences

Bangladesh Academy of Sciences has nominated Professor Dr. M. Feroze Ahmed, Fellow, BAS for TUBA Academy Prizes 2020 in Basic Engineering Sciences.

### Nomination for 7th Lindau Meeting on Economic Sciences 2021

Bangladesh Academy of Sciences has nominated Dr. Rubaiya Murshed, Lecturer, Department of Economics, University of Dhaka, Dhaka-1000, Bangladesh for the 7th Lindau Meeting on Economic Sciences, 24-28 August 2021.

### Nomination for Experts for Statement Working Group for IAP Regenerative Medicine

Bangladesh Academy of Sciences has nominated Professor Dr. Mamun Al Mahtab, Chairman, Department of Hepatology, Bangabandhu Sheikh Mujib Medical University as one of the Experts for Statement Working Group for IAP Regenerative Medicine.

### Strengthening National Academies of Science in the LDC in support of the 2030 Agenda – a report by Prof. Dr. Mesbahuddin Ahmed, Fellow, BAS and Immediate Past Secretary

Prof. Dr. Mesbahuddin Ahmed, Immediate Past Secretary attended the Strengthening National Academies of

Science in the LDC in support of the 2030 Agenda, 3-4 February 2019, Bangkok, Thailand and submitted the report to the Academy.



*Bangladeshi delegates attended the conference*

### Editorial Committee

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