



Bangladesh Academy of Sciences NEWSLETTER

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Condolence on the death of Late National Professor Dr. Jamilur Reza Choudhury, Fellow, BAS

National Professor Dr. Jamilur Reza Choudhury, a Senior Fellow, BAS and Vice-Chancellor, University of Asia Pacific, former Vice Chancellor, BRAC University and former Professor of Civil Engineering, Bangladesh University of Engineering and Technology breathed his last on Tuesday, 28 April 2020 (Inna lillahi wa inna ilayhi raji'un).



Late National Professor Dr. Jamilur Reza Choudhury

Professor Choudhury was the Chairman of the International Panel of Experts for the Padma Multipurpose Bridge and had acted as a Consultant to a large number of national and international agencies on projects related to tall buildings, bridges, airports and computerization of public and private sector organizations. He was a Member of Panel of Experts for the 4.8 km long Bangabandhu Bridge.

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 Choudhury.

Bangladeshi Researcher Dr. Firdausi Qadri named for L'Oréal-UNESCO for Women in Science Awards

News Desk, bdnews24.com

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File Photo: Firdausi Qadri

Dr. Firdausi Qadri, a Bangladeshi Researcher, has been named for the 22nd L'Oréal-UNESCO For Women in Science Awards.

The UNESCO announced the names of the five winners of the awards, with Firdausi as the winner from the Asia-Pacific region, on Tuesday, 11 February 2020.

Dr. Firdausi Qadri is the Head of the Mucosal Immunology and Vaccinology Unit of the Infectious Diseases Division at the International Centre for Diarrhoeal Disease and Research, Bangladesh (icddr,b).

The UNESCO awarded for her outstanding work to understand and prevent infectious diseases affecting

children in developing countries, and promote early diagnosis and vaccination with global health impact.

Each of the five Laureates will receive €100,000 at a ceremony on March 12, 2020 at the UNESCO Headquarter in Paris.

Other Awardees are Abla Mehio Sibai from Africa and the Arab States, Edith Heard from Europe, Esperanza Martínez-Romero from Latin America, and Kristi Anseth from North America.

They have been recognised alongside 15 Rising Talents, young women scientists from all over the world.

The Secretary, BAS reported in the meeting that a congratulation card with joint signature of President, BAS and Secretary, BAS has been given to Dr. Firdausi Qadri, Fellow, BAS and Emeritus Scientists, icddr, b for being awarded and recognized as L'Oréal-UNESCO for Women in Science Awards. The card and a flower bouquet has been handed to Dr. Qadri by Director, BAS.

NATIONAL EVENT

I. 11th BAS-FSIBL Science Olympiad 2020

The 11th BAS-FSIBL National Science Olympiad 2020 was held successfully this year at both the divisional and the national level. The First Security Islami Bank Ltd. (FSIBL) sponsored the Science Olympiad 2020. The Science Olympiad 2020 at divisional level was held on Friday 10 January 2020 at 6 centers in the metropolitan Dhaka and 23 centers throughout the country.

At national level, the 11th Science Olympiad 2020 (NSO 2020) was held on Friday 24 January 2020 at the Curzon Hall premises, University of Dhaka (DU), Dhaka. The event started at 9.00 am with the National Anthem and flag hoisting. Prof. Dr. Z N Tahmida Begum, Treasurer of the Academy, hoisted the national flag and inaugurated the Olympiad. The Academy flag was hoisted by Prof. Dr. Haseena Khan, Secretary, BAS. The flag of First Security Islami Bank Ltd was hoisted by Mr. Abdul Aziz, Additional Managing Director, FSIBL. Pigeons, balloons and festoons were released by the Fellows and guests during the inauguration. Prof. Dr. ZN Tahmida Begum, Professor Dr. Haseena Khan & Mr. Abdul Aziz encouraged and inspired the students to study science for

the development of the country. The Olympiad 2020 examination started in Dhaka University Curzon Hall at 10.00 am and continued for one hour and a half.



Science Olympiad being inaugurated releasing balloons and festoon



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

The Prize Distribution Ceremony for the winners of the National Science Olympiad 2020 was held at 3.30 pm. Prof. Dr. Md. Akhtaruzzaman, Vice Chancellor, Dhaka University was the Chief Guest and Mr. Syed Waseque Md Ali, Managing Director, First Security Islami Bank Ltd. was the Special Guest. Emeritus Prof. Dr. AK Azad Chowdhury, President, BAS and Chairman, Organizing Committee chaired the ceremony. Prof. Dr. Haseena Khan, Secretary, BAS moderated the whole event. She also replied to the questions and queries from the participating students. Prof. Dr. M Shamsheer Ali, Former President, BAS encouraged the students to study science and take part in the development of the country. Prof. Dr. Haseena Khan, Secretary, BAS & Prof. Dr. Yearul Kabir,

Associate Secretary, BAS declared the names of the winner students during the Prize Distribution Ceremony. Chief Guest, the Special Guest and BAS Fellows on the dais, distributed prize money, medals, certificates, and science books to the Olympiad winners of the School and College Group. About 400 students participated in the National Science Olympiad 2020. All the participants of the National Science Olympiad 2020 were presented with popular science books and a certificate of participation.



Address by Chief Guest Prof. Dr. Md. Akhtaruzzaman, Vice Chancellor, Dhaka University.



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

Lists of top 10 winner students from both school and college group are mentioned below—

BAS-FSIBL National Science Olympiad 2020

Dhaka University

Date: 24 January 2020

Winner list (School group)

**Prize Money + Medal + Winner Certificate + Books
(2 pieces)**

Sl. No.	Students Name	School/College
1	Mehedi Hasan Kanon	Mymensingh Zilla School
2	Kazi Abraar Sameer	South Point School & College, Dhaka
3	Sanjana Shahreen Shily	Govt. Coronation Girls School, Khulna
4	Swapnil Acharjee	Mymensingh Zilla School
5	Muhammad Zubayer	Faizur Rahman Ideal Institute, Dhaka
6	Adnan Sadik	Kushtia Zilla School
7	S M Tahmid Rafi	BAF Shaheen College, Chittagong
8	Md. Mahin Rana	Armed Police Battalion School and College, Bogura
9	Md. Dehya Zaman Sharup	Kushtia Zilla School
10	Abid Mahmud	Kushtia Zilla School

BAS-FSIBL National Science Olympiad 2020

Dhaka University

Date: 24 January 2020

Winner list (College group)

**Prize Money + Medal + Winner Certificate + Books
(2 pieces)**

Sl. No.	Students Name	School/College
1	Jarin Tasneem Arpita	Muminunnesa Govt. Girls College, Mymensingh
2	M A Mosabbir Antor	Sherwood Int'l (Pvt.) School and College, Bogura
3	Shahad Shahriar Rahman	Notre Dame College, Dhaka
4	Safia Tasnim Semonti	Savar Cantonment Public School & College
5	Nilanjona Medha	Muminunnesa Govt. Girls College, Mymensingh
6	Nuha Noor	Viqarunnisa Noon School and College, Dhaka
7	Saad Ibn Ahmad	Tamirul Millat Kamil Madrasah, Dhaka
8	Tasfiah Jahan	Sylhet Govt. Women's College
9	Fahmina Hassin Biva	Noakhali govt. college
10	Shahal Shahriar	Carmichael College, Rangpur



Guests and winner students

II. Courtesy Meeting between BAS Council and Professor Dr. Marcel Jaspars and his team

A courtesy meeting between BAS Council members and Professor Dr. Marcel Jaspars, Head of the Department of Chemistry, University of Aberdeen, UK, and his team was held on Saturday, 08 February 2020 at 4.00 PM at the office of Emeritus Professor Dr. A.K Azad Chowdhury, President, BAS, at Mukarram Hussain Khundker Biggan Bhaban (Ground floor), Dhaka University. Professor Dr. A.K Azad Chowdhury, President, BAS was in the Chair. The following participants were present in the meeting:

1. Prof. Dr. A K Azad Chowdhury, President, BAS
2. Prof. Dr. Z.N Tahmida Begum, Treasurer, BAS
3. Prof. Dr. Md. Anwar Hossain, Council Member, BAS
4. Prof. Dr. Liaquat Ali, Council Member, BAS
5. Maj Gen. Prof. Dr. ASM Matiur Rahman, Council Member, BAS
6. Prof. Dr. Zia Uddin Ahmed, Council Member, BAS
7. Prof. Dr. Haseena Khan, Secretary, BAS
8. Dr. Firdausi Qadri, Council Member, BAS
9. Prof. Dr. Nilufar Nahar, Department of Chemistry, University of Dhaka
10. Prof. Dr. Md Iqbal Rouf Mamun, Department of Chemistry, University of Dhaka
11. Prof. Dr. Mohammad Shoeb, Department of Chemistry, University of Dhaka

12. Prof. Dr. Marcel Jaspars, Head of the Department of Chemistry, University of Aberdeen, UK and Vice President International, the Royal Society of Edinburgh, UK
13. Dr. Peter Sundin, Director and Head, International Science Programme (ISP), Uppsala University, Sweden
14. Prof. Dr. Charlotta Turner, Lund University, Sweden
15. Prof. Dr. Margareta Sandahl, Lund University, Sweden

The Chair, Professor Chowdhury welcomed all foreign and local participants and expressed gratitude for joining the meeting. Professor Chowdhury then mentioned about the background and purpose of the meeting with Professor Jaspars, and his team and the Professors of the Department of Chemistry, University of Dhaka. Professor Haseena Khan, Secretary, BAS convened the meeting at the request of Professor Mohammad Shoeb, Department of Chemistry, University of Dhaka.



BAS Council and guests in the courtesy meeting

Professor Chowdhury then introduced BAS Council members, Professor ZN Tahmida Begum Professor Haseena Khan, Professor Md. Anwar Hossain, Professor Liaquat Ali, Professor Zia Uddin Ahmed, Maj Gen. (Retd.) Professor Dr. ASM Maitur Rahman and Dr. Firdausi Qadri to other participants in the meeting.

Professor Mohammad Shoeb, Department of Chemistry, University of Dhaka introduced Professor Nilufar Nahar and Prof. Md Iqbal Rouf Mamun of the Department of Chemistry, University of Dhaka to others in the meeting.

Prof. Marcel Jaspars, Dr. Peter Sundin, Prof. Dr. Charlotta and Dr. Margareta Sandahl, also introduced themselves to the meeting.

Professor Chowdhury then mentioned about the aims, objectives and present activities of BAS. He also mentioned that BAS is the apex body of scientists notable for academic and professional achievement at home and abroad. The Academy advises the Govt. on framing policies regarding science education and research in the country.

Prof. Marcel Jaspars, in reply, opined that Memorandum of Understanding (MoU) might be developed between the Royal Society of Edinburg, Scotland, UK and Bangladesh Academy of Sciences. The Royal Society of Edinburg has MoUs with the science academies of other Southeast Asian countries but not with Bangladesh Academy of Sciences.

The MoU with BAS may include:

- i. Development of collaborative research in aquaculture and wind energy,
- ii. Organization of visits between two countries to discuss matters of mutual interest,
- iii. Exchange of research information and data,
- iv. Establishment of important research laboratories (i.e. Biological research lab.).

During discussion, Professor Azad Chowdhury added that collaborative research programs with the University of Edinburgh and Swedish Academy of Sciences in General Engineering and Biology, Medical Sciences, Chemistry and Pharmacy already exists.

Professor Haseena Khan mentioned that collaborative research with the University of Upsala, Sweden has been going on since 1973.

The Chair went on to mention that the effects of climate change, global warming, natural calamities, sea level rising are predominantly visible in the country, but still the growth in agriculture and fisheries is tremendous, as Bangladesh has occupied the 3rd position in rice production and the 4th in fish production in the world. On the other hand, effects of chemical insecticides and pesticides application have created big problems. The

Hon'ble Prime Minister of Bangladesh has been taking unprecedented steps towards development of the country, particularly in the establishment of nuclear power plant in the country.

Dr. Peter Sundin, said that Professor Liaquat Ali has been working with the International Science Programme (ISP) of Sweden for the last 18 years.

Professor Dr. ZN Tahmida Begum, Professor Dr. Nilufar Nahar, Professor Liaquat Ali and Professor Md. Anwar Hossain also participated in the discussion.

Professor Dr. ZN Tahmida Begum mentioned about the BAS-USDA Endowment Fund grant for the projects in the fields of Agricultural Sciences, Biological Sciences, Health and Nutrition Sciences administered by BAS.

Professor Jaspars said that the President of the Royal Society of Edinburg is also the Chief Scientific Adviser to Her Majesties Government, UK. He further mentioned that use of wind energy in the agricultural farming might be a possible area of cooperation.

Professor Chowdhury, in conclusion, said that the areas of cooperation should be identified to make the MoU with the Royal Society of Edinburg, Scotland, UK and will be placed in an upcoming BAS Council meeting for further action.

The Chair expressed thanks to all, particularly to the foreign guests for joining the Courtesy Meeting with the BAS Council and declared the meeting closed.



BAS memento is being presented to a Guest by President, BAS

III. Academy Lecture on ‘Discovery of reservoir of cholera and invention of Siraj Mixture to control cholera in Bangladesh’ 24 February 2020, University of Dhaka

Bangladesh Academy of Sciences organized an Academy Lecture on ‘Discovery of reservoir of cholera and invention of Siraj Mixture to control cholera in Bangladesh’ on 24 February 2020 at 11:00 a.m. in the gallery of the Department of Botany, University of Dhaka, Dhaka-1000. Dr. Md. Sirajul Islam, Fellow, BAS and Emeritus Scientist, International Centre for Diarrhoeal Disease Research, Bangladesh (icddr,b), presented the lecture. Prof. Dr. ZN Tahmida Begum, Treasurer, BAS presided over the lecture and Prof. Dr. Zahurul Karim, Vice President, was the Chief Guest on the occasion. Prof. Dr. Haseena Khan, Secretary, Bangladesh Academy of Sciences moderated the talk.



Emeritus Scientist, Dr. Md. Sirajul Islam, Fellow, BAS delivering his speech

With Academy Fellows, Senior Executives of icddr,b, Faculties and students of Dhaka University about 300 participants were present in the lecture.

At first, Professor Haseena Khan introduced the speaker Dr. Sirajul Islam and briefly highlighted the bright career of Dr. Islam to the audience. Professor Khan then requested Dr. Islam to proceed with the presentation of the talk.

Dr. Sirajul Islam said that cholera epidemics occur twice every year during pre-monsoon (March-May) and post-monsoon (October-December) seasons. During epidemics, the causative agent of cholera, *Vibrio Cholera* O1 disappears from the environment. Therefore, the question is how does *V. cholera* O1 survive in the aquatic environment in between two epidemics. In late 1970s

icddr,b scientists came up with a hypothesis that the aquatic environment consists of hundreds of different kinds of aquatic fauna, but there are hundreds of different kinds of aquatic flora as well and they may also act as reservoir of cholera. After investigation for a number of years, Dr. Islam and his team were able to show for the first time that it is not the aquatic fauna but a member of the aquatic flora, mainly a blue green alga, *Anabaena variabilis* can act as an inter-epidemic reservoir of *Vibrio cholerae* O1 in the aquatic environment of Bangladesh. The team discovered the reservoir after more than 100 years of the discovery of the bacterium, *Vibrio cholerae* by Dr. Robert Koch in 1884.

Dr. Islam mentioned that he followed the lesson learnt from the discovery of Dr. Ronal Ross who demonstrated that the malarial parasite was borne by mosquitoes. The malaria from Bangladesh was eradicated by spraying DDT in late 1960's. Dr. Islam further mentioned that blue-green algae are cosmopolitan in distribution. It is present in all kinds of water bodies e.g., pond, lake, river, canal; even the Bay of Bengal is full of blue-green algae. It would be impossible to destroy the blue-green algae from these habitats by using algacide. Therefore, alternative ways were explored and attempts were made to destroy the algae from the household surface water (used for various household purposes including drinking) by using point-of-use water treatment strategy. Finally, a novel mixture called ‘Siraj Mixture’ which is a combination of alum potash, bleaching powder, lime and other ingredients was developed. By using this mixture, in a study in 420 households, it has been found that during the one year study only one person was contaminated by cholera. Not a single person was affected in the study families cholera and other water borne diarrhoeal diseases. This mixture is very cheap, easy to use and prepared from locally available ingredients. Each mixture costs only US ½ cent and can render 15 litres of contaminated surface water suitable for drinking within 30 minutes. Therefore, this mixture is a simple solution to prevent not only cholera but all kinds of water borne diarrhoeal diseases. Therefore, discovery of the inter-epidemic reservoir of cholera and invention of the novel mixture are significant achievements in the history of research on cholera.



Address by the Chief Guest Prof. Dr. Zahurul Karim, Vice President, BAS



Audience of the Academy lecture

After the presentation, the floor was open for discussion. Senior scientists, faculty members and students asked different questions on the subject of the lecture. Dr. Islam replied to all questions. Prof. Dr. Zahurul Karim, the Chief Guest commented in his address that Dr. Islam being a botanist not a medical professional nor a chemist did a very creditable job with his team. He mentioned the devastating loss of lives of common people due to cholera in Bangladesh. He praised the contribution of Dr. Islam and his team.

Prof. Dr. ZN Tahmida Begum expressed hearty thanks to the Speaker for this creditable discovery. Professor Begum also thanked the senior executives of icddr,b for participating in the seminar. The Chair also thanked Prof. Dr. R. H. Sarker and his colleagues for allowing the Academy to use the gallery of the department. Professor Haseena Khan expressed thanks to all present and declared the end of the Academy Lecture.

IV. Project monitoring and seminar at Rajshahi University

Two projects funded by BAS-USDA Endowment Trust are being implemented at Rajshahi University. One is : Isolation, characterization and utilization of toxic pesticide degrading soil-borne bacteria. Project No. LSc 45 operated by Prof. Abu Reza, which was monitored by Dr. MA Hamid Miah. Another project is: 'Selection of drought resistance rice from diverse process among cultivars and introducing stress resistant high yielding and short duration rice suitable for the Barind tract of Bangladesh' operated by Prof. Dr. Nurul Matin which was monitored by Prof. Dr. Lutfur Rhaman, Former Professor of Bangladesh Agricultural University, Mymensingh. Both the projects were monitored on 23 February, 2020.

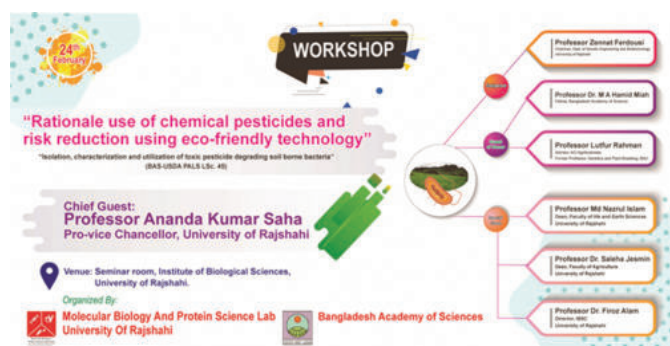
Next day both of these monitors attended a seminar and presented papers. The theme of the seminar was 'Rationale use of chemical pesticides and bioremediation using eco-friendly technology', which is basically the project domain of Prof. Abu Reza. There was a brief inaugural session chaired by Professor Zennat Ferdousi, Chairman, Department of Genetic Engineering and Biotechnology, RU. Professor Ananda Kumar Saha, Pro-vice Chancellor of RU was the Chief Guest. Professor Md. Nazrul Islam, Dean, Faculty of Life and Earth Sciences, RU, Professor Dr. Saleha Jesmin, Dean, Faculty of Agriculture, Rajshahi University and Professor Dr. Firoz Alam, Director IBSC, RU were Special Guests. Prof. Lutfur Rahman and Dr. MA Hamid Miah were Guests of Honour.

In addition to the theme paper presented by Prof. Abu Reza, five more papers were presented. Dr. MA Hamid Miah presented a paper entitle 'Technology developed to address one problem can be relevant to different issues'. Other papers were : 'Bioremediation' by Prof. Dr. Lutfur Rahman, Former Professor, Department of Genetics and Plant Breeding, BAU; 'Bioremediation: a promising technology for cleaning environment by living organism', by Dr. Md. Salah Uddin; 'Remediation of heavy metals using eco-friendly phyto-remediation technology', by Dr. Ahmad Humayan Kabir; 'Possibilities of highly effective bioremediation of toxic pesticide' from the result of BAS-USDA LSc.45 project

by Professor Md. Abu Reza, Principal Investigator, BAS-USDA LSc.45 project; ‘Efficacy of soil borne *Enterobacter* sp. for carbofuran degradation: HPLC quantitation of degradation rate’ by Md. Atikur Rahman. There were 107 participants including university teachers and students. Professor Reza, in addition to his work on degradation of pesticides, influenced others to work and think for remediation of toxic materials, which is an additional outcome of Prof. Reza's project.



Guests at the inaugural session of the seminar



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