



# Annual Report

2019- 2020

## BCSIR Laboratories, Chattogram

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ANNUAL REPORT 2019-2020



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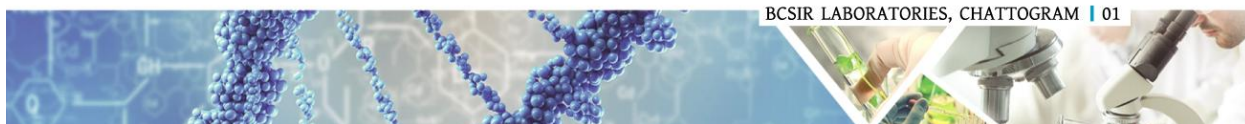
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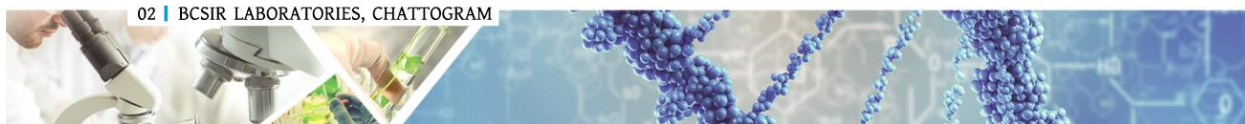
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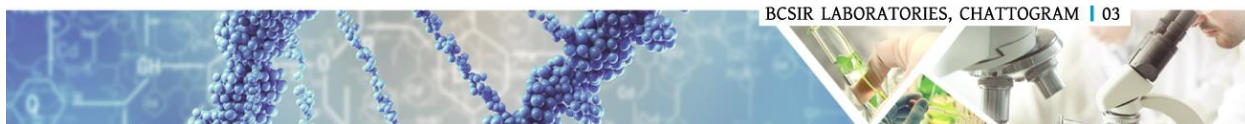
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### Message from the Chairman

It is a great pleasure to know that BCSIR Laboratories, Chattogram is going to publish the Annual Report for the year of 2019-2020. This renowned organization is playing a significant role in multidisciplinary research and development activities for the industrial development of our country. In addition to R & D activities the scientists of BCSIR Laboratories, Chattogram are also engaged in offering analytical services to public and private entrepreneurs.

The scientists provide research guideline to thesis, M. Phil. and Ph. D students of different universities of Bangladesh. This annual report is a reflection of the achievements made during the year.

I would like to extend my special thanks to the Director, members of the editorial committee, scientists, officers and staffs of BCSIR Laboratories, Chattogram for their efforts in bringing out the Annual Report in time.

I wish overall success of BCSIR Laboratories, Chattogram.

**(Md. Faruque Ahmed)**  
Chairman  
BCSIR, DHAKA





### Message from the Director

It is my great pleasure to publish the Annual Report of BCSIR Laboratories, Chattogram for the year 2019-20. The report reflects the overall R&D activities and achievements of the institute and other related activities like organizing and participation in training, seminar, symposium, workshop etc.

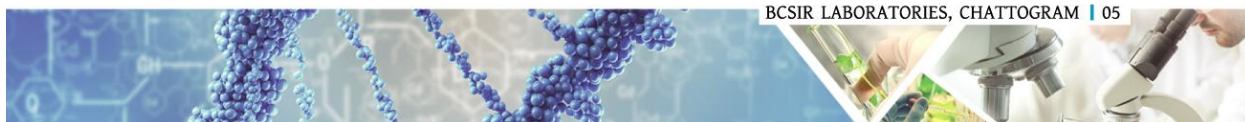
Scientists of BCSIR Laboratories, Chattogram are playing an important role in research and development activities including the ethnobotanical studies and conservation of aromatic and medicinal plants, extraction and isolation of bioactive secondary metabolites and determination of their pharmacological activities and toxicities, studies of different microbes with advanced microbiology and molecular biology techniques, development of herbal products, cosmetics and food supplements, advanced nanoparticle research, Hydrogen energy and fuel cell research etc. In addition to this, scientists are rendering individual analytical services to the public and private entrepreneurs and to solve their problems for the greater interest of the country.

I would like to express my sincere gratitude to Md. Faruque Ahmed, Chairman, BCSIR, for his kind support and cooperation in publishing this report.

I also want to acknowledge and appreciate all the members of the editorial committee who worked hard to prepare and bring out the final report. My heartfelt thanks to all the scientists, technologists, officers and staffs of the laboratory for their kind cooperation and contribution in this regard.

**(Dr. Mohammad Mostafa)**

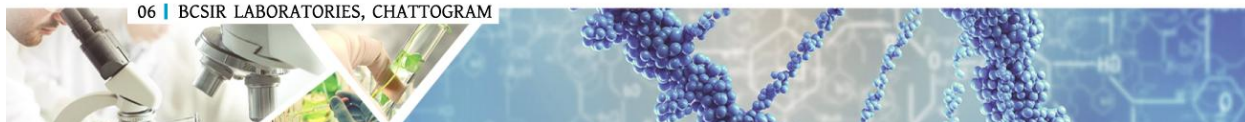
Director in-charge  
BCSIR Laboratories, Chattogram





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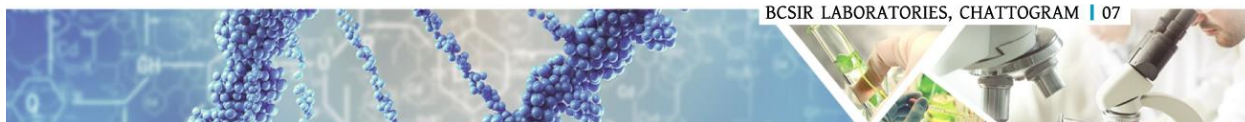




## Annual Report 2019-2020 BCSIR Laboratories, Chattogram

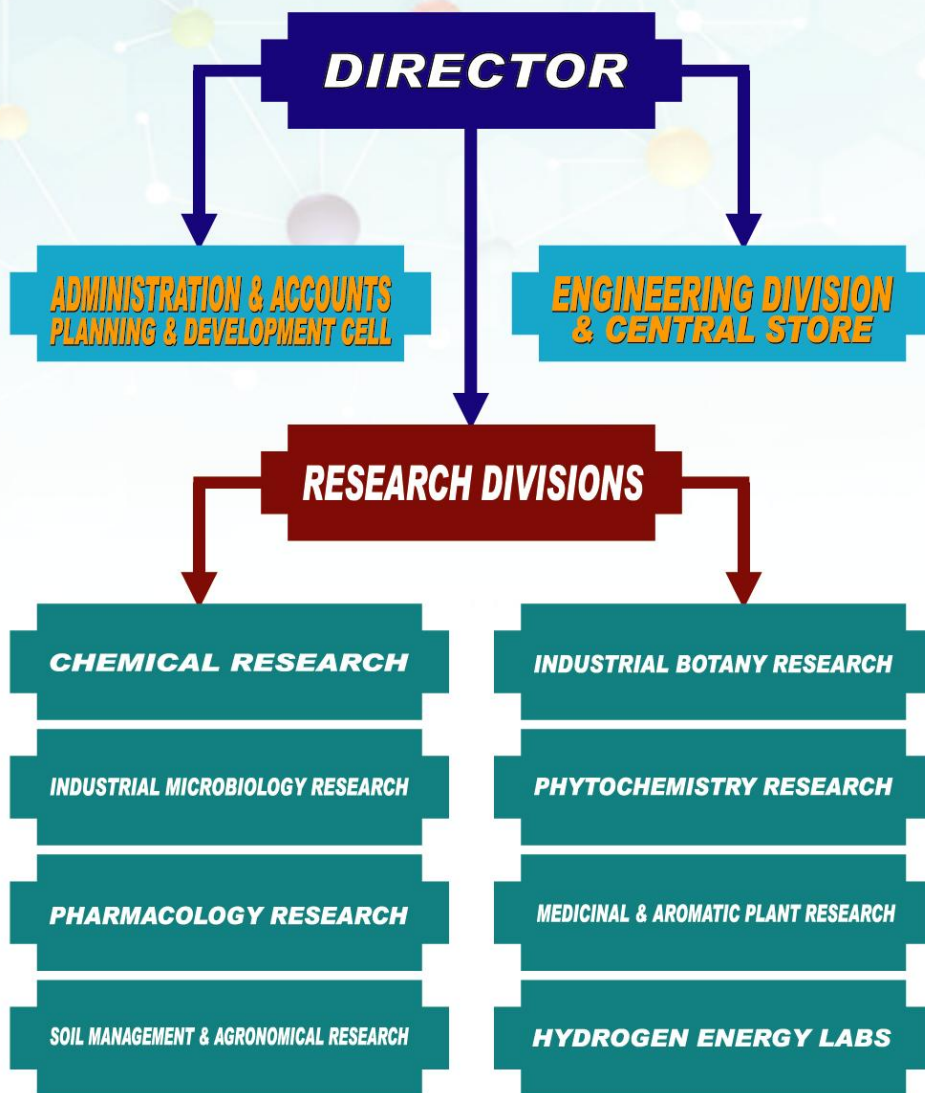
BCSIR Laboratories, Chattogram established in 1965 under the name "Natural Drug Research and Development Institute (NDRDI)", which was later renamed as BCSIR Laboratories, Chittagong in 1973. It is a multi-disciplinary unit of Bangladesh Council of Scientific and Industrial Research (BCSIR) under the Ministry of Science and Technology, the People's Republic of Bangladesh. This research organization is headed by a Director and it consists of eight research division viz. Chemical Research Division, Medicinal and Aromatic Plant Research Division, Pharmacology Research Division, Industrial Microbiology Research Division, Phytochemistry Research Division, Soil Management and Agronomical Research Division, Fruits and Vegetables Research Division and Industrial Botany Research Division. Moreover, Hydrogen Energy Laboratory (HEL) is a research Cell of BCSIR dedicated solely to advancing hydrogen energy and fuel Cell technologies. Hydrogen Energy Laboratory (HEL) of BCSIR conducts research on hydrogen production, storage, distribution and hydrogen fuel cell. Hydrogen can be used as fuel and chemical for various purposes. Fuel technology is moving toward to the clean and sustainable hydrogen fuel due to the depletion of fossil fuels. The activities of the HEL are to produce hydrogen using an economic hydrogen production process, developing solid state hydrogen storage materials to store hydrogen safely and hydrogen fuel cell to produce power for stationary application. Our efforts to utilize domestic raw materials and viable technologies to ensure maximum benefit of hydrogen technologies. Moreover, the technology supports and coordinates the traditional fuel technologies to establish a sustainable energy infrastructure. The technologies will contribute to the national grid mix to meet the 15% share of renewables.

The mission of this laboratories is to carry out, promote and guide scientific, industrial and technological research on various disciplines of pure and applied science that optimize the economic, environmental and social benefits for the people of Bangladesh.





## STRUCTURAL ARRANGEMENT OF BCSIR LABORATORIES, CHATTOGRAM

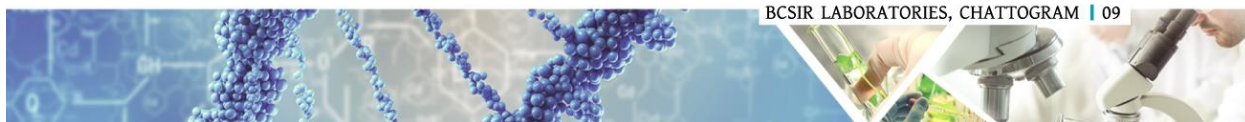




## CITIZEN CHARTER

### **BCSIR Laboratories, Chattogram provides the following services:**

- BCSIR Laboratories, Chattogram is a multidisciplinary research organization governed by Bangladesh Council of Scientific and Industrial Research (BCSIR) according to the Act 2013 of the Government of Bangladesh.
- Scientists of various research divisions conduct their approved R & D project and submit the research progress report on quarter yearly/ half yearly/ annual basis as well as publish research outputs in national and international journals.
- This research organization provides technical support to entrepreneurs for the industrial development of the country by leasing out industrial process development by the scientists of this laboratory.
- BCSIR Laboratories, Chattogram renders analytical service through assuring quality checking of the products of various government (Custom house, BSTI etc.), autonomous (Port Authority, WASA etc.) and private companies to help the government earning revenues.
- It conducts research activities especially on medicinal & aromatic plants cultivation, conservation, documentation, research and promotion of indigenous medicinal and aromatic plants.
- It helps the government magistracy through checking status of products that is seized to protect public health and to assure safety of their lives.
- The scientists of this research organization supervise M. S., M. Phil & Ph. D students of different universities to enhance skilled human resources of the country.
- This research organization arranges training, conference, seminar, symposiums, workshops etc. regarding scientific research to create public awareness on various national issues.

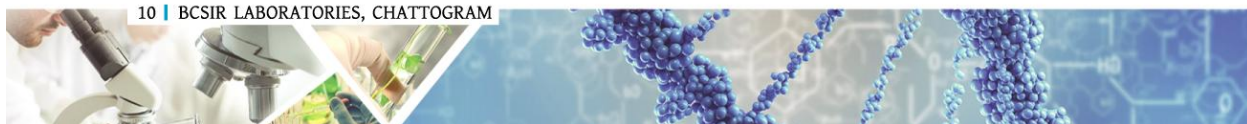






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# RESEARCH & DEVELOPMENT (R & D) ACTIVITIES





## Research and Development (R & D) Activities:

### 1. Extraction of natural colors from Asiatic penny Worst (*Centella asiatica*), Jambolana (*Syzygium cumini*), Gum Arabic tree (*Acacia nilotica*), Common bean (*Phaseolus vulgaris*) and Red Spinach (*Amaranthus dubius*) for using in food industry.

Sreebash Chandra Bhattacharjee, P. S. O. (PL); Dr. Dipankar Chakraborty, P.S.O.; A. J. M. Morshed, S. S. O.; Md. Riad Hossain Sabuj, S. O.

Synthetic colorants have long been used for the aforementioned purposes due to their stability, diverse hue variation and vibrant color. Unfortunately, consumption of synthetic colorants has been reported to be related to many negative health effects, e.g., hyperactivity, irritability, sleep disorders and aggressiveness. Use of natural colorants as well as colorants produced from natural Sources has thus gained increasing popularity, especially during the past few years. Proper utilization of these natural colors could be a resource for solving our health problem and contributing Our Socio-economic development. The study will be helpful for the utilization of the local plants like Asiatic penny Worst (*Centella asiatica*), Jambolan (*Syzygium cumini*), Gum Arabic tree (*Acacia nilotica*), Common bean (*Phaseolus Vulgaris*) and Red Spinach (*Amaranthus dubius*) to produce different Natural Color compounds and their health effects.

#### Objectives

- To utilize of our local plants to isolate different natural colors for using in food and beverages.
- To reduce the use of different synthetic colors toxic effect on our food and beverages.
- To save our foreign currency by reducing the import of color compounds
- To solve health problems like diabetes, aging, cancer and free radical scavenging of using those color compounds as by product of food and beverages.
- To develop different industrial products using those color compounds which improving our food habits all over the country

#### Work progress

After collecting raw materials like Asiatic penny Worst (*Centella asiatica*), Jambolan (*Syzygium cumini*), Gum Arabic tree (*Acacia nilotica*), Common bean (*Phaseolus Vulgaris*) and Red Spinach were sorted, made into small pieces, dried and powdered. Using different solvents e.g. water, methanol, ethanol, n-Hexane and acetic acid, colors were extracted, then extracted colors were dried and antioxidant activity of the extracted colors were tested.

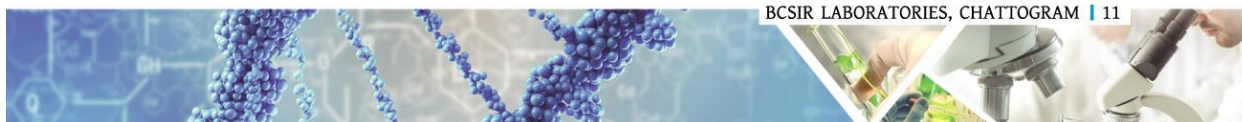
### 2. Biopesticidal product development from *Accacia nilotica* (Bengali: Babla) for agricultural use.

Dr. Dipankar Chakraborty, P. S. O. (PL); Sreebash Chandra Bhattacharjee, P. S. O.; Md. Riad Hossain Sabuj, S. O.; Amena Kibria, S. O.

Now-a day's Natural products is more popular to the people of the World because of its less side effect. Bangladesh though a small country owing to its favorable climate influences has been blessed with immense natural resource including explored and unexplored natural pesticide plants. There is a great demand of natural and bio organic pesticides products in the pharmaceutical, agricultural industries in our country. Proper utilization of these natural plants could be a resource for Our Socio-economic development. The study will be helpful for the utilization of the medicinal plants like *Accacia nilotica* (Bengali: Babla) to develop different bio-pesticide products against different types of synthetic pesticides.

#### Objectives

- To use of our local medicinal plants to isolate different pesticide compounds.







- To reduce the use of different synthetic pesticide and herbicidal compounds polluting our environment.
- To save our foreign currency by reducing the import of pesticide chemicals.
- To create wealth through scientific research and innovative idea from our local medicinal plants.
- To develop different industrial products which flourish through SME all over the country.

#### Work progress

After collecting raw materials, these were sorted, made into small pieces, dried and powdered. The active fraction of the powdered raw materials was extracted by using different solvents like water, methanol, ethanol, pet ether. Then the active fractions were applied on rice weevil at different concentration.

#### 3. Development of value added herbal products (skin care and medicated soap, face wash cream, petroleum jelly, lip gel etc.) from locally available indigenous plants.

Md. Saidur Rahman, S. S. O. (PL); Nemai Chandra Nandi, P. S. O.; Md. Abu Bakar, S. S. O.; Rajib Sarkar, S. O.; Amena Kibria, S. O.; Afsana Parvin, S. O.

The demand of herbal products likely cosmetics and foods are increasing day by day due to side effect and different hazardous activities of chemically synthesized products.

The concept of well health, beauty and cosmetics is as ancient as mankind and civilization. Women are obsessed with looking beautiful. So, they use various beauty products that have herbs to look charming and young. The skin beauty of individuals depends on the health, habits, routine job, climatic conditions and maintenance. The skin due to excessive exposure to heat will dehydrate during summer and causes wrinkle, freckles, blemishes, pigmentation and sunburns. The extreme winter cause damages to the skin in the form of cracks, cuts, maceration and infections. The skin diseases are common among all age groups and can be due to exposure towards microbes, chemical agents, biological toxin present in the environment, and also to some extent due to malnutrition. With the help of this project skincare and medicated herbal cosmetics products will eliminate above mentioned affects.

On the other hand it is proved that herbal products promote vibrant health and radiant beauty, soothe everyday ailments, and ease persistent stress, natural cures for everything from dry skin and act as medicine of others different types of disease. By the project herbal food products will act as medicine and create an easy way to become a disease free person from diseases affected person.

#### Objectives

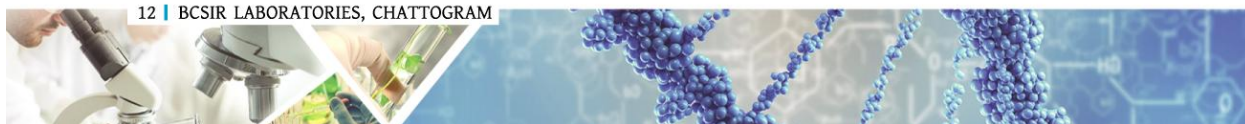
- To develop different value added skincare and medicated herbal products.
- To develop different herbal food such as biscuit, cake etc.
- To use of locally available indigenous plants.
- To develop technology for small scale and large scale industries.
- To create some employments opportunities.

#### Work progress

One patent (Medicated Skin Care with natural ingredients) and one product (Medicated Skin Care with natural ingredients) have been submitted for evaluation. Four products are ongoing for development.

#### 4. Development of disease resistant variety of legumes pulses plants: Checkpea (*Cicer arietinum*), Pea (*Pisum sativum*) etc. through nanotechnology.

Md. Saidur Rahman, S. S. O. (PL); Nemai Chandra Nandi, P. S. O.; Amena Kibria, S.O.; Afsana Parvin, S.O.







Nanotechnology is one of the most fascinating and rapidly advancing sciences and possesses potential to revolutionize many disciplines of science, technology, medicine and agriculture. It is proved that nano size particles (1-100 nm) give birth to new characteristics and the material behaves differently. In agriculture, nanotechnology has potential scope for use in the natural resource exploitation and production and protection of the crops and livestock. Because of ultra-small size, nanoparticles may hit/target specific reaction that may open a new field of controlling diseases in plants. Use of nanoparticles in plant disease management is a novel and fancy approach that may prove very effective in future with the progress of application aspect of nanotechnology. Use of nanobiotechnology, nanoparticles can be potentially used in the crop protection. Significance of nanotechnology has been realized internationally and several countries have set up especial committees/groups to support and monitor nano technological advancements and to harness its benefits for the mankind.

Since, physio chemical properties of nanoforms from its macroform vary greatly; it becomes important to examine the effect of nanoparticles on microorganisms to harness the benefit of this technology in the plant protection especially against phytopathogens. Nanoparticles because of ultra-small size, even smaller than a virus particle and high reactivity, may affect the activity of microorganisms. The silver has been generally found non injurious to microorganisms. However, silver nanoparticles inhibited the colonization of *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Escherichia coli* and *Klebsiella pneumonia*. The highest antimicrobial activity of silver nanoparticles (30 nm) synthesized by *Solanum tuberosum* and *Ocimum tenuiflorum* leaf extracts was found against *S. aureus* and *E. coli*, respectively. The information so far available on this aspect has shown that the nanoparticles have definite effect on the colonization of bacteria and fungi. However, these effects are suppressive as well as stimulatory and hence cannot be generalized.

Grain and forage legumes are grown on some 180 million Ha, or 12% to 15% of the Earth's arable surface. They account for 27% of the world's primary crop production, with grain legumes alone contributing 33% of the dietary protein nitrogen (N) needs of humans. But due to plant pathogen, lost of yield is 20%-100%. For example, field observations during vegetation indicated, that often various specific disease symptoms occurring on chickpea (*Cicerarietinum*) plants were caused by the fungi infesting plant tissues. Leaf, stems and pods spots, yellowing and drying of whole plants and root rot and basal rot were dominant symptoms. The main reasons of those disease symptoms were fungi from genus: *Fusarium*, *Alternaria*, and *Ascochyta* and additionally *Botrytis cinerea* and *Rhizoctonia solani*.

Nanotechnology is a promising field in biological science including agriculture. With the help of this project, it is possible to use nanotechnology in biological science particularly plant biological system, it will be easy to prevent plant disease with minimal cost and country will be get disease free seeds or plants as well as some noble knowledge will generate in the scientific arena.

#### Objectives

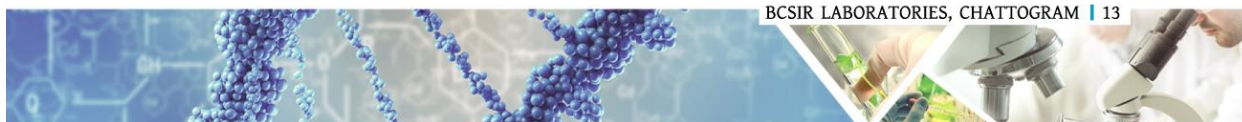
- To get disease resistant legumes plants
- To produce quality seeds of legumes
- To reduce yield loss of legumes
- To decrease cost of cultivation
- To reduce harvesting time

#### Work progress

One paper is submitted for publication and two papers are ready for submission.

#### 5. Isolation and structure elucidation of bioactive constituents from endophytic fungi of a local medicinal plant *Blumea lacera* with antidiabetic potential.

Tania Sharmin, S.O. (PL); Dr. Mohammad Mostafa, C.S.O.; Rasheda Akter, S.S.O.; S. M. Zahid Hosen, S.S.O.; Sakia Ferdousy, S.O.





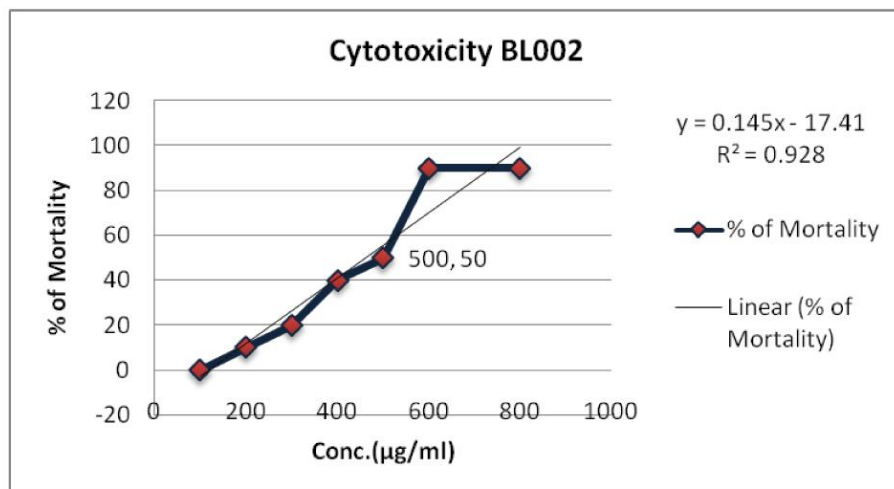
Endophytic fungi are ubiquitous organisms, residing intercellular or intracellular tissues in plants. Endophytic fungi from medicinal plants are natural chemical reservoir for new bioactive compounds. The bioactive metabolites produced by endophytic fungi originate from different biosynthetic pathways and belong to diverse structural groups. These bioactive compounds can be used as lead compounds in new drug design and development.

#### Objectives

- To tap the endophytic fungal diversity and assess their potential bioactive constituents
- To search for natural novel bioactive compounds

#### Work Progress

- Five fungi has been isolated
- Morphological and molecular identification has been done
- Phytochemical screening and bioactivity test has been done from ethyl acetate extract
- Bioactive compound isolation is going on



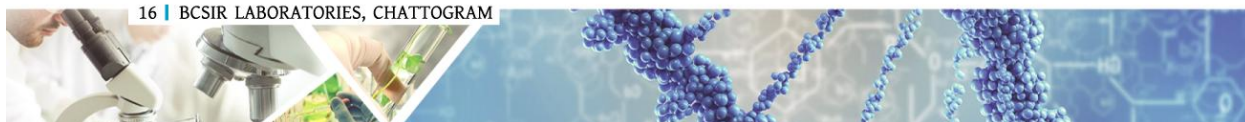
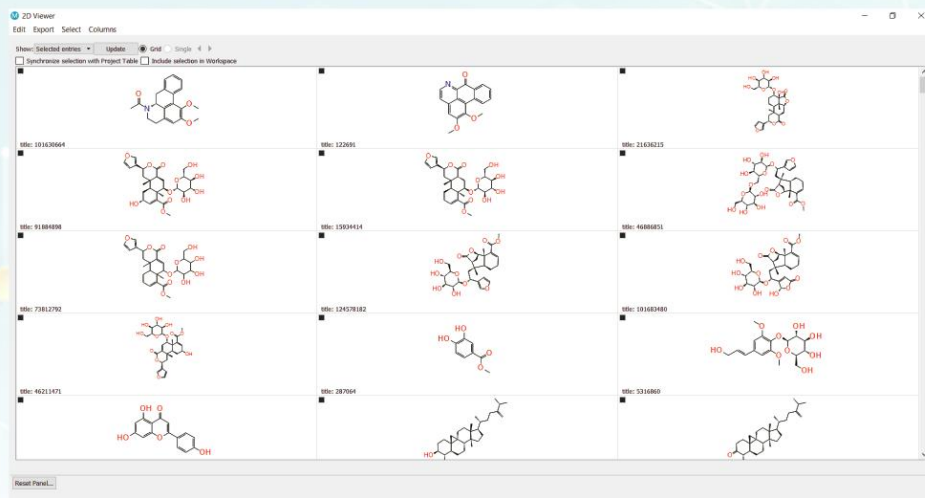








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### 7. Enhanced biogas production from solid waste using high yielding microbial consortium

Rajib Sarkar, S. O. (PL); Dr. Md. Saiful Islam, S. S. O.; Suman Das, S. O.; Sujan Kanti Das, S. O.; Md. Habibur Rahman Bhuiyan, C. S. O.; Dr. Mohammad Mostafa, C. S. O.; Mokarram Billah Chowdhury, S. M. Asaduzzaman Sujon, S. S. O.

Bangladesh has a huge potential for biogas production. There are about 25 million cattle and 1,50,000 poultry farms. Cities are generating about 25000 tons of domestic waste per day. 75% of which are organics and suitable for biogas production. Agricultural residues and water hyacinth are also suitable for biogas production as abundantly available. According to experts, there is scope to set up 4 million biogas plants in Bangladesh. So we can assume that even in Chattogram has a scope to build at least 1 million biogas plants. Biogas based power generation has also huge potential.

#### Objectives

- Implementation of sustainable and economical biogas plant using microbial consortium
- Decreasing the retention time for rapid and quality biogas production from solid waste for economic benefit
- Increasing the quantity & quality of biogas to use as fuel and power generation for economic benefit as well as green environment maintenance
- To encourage entrepreneurs for setting up more biogas plant

#### Work Progress

We have set up four lab scale digester already. Comparative study between cow dung and solid waste has been started.

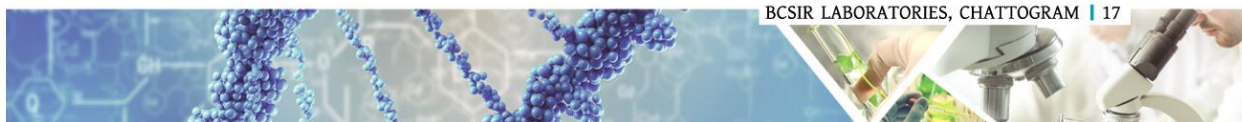
### 8. Development of herbal products from *Gynura procumbens* and *Coccinia cordifolia* for diabetes management.

A. J. M. Morshed, S. S. O. (PL); Muhammad Abu Bakar, S. S. O.; Sujan Kanti Das, S. O.; Rasheda Akter, S. O.; Dr. Mohammad Mostafa, C. S. O.

Medicinal plants have been discovered and utilized to develop different types of herbal products since prehistoric period. A large number of compounds are obtained from these herbal plants which are played an important role for defending against various diseases as herbal remedies or dietary supplements. According to the primary record of World Health Organization (WHO), about 80 percent of population in the world depends on traditional medicine. Because, herbal products made from medicinal plants may be non-toxic and nothing or low side effects than the artificial products. Bangladesh is enriched of huge sources of medicinal plants. Traditional practitioners of the Chittagong Hill Tracts of Bangladesh have been used the medicinal plants as remedy of many diseases from time immemorial. But they have no any specific idea about the active medicinal properties of the plants. If we can develop modern technology along with modern research activities in the phytochemical research field the modern herbal products or food supplements may be developed. As a result many industries will be established based on this research and Bangladesh will be economically benefited.

#### Objectives

- To develop value added products such as Tea, Biscuit, healthy drinks and juice.
- To isolate active compounds for using as raw materials in different industries such as pharmaceuticals, cosmetics, food industries etc.







### Work Progress

Sample of the Leaves and stems of *Gynura procumbens* and *Coccinea cordifolia* have collected. Physicochemical and phytochemical analysis of *G. procumbens* leaf has completed. One research paper has submitted for acceptance.

### 9. Investigating natural antibacterial agent from garlic (রসুন) against multidrug resistant pathogens

Md. Saddam Hossain, S. O. (PL); Dr. Saiful Islam, S. S. O.; Suman Das, S. S. O.; Farjana Showline Chaity, S. O.; Rasheda Akter, S. S. O.

Multidrug resistance is a growing problem all over the world. Natural products having fewer side effects compared to conventional antibiotics are now being used as an alternative medicine for treatment of various diseases. They are relatively inexpensive and readily available for the people while showing better patient tolerance. Garlic (*Allium sativum*) is one of the herbs that is used by traditional practitioners for preparation of herbal medicine. Several studies have shown that garlic extract is effective against multidrug resistant pathogens. Therefore, they can also be used in Bangladesh against the multidrug resistant pathogens where most commonly used antibiotics fails. Bangladesh Agriculture Research Institute (BARI) has developed high yielding garlic species like BARI ROSHUN 1-4. They are of very good quality and their disease and pest infestation rate is low. BARI ROSHUN-1, BARI RASHUN-2 developed by Bangladesh Agriculture University is also remarkable. They are promising but their antimicrobial activity as well as other potency as a drug candidate is not yet investigated.

### Objectives

- To investigate natural antibacterial agent from high yielding Bangladeshi garlic variety against multidrug resistant pathogens.
- Finally to develop herbal preparation for the treatment of infectious diseases if promising.

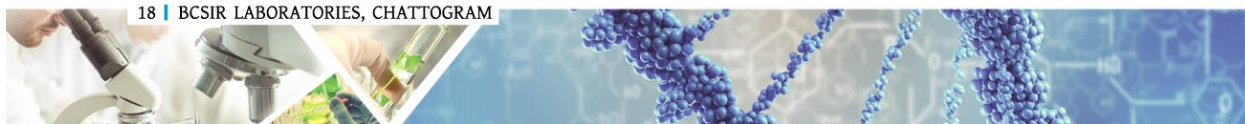
### Work Progress

The collection of garlic varieties including BARI ROSHUN 1-4 as well as BARI ROSHUN1-2, BARI ROSHUN-5 has been done. Multidrug resistance pathogens like *Escherichia coli*, *Klebsiella Pneumoniae*, *Staphylococcus aureus*, *Salmonella typhi* have been also completed. The raw garlic extract was also prepared from the varieties under aseptic condition. Now, the antimicrobial activity of the extract is being carried out against the selected multidrug resistant *Escherichia coli* by agar well diffusion assay.

### 10. Development of Molecular Sieve from available domestic biomass use in petrochemical refining industry

Dr. Md. Abdus Salam, S. S. O.; Dr. Dipankar Chakraborty, P. S. O.; Kawsar Ahmed, S. O.; Md. Shehan Habib, S. O.; Md. Sahab Uddin, S. O.

Molecular sieve (MS) is a material that separates a selective gas from the gaseous mixture or mine gas on the basis of their molecular size and shape by the process of adsorption. Zeolite is one kind of Molecular sieve which contains pore of specific size and shape. These pores allow







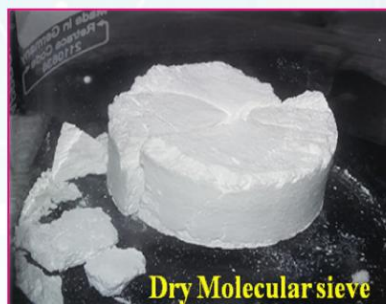
selective gas to pass out. Among the different applications of molecular sieve as catalyst, drier, contaminant removal are mentioned. A huge amount of currency is invested to import molecular sieve in our country every year. We can reduce the flow of this import by producing molecular sieve from domestic raw materials. MS is synthesized by using biomass as raw materials, which is cost-effective as well as environmentally benign. A good quality MS can be produced from rice husk. It can be an effective raw material as it is abundant in our country during harvesting. A positive impact on our national economy can be drawn by producing molecular sieve from this domestic agro waste.

**Objectives:**

- To synthesis and characterization of Molecular Sieve to get the optimum production rate of petrochemicals (Methane).
- To fabricate a small scale Pyrolyser for raw materials processesing.

**Work progress:**

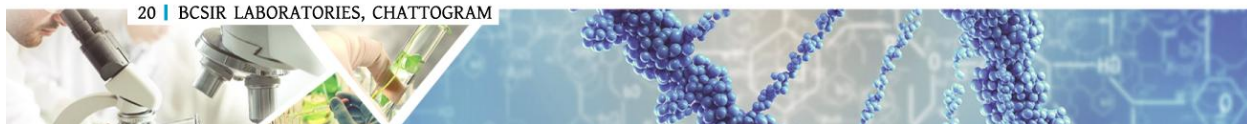
- Pyrolyzer fabrication completed.
- Lab scale product synthesized.
- Review article published "Prospect of molecular sieves production using rice husk of Bangladesh: A review."





ANNUAL REPORT 2019-2020

# Research Achievements





## Publications

### Paper published (2019 - 2020)

A. J. M. Morshed, Sujan Kanti Das, Dipankar Chakraborty, Qualitative Analysis And Assessment Of Heavy Metals In Some Poultry Feeds From Chattogram Division, Bangladesh. *International Journal of Scientific & Technology Research*, 8(10): 1424-1431, 2019.

Saddam Hossain, Md. Reaz Morshed, Sanjay Saha Sonet, Rashedul Islam, Atkeeya Tasneem and Mohammad Mahbub Kabir. Childhood pneumonia in the developing countries: Causative agents, diagnosis and management strategies emphasizing the current status. *International Research Journal of Medicinal Science*, 8(1): 10-20, 2020.

Ashraful Kabir, Md. Simul Bhuyan, Sujon Kanti Das, A. J. M. Morshed and Muhammad Abu Bakar. Heavy Metals and Essential Elements in Poultry Feeds in Chittagong, Bangladesh. *American-Eurasian Journal of Toxicological Sciences* 11 (1): 11-20, 2019

M. S. Rahman, A. Chakraborty, S. Mazumdar, N. C. Nandi, M. N. I. Bhuiyan, S. M. Alauddin, I. A. Khan and M. Jakir Hossain. Effect of poly (vinylpyrrolidone) protected platinum nanoparticles on seed germination and growth performance of *Pisum sativum*. *Nano-Structures & Nano-Objects*.

A. J. M. Morshed, Nurun Nahar Akter, Sujan Kanti Das and Ayesha Afrin. Toxic metals monitoring in soil, water, vegetable and fish from Lakshmipur district in Bangladesh. *IOSR Journal of Environmental Science, Toxicology and Food Technology (IOSR-JESTFT)*, 14(6): 53-59, 2020.

Paroma Arefin, Md. Shehan Habib, Aiwahawarya Arefin and Md. Saidul Arefin. A Review on Current Mechanical and Electronic Design Aspects and Future Prospects of Smart Canes for Individuals with Lower Limb Difficulties. *Material Science Research India*, 17(1): 25-33, 2020.

Mohammed M. Matin, Sreebash C. Bhattacharjee, Priyanka Chakraborty and Muhammad S. Alam. Synthesis, PASS predication, in vitro antimicrobial evaluation and pharmacokinetic study of novel n-octyl glucopyranoside esters. *Carbohydrate Research*.

Md. Adnan, Md. Nazim Uddin Chy., A. T. M. Mostafa Kamal, Kazi Asfak Ahmed Chowdhury, Md. Atiar Rahman, A. S. M. Ali Reza, Md. Moniruzzaman, Satyajit Roy Rony, Mst. Samima nasrin, Md. Obyedul Kalam Azad, Cheol Ho Park, Young Seok Lim and Dong Ha Cho. Intervention in Neuropsychiatric Disorders by Suppressing Inflammatory and Oxidative Stress Signal and Exploration of In Silico Studies for Potential Lead Compounds from *Holigarna caustica* (Dennst.) Oken leaves. *Biomolecules*.

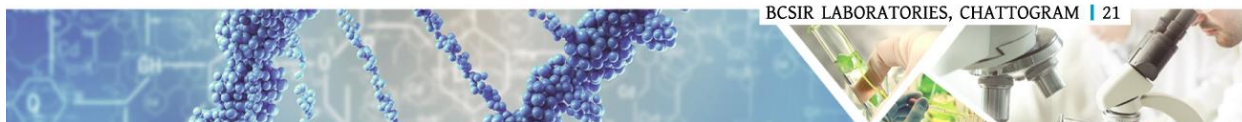
Bhattacharjee. S. C., M. M. Matin and M. Nasiruddin. Insecticidal Effect of Two Medicinal Plants *Polygonum hydropiper* L. and *Abrus precatorius* L. Leaves Against The Rice Weevil *Sitophilus oryzae* L. *J. biodivers coserv bioresour manag* 5(2), 2019.

Paroma Arefin, Tamjid-Us-Sakib, Md. Shehan Habib, Trissa Saha and Farhana Boby. Evaluation of pH of Facial Cleansers Available in the Bangladeshi Market. *Novel Approaches in Drug Designing & Development*.

Paroma Arefin, Md. Shehan Habib, Arshawarya Arefin and Md. Saidul Arefin. A comparison of mobility assistive devices for elderly and patients with lower limb injury: Narrative Review. *International Journal of Aging Health and Movement*, 2(1), 2020.

Mohammed M. Matin, Md. HO Roshid, Sreebash C Bhattacharjee and Abul KMS Azad. PASS Predication, Antiviral, in vitro Antimicrobial and ADMET Studies of Rhamnopyranoside Esters. *Medical Research Archives*, 8(7).

Md. Khalid Saklin, Rajib Chandra Das, Yeasmin Akther, Sanchita Dewanjee, Sujan Kanti Das, Tania Sabnam Binta Monir and Susmita Mondal. Efficiency of Aluminium and Copper Coated Aluminium Electrode in Hydrogen Fuel Generation From Rain Water. *Energy Power Engineerin*, 12: 348-356, 2020.



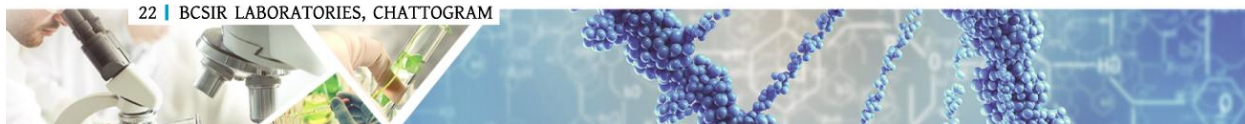




## Product List of BCSIR Laboratories, Chattogram

All products are ready to lease out

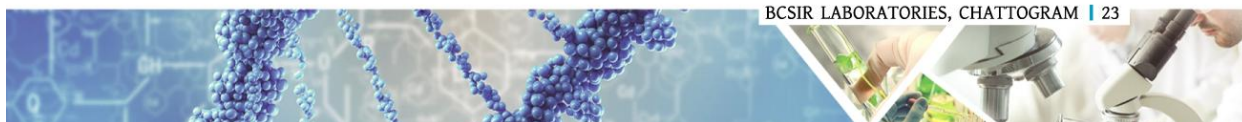
1. Aromatic oil from dry Turmeric leaves.
2. Herbal Mint Balm
3. Fruity Papaya
4. Japanese Mint Oil
5. Menthol Crystal from Japanese Mint Oil
6. Slow Releasing Fertilizer
7. Herbal Hair Tonic
8. Protein concentrate from Shark Meat
9. Candy from Bamboo Shoots
10. Chewing Ginger
11. Citronella Oil
12. Glucosamine hydrochloride from Lobster Shells
13. Tea Cola
14. Green Bael Powder
15. Scopolamine hydrobromide from *Datura fastuosa* leaves
16. Shark Liver Oil
17. Starch from *Musa paradisiaca* plant
18. Shark Protein
19. Lemon Grass Oil
20. Turmeric Paste
21. Lemon Pickle
22. Kalomegh Tablet
23. Herbal Antidiabetic Tea
24. Chalta Sauce
25. Patchouli Oil
26. Triffala Health Drink
27. Bergamot Mint Oil
28. Perfume Oil from Eucalyptus
29. Aromatic Oil from *Cymbopogon osmastoni*
30. Aromatic Oil from *Ocimum clocimum*
31. Stevia Product as Sweetener
32. Herbal Mosquito Repellent Cream
33. Herbal Mosquito Repellent Refill
34. Herbal Mouth Wash
35. Mosquito Repellent Body Oil
36. Lamp Oil as Mosquito Repellent
37. Herbal Turmeric Soap
38. Palmarosa Oil
39. Instant Stevia Tea





### Academic Research Guidance/ Supervision

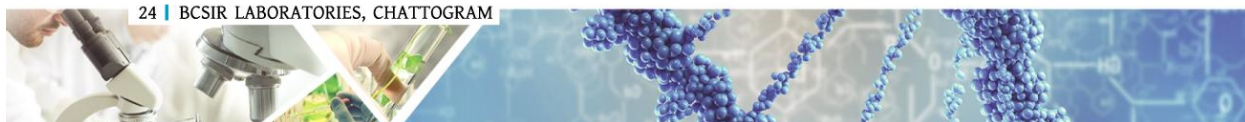
Sl. No.	Title of the Research	Research Category (M.S. Thesis/M. Phil./Ph. D)	Name of the students	Name of academic Institution	Name & Designation of Supervisors in BCSIR
01	Effect of cooking methods on proximate composition, fatty acid composition and nutritional indices in muscle tissue of Hilsa ( <i>Tenualosa ilisha</i> ) and Mackerel (Surma) ( <i>Scomberomorus guttatus</i> )	M. S. Thesis	Mahabuba Ara Khatun	Zoology Department, Chittagong University	Sreebash Chandra Bhattacharjee  Senior Scientific Officer
02	Assessment of the quality of poultry feed and its effect on finish product	M. S. Thesis	Md. Atiqur Rahman	Noakhali Science & Technology University	A. J. M. Morshed Senior Scientific Officer
03	Preparation of Crude extract from <i>Gynura procumbens</i> leaves and investigation of its anti-hyperglycemic effect on glucose induced rats.	M. S. Thesis	Dipannita Deby	Noakhali Science & Technology University	A. J. M. Morshed Senior Scientific Officer
04	Phytochemical investigation and antioxidant activity of <i>Cocinia cordifolia</i> and <i>Hylocerous undatates</i>	M. S. Thesis	Sarwar Kamal Rayhan	Noakhali Science & Technology University	A. J. M. Morshed Senior Scientific Officer
05	Physical and Chemical parameter investigation of different river water in Khulna region of Bangladesh to establish a data hub for fish culture and growth condition.	M. S. Thesis	Md. Jahid Hosen	University of Chittagong	Sujan Kanti Das Scientific Officer
06	Study on Anti-diabetic Properties of Available Herbal Products in Bangladesh	M.S. Thesis	Md. Irtiza Chowdhury	Shahjalal University of Science & Technology, Sylhet	Nusrat Jahan Mouri Scientific Officer





### Scientists pursuing Ph. D. Course

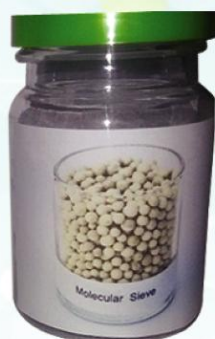
- 1)  
Name : Jewel Das  
Designation : Scientific Officer  
Division : Chemical Research Division  
University : National University of Ireland Galway, Ireland
- 2)  
Name : S. M. Zahid Hosen  
Designation : Scientific Officer  
Division : Pharmacology Research Division  
University : University of New South Wales, Australia
- 3)  
Name : Abu Sayeed Md. Mahmud  
Designation : Senior Scientific Officer  
Division : Industrial Microbiology Research Division  
University : University of Melbourne, Australia.
- 4)  
Name : Sabrina Sultana  
Designation : Scientific Officer  
Division : Industrial Microbiology Research Division  
University : Osaka Prefecture University, Japan
- 5)  
Name : Prabhangshu Kumar Das  
Designation : Senior Scientific Officer  
Division : Chemical Research Division  
University : South Illinois University, Carbondale, USA.







## New Product Pictures



Molecular Sieve



Instant Stevia Tea

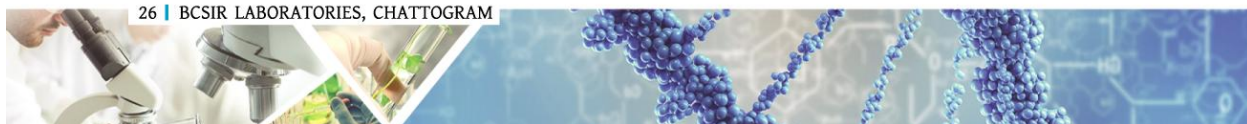


Slow Releasing Fertilizer



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# TRAINING & WORKSHOP





### FOREIGN TRAINING

Sl.	Name & Designation	Subject/ Instruments	Duration/Period	Place/Organization
1.	Md. Saidur Rahman	R & D Management	17-21 January, 2020	CSIR-HRDC, Ghaziabad, Uttarpradesh, India
2.	Saddam Hossain	R & D Management	17-21 January, 2020	
3	Tania Sharmin	Bio-Layer Interferometry	5 -7 September, 2019	Pall India Pvt. Ltd., Bangalore, India
4	Sakia Ferdousy	Bio-Layer Interferometry	5 -7 September, 2019	

### WORKSHOP

Sl.	Subject	Name & Designation	Duration/Period	Place/Organization
01	Workshop on strengthening of collaboration between BCSIR and other institutes of Bangladesh.	All Scientists of BCSIR Laboratories, Chattogram	Conference Room, BCSIR Laboratories, Chattogram.	10 July, 2019
02	উদ্ভাবন সেবা সহজিকরণ বিষয়ক কর্মশালা	Md. Habibur Rahman Bhuiyan Chief Scientific Officer A J. M. Morshed Senior Scientific Officer	07 August, 2019	IFRD Auditorium, BCSIR, Dhaka.

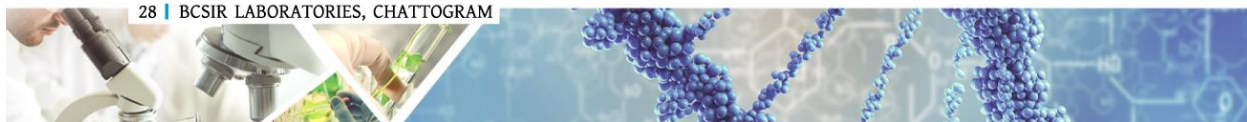






ANNUAL REPORT 2019-2020

# OFFICIAL INFORMATION, FACILITIES & MEMORABLE EVENTS





### Name of the Directors and duration

Sl. No.	Name	From	To
01	Dr. Md. Kiamuddin	08.02.1965	10.02.1970
02	Dr. Md. Erfan Ali	11.10.1970	04.02.1972
03	Dr. Humayun K. M. A. Hye	05.02.1972	14.12.1973
04	Prof. N. A. Khan	15.12.1973	28.11.1978
05	Dr. Manzur-i-Khuda	29.11.1978	29.05.1986
06	Dr. Md. Nurul Alam	30.05.1986	02.07.1991
07	Dr. Shamim J. Ahmed	03.07.1991	25.05.1992
08	Dr. Md. Nurul Alam	26.05.1992	13.01.1997
09	Dr. Md. Nurul Islam	14.01.1997	12.03.1997
10	Dr. Md. Sayeedul Huq	13.03.1997	27.10.1998
11	Dr. Md. Fazlul Huq	28.10.1998	29.04.2000
12	Mr. Khandoker M. Ismail	30.04.2000	08.08.2002
13	Md. Abdul Karim	09.08.2002	30.12.2002
14	Dr. Mir Ezharul Hossain	31.12.2002	29.09.2005
15	Md. Enayetul Islam	30.09.2005	19.01.2006
16	Dr. K. M. Formuzul Haque	20.01.2006	21.11.2006
17	Mr. Kabir Ahmed	22.11.2006	15.07.2007
18	Dr. Mohammed Yusuf	16.07.2007	12.12.2007
19	Mr. Kabir Ahmed	13.12.2007	30.12.2008
20	Dr. Smarajit Kumar Biswas	31.12.2008	26.05.2009
21	Mr. Sudhangshu Kumar Roy	27.05.2009	31.01.2010
22	Dr. D. A. Nasima Chowdhury	01.02.2010	24.05.2010
23	Dr. Jaripa Begum	25.05.2010	09.01.2014
24	Md. Habibur Rahman Bhuiyan	10.01.2014	15.03.2014
25	Ferdousi Begum	16.03.2014	19.05.2014
26	Dr. Parvin Noor	20.05.2014	12.10.2014
27	Dr. Khandker Nesar Ahmed	13.10.2014	03.01.2016
28	Mahmuda Khatun	04.01.2016	10.07.2018
29	Dr. Mohammad Mostafa	11.07.2018	Continue





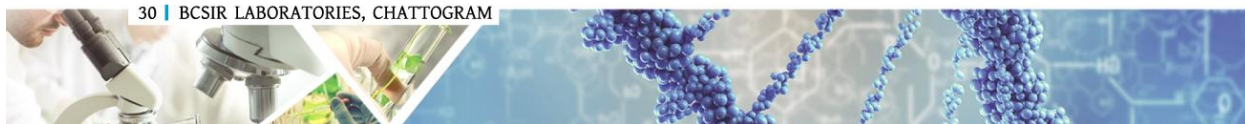
### **Budget of BCSIR Laboratories, Chattogram**

**Fiscal Year 2019 - 2020**

AREA	ALLOCATION (TK)	EXPENDITURE (TK)
Salary	3,24,78,000/-	3,10,71,847/-
Allowance	1,86,68,000/-	1,82,97,705/-
Research & Development	45,00,000/-	44,46,575/-
Goods and Service	5,75,80,000/-	5,58,42,914/-
Others	13,84,118/-	13,23,673/-
Total	11,46,10,118/-	11,09,82,714/-

### **Earning obtained from analytical service**

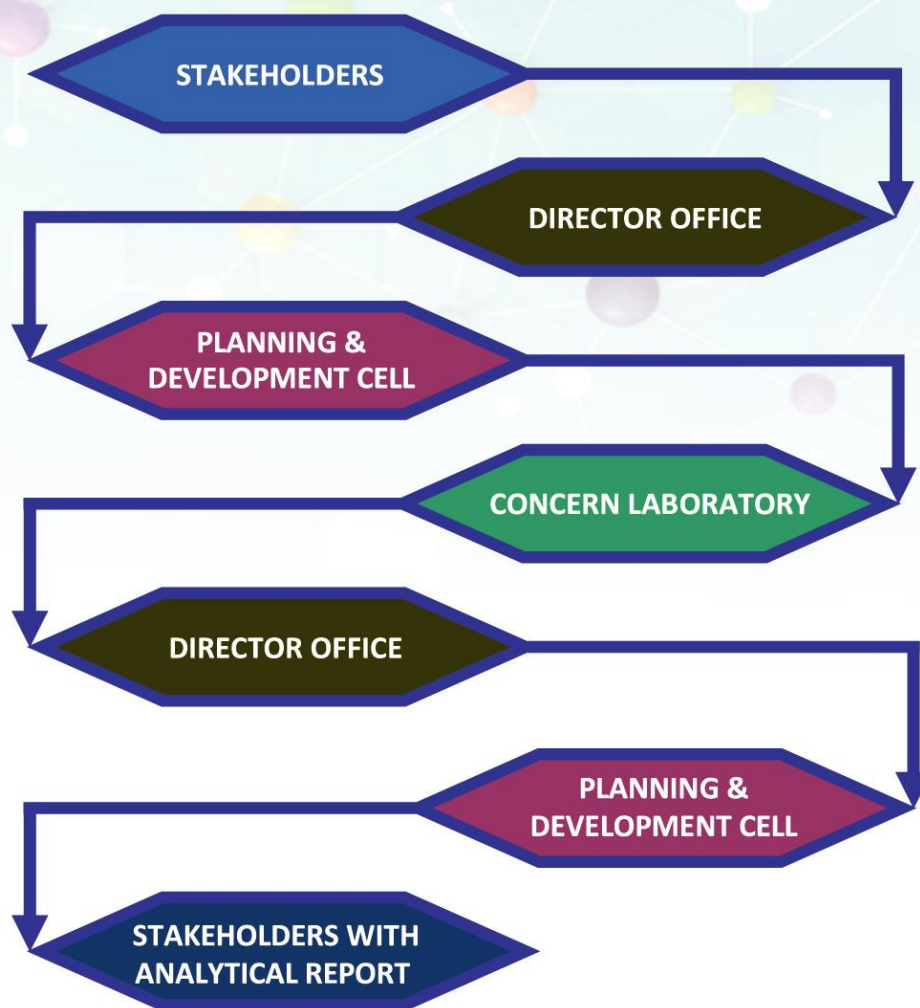
Providing analytical service to stakeholders, BCSIR Laboratories, Chattogram has been earned 53,81,315.52 (Fifty Three Lac Eighty One Thousand Three Hundred Fifteen Taka and Fifty Two Paisa Only) taka for fiscal year 2019 - 2020.







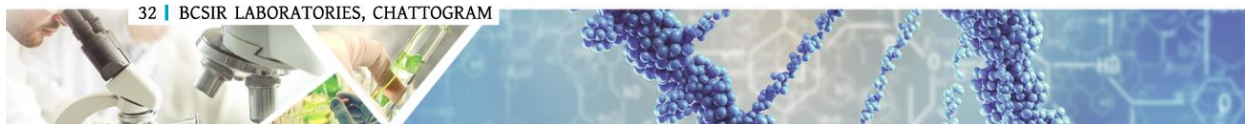
## ONE STOP ANALYTICAL SERVICES





### Some Stakeholders

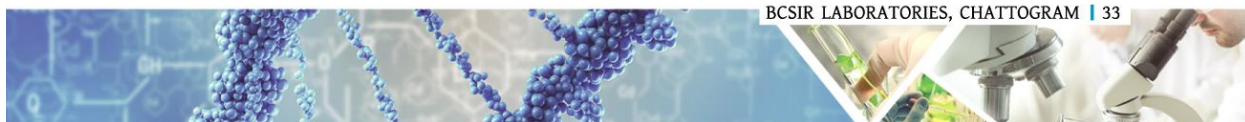
Sl. No.	Name	Sl.No.	Name
01	Abul Khair Group	41	Mass Fashion Limited
02	Apollo Seaing & Garments Limited	42	maf Footwear Limited
03	Azim Group	43	Mark Fashion Wear (Pvt.) Ltd.
04	Apparel Promoters Ltd	44	Masud Agro Processing Food Products Ltd.
05	Arrow Jeans Pvt. Ltd.	45	Merim Co. Limited
06	Asian Paints Bangladesh Ltd.	46	Men's Fashion Limited
07	Bangladesh Stadard and Testing Institute (BSTI)	47	Montex Apparels Limited
08	Bangladesh Inland Water Transport Authority (BIWTA)	48	Meenhar Fisheries Limited
09	Bangladesh Steel Re-rolling Mills (BSRM)	49	Moon Star Paints & Chemical Industries.
10	Banoful & Co.	50	Nur Mohammed & Co. Ltd.
11	Bangladesh Spinner & Knitters	51	Overseas Cargo Industries Ltd.
12	BM Energy (BD) Ltd.	52	Padma Wear Ltd
13	Brightex Washing Plant	53	Power Development Board (PDB)
14	BASE Textile Limited	54	PHP Group
15	Bengal Sea Food	55	Postlink Logistic Limited
16	Chittagong WASA	56	PRM Fashions Pvt. Ltd
17	Confidence Group	57	Premier 1888 Ltd.
18	Custom House, Chittagong	58	Priyam Garments Ltd.
19	Cargo Control BD Ltd	59	Progressive Apparels Ind. Ltd.
20	Chittagong Port Authority	60	R. S. B. Industries Ltd
21	Coats Bangladesh Ltd.	61	S. A. Salt Industries Limited
22	Dah Yuan Bangladesh Ltd.	62	SAR & Co. Ltd.
23	Desh Garments Limited	63	Samdani Wash
24	Divine Design Ltd.	64	Sea Tex & Sea Blue Textile Limited
25	Farzana Fashions World Ltd.	65	Shah Amanat Knitting & Dyeing Industries Limited





26	Farrokh Chemical Complex	66	Shodesh Chemicals
27	Four H Group	67	Shabnam Vegetable Oil Industries Ltd.
28	FAMILYTEX (BD) Ltd.	68	Suborna Garments Ltd
29	Fulkoli Bread & Biscuit Industries Ltd.	69	Smart Jeans Ltd
30	Finlays	70	S & S Swimwear Limited
31	Goldmart Apparels (Pvt.) Ltd.	71	Summit Alliance Port Limited.
32	Glitter Fashion Ltd	72	Sunman Textiles Limited
33	Global Garments Ltd.	73	Tadanta International Trade Organisation
34	Guangdong Power Engineering.	74	The Peninsula Chittagong Limited
35	Hakkani Pulp & Paper Mills Ltd.	75	Toy Woods (Bd) Co. Ltd.
36	Intimate Apparels Limited	76	TOTAL Premier LP Gas Ltd
37	KDS Group	77	Unilever Bangladesh Limited
38	Kenpark Bangladesh Apparel (Pvt.) Ltd.	78	VALTEX International (BD) Ltd.
39	Legacy Fashion Ltd.	79	WHITEX Garments (BD) Pvt. Ltd.
40	Loyaltex Ltd.	80	Youngone Bangladesh Limited

***BCSIR Laboratories, Chattogram is committed to provide technical assistance and analytical services to all stakeholders***







## Sophisticated Instruments and their application



HPLC

**Function:**

Separation, identification and quantification of the component in mixture.

**Sample category:**

Vitamin, Protein, Antibiotics, Adulterated food etc.

**Function:**

Quantitative determination of different samples such as transition metal ions, organic compounds and biological macromolecules.

**Sample category:**

Color, water, sugar, organic compound etc.



UV-Visible Spectrophotometer



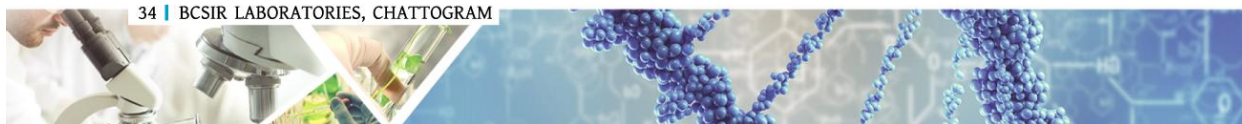
GC-MS

**Function:**

Identification and determination of volatile organic compounds in a mixture and investigation of unknown samples.

**Sample category:**

Volatile essential oil, Flavour, Hydrocarbons etc.





## Sophisticated Instruments and their application



Atomic Absorption Spectrophotometer

**Function:**

Quantification of metallic elements.

**Sample category:**

Water, Soil, Metallic Bar or Sheet, Alloy, Various types of crops, foods etc.

**Function:**

Selective DNA isolation, Amplification and quantification of DNA, diagnosis of diseases.

**Sample category:**

Plants and plant product (GMO), Animal products (Halal test, Porcine), Bird flu etc.



Polymerase Chain Reaction (PCR)



LC-MS

**Function:**

Separation, Identification and Quantification of a mixture.

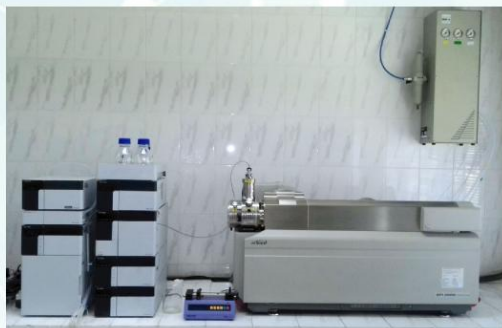
**Sample category:**

Antibiotics, Protein, Vitamin, Adulterated food etc.





## Sophisticated Instruments and their application



LC-MS-MS

**Function:**

Determination of masses of particles and elucidation of the chemical structures of molecules.

**Sample category:**

Pharmaceutical drugs (e. g. Antibiotics, Vitamins), Pesticides etc.

**Function:**

Imaging and documentation of nucleic acid and protein.

**Sample category:**

Sample related to molecular biology.



Gel Documentation System



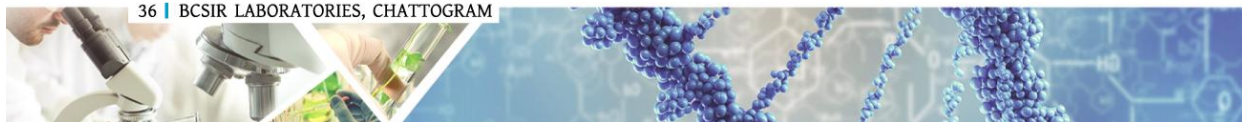
Flame Emission Spectrometer

**Function:**

Quantitative determination of sodium, potassium and calcium.

**Sample category:**

Water, Soil, Various types of foods & crops.







## Sophisticated Instruments and their application



Phase Contrast & Fluorescent Microscope

**Function:**

Bacteria detection, Motility testing, Antigen and Antibody detection.

**Sample category:**

Soil, Water, Food and Plant samples.

**Function:**

Extraction of essential oil from plants, microwave assisted synthesis.

**Sample category:**

Medicinal and aromatic plants and plant parts (Leaf, flower, bark etc).



Microwave Extraction



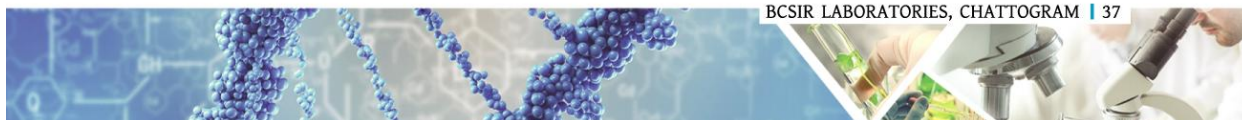
ELISA Reader

**Function:**

Detection for the presence of a substance, usually an antigen in a liquid or wet sample  
Detection of toxin like ochratoxins, aflatoxins etc.

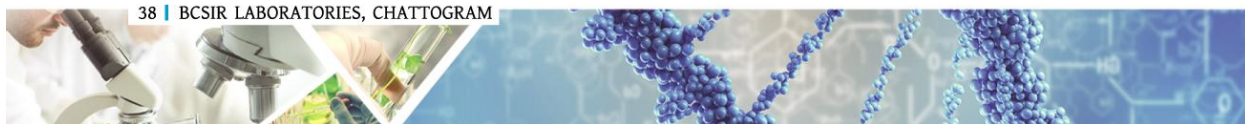
**Sample category:**

Various types of food and crop.





## Central Lab Facilities





## Sophisticated Instruments at Central Lab Facilities of BCSIR Laboratories, Chattogram



FTIR



ION CHROMATOGRAPH



FLASH POINT APPARATUS



FLAME PHOTOMETER



FREEZE DRYER



HPLC

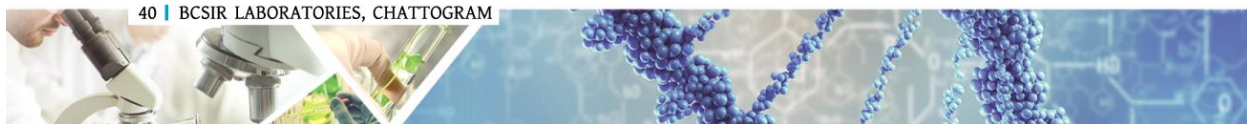






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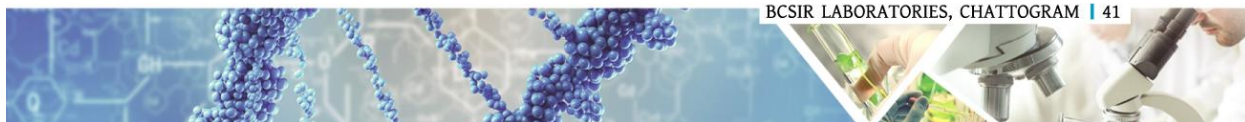
## Innovation Gallery





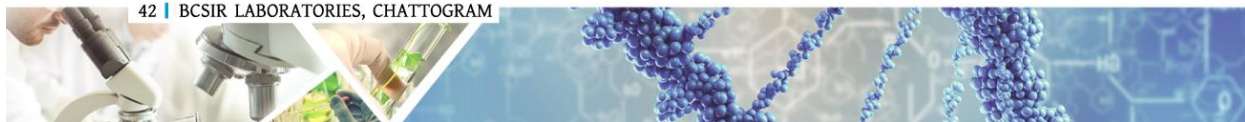
## Memorable events at a glance

### National Mourning Day - 2019





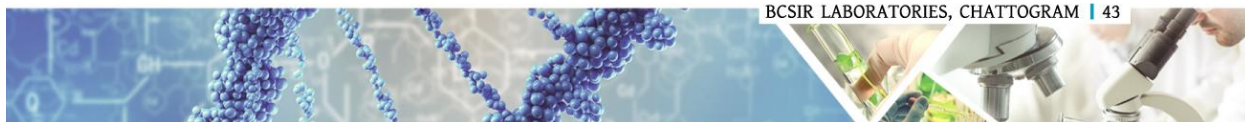
## Victory Day - 2019

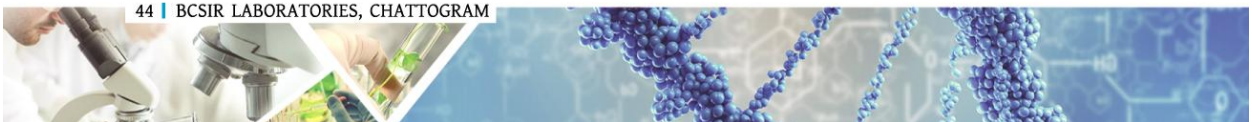






## TRAINING ON FIRE SAFETY- 2019







## Science & Industrial Technology Fair - 2020



Opening Ceremony

Inauguration Session



Audience







Project was presented by participants

Closing Ceremony

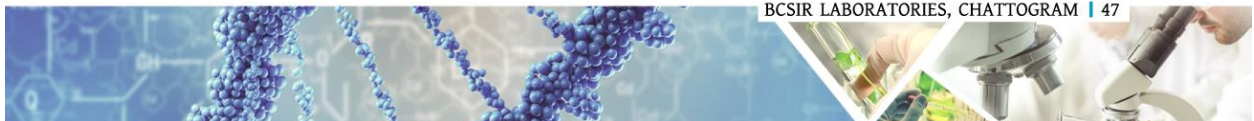


Prize Giving Session





## International Mother Language Day - 2020





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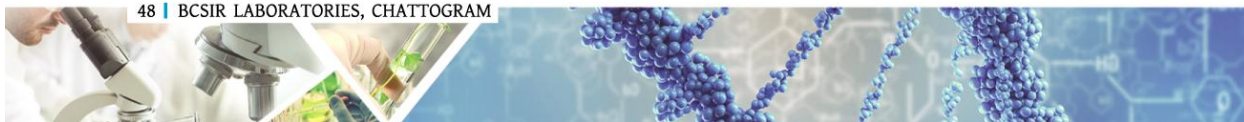
**Father of the Nation  
Bangabandhu Sheikh Mujibur Rahman 100 Years  
Birth Day Celebration-2020**



**Hand Sanitizer Distribution 2020**



48 | BCSIR LABORATORIES, CHATTOGRAM

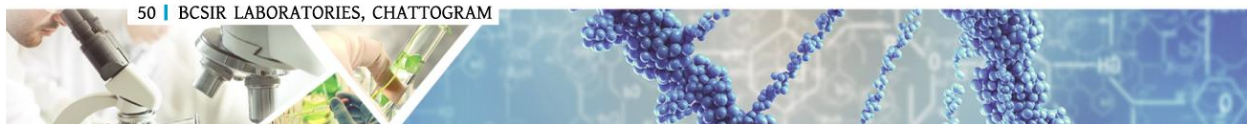








## Stakeholder Meeting 2019





## COMMITTEES

### House Allotment Committee

1. Nemai Chandra Nandi	Principal Scientific Officer	- Convener
2. A. J. M. Morshed	Senior Scientific Officer	- Member
3. Md. Jahangir Khan	Assistant Accounts Officer	- Member
4. Secretary of the Union		- Member
5. Md. Azim	Executive Engineer	- Member Secretary

### Technical Committee (Vehicle)

1. Nemai Chandra Nandi	Principal Scientific Officer	- Convener
2. Dr. Saiful Islam	Senior Scientific Officer	- Member
3. Md. Alimur Rahman	Sub-Assistant Engineer	- Member
4. Md. Asadur Rahman	Field Assistant	- Member
5. Sujan Kanti Das	Scientific Officer	- Member Secretary

### Tender Opening Committee

1. Rasheda Akter	Senior Scientific Officer	- Convener
2. Dr. Md. Abdus Salam	Senior Scientific Officer	- Member
3. A. J. M. Morshed	Senior Scientific Officer	- Member Secretary

### Work Maintenance Committee

1. Dr. Dipankar Chakraborty	Senior Scientific Officer	- Convener
2. Dr. Md. Abdus Salam	Senior Scientific Officer	- Member
3. Md. Jahangir Khan	Assistant Accounts Officer	- Member
4. Md. Asadur Rahman	Field Assistant	- Member
5. A. J. M. Morshed	Senior Scientific Officer	- Member Secretary

### Integrity Committee

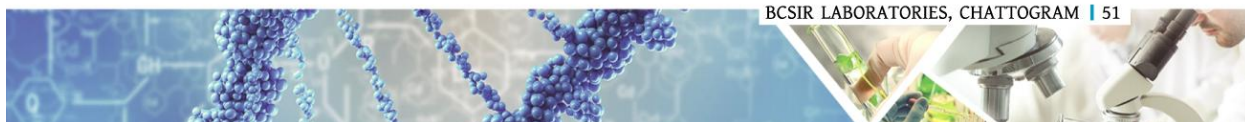
1. Md. Habibur Rahman Bhuiyan	Principal Scientific Officer	- Convener
2. Nemai Chandra Nandi	Principal Scientific Officer	- Member
3. Sreebhash Chandra Bhattacharjee	Senior Scientific Officer	- Member
4. Dr. Saiful Islam	Senior Scientific Officer	- Member
5. Md. Azim	Executive Engineer	- Member
6. Kallayan Brata Borua	Executive Officer	- Member
7. Dr. Dipankar Chakraborty	Senior Scientific Officer	- Member Secretary

### Tender Assessment Committee

1. Md. Habibur Rahman Bhuiyan	Principal Scientific Officer	- Convener
2. Dr. Dipankar Chakraborty	Senior Scientific Officer	- Member
3. A. J. M. Morshed	Senior Scientific Officer	- Member
4. F. M. Saiful Islam	Asstt. Engineer, Cantt. Board	- Member
5. Md. Omar Faruk	Inspector (vehicle), BRTA	- Member
6. Md. Azim	Executive Engineer	- Member
7. Shahazadee Khanam	Store Officer	- Member Secretary

### Condemnation Committee

1. Dr. Dipankar Chakraborty	Senior Scientific Officer	- Convener
2. Suman Das	Senior Scientific Officer	- Member
3. Kallayan Brata Borua	Executive Officer	- Member Secretary





**Auction Committee**

1. Md. Habibur Rahman Bhuiyan	Principal Scientific Officer	- Convener
2. Nemai Chandra Nandi	Principal Scientific Officer	- Member
3. Md. Azim	Executive Engineer	- Member
4. Kallayan Brata Borua	Executive Officer	- Member
5. Shahazadee Khanam	Store Officer	- Member Secretary

**Standing Committee for Purchase**

1. Nemai Chandra Nandi	Principal Scientific Officer	- Convener
2. Sujan Kanti Das	Scientific Officer	- Member
2. Md. Jahangir Khan	Assistant Accounts Officer	- Member
3. Indenter		- Member
5. Shahazadee Khanam	Store Officer	- Member Secretary

**Vigilance Team**

1. Md. Azim	Executive Engineer	- Convener
2. Md. Abdul Khaleque	LDA	- Member
3. Mohammad Mosharraf Hossain	UDA	- Member Secretary

**Innovation Sub-Committee**

1. Md. Habibur Rahman Bhuiyan	Principal Scientific Officer	- Convener
2. A. J. M. Morshed	Senior Scientific Officer	- Member
3. Dr. Md. Abdus Salam	Senior Scientific Officer	- Member Secretary

**Technical Sub-Committee**

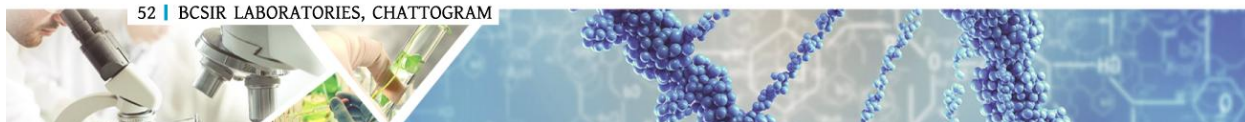
1. Dr. Md. Abdus Salam	Senior Scientific Officer	- Convener
2. Prabhangshu Kumer Das	Scientific Officer	- Member
3. Tania Sharmin	Scientific Officer	- Member Secretary

**Inspection Committee**

1. Sreebash Chandra Bhattacharjee	Senior Scientific Officer	- Convener
2. Muhammad Abu Bakar	Senior Scientific Officer	- Member
3. Indenting Officer		- Member Secretary

**Environment Committee**

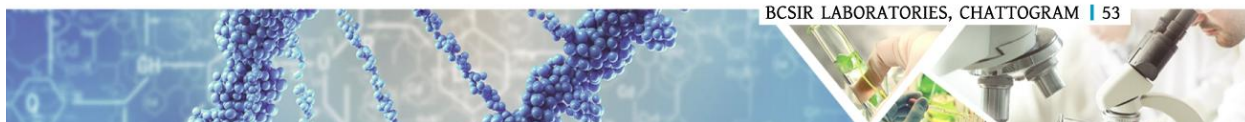
1. Nemai Chandra Nandi	Principal Scientific Officer	- Convener
2. Rasheda Akter	Senior Scientific Officer	- Member
3. Md. Riad Hossain Sobuj	Scientific Officer	- Member
4. Md. Abdul Mannan Miajee		- Member
5. Md. Abdul Khaleque	LDA	- Member
6. Md. Asadur Rahman	Field Assistant	- Member
7. Md. Suman Miah	LDA	- Member
8. Md. Shohrab Hossain	Record Keeper	- Member
9. A. J. M. Morshed	Senior Scientific Officer	- Member Secretary





### List of the employees

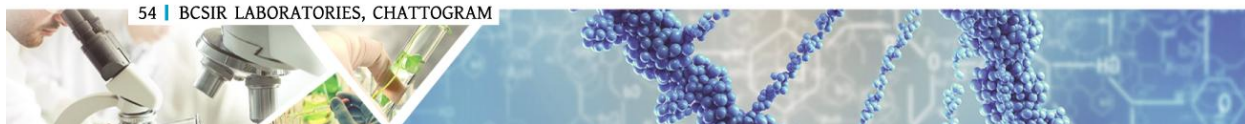
Sl No	Name	Designation	Date of Birth	Joining Date
01	Dr. Mohammad Mostafa	Director (in charge) & CSO	31.12.1968	04.10.1994
02	Md. Habibur Rahman Bhuiyan	Chief Scientific Officer	21.01.1968	04.10.1994
03	Nemai Chandra Nandi	Principal Scientific Officer	06.08.1963	31.12.1988
04	Dr. Dipankar Chakraborty	Principal Scientific Officer	21.12.1968	24.02.2010
05	Sreebash Chandra Bhattacharjee	Principal Scientific Officer	05.03.1970	06.07.2002
06	Dr. Saiful Islam	Senior Scientific Officer	01.07.1980	11.06.2006
07	Rasheda Akter	Senior Scientific Officer	29.11.1978	15.06.2006
08	Suman Das	Senior Scientific Officer	12.08.1981	20.12.2009
09	Md. Saidur Rahman	Senior Scientific Officer	12.10.1981	12.07.2010
10	Muhammad Abu Bakar	Senior Scientific Officer	10.12.1977	09.07.2006
11	Dr. Md. Abdus Salam	Senior Scientific Officer	01.01.1974	25.06.2006
12	Abu Jahan Mohammed Morshed	Senior Scientific Officer	01.01.1975	25.06.2006
13	Abu Sayeed Mohammad Mahmud	Senior Scientific Officer	13.08.1984	30.06.2011
14	Jewel Das	Scientific Officer	01.10.1982	30.06.2011
15	S. M. Zahid Hossain	Senior Scientific Officer	01.01.1986	03.02.2013
16	Nusrat Jahan Mouri	Senior Scientific Officer	12.02.1987	03.02.2013
17	Prabhangshu Kumer Das	Senior Scientific Officer	09.10.1983	03.02.2013
18	Sabrina Sultana	Scientific Officer	09.12.1990	12.07.2015
19	Sujan Kanti Das	Scientific Officer	01.02.1989	15.03.2016
20	Tania Sharmin	Scientific Officer	23.12.1989	10.10.2016
21	Rajib Sarkar	Scientific Officer	06.08.1991	13.10.2016
22	Md. Riad Hossain Sabuj	Scientific Officer	07.03.1989	10.10.2016
23	Md. Shehan Habib	Scientific Officer	30.12.1988	15.03.2016
24	Md. Kawsar Ahmed	Scientific Officer	15.03.1988	10.10.2016
25	Afsana Parvin	Scientific Officer	27.06.1990	21.10.2018
26	Amena Kibria	Scientific Officer	09.12.1988	21.10.2018
27	Rajia Sultana Popi	Scientific Officer	29.12.1991	21.10.2018
28	Md. Saddam Hossain	Scientific Officer	25.06.1992	21.10.2018
29	Sakia Ferdousy	Scientific Officer	07.08.1989	21.10.2018
30	Md Sahab Uddin	Scientific Officer	16.09.1989	21.10.2018
31	Farjana Showline Chaity	Scientific Officer	05.03.1994	22.05.2019
32	Mohammad Azim	Executive Engineer	15.10.1978	12.07.2010
33	Kalyan Brata Barua	Executive Officer	07.06.1960	15.10.1980
34	Shahazadee Khanam	Store Officer	20.01.1972	07.10.2001
35	Md. Jahangir Khan	Assistant Store Officer	01.01.1963	04.11.1980
36	Md. Alimur Rahman	Sub-Assistant Engineer	28.12.1980	12.11.2018
37	A B M Moniruzzaman	Religious Instructor	01.03.1961	23.01.1988
38	Md Abdul Mannan Miajee	Senior Technician	01.03.1960	15.10.1980
39	Sohel Ahmed	Senior Technician	28.08.1982	30.06.2010
40	Md. Golam Robbani	Head Assistant	01.01.1976	29.01.2000
41	Md. Mosharaf Hossain	UDA	04.09.1987	15.03.2016
42	Md. Arif Miah	UDA	01.01.1988	15.03.2016







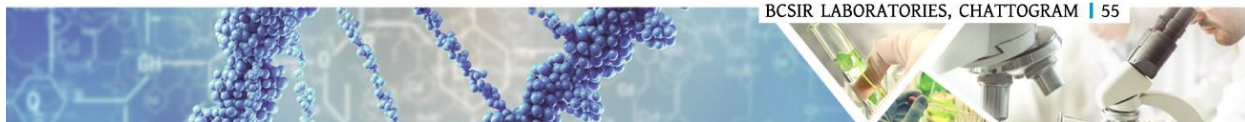
43	Ishrat Jahan	UDA	12.01.1987	15.03.2016
44	Taslima Akter	UDA	01.01.1980	21.09.2006
45	Md. Abdul Khaleque	LDA/Computer Operator	22.02.1984	24.09.2006
46	Md. Shoaib Ullah	LDA/Computer Operator	01.05.1978	26.09.2006
47	Md. Suman Miah	LDA/Computer Operator	21.04.1989	20.01.2009
48	Md. Abdullah Al Mamun	LDA//Computer Operator	01.10.1979	20.12.2009
49	Md. Biplob Hossain	LDA//Computer Operator	01.02.1989	30.10.2017
50	Md. Hasan Ahmed	LDA/Computer Operator	22.01.1991	21.08.2017
51	Uma Das	LDA/Computer Operator	08.03.1991	24.08.2017
52	Saiful Alam	LDA//Computer Operator	16.12.1993	07.09.2017
53	Amit Shil	LDA//Computer Operator	30.12.1997	30.08.2017
54	Md. Abdul Mannan	Technician	01.01.1963	15.02.1987
55	Mohammad Ali	Junior Technician	01.05.1960	01.08.1979
56	Oli Ahmed	Junior Technician	01.07.1959	01.08.1979
57	Md Surujjanman	Junior Technician	01.07.1961	01.08.1979
58	Md Kazi Nazrul Islam	Junior Technician	01.07.1960	01.07.1980
59	Md. Bokhtiyer Miah	Junior Technician	01.04.1961	01.08.1979
60	Md. Nurul Islam	Junior Technician	03.04.1960	01.08.1979
61	Abdul Awal Khandaker	Junior Technician	01.07.1969	29.01.1987
62	Md. Anwar Hossain	Junior Technician	01.01.1971	06.09.2001
63	Md. Hasibul Hossain	Junior Technician	02.05.1985	10.09.2006
64	Md. Asadur Rahman	Field Assistant	01.09.1973	13.09.2001
65	Ahamed Nur Roni	Telephone Operator	08.09.1997	05.02.2018
66	Rasel Miah	Telephone Operator	06.05.1992	12.11.2018
67	Shahin Ullah Shahin	Senior Lab Attendant	25.05.1978	09.11.2006
68	Bulbul Bin Shahid	Senior Lab Attendant	31.12.1981	15.10.2006
69	Parvez Mahmud	Assistant Store Keeper	28.02.1988	10.10.2016
70	Mohammad Harun	Junior Mechanic	27.03.1993	21.08.2017
71	Mohammad Ali	Senior PP Attendant	01.01.1978	09.10.2006
72	Md. Rafique Ullah Bhuiyan	Record Keeper	01.07.1961	01.08.1979
73	Md. Shohrab Hossain	Record Keeper	02.08.1962	05.12.1984
74	Minati Bala Sutradhar	Record Keeper	01.01.1965	05.12.1984
75	Nurul Islam	Senior Gardener	15.06.1963	15.06.1981
76	Md. Mir Hossain	Senior Gardener	01.01.1977	06.09.2001
77	Md. Ridwanul Bari	Senior Gardener	01.09.1981	06.09.2001
78	Md. Masum	Book Binder	09.10.1993	01.01.2018
79	Md. Salauddin	Driver	03.04.1990	03.04.2019
80	Devroy Chakma	Lab Attendant	12.12.1990	24.08.2017
81	Md. Sajjadul Islam	Lab Attendant	15.12.1995	24.08.2017
82	S M Omar Faruk	Lab Attendant	31.12.1996	07.09.2017
83	Khandakar Rezaul Karim	Lab Attendant	28.12.1988	30.10.2017
84	Md. Rakibul Ayub	Lab Attendant	10.11.1992	30.10.2017
85	Arfatul Islam	Lab Attendant	02.12.1995	21.08.2017
86	Sabina Khatun	Lab Attendant	22.05.1989	17.02.2019
87	Md. Hafizur Rahman	Lab Attendant	01.01.1997	17.02.2019
88	Md. Nazrul Islam	Senior Security Guard	16.09.1968	30.08.1993
89	Md. Sarwar Alam	Senior Security Guard	01.09.1967	01.09.1993
90	Asaduzzaman Talukdar	Senior Security Guard	07.12.1976	17.05.1995
91	Md. Ashraful Miah	Senior Security Guard	01.07.1973	28.12.1995







92	Md. Nurul Islam Bhuiyan	Senior Security Guard	08.05.1972	31.01.2000
93	Md. Shah Alam	Senior Security Guard	10.10.1978	13.09.2006
94	Abdul Kader Mazumder	Senior Security Guard	10.05.1980	10.09.2006
95	Md. Alauddin	Senior Security Guard	27.11.1983	10.09.2006
96	Md. Elias	Senior Security Guard	01.01.1978	14.09.2006
97	Md. Abul Kalam	Senior Security Guard	10.03.1986	18.09.2006
98	Md. Suman Sarkar	Senior Security Guard	06.05.1988	17.11.2009
99	Md. Mozammel Hoque	Senior Security Guard	25.01.1968	02.09.1993
100	Md. Hafizur Rahman	Security Guard	10.02.1980	19.11.2009
101	Kazi Mamunur Rashid	Security Guard	24.02.1984	18.11.2009
102	Md. Abdur Rahman Lal	Security Guard	08.02.1995	22.08.2017
103	Kamal Ahmed	Security Guard	19.12.1991	27.08.2017
104	Mohibur Rahman	Security Guard	15.03.1989	13.01.2019
105	Md. Hanif	Security Guard	08.12.1988	13.01.2019
106	Md. Sohel Rana	Electric Helper	01.02.1997	01.01.2018
107	Md. Nazrul Islam	Office Attendant	12.03.1968	14.01.1989
108	Sittol Muna	Office Attendant	20.12.1974	11.10.2001
109	Md. Shafiul Alam	Office Attendant	01.07.1979	23.06.2008
110	Md. Helal Uddin	Office Attendant	20.12.1990	27.08.2017
111	Md. Alamgir Miah	Office Attendant	26.05.1988	23.08.2017
112	Md. Aminur Rahman	Office Attendant	15.01.1990	12.02.2018
113	Md. Atikur Rahman	Gardener	01.06.1991	17.11.2009
114	Md. Nasher Uddin	Gardener	10.11.1980	17.11.2009
115	Md. Kamal	Gardener	01.12.1988	22.08.2017
116	Md. Abdul Mannan	Gardener	05.03.1991	13.11.2018
117	Ranjith Kumar Nath	Sweeper	03.05.1978	09.11.2006
118	Titu Das	Sweeper	15.03.1990	01.01.2018
119	Mintu Das	Sweeper	09.01.1989	01.01.2018





ANNUAL REPORT 2019-2020

## **BCSIR** AT A GLANCE

### **\*\*BCSIR SECRETARIAT BUILDING**

### **\*\*LABORATORIES**

1. BCSIR Laboratories, Dhaka
2. BCSIR Laboratories, Chittagong
3. BCSIR Laboratories, Rajshahi

### **\*\* INSTITUTES**

1. Institute of Food Science and Technology (IFST), Dhaka.
2. Institute of Glass & Ceramic Research & Testing (IGCRT), Dhaka.
3. Institute of Fuel Research and Development (IFRD), Dhaka.
4. Pilot Plant and Process Development Centre (PP & PDC), Dhaka.
5. Designated Reference Institute for Chemical Measurement (DRiCM), Dhaka.
6. Institute of National Analytical Research and Services (INARS), Dhaka.
7. Leather Research Institute (LRI), Savar, Dhaka.
8. Institute of Mining, Mineralogy and Metallurgy (IMMM), Joypurhat.
9. Biomedical and Toxicological Research Institute (BTRI), Dhaka.
10. Institute of Technology Transfer and Innovation (ITTI), Dhaka.

