

# FACULTY DEVELOPMENT PROGRAMME on

## Foundations and Practical Aspects of Cyber Security

December 15-19, 2020



### WHO CAN PARTICIPATE

The faculty members of the AICTE approved institutions, research scholars, PG Scholars, participants from Government, Industry (Bureaucrats / Technicians / Participants from Industry etc.) and staff of host Institution.

### REGISTRATION

Maximum 90 participants will be allowed to register for the FDP. Registration will be on first come first serve basis. No registration fee will be charged from the participant. For registration please visit the URL below:

<https://forms.gle/G6xBvPYFuMTZKT856>

Last Date of Registration: December 3, 2020.

Online FDP Methodology: All the sessions will be conducted using Google Meet. All the participants are required to have a Laptop/Smart Phone with Internet Connectivity to attend the live sessions. For Practical Sessions, Participants are required to have a Laptop/Desktop Computer good with Internet connectivity. Links to Access will be provided.

### TEST AND PARTICIPATION CERTIFICATE

An Online Test will be conducted at the end of the program. The certificates shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.

### VENUE

No physical presence is needed; the programme will be coordinated by BCREC, Durgapur, West Bengal. All the sessions will be conducted using Google Meet.

### Chief Patron

Mr. Tarun Bhattacharya

### Patron

Prof. (Dr.) Pijush Pal Roy

### Advisors

Prof. (Dr.) Narendra Nath Pathak

Prof. (Dr.) Chandan Chattoraj

### Coordinators

Prof. (Dr.) Chandan Koner

Prof. Biswadev Goswami

### Organizing Members

Prof. Hiranmoy Samaddar

Prof. Anandaprova Majumdar

Prof. Biswajit Mondal

Mr. Susanta Karmakar

### Contacts:

Prof. (Dr.) C. Koner (Professor & Head)

Prof. Biswadev Goswami (Assistant Professor)

Department of Computer Science & Engineering

Dr. B. C. Roy Engineering College, Durgapur

Jemua Road, Fuljhore Durgapur – 713206

Mobile No.: +91-7001459791

Mail ID: biswadev.goswami@bcrec.ac.in



AICTE Training & Learning (ATAL) Academic Programme Online

### FACULTY DEVELOPMENT PROGRAMME

on

## Foundations and Practical Aspects of Cyber Security

December 15-19, 2020



Department of CSE

Dr. B. C. Roy Engineering College  
Durgapur

Affiliated to MAKAUT | Approved by AICTE | NBA Accredited

Jemua Road, Fuljhore Durgapur – 713206  
Phone No.- 0343- 250-1353/ 2449 / 3985 / 3360 / 4224 / 4106  
Mobile No.- +91- 6297128554  
Fax No.- 0343- 2504059 / 2503424  
E-mail: info@bcrec.ac.in

## ABOUT THE INSTITUTE

Established in 2000, Dr. B.C. Roy Engineering College was one of the first private Engineering Colleges in West Bengal. Under the aegis of the University of Burdwan, BCREC was a platform for the hundreds of students who could not afford to go to South for a degree in Engineering or Management.

BCREC, under the affiliation of MAKAUT and the with the accreditation of AICTE and NBA, has come a long way. In its 20th year now, BCREC today offers 4 M.Tech. Programs; 7 B.Tech. Programs and 2 Post-Graduate Programs in Management (MBA) and Computer Applications (MCA). Spread over a large area of about 17 acres, BCREC has multistorey buildings separate for each department, a Central Library, a Recreation Area, Games and Sports Arenas, Multigyms, state of art Laboratories for all subjects including English Language.

There is a robust Training and Placement Cell which ensures that our students are trained for the whole semester in order to succeed in Campus Placements. GATE Forum ensures that students opting for higher education in Engineering are also suitably trained.

More than a few hundreds of teaching staff with sterling academic careers and credentials are the guardians of the teaching-learning process in this college.

However most important stakeholder of the equation, the "Students", become the centre of the entire process. Once someone joins the BCREC student fraternity, S/he automatically becomes eligible for a caring and nurturing environment to become an engineer or professional with full of ethics, knowledge and sense of responsibility.

The Hostels, spacious greenery environment, healthy foods and physical trainings and overall well-monitored and disciplined systems are the incubators for our future technocrats. As they say in the hostel, "BCREC mein kabhi raat nahi hoti". Once a BCRECian, always a BCRECian. Our alumni are at multitude of organizations in and outside the country. From IBM, TCS, Wipro, Accenture, Capgemini, CTS to Tech Mahindra, Hewlett Pacard, Indian Navy they still remain closely connected to our Alumni Cell.

## ABSTRACT

Cyber security is a challenging issue to the researchers because of the increase in security threats and attacks with the enhanced population of traffic in wired or wireless networks. Information has, therefore, become a critical asset of all organizations owing to their rapid adoption of IT (Information Technologies) in the entirety of their business activities, which has arisen the need for the careful management of the company's confidentiality.

This FDP has been designed to include a state of the art combination of presentations, questions-answer sessions with an emphasis on interactive discussions where the participants could openly exchange their ideas and views for further implementation.

## OBJECTIVE

1. To encourage investigation and understanding of cyber security in applied settings.
2. To discuss and debate the primary research problems that need to be addressed and solved in the next decade, and enumerate possible and pragmatic paths to achieve those goals.
3. To discuss research direction in the field of cyber Security for enhancing ability to publish articles, papers and books.
4. To help academic researchers find practical grounding for their research efforts.
5. To apply fundamentals of cyber security and terminologies, this will help participants to fulfil academic requirements ensuring satisfactory adjustments to changing scenario of technological development.



## TECHNICAL FIELD OF PROPOSAL

1. Cryptographic Algorithms and their analysis: Symmetric & A symmetric Key Encryption-Performance analysis, Implementation of Cryptosystems, Cryptanalysis Attacks including Linear and Differential Cryptanalysis attack, Special topics like Quantum Cryptography.
2. Network Security Protocols and Applications: Key Distribution Protocols, Authentication Protocols, Email Security Protocols, SSL Protocol, IPSec Protocol, SET Protocol for E-commerce Application, Intrusion Detection, Database Security, Special topics like Digital Rights Management, Selective Encryption, Hands on Experiments using JCE & ISECURIT
3. Security Metrics: Aspects of Security Measurement, Correctness and Effectiveness, Leading Versus Lagging Indicators, Qualitative and Quantitative Properties, Special topics like Artificial Intelligence Assessment Techniques
4. Security in Advanced Communication Systems: Cryptographic primitives for wireless communication, Quantitative evaluation of wireless system security, Security in Remote Systems, Sensor Networks, Ad-hoc Networks, Distributed Systems and Mobile Communication Systems like UMTS, 4G etc. Grid and Cloud Computing Security, Mobile code and mobile agent security, Mobility patterns, location and handoff management
5. Security in Self-Organizing Networks: Capacity planning and admission control, Charging and secure payment, Cross-layer security, Intrusion, attack and malicious behavior detection, Jamming and anti-jamming security protocols, Monitoring and surveillance, Privacy and anonymity, Security and performance tradeoff, User and location privacy, Vulnerabilities, attacks and countermeasures.

## EMINENT SPEAKERS

- Prof. (Dr.) C. T. Bhuina, Ex-Director, NIT, Arunachal Pradesh  
Prof. (Dr.) Sarmistha Neogy Lahiri, Jadavpur University  
Prof. (Dr.) Sandip Chakraborty, IIT, Kharagpur  
Prof. (Dr.) Debashis De, MAKAUT, Kolkata  
Prof. (Dr.) Joydeep Howladar, NIT, Durgapur  
Prof. (Dr.) Bubu Bhuyan, NEHU, Shilong  
Prof. (Dr.) Suvamoy Changder, NIT, Durgapur  
Prof. (Dr.) Swarnendu Chakraborty, NIT, Arunachal Pradesh  
Prof. (Dr.) Bikramjit Sarkar, JISCE, Kalyani  
Prof. (Dr.) Chandan Koner, BCREC, Durgapur





# All India Council for Technical Education

(A Statutory body under Ministry of HRD, Govt. of India)

Nelson Mandela Marg, Vasant Kunj, New Delhi-110070 Website: [www.aicte-india.org](http://www.aicte-india.org)



## AICTE Training and Learning (ATAL) Academy, (Online FDP)

F. No. 01\_/AICTE/ATAL-HQ/2020-21/1583561723

Date 12/11/2020

To

The Principal  
Dr. B. C. Roy Engineering College, Durgapur  
WEST BENGAL

**Sub: Release of a sum of Rs 93,000 /- for AICTE Training and Learning (ATAL) Academy programme Online FDP of Nine Thrust Areas and Other Emerging Areas.**

Sir,

This is to convey the sanction of the Council for payment of **Rs. 93,000 /-** (Rupees **Ninety –Three Thousand** Only) for conduct of online **AICTE Training And Learning (ATAL) Academy Programme** Computer Science & Biology to **Dr. B. C. Roy Engineering College, Durgapur, WEST BENGAL** under AICTE Training And Learning (ATAL) Academy.

This fund is being released in conformity with the terms & conditions as well as norms of the scheme as already communicated, and also being communicated in this letter.

### The instructions/guidelines to be followed by University/Institution

#### I. Release of funds and maintenance of accounts

- The University/College/Institute shall maintain proper accounts of the expenditure out of the grants, which shall be utilized only on approved items of expenditure.
- The cost for conducting per programme will be Rs. 93,000/- as per detail given as under:

1.	Honorarium for Director	Rs. 10,000/-
2.	Honorarium to Co-ordinator Rs.2000/- per day x 5 days	Rs. 10,000/-
3.	Honorarium for experts (Rs.3000 per session for total 14 session)	Rs. 42,000/-
4.	Provision for payment to Lab Attendant engaged during lab practices	Rs. 1000/-
5.	Institutional charges	Rs. 15,000/-
6.	Miscellaneous charges	Rs. 15,000/-
	<b>TOTAL =</b>	<b>Rs. 93,000/-</b>

Programmes having permission to change amounts under different heads with overall ceiling of Rs 0.93 lakh being intact.

- The grant is subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma to be submitted by the University/College/Institution. Further, the accounts of the institute will be open for test check by the Council or Controller & Auditor General of India or any other officer designated by them.

#### II. Disbursement of funds to institutions

The full amount of the grant sanctioned will be released as an advance to the University/Institute through electronic transfer on the account of the University/Institute after submission of mandate form

#### III. Conduct of test and issuance of certificate

- A test shall be conducted by coordinator at the end of the program.

- The certificates shall be issued to those participants who have attended the program with minimum **80% of attendance** and scored **minimum 60% marks** in the test.

#### IV. Submission of documents by university/institution

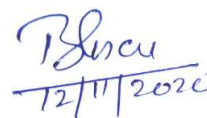
- a. The following mandatory relevant documents are required to be submitted by the university/institution within one month of the completion of the program: -
  - (i) List of candidates who have successfully completed the program on the basis of the test conducted by Program Coordinator.
  - (ii) A program completion report along with photographs, videos, media report is to send after the completion of workshop along with the list of participants and Utilization Certificate, Expenditure Statement and feedback form etc. within one month of conduct of **AICTE Training and Learning (ATAL) Academy programme.**
- b. The amount of the grant shall be adjusted on submission of utilization certificate & detailed expenditure statement by University/Institution. On receipt of these documents, the total amount of financial assistance, admissible as per the norms, shall be worked out and grant-in-aid shall to adjust.

#### V. General Instructions

- a. **Maximum 200 participants** may be allowed to attend online FDP on a first come first serve basis however AICTE officials may be allowed to attend over and above 200 number. Coordinators are free to admit less number of participants depending on the feasibility.
- b. A test has to be conducted (may be online) on the last day and those who score more than 60% will be termed as successful candidates. Those who have **attendance 80% or more** and also **score more than 60% in the test** will be issued a **digital certificate.**
- c. These **online sessions are to be recorded** as the facility is available on the software which is being used for online delivery of FDP. You are also requested to share recording of sessions with AICTE.
- d. **Eligibility for Participants:**
  - (i) The faculty members of the AICTE approved institutions, research scholars, PG, Scholars, participants from Government, Industry (Bureaucrats/ Technicians/ Participants from Industry etc.) and staff of host institutions.
  - (ii) Not more than 30% from Host Institution
- e. If programme is not conducted in the year 2020 only, the released amount, along with interest accrued thereon, has to be returned back to AICTE.
- f. Any extra money required to complete the programme must be borne by the institute from their own resources but the quality of the activities should not be compromised.
- g. FDP title name, name of coordinator, institute name is not allowed to change without permission.

This Sanction Order may be treated as Offer Letter for all purposes.

Yours sincerely,



**Regional Officer  
Eastern Regional Office, Kolkata**

Copy forwarded for information and necessary action to: -

1. Prof/Dr.Chandan Koner, Coordinator ATAL Programme, Dr. B. C. Roy Engineering College, Durgapur
2. **ATAL Academy Cell AICTE HQ**
3. **Guard File**