

Faculty Development Program (FDP) under the scheme AICTE Training And Learning (ATAL) Academy Faculty Development Programme (FDP) on Sensor Technology.

21-25 September, 2020

Department of Physics, Tripura University

Organizing committee

Patron:

Prof. Ganga Prasad Prasain

Honourable Vice Chancellor, Tripura University.

Chairman:

Prof. Surya Chattopadhyaya

Professor, Department of Physics, TU.

Organizing Secretary:

Prof. Debajyoti Bhattacharjee

Professor, Department of Physics, TU.

Coordinator:

Dr. Syed Arshad Hussain

Associate Professor, Department of Physics, TU.

Jt. Secretary:

Dr. Anirban Guha

Assistant Professor, Department of Physics, TU.

Dr. Ratan Das

Assistant Professor, Department of Physics, TU.

Members:

Dr Pranab Dhar, Technical Assistant

Mr. Surajit Sarkar, Research Scholar

Mr. Hritinava Banik, Research Scholar

Mr. Kumarjit Saha, Research Scholar

Mr. Joydeb Saha, Research Scholar

Mr Bimal Pal, Research Scholar

Mr Manish Debbarma, Research Scholar

Dear Sir / Madam

I am very happy to inform you that Department of Physics, Tripura University is going to organize an online faculty development program “AICTE Training And Learning (ATAL) Academy Faculty Development Programme (FDP) on **Sensor Technology**” sponsored by AICTE, Govt of India during **21-25 Sept, 2020**.

There is no registration fee for the program. I am requesting you to participate in the program. Only 30% participants from host institutions i.e. Tripura University. So if you are interested then register as early as possible.

Content of the program:

The proposed FDP is planned to give an overview of introduction of various sensors, their basic principle and application potentials. Also status of current research and developments on sensor technology with special emphasis on optical and electrical sensors as well as atmospheric sensors will be highlighted. There will be a special session on Yoga.

Resource persons:

Dr. Mrinal Pal, CSIR-Central Glass & Ceramic Research Institute, India
Prof. Dilip Kumar Maiti, FRSC, University of Calcutta, India
Dr. Syed Arshad Hussain, Tripura University, India
Dr. S. K. Bhowmik, (For one special session on Yoga training), Tripura University, India
Prof. Somobroto Acharya, Indian Association for the Cultivation of Science, India
Dr. Pabitra K Paul, Jadavpur University, India
Dr. A. Guha, Department of Physics, Tripura University
Dr. Ratan Das, Department of Physics, Tripura University
Prof. D. Bhattacharjee, Department of Physics, Tripura University
Dr. Hemen Kalita, Department of Physics, Gauhati University
Prof. A. Srinivasan, Department of Physics, IIT Guwahati
Prof. Ajoy D. Thakur, Department of Physics, IIT Patna
Prof. Colin Price, Tel Aviv University, Israel

Registration guideline:

1. visit the website <https://atalacademy.aicte-india.org/signup>
2. Register / sign up as instructed and log in.
3. After login click on “workshop” at the top left side of the page. There will almost 400 course. To find our program you can filter by selecting “Tripura” and easily locate the FDP on Sensor technology to be organized by Tripura University.

For any clarification you can contact me. Kindly circulate this information to your colleagues and students.

Thank you in advance for your interest.

Yours Sincerely

Syed Arshad Hussain

Coordinator

AICTE FDP on Sensor Technology

Department of Physics, TU

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**AICTE Training And Learning (ATAL) Academy Faculty Development Programme
(FDP)
(2020-2021)**

1. Title of the FDP program:

AICTE Training And Learning (ATAL) Academy Faculty Development Programme (FDP) on **Sensor Technology**

2. Proposed date of the program: 21-25 September, 2020

2. Name of the organizing institute:

Tripura University
Suryamaninagar
West Tripura
Tripura, India
<https://www.tripurauniv.ac.in/>

3. Name of the organizing department:

Department of Physics
Tripura University

4. Name of the coordinator:

Dr. Syed Arshad Hussain
Associate Professor
Department of Physics
Tripura University

5. Contact details of coordinator:

Department of Physics
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Suryamaninagar
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Tripura, India
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6. Target participants:

Research Scholars, Postdoctoral researchers and Young faculty members of colleges and universities from Tripura and other North Eastern states of India as well as other parts of India.

7. Content of the program:

The proposed FDP is planned to give an overview of introduction of various sensors, their basic principle and application potentials. Also status of current research and developments on sensor technology with special emphasis on optical and electrical sensors will be highlighted. Lab sessions have been planned to demonstrate the design and working of various sensors especially FRET and fluorescence based optical sensors, voltammetric sensors, colorimetric sensors as well as electrical sensors.

8. Session wise time table:

Date	10.00 am – 11.30 am	11.30 pm – 01.00 pm	01.00 pm – 02.00 pm	02.00 pm – 03.30 pm
21.09.2020	Session-1	Session-2	Lunch	Session-3
22.09.2020	Session-4	Session-5	Lunch	Session-6
23.09.2020	Session-7	Session-8	Lunch	Session-9
24.09.2020	Session-10	Session-11	Lunch	Session-12
25.09.2020	Session-13	Session-14	Lunch	Valedictory session

Special Session: There will be a special session on Yoga conducted by one of our faculty member (Dr. S. K. Bhowmik, Assistant Professor, Physical Education department) to promote FIT INDIA Movement across the country.

9. Instrumental facility available related to the FDP:

Major instruments available in Thin Film & Nanoscience Laboratory, Department of Physics, Tripura University:

Instruments for Thin Film Preparation:

- i) Fluorescence Imaging Microscope attached with Langmuir-Blodgett film deposition instrument (Apex Instruments, India)
- ii) Langmuir-Blodgett film deposition instrument (Apex Instruments, India)
- iii) Brewster Angle Microscope (BAM) Langmuir-Blodgett film deposition instrument (Accurion, Germany)
- iv) Automatic computer controlled Dip coater (Apex Instruments, India)
- v) Programmable Spin Coater (Apex Instruments, India)
- vi) Vacuum deposition unit (HindHiVac)

Instruments for Characterizations:

- i) Atomic Force Microscope (Inova, Bruker)
- ii) Fluorescence spectrophotometer (Perkin Elmer)
- iii) UV-Vis absorption spectrophotometer (Perkin Elmer)
- iv) UV-Vis absorption spectrophotometer (Shimadzu)
- v) FTIR Spectrophotometer (Perkin Elmer)
- vi) Millipore water purification system (Millipore)
- vii) Keithley source meters (constant current source, nano- voltmeter, I-V source meter)

Others

- i) Sample Chamber for measuring electric property in vacuum.
- ii) Ultrasonic water bath (two number)
- iii) Digital temperature controller (three numbers)
- iv) Magnetic stirrer (two numbers)
- v) Distil water plant (3 number)
- vi) Standard glass ware and chemicals

More details about the labs can be found at
<https://sahussaintu.wordpress.com/research-facility/>

List of Instruments available in Central Instrumentation Center (CIC), Tripura University:

- i) Atomic Force Microscope (AFM), Model: INOVA, Bruker.
- ii) Field Emission Scanning Electron Microscope with EDS & Sputter Coater, Model – Sigma 300, Carl Zeiss
- iii) 400 MHz NMR
- iv) Liquid Nitrogen Plant, Model: StirLITE, Stirling Cryogenics
- v) GCMS (Gas Chromatography-Mass spectrum) instruments: model: Varian 220-MS / 450-GC, 230V (Agilent service)
- vi) HPLC (High performance liquid chromatography) – Dionex U3000
- vii) GSV4004B GPS Ionospheric Scintillation & TEC Monitor (GISTM)
- viii) Lifetime Spectrofluorometer, Model: FluroLog-3, Horiba
- ix) CHEMIDOC
- x) Immunofluorescence Microscope

More details about the instrumentation center can be found at

<https://cictu.wordpress.com/>

10. Confirmed Resource persons:

Dr. Mrinal Pal
CSIR-Central Glass & Ceramic Research Institute, India

Prof. Dilip Kumar Maiti, FRSC
Department of Chemistry, University of Calcutta, India

Dr. Syed Arshad Hussain
Department of Physics, Tripura University, India

Dr. S. K. Bhowmik, (For one session Yoga training)
Department Physical Education, Tripura University, India

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Department of Physics, IIT Patna

Prof. Colin Price
Tel Aviv University, Israel

11. I confirm that all the information given in this proposal are correct and the program if approved will be conducted as per the guideline given.



(Syed Arshad Hussain)
Coordinator