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*

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**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](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
Email: sa_h153@hotmail.com
Ph: 9402122510
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
West Tripura
Tripura, India
Pin: 799022
Email: sahussain@tripurauniv.in
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07005694182 (M)
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:

<table>
<thead>
<tr>
<th>Date</th>
<th>10.00 am – 11.30 am</th>
<th>11.30 pm – 01.00 pm</th>
<th>01.00 pm – 02.00 pm</th>
<th>02.00 pm – 03.30 pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.09.2020</td>
<td>Session-1</td>
<td>Session-2</td>
<td>Lunch</td>
<td>Session-3</td>
</tr>
<tr>
<td>22.09.2020</td>
<td>Session-4</td>
<td>Session-5</td>
<td>Lunch</td>
<td>Session-6</td>
</tr>
<tr>
<td>23.09.2020</td>
<td>Session-7</td>
<td>Session-8</td>
<td>Lunch</td>
<td>Session-9</td>
</tr>
<tr>
<td>24.09.2020</td>
<td>Session-10</td>
<td>Session-11</td>
<td>Lunch</td>
<td>Session-12</td>
</tr>
<tr>
<td>25.09.2020</td>
<td>Session-13</td>
<td>Session-14</td>
<td>Lunch</td>
<td>Valedictory session</td>
</tr>
</tbody>
</table>

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:
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  
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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