CSVTU* TEQIP-3 SPONSORED

Short Term Training Program(STTP) cum Workshop

ON "Intelligent Biomedical Micro-Electro-Mechanical Systems"

(ONLINE MODE)

Organized By Department of Applied Sciences, IIIT-Allahabad

DATE 22-09-2020 to 28-09-2020

Program Coordinators

Dr. Amit Prabhakar
Assistant Professor
Dept. of Applied Sciences
IIIT-Allahabad

Dr. Pritish K. Varadwaj
Associate Professor
Dept. of Applied Sciences
IIIT-Allahabad

*Chhattisgarh Swami Vivekananda Technical University (CSVTU), Bhilai, Chhattisgarh

(AN EVENT UNDER IIIT-A BEYOND 20 BY 2020)

CONTENTS

Introduction

- Biomedical Micro-Electro-Mechanical Systems or Bio-MEMS are miniature systems with huge potential in the filed of theranostics, robotics, physics, material sciences and almost every field of science.

- STTP on "Intelligent Biomedical Micro-Electro-Mechanical Systems", sponsored by Chhattisgarh Swami Vivekananda Technical University (CSVTU), Bhilai Chhattisgarh TEQIP-3, is being organized with an aim to impart knowledge about state-of-the-art research in the field of Bio-MEMS.

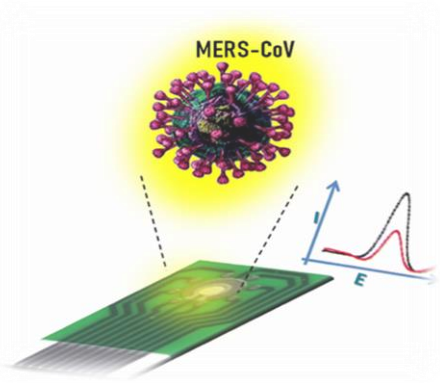
- Besides this, students having no prior knowledge in this field will gain relevant skills and concepts through virtual demonstration sessions.

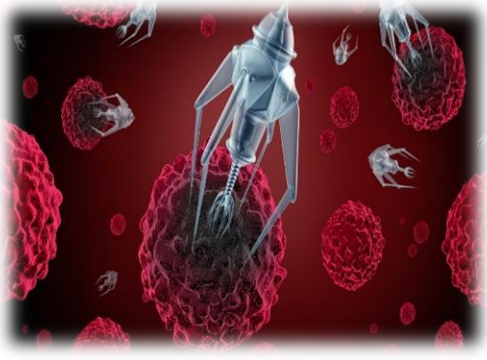
Objective

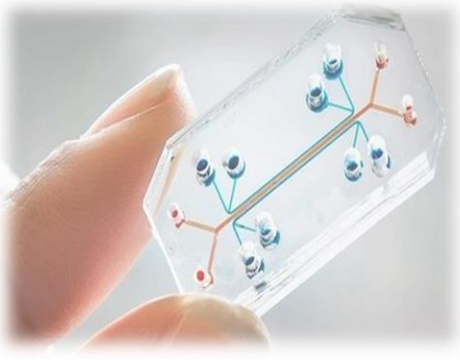
To provide an interactive platform for exchange of ideas and latest research findings on topics related to MEMS, NEMS, Nano robotics, 3D printing in tissue engineering, microfluidic cell culture and interdisciplinary research involving Bio-MEMS, Nanotechnology, Robotics, Microbiology and cutting edge characterization modalities like XRD.

Learning Outcomes

With eminent speakers gracing this week long program, you will be equipped with useful knowledge in Bio-MEMS and related fields.







At the end of the workshop you will have knowledge about the microfluidic device fabrication, simulation software operations, 3D printing, state-of-the-art and future scope in Bio-MEMS and Biosensing.

Chief Patron

Prof. P. Nagabhushan
Director, IIITA

ADVISORY COMMITTEE

Prof. Krishna Misra	Professor, IIIT-A
Prof. U.S. Tiwary	Professor, IIIT-A
Prof. G.C. Nandi	Professor, IIIT-A
Prof. Tapobrata Lahiri	Professor, IIIT-A
Prof. Anupam Agarwal	Professor, IIIT-A
Prof. Shekhar Verma	Professor, IIIT-A

ORGANIZING COMMITTEE

Mr Rajit Ram Yadav	Mr Ajay Kumar Tiwari
Mr Pankaj Mishra	Mr. Durgesh Dwivedi
Mr. Santosh	Mr. Amar Dhwaj
Mr Rajendra Bisht	Ms. Nimisha Roy
Mr Deep N. Das	Mr. Prashant Nayak
Mr Subhash Kumar	Mr. Ankur Jaiswar

Distinguished Speakers

Prof. Amit Agrawal
IIT-Bombay

Prof. G.C. Nandi
IIIT-A

Prof. T. Lahiri
IIIT-A

Prof. K. Misra,
Professor Emeritus,
IIIT-A

Prof. Shiv Govind Singh
IIT-Hyderabad

Dr.. Ajeet Kaushik
Florida Polytechnic University,
USA

Dr. Ashutosh Mishra
IIIT-A

Dr. S. Rajaraman
Univ. of Central Florida

Dr. Sanjeev K Mahto
IIT-BHU

Dr. Sangeeta Singh
IIIT-A

Dr. Ankur Verma
IIT-BHU

Dr. Rahul Kala
IIIT-A

** Speakers are subject to change according to the availability.

Distinguished Speakers

Dr. Pranab K Kundu
MNNIT, Allahabad

Dr. Pramod Kumar
IIIT-A

Dr. Vishnu Agarwal
MNNIT, Allahabad

Dr. Tej Pratap
MNNIT, Allahabad

Dr. Amaresh K Sahoo
IIIT-A

Dr. Vijay Duryodhan
IIT-Bhilai

Dr. Kunal Pal
NIT, Rourkela

Dr. Marshal Dhayal
IIT-BHU

Dr. Shree Prakash Tiwari
IIT-Jodhpur

** Speakers are subject to change according to the availability.

Ms. Pooja Menon
MYCrave
Consultancy

Mr. Dhruv Brahmbhatt
MYCrave
Consultancy

Program Coordinators

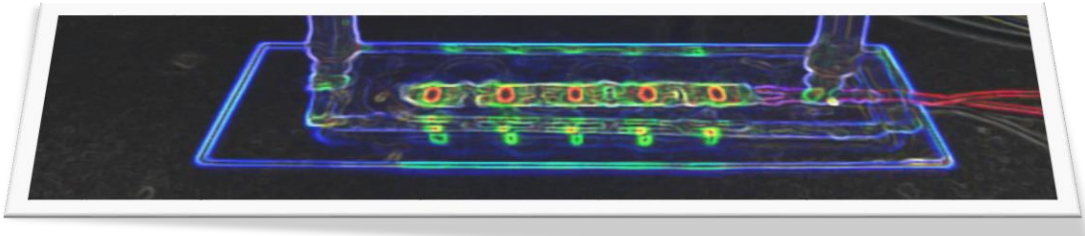
Dr. Amit Prabhakar
Assistant Professor
Applied Sciences.
Faculty-In-Charge IPR Cell

IIIT-Allahabad

Dr. Pritish K. Varadwaj
Associate Professor
Head of Department
Applied Sciences
IIIT-Allahabad

Scope of the STTP cum Workshop

- Evolution of MEMS & Microsystems.
- Introduction to BioMEMS and Microsystems technology.
- Micro-fabrication Process Technology.
- Basics of Micro& Nano Bio-sensors.
- Biochip Sensors & Microarrays.
- Quorum Sensing in microbes.
- Nanotechnology in Healthcare.
- Bio-Microfluidics.
- Cell on chip.
- 3-D printing & Rapid Prototyping Technology.
- Intelligent (Bio) Sensors.
- Artificial Intelligence.
- Bio-informatics etc.



Schedule

Date/ Timing	22 September	23 September	24 September	25 September	26 September	27 September	28 September
10:00 AM to 11:00 AM	Inauguration Welcome Note by **Coordinator,** **Director** **Dean(A&R),** **HOD(AS)**	Lecture by IIIT-A Faculty **Prof. T. Lahiri**	Lecture by IIIT-A Faculty **Prof. G.C. Nandi**	Lecture by IIIT-A Faculty **Dr. Pritish K Varadwaj**	Lecture by IIIT-A Faculty **Prof. Krishna Mishra**	Lecture by IIIT-A Faculty **Dr. Sangeeta Singh**	Speaker 12 **Dr. Vijay Duryodhan (IIT-Bhilai)**
11:00 AM to 12:00 PM	Introductory talk by **Dr. Amit Prabhakar**	Speaker 5 **Dr. Ajeet Kaushik (Florida poly. Univ., Lakeland)**	Speaker 6 **Dr. Pranab K. Kundu (MNNIT, Alld.)**	Speaker 7 **Dr. Swaminathan Rajaraman(Univ. of Central Florida, USA)**	Lecture by IIIT-A Faculty **Dr. Amaresh Sahoo (IIIT-A)**	Speaker 10 **Prof. Amit Agrawal (IIT-Bombay)**	Speaker 13 **Dr. Tej Pratap (MNNIT, Alld.)**
12:00 PM to 1:00 PM	Speaker 1 **Dr. Ankur Verma (IT-BHU)**	Lecture by IIIT-A Faculty **Dr. Ashutosh Mishra**	Lecture by IIIT-A Faculty **Dr. Pramod Kumar**	Speaker 8 **Prof. Shiv Govind Singh**	Speaker 9 **Dr. Sanjeev K Mahto (IIT-BHU)**	Speaker 11 **Dr. Vishnu Agrawal (MNNIT, Alld.)**	Lecture by IIIT-A Faculty **Dr. Rahul Kala**
01:00 PM to 02:00 PM	**LUNCH**	**LUNCH**	**LUNCH**	**LUNCH**	**LUNCH**	**LUNCH**	**LUNCH**
02:00 PM to 03:00 PM	Speaker 2 **Dr. S.P. Tiwari (IIT-JODHPUR)**	COMSOL Multiphysics & MATLAB **Nimisha Roy (IIIT-A)** **&** **Ravi Prakash (IIT-Hyderabad)**	Device Fabrication **Ankur Jaiswar (IIIT-A)**	CAD Modeling & 3D printing **Amar Dhwaj & Prashant Nayak (IIIT-A)**	CAD Modeling & 3D printing **Amar Dhwaj & Prashant Nayak (IIIT-A)**	Intellectual Property Rights **My Crave Consultancy**	Conclusion, vote of thanks and valedictory session by **Dr. Pritish K. Varadwaj** & **Dr. Amit Prabhakar (Program Coordinators)**
03:00 PM to 04:00 PM	Speaker 3 **Dr. Marshal Dhayal (IIT-BHU)**						
04:00 PM to 05:00 PM	Speaker 4 **Dr. Kunal Pal (NIT-Rourkela)**						

Who Can Attend?

- Undergraduates, Graduates and Faculty in the areas of *Information Technology, Electrical, Electronics, Instrumentation, Biomedical and Mechanical Engineering*.

- *Medical-technologists* and the business persons who are interested in the next generation of products in the field of diagnostics, and biosensors.

- B.Sc. & M.Sc. from various disciplines of Physics, Chemistry, Biology, Biotechnology etc.

- Researchers and faculties from various backgrounds pursuing their interdisciplinary research career in MEMS and Microsystems applications are welcomed to participate.

- Industry persons working in the domain of MEMS, Bio-Microfluidics, Bio-Sensors, 3-D Printing, etc.

Fees and Payment Details

Registration Fee:

- **For IIIT-A or CSVTU students/Alumni - No fees**
- ***For UG & PG students other than IIIT-A or CSVTU – 1000 INR****
- ***For Faculty & Industry persons – 2500 INR****

For lectures only

Payment details:

- ***Bank Transfer:***

  Account name: IIIT-Allahabad

  Account No: 30996838478

  IFSC code: SBIN0010891

  Bank Name: State Bank of India

  Branch: Jhalwa

- ***UPI Transfer:***

  info.accounts.iita@sbi

Scan & Pay

Registration Details

- ***Registration Link:*** https://forms.gle/FUGE9jhQwbWKWoRv6

- ***Last date for Registration:*** ***20 September 2020*** *(till 3:00 PM)*

**Non-CSVTU & Non-IIITA students interested & willing to attend the experimental demonstration sessions can email us at: ibiomems@gmail.com*

CONTACT US

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About IIIT-A

IIIT-Allahabad(Estd.1999), is a center of excellence in Information Technology and allied areas. Currently, it has expanded itself into four departments: Department of Information technology, Department of Electronics and communication, Department of Applied Sciences and Department of Management studies.

The sprawling 100-acre campus, provides a conducive environment for the students to learn, grow and excel while being in close contact with nature. Since decades, IIIT-A has been the first choice of meritorious students for various courses and levels of higher education degrees.