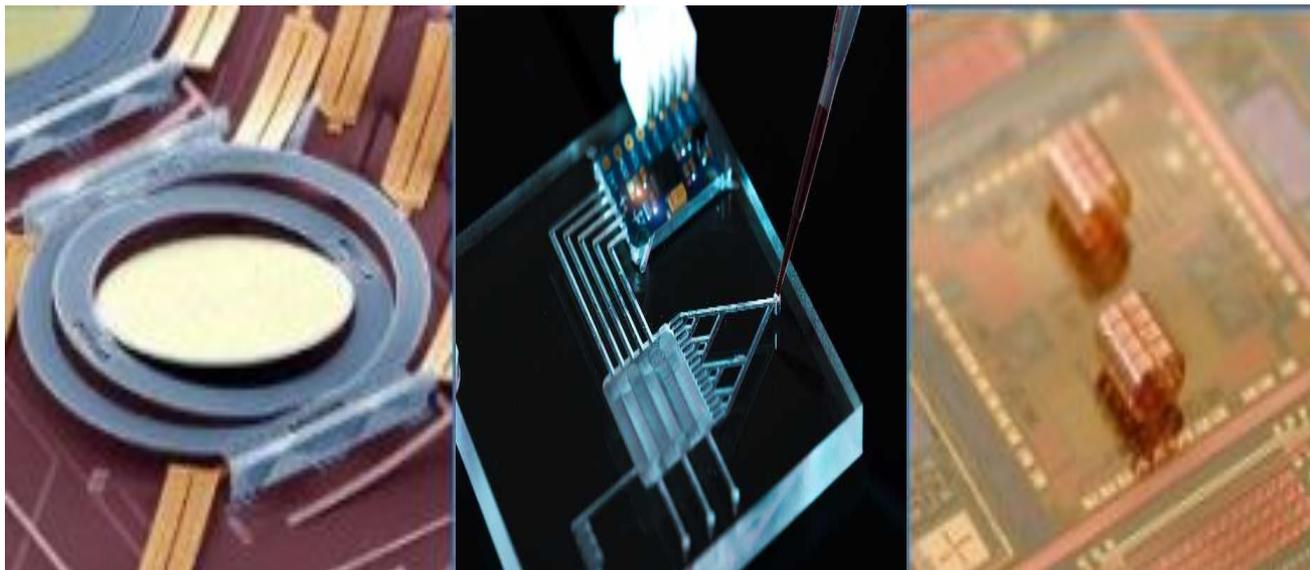




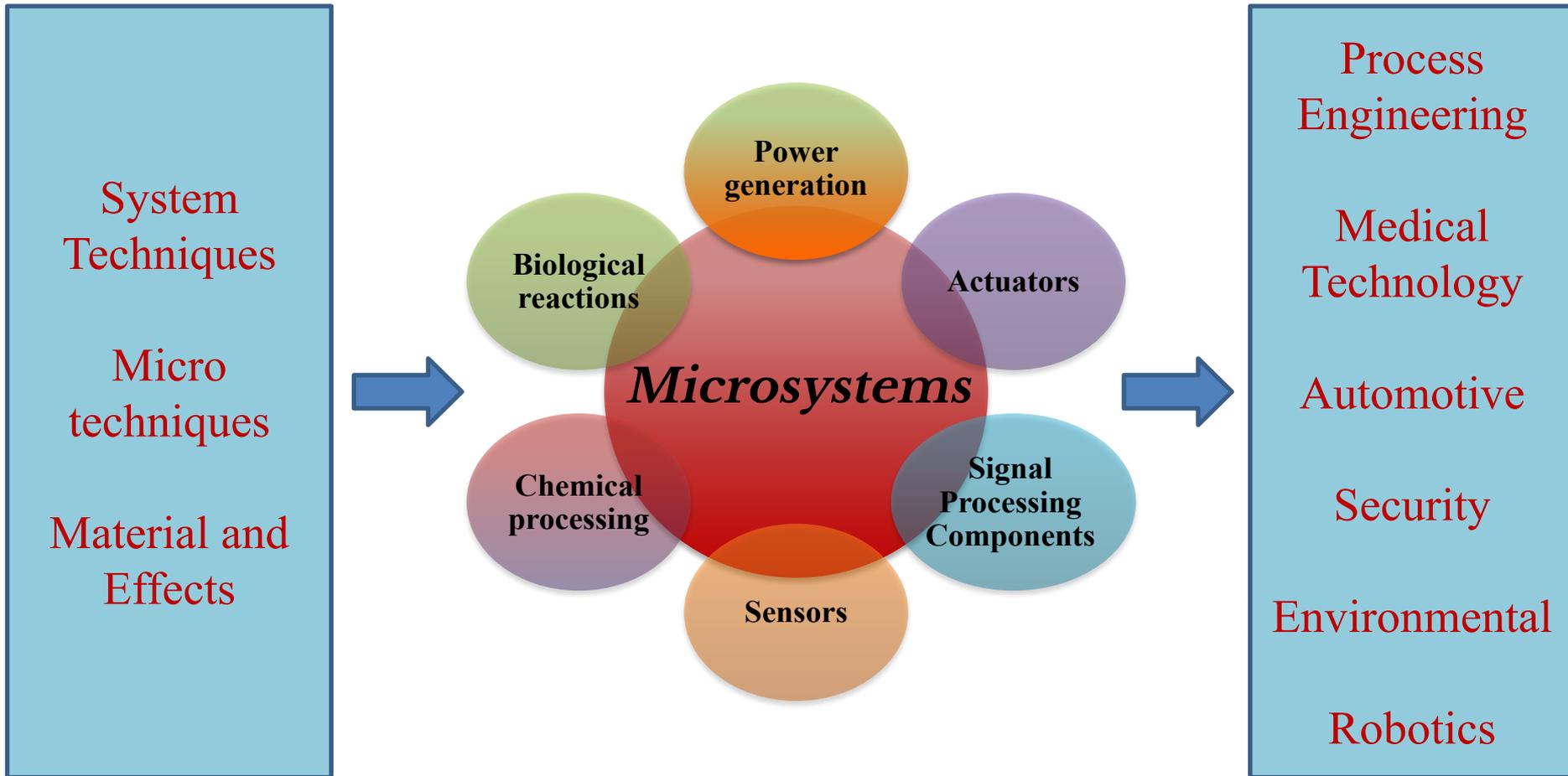
Centre for Microsystems

Established in association with Intellisense, Bangalore



Ramdeobaba University, Nagpur

COE : Research & Applications



Centre for Excellence (COE)

Mentors

1. Dr. R. M. Patrikar, VNIT, Nagpur
2. Dr. R. S. Pande, RCOEM, Nagpur
3. Dr. Sanket Goel, BITS, Hyderabad

Industry Association:
**Intellisense
Supported Centre**

Research Domains

Sensors
and
Systems

Energy
Harvesting

RF
MEMS

Proposed
Sponsoring
agencies
(DST, UGC,
DRDO,
AICTE,ISR
O, BARC,
BIRAC)

Faculty and Research Scholars



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Sensors and Systems

- **Dr. (Mrs.) Jayu Kalambe (EN)**
 - Dr. Nitin Narkhede
 - Prof. Jitendra Zalke
 - Dr. J. A. Shrawankar

Ph.D. Scholars

Shafaque Khan
Damodar Tampula
Minal Pande
Utkarsh Thakre
Shabol Shekh

Energy Harvesting

- **Dr. Balpande (CSE)**
- **Dr. Botoliya**
- **Dr. Nikhade**

Ph.D. Scholars

Vishal Rathee
Ranganath Gire

RF MEMS & Microfluidics

- **Dr. Deepak Khushlani (EC)**
- Prof. Prasanna Deshpande (EC)
- Dr. Meghna Hasamnis (EN)

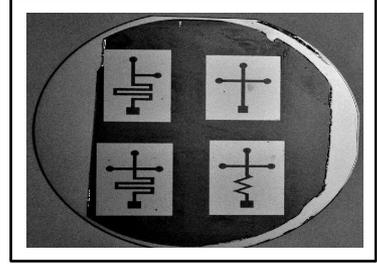
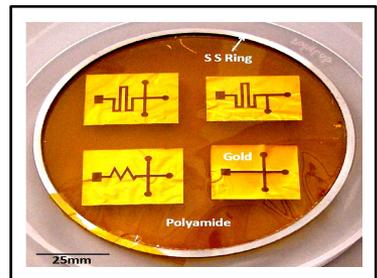
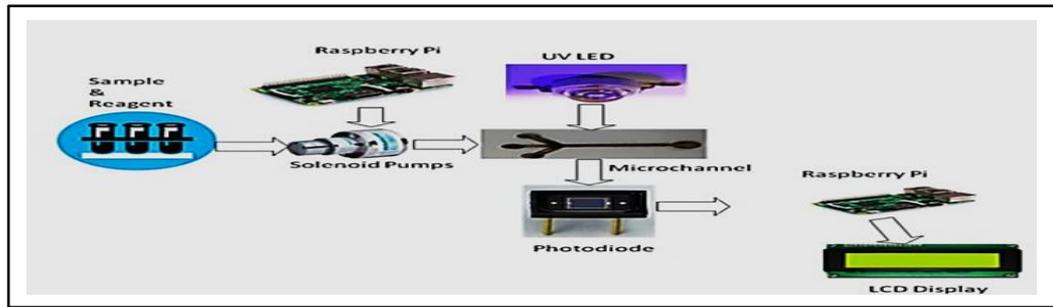
Ph.D. Scholar

Prof. Poorvi Joshi
Kavita Manekar
Prithi Chawala

Research projects Implemented: YFRS project Grants (4 Lac)

□ “Development of Microfluidics platform for water quality monitoring”

Duration: 3 year
Investigator: Dr. Jayu Kalambe
Co-Investigator: Dr. Suresh Balapande
Amount sanction: 2 Lac



System for detection of water contaminants in water & Fabricated Devices at RRCAT, Indore

□ Development of Soil Nutrients detection system and its calibration”

Duration: 3 years
Investigator: Dr. Suresh Balapande
Co-Investigator: Dr. Suresh Botoliya
Amount sanction: 2 Lac



Research project Sanctioned

1. Translational research Project: 10 Lac from IIT Hyderabad

2. BIG BIRAC Grant:50 Lac

3. RCOEM SMRFS (2 Projects): 4 Lac

Research project Submitted: 2(ICMR)
(1.5 Cr)

Research Internship: Full time(06 Students)

Part Time:(10 Students)

Product Development: 01(In final Stage)

02 In Process

03 Ideas Selected in APSCON 25 Startup

Challenge presented at IIT Hyderabad

Awards & Recognitions

Dr. Jayu Kalambe & Dr. Dinesh Rotake

With Ms Khushi Wankhade, Ms Simran Siddiqui

Received Best INUP i2i Nanotech Hackathon 2022-23 at IIT, Bombay



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Our team, led by Principal Investigator (PI) Dr. Jayu Kalambe and Co-PIs Dr. Dinesh Rotake, Ms. Khushi Wankhade, and Ms. Simran Siddiqui, achieved remarkable success at the INUP i2i Nanotech Hackathon 2022-23. We were awarded as the winner out of 43 proposals submitted from across India for our project titled "Design and Fabrication of IDE-based Biosensors for Leukemia Detection." This project has been selected for execution at the IIT Bombay Nanofabrication Centre. The recognition came during the INUP Users' Meet held at IIT Bombay on August 10, 2024, where we were honored by Smt. Sunita Verma, Senior Director, GC R&D—Electronics & IT, Ministry of Electronics & IT.





MeitY
Government of India

*INUP Users' Meet
Nano Hackathon Contest
Winner 2022-23*

Dr. Jayu P. Kalambe
Dr. Dinesh Rotake
Ms. Khushi Wankhade
Ms. Simran Siddiqui
SRCEM, Nagpur, Maharashtra

INUP i2i

Indian Nanoelectronics Users' Programme - Idea to Innovation
Nanotech Hackathon 2022-23

This is to certify that Ms. Khushi Wankhade from Shri Ramdeobaba College of Engineering and Management, Nagpur, Maharashtra, is a member of the winning team of the "Nanotech Hackathon 2022 - 23 Contest" organized by the INUP-i2i@IITB. Her proposal entitled "Design and Fabrication of IDE (Interdigitated Electrode) based Biosensors for Leukaemia Detection" has been selected for the execution at IITB Nanofabrication Centre.

Aghwan P. Tulapurkar
Senior, Dept. of Electrical Engineering,
Nagpur

Smt. Sunita Verma,
Senior Director, GC R&D -
Electronics & IT,
Ministry of Electronics & IT

INUP-i2i

INCORPORATED START-UP BIOSPECTRONICS PVT. LTD.

सत्यमेव जयते

GOVERNMENT OF INDIA
MINISTRY OF CORPORATE AFFAIRS

Central Registration Centre

Certificate of Incorporation

[Pursuant to sub-section (2) of section 7 and sub-section (1) of section 8 of the Companies Act, 2013 (18 of 2013) and rule 18 of the Companies (Incorporation) Rules, 2014]

I hereby certify that BIO SPECTRONICS PRIVATE LIMITED is incorporated on this Thirteenth day of January Two thousand twenty-two under the Companies Act, 2013 (18 of 2013) and that the company is limited by shares.

The Corporate Identity Number of the company is U51909MH2022PTC374856.

The Permanent Account Number (PAN) of the company is **AAKCB4441M** *

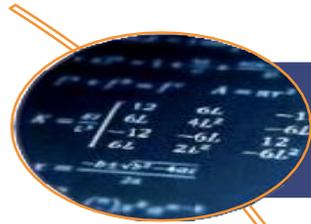
The Tax Deduction and Collection Account Number (TAN) of the company is **NGPB05183D** *

Given under my hand at Manesar this Thirteenth day of January Two thousand twenty-two .

Research Opportunity



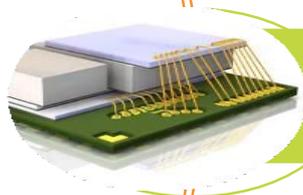
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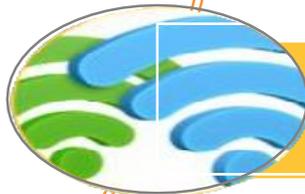
Sensors /Actuators Design Development



Materials / Algorithms



Connectivity Protocol Development



Interfaces Development



Battery Low Power Design Issues



CENTRE FOR EXCELLENCE RESEARCH FACILITIES



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Sr. No	Name	Facility
1.	IntelliSuite Software MEMS CAD Tool	
2.	Arb. Function Generator	
3.	Laboratory Hot Plate – Rectangular Size 10" x 10"	
4.	Digital Weighing Scale	
5.	Power Supply – (0-32V / 0-10 A)	



CENTRE FOR EXCELLENCE RESEARCH FACILITIES



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Sr. No	Name	Facility
6.	VDRL Shaking Machine / Mini Rotary shaker – Holding clamps for 500ml, 250/150 ml, 100/20 ml, 400 RPM	
7.	Hot Plate with Stirrer	
8.	Vacuum Oven – Round shape 300W, Temp Range 50-200	
9.	Ultrasonic Cleaner	
10.	Digital Storage Oscilloscope (DSO) – 70 Mhz, EDUX 1102A	



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Sr. No	Name	Facility
11.	Vibrational Shaker	
12.	NI Data Acquisition System	
13.	Conductivity + PH Meter	
14.	PLC Trainer – Allen Bradley	
15.	Vibration Meter	



CENTRE FOR EXCELLENCE RESEARCH FACILITIES



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Sr. No	Name	Facility
16.	Digital TRMS Multimeter	
17.	TRMS LCR Meter	
18.	Digital Thermometer	
19.	SMD station – Soldering, Desoldering and hot air gun	
20.	Vector Network Analyser (VNA) – TTR500	
21.	Electrometer – Keithley 6517B	



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THANK YOU