



सत्यमेव जयते
Department of Science and Technology
Ministry of Science and Technology
Government of India

DST-Fist Center, MIET
**Sponsored by Department of Science
and Technology, Ministry of Science &
Technology, Govt. of India.**



Meerut Institute of Engineering & Technology

DST- FIST Center Inauguration (2019-2020)

बायोटेक्नोलॉजी के छात्रों को रिसर्च के लिए मिली डीएसटी एफआईएसटी एडवांस रिसर्च लैब

बुलन्द वाणी • संवाददाता

मेरठ। विज्ञान और प्रौद्योगिकी विभाग भारत सरकार द्वारा विज्ञान एवं तकनीक के क्षेत्र में अनुसंधान और विकास को बढ़ावा देने के उद्देश्य से एडवांस बायोटेक्नोलॉजी इंस्ट्रुमेंट रिसर्च लैब का उद्घाटन एमआईएसटी में किया गया। डीएसटी एफआईएसटी एडवांस रिसर्च लैब का उद्घाटन एमआईएसटी ग्रुप के चेयरमैन विष्णु शरण, वाइस चेयरमैन पुनीत अग्रवाल, डायरेक्टर डॉ मयंक गर्ग, डीन एकेडमिक डॉ डीके शर्मा ने संयुक्त रूप से फीता काटकर किया।

बायो टेक्नोलॉजी विभाग के विभागाध्यक्ष डॉ नितिन शर्मा ने बताया की विज्ञान और प्रौद्योगिकी के बुनियादी ढांचे में सुधार के लिए डीएसटी द्वारा एमआईएसटी के बायोटेक्नोलॉजी विभाग को योजना के तहत 50 लाख रुपए का अनुदान किया गया। इस योजना का उद्देश्य नए और उभरते क्षेत्रों में अनुसंधान और विकास गतिविधियों को बढ़ावा देने



और विश्वविद्यालयों और अन्य शैक्षणिक संस्थानों में नई प्रतिभाओं को आकर्षित करने के लिए बुनियादी ढांचा और सक्षम सुविधाएं प्रदान करना है। न्यूनतम रिसर्च एंड डेवलपमेंट उपयोगी इंस्ट्रुमेंट भारत सरकार के अनुदान द्वारा खरीदे गए हैं, जिससे कैसर जैसी गंभीर बीमारियों पर रिसर्च करने में मदद मिलेगी। शोध के प्रति छात्रों का रुझान बढ़ाने के लिए इसमें शिक्षकों, शोधार्थियों समेत

एमटेक व बीटेक छात्रों को रिसर्च कार्य से जुड़ने के लिए आमंत्रित किया गया है। इसके लिए छात्रों के पास स्वस्थ, एनर्जी व मैटेरियल पर शोध से जुड़ा कोई प्रोजेक्ट हो तो वह भी यहां पर आकर काम कर सकते हैं। उन्होंने बताया कि इसके साथ ही यंग रिसर्चर कार्यक्रम भी छात्रों के लिए जल्द शुरू किया जाएगा। साथ ही छात्रों का नाम भी रिसर्च जर्नल्स में दिया जाएगा।



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INTRODUCTION

- **DST-Fist Center**, MIET, Sponsored by Ministry of Science & Technology, Govt. of India is established 19th Oct, 2019.
- This center is focused on mainly Translational research: **Drug discovery, Cancer stem cell targeted drug discovery, Tissue engineering, Biomaterial, Stem cell , in vitro organ development, Cruelty free drug testing by exploring advance technique 3D cell culture model**

OBJECTIVES

- The Scheme “Fund for Improvement of S&T Infrastructure (FIST)” Sponsored By Department of Science & Technology (DST), Govt. of India.
- To provide basic infrastructure and enabling facilities for promoting R&D activities in new and emerging areas.
- To attracting fresh talents in universities & other educational institutions.

NATURE OF SUPPORT

- ◉ The Scheme will provide optimal infrastructure facilities for post-graduate and higher research, such as, renovation of existing laboratory space ,but no fresh Constructions.
- ◉ To modernization of laboratories involved in PG and Higher Research.
- ◉ By acquisition of essential equipment, up-gradation of existing facilities, networking & computational facilities including software & databases, scientific & technical books (no journals)
- ◉ The facilities provided under the Program are intended to support the efforts of the Department as a whole or a number of faculty members in the Department.

TEAM MEMBERS ALONG WITH DETAILS

1. Prof.(Dr.) Sanjay Kr. Singh
Principal Investigator, DST-FIST
Center, MIET

Email: directormiet@miet.ac.in

Contact No:9917103999



2. Prof. Eliza Chakraborty
HOD DST-Fist & Scientist
Professor, Department of Biotechnology
MIET, Meerut.

Email: eliza.chakraborty@miet.ac.in

Contact No:7060857697



TEAM MEMBERS ALONG WITH DETAILS

3. Dr. Anurag Chaudhary
Professor, Department of Pharmacy, MIET
Scientist, DST-FIST Center, MIET
Email: anurag.chaudhary@miet.ac.in
Contact No: 8077715655



4. Ms. Deepika Pal
Scientist
DST-FIST Center, MIET
Email: deepika.pal@miet.ac.in
Contact No: 6395098741



LIST OF MAJOR EQUIPMENTS

S.No.	Name of Equipments	Cat No.	Cost	Working Status
1.	BD Biosciences Accuri C6 Plus Flow Cytometer	C6 Plus	11,27,000/-	Working
2.	Multiskan Sky High Microplate Spectrophotometer	51119700DP	30,09,000/-	Working
3.	Centurion Scientific CS5700+ Gas Chromatography	CS5700+	4,39,909/-	Working
4.	CO2 Incubator (Thermo Fisher Scientific)	3111	5,60,619/-	Working

1. BD BIOSCIENCES ACCURI C6 PLUS FLOW CYTOMETER

Material 660517

HSB Code 90278099

Bath No. 9347671

Application Trainer

1. **Mr. Vishal Garg- 8800798333**
2. **Mr. Anjan Ghosh- 8879558596**

Applications- Flow cytometry is a powerful tool that has applications in multiple disciplines such as immunology, virology, molecular biology, cancer biology and infectious disease monitoring.



2. THERMO SCIENTIFIC MULTISKAN SKY HIGH MICROPLATE SPECTROPHOTOMETER

- Ser No. 1530801076C
 - HSN/SAC Code 9027
 - Part No./ Cat No. 51119700DP
- Application Trainer-
Dr. Anil Kumar- 8860318679



Applications-

- Virtually any photometric research application
- ELISA
- Cell Cytotoxicity
- DNA, RNA and Protein analysis
- Turbidity measurements

3. CENTURION SCIENTIFIC CS5700+ GAS CHROMATOGRAPHY

- Model 5700
 - HSNCODE 9027
- Application Trainer
Mr. Praveen Sharma- 9999429898



Applications- Gas-liquid chromatography (GLC) is commonly used method for lipid analysis. Although marine fatty acids are generally derivatized by transesterification, saponification and extraction followed by derivatization to fatty acid methyl esters (FAMES) may be used.

4. THERMO SCIENTIFIC FORMA SERIES II WATER JACKET CO₂ INCUBATOR

Ser No. 300300901

HSN/SAC Code 81198990

Part No./Cat No. 3111

Application Trainer- **Mr. Harish**
9310333125

Applications- CO₂ incubators are most frequently used in medical research and in the research Laboratories. However, the incubators are also used in areas where cells need to be grown in sterile conditions.



ROAD MAP

1. Accusation of High class Instruments.
2. Easy access to advanced technology.
3. Upgrading the R&D Facility for faculty, P.G Students & Researchers.
(Awareness programme like **International Inaugural Lecture Series (2020- 2021) Hosted By DST- Fist Center, MIET, Meerut.**)
4. Student training conducted on Advance cell culture and Lab safety.
5. Through this central facility to students (Directly and Indirectly), nearby colleges and Industry taking advantage of this facility.
6. Foreign Collaboration and central government funding attracted. Viz. Idea Lab, AIC, etc.

ACTIVITIES / EVENT CONDUCTED

I. Seminar / Expert Talk:

1. International Lecture Series

Online International Inaugural Lecture Series
(2020- 2021)

Topic: Health, Environment & Laboratory

Hosted By DST- Fist Center, MIET, Meerut

Date: 19th Dec, 2020, 16th Jan. 2021 and 20th
Feb. 2021

Online International Inaugural Lecture Series (2020- 2021) Hosted By DST-Fist Center, MIET, Meerut



Online International Inaugural Lecture Series-20-21 **mi et**

Hosted by: **DST-FIST Centre, MIET, Meerut**

Topics: Health, Environment & Laboratory Safety

ABOUT THE INSTITUTE
Meerut Institute of Engineering & Technology (MIET) has officially been ranked as the 4th best Engineering College in Uttar Pradesh by AKTU. MIET stands tall among all other self-financed engineering institutions in northern India. It not only holds the prestigious position of being one of the best & oldest (Established in 1997) institutions that caters to education in the field of Engineering and Technology, but also ensures that each student emerges out competent enough to hold a dynamic image of his own after the completion of his or her stint at MIET.

ABOUT THE DST-FIST CENTRE
The Department of Science and Technology (DST) is a department within the Ministry of Science and Technology in India. It was established in May 1971 to promote new areas of science and technology and to play the role of a nodal department for organizing, coordinating and promoting scientific and technological activities in the country. It gives funds to various approved scientific projects in India. It also supports various researchers in India to attend conferences abroad and to go for experimental works. A new scheme "Fund for Improvement of S&T Infrastructure in Universities and Higher Educational Institutions (FIST)" was launched in 2000-2001 to rebuild the Science and Technology Infrastructure in India, solely dedicated to R&D in various fields.

INTRODUCTION TO INAUGURAL LECTURE SERIES
Inaugural Lecture Series represent an essential component of the public event program, an opportunity to engage with audience with a broader interest in their research, including funders and decision makers from government, academia and industry. They also help create a wider awareness for the benefits of the University's teaching and research. This Inaugural Lecture Series is a multidisciplinary event open for scientists, faculties, and students from the field of biotechnology, translational medicine, nanobiotechnology, pharmacy, dentistry, biomedical instrumentation, computational biology including Artificial Intelligence in health care and industrial sector. Recently, Meerut Institute of Engineering & Technology has established the first DST-FIST Centre in North India. This is the first step towards research and development for the welfare of the society.

CHIEF-PATRON
Er. Vishnu Saran
Chairman
MIET, Meerut

PATRON
Er. Puneet Agarwal
Vice Chairman
MIET, Meerut

ADVISORS

Prof. (Dr.) Mayank Garg
Executive Director
Principal Investigator of DST-FIST Centre
MIET, Meerut

Prof. (Dr.) D.K. Sharma
Deen Academics
MIET, Meerut

Prof. Kasturi Mukhopadhyay
IIT, New Delhi

ORGANIZING COMMITTEE MEMBERS

Prof. Eliza Chakraborty
Professor and Founder Head of DST-FIST Centre
MIET, Meerut
(Organizing Secretary)

Dr. Avinash Singh
IIT Bombay
MIET, Meerut

Dr. Chandrabhan Seniya
Assistant Professor
Scientific Member of DST-FIST Centre
MIET, Meerut

Important Date:
Last Date of Registration: 19.12.2020
10:00 AM

Online via Zoom
<https://forms.gle/RqjXy8tE6C00UPd9>



E-Certificates will only be provided to those participants who will attend all Three Sessions

Free Registration



Sl. No. & Topic	Title	Speakers	Speakers
01	"Advancement in Cancer Therapeutics"	Dr. Vicky Yamamoto Cancer Scientist, Department of Otolaryngology Keck School of Medicine of USC Executive Director of Society for Brain Mapping & Therapeutics (SBMT) Los Angeles, CA, USA	
02	"COVID-19 and its Impact on Biotechnology"	Dr. Ambarish Kumar Associate Professor, Department of Biotechnology and Bioreengineering, Indian Institute of Technology, Bombay	
03	"Development of Next Generation OMP's Based Microfluidic Technology by the Way of Multidisciplinary Approach"	Dr. Hemanta Koley Scientist - I Deputy Director Division of Biotechnology National Institute of Chemical Technology (NICET), Kharagpur	
04	"Emerging Solutions World Wide Including Biotech COVID-19 - Challenge of Sampling Solutions Across Fronts Air and Healthcare"	Dr. Atin Adhikari Associate Professor of Environmental Health Sciences at Georgia Southern University, USA	
05	"Decarbonized Hubs for Green Engineering"	Dr. Narayan Chandra Mishra PhD (Max-Planck Institute, Germany) Associate Professor and Chairman, DWC, Department of Polymer and Process Engineering Indian Institute of Technology, Mumbai	
06	"Blockchain & Blockchain Ecosystem of Covid-19"	Dr. Sukhna Mukherjee Associate Professor Department of Biochemistry AIIMS, Shree	
07	"Blockchain User-Centered Innovation"	Dr. Debbie Lin Tsourosescu MD (University of Harvard) MD, MB, BCh Attending Physician Massachusetts General Hospital, Faculty Harvard Medical School, Founder SurgNet, Massachusetts, MIT D-Lab & MIT, USA	
08	Topic Title: "Environmental Pollution and Cancer"	Dr. Sutapa Mukherjee Academic Co-ordinator Senior Scientific Officer Department of Environmental Contaminants & Toxicology Chittaranjan National Cancer Institute, Kolkata	
09	Topic Title: "Laboratory Safety"	Dr. Nikhil B. Ghate Researcher North Comprehensive Cancer Center Keck School of Medicine University of Southern California East Lake Avenue, Los Angeles, USA	

Organized by:
DST-FIST Centre, (Ministry of Science & Technology, Govt. of India),
Meerut Institute of Engineering & Technology, Meerut

Contact Information
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**DST-FIST CENTER, MEERUT INSTITUTE OF
ENGINEERING AND TECHNOLOGY, MEERUT**

**Department of Science and Technology
Government of India**



CERTIFICATE OF PARTICIPATION

*This is to certify that Dr./Mr./Ms. **Istuti Gupta**
of **Meerut Institute of Engineering and Technology**
has participated in the Online International Inaugural Lecture Series 2020-21
entitled "Health, Environment and Laboratory Safety" organized by DST-FIST
Center, Meerut Institute of Engineering and Technology, Meerut, India in
association with Department of Science and Technology, Government of India held
on 19th December 2020, 16th January 2021 and 20th February 2021.*

Organizing Secretary
Dr. Eliza Chakraborty
Head of the DST-Fist Center
Prof-DBT, MIET, Meerut

Coordinator
Dr. Nisha Sharma
Director, Department of
Pharmaceutical Technology
HOD-DBT, MIET, Meerut

Coordinator
Dr. Chandrabhan Seniya
Asst. Prof-DBT, MIET,
Meerut

Principal Investigator of DST-fist
Dr. Mayank Garg
Executive Director, MIET,
Meerut

2. GUEST LECTURE

Topic: "3D Bioprinting, Bioinks, and Alternatives of Animal Models"

Presenter: Dr. Prashant Singh Chauhan, Ph.D

Designation: Strategic Business Partner, ATCG India

Discussion on: Introduction to 3D Bioprinting Technology

Applications and Innovations in Biomedical Research Future

Prospects and Developments.

Date- Monday, 4th Dec 2023.

3. AWARENESS PROGRAMMES

1. Awareness Programme on Biosafety and Lab Safety Guidelines.

Date- 1.03.2023 Time- 2:00 pm- 4:00 pm

Students: B.Tech 3rd yr Students

2. Biosafety and Lab Safety Guidelines.

Date- 25.08.2023

Students: B.Tech (BT) 3rd yr Students

3. Lab Safety Guidelines and Lab visit

Date- 05.09.2023

Students: B.Tech (BT) 3rd yr Students

4. INSTRUMENT INSTALLATION AND TRAINING DETAILS

1. Name of Instrument: BD Accuri C6 Plus Flow Cytometry

Installation date: 05-10-2020

Installed by: Mr. Anjan Ghosh (8879558596)

In presence of:

- 1. Dr. Nitin Sharma**
- 2. Dr. Chandrabhan Seniya**
- 3. Dr. Anuj Kumar Singh**
- 4. Ms. Nitika Vats**
- 6. Ms. Pinky Kothari**

4. INSTRUMENT INSTALLATION AND TRAINING DETAILS

Trained by: Mr. Anjan Ghosh (8879558596)

i. Training on: I. 05-10-2020

Trained to: 1. Dr. Eliza Chakraborty
2. Dr. Anuj Kumar Singh

ii. Training on: II. 06-10-2021

1. Dr. Eliza Chakraborty
2. Dr. Anuj Kumar Singh
3. Dr. Megha Tyagi

4. INSTRUMENT INSTALLATION AND TRAINING DETAILS

2. Name of Instrument: Multiskan Sky Spectrophotometer

Installation date: 10-07-2020

Installed by: Aman Arora (9715888420)

In presence of: 1. Dr. Eliza Chakraborty
2. Dr. Anuj Kumar Singh

⦿ **Trained by: I. Dr. Anil Kumar (8860318679)**

⦿ **Trained to:** 1. Dr. Eliza Chakraborty
2. Ms. Shreya Agarawal
3. Ms. Deepika Pal

4. INSTRUMENT INSTALLATION AND TRAINING DETAILS

Training II. 9 to 10 Dec-2022

Trained by: Ms. Deepika Pal (7452824433)

Trained to:

1. Dr. Anurag Chaudhary
2. Dr. Alka Sagar
3. Dr. Sonia Sharma
4. Dr. Divya Chaudhary
5. Mr. Abhinav Singh
6. Ms. Garima
7. Ms. Jyoti
8. Dr. Alimuddin Saif
9. Mr. Ankit Chaudhary
10. Mr. Nilay K Nandi
11. Dr. Prabhash Nath Tripathi
12. Dr. Shweta Dumoga

4. INSTRUMENT INSTALLATION AND TRAINING DETAILS

3. Name of Instrument: Gas Chromatography

Installation date: 13-10-2020

Installed by: Mr. Abhishek Singh (8882311727)

In presence of: 1. Dr. Avadhesh Singh Pundir

Trained by: Mr. Abhishek Singh (8882311727)

Trained on: | 16-12-2022

Trained to:

1. Dr. Udai Pratap Singh
2. Dr. Anurag Chaudhary
3. Dr. Neha Singh
4. Dr. Prabhash Nath Tripathi
5. Ms. Deepika Pal

CREDENTIALS

I. Patents:

1. Patent Application No 202331047407 (A Fusion Hydrogel based matrix in 3D cell culture July, 2023 (online) and Published.
2. Patent Application No 202331047408 (In-vitro fusion Bio-matrix coated on paper), July, 2023 (online) and Published.
3. Patent Application No 202131017742 (A Bio- Matrix Obtained from Astragalus Gummifer (Gond Katira) Coating Cell Culture to Sustain Growth in Animal Cell Culture), April 2021 (online) and Published
4. Patent Application No 202111018396 (A Bio-Matrix Composition Obtained from Astragalus Gummifer (Gond Katira) To Sustain Growth in Animal Cell Culture), April 2021 (online) and Published.
5. Patent Application No 202031040945 (A Potential Natural Bio- Matrix from Aloe Vera Gel for Sustaining Growth of Adherent Cells in Animal Cell Culture), Sept. 2020 (online) and Published.
6. Patent Application No 202031040946 (A Bio-Matrix Composition from Linum Usitatissimum to Sustain Growth in Animal Cell Culture and Process of Preparing the same), Sept. 2020 (online) and Published.

- **B.Tech Students 2 Patent filled (2023)**

Portable Diagnostic tool

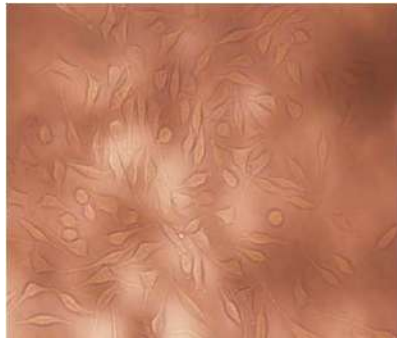


Fig 1. Observation of L929 cell line growth on Paper Matrix at 20X under the IX73 Olympus Microscope.



Fig 2. (.4%) NDEA drug, at One (1) hour Observation of L929 cell line growth on Paper Matrix at 20X under the IX73 Olympus Microscope.

Alternative of Animal Model

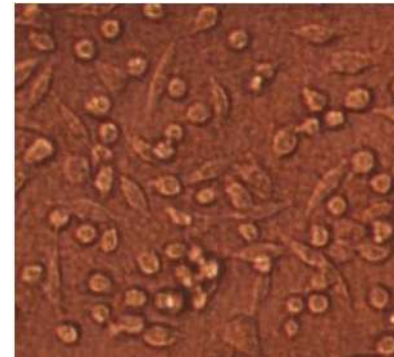


Fig 3. Observation of L929 cell Spheroid Formation with 1X 73 Olympus microscope under 20X

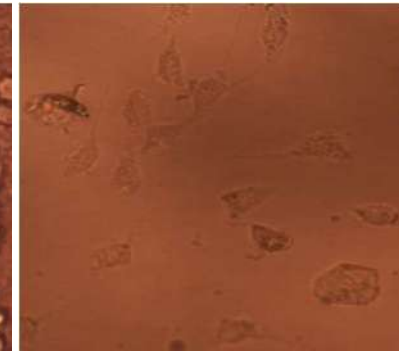


Fig 4. (1%) NDEA drug, at 1 hr. observation of L929 cell line growth of (*Astragalus Gummifer*) Fusion Matrix at 20X under the IX73 Olympus Microscope.

- **6 Patents Pending (Outcome of B.Tech Projects)**

CREDENTIALS

II. Papers Published:

1. Hydrogel based tissue engineering and its future applications in personalized disease modeling and regenerative therapy Journal - Springer Nature, Authors Name: Shikha Chaudhary & Eliza Chakraborty
<https://doi.org/10.1186/s43088-021-00172-1>
2. Editorial: Advancement in Cancer Stem Cell Biology and Precision Medicine. Journal - Frontiers, Authors Name: Nikhil Baban Ghate, Vicky Yamamoto and Eliza Chakraborty.
<https://doi.org/10.3389/fcell.2022.890129>
3. Optimizing aseptic and serum milieu for the isolation of human whole umbilical cord tissue-derived mesenchymal stem cells. Journal - Springer Nature, Authors Name: Shikha Chaudhary, Suyash Sharma, Jeswin John, Namrata Tyagi, Kunal Mishra & Yogita Saragade.
<https://doi.org/10.1186/s43088-022-00308>
4. Studies on Optimization of Parameters for Extraction of Total Phenolic Content From Terminalia Arjuna” .Authors Name- Kunal Kapoor , Deepika Pal , Vijay Rajesh Andanamala , Sandeep Sirohi And Surya Prakash 2022.
<https://doi.org/10.47750/pnr.2022.13.S10.261>

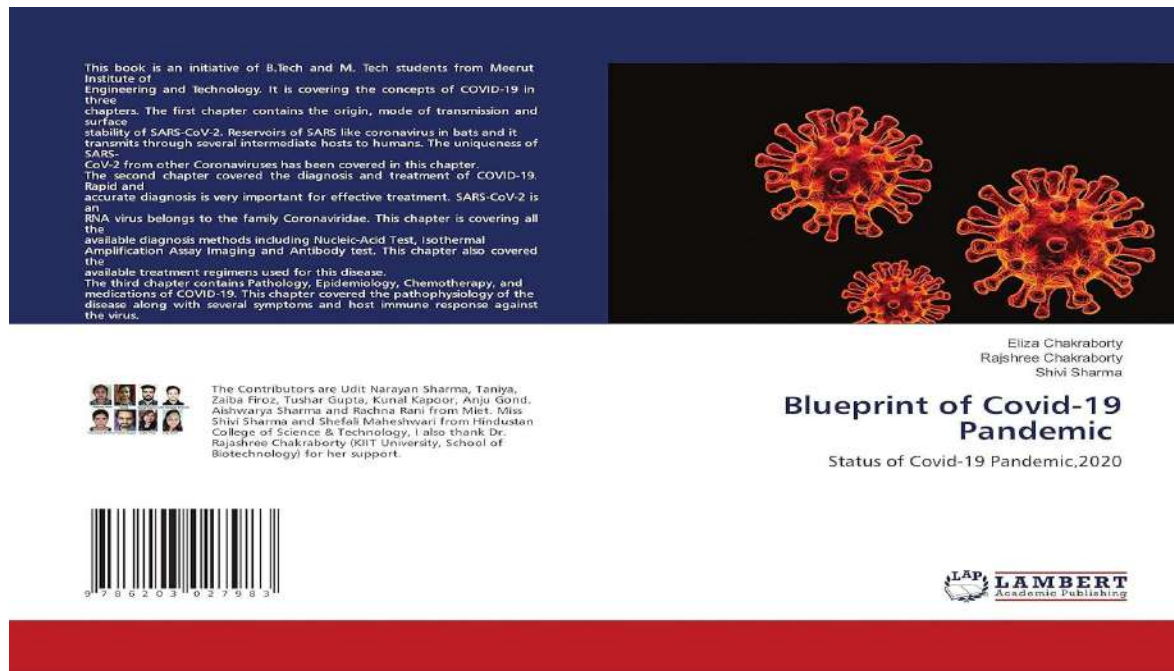
CREDENTIALS

5. Potential role of Hydrogel and its future applications in *in-vitro* organ development. Authors Name- Adesh Nautiyal, Riya Tyagi, Deepika Pal and Eliza Chakraborty. May, 2023 <https://www.ijnrd.org/papers/IJNRD2305644.pdf>
6. Design, Synthesis, Anticancer activities and Comparative molecular docking studies of Novel class of 7-azaindole analogs as potent PARP-1 inhibitors. Authors Name- Neha Sharma, Anurag Chaudhary, Monika Sachdeva. Doi:10.5530/ijper.58.2.70
7. Stemformatics and its potential role in future translational applications in CRISPR - Cas 9 Gene with GATA-1,2 . Authors- Deepika Pal, Utkarsh Tyagi , Udit Narayan Sharma and Eliza Chakraborty (2024). https://ijcrt.org/viewfulltext.php?&p_id=IJCRT2403311
8. “Biomaterial: Fascinating Reservoir for Future Stem Cell Based Therapy” Authors- Deepika Pal ^{1, 2*}, Ayushi Chauhan^{1*}, Vanshika Rana^{1*}, Archit Mohan Shukla^{1*} Akshaya Prakash^{1*}, Drishti Dhall^{1*}, Raxit Tyagi^{1*} and Eliza Chakraborty^{1, 2**} (2024). <https://doi.org/10.5281/zenodo.10953587>.

CREDENTIALS

III. B.Tech Student's Book Published:

Eliza Chakraborty et.al, Book title: Blueprint of Covid-19 Pandemic, Nov, 2020, Academic Publishing, Germany, ISBN No: 978-6203-02798-3



CREDENTIALS

IV. Conferences:

1. **Invited lecture** on" Stem Cells and Tissue..... " IABSCON 2020 Advances in Biomedical Research from Basics to Translation" 9th annual International Conference of Indian Academy of Biomedical Sciences ,27th to 29th Feb,2020 , D.Y.Patil Medical College,at Sayaji Hotel, Kolhapur Maharashtra.
2. **Invited lecture** on "Pandemic Aftermath for Betterment of Human Life" In An International Conference on Pandemic and Its Aftermath,8 th-10th Nov,2020 organized By Department of Chemistry, Christ Church College, Kanpur
3. Indian Academy of Biomedical Sciences , IABSCON, (7 - 8 May, 2022) organized by The Department of Biochemistry, King George Medical University, Lucknow , and Era University, Lucknow. Title: Recent trends in Biomedical Research: Current Challenges & Future Prospects. Authors Name: Sanyam Taneja, Anjali Verma, Shweta Chaudhary, Deepika Pal, Eliza Chakraborty*

CREREDENTIALS

4. Challenges & opportunities in Food, Pharama and Biotechnology, (15-17 Sep, 2022) organized by Dr. A.P.J Abdul Kalam Technical University, Lucknow and Seth Vishambhar Nath Group of Educational Institute, Lucknow. Title: Inhibition of In vitro Rhipicephalus microplus infection by Exploting Mahua longifolia Extracts, Author name: Deepika Pal, Eliza Chakraborty & Jaydip Parmar.
5. 108th Indian Science Congress (3-7 Jan, 2023) organized by RTM Nagpur University, Nagpur Title: The Role of Biomarkers, Stem Cell and Stemformatics in Modern Translational Medicine .Author Name: Chandrabhan Seniya and Eliza Chakraborty*
6. The potential of indigenous medicinal plants extracts for Acaricidal activity against R.microplus under in-vitro conditions. “3rd ICMSE-2023 Organized by NIT- Jalandhar 2023. Authors Name- Deepika Pal, Jaydip parmar, Sandeep Sirohi and Eliza Chakraborty
7. Silver Nanoparticles synthesized from seed of Myristica fragrans extracts: Optimization, Characterization and antibacterial activity. “3rd ICMSE-2023 Organized by NIT- Jalandhar 2023.
8. Invited as Resource person in one day Online Workshop on “Biological Waste disposal” Jointly by Department of Botany, Department of Zoology and Department of Chemistry under DBT Star College Scheme of Durgapur Government College on 4th June, 2024

CREDENTIALS

V. Thesis Submitted:

i. Graduation Thesis (B.Tech)

1. Title: “Different Biomatrix Based Organ regeneration and Tissue Engineering”

Student Name: Kunal Kapoor and Tushar Gupta (2017- 2021)

2. Title: Application of Biomatrix in *in-vitro* Tissue Engineering

Student Name: Taniya and Udit Narayan Sharma (2017- 2021)

3. Title: “Future Application of Hydrogel based Matrix in 3D Cell Culture”

Student Name: Sanyam Taneja and Anjali Verma (2018-2022)

4. Effect of different cryogenic conditions on biomatrix based *in-vitro* screening models.

Students name: Archit Mohan Shukla, Ayushi Chauhan and Vanshika Rana (2019-2023)

CREDENTIALS

V. Thesis Submitted:

ii. Post Graduation Thesis

1. **M.Tech Thesis Title:** “Evaluation of the Acaricidal activity of Indigenous medicinal plants extract against cattle ticks under *in-vitro* Condition”

Student Name: Deepika Pal

2. **MSc Thesis Title:** “Explore Plant Based Biomatrix to develop *in- vitro* Screening model and its Future applications as an Alternative of Animal Model”

Student Name: Shweta Chaudhary

3. **Title:”** In Silico Screening of Flavonoids by SARS CoV-2& its Future Applications”

Student Name: Ms Vandita Baliyan

4. **Title:** Exploring plant based biomatrix to develop *in-vitro* drug screening model with mammalian cancer cell line.

Student Name: Mr. Adesh Nautiyal

- 5.**Title:** Exploring fusion matrix based in-vitro drug screening model and its future applications as an alternative of animal models.

Student name: Riya Tyagi

CREDENTIALS

- ◎ Ph.D thesis work going on
- ◎ 2021- Going on
- ◎ Ms. Shivi Sharma.
- ◎ 2024
- ◎ One M.Sc student project going on 2024.
- ◎ Three students B.Tech Project going on 2024
- ◎ 10PG (M.Pharm, M.Sc.) projects going on.

CREDENTIALS

Students Placement direct from
DST-Fist Center, MIET.

1. Kunal Kapoor **M.Tech 1st year (2021)**

Appointed as Senior Officer at Indian
Immunologicals Ltd., Telangana,
India.



2. Ayushi Chauhan **B.Tech final year
(2023)**

Appointed as Trainee at Diagnostic
division at J.Mitra & Co. Pvt.ltd., New
Delhi.



3. Vanshika Rana **B.Tech Final year (2023)**

Appointed as Trainee at Diagnostic
division at J.Mitra & Co. Pvt.ltd., New
Delhi.



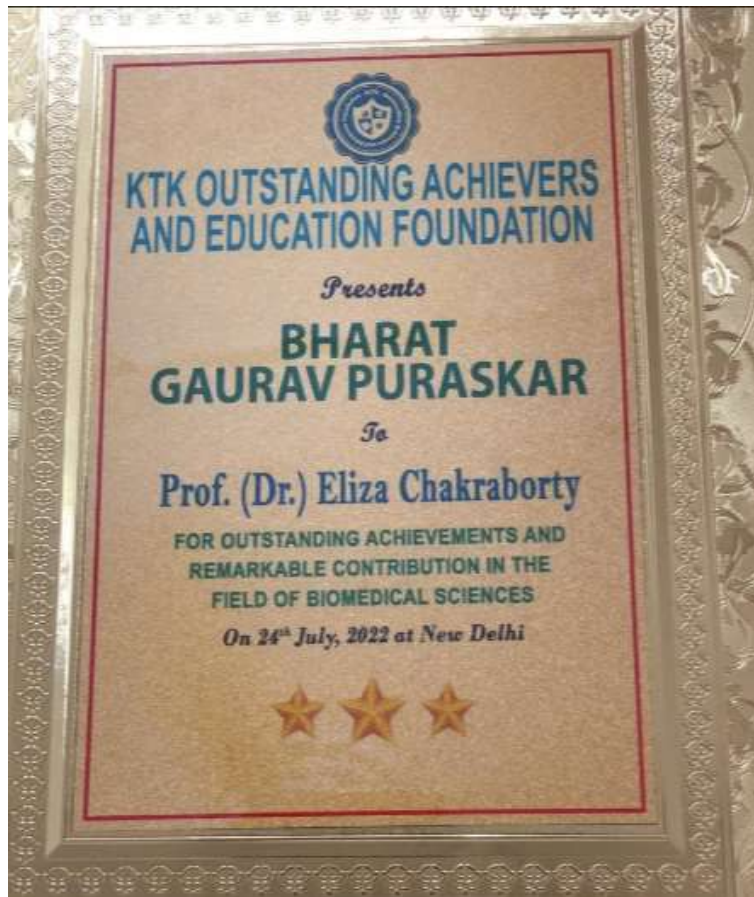
4. Adesh Nautiyal **M.Sc. Final year (2023)**

Appointed as Executive in QC
Department at J.Mitra & Co. Pvt.ltd.,
New Delhi.



AWARDS

1. BHARAT GAURAV PURASKAR



2. BEST EDUCATIONIST AWARD



Media coverage

DST- FIST Center Inauguration (2019-2020)

बायोटेक्नोलॉजी के छात्रों को रिसर्च के लिए मिली डीएसटी एफआईएसटी एडवांस रिसर्च लैब

बुलन्द वाणी • संवाददाता

मेरठ। विज्ञान और प्रौद्योगिकी विभाग भारत सरकार द्वारा विज्ञान एवं तकनीक के क्षेत्र में अनुसंधान और विकास को बढ़ावा देने के उद्देश्य से एडवांस बायोटेक्नोलॉजी इंस्ट्रूमेंट रिसर्च लैब का उद्घाटन एमआईईटी में किया गया। डीएसटी एफआईएसटी एडवांस रिसर्च लैब का उद्घाटन एमआईईटी ग्रुप के चेयरमैन विष्णु शरण, वाइस चेयरमैन पुनीत अग्रवाल, डायरेक्टर डॉ. मयंक गर्ग, डीन एकेडमिक डॉ. डीके शर्मा ने संयुक्त रूप से फीता काटकर किया।

बायो टेक्नोलॉजी विभाग के विभागाध्यक्ष डॉ. नितिन शर्मा ने बताया कि विज्ञान और प्रौद्योगिकी के बुनियादी ढांचे में सुधार के लिए डीएसटी द्वारा एमआईईटी के बायोटेक्नोलॉजी विभाग को योजना के तहत 50 लाख रुपए का अनुदान किया गया। इस योजना का उद्देश्य नए और उभरते क्षेत्रों में अनुसंधान और विकास गतिविधियों को बढ़ावा देने



और विश्वविद्यालयों और अन्य शैक्षणिक संस्थानों में नई प्रतिभाओं को आकर्षित करने के लिए बुनियादी ढाँचा और सक्षम सुविधाएं प्रदान करना है। न्यूनतम रिसर्च एंड डेवलपमेंट उपयोगी इंस्ट्रूमेंट भारत सरकार के अनुदान द्वारा खरीदे गए हैं, जिससे केंसर जैसी गंभीर बीमारियों पर रिसर्च करने में मदद मिलेगी। शोध के प्रति छात्रों का रुझान बढ़ाने के लिए इसमें शिक्षकों, शोधार्थियों समेत

एमटेक व बीटेक छात्रों को रिसर्च कार्य से जुड़ने के लिए आमंत्रित किया गया है। इसके लिए छात्रों के पास स्वस्थ, एनर्जी व मैटिरियल पर शोध से जुड़ा कोई प्रोजेक्ट हो तो वह भी यहां पर आकर काम कर सकते हैं। उन्होंने बताया कि इसके साथ ही यंग रिसर्चर कार्यक्रम भी छात्रों के लिए जल्द शुरू किया जाएगा। साथ ही छात्रों का नाम भी रिसर्च जर्नल्स में दिया जाएगा।



INDUSTRIAL TALK

Discussion on: Introduction to 3D Bioprinting Technology Applications and Innovations in Biomedical Research Future Prospects and Developments. (2023)

Presenter: Dr. Prashant Singh Chauhan, Ph.D

Designation: Strategic Business Partner, ATCG India.



Industrial Talk (Press Released)

श्री डी बायोप्रिंटिंग से अंग प्रत्यारोपण के लिए अंगों की कमी की समस्या का होगा हल : डॉ प्रशांत सिंह चौहान एमआईईटी में नवीनतम तकनीक पर विशेष व्याख्यान

सियासत ब्यूरो/मेरठ

www.siyasatdaily.com

एमआईईटी के बायोटेक्नोलॉजी विभाग ने 3डी बायोप्रिंटिंग जैसी नवीनतम तकनीक पर व्याख्यान का आयोजन किया गया। एटीजीसी बायोटेक प्राइवेट लिमिटेड कंपनी से डॉ प्रशांत सिंह चौहान ने कहा की 3डी बायोप्रिंटिंग एक ऐसी तकनीक है जिसके जरिए बायोइंक और बायोमेटेरियल के जरिए जैविक संरचनाएं और अंग बनाए जा सकते हैं। ये संरचनाएं बिल्कुल शरीर के प्राकृतिक अंगों की तरह काम करने में सक्षम हैं। इस तकनीक का उपयोग करके शरीर के विभिन्न ऊतकों का पुनर्निर्माण किया जा सकता है। जिसका प्रयोग हड्डी, त्वचा आदि ऊतकों से संबंधित विकारों को ठीक करने में सफलतापूर्वक किया जा रहा



है। इस तकनीक का सबसे महत्वपूर्ण उपयोग प्रत्यारोपण के लिए अंगों की कमी की समस्या को हल करना है।

साल पांच लाख से अधिक लोगों को प्रत्यारोपण के लिए अंगों की कमी की समस्या का सामना करना पड़ रहा है।

ऐसे में यह सिस्टम जल्द ही इस समस्या का एक बहुत अच्छा विकल्प साबित होगा।

साथ ही, यह चिकित्सा अध्ययन में पशु मॉडल की आवश्यकता को भी काफी कम कर देता है। यह सिस्टम एक बहुत अच्छा विकल्प है। पशु मॉडल को यह तकनीक भविष्य में और भी अद्भुत और सुरक्षित स्वास्थ्य सेवाएं देने का वादा करती है। डॉ. प्रशांत ने इस तकनीक की समस्या और इसके बहुआयामी अनुप्रयोगों को बहुत ही सरल तरीके से विस्तार से समझाया। इस दौरान संस्थान के निदेशक बृजेश सिंह, डीन संजीव चौहान, एचओडी डॉ. अविनाश सिंह, डॉ. एलिजा चक्रवर्ती, डॉ. आशिमा कथुरिया, डॉ. गौरव मिश्रा, डॉ. नेहा सिंह, डॉ. सचिन तोमर, डॉ. अंकेश पांडेय, डॉ. नीतिका वत्स आदि उपस्थित रहे।

एमआईईटी के बायोटेक्नोलॉजी विभाग में 3डी बायोप्रिंटिंग जैसी नवीनतम तकनीक पर विशेष व्याख्यान 3

कलम की ललकार

मेरठ। एमआईईटी के बायोटेक्नोलॉजी विभाग ने 3डी बायोप्रिंटिंग जैसी नवीनतम तकनीक पर व्याख्यान का आयोजन किया गया। एटीजीसी बायोटेक प्राइवेट लिमिटेड कंपनी से डॉ प्रशांत सिंह चौहान ने कहा की 3डी बायोप्रिंटिंग एक ऐसी तकनीक है जिसके जरिए बायोइंक और बायोमेटेरियल के जरिए



जैविक संरचनाएं और अंग बनाए जा सकते हैं। ये संरचनाएं बिल्कुल शरीर के प्राकृतिक अंगों की तरह काम करने में सक्षम हैं। इस तकनीक का उपयोग करके शरीर के विभिन्न ऊतकों का पुनर्निर्माण किया जा सकता है। जिसका प्रयोग हड्डी, त्वचा आदि ऊतकों से संबंधित विकारों को ठीक करने में सफलतापूर्वक किया जा रहा है। इस तकनीक का सबसे महत्वपूर्ण उपयोग प्रत्यारोपण के लिए अंगों की कमी की समस्या को हल करना है।

हर साल पांच लाख से अधिक लोगों को प्रत्यारोपण के लिए अंगों की कमी की समस्या का सामना करना पड़ रहा है। ऐसे में यह सिस्टम जल्द ही इस समस्या का एक बहुत अच्छा विकल्प साबित होगा।

साथ ही, यह चिकित्सा अध्ययन में पशु मॉडल की आवश्यकता को भी काफी कम कर देता है। यह सिस्टम एक बहुत अच्छा विकल्प है। पशु मॉडल की यह तकनीक भविष्य में और भी

अद्भुत और सुरक्षित स्वास्थ्य सेवाएं देने का वादा करती है। डॉ. प्रशांत ने इस तकनीक की समस्या और इसके बहुआयामी अनुप्रयोगों को बहुत ही सरल तरीके से विस्तार से समझाया।

इस दौरान संस्थान के निदेशक बृजेश सिंह, डीन संजीव चौहान, एचओडी डॉ. अविनाश सिंह, डॉ. एलिजा चक्रवर्ती, डॉ. आशिमा कथुरिया, डॉ. गौरव मिश्रा, डॉ. नेहा सिंह, डॉ. सचिन तोमर, डॉ. अंकेश पांडेय, डॉ. नीतिका वत्स आदि उपस्थित रहे।

Invited as Resource person in one day Online Workshop on “Biological Waste disposal” Chemistry under DBT Star College Scheme of Durgapur Government College on 4th June, 2024

<https://www.youtube.com/watch?v=ojfNylL1uxc>



Invited Speaker and Chairperson at 108th Indian Science Congress, RTM Nagpur University, Nagpur (2023)



Invited Speaker



Chair Person



MEMBER OF NATIONAL ADVISORY BOARD AND INVITED LECTURE IN 9TH INTERNATIONAL CONFERENCE OF IABSCON AT D.Y. PATIL MEDICAL COLLEGE, KOLHAPUR, MAHARASHTRA (2020)



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INVITED GUEST LECTURE ON ADVANCE IN STEM CELL THERAPY AND APPLICATIONS AT MEDICAL COLLEGE AND HOSPITAL, SAHARANPUR (2021)



CME 2021
 Date: 22nd November 2021
 Place: LT Second Floor OPD Block, SMMH Medical College & Hospital, Saharanpur
 01:00 PM – 02:00 PM
 Theme: GMC-IITR Saharanpur Medical Innovations and Technology Solutions Initiative
 Post-Lecture Workshop: Prostate Cancer Screening

Date: 22nd November Time: 01:00 PM To 2:00 PM
 Sponsorship: Medical Council of India, New Delhi

Guest Lecture
 Date: 22nd November Time: 1:00-02:00 PM
Topic: Advances in Stem Cell Therapy and Applications
 Professor Dr. Eliza Chakraborty, NIH Fellow and Ex-Faculty
 Geffen School of Medicine, University of California, Los Angeles USA
 Admission: HOD, DST-Fist Center & Professor of Biotechnology,
 Meerut Institute of Engineering and Technology, Meerut (UP)

Patrons
 Prof. (Dr.) Arvind Tywari, PhD, DM
 Principal, Government Medical College, Saharanpur
 Prof. (Dr.) Yitraj Singh Negi, Ph.D (IIT Delhi), PhD (Tokyo)
 Director, Institute of Technology, Kurukshetra, Saharanpur Campus

Organized By:
 Government Medical College and Hospital,
 Saharanpur (Uttar Pradesh) India

All faculty, residents, MBBS students and staff are invited to attend and participate

स्टेम सेल थेरेपी से गंभीर बीमारियों का इलाज संभव

सरसावा। राजकीय मेडिकल कॉलेज में स्टेम सेल थेरेपी पर व्याख्यान आयोजित हुआ। प्रोफेसर एलिजा चक्रवर्ती ने कहा कि डिमेंशिया, ऑटिज्म, मल्टिपल स्क्लेरोसिस और सेरेब्रल पालसी बीमारियों का इलाज अब स्टेम सेल थेरेपी से संभव है।

मेडिकल कॉलेज व इंडियन इंस्टिट्यूट ऑफ टेक्नोलॉजी रुड़की सहारनपुर के तत्वाधान में स्टेम सेल थेरेपी पर कॉलेज के सभागार में व्याख्यान आयोजित हुआ। मेरठ इंस्टिट्यूट ऑफ इंजीनियरिंग एंड टेक्नोलॉजी की प्रोफेसर एलिजा चक्रवर्ती ने एमबीबीएस की पढ़ाई कर रहे छात्र-छात्राओं व कॉलेज की सीनियर फैकल्टी को संबोधित किया। स्टेम कोशिका या मूल कोशिका ऐसी



प्रोफेसर एलिजा चक्रवर्ती। कोशिकाएं होती हैं, जिनमें शरीर के किसी भी अंग को विकसित करने की क्षमता होती है। इसके साथ ही ये शरीर की दूसरी कोशिका के रूप में भी खुद को ढाल सकती हैं। कार्यक्रम की शुरुआत प्राचार्य डॉ अरविंद त्रिवेदी, प्रोफेसर एलिजा चक्रवर्ती व डॉ रakesh शर्मा ने दीप प्रज्वलित कर की। मौके पर डॉ मनोज सिंह, डॉक्टर संजीव दवे, डॉक्टर गगन गर्ग, डॉक्टर दिव्या रहे।



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CALL FOR ABSTRACT
MIET Biotechnology Society (MBS) invites abstracts on the topics under following themes for poster / oral presentations during technical sessions.

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THEMES

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GUIDELINES FOR ABSTRACT SUBMISSION
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IMPORTANT DATES

- ⇒ Last Date of Registration : 23rd February, 2020 (on spot registration is also available)
- ⇒ Last date for submission of abstract : 21st February, 2020
- ⇒ Date for intimation of acceptance of abstract (Oral / Poster): 21st February, 2020

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ADDRESS FOR CORRESPONDENCE

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INTERNATIONAL COLLABORATOR



- **Dr .Vicky Yamamoto** Department of Otolaryngology-Head and Neck Surgery ,Keck School of Medicine ,University of Southern California (USC),**Executive Director of Society for Brain mapping and Therapeutics, Los Angeles, CA 90033, USA.**
- Collaborator of **Prof. Eliza Chakraborty, HOD DST-Fist Center, MIET.**

Publication with US Collaborator



Editorial: Advancement in Cancer Stem Cell Biology and Precision Medicine

Nikhil Baban Ghate^{1*}, Vicky Yamamoto^{2,3,4,5*} and Eliza Chakraborty^{6*}

¹Department of Biochemistry and Molecular Medicine, Norris Comprehensive Cancer Center, University of Southern California, Los Angeles, CA, United States, ²Society for Brain Mapping and Therapeutics (SBMT), Los Angeles, CA, United States, ³Brain Mapping Foundation (BMF), Los Angeles, CA, United States, ⁴The USC Caruso Department of Otolaryngology-Head and Neck Surgery, USC Keck School of Medicine, Los Angeles, CA, United States, ⁵USC-Norris Comprehensive Cancer Center, Los Angeles, CA, United States, ⁶Department of Biotechnology, DST-FIST Center, Meerut Institute of Engineering and Technology, Meerut, India

Keywords: cancer stem cell, metastasis, head and neck cancer, tumor microenvironment, squamous cell carcinoma

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PROPOSED COLLABORATION WITH RUSSIA

- ◉ Title: Prostate Cancer Detection using Carbon Nanotube based Biosensor by exploiting urine based stage dependent Metabolomic Marker.
- ◉ Dr. Maxim from Department of Biomedicine and Nanotechnology at Southwest State University, Kursk, Russia.

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