

MIMER MEDICAL COLLEGE, TALEGAON (D)

6.5.5.1.

Other Relevant Information

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1. FIRST MBBS FOUNDATION COURSE

Time table of the Foundation Course 1st Year MBBS 2020-2021

Date	Time	Topic	Teacher
Mon 18/01/2021	10.00 am to 11.00 am	Introduction	Dr. Swati Belsare
	11.30 am to 12.45 pm	Principal's Address	
	2.00 pm to 4.00 pm	Introduction to Anatomy department Hospital Visit - OPD / wards visit	Dr. Swati Belsare Dr. Ashwini Bhele Mr Sandeep khalkar
Tue 19/01/2021	9.00 am to 11.00 am	Medical ethics, attitudes & professionalism	Dr. Derek D'souza
	11.00 am to 1.00 pm	Health care system & its delivery	Dr. S. V. Chincholikar
	2.00 pm to 4.00 pm	Introduction to Physiology & Alternate health systems in the country Visit to Herbal Garden, Hospital Visit and OT complex visit	Dr. Deepa Nair Dept. of Physiology
Wed 20/01/2021	9.00 am to 11.00 am	National health priorities & policies	Dr. Aastha Pandey
	11.00 am to 1.00 pm	Introduction to Biochemistry. Patient Safety, Biohazard Safety	Dr. S. A. Pratinidhi
	2.00 pm to 4.00 pm	History of medicine and UG lab, Blood bank, CCL visit	Dept. of Biochemistry
Thu 21/01/2021	9.00 am to 11.00 am	Universal precautions & vaccinations	Dr. Madura Ashturkar
	11.00 am to 1.00 pm	Principles of primary care (general & community based care)	Dr. S.J.Kulkarni
	2.00 pm to 4.00 pm	Extra curricula activity – Movie "Shwas"	Dept. of Anatomy

Date	Time	Topic	Teacher
Fri 22/01/2021	9.00 am to 11.00 am	Physician's role in the Society	Dr Sudam Khedkar
	11.00 am to 1.00 pm	Movie – Patch Adams	Dept of Anatomy
	2.00 pm to 4.00 pm	E. C.A –Debate/ speech "Why I want to become a Doctor"	Dept of Physiology
Mon 25/01/2021	9.00 am to 12.00 am	Yoga	Dr. Sonali Khake Dr. Rupali Baburdikar Dr.Vaishali Lunawat
	12.00 am to 1.00 pm	"Euthanasia" short film "Baluta" short film	Dept. of Anatomy
	2.00 pm to 4.00 pm	Language (Student Questionnaires)	Dept of Physiology
Tue 26/01/2021	9.00 am to 10.30 am	-----Flag hoisting ceremony ----- -----	
Wed 27/01/2021	9.00 am to 11.00 am	Interpersonal relationships	Derek Dsouza
	11.00 am to 1.00 pm	UGC film- Anti-ragging documentary	Dept of Anatomy
	2.00 pm to 4.00 pm	Community Visit – 1	Dept. of Community Medicine
Thu 28/01/2021	9.00 am to 11.00am	Communication Skills	Smita Watve
	11.00 am to 1.00 pm	Universal Precautions in Laboratory	Dr Sandhya Kulkarni
		Introduction to Computer	Dr Shashank Vedpathak
2.00 pm to 4.00 pm	Community Visit-2	Dept of Community Medicine	

Fri 29/01/2021	9.00 am to 11.00 am	Time management	Dr. Ashish Ubale
	11.00 am to 1.00 pm	Reflection writing	Dr Sushama Chavan
		Review of Movie Shwas, Euthenesia and Baluta Interactive session	Dr. Sonali Khake Dr. Sushama Chavan Dr Ashwini Bhele
2.00 pm to 4.00 pm	First Aid	Dr. Ajit Jadhav	
Sat 30/01/2021	----- Medical Health Check up -----		

*Pawan
Jor*

Dr.S.M.Belsare
Prof & Head
Dept of Anatomy
Prof. & Head
Dept. of Anatomy
MIMER Medical College
Talegaon Dabhade

MIMER MEDICAL COLLEGE, TALEGAON (D)

1ST MBBS BATCH 2019-2020

**Programme Schedule for Inaugural Principal's
Address**

1st MBBS (2019-20) Batch

VENUE: Lecture Hall No. 4, 3rd Floor, MIMER Medical College Building

DATE: 1st August 2019

TIME: 11.00am - Onwards

- | | |
|---------------------------------------------------------------|----------|
| 1. Arrival of Dignitaries on the Dias | 11.00 am |
| 2. Opening remarks | 11.01 am |
| 3. World Peace Prayer | 11.05 am |
| 4. Principal's Address | 11.10 am |
| 5. Speech by Student | 11.25 am |
| 6. Speech by Director-PG Programme | 11.35 am |
| 7. Film on biggest dome in the world,
Rajbaug campus, Loni | 11.45 pm |
| 8. Speech by Student | 12.05 pm |
| 9. Speech by Alumnus | 12.15 am |
| 10. Speech by Executive Director | 12.35 pm |
| 11. Vote of Thanks | 12.45 pm |
| 12. Pasaydan | 12.50 pm |
| 13. Tea | 12.55 pm |

Date: 29/08/2018

MIMER MEDICAL COLLEGE, TALEGAON (D)
1ST MBBS batch 2018-2019
Programme schedule for Principal's Address

Date: 1st Sept. 2018

Time: 11.00 am onward

Venue: Lecture Hall No. 4, 3rd Floor, MIMER Medical College Building

- 1) Welcome to new batch
 - 2) World Peace Prayer
 - 3) Principal's Address
 - 4) Speech by: -
 - Dr. Suchitra Nagare [Executive Director (P & D)]
 - Dr. Arun Jamkar [Director - PG programme]
 - Dr. Sonali Khake [Alumnus]
 - Students
 - 5) Pasayadan
- Followed by Tea

C. C. To:

1. Medical Director
2. Executive Director (P & D)
3. Executive Director (HA)
4. Director- PG programme R & D
5. Principal
6. Principal- College of Physiotherapy
7. Director NBCIC
8. All HOD's- Pre/ Para/ Clinical
9. Medical Superintendent
- 10 Dy. Registrar
11. Warden- Girls & Boys hostel



MIMER MEDICAL COLLEGE, TALEGAON (D)

Programme schedule for Indoctrination 1st MBBS (2018-2019) Batch

VENUE: Lecture hall No. 4, 3rd Floor, MIMER Medical College building

DATE: 1st September 2018

TIME: 11 am onwards

1. Arrival of Dignitaries on the Dais
 2. Opening remarks
 3. World Peace Prayer
 4. Principal's Address
 5. Speech by Student
 6. Speech by Director – PG programme
 7. Speech by Student
 8. Speech by Alumnus
 9. Speech by Executive Director
 10. Vote of Thanks
 11. Pasaydan
- Tea

MIMER MEDICAL COLLEGE, TALEGAON (D)

1ST MBBS ACADEMIC YEAR 2018 – 2019

TERM AND EXAMINATION SCHEDULE

TERM	FROM	TO
FIRST TERM	1 st August 2018	31 st December 2018
WINTER BREAK	28 th October 2018	11 ^h November 2018
SECOND TERM	1 st January 2019	5 th May 2019
EXAMINATIONS		
TERMINAL	3 rd week of Dec. 2018	Tentative dates
PRELIMINARY	2 nd week of April 2019	

- **ANNUAL SOCIAL GATHERING (Tentative days)
4 (four) days only in second or third week of February 2019**
- **TENTATIVE DATES OF UNIVERSITY EXAMINATION FIRST WEEK OF
JUNE 2019**

**Prof. & Head
Dept. of Physiology**

**Prof. & Head
Dept. of Anatomy**

**Prof. & Head
Dept. of Biochemistry**

**Principal
MIMER Medical College**

GENERAL INSTRUCTIONS 2018-2019

1. Satisfactory attendance and performance is crucial for the student to be eligible to appear for university examination.

Mandatory requirement for the attendance is as follows

Theory classes ---- 75 % attendance

Practicals ---- 80 % attendance

2. Attendance and performance status of the ward will be notified to the parents

AFTER THE TERMINAL EXAMINATION

(Approx second week of January 2019)

Response and counselling thereafter from the parents is highly appreciated

3. Scoring Maximum marks in INTERNAL EXAMINATIONS is always beneficial to reduce the pressure during University Examinations.
4. Students should NOT leave the college premises after preliminary examination without signing the FINAL INTERNAL ASSESSMENT MARKSHEETS.
Tentative date: 1st week of May 2019

**Prof. & Head
Dept. of Physiology**

**Prof. & Head
Dept. of Anatomy**

**Prof. & Head
Dept. of Biochemistry**

**Principal
MIMER Medical College**



MIMER MEDICAL COLLEGE, TALEGAON (D)
1ST MBBS BATCH 2017-2018

VENUE: Anatomy Lecture Hall No. 1- Gr.Floor,
MIMER Medical College building.

DATE: 4th August 2017.

TIME: 11 A.M.

ORIENTATION PROGRAMME
I - M. B. B. S.

1) 11A.M. To 12 Noon

Introduction by-

HODs - Anatomy
Physiology
Biochemistry
Community medicine

2) 12 Noon To 1 P.M.

Introduction to individual departments

Regular teaching schedule will start on

5th August 2017



MIMER MEDICAL COLLEGE, TALEGAON (D)
1ST MBBS BATCH 2016-2017

Programme Schedule for Principal Address

VENUE: Lecture Hall no.4 – 3rd Floor,

MIMER Medical College building.

DATE: 6th October 2016.

TIME: 11 a.m. onwards

11 am to 12 pm :

- ❖ Welcome to new batch.
- ❖ World Peace Prayer.
- ❖ Principal's Address.
- ❖ Director / ED Speech.
- ❖ Director PG Students.
- ❖ Preclinical HOD's –
 - HOD Biochemistry: General Instructions.
 - HOD Physiology: Attendance
 - HOD Anatomy: Internal Assessment.
 - HOD Community Medicine: Communication skills & medical ethics
- ❖ Students Speech
- ❖ Police inspector speech.
- ❖ Announcement regarding orientation batches.
- ❖ Pasaydan

12.00 pm to 12.30 pm : Tea Break

12.30 to 2.00 pm : Orientation to Preclinical Departments & Hospital in batches.

Batches for orientation shall be as follows:

- A : 01 – 40
- B : 41 – 80
- C : 81 – 120
- D : 120 onwards



MAEER MIT PUNE'S
MAHARASHTRA INSTITUTE OF MEDICAL EDUCATION AND RESEARCH,
(MEDICAL COLLEGE)

DR. BHAUSAHEB SARDESAI TALEGAON RURAL HOSPITAL

Accredited by NAAC with 'A' Grade

P.O.Talegaon General Hospital, Talegaon Dabhade, Pune – 410 507, Maharashtra, India.

■ Tel. (02114) 308300, 808799040/41/42/43 ■ Fax : 02114- 223916

■ Website : www.mitmimer.com ■ Email :-info@mitmimer.com

MIMER MEDICAL COLLEGE – TALEGAON DABHADE

Activities of National Bioethics Curriculum Implementation Centre-2017

1. The National Bioethics Curriculum Implementation Centre (NBCIC) was inaugurated on 4th Oct 2017 at MIMER Medical College, Talegaon Pune. Dr Russell DSouza, Head Asia Pacific Division, UNESCO Chair in Bioethics Haifa, Melbourne Australia handed over the writ of establishment on behalf of Prof Amnon Carmi, Chair UNESCO Chair in Bioethics Haifa to Dr Suchitra Nagare, Executive Director to mark this momentous occasion. The solemn function was presided over by Dr V D Karad, Founder and Director General, MAEER's MIT Pune. Dr S Geethalakshmi, Honourable Vice Chancellor TN Government Dr MGR Medical University also graced the occasion. Dr ArunJamkar was bestowed with the writ of appointment as the Chair and Dr Derek D'Souza as Director of the NBCIC.
2. Dr Suchitra Nagare, Executive Director was invited as Guest of Honour at the Inauguration of the Bioethics Unit of Maharaja Agrasen Hospital at Punjabi Bagh Delhi on 18th Nov 2017. This is the first hospital based Bioethics unit in the country and it was a matter of great pride for MIMER Medical College to be associated with this programme.
3. Dr Derek DSouza, Director NBCIC was invited as guest faculty at the 1st National Training Faculty Quality Assurance Camp under the UNESCO Bioethics India Programme held at Hotel Ocean Pearl, Mangalore on 20th November 2017. He presented two papers at the campon 'Learning from teaching – The 3T IBHScExperience' and 'Use of Standardised patients in Bioethics Education' which were well appreciated.
4. The 1st National Bioethics Conference was held at the historic Fr Muller's Medical College and Hospital on 21st and 22nd Nov 2017. Dr Suchitra Nagare, our Executive Director was the Chief Guest at this grand event and spoke of the need for implementation of Bioethics into all spheres of the medical education system. She quoted from Swami Vivekananda and the Rig Veda to emphasize the need to revamp the teaching and practice of health sciences in India. Dr Derek DSouza also attended

the conference as invited guest speaker and presented a paper on 'Ethics of Artificial Intelligence'.

MIMER MEDICAL COLLEGE TALEGAON DABHADE

INAUGURATION OF THE NATIONAL BIOETHICS

CURRICULUM IMPLEMENTATION CENTRE OF UNESCO CHAIR IN BIOETHICS

4TH OCTOBER 2017

The National Bioethics Curriculum Implementation Centre under the Indian programme of the UNESCO Bioethics Chair (Haifa) was inaugurated at a glittering function presided over by the revered Founder and Director General of the MAEER's Group of Institutions, Dr Vishwananth Karad held at MIMER Medical College on 4th Oct 2017.

The Indian programme of the UNESCO Chair in Bioethics has played a pioneering role in the establishment of the Bioethics curriculum into the health sciences syllabus. Under the leadership of Dr Amnon Carmi, Chair UNESCO Bioethics (Haifa), and Dr Russell DSouza, faculty training courses have been organised all across India to setup a network of Bioethics units with trained faculty to carry this programme forward.

The rapid spread of the network in India had necessitated the need to establish a National Bioethics Curriculum Implementation Centre. The vision and foresight of Dr Vishwananth Karad and the whole-hearted support of Executive Director, Dr Suchitra Nagare had resulted in MIMER Medical College, Talegaon, Pune being bestowed upon the unique honour to host such a centre. Dr Arun Jamkar has been installed as the Head and Dr Derek DSouza as the Director of this prestigious centre. This centre is the first of its kind in the entire Asia Pacific region under the UNESCO Chair in Haifa. The centre will be the National Co-ordination Centre for planning and implementation of the integrated Bioethics programme for the entire country.

Dr Russell DSouza, Head Asia Pacific Region UNESCO Bioethics Programme handed over the writs of establishment on the 4th October at a special function organised at MIMER Medical College. He said that he was confident that the faculty and students of the college would live up to the responsibility bestowed upon them. Speaking on the occasion, Dr S Geethalakshmi, Vice Chancellor Tamil Nadu MGR Medical University congratulated Executive Director and all faculty of MIMER Medical College and said that she was looking forward to working closely with the faculty in taking this programme further. Dr V. D. Karad, in his Presidential address expressed his satisfaction at the establishment of such a centre at MIMER Medical College. He emphasised that this special occasion should inspire all faculty and students to abide by the teachings of Swami Vivekananda and Saint Shri Dnyaneshwara that the "Union of science and Religion/Spirituality alone will bring harmony and peace to the humanity" and also of the guiding principle of "Vasudhaiva Kutumbakam – that the World is One Family"

A separate Bioethics unit has also been established at MAEER's College of Physiotherapy and the Writ of establishment was handed over at the same function. This is the first time that an independent Bioethics unit has been set-up in a college of physiotherapy in India. Separate Writs of establishment of the Student Wings at both MIMER Medical College and MAEER's Physiotherapy college were also presented to the students.

**PROGRAMME FOR INAUGURATION OF NBCIC
04 OCT 2017**

No	Time	Programme
1.	11:00 – 11:20	Address by Dr OP Kalra
2.	11:20 – 11:40	Address by Dr S Geetalakshmi
3.	11:40 – 11:55	Interaction with students
		INAUGURATION
4.	12:00 – 12:02	Arrival of Guests on the dais
5.	12:02 – 12:05	Introductory remarks by DrVaishaliKorde
6.	12:05 – 12:10	World Peace Prayer
7.	12:10 – 12:15	Welcome Address by Dr Suchitra Nagare
8.	12:15 – 12:25	Address by DrArunJamkar
9.	12:25 – 12:35	Address by Chief Guest Dr Russell DSouza
10.	12:35 – 12:38	Presentation of Writ of Establishment of NBCIC Writ of Establishment presented to Dr Suchitra Nagare Writ of Chair, NBCIC to DrArunJamkar Writ of Director, NBCIC to Dr Derek DSouza
11.	12:38 – 12:40	Presentation of Writ of Establishment of Bioethics Unit MAEER's Physiotherapy College Writ of establishment of Bioethics Unit to Principal Writ of Steering Committee Head Writ of Head of Students Wing
12.	12:40 – 12:55	Presidential Address by DrVishwanath D. Karad
13.	12:55 – 13:00	Vote of Thanks by Dr Derek DSouza
14.	13:00 onwards	Lunch

The National Bioethics Curriculum Implementation Centre (NBCIC) was inaugurated on 4th Oct 2017 at MIMER Medical College, Talegaon Pune







Dr Suchitra Nagare, Executive Director MIMER Medical College was invited as Guest of Honour at the Inauguration of the Bioethics Unit of Maharaja Agrasen Hospital at Punjabi Bagh Delhi on 18th Nov 2017



1st National Bioethics Conference
Father Muller's Medical College and Hospital, Mangalore.
21st and 22nd Nov 2017
Dr Suchitra Nagare,
Executive Director MIMER Medical College was invited as Chief Guest



הקתדרה לביו־אתיקה של אונסקו
UNESCO Chair in Bioethics

המרכז הבינלאומי לבריאות, משפט ומתיקה, הפקולטה למשפטים, אוניברסיטת חיפה
The International Center for Health, Law and Ethics, University of Haifa

4th October 2017

*Dr. Suchitra Nagare,
Executive Director
MIMER Medical College
Talegaon Dabhade*

On establishing that the requirements of the 'UNESCO Chair in Bioethics (Haifa) have been met, I hereby on the Fourth Day of October in the year Two Thousand and Seventeen, issue this writ confirming and approving the establishment of the

National Bioethics Curriculum Implementation Centre

of the Indian Program of the UNESCO Chair and of the International Bioethics Network of the UNESCO Chair in Bioethics at:

***MIMER Medical College
Talegaon Dabhade***

Amnon Carmi

**Professor Amnon Carmi,
Head, & Chair Holder
UNESCO Chair in Bioethics (Haifa)**



הקתדרה לביו-אתיקה של אונסקו
UNESCO Chair in Bioethics

המרכז הבינלאומי לבריאות, משפט ואתיקה, הפקולטה למשפטים, אוניברסיטת חיפה
The International Center for Health, Law and Ethics, University of Haifa

The UNESCO Chair in Bioethics Haifa

Certifies that

Dr Arun Jamkar

Has been appointed

Chair

National Bioethics Curriculum Implementation Centre

MIMER Medical College

Talegaon Dabhade

*to fulfil the objectives of stimulating Teaching, Training and
Research in Bioethics in Medical and Health Science Education*

Prof. Amnon Carmi,
Head, UNESCO Chair in Bioethics
University of Haifa

Prof Russell D'Souza MD
Head Asia Pacific Division
UNESCO Chair in Bioethics

4th October 2017

The UNESCO Chair in Bioethics Haifa

Certifies that

Col (Dr) Derek SJ DSouza

Has been appointed

Director

National Bioethics Curriculum Implementation Centre


MIMER Medical College

Talegaon Dabhade

*to fulfil the objectives of stimulating Teaching, Training and
Research in Bioethics in Medical and Health Science Education.*



Prof. Amnon Carmi,
Head, UNESCO Chair in Bioethics
University of Haifa



Prof Russell D'Souza MD
Head Asia Pacific Division
UNESCO Chair in Bioethics

4th October 2017



הקתדרה לביו-אתיקה של אונסקו
UNESCO Chair in Bioethics

מרכז הבינלאומי לבריאות, משפט ואתיקה, הפקולטה למשפטים, אוניברסיטת חיפה
The International Center for Health, Law and Ethics, University of Haifa

The UNESCO Chair in Bioethics Haifa

Certifies that

The Student Wing of

MIMER Medical College

of the UNESCO Chair in Bioethics is established

In proclamation of the establishment of the

Bioethics Unit at MIMER Medical College

on the 4th October 2017

to fulfil the objectives of stimulating Teaching,

Training and Research in Bioethics

in Medical & Health Science Education.

Prof. Amnon Carmi,
Head, UNESCO Chair in Bioethics
University of Haifa

Prof Russell D'Souza MD
Head Asia Pacific Division
UNESCO Chair in Bioethics

MIMER MEDICAL COLLEGE, TALEGAON DABHADE**DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION Winter 2020**

II MBBS :

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	REMARKS
I	OVERALL	NUPUR MUKESH CHATURVEDI	433	DISTINCTION
II	RANK	PURVA SANJAY KUKDE	431	DISTINCTION
--		PATIL MAHI ANAND	429	DISTINCTION
		NISHANT JAYAWANT	421	DISTINCTION
		SHINGTE SUPRAJ CHANDRAKANT	420	DISTINCTION
		DADIA DHVANI MANOJ	419	DISTINCTION
		GUPTA AMIT CHANDRAKANT	418	DISTINCTION
		KANANI DARSHAN DAMJIBHAI	418	DISTINCTION
		PUROHIT JANHAVI VIVEK	416	DISTINCTION
		PATEL SHUBHAM RAJKISHOR	415	DISTINCTION
		BHALGAT SIDDHI SANTOSH	414	DISTINCTION
DISTINCTIONS - 11				
RANK	SUBJECT	NAME OF THE STUDENT	MARKS	REMARKS
I	PHARMA	PATIL MAHI ANAND	123	DISTINCTION
II	COLOGY	SAVLA HAIT JAYANTILAL	121	DISTINCTION
--		SUDNYA VINOD MALODE	120	DISTINCTION
		NUPUR MUKESH CHATURVEDI	119	DISTINCTION
		NISHANT JAYAWANT	118	DISTINCTION
		GUPTA AMIT CHANDRAKANT	118	DISTINCTION
		KANANI DARSHAN DAMJIBHAI	118	DISTINCTION
		PATEL SHUBHAM RAJKISHOR	118	DISTINCTION
		SAVLA BHAKTI NILESH	118	DISTINCTION
		KOTHARI CHAKSHU DILIP	118	DISTINCTION
		THAKKAR SHIVAM SHAILESH	118	DISTINCTION
		PURVA SANJAY KUKDE	117	DISTINCTION
		SHINGTE SUPRAJ CHANDRAKANT	117	DISTINCTION
		BHALGAT SIDDHI SANTOSH	117	DISTINCTION
		MANCHKAR SHRUTI SHASHIKANT	117	DISTINCTION
		MANE MANASI RAMAKANT	117	DISTINCTION
		SANGAMNERKAR SAYEE MUKUND	117	DISTINCTION
		SINGH SAACHI UDAI	117	DISTINCTION
		DUGAD VINIT MILIND	117	DISTINCTION
		DADIA DHVANI MANOJ	116	DISTINCTION
		PAWAR YADNI PRATAP	116	DISTINCTION
		DESHMANE RITUJA RAJESH	116	DISTINCTION
		PINATE ABHILASHA DNYANOBA	116	DISTINCTION
		PARAM KADAM	116	DISTINCTION
	RAO JAYRAJ AMITKUMAR	116	DISTINCTION	

	PUROHIT JANHAVI VIVEK	115	DISTINCTION
	KAWADE RIDDHI MAHESH	114	DISTINCTION
	PEMARE VARSHA SUDAM	115	DISTINCTION
	MAJITHIA YASH KAMLESH	113	DISTINCTION
	GOVALKAR SHREYA MANGESH	113	DISTINCTION
	SHETH VIDHI DEEPAK	113	DISTINCTION
	GHOSH RIYA DEEPAK	113	DISTINCTION
	ANKIT PAL	115	DISTINCTION
	GHORPADE ARYA SACHIN	115	DISTINCTION

DISTINCTIONS - 34

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	REMARKS
I	PATHOLOG	NUPUR MUKESH CHATURVEDI	117	DISTINCTION
		PATIL MAHI ANAND	117	DISTINCTION
II		PURVA SANJAY KUKDE	114	DISTINCTION
		SHINGTE SUPRAJ CHANDRAKANT	114	DISTINCTION
		MANE MANASI RAMAKANT	114	DISTINCTION
		TILOKCHANDANI MOHAK ANIL	114	DISTINCTION

DISTINCTIONS - 06

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	REMARKS
I	MICROBIOLOGY	PURVA SANJAY KUKDE	128	DISTINCTION
II		PATEL SHUBHAM RAJKISHOR	122	DISTINCTION

--		PAWAR YADNI PRATAP	121	DISTINCTION
		NUPUR MUKESH CHATURVEDI	120	DISTINCTION
		DADIA DHVANI MANOJ	119	DISTINCTION
		PATIL MAHI ANAND	118	DISTINCTION
		DESHMANE RITUJA RAJESH	118	DISTINCTION
		SUDNYA VINOD MALODE	117	DISTINCTION
		KHEBUDKAR SIDDHI RAVINDRA	117	DISTINCTION
		KANANI DARSHAN DAMJIBHAI	116	DISTINCTION
		BHALGAT SIDDHI SANTOSH	115	DISTINCTION
		SANGAMNERKAR SAYEE MUKUND	115	DISTINCTION
		PARAM KADAM	115	DISTINCTION
		MANCHKAR SHRUTI SHASHIKANT	114	DISTINCTION
		NARAYAN CHAUBEY	114	DISTINCTION
		SHINGTE SUPRAJ CHANDRAKANT	113	DISTINCTION
		GUPTA AMIT CHANDRAKANT	113	DISTINCTION
		SAVLA BHAKTI NILESH	113	DISTINCTION
KAWADE RIDDHI MAHESH	113	DISTINCTION		

DISTINCTIONS - 19

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	REMARKS
I	FMT	PUROHIT JANHAVI VIVEK	81	DISTINCTION
II		NISHANT JAYAWANT	80	DISTINCTION

--		KANASE PARINEETA BHARAT	78	DISTINCTION
		NUPUR MUKESH CHATURVEDI	77	DISTINCTION
		SANE DEVANSHI HEMANT	77	DISTINCTION
		KHEBUDKAR SIDDHI RAVINDRA	77	DISTINCTION
		SHINGTE SUPRAJ CHANDRAKANT	76	DISTINCTION
		DADIA DHVANI MANOJ	76	DISTINCTION
		KANANI DARSHAN DAMJIBHAI	76	DISTINCTION
		GANATRA SHEFALI DEEPAK	76	DISTINCTION
		GUPTA AMIT CHANDRAKANT	75	DISTINCTION
		BHALGAT SIDDHI SANTOSH	75	DISTINCTION
		SAVLA BHAKTI NILESH	75	DISTINCTION
		PEMARE VARSHA SUDAM	75	DISTINCTION
		BHUJBAL CHAITANYA RANGNATH	75	DISTINCTION
		INAMDAR GARGI ANAND	75	DISTINCTION
		SHAIKH NAZISH FATIMA NASER	75	DISTINCTION
SAHOO MADHUMITA DEBASIS	75	DISTINCTION		
VAIDYA SANEKA RAJESH	75	DISTINCTION		

DISTINCTIONS - 19

III MBBS (P-I)

COLLEGE	RANK	NAME OF THE STUDENT	MARKS	
OVERALL RANK	I	BARMARE ARSHIYA SUHEL	315	Distinction
	II	SINGH SAHITYA SANJEEV	309	Distinction
	----	PUJARI SWARADA SACHIN	307	Distinction
	----	JAIN HARDIK MAHENDRA	306	Distinction
	----	MEMON AFZAL SHAKEEL	303	Distinction
	----	JAIN KALPITA VIJAY	301	Distinction
	----	PATEL ARIANA TRIYUG	300	Distinction

Distinction - 07

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Comm. Med.	I	PUJARI SWARADA SACHIN	158	Distinction
	II	SINGH SAHITYA SANJEEV	154	Distinction
	----	MEMON AFZAL SHAKEEL	151	Distinction

Distinction - 03

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Ophthal	I	BARMARE ARSHIYA SUHEL	86	Distinction
	II	JHA MUSKAN AMARNATH	82	Distinction
	----	MEMON AFZAL SHAKEEL	81	Distinction
	----	JAIN HARDIK MAHENDRA	80	Distinction
	----	BHOR MRINAL SUNIL	79	Distinction
	----	GALA ABHISHEK NILESH	79	Distinction
	----	MANE ANJALI MACHINDRA	79	Distinction
	----	PATEL ARIANA TRIYUG	79	Distinction
	----	SINGH SAHITYA SANJEEV	79	Distinction
	----	SUKANYA SATARDEKAR	79	Distinction
	----	WANJARI SUBODH KAILASH	79	Distinction
	----	AMRUTKAR RUTUJA SUNIL	78	Distinction
	----	MERLIN SARA MATHEW	78	Distinction
	----	NAGARE ANJALI SUBHASH	78	Distinction
	----	PATEL JAINIL DEEPAKKUMAR	78	Distinction
	----	PATIL PRIYA ULHAS	78	Distinction
	----	VEDANT KINJAL JITEN	78	Distinction
	----	JAIN KALPITA VIJAY	77	Distinction
	----	NADRE JANHVI SURESH	77	Distinction
	----	PAWANARKAR ANOMA JAYANT	77	Distinction
	----	ANJAN RUTURAJ DNYANOBA	76	Distinction
	----	GOSAVI PRATHMESH SUNIL	76	Distinction
	----	KULKARNI SHAMAL MAHESH	76	Distinction
	----	PUJARI SWARADA SACHIN	76	Distinction
	----	SUDITI WASNIK	76	Distinction
	----	SURYAWANSHI INDRAJEET GOVINDRA	76	Distinction
	----	AGARWAL AKANSHA MANISH	75	Distinction
	----	AKSHITA G SAXENA	75	Distinction
	----	AMBAWALE TEJASHREE DHANANJAY	75	Distinction
	----	BHOSALE ABHISHEK NANDKUMAR	75	Distinction
	----	PATIL SURBHI PRAVIN	75	Distinction
	----	SHEVGAN RAKHI RAMESH	75	Distinction
	----	THANEKAR DAKSHATA SANJAY	75	Distinction
	----	V RENU PRAKASH	75	Distinction
Distinction - 34				

contd...

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
ENT	I	BARMARE ARSHIYA SUHEL	82	Distinction
	II	JAIN HARDIK MAHENDRA	81	Distinction
	--	AGARWAL AKANSHA MANISH	77	Distinction
	--	AKSHITA G SAXENA	77	Distinction
	--	PATEL ARIANA TRIYUG	77	Distinction

--	SINGH SAHITYA SANJEEV	76	Distinction
--	JAIN KALPITA VIJAY	75	Distinction
Distinction - 07			

FINAL MBBS :

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Medicine	I	CHANDURKAR AJINKYA DHANANJAY	229	Distinction
Distinction - 01				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Obst & Gynec	I	NAIK QAIS SHABBIR	158	Distinction
	II	NAIR ANOUSHKA PADMANABHAN	156	Distinction
	--	CHANDURKAR AJINKYA DHANANJAY	155	Distinction
	--	GALA KOSHA ANISH	154	Distinction
	--	NALAWADE SHWETA SURESH	154	Distinction
	--	PRASAD DIVYA JAYNANDAN	153	Distinction
	--	SATHE SNEHA SANTOSH	152	Distinction
	--	SHITOLE ADITYA AMAR	151	Distinction
Distinction - 08				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Paed- iatrics	I	SHITOLE ADITYA AMAR	84	Distinction
	II	CHANDURKAR AJINKYA DHANANJAY	79	Distinction
	--	NALAWADE SHWETA SURESH	78	Distinction
	--	URBHI JHA	77	Distinction
	--	KANKARIYA BHAVESH MAHENDRA	76	Distinction
	--	NAIR ANOUSHKA PADMANABHAN	76	Distinction
	--	PRASAD DIVYA JAYNANDAN	76	Distinction
	--	RANAWADE MANJIRI MANGESH	76	Distinction
	--	C.MARIA	75	Distinction
	--	JAIN FENIL MUKESH	75	Distinction
	--	KORE YUGALI VIVEK	75	Distinction
	--	SURVE KSHITIJA SHASHIKANT	75	Distinction
Distinction - 12				

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PHYSIOLO	GUPTA VIDHI RAKESH	233	Distinction
II		DUBE PRATIMESH RAMESH	232	Distinction

--		SAWANT EISHA JITENDRA	230	Distinction
--		WAHEGAONKAR APARNA CHANDRASHEKHA	230	Distinction
--		LANJEWAR SOUMYA UJJWAL	230	Distinction
--		SHENOY SHONALI SATYENDRA	227	Distinction
--	GY	KHEMLANI DARSHIT SURESH	226	Distinction
07 Students Passed in Distinction				

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	BIOCHEMI STRY	SAKSHI JAIRAM	241	Distinction
		WAHEGAONKAR APARNA	241	Distinction
II		LANJEWAR SOUMYA UJJWAL	238	Distinction
--		SAWANT EISHA JITENDRA	238	Distinction
--		NAMRATA AGARWAL	237	Distinction
--		SREYA SUBRAMANYAM	233	Distinction
--		GHAISAS AMEYA SHRINIVAS	229	Distinction
--		WALKE SAKSHI ANIL	227	Distinction
08 Students passed in Distinction				

MIMER MEDICAL COLLEGE, TALEGAON DABHADE

DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION Winter 2019

II MBBS

COLLEGE	RANK	NAME OF THE STUDENT	MARKS	
OVERALL	I	BARMARE ARSHIYA SUHEL	425	Distinction
		SINGH SAHITYA SANJEEV	425	Distinction
RANK	II	PUJARI SWARADA SACHIN	413	Distinction
Distinction - 03				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
PHARMAC	I	SINGH SAHITYA SANJEEV	124	Distinction
	II	BARMARE ARSHIYA SUHEL	122	Distinction
	--	SHAIKH SAHIBA SHAHED	119	Distinction
	--	JAIN HARDIK MAHENDRA	118	Distinction
	--	JAIN KALPITA VIJAY	117	Distinction
	--	AGARWAL AKANSHA MANISH	116	Distinction
	--	WANJARI SUBODH KAILASH	115	Distinction
	--	PATEL ARIANA TRIYUG	114	Distinction
	--	DHAKANE ANIKET BABASAHEB	113	Distinction
Distinction - 09				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
PATHOLOGY	I	PUJARI SWARADA SACHIN	113	Distinction
		SHAIKH SAHIBA SHAHED	113	Distinction
Distinction - 02				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
MICRO-BIOLOGY	I	PUJARI SWARADA SACHIN	121	Distinction
	II	SINGH SAHITYA SANJEEV	119	Distinction
		MENON AFZAL SHAKEEL	119	Distinction
	--	BARMARE ARSHIYA SUHEL	116	Distinction
	--	BANGAR SACHIN SUBHASH	114	Distinction
	--	PATEL ARIANA TRIYUG	113	Distinction
Distinction - 06				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
F.M.T.	I	BARMARE ARSHIYA SUHEL	75	Distinction
Distinction - 01				

III MBBS (P-I)

COLLEGE	RANK	NAME OF THE STUDENT	MARKS	
	I	C.MARIA	307	Distinction
OVERALL	II	CHANDURKAR AJINKYA DHANANJAY	305	Distinction
	--	BHURAN ADVAIT RAJENDRA	301	Distinction
Distinction - 03				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
	I	C.MARIA	165	Distinction
Comm.	II	BHURAN ADVAIT RAJENDRA	155	Distinction
Med				
	--	KANKARIYA BHAVESH MAHENDRA	153	Distinction
Distinction - 03				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Ophthal	I	CHANDURKAR AJINKYA DHANANJAY	80	Distinction
	II	NAIR ANOUSHKA PADMANABHAN	76	Distinction
	--	KASHYAP GAUTAMI PARAG	75	Distinction
	--	MALI UTTKARSHA SANJAY	75	Distinction
Distinction - 04				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
ENT	I	CHANDURKAR AJINKYA DHANANJAY	81	Distinction
		PRASAD DIVYA JAYNANDAN	81	Distinction
	II	ARSHIYA HAROON SHAMASHAPURE	77	Distinction
		BHURAN ADVAIT RAJENDRA	77	Distinction
	--	DESHPANDE SAKSHI SACHIN	76	Distinction
	--	KORE YUGALI VIVEK	76	Distinction
	--	GANGURDE HARSHALI SANJAY	75	Distinction
	--	KANKARIYA BHAVESH MAHENDRA	75	Distinction
	--	RHEA SUNIL	75	Distinction
	--	SHITOLE ADITYA AMAR	75	Distinction
Distinction - 10				

Final MBBS :

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Obst & Gynec	I	DESHMUKH ASMITA AJAY	168	Distinction
	II	CHINCHOLIKAR SANJANA SANJEEV	164	Distinction
	--	KAZI ANAM ZAFAR	163	Distinction
	--	CHIKHALIKAR PRACHI SATISHRAO	158	Distinction
	--	JOSHI SAKSHI ASHOK	157	Distinction
	--	BANDGAR YOGESHWARI APPASO	156	Distinction
	--	MERLYN MARY VARGHESE	155	Distinction
	--	NAIK BHAGYESHA JAYENDRA	153	Distinction
	--	TANYA SINGH	153	Distinction
	--	SAVLA KHUSHBOO SAMIR	152	Distinction
	--	SHIDHAYE NIKHIL PRASAD	152	Distinction
	--	GADA KRUPA GULAB	151	Distinction
	--	KATKAR SHWETA DATTATRAYA	151	Distinction
	--	NISHITA SUNIL MANJREKAR	150	Distinction
Distinction - 14				

SUBJECT	RANK	NAME OF THE STUDENT	MARKS	
Paed-iatrics	I	DESHMUKH ASMITA AJAY	77	Distinction
		SHAIKH TARANNUM NIAZAHMED	77	Distinction
	II	SHIDHAYE NIKHIL PRASAD	76	Distinction

--	BANDGAR YOGESHWARI APPASO	75	Distinction
--	KATKAR SHWETA DATTATRAYA	75	Distinction
Distinction - 05			

****Ms.Deshmukh Asmita Ajay has been awarded from MUHS by "Dr.Kamaltai Deshmukh Gold Medal" award for securing highest marks (Womens category) in Third MBBS (Part-II) MUHS examination Winter-2019 , Subject- Obstetrics and Gynaecology Marks 168/200**

MIMER MEDICAL COLLEGE, TALEGAON DABHADE
DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION SUMMER 2019

RANK	COLLEGE	OF THE STUDENT	MARKS	
I	OVERALL RANK	BHUJBAL C	487	Distinction
II		PATIL MA	463	Distinction
05 Students Passed in Distinction				
--		GURAV YAS	456	Distinction
--		SUDNYA VI	454	Distinction
--		BHALGAT S	451	Distinction

RANK	SUBJECT	OF THE STUDENT	MARKS	
I	ANATOMY	BHUJBAL C	163	Distinction
II		PATIL MA	153	Distinction
II		SUDNYA V	153	Distinction
08 Students Passed in Distinction				
--		BICHKAR M	152	Distinction
--		DADIA DH	152	Distinction
--		NUPUR M	152	Distinction
--		PIMPALE D	152	Distinction
--		MAJITHIA	151	Distinction

RANK	SUBJECT	OF THE STUDENT	MARKS	
I	PHYSIOLOGY	PATIL MA	160	Distinction
II		BHUJBAL C	158	Distinction
05 Students Passed in Distinction				
--		GURAV YA	153	Distinction
--		SUDNYA V	152	Distinction
--		SHAIKH N	150	Distinction

05 Students Passed in Distinction

RANK	SUBJECT	OF THE STUDENT	MARKS	
I	BIOCHEMISTRY	BHUJBAL C	166	Distinction
II		MAJITHIA	160	Distinction
--		BHALGAT	158	Distinction
--		NUPUR M	158	Distinction
--		SHINGTE S	158	Distinction
--		PARMAR K	157	Distinction
--		DESHMAN	156	Distinction
--		PURVA SA	156	Distinction
--		GURAV YA	155	Distinction
--		SHAIKH AL	155	Distinction
--		DADIA DH	154	Distinction
--		NARAYAN	154	Distinction
--		PIMPALE D	153	Distinction
--		KOTHARI C	150	Distinction
--		PATIL MA	150	Distinction
15 Students passed in Distinction				

MIMER MEDICAL COLLEGE, TALEGAON DABHADE
DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION Winter 2018

II MBBS :

Overall : (04 -Distinctions)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL RANK	CHANDURKAR AJINKYA DHANANJAY	432	Distinction
II		C.MARIA	428	Distinction
--		ARSHIYA HAROON SHAMASHAPURE	423	Distinction
--		KASHYAP GAUTAMI PARAG	415	Distinction

Pharmac : (09-distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PHARMA.	CHANDURKAR AJINKYA DHANANJAY	121	Distinction
		C.MARIA	121	Distinction
II		NAIR ANOUSHKA PADMANABHAN	118	Distinction
--		DOSHI DHARMIN NILESH	117	Distinction

--		CHAVAN ONKAR MADHUKAR	115	Distinction
--		ARSHIYA HAROON SHAMASHAPURE	114	Distinction
--		KASHYAP GAUTAMI PARAG	114	Distinction
--		GADE AISHWARYA VIJAY	114	Distinction
--		KORE YUGALI VIVEK	113	Distinction

Pathology : (07 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PATHOLOGY	RANAWADE MANJIRI MANGESH	118	Distinction
II		ARSHIYA HAROON SHAMASHAPURE	117	Distinction
--		CHANDURKAR AJINKYA DHANANJAY	116	Distinction
--		KASHYAP GAUTAMI PARAG	115	Distinction
--		PATIL JAYRAJ DEVIDAS	114	Distinction
--		C.MARIA	113	Distinction
--		GADE AISHWARYA VIJAY	113	Distinction

Micro : (11 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	CROBIOLOGY	KORE YUGALI VIVEK	123	Distinction
II		CHANDURKAR AJINKYA DHANANJAY	121	Distinction
--		ARSHIYA HAROON SHAMASHAPURE	119	Distinction
--		INGOLE AISHWARYA SANJAY	119	Distinction
--		PRASAD DIVYA JAYNANDAN	119	Distinction
--		NALAWADE SHWETA SURESH	116	Distinction
--		C.MARIA	115	Distinction
--		KATTA MADHAVI RAMESH	115	Distinction
--		JETHWA PRACHI DAYANAND	114	Distinction
--		BHANGDIA SHIVAM RAJESH	113	Distinction
--		GITE SHREYA BHAGWAN	113	Distinction

(02 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	F.M.T.	C.MARIA	79	Distinction
II		KASHYAP GAUTAMI PARAG	77	Distinction

MIMER MEDICAL COLLEGE, TALEGAON DABHADE
DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION SUMMER 2018

OVERALL : (01 Distinctions)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL	BARMARE ARSHIYA SUHEL	473	Distinction
II	RANK	PUJARI SWARADA SACHIN	446	

Anatomy : (01-Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	Anatomy	BARMARE ARSHIYA SUHEL	158	Distinction

Physiology : (02 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	Physiology	BARMARE ARSHIYA SUHEL	154	Distinction
II		PUJARI SWARADA SACHIN	151	Distinction

Bio-chemistry : (07-distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	Bio-chem	BARMARE ARSHIYA SUHEL	161	Distinction
II		VEDANT KINJAL JITEN	155	Distinction
		BHOR MRINAL SUNIL	154	Distinction
		PUJARI SWARADA SACHIN	152	Distinction
		SHAIKH SAHIBA SHAHED	152	Distinction
		SINGH SATHIA SANJEEV	151	Distinction
		JAIN KALPITA	150	Distinction

MIMER MEDICAL COLLEGE, TALEGAON DABHADE
DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION WINTER - 2017

OVERALL : (09 Distinctions)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL	CHIKHALIKAR PRACHI SATISHRAO	437	Distinction
II	RANK	DESHMUKH ASMITA AJAY	432	Distinction
--		KATKAR SHWETA DATTATRAYA	423	Distinction

--		PILLAI SREELAKSHMI GOPA KUMAR	422	Distinction
--		CHANDE DHRUVI ATUL	421	Distinction
--		JOSHI SAKSHI ASHOK	420	Distinction
--		KAZI ANAM ZAFAR	419	Distinction
--		GADA KRUPA GULAB	418	Distinction
--		J MADHUMITHAA R JAGANNATHAN	415	Distinction

Pharmacology : (03-Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PHARMA	CHIKHALIKAR PRACHI SATISHRAO	121	Distinction
II		JOSHI SAKSHI ASHOK	118	Distinction
--		CHINCHOLIKAR SANJANA SANJEEV	116	Distinction

Pathology : (06-Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PATHOL OGY	DESHMUKH ASMITA AJAY	122	Distinction
I		CHANDE DHRUVI ATUL	122	Distinction
II		PILLAI SREELAKSHMI GOPA KUMAR	118	Distinction
--		CHIKHALIKAR PRACHI SATISHRAO	116	Distinction
--		KATKAR SHWETA DATTATRAYA	116	Distinction
--		BANDGAR YOGESHWARI APPASO	113	Distinction

Microbiology : (17-Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	CROBIOLO	PILLAI SREELAKSHMI GOPA KUMAR	127	Distinction
II		CHIKHALIKAR PRACHI SATISHRAO	126	Distinction
--		KATKAR SHWETA DATTATRAYA	124	Distinction
--		KAZI ANAM ZAFAR	124	Distinction
--		DESHMUKH ASMITA AJAY	121	Distinction
--		GADA KRUPA GULAB	119	Distinction
--		SHAIKH TARANNUM NIAZAHMED	119	Distinction
--		GARULE MUGDHA DILIP	119	Distinction
--		SHAH AVI NIMESH	118	Distinction
--		BANDGAR YOGESHWARI APPASO	116	Distinction
--		JOSHI SAKSHI ASHOK	115	Distinction
--		J MADHUMITHAA R JAGANNATHAN	115	Distinction
--		GUGALE TANVI ANIL	115	Distinction
--		CHANDE DHRUVI ATUL	114	Distinction

--		MERLYN MARY VARGHESE	114	Distinction
--		PILLAI SHARADRAJ VENKATESH	113	Distinction
--		TANYA SINGH	113	Distinction

FMT : (12-Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	F.M.T.	DESHMUKH ASMITA AJAY	82	Distinction
II		GADA KRUPA GULAB	81	Distinction
--		JOSHI SAKSHI ASHOK	78	Distinction
		KAZI ANAM ZAFAR	77	Distinction
--		J MADHUMITHAA R JAGANNATHAN	77	Distinction
--		JOSHI SANIYA PRASAD	77	Distinction
--		KATKAR SHWETA DATTATRAYA	75	Distinction
--		CHINCHOLIKAR SANJANA SANJEEV	75	Distinction
--		PRASAD SWAPNIL SURESH	75	Distinction
--		MERLYN MARY VARGHESE	75	Distinction
--		PILLAI SHARADRAJ VENKATESH	75	Distinction
--		PATIL NEHA DNYANESHWAR	75	Distinction

Third Year MBBS (Part - I)

Overall : (03- Distinctions)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL	THAKEKAR KETKI SUNIL	317	Distinction
II	RANK	PATEL DHANANJAY KANTIBHAI	307	Distinction
--		WAGH SUYOG SUNIL	300	Distinction

Comm.Medicine : (02 Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	Comm.M	THAKEKAR KETKI SUNIL	157	Distinction
II	ed	WAGH SUYOG SUNIL	151	Distinction

Ophthal : (27 Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	OPHTHA	MAKHIJA HITESH NARESH	82	Distinction
II		KHAN SAFA MAHVISH MOHAMMAD TARIQ	81	Distinction
II	L.	PATEL DHANANJAY KANTIBHAI	81	Distinction
--		THAKEKAR KETKI SUNIL	80	Distinction
--		KOTHARI PRINCEKUMAR RAKESH	80	Distinction

--	SALUNKHE SHUBHALI RAJENDRAKUMAR	80	Distinction
--	BAGUL RAHUL PRAKASH	80	Distinction
--	SHAIKH JUVAIRIYA JAMEEL AHMED YUSUF	79	Distinction
--	OMBASE SWAPNIL BABASAHEB	79	Distinction
--	HONWADKAR NINAD KISHOR	78	Distinction
--	SONWANE POOJA BHASKAR	78	Distinction
--	NEMANI AAKRUTI ANIL	78	Distinction
--	SHAH DIMPY AJIT	78	Distinction
--	OSHIN BEHL	78	Distinction
--	SANE SANYUKTA VILIN	77	Distinction
--	WAGASKAR VIDYA GOVARDHAN	77	Distinction
--	SUMANA MEHTA	77	Distinction
--	SINHA AMIT AMIYA KUMAR	77	Distinction
--	DESAI SHIVANI MAHENDRA	77	Distinction
--	WAGH SUYOG SUNIL	76	Distinction
--	IYER SRILOKA RANJANI VENKATARAMANAN	76	Distinction
--	DESHMUKH SAIJASI SURYAKANT	76	Distinction
--	PATIL TANVI MOHIT	76	Distinction
--	DUBEY NIHAL ARVIND	76	Distinction
--	PHATAK MAYURI RAGHUNATH	76	Distinction
--	AARATHY VELLALATH	75	Distinction
--	SONAWANE TEJASHREE GOKUL	75	Distinction

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	E.N.T.	PATEL DHANANJAY KANTIBHAI	80	Distinction
		THAKEKAR KETKI SUNIL	80	Distinction
II		IYER SRILOKA RANJANI VENKATARAMANAN	78	Distinction
		NEMANI AAKRUTI ANIL	78	Distinction
--		KHAN SAFA MAHVISH MOHAMMAD TARIQ	77	Distinction
--		GURAV VEDANT SUBHASH	77	Distinction
--		SANE SANYUKTA VILIN	76	Distinction
--		WAGASKAR VIDYA GOVARDHAN	76	Distinction
--		PATHAK VAISHNAVI NARAYAN	76	Distinction
--		SONAWANE TEJASHREE GOKUL	76	Distinction
--		HONWADKAR NINAD KISHOR	75	Distinction
--		PAWAR NEIL DADASAHEB	75	Distinction
--		TEKAWADE APURVA UMESH	75	Distinction
--		BAGUL RAHUL PRAKASH	75	Distinction

FINAL MBBS

Overall : (02- Distinctions)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL	SHETTY SHRUTI SOMASHEKHAR	693	Distinction
II	RANK	ARUNA MUTHUMANICKAM	679	Distinction

Surgery : (03 : Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	GENERAL	ARUNA MUTHUMANICKAM	240	Distinction
II	SURGERY	SHETTY SHRUTI SOMASHEKHAR	237	Distinction
--		KEVIN KIRAN RAMBHIA	229	Distinction

Obst & Gynec : (04 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	OBST. &	SHETTY SHRUTI SOMASHEKHAR	158	Distinction
II	GYNA	SATWICK BHAVANA KISHOR	155	Distinction
--		ARUNA MUTHUMANICKAM	150	Distinction
--		KEVIN KIRAN RAMBHIA	150	Distinction

Paediatrics : (07 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PAEDIA TRICS	SHETTY SHRUTI SOMASHEKHAR	77	Distinction
		KEVIN KIRAN RAMBHIA	77	Distinction
VARSHA PATTANAIK		76	Distinction	
MONTES DALE JUDE VIVIAN		76	Distinction	
--		ARUNA MUTHUMANICKAM	75	Distinction
--		SATWICK BHAVANA KISHOR	75	Distinction
--		NIDHI R NAIR	75	Distinction

** Ms.Shetty Shruti Somashekhar stood **Fifth** in order of merit at III rd MBBS(P-II) MUHS exam. Winter-17. She was awarded by Vice Chancellor's Certificate of Merit from MUHS, Nashik

MIMER MEDICAL COLLEGE, TALEGAON DABHADE
DISTINCTION HOLDERS NAMES OF MUHS EXAMINATION WINTER 2016

II nd MBBS

Pharmacology : (11 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PHARMA.	KOTHARI PRINCEKUMAR RAKESH	120	Distinction
II		THAKEKAR KETKI SUNIL	117	Distinction
		MAKHIJA HITESH NARESH	117	Distinction
--		SANE SANYUKTA VILIN	116	Distinction
--		SHAH DIMPY AJIT	116	Distinction
--		KHAN SAFA MAHVISH MOHAMMAD TARI	114	Distinction
--		DESHMUKH SAIJASI SURYAKANT	114	Distinction
--		SUMANA MEHTA	114	Distinction
--		DUBEY NIHAL ARVIND	114	Distinction
--		BHATIA NAYANIKA SANJIV	113	Distinction
--		SINHA AMIT AMIYA KUMAR	113	Distinction

Microbiology : (08 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	CROBIOLO	GAPCHUP TEJAL RAJAN	119	Distinction
		HARIP ADITYA AMOD	119	Distinction
II		HONWADKAR NINAD KISHOR	117	Distinction
--		SANE SANYUKTA VILIN	116	Distinction
--		KOTHARI PRINCEKUMAR RAKESH	116	Distinction
--		SHARMA VEERENDRA NARENDRA	116	Distinction
--		NEMANI AAKRUTI ANIL	114	Distinction
--		SONWANE POOJA BHASKAR	114	Distinction

FMT - (03 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	F.M.T.	HONWADKAR NINAD KISHOR	77	Distinction
II		THAKEKAR KETKI SUNIL	76	Distinction
--		NEMANI AAKRUTI ANIL	75	Distinction

Third Year MBBS (Part - I)

Overall : (05- Distinctions)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL	SHETTY SHRUTI SOMASHEKHAR	332	Distinction
II	RANK	KEVIN KIRAN RAMBHIYA	307	Distinction
--		VARSHA PATTANAİK	306	Distinction
--		SHETTY NIDHI VISHWANATH	301	Distinction
--		ARUNA MUTHUMANICKAM	300	Distinction

Community Medicine : (04 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	Comm.	SHETTY SHRUTI SOMASHEKHAR	167	Distinction
II		VARSHA PATTANAİK	158	Distinction
--		KEVIN KIRAN RAMBHIYA	152	Distinction
--		SHETTY NIDHI VISHWANATH	151	Distinction

Ophthalmology :(07 Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	OPHTHAL.	SHETTY SHRUTI SOMASHEKHAR	85	Distinction
II		BIHANI KAUMUDI SANJAY	78	Distinction
--		KEVIN KIRAN RAMBHIYA	76	Distinction
--		MONTES DALE JUDE VIVIAN	76	Distinction
--		ARUNA MUTHUMANICKAM	75	Distinction
--		BHAGAT KARISHMA NARAYAN	75	Distinction
--		SHASTRI ADITYA BIMAL	75	Distinction

ENT : (09 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	E.N.T.	ARUNA MUTHUMANICKAM	81	Distinction
		SATWICK BHAVANA KISHOR	81	Distinction
II		SHETTY SHRUTI SOMASHEKHAR	80	Distinction
--		KEVIN KIRAN RAMBHIYA	79	Distinction
--		SHETTY NIDHI VISHWANATH	79	Distinction
--		NAIR GREESHMA GOPINATH	79	Distinction
--		NAYAK NEHA GANESH	76	Distinction
--		VARSHA PATTANAİK	75	Distinction
--		BIHANI KAUMUDI SANJAY	75	Distinction

FINAL MBBS

Overall - (01-Distinction)

RANK	COLLEGE	NAME OF THE STUDENT	MARKS	
I	OVERALL RANK	LIMAYE SAURABH VINAYAK	706	Distinction

Medicine - (02 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	GENERAL	LIMAYE SAURABH VINAYAK	234	Distinction
II	MEDICINE	UDDIN AALIYA FAHIM	226	Distinction

Surgery : (04 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	GENERAL SURGERY	LIMAYE SAURABH VINAYAK	246	Distinction
II		UDDIN AALIYA FAHIM	231	Distinction
		NIRANKARI SWAPNIL RAVINDRA	231	Distinction
--		GAITONDE TANVI MILIND	229	Distinction

OBST & GYNA : (04 - Distinctions)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	OBST. & GYNA.	GAITONDE TANVI MILIND	152	Distinction
		KANEEZ FATIMA SYED BAQAR RAZA	152	Distinction
		BARKASE AKANKSHA ARUN	152	Distinction
II		BALDOTA HEMINA AMRIT	150	Distinction

Peds : (01 - Distinction)

RANK	SUBJECT	NAME OF THE STUDENT	MARKS	
I	PAEDIA TRICS	LIMAYE SAURABH VINAYAK	78	Distinction

MIMER MEDICAL COLLEGE,TALEGAON (D)
2.3.4.
Copy of circular pertaining the details of mentor and
their allotted mentees



Pathology Department <pathology@mitmimer.com>

Mentorship form 2021

1 message

MIMER Mentor <mentorship@mitmimer.com>
To: Department <department@mitmimer.com>

Wed, Mar 17, 2021 at 12:51 PM

Respected Madam / Sir,


Please find attached herewith, the new mentorship form for the year 2021. This form will be used hereon for the current and future mentorship programme. All pending mentorship forms of the previous years to be upgraded as per the current format. Kindly ensure back to back printing so as to use just 3 pages of paper and save this valuable resource.

Thanks and regards,

Dr Sushma Sharma
Professor,
Dept of OBGY.

2 attachments

 **New Mentorship form 2021.pdf**
276K

 **student admitted year 2020 -2021.xlsx**
29K



Mentorship programme for the new batch admitted in 2019.

1 message

OBST & GYNAE DEPARTMENT <gynaec@mitmimer.com>

To: Department <department@mitmimer.com>

Cc: sushma sharma <sushmas07@gmail.com>

Fri, Oct 11, 2019 at 3:53 PM

Sir/ Madam,

This is with reference to mentorship programme for the new batch admitted in 2019.

Please go through the mentor and mentee distribution list as relevant to your department.

Also sending the student details of the same batch.

This will enable the mentor to fill in the mentorship form at their own level, as the same was not happening when left to the mentee.

Kindly ensure filling up of the same by November 10th 2019.

Mentorship committee members will be visiting individual departments to oversee the same.

In case of any doubts, please feel free to contact me.


Regards,

Dr. Sushma Sharma

Prof. & HOD

Dept. of Obst. & Gyn.

2 attachments

 Mentor list of student admitted year 2019-2020.xlsx
18K

 Student detail information 2019-20.xlsx
59K

Sushma Sharma
Dr. Sushma Sharma
Reg. No. 10000000000
Prof. & HOD
Dept. Obst. & Gyn.
MIMER Medical College
Talegaon (D), Pune



Regarding Mentorship programme for batch admitted 2018-2019.

message

OBST & GYNAE DEPARTMENT <gynaec@mitmimer.com>

Mon, Sep 17, 2018 at 10:50 AM

To: Department <department@mitmimer.com>, STUDENT SECTION MIMER <student_section@mitmimer.com>, PRINCIPAL MIMER <principal@mitmimer.com>

Respected Sir/ Madam,

Please note the distribution of student under mentorship programme for the batch admitted 2018-

2019.

All HOD's are requested to ensure implementation of mentorship programme on regular basis .

- enclosure -1) Student List
2) Student list with phone number
3) Mentorship form

Please find the attachments.

Thanking you

Regards

Dr. Sushma Sharma
Professor
Dept. of Obst. & Gyn

3 attachments

- Mentorship Form.pdf
741K
- Student list admitted year 2018 -19.xlsx
20K
- STUDENTS PHONE NUMBER LIST.xlsx
32K

S. Sharma
Dr. Sushma Sharma
Reg. No 078719
Professor
Dept. Obst. & Gyn
MIMER Medical College
Talwandi Sabhan



MENTORSHIP PROGRAMME

1 message

OPHTHALMOLOGY DEPARTMENT <ophthal@mitmimer.com>

Wed, Nov 29, 2017 at 10:11 AM

To PRINCIPAL MIMER <principal@mitmimer.com>, Sushma Sharma <sushmas07@gmail.com>, "Dr. Alka Sontakke" <director_admin@mitmimer.com>, Department <department@mitmimer.com>, Prajakta Sambarey <prajakta.sambarey@gmail.com>, STUDENT SECTION MIMER <student_section@mitmimer.com>

Respected Sir/Madam,

Sending here with Mentorship list of 1st MBBS student with Mentorship form pls find attachment.

Regards,

Dr. Prajakta Sambarey

Prof & Head Dept. of Ophthalmology

2 attachments

 Mentorship Form (1).pdf
741K

 List of students 2017.18 FOR MENTORSHIP DISTRIBUTION DR SAMBAREY.xlsx
17K


Dr. Sushma Sharma
Reg No 072719
Dept. Obst & Gyn
Professor
MIMER Medical College
Talegaon (D), Pune

Mentorship Committee

CIRCULAR

Date: 23.08.2016

To,

Head of Department
Pre, Para & Clinical Departments

Subject -Regarding Mentorship programme for batch admitted in 2016-2017.

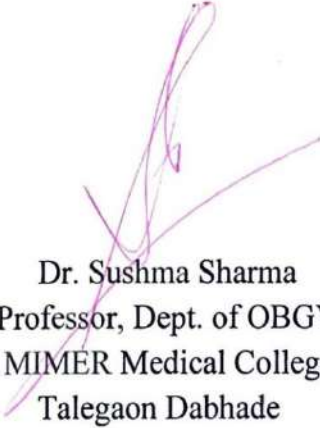
Respected Sir/ Madam,

Please note the distribution of students under mentorship programme for the batch admitted in 2016- 2017. All HOD's are requested to ensure implementation of mentorship programme on regular basis.

Enclosures -1) Student List

2) Mentorship form

Thanking you



Dr. Sushma Sharma
Professor, Dept. of OBGY
MIMER Medical College
Talegaon Dabhade

Medical Education Unit Workshops

Year	Name of Training	Duration
2020.21	Revised Basic Course Workshop	24.03.2021 to 26.03.2021
2020.21	CISP	29.09.2020 to 30.09.2020
2019.20	Revised Basic Course Workshop	23.09.2019 to 26.09.2019
2018.19	CISP	26.06.2019 to 28.06.2019
2017.18	Basic Research Methodology	16.08.2018 to 18.08.2018
2017.18	Basic Research Methodology	06.09.2017 to 08.09.2017
2016.17	Basic Research Methodology	08.02.2017 to 10.02.2017

DEPARTMENT OF CLINICAL RESEARCH
AND INCUBATION CENTER
MIMER MEDICAL COLLEGE, TALEGAON
DABHADE PUNE
(JAN 2021 onwards...)

Activities Conducted

1. Workshop-“ Selection of Journal” on 30th March 2021



MAEER's MIMER Medical College &
Dr. BSTR Hospital, Talegaon Dabhade, Pune
Department of Clinical Research & Incubation Center

WORKSHOP

SELECTION OF JOURNAL

Targeting the right journal for publishing your research

For : Faculty and PG Students of MIMER & College of Physiotherapy

Date : 30th March 2021 (Tuesday)

Time : 2:15 PM

Venue : Sushrut Hall

A faculty enrichment activity that aims to have an interactive session to help the researchers understand the various aspects to look for in a biomedical journal, and find the one that is most appropriate for publishing their research work.

FACULTY

Dr. Digant Gupta, MBBS, MPH (USA)
Clinical Research Consultant, MIMER
(86 publications in international journals)

Dr. Varoon C Jaiswal, MPT, PhD scholar
Professor, MAEER's Physiotherapy College
Head, Research Dept., Physiotherapy College

CONTENT

1. Overview of biomedical journals
2. Indexing
3. The Impact factor
4. Publication models
5. How to match the journal with your research
6. Understanding journal requirements
7. Adapting your paper according to the journal guidelines
8. Avoiding predatory journals
9. Q & A Session

e-Certificates will be awarded
Registration is free but compulsory
E mail : research@mitmimer.com

Click on the active link below for Registration

<https://forms.gle/V72ifctJtzipEdq9p7>

2.CME (Multidisciplinary)- “Mucormycosis: An Emerging Challenge in COVID -19” on
9th June 2021


 MAFER's MIMER Medical College &
Dr.BSTR Hospital, Talegaon Dabhade, Pune
Department of Clinical Research & Incubation Center

C M E (MULTIDISCIPLINARY)

TOPIC : Mucormycosis: An Emerging Challenge in COVID-19
DATE : 9th June 2021 (Wednesday)
TIME : 2 to 3:45 PM
VENUE : Sushrut Hall, MIMER

Post-COVID Mucormycosis is a potentially fatal fungal infection that can be devastating for the patient, who is barely recovering from a treacherous viral infection. This is nothing short of - 'from the frying pan - into the fire' scenario. Only an aggressive and a multidisciplinary approach can efficiently manage this potentially fatal condition.

This CME has been organized to present an overview of the condition from the perspective of some of the medical specialties involved in its management.



SPEAKERS :

1. DR SANTHOSH KUMAR	DEPT. OF ENT
2. DR PRADNYA BHALERAO	DEPT. OF OPHTHAL.
DR VIBHAVARI BARHATE	DEPT. OF OPHTHAL.
3. DR HARSH DESAI	DEPT. OF DENTISTRY
4. DR SANTOSH SABNIS	DEPT. OF RADIOLOGY
5. DR SADHNA CHATE	DEPT. OF MICROBIOLOGY
6. DR RAJENDRA ZOPE	DEPT. OF PATHOLOGY

RECOMMENDED FOR
FACULTY PG STUDENTS INTERNS

For more information : E mail research@mitmimer.com

3. CME (Webinar)- “Mucormycosis: All that we know today!” on 9th July 2021



MUCORMYCOSIS : ALL THAT WE KNOW TODAY ! (WEBINAR)

9th JULY 2021 (FRIDAY) 1 TO 3:30 PM



MIMER Medical College has organized a CME (Webinar) to equip the medical professionals with the basic knowledge and practical aspects of treating Post-COVID Mucormycosis. It is an opportunity to interact with the experts from different specialties and understand more about the condition, as they share their experience in managing this potentially fatal fungal infection.

FACULTY

- **DR VIRENDRA GHAIAS MS (ENT), Rhinoplasty Fellowship (Germany)**
Renowned ENT/Rhinoplasty Surgeon/Author
Executive Director, MIMER Medical College & Dr.BSTR Hospital
- **DR PARIKSHIT PRAYAG MD, ABIM, ABMS (American Board Certified)**
Infectious Diseases Consultant, Deenanath Mangeshkar Hospital
- **DR SANDEEP KARMARKAR MBBS,DORL, FAINO^t (Italy)**
Senior ENT Surgeon, Ruby Hall Clinic
Consultant - Endoscopic Skull Base Surgeon/ Otoneurologist
- **COL DR RAJENDRA PRASAD GUPTA MS (Ophthal.), FMRF (V R surgeon)**
Professor Emeritus, Ophthalmology
Former Principal, MIMER Medical College & Dr.BSTR Hospital
- **DR HARSH DESAI MDS (Maxillofacial Surgery)**
Maxillo-Facial Surgeon & Asst. Professor, MIMER Medical College
- **COL DR S S THIND MD (Radiodiagnosis)**
Senior Radiologist, Pune
Professor & Head, Dept. of Radiodiagnosis, MIMER
- **DR RENU BHARADWAJ MD (Microbiology)**
Senior Microbiologist & Visiting Professor
Former Dean, BJ Govt. Medical College
- **DR SHARADA RANE MD (Pathology)**
Dy. Dean, Govt. Medical College & Hospital, Baramati
Professor & Head, Dept. of Pathology

RECOMMENDED FOR : MEDICAL PRACTITIONERS, PG & UG STUDENTS, INTERNS

CLICK ON THE ACTIVE LINK BELOW TO REGISTER



<https://forms.gle/PjJdd6PCuMCWZZom9>

MAEER's MIMER Medical College & Dr.BSTR Hospital,
Talegaon Dabhade, Pune

Department of Clinical Research & Incubation Center / research@mitmimer.com

APPROVED BY MAHARASHTRA MEDICAL COUNCIL FOR ONE CREDIT POINT

NO: MMC/Accre.Cert/MED-0022/2013/

Webinar Code - MMC/WEB/2021/F-000775

4. Workshop- “ Conduct of Journal Club” on 18th Aug 2021



MAEER's MIMER Medical College &
Dr. BSTR Hospital, Talegaon Dabhade, Pune
Department of Clinical Research & Incubation Center

WORKSHOP **CONDUCT OF JOURNAL CLUB**

An enrichment activity that aims to train the faculty and PG students on the basic elements of critically reviewing a research paper and on the effective conduct of journal club.

Date	:	18 th August 2021 (Wednesday)
Time	:	2:15 to 3:45 PM
Venue	:	<i>Sushrut Hall</i>
Faculty	:	Dr. Digant Gupta

- For faculty and PG students
- Hands-on activities
- e-certificates
- Online registrations closed
- Limited SPOT REGISTRATIONS

Achievements

1. MoU signed between MIMER Medical College, Talegaon Dabhade and DY Patil International University Akurdi Pune for Summer Internship to BSc Biotechnology students of DYPIU in Central Clinical Laboratory of MIMER Medical dated 12th Feb 2021 for a period of 03 years.
2. Letter of Sanction of Grants issued on 25th June 2021 to 11 undergraduate students for research projects.
3. “Certificate Course in Clinical Research” inaugurated by Honorable Managing Trustee of MAEER'S group, Shri Rahul V Karad Sir on 15th July 2021
4. MoU signed between MIMER Medical College and Dr BSTR Hospital Talegaon Dabhade Pune and Dr D Y Patil Medical College Hospital and Research Centre, Dr DY Patil

Vidyapeeth (DPU) , Pimpri Pune to form a collective research group for conduction of a research project entitled” Application of American Joint Committee on Cancer Eighth Edition Prognostic Stage Groups in Primary Breast Cancer Patients at a Tertiary Care Centre in Western Maharashtra” dated 13th Sept 2021 for a period of 03 years.

Important Milestones

1. 06 Research Projects submitted to the Tuberculosis Association of India for Financial Assistance – 31st March 2021
2. 02 Research Proposals sent to ICMR- Covid 19 – 30th June 2021
3. Discussions of Research Projects with Faculty, Residents and UG students for submission to IEC
 - 26th July- 07 projects
 - 5th Aug-05 projects
4. Online Training Course on Introduction to Data Analysis, Aug 09-11,2021- 02 faculty sponsored by Institute.
5. Online Training Course on Demographic Data Analysis for Health Personnel, Aug 23-25,2021- 02 faculty sponsored by Institute
6. 2 new members appointed to the Dept of Clinical Research & Incubation Centre
 - Dr Priyanka Murgod, Associate Professor, Dept of Pathology
 - Dr. Ashish Arya, Assistant Professor, Dept of Psychiatry
7. A Working Template for Reviewing a Research Article/ Conduct of a Journal Club Prepared by Dr Digant Gupta circulated to all departments. The Departments are also Instructed to display the same in the departmental seminar hall for reference during journal club activities. If conveyed in advance about the journal club activity, the Research Consultant/ member from DCRIC can also attend and give inputs.

Departmental Meetings Conducted

1. 27th Jan 2021
2. 16th June 2021
3. 7th Sept 2021

DEPARTMENT OF CLINICAL RESEARCH AND INCUBATION CENTER

MIMER MEDICAL COLLEGE, TALEGAON DABHADE PUNE

(DEC 2019- DEC 2020)

Activities Conducted

1. Young Researchers Symposium 2020 on 17th Feb 2020 , Lecture: Scientific Paper Writing , Speaker: Dr Digant Gupta
2. Seminar: “Reorientation to Clinical Research – A New Outlook” on 19th May 2020
Speaker: Dr Digant Gupta
3. Collaboration with MIMER Student Research Council (SRC) in conducting “1st National Healthcare Digital Symposium 2020” on 6th June 2020
4. Webinar: “Clinical Research in Medical Institutes in India” on 10th June 2020 MUHS Foundation Day.
Speaker: Dr Digant Gupta
5. Webinar: “ Covid -19: Pathogenesis | Diagnosis | Management- Sharing what we know today” on 11th June 2020.
Speakers: Dr Sameer Melinkeri, Dr Sampada Patwardhan, Dr Parikshit Prayag
6. Webinar: “Data Entry and Analysis” on 29th June 2020.
Resource faculty: Dr Digant Gupta, Dr Swati Raje
7. Webinar: “Reference Management Software “ on 2nd July 2020 by Dr. Varoon Jaiswal and Dr. Digant Gupta
8. Webinar: Artificial Intelligence: The scope in Covid Pandemic by Dr Arun Jamkar on 10th July 2020
9. Find your Icon- Medical Superspecialities Dr. Viren Attarde, Dr. Ashwin Rajbhoj, Dr. Mahadevan
Dr. Saurabh Sancheti, Dr. Anuj Nehete on 14th July 2020
10. The Soldiers in White Coat- Bracing for the emerging challenges Dr. Madhuri Kanitkar 21st July 2020
11. Meet your Icons- Surgical Superspecialists Dr. Aditi Rangnekar. Dr. Vishvesh Agarwal. Dr Kunal Bansal. Dr Monish Patil. Dr Prashant Sawant on 5th Aug 2020
12. “How to Develop a Research Proposal” by Dr Digant Gupta and Dr Varoon Jaiswal on 20th Oct 2020
13. Workshop on Orientation to Methods in Clinical Research: Part I – Development of Synopsis for JR 1 & PG guides. 4th and 5th November 2020
14. Dissertation Synopsis- Meeting Schedule with Research Committee: 24th -27th Nov 2020
15. Follow up meeting : Dissertation Synopsis: 3rd and 4th Dec 2020
16. Workshop on Orientation to Central Research Laboratory- 9th, 11th, 14th and 16th Dec 2020
Faculty: Dr Shashwat Banerjee, Dr Yuvraj, Dr Chate

Achievements

1. 13 projects approved for ICMR STS 2020
2. Funding of student projects to be borne by institution after due evaluation. This is a landmark decision taken by the Management which clearly explains their commitment to foster research culture among students.

Important Milestones

1. Timetable 2020-2021 for Departmental activities prepared
2. Module for UG Research Course prepared
3. Covid Research Consultancy Services- for external faculty/ institutes/ hospitals launched on 21st May 2020
4. Consultancy Services for Inhouse Faculty and students launched on 21st May 2020
5. Format for Submission of Research proposal to Institutional Ethics Committee of MIMER Medical College, Talegaon D prepared
6. Departmental website created.
7. The faculties of the various departments have contributed to prepare a bank of topics for thesis.

Departmental Meetings Conducted

1. 13th Dec 2019
2. 3rd Feb 2020
3. 19th May 2020
4. 17th June 2020
5. 3rd Aug 2020
6. 6th Aug 2020
7. 20th Oct 2020



॥ व्यासस्य - सेवा - सुशिक्षणम् ॥
MIMER MEDICAL COLLEGE

MAEER MIT PUNE'S

MAHARASHTRA INSTITUTE OF MEDICAL EDUCATION AND RESEARCH ,
MEDICAL COLLEGE (ESTD – 1995)

DR. BHAUSAHEB SARDESAI TALEGAON RURAL HOSPITAL

Accredited by NAAC with 'A' Grade

Talegaon Dabhade, Pune – 410 507, Maharashtra, India.

■ Tel. (02114) 308300 ■ Fax : 02114- 223916


■ Website : www.mitmimer.com ■Email :-info@mitmimer.com

Details of ICT-enabled tools used for teaching and learning

Sr. No	ICT tools
1	Computer with internet facility
2	LCD Projector with screen
3	Wi-Fi access
4	Scanner & printer, Photocopier
5	DVDs & CDs
6	Microphones
7	SPSS Software
8	Delnet
9	Digital Camera
10	Pen drive
11	Tablet

E-resources and techniques used for teaching and learning

Sr. No	E-resources
1	e- books & e- journals
2	Power point Presentations
3	You tube video lectures
4	Webinars
5	Online databases
6	Presentations from Slide share
7	Virtual encyclopedia
8	Online (videoconferencing) lectures using ZOOM, Google Meet and Microsoft Teams
9	Google Classroom
10	Kahoot quizzes


Principal
MIMER Medical College
Talegaon Dabhade-410 507

MIMER MEDICAL COLLEGE, TALEGAON DABHADE

Student Funded Research Projects

Year	ICMR	STRG MUHS
2020-21	13	Nil
2019-20	11	15
2018-19	11	Nil
2017- 18	02	Nil
2016- 17	Nil	Nil


PRINCIPAL
MIMER MEDICAL COLLEGE
TALEGAON DABHADE
PUNE -410507



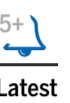
26°C
26° 25°
Mumbai, IN

Mid-Day Gujarati Inquilab



Today's E-paper

Tuesday, 31 August, 2021



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Mumbai | Mumbai News

Nanorobot technology might soon be India's new cancer weapon

05 July,2020 05:49 AM IST | Mumbai
[Vinod Kumar Menon](#) | vinodm@mid-day.com

Share:

Text

Pune scientists see hope in nanotech to deliver anti-cancer drug to tumour, without harming rest of the body



A junior scientist seen in the laboratory of MIMER Medical college, where the technology is being researched

A team of cancer scientists in Pune are researching a unique nanorobot technology that

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Game Zone

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Manjul

OPEN

Self-Propelling Targeted Magneto-Nanobots for Deep Tumor Penetration and pH-Responsive Intracellular Drug Delivery

Saloni S. Andhari^{1,4}, Ravindra D. Wavhale^{2,4}, Kshama D. Dhobale², Bhusaheb V. Tawade², Govind P. Chate², Yuvraj N. Patil², Jayant J. Khandare^{3*} & Shashwat S. Banerjee^{2*}

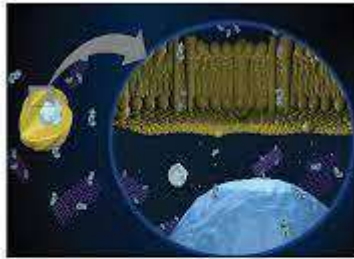
Self-propelling magnetic nanorobots capable of intrinsic-navigation in biological fluids with enhanced pharmacokinetics and deeper tissue penetration implicates promising strategy in targeted cancer therapy. Here, multi-component magnetic nanobot designed by chemically conjugating magnetic Fe₃O₄ nanoparticles (NPs), anti-epithelial cell adhesion molecule antibody (anti-EpCAM mAb) to multi-walled carbon nanotubes (CNT) loaded with an anticancer drug, doxorubicin hydrochloride (DOX) is reported. Autonomous propulsion of the nanobots and their external magnetic guidance is enabled by enriching Fe₃O₄ NPs with dual catalytic-magnetic functionality. The nanobots propel at high velocities even in complex biological fluids. In addition, the nanobots preferably release DOX in the intracellular lysosomal compartment of human colorectal carcinoma (HCT116) cells by the opening of Fe₃O₄ NP gate. Further, nanobot reduce *ex vivo* HCT116 tumor spheroids more efficiently than free DOX. The multicomponent nanobot's design represents a more pronounced method in targeting tumors with self-assisted anticancer drug delivery for 'far-reaching' sites in treating cancers.

Designing miniaturized and versatile robots in the dimensional-range of a few micrometers or less offer potential for unprecedented biomedical applications, such as refinements in targeted drug delivery platforms¹⁻⁷. Miniature robotic systems provide considerable benefits over conventional and micro/nanoparticle-based therapies^{8,9}. Existing anticancer drug delivery systems demonstrate pharmacokinetic (PK) limitations as they are passive systems driven by the blood fluidics and lack intrinsic navigation for long circulation time, targeting, localized delivery, and tissue penetration^{10,11}. Furthermore, despite surface functionalization with a specific ligand that allows nanocarriers to increase the active targeting ability; the nanocarriers are unable to guide themselves to a target. Hence, for targeted anticancer delivery of therapeutic payloads to disease sites, drug carriers are desired to possess some distinctive traits, including self-propelling force and velocity, navigational functions, precise cell targeting, drug cargo-towing and finally tissue penetration with the release of drug payload¹²⁻¹⁶.

Micro/nanomotors with efficient cargo towing and effective penetrating abilities make them excellent delivery vehicles that can meet the necessary features for targeted delivery of therapeutics⁶. Chemically propelled micro-/nanorobots have been widely explored for active drug delivery, and tremendous progresses has been made in the past few years¹⁷. However, designing nanobots for biological functionality is still a challenge as they have some inherent limitations, such as complex preparation technology, difficulty of surface modification, difficulty of motion in biological fluids and depending on the material, poor biocompatibility or biodegradability^{6,18,19}. Furthermore, none of the reported micro/nanobot system has demonstrated practically useful speed high enough for biomedical applications due to high-speed blood flow in human arteries (dimensions from 4 to 25 mm) with a blood flow velocity from 100 to 400 mm/s²⁰.

Herein, we report for the first time a smart H₂O₂ and pH-responsive nanobot system to transport anticancer drug deep inside the three dimensional (3D) tumors by exploiting Fe₃O₄ dependent decomposition of H₂O₂

¹Maharashtra Academy of Engineering Education and Research's Maharashtra Institute of Pharmacy, Pune, 411038, India. ²Maharashtra Institute of Medical Education and Research, Talegaon Dabhade, Pune, 410507, India. ³School of Pharmacy, Dr. Vishwanath Karad MIT World Peace University, Pune, 411038, India. ⁴These authors contributed equally: Saloni S. Andhari and Ravindra D. Wavhale. *email: jayant.khandare@mippune.edu.in; shashwatbanerjee@mitmimer.com



Shashwat Banerjee from Prof. Ajay K. Ghosh's group at National Chemical Laboratories, Institute of Technology, Mumbai, India, University and Dr. Shashwat Banerjee, National Institute of Chemical Technology, Hyderabad, India.

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The book provides the scientific community with a much-needed overview of how adsorbents based on inexpensive waste materials can be used to treat various major water pollutants. This work focuses on design, surface modification and characterization of these materials, thereby leading to an understanding of the role that sorption mechanism plays in treating water pollution. The introductory section deals with a comprehensive overview of various techniques applied for water treatment, the complexity involved and advantages of sorption technique. The following sections then present novel surface modification methods for adsorbents depending on the pollutants and different methodology used to characterize them. The results and discussion section highlights the efficacy of the novel adsorbents in removing various water pollutants and the mechanisms involved in the sorption process. The book concludes with a conclusion chapter enlisting the salient features of the investigation and scope for future work. The result is a reliable reference for those wanting to learn more about this important class of inexpensive adsorbents, as well as scientists in the field seeking deeper insight.

Novel Adsorbents for Water Treatment



Shashwat Banerjee



Shashwat Banerjee

Shashwat Banerjee received his PhD in Chemistry from the Institute of Chemical Technology, University of Mumbai in 2003. After postdoctoral work at the National Cheng Kung University and Washington State University, he joined Piramal Life Sciences Ltd. as a Research Scientist. His research interest is in surface chemistry and biomaterials.

Application of Simple and Modified Adsorbents in Water Treatment

Novel and Inexpensive Adsorbents for Treating Major Water Pollutants



978-3-8465-9520-6

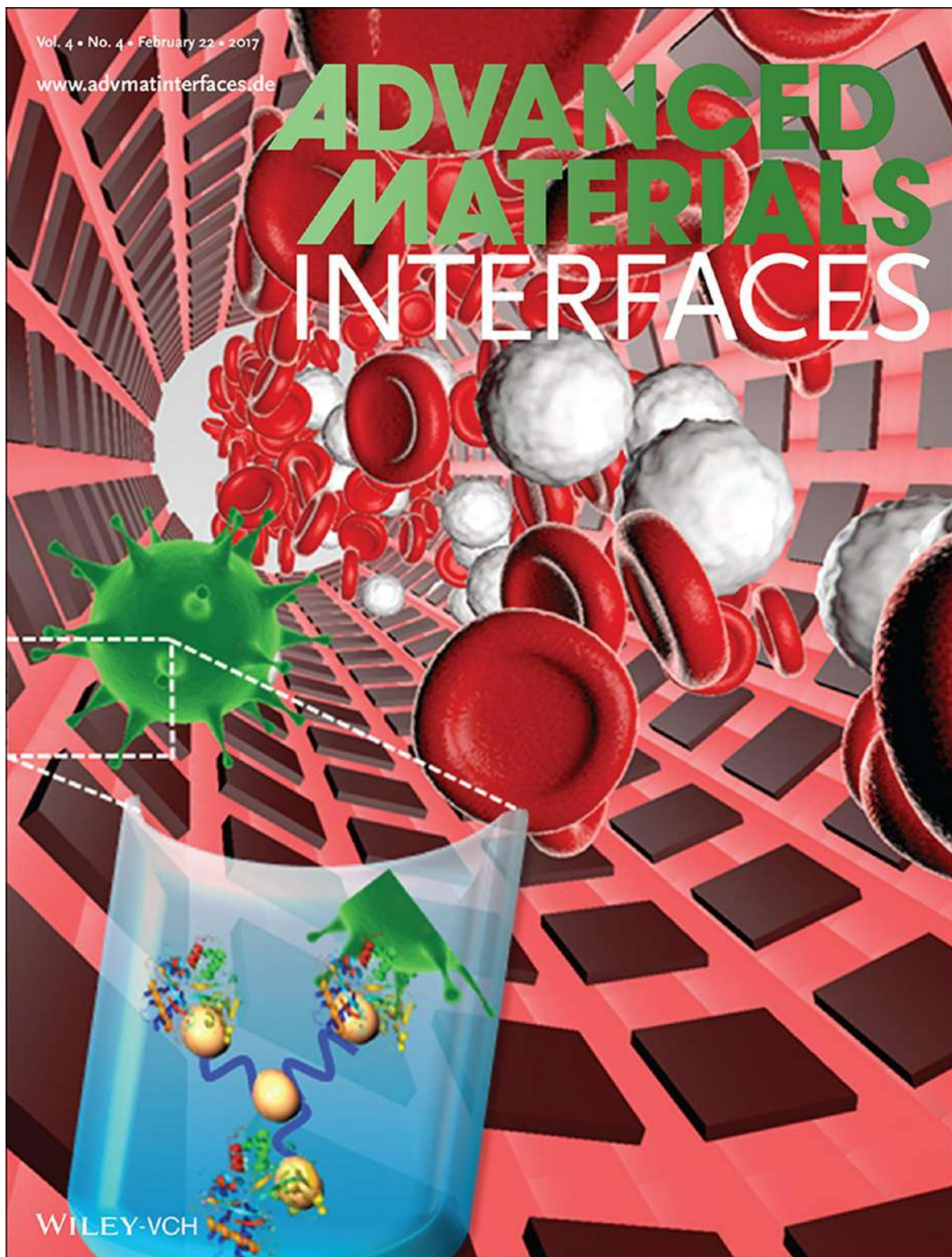
Shashwat Banerjee



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ADVANCED MATERIALS INTERFACES



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Government of India
 Ministry of Science & Technology
 Department of Science & Technology
 (Nano Mission)

Technology Bhavan
 New Mehrauli Road
 New Delhi - 110 016
 Dated: 16.08.2017

ORDER

Sub: Financial assistance for the technology project entitled "Self-propelled water driven nanomachine for rapid capture and isolation of circulating tumor cells." under the guidance of Prof. Shashwat Banerjee, Associate Professor, Central Research Laboratory, Maharashtra Institute of Medical Education and Research (MIMER) Medical College, Talegaon Dabhade, Dist Pune 410507.- regarding release of 1st installment of the grant.

2. Sanction of the President is accorded to the approval of the mentioned project at a total cost of **Rs. 48,76,944/- (Rupees Forty-Eight Lakh Seventy-Six Thousand Nine Hundred and Forty-Four Only)** for a duration of 3 years. The detailed break-up of the grant General as well as Capital Components are given below:-

General Component: Rs. 39,26,944/-
 Capital Component: Rs. 9,50,000/-

Budget Head	1 st year	2 nd year	3 rd year	Total
Manpower-as per DST norms 1 RA: @ INR.16,000/- p.m. +HRA@30% for 3 years. & 1 PA: @ INR 22,000/- p.m. For 3 years.	8,25,600	8,25,600	8,25,600	24,76,800
Equipment Inverted Fluorescence Microscope	9,50,000	-NIL-	-NIL-	9,50,000
Consumables	3,50,000	2,50,000	2,00,000	8,00,000
National Travel	50,000	50,000	50,000	1,50,000
Contingencies	50,000	50,000	50,000	1,50,000
Sub-total	22,25,600	11,75,600	11,25,600	45,26,800
Overhead Charges (@8% of Total project cost)	1,74,048	90,048	86,048	3,50,144
Total	23,99,648	12,65,648	12,11,648	48,76,944

3. The sanction of the President is accorded to the release of **Rs. 13,87,000/- (Rupees Thirteen lakh Eighty-Seven Thousand only)** to "The Director, Maharashtra Institute of Medical Education and Research (MIMER) Medical College, Talegaon Dabhade, Dist Pune 410507" being the first installment of the grant under 'Grants-in-aid General' for implementation of above mentioned project.

4. This sanction is subject to the condition that the grantee organisation will furnish to the Department of Science & Technology, financial year-wise Utilization Certificate (UC) in the proforma prescribed as per GFR 2017 and audited statement of expenditure (SE) along with up to date progress report at the end of each financial year duly reflecting the interest earned/accrued on the grants received under the project. This is also subject to the condition of submission of the final statement of expenditure, utilization certificate and project completion report within one year from the scheduled date of completion of the project.

5. The grantee organisation will have to enter & upload the Utilization Certificate in the PFMS portal besides sending it in physical form to this Division. The subsequent/final instalment will be released only after confirmation of the acceptance of the UC by the Division and entry of previous Utilization Certificate in the PFMS.

No. BT/PR21922/NNT/28/1241/2017

GOVERNMENT OF INDIA

MINISTRY OF SCIENCE & TECHNOLOGY

DEPARTMENT OF BIOTECHNOLOGY

Block 2, 6-8th Floors
CGO Complex, Lodhi Road,
New Delhi- 110 003

Dated: 20/03/2018

ORDER

Sanction of the President is hereby accorded, under Rule 18 of the Delegation of Financial Powers Rules, 1978, for the implementation of the project entitled: "**Self-propelled magnetically controlled nanorockets for transportation and pH triggered drug delivery**" for a period of 3 Year 0 Month at a total cost of Rs. **4159400** (Rupees Fourty One Lakhs Fifty Nine Thousand Four Hundred Only) on the terms and conditions detailed here under:-

2 The Project :

2.1 Title : "Self-propelled magnetically controlled nanorockets for transportation and pH triggered drug delivery"

2.2 Details of the Investigators:

Principal Investigators:

Dr. Shashwat Banerjee

PI

MIMER Medical College Talegaon

Dabhade

Maharashtra University of Health

Sciences

MIMER Medical College

Talegaon Dabhade,

Pune, Maharashtra, 410507

CO-PI:

Dr. Jayant Khandare

Professor

Pharmacy

Maharashtra Institute of Technology College of

Engineering

Maharashtra Institute of Pharmacy, MIT

Campus, Kothrud, Pune, India, Solapur

411038, Maharashtra



महाराष्ट्र MAHARASHTRA 2018

TL 030598



दस्तावा प्रकार/अनुच्छेद क्रमांक मेमेरंडम ऑफ अग्रीमेंट

दस्त नोंदणी करणार आहेत का

नोंदणी होणार असल्यास दुय्यम निबंधक कार्यालयाचे नाव

मिळवणीचे वर्ण

घोषदला रक्कम

मुद्रांक विकत घेणाऱ्याचे नाव व पत्ता महाराष्ट्र इन्स्युरन्स ऑफ मेडीकल राज्युकेसन

दुसऱ्या पक्षकाराचे नाव डॉ. रिमेश लोकांगक

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मुद्रांक विक्री नोंद वही अनु.क्रमांक 28/3 दि. 8/10/2018

मुद्रांक विकत घेणाऱ्याची सही

श्री. चंद्रकांत त. धिटे - 2202003

MEMORANDUM OF AGREEMENT

विजापाला चौक, तळेगाव दाभदे.

This MEMORANDUM OF AGREEMENT is made on this 4th day of October Two thousand and Eighteen BY ND BETWEEN President of India, acting through, Department of Biotechnology, Ministry of Science and Technology, Government of India, New Delhi, hereinafter referred to as the 'DBT' (which expression unless excluded by or repugnant to the subject shall mean and include its successor-in-office and assigns) of the ONE PART;

Contd.pg-2/-

Dr. R P GUPTA
 PRINCIPAL
 MIMER Medical College
 Talegaon Dabhade,
 Pune - 410507.



AND

Maharashtra Institute of Medical Education and Research (MIMER) Medical College, Talegaon Dabhade, a society, under the Societies Registration Act - 1860, having its registered office in/at Yashwant Nagar, Talegaon Dabhade 410507, hereinafter referred to as 'MAEER's Maharashtra Institute of Medical Education and Research' (which expression shall where the context so admits include its successors and permitted assigns) of the OTHER PART;

WHEREAS DBT being desirous of Nanosystems for cancer therapy decided to support a project submitted by Maharashtra Institute of Medical Education and Research (MIMER) Medical College, Talegaon Dabhade for the attainment of the objectives, hereinafter described in the Annexure I annexed hereto;

This Memorandum of Agreement (MoA) defines the role and responsibilities of the participating agencies, monitoring, and other matters related to the Self-propelled magnetically controlled nanorockets for transportation and pH triggered drug delivery.

NOW THE PARTIES HERETO AGREE AS FOLLOWS:-

1.0. ROLE OF DEPARTMENT OF BIOTECHNOLOGY, NEW DELHI


To provide funds to the extent of 41, 59,400/- over a period of 3 years from the date of sanction of the project, to 14 March 2021 for undertaking activities as detailed in Annexure I. Details of the funds to be provided are given in Annexure II.

2.0. ROLE OF Maharashtra Institute of Medical Education and Research (MIMER) Medical College, Talegaon Dabhade

2.1. To provide their contribution of Nil for NA years from date of sanction of the project as detailed in Annexure - II. (if a jointly supported project).

2.2. To provide existing facilities as mentioned in the project document.

2.3. To be responsible for accomplishing objectives identified and activities listed.


Dr. R P GUPTA
PRINCIPAL
MIMER Medical College
Talegaon Dabhade,
Pune - 410507.

OPEN

Self-Propelling Targeted Magneto-Nanobots for Deep Tumor Penetration and pH-Responsive Intracellular Drug Delivery

Saloni S. Andhari^{1,4}, Ravindra D. Wavhale^{2,4}, Kshama D. Dhobale², Bhusaheb V. Tawade², Govind P. Chate², Yuvraj N. Patil², Jayant J. Khandare^{3*} & Shashwat S. Banerjee^{2*}

Self-propelling magnetic nanorobots capable of intrinsic-navigation in biological fluids with enhanced pharmacokinetics and deeper tissue penetration implicates promising strategy in targeted cancer therapy. Here, multi-component magnetic nanobot designed by chemically conjugating magnetic Fe₃O₄ nanoparticles (NPs), anti-epithelial cell adhesion molecule antibody (anti-EpCAM mAb) to multi-walled carbon nanotubes (CNT) loaded with an anticancer drug, doxorubicin hydrochloride (DOX) is reported. Autonomous propulsion of the nanobots and their external magnetic guidance is enabled by enriching Fe₃O₄ NPs with dual catalytic-magnetic functionality. The nanobots propel at high velocities even in complex biological fluids. In addition, the nanobots preferably release DOX in the intracellular lysosomal compartment of human colorectal carcinoma (HCT116) cells by the opening of Fe₃O₄ NP gate. Further, nanobot reduce *ex vivo* HCT116 tumor spheroids more efficiently than free DOX. The multicomponent nanobot's design represents a more pronounced method in targeting tumors with self-assisted anticancer drug delivery for 'far-reaching' sites in treating cancers.

Designing miniaturized and versatile robots in the dimensional-range of a few micrometers or less offer potential for unprecedented biomedical applications, such as refinements in targeted drug delivery platforms¹⁻⁷. Miniature robotic systems provide considerable benefits over conventional and micro/nanoparticle-based therapies^{8,9}. Existing anticancer drug delivery systems demonstrate pharmacokinetic (PK) limitations as they are passive systems driven by the blood fluidics and lack intrinsic navigation for long circulation time, targeting, localized delivery, and tissue penetration^{10,11}. Furthermore, despite surface functionalization with a specific ligand that allows nanocarriers to increase the active targeting ability; the nanocarriers are unable to guide themselves to a target. Hence, for targeted anticancer delivery of therapeutic payloads to disease sites, drug carriers are desired to possess some distinctive traits, including self-propelling force and velocity, navigational functions, precise cell targeting, drug cargo-towing and finally tissue penetration with the release of drug payload¹²⁻¹⁶.

Micro/nanomotors with efficient cargo towing and effective penetrating abilities make them excellent delivery vehicles that can meet the necessary features for targeted delivery of therapeutics⁶. Chemically propelled micro-/nanorobots have been widely explored for active drug delivery, and tremendous progresses has been made in the past few years¹⁷. However, designing nanobots for biological functionality is still a challenge as they have some inherent limitations, such as complex preparation technology, difficulty of surface modification, difficulty of motion in biological fluids and depending on the material, poor biocompatibility or biodegradability^{6,18,19}. Furthermore, none of the reported micro/nanobot system has demonstrated practically useful speed high enough for biomedical applications due to high-speed blood flow in human arteries (dimensions from 4 to 25 mm) with a blood flow velocity from 100 to 400 mm/s²⁰.

Herein, we report for the first time a smart H₂O₂ and pH-responsive nanobot system to transport anticancer drug deep inside the three dimensional (3D) tumors by exploiting Fe₃O₄ dependent decomposition of H₂O₂

¹Maharashtra Academy of Engineering Education and Research's Maharashtra Institute of Pharmacy, Pune, 411038, India. ²Maharashtra Institute of Medical Education and Research, Talegaon Dabhade, Pune, 410507, India. ³School of Pharmacy, Dr. Vishwanath Karad MIT World Peace University, Pune, 411038, India. ⁴These authors contributed equally: Saloni S. Andhari and Ravindra D. Wavhale. *email: jayant.khandare@mippune.edu.in; shashwatbanerjee@mitmimer.com

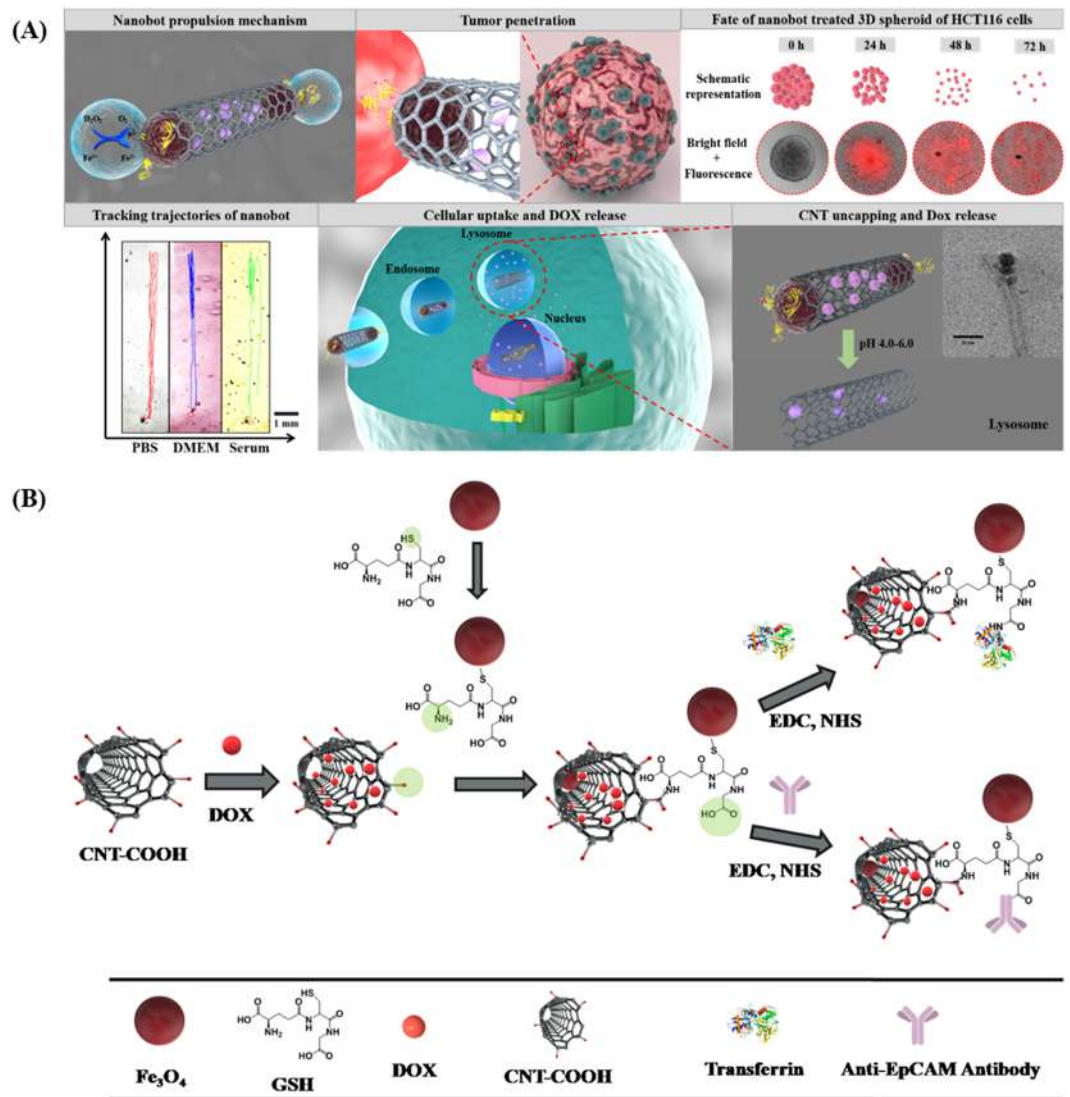


Figure 1. (A) Schematic representation of mechanism of oxygen bubble induced autonomous propulsion of nanobot and deep penetration in the tumor due to the generated thrust, fate of 3D spheroid treated with CNT-DOX-Fe₃O₄-Tf/CNT-DOX-Fe₃O₄-mAb nanobot, trajectories of nanobots in physiologically relevant media (trajectories obtained using Dino-Capture 2.0 v (<https://www.dino-lite.com/>), VirtualDub 1.10.4 v (<http://www.virtualdub.org/>) and MTrackJ plugin from ImageJ 1.8.0_112v (<https://imagej.net/MTrackJ/>), followed by illustration of targeting DOX-loaded nanobot to transferrin/EpCAM receptor and entry in cancer cell, and finally, mechanism of triggered drug release under intracellular endo/lysosomal conditions. (B) Schematic illustration indicating the step-by-step synthesis of DOX loaded CNT-DOX-Fe₃O₄-Tf/ CNT-DOX-Fe₃O₄-mAb.

existing in the tumor microenvironment (TME) into water and oxygen. Tumor cells are known to produce H₂O₂ at the rate of 0.5 nmol/10⁴ cells/h²¹. The nanobot was designed by chemically coordinating Fe₃O₄ NPs, conjugating anti-EpCAM mAb to carbon nanotubes (CNT) through reactive spacer glutathione (GSH) and loading of anticancer drug DOX. The unique advantages of anchoring Fe₃O₄ NPs are, as they impart autonomous propulsion ability and superparamagnetic property to the nanobot system. Further they also impart mechanism of “on demand” intracellular release of the encapsulated DOX. Thus, the Fe₃O₄ NP gates retard premature and non-specific release of DOX encapsulated in CNT thus minimizing therapy side effects. CNT platform was utilized as a carrier because it offers the benefit of chemical tunability, allowing integration of multiple component by conjugation chemistry including targeting moieties²². Importantly, functionalized CNTs have shown low toxicity and enhanced clearance, and even can be decomposed inside the human body²³. CNTs with such advantages have been exploited to deliver various bioactive substances and contrasting agents. However, they have primarily been used as passive nanocarriers. Here, we have transformed passive CNTs into active autonomous nano-propelled-bots with controlled anticancer drug delivery platform, cellular specificity, targeting and deep 3D tumor penetration capability (Fig. 1A). Further, Fe₃O₄-catalyzed *in-situ* generation of oxygen from TME H₂O₂ may also help in relieving tumor hypoxia with potential augmentation of antitumor influence.

The present work, demonstrates a nanobot drug delivery platform that facilitates propulsion in biological fluids, cellular targeting, modulates the intracellular release and enhanced penetration to TME for improved anti-cancer therapy.

Results and discussion

Antibody/Tf-targeted nanobot conjugation and characterization. Tf and anti-EpCAM mAb conjugated nanobots were designed by multi-step chemical conjugation process (Fig. 1B). CNTs were first subjected to oxidation treatment to create abundant carboxylic groups mostly at the tips and defect sites of CNT surfaces. DOX was successfully encapsulated in the hollow CNTs (with inner diameter of ~11 nm) as the inner surface is hydrophilic, and aqueous solutions containing DOX can be loaded inside through the open ends. Here, we hypothesize that loading of DOX in CNTs will protect it from the early exposure to physiological milieu. Further, Fe₃O₄ NP was conjugated to DOX loaded CNT through the GSH linker by the EDC coupling method. Thereafter, anti-EpCAM mAb was conjugated to the surfaces of CNT by EDC coupling reaction using the carboxyl groups on the CNT resulting in CNT-DOX-Fe₃O₄-mAb nanobots. Similarly, Tf was conjugated to the reactive surface of CNT resulting in CNT-DOX-Fe₃O₄-Tf nanobots. Tf protein has been used as a model targeting moiety to the cancer cells with overexpressed Tf receptors (TfR⁺).

Transmission electron microscope (TEM) images of CNT-DOX-Fe₃O₄-Tf nanobot revealed the presence of spherical Fe₃O₄ NPs of average diameter ~16 nm at the tip ends of CNTs (Fig. 2A and Supplementary Fig. S1). Crystallographic structure of the Fe₃O₄ NPs analyzed by high resolution TEM (HRTEM) showed magnetite crystalline nature (Fig. 2B). Furthermore, the identified lattice fringes co-related well to the structure of magnetite planes with a plane-to-plane separation of 0.486 nm. The Selected Area Electron Diffraction (SAED) pattern revealed spotty diffraction rings and well resolved spots thus confirming crystalline Fe₃O₄ structure for the conjugated NPs (Fig. 2C).

The CNT-DOX-Fe₃O₄-Tf nanobot was also characterized by FTIR to verify the successful covalent conjugation between CNT, Fe₃O₄ and Tf. Figure 2D shows the FTIR spectra of oxidized CNT, CNT-DOX, CNT-DOX-Fe₃O₄ and CNT-DOX-Fe₃O₄-Tf, respectively. The IR spectrum of CNT showed characteristic peak at 1715 cm⁻¹ due to the presence of carbonyl groups. DOX loaded CNT showed characteristic peaks of DOX at 998 cm⁻¹ and 1213 cm⁻¹ indicating presence of DOX in CNT. The IR spectrum of CNT-DOX-Fe₃O₄ showed prominent peaks at 575 cm⁻¹, 629 cm⁻¹ due to Fe-O stretching thus confirming the conjugation of GSH-Fe₃O₄ to the CNT^{21,24,25}. Furthermore, the spectrum of CNT-DOX-Fe₃O₄ conjugated with Tf showed new peaks at 3448 cm⁻¹ for free amine, and sharp peak at 1645 cm⁻¹ for amide linkage, providing clear evidence for conjugation of Tf with CNT-DOX-Fe₃O₄. We also evaluated the conjugation reaction with respect to the change in zeta potential of the individual step during the synthesis of CNT-DOX-Fe₃O₄-Tf (Fig. 2E). The zeta potentials of CNT-COOH, Fe₃O₄, CNT-DOX-Fe₃O₄ and CNT-DOX-Fe₃O₄-Tf were determined to be -4.07, -18.6, -8.9, and -22.2 mV, respectively. The step-wise altered zeta potentials indicated successful conjugation of the multiple components with CNT. Tf conjugation quantified by a modified Bradford procedure was found to be ~326 mg per g of CNT-DOX-Fe₃O₄.

The drug loading and encapsulation efficiency of DOX was determined to be 63.8 µg/mg in CNT-DOX-Fe₃O₄ nanobots using UV-visible spectrophotometry. DOX loading and Tf conjugation in CNT-DOX-Fe₃O₄-Tf was analyzed and confirmed by UV-visible and fluorescence spectroscopy methods. The UV-visible spectrum of CNT-DOX-Fe₃O₄-Tf was compared with the spectra of free DOX and Tf (Fig. 2F). The spectra revealed the presence of characteristic peaks of DOX (λ_{\max} = 480 nm) and Tf (λ_{\max} = 280 nm) in the CNT-DOX-Fe₃O₄-Tf nanobots. Furthermore, the fluorescence spectrum of the CNT-DOX-Fe₃O₄-Tf was compared to that of the free DOX under identical optical conditions (480 nm excitation). As depicted in Fig. 2G, typical DOX in PBS displayed λ_{em} at ~590 nm. The spectrum of CNT-DOX-Fe₃O₄-Tf also displayed the typical absorption band from DOX indicating loading of DOX. In addition, the presence of DOX in CNT was also confirmed using 2.5D fluorescence microscopy imaging of the CNT-DOX-Fe₃O₄ nanobots. The image revealed presence of DOX (red) within the nanopores of the CNT carrier particle (gray) (Supplementary Fig. S2).

Motion and position-kinetic analysis of nanobots. The self-propelling abilities of the CNT-DOX-Fe₃O₄-Tf nanobot in different fluids simulating physiological environments such as in phosphate buffer saline (PBS; pH 7.4), Dulbecco's modified eagle medium (DMEM) cell media and serum were characterized to verify the compatibility in relevant biological fluids. Some organic and/or biological molecules are capable of quenching or inhibiting the H₂O₂ decomposition reactions catalyzed by Fe₃O₄ NPs and thus can significantly hamper the motion of the nanobot. NP tracking analysis was used to track in real-time the movement of the nanobots under a range of H₂O₂ concentrations (Fig. 3A). The nanobots propelled upward instantaneously and gradually reverted in the downward direction. For the mechanism of motion, O₂ bubbles generated by Fe₃O₄ NPs catalyzed decomposition of H₂O₂ are responsible for propulsion in this system. The catalytic ability of Fe₃O₄ evaluated in PBS comprising a range of H₂O₂ (0.006 w/v% to 0.05 w/v%) concentrations revealed increased rate of reaction with increase in H₂O₂ concentration (Supplementary Fig. S3). Supplementary Fig. S4 shows propelling CNT-DOX-Fe₃O₄-Tf nanobots in PBS buffer at pH 7.4 with 0.5% H₂O₂ composition (Supplementary Fig. S4A) and its response when held next to a permanent magnet (Supplementary Fig. S4B). CNT-DOX-Fe₃O₄-Tf nanobots moving in vertical trajectory was acquired through the solution and got accumulated at the side of the tube where the magnetic field gradient was the strongest. Hence, the direction of the nanobots can be remotely controlled by a magnetic field and thus enabling it a cooperative propulsion mode under magnetic field in the presence of the chemical fuel.

Figure 3B shows images of the nanobot at different positions during its motion for a complete cycle. As evident from the images, the nanobot stayed away from the wall and moved through nearly the center of the liquid column during its flight. The average propulsion speed of the CNT-DOX-Fe₃O₄-Tf nanobot during its upward

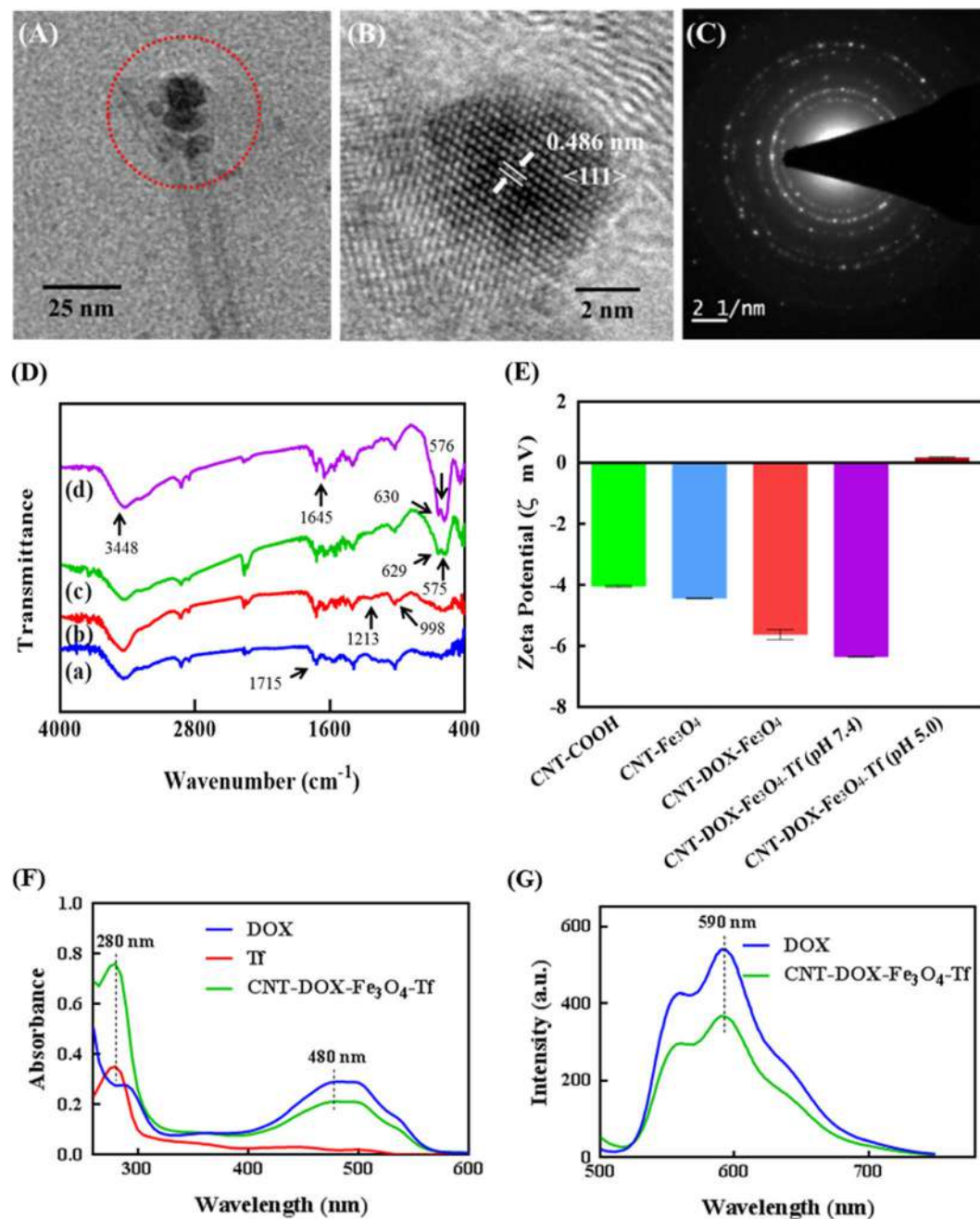


Figure 2. Characterization of CNT-DOX-Fe₃O₄-Tf and CNT modifications to obtain the multicomponent CNT-DOX-Fe₃O₄-Tf (nanobot). (A) TEM microscopy images of CNT-DOX-Fe₃O₄-Tf, (B) evidencing Fe₃O₄ structure, and (C) crystalline features of the NPs. (D) FTIR spectra of (a) CNT-COOH, (b) CNT-DOX, (c) CNT-DOX-Fe₃O₄ and (d) CNT-DOX-Fe₃O₄-Tf. (E) surface charge evolution upon loading of CNT with DOX and further conjugation of Fe₃O₄ and Tf, (F) UV-visible spectra of DOX ($\lambda_{\max} = 480$ nm), Tf ($\lambda_{\max} = 280$ nm) and CNT-DOX-Fe₃O₄-Tf (Tf peak at 280 nm and DOX peak at 480 nm). (G) Normalized fluorescence spectra of DOX and CNT-DOX-Fe₃O₄-Tf ($\lambda_{\text{ex}} = 480$ nm, $\lambda_{\text{em}} = 590$ nm).

movement velocity in PBS, DMEM, and the blood serum was 0.338, 0.831 and 1.011 mm s⁻¹ respectively, in 0.5% H₂O₂. On the other hand, the downward velocity of nanobots was measured to be 0.208, 0.221 and 0.502 mm s⁻¹, respectively. The velocity and speed of nanobots was virtually stable without obvious deceleration for more than 5 cycles.

Interestingly, the upward and downward velocity of the nanobot in PBS, DMEM, and serum increased significantly to 0.972, 2.333, 8.026 mm s⁻¹ (equal to a relative speed of nearly 119 body length per second) and 0.535, 1.120, 1.120 mm s⁻¹ when the concentration of H₂O₂ increased to 8% H₂O₂ (Fig. 3C–E). This corresponds to a large driving force of 592, 1304 and 5435 pN in the upward direction, based on the drag force $F = 6\pi\mu rv$, where v is the speed, r is the radius of the nanobot and μ is the viscosity of the medium (Fig. 3F). The increase in speed

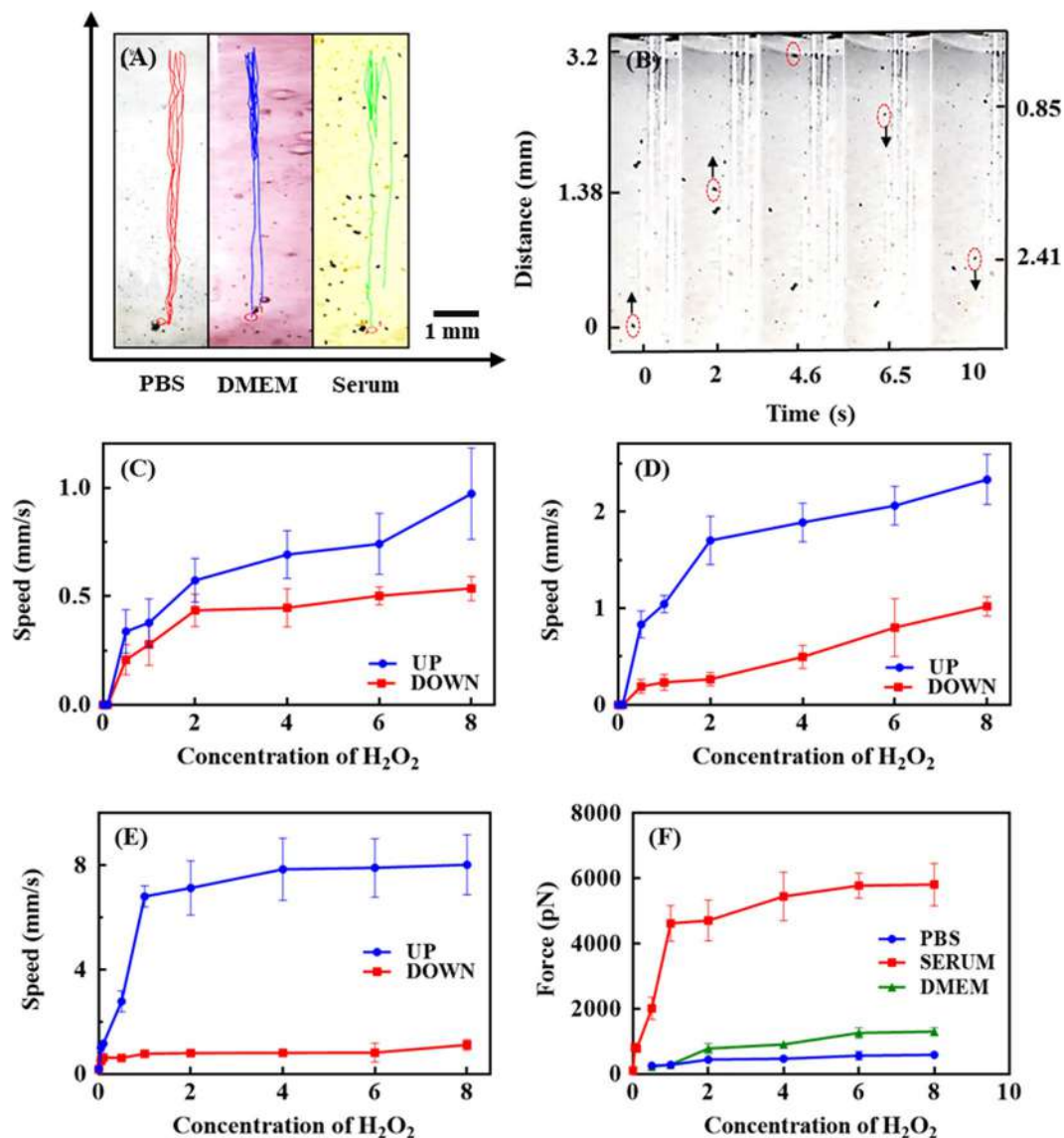


Figure 3. (A) Analysis of the motion behavior of CNT-DOX-Fe₃O₄-Tf nanobot. The videos were recorded with Dino-Lite digital microscope at 50× magnification, using the Dino-Capture 2.0 v (<https://www.dino-lite.com/>), best clip was chosen using VirtualDub 1.10.4 v (<http://www.virtualdub.org/>) and finally tracking and speed calculations were performed using MTrackJ plugin from ImageJ 1.8.0_112 v (<https://imagej.net/MTrackJ/>). (a) Representative tracking trajectories of CNT-DOX-Fe₃O₄-Tf nanobots with different biologically relevant media. (B) Time-lapse images of the nanobot driven by oxygen bubble propulsion after time intervals of (a) 0, (b) 2.0, 4.6, 6.5 and 10 s. Speed of nanobot in the presence of different concentration of H₂O₂ (0.5–8 w/v %) in (C) PBS, (D) DMEM and (E) serum, (F) Analysis of force of nanobot in PBS, DMEM and serum in presence of different concentration of H₂O₂ (0.5–8 w/v %).

with increasing H₂O₂ concentration is due to influence of surrounding H₂O₂ concentration on the reduction rate of the Fe³⁺ to Fe²⁺. Hence, with the presence of higher localized concentration of H₂O₂ lead to an increased production of O₂ bubbles thus resulting in generation of strong thrust and buoyancy thereafter for the upward as well downward motion of the nanobots (Fig. 3F). Further, the speed of the nanobot in serum was ~8.3 and ~3.4 times the speed seen in PBS and DMEM. The distance travelled by the nanobot in serum changed with change in H₂O₂ concentration. At low H₂O₂ concentration (0.5%) the average distance travelled was low (19.069 mm), while it was high (63.543 mm) at higher concentration (8%). The three-fold enhancement of distance travelled by nanobots was influenced due to innate H₂O₂ present in blood. H₂O₂ has diverse roles in normal physiological context. It serves as a blood borne signaling molecule, while at the same time it is produced intra-mitochondrially in most live cells. While these sources produce small amount of H₂O₂, the circulatory system conceivably accumulates this product. Additionally, immune cells, endothelial, and unbound xanthine oxidase generate H₂O₂ which also increase the cumulative H₂O₂ serum levels^{26,27}. Serum H₂O₂ content varies between 0–5 μM depending on physiological conditions²⁸. Significantly, tumor cells influence H₂O₂ content locally and presumably systemically^{29–31}.

Tumors are known to demonstrate the capability of exploiting H_2O_2 in cell proliferation³². However, a restrained capacity to metabolize H_2O_2 drives tumor masses to drain nascent H_2O_2 in the surrounding tissue space which may ultimately reach systemic circulation and may increase systemic levels by up to $10\mu M$ and higher³³. Further, the catalase enzyme present in serum may also be imparting catalytic property by getting adsorbed on the surface of nanobots and thus greatly enhancing generating of oxygen bubbles. In addition, it is conceivable that as a result of localized protein oxidation in the presence of H_2O_2 , the protein aggregation leads to the adsorption of serum proteins such as albumin and immunoglobulins on the surface of the NPs^{34,35}. Aggregated proteins have a cascading effect which may further influence binding of other serum proteins including enzymes such as serum catalase onto the surface of the protein-masked NPs³⁶. This synergistic effect may also be responsible for the rapid propulsion of nanobots in blood serum even at low H_2O_2 concentration as compared to PBS and DMEM^{4,36–40}. The results indicate an appropriate pairing of the propulsion mechanism pre-assumed for its physiological fate and subsequently for the clinical context. It may be possible to exploit the natural H_2O_2 decomposition system in combination with limited exogenous H_2O_2 and attain high propulsion resulting in significant driving force to nanobots for rapid transport of drug cargo followed by deep tumor penetrating capability.

Drug release profiles of the nanobots. To investigate the pH dependent control release of DOX, we performed drug release study at two different pH conditions, one representing the physiological pH i.e. 7.4 and the other cell lysosomal pH (~pH 5) in presence and absence of proteases enzyme-cathepsin B. As shown in Supplementary Fig. S5, CNT-DOX- Fe_3O_4 -Tf nanobot demonstrated low release of DOX (~26%) even after 48 h at pH 7.4, signifying efficient trapping of DOX in the CNT cavities by with Fe_3O_4 NPs exterior cap. The observed small DOX release is probably of the loosely surface-bound DOX. Conversely at pH 5 and in presence of cathepsin B, a controlled DOX release pattern was observed. Around ~76% DOX got released till 4 h which then increased to ~94% at 48 h. This remarkable multi-order kinetics pattern of DOX release from the designed nanobot is due to the degradation of amide linkage resulting in time-dependent uncapping of CNT⁴¹. TEM images of nanobots after release study confirmed the uncapping of CNTs as no Fe_3O_4 NPs were seen near the tip of the CNTs (Supplementary Fig. S6). However, in absence of cathepsin B ~75% DOX got released till 48 h in pH 5.0. The release of DOX is most likely due to the degradation of amide linkage in acidic pH⁴². Similarly, at pH 6.5 and in presence of cathepsin B, ~85% DOX got released till 48 h. However, in absence of cathepsin B only ~56% DOX got released. Further, to confirm the capping efficiency, release of DOX from CNT-DOX- Fe_3O_4 -Tf nanobot without the Fe_3O_4 NP cap was also examined. Nanobot without cap demonstrated a predictable immediate burst-release of ~61% and ~18% of DOX within 30 min in pH 5.0 and 7.4, respectively. As mentioned earlier, the open-ended CNT allow cross-flow in the CNT cavity and consequently allow rapid release of the entrapped DOX. This pH-sensitive release behavior is of particular interest as it can reduce untimely drug release during systemic circulation and can specifically enhance intracellular (lysosomal) DOX release. This will be beneficial in cancer treatment as it will help in significantly lowering the dosage, few side effects and limited drug toxicity.

Time dependent cell entry kinetics studies. The cellular uptake and intracellular pH-dependent endo/lysosomal release of DOX from nanobots was studied over time by fluorescent cell imaging (Fig. 4). HCT116 colon cancer cells were cultured, and subsequently incubated with DOX, CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf at 37 °C before examination under fluorescence microscope at definite time intervals. The inherent fluorescence emissions of DOX were red, which were utilized as indicators for their corresponding distribution inside the cells (Fig. 5A). Figure 4 and Supplementary Fig. S7 depict the entry of free DOX influx, CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf into HCT116 cells, implied by rapid cytosolic DOX labeling followed by DOX importation into the nucleus. At the 1 h, CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf internalized into the cells by mechanisms including endocytosis and energy-independent, direct penetration and were localized mainly in the cytoplasm and subcellular vesicles. The (DAPI-stained) nucleus displayed a low DOX presence as compared to the cytosolic compartment (Supplementary Fig. S7A). Interestingly, the emission of DOX overlapped exactly with that of CNT-DOX- Fe_3O_4 -Tf. In contrast, cells treated with free DOX showed red fluorescence accumulation mainly in the cell nuclei. Exposure of the cancer cells to free DOX resulted in rapid influx owing to passive diffusion as well as carrier-mediated uptake of DOX⁴³. The fluorescence intensity of free DOX in the cell was ~1.7 times higher than that of CNT-DOX- Fe_3O_4 -Tf. On the other hand, the intensity of DOX released from CNT-DOX- Fe_3O_4 was 3.3 times less than CNT-DOX- Fe_3O_4 -Tf. The influx of DOX into the nucleus is believed to be facilitated by binding to proteasomes^{44,45}. On the other hand, energy-dependent drug efflux mechanisms such as ATP-binding cassette subfamily C member 1 (ABCC) are implicated in active efflux of DOX out of the cell⁴⁶. The efflux machinery in turn contributes to the drug resistance of cancer cells. Furthermore, to understand how the TME affect the nanobot internalization process and intracellular delivery of DOX, the cellular entry kinetics was also studied at an acidic pH of 6.5. The pH of the media showed a clear influence on nanobot cell internalization and intracellular DOX release. While the CNT-DOX- Fe_3O_4 nanobot showed comparable DOX presence at 1 h in both pH environments, the CNT-DOX- Fe_3O_4 -Tf nanobot demonstrated ~1.7 fold increase in cellular DOX content in the acidic pH of 6.5, compared to the normal physiological pH 7.4 (Supplementary Fig. S7B, and Fig. 5A). The study clearly reveals higher cell entry of CNT-DOX- Fe_3O_4 -Tf nanobot at pH 6.5.

After incubation for 4 h, DOX released from CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf was observed to be localized in the nuclear region (Fig. 4A,B). The intracellular release of DOX can be attributed to the opening of pH-sensitive nanogates due to amide bond cleavage in the acidic lysosomal compartments (Fig. 1). Additionally, the release of DOX was studied using confocal laser scanning microscopy (CLSM). At 4 h the LysoTracker labeled acidic organelles appeared yellow-orange, owing to merging of the green (LysoTracker) and red (DOX) fluorescence, due to the release of DOX from CNT-DOX- Fe_3O_4 -Tf (Fig. 4E). Subsequently, to further confirm the uncapping of CNT-DOX- Fe_3O_4 -Tf nanobots, Fe_3O_4 NPs in CNT-DOX- Fe_3O_4 -Cy5-Tf were labeled with a fluorescent dye, Cyanine 5 (Cy5). As depicted in Supplementary Fig. S8, a strong localization of Cy5 (purple signal,

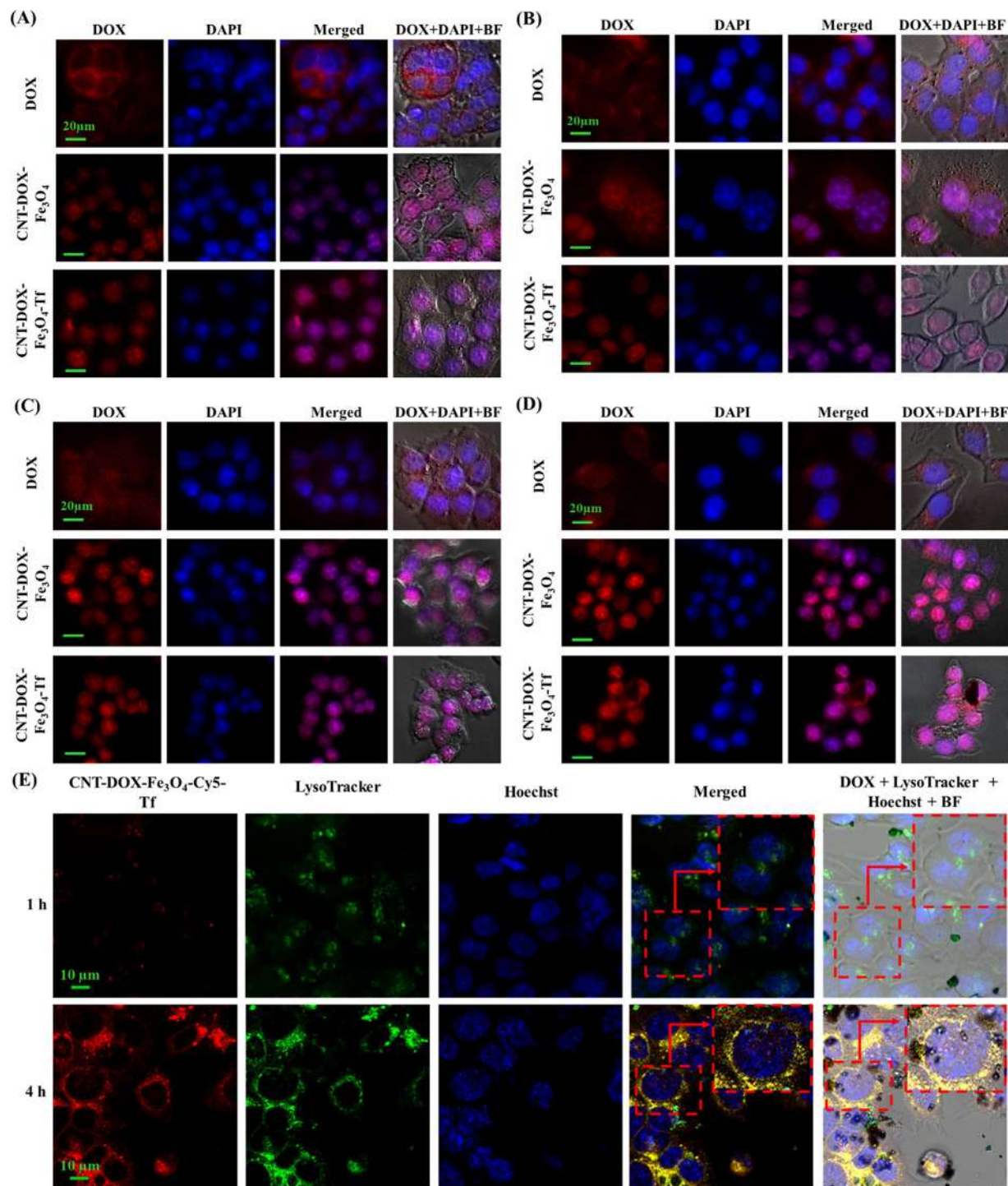


Figure 4. Fluorescent images of HCT116 cells treated with free DOX, CNT-DOX-Fe₃O₄ and CNT-DOX-Fe₃O₄-Tf. (A) At 4 h exposure and at pH 7.4, DOX released from CNT-DOX-Fe₃O₄ and CNT-DOX-Fe₃O₄-Tf was observed to be localized in the nuclear region (A,B). The intracellular release of DOX can be attributed to the opening of pH-sensitive nanogates due to amide bond cleavage in the acidic lysosomal compartments. Cells incubated with free DOX showed efflux of DOX from the nucleus back into the cytoplasm, which is in contrast to the findings for CNT-DOX-Fe₃O₄ and CNT-DOX-Fe₃O₄-Tf. (B) At 4 h exposure and at pH 6.5, the fluorescence intensity of DOX from CNT-DOX-Fe₃O₄-Tf nanobot was higher due to faster cellular internalization of CNT-DOX-Fe₃O₄-Tf. (C) At 24 h and at pH 7.4, most of the DOX was released from CNT-DOX-Fe₃O₄-Tf suggesting the efficient release of DOX from interior cavity of CNT after opening of Fe₃O₄ nanogate in lysosomal conditions. (D) At 24 h and at pH 6.5, the fluorescence intensity of DOX in the cells was more pronounced suggesting enhanced cellular internalization of CNT-DOX-Fe₃O₄-Tf nanobot (Scale bars indicate 20 μm). (E) Kinetic study of Fe₃O₄ NP uncapping and DOX release from CNT-DOX-Fe₃O₄-Cy5-Tf nanobots in cells using confocal microscopy. Time-dependant release of DOX (red) into the acidic lysosomal compartment (green, LysoTracker) over 4 h, indicating -cleavage of CNT- Fe₃O₄ amide-bond, subsequent

uncapping and DOX release. The merged image of the cells at 4 h shows a prominent yellow-orange signal indicating co-localization of DOX and lysosomes around the nucleus (blue), scale bars indicate 10 μm .

Fe_3O_4 NPs) with DOX (red) at 1 h was suggestive of site-restriction of DOX within CNT-DOX- Fe_3O_4 -Cy5-Tf nanobots. However, in 4 h post-treatment images the whole LysoTracker labelled acidic organelles appeared orange indicating separation of Fe_3O_4 and DOX signals, consistent with detachment of Fe_3O_4 caps from CNT and subsequent release of DOX from CNT. This finding is consistent with the DOX release patterns from CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf at pH 5.0 (Supplementary Fig. S5). The fluorescence intensity of DOX for CNT-DOX- Fe_3O_4 -Tf was ~ 8 times higher than that of free DOX (Fig. 5A). Cells incubated with free DOX showed efflux of DOX from the nucleus back into the cytoplasm, which is in contrast to the findings for CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf. Efflux of DOX prior to its activity in arresting topoisomerase is likely the reason for reduced efficacy of DOX. A rapid back-efflux phenomenon indicated an adaptive mechanism for drug resistance. It is conceivable that the efflux transport of free DOX occurs at a significantly higher velocity than that afforded by the DOX-proteasome nuclear import mechanism. On the other hand, the fluorescence intensity of DOX at pH 6.5 from CNT-DOX- Fe_3O_4 -Tf nanobot was ~ 2.4 times higher than that observed in pH 7.4 (Figs. 4B and 5A). The presence of higher DOX could be attributed to faster cellular internalization of CNT-DOX- Fe_3O_4 -Tf in pH 6.5 as compared to pH 7.4.

Tf is a vital protein for cellular uptake of systemic iron, consequently, the receptor mediated endocytosis which drives the import of exogenous CNT-DOX- Fe_3O_4 -Tf nanobot ensures the capture, internalization, processing and release of DOX intracellularly. While diffusion of DOX and transporter mediated DOX import appears faster in the free DOX state, CNT-DOX- Fe_3O_4 -Tf seemingly maintains molecular efficiency in DOX import⁴⁷. Put differently, the deficiency of the Tf-conjugated nanobot in rapid initial diffusion velocity, as seen in free DOX, is compensated by the sustained import of Tf-nanobot-borne DOX. It is possible that the endosomal processing of nanobot-encapsulated DOX results in efficient presentation of liberated DOX to cellular proteasomes which in turn deliver it to the nucleus. In contrast, the CNT-DOX- Fe_3O_4 -borne DOX is introduced within the cell in a diffusion and energy-independent membrane flipping manner. Presumably this exposes the DOX to cellular environment and therefore the efflux machinery resulting in poorer DOX nuclear import as compared to the CNT-DOX- Fe_3O_4 -Tf nanobots.

At 24 h, DOX was almost exclusively present in the nucleus of the cells treated with the CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf nanobots (Fig. 4C,D). Post-endosomal and lysosomal processing and Fe_3O_4 amide-bond cleavage, the released DOX undergoes the same nuclear entry pathway as free DOX, i.e. *via* proteasomes. However, the 24 h retention of DOX within the nuclear compartment is a significant improvement over free DOX. The nuclear efflux is apparently low or virtually non-existent in case of CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf, which is further evidenced by a virtual absence of DOX from the cytoplasm. Strongly contrasted with this nanobot-borne DOX behavior is the gradual disappearance of DOX from the cellular compartments in cells treated with free DOX. The fluorescence intensity of DOX for CNT-DOX- Fe_3O_4 -Tf was ~ 35 times higher than free DOX (Figs. 4C and 5A). It is conceivable that the DOX, free from the influence of nanobot-mediated outcomes, is rapidly effluxed from the cell. ATP-dependent ABCB1 drug transporter is postulated to work even against the DOX concentration gradient across the cell membrane and achieve high DOX clearance. Interestingly, at pH 6.5, the fluorescence intensity of DOX in the cells exposed to CNT-DOX- Fe_3O_4 -Tf nanobot was more pronounced than in pH 7.4. The intensity was ~ 1.3 times more in pH 6.5 suggesting enhanced cellular internalization of CNT-DOX- Fe_3O_4 -Tf nanobot at pH 6.5 (Figs. 4B and 5A). The presence of higher DOX could be attributed to faster cellular internalization of CNT-DOX- Fe_3O_4 -Tf in pH 6.5 as compared to pH 7.4.

At the 48 h, most of the DOX resided in the nuclei of the cells treated with CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf (Supplementary Fig. S7C,D), similar to the outcome seen at 24 h. While nuclear retention was apparent for both treatments, DOX intensity appeared greater for CNT-DOX- Fe_3O_4 -Tf indicating efficient and steady release of DOX from the target-specific CNT-DOX- Fe_3O_4 -Tf nanobot. The amount of DOX effluxed from the cell was as high as 93% as determined from the kinetic study for free DOX. While the efflux kinetics for the free DOX was similar in the both the pH conditions, CNT-DOX- Fe_3O_4 -Tf nanobot demonstrated pH sensitivity even at 48 h. As shown in Supplementary Fig. S7C,D, DOX released from CNT-DOX- Fe_3O_4 -Tf nanobot co-localized with DAPI concentrated in the nuclear region highlighting the nucleosome bodies, which contain the chromatin matter. The effect is more pronounced at pH 6.5 and the DOX accentuation in the nucleus suggests preferential binding of DOX to DNA and nucleosome-bound topoisomerases (Fig. 5B). The consequence of targeted delivery of DOX using the CNT-DOX- Fe_3O_4 -Tf vehicle was the inversion of the net efflux kinetics seen in free drug to the net accumulation kinetics of DOX when administered *via* targeted nanobots (Supplementary Fig. S9).

As mentioned earlier, while the efflux velocity of the free DOX may overcome its nuclear entry, the proteasome-facilitated DOX nuclear import may be instrumental in enhanced DOX entry into the nucleus when cells are treated with DOX-nanobots. Moreover, the CNT-DOX- Fe_3O_4 borne DOX may have secondary roles in enhanced nuclear delivery and nuclear retention which allow DOX to show nuclear presence past the clearance period for free DOX (Supplementary Fig. S7C,D). The proposed nanobot thus present a mechanism for evading drug efflux in cancerous cells and ensuring drug accumulation to achieve its cytotoxic goal.

To highlight the role of TME acidic milieu and H_2O_2 in the uptake of nanobots, zeta potential of the cells exposed to CNT-DOX- Fe_3O_4 -Tf nanobot was evaluated at two different pH conditions, physiological pH 7.4 and pH 6.5 which exists in TME in presence of H_2O_2 as shown in Fig. 5C. The HCT116 cells demonstrated a negative surface charge in pH 7.4. However, at lower pH values (pH 6.5), the cells underwent surface charge modifications and exhibited a predominantly positive charge due to protonation of free fatty acid head groups in the outer

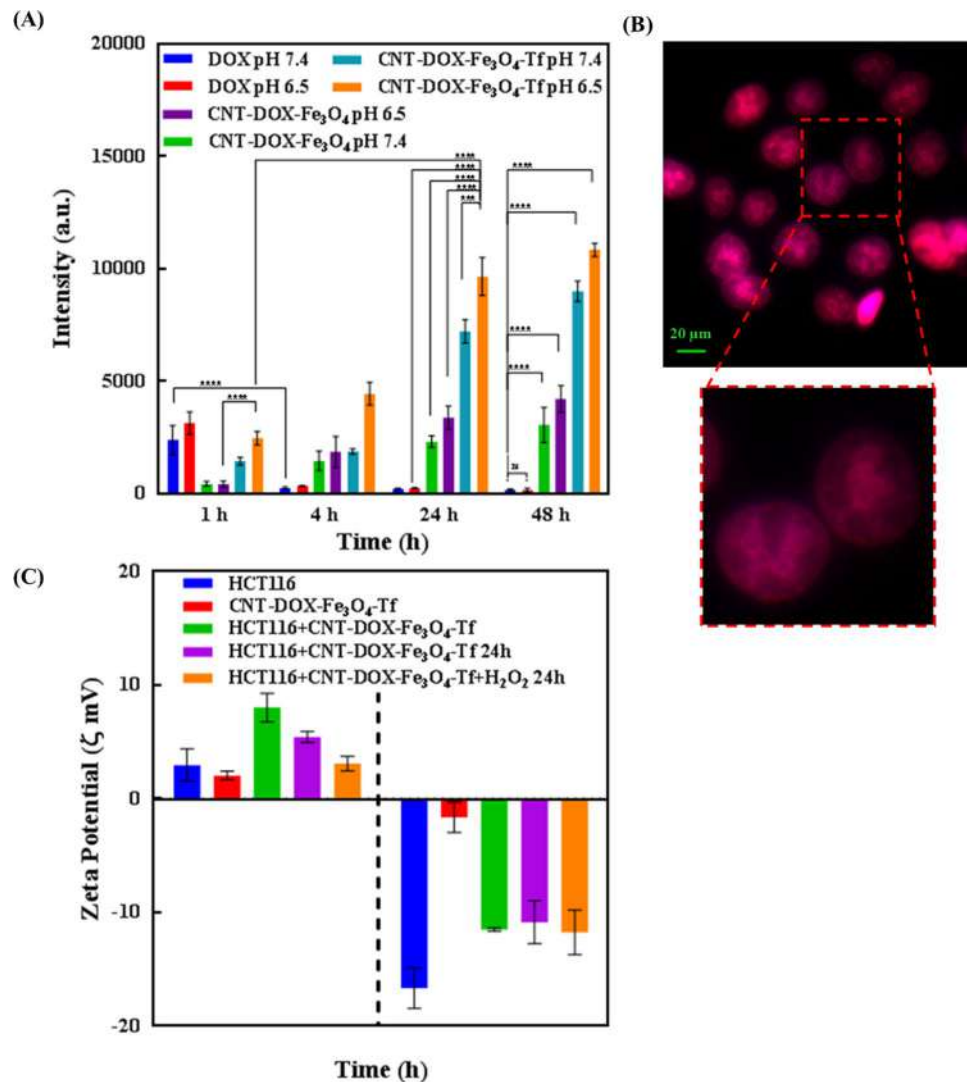


Figure 5. (A) Fluorescence intensity of intracellular DOX accumulation upon treatment with nanobots at varying pH. (B) DOX binding of nucleoli. The nucleolar enrichment of DOX post NP administration is suggestive of high-affinity binding of DOX to nucleoli. (C) Surface charge evolution upon exposing to CNT-DOX-Fe₃O₄-Tf in presence and absence of H₂O₂.

lipid⁴⁸. Furthermore, cells exposed to CNT-DOX-Fe₃O₄-Tf nanobot resulted in a significant alteration of the cell's surface charge, regardless of the pH conditions. The zeta potential of the cells exposed to CNT-DOX-Fe₃O₄-Tf nanobot in pH 6.5 was roughly 3-times higher as compared to the cells alone. The increase in zeta potential of the cells can likely be attributed to surface-attachment of the nanobot which are also positively charged in acidic pH of 6.5. The increase in surface charge of the cells is shown to be reduced over time (24 h) and furthermore by co-incubation with H₂O₂ in acidic media. This may be interpreted as a gradual reduction in surface charge due to internalization of the nanobots by receptor-mediated endocytosis. In the presence of H₂O₂ at 24 h, the cells exposed to CNT-DOX-Fe₃O₄-Tf nanobot demonstrated a restoration to the initial zeta potential in acidic condition. It may be due to near-complete internalization of the attached CNT-DOX-Fe₃O₄-Tf nanobot in the cell. The acidic condition may have played a role in uptake of nanobots which is further accentuated in the presence of H₂O₂ as shown in Fig. 5C. Interestingly, the cells exposed to the CNT-DOX-Fe₃O₄-Tf nanobot at physiological pH did not show any major change over time or by the presence of H₂O₂ suggesting a slow internalization under physiological conditions. In accordance with the cell kinetics images (Fig. 4A–D), HCT116 cells do show greater DOX accumulation in acidic conditions.

Nanobot's efficacy as a drug delivery vehicle. Concurring with the microscopy data presented, cell viability assays were performed to compare the cytotoxic effects of DOX, CNT-Fe₃O₄, CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobot, show anticancer effect of the targeted nanobots. The control treatment with CNT (CNT-COOH) showed no cytotoxicity in the treated HCT116 cells. CNT-Fe₃O₄ nanobot showed a mild influence on decreasing viability of treated cells, however there was no statistical difference in the effects of

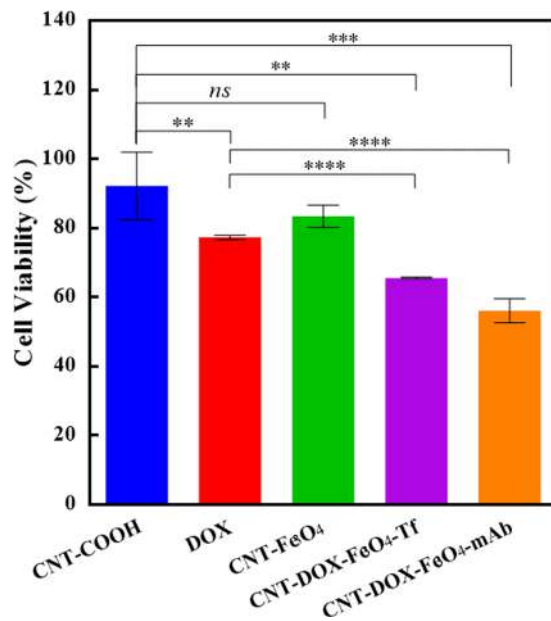


Figure 6. Cytotoxicity analysis of free DOX, CNT-DOX-Fe₃O₄, CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobots incubated for 48 h with HCT116 cells. Cell viability study of treatments with free DOX and nanobots reveals a statistical improvement of CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobots over free DOX treatment of HCT116 cells. The CNT-Fe₃O₄ nanobot does not show greater cytotoxic effect as compared to the control-CNT treatment. The free DOX shows limited toxicity to the model cancer cells at the end of the treatment. In contrast, the CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobot loaded with an equivalent dose of DOX shows statistically significant improvement in the toxicity induced, suggesting greater efficacy of the DOX delivery by nanobot.

control CNT and CNT-Fe₃O₄ as shown in the Fig. 6. DOX on the other hand showed anticancer effect in HCT116 cells, based on the reduced viability of treated cells. The reduced cytotoxicity of the topoisomerase inhibitor *viz a viz* drug is attributed to the activity of the efflux pump which drive DOX out of the cell and decrease its intercalation with DNA³³. As also seen in the cellular kinetics study (Fig. 4), DOX rapidly localizes to the nuclear region, however the energy-dependent efflux pumps are credited with effective removal of DOX from the nuclear compartment and eventually the cytoplasm as well. In contrast the targeted nanobots demonstrated superior nuclear DOX retention and maintained nuclear localization of the DOX for up to 48 h. The greater cytotoxicity of the targeted CNT-DOX-Fe₃O₄-Tf/mAb and CNT-DOX-Fe₃O₄-mAb nanobot maybe likely a result of the enhanced nuclear accumulation of DOX, as compared to the free DOX.

Antitumor efficacy of drug loaded nanobots on 3D spheroidal tumors. To verify the proposed enhanced tumor penetration of DOX loaded nanobots, multicellular cancer cell 3D spheroids were used to simulate *in vivo* tumors (Fig. 7)⁴⁹. HCT116 spheroids were cultured for 3 days by hanging drop method which promoted 3D tumor formation. The spheroids cultured from single cell suspensions are known to mimic *in vivo* cell-cell interactions *via* formation of inter-cellular junctions contributing to their *in vitro* integrity. Spheroid tumors sustain a balance between cell proliferation and cell death depending on the nutrient supply, DNA replication machinery and death-inducing stimuli. Furthermore, the TME gradient produced due to cellular heterogeneity (outer proliferating layer, followed by a quiescent region and inner necrotic core) is also believed to mimic native tumor physiology, the primary difference being intra-tumor mass vascularization under *in vivo* physiological conditions. *In vivo* tumors are characterized by angiogenesis as a result of complex biochemical interplays to enable tumor survival *via* vascularization^{50,51}. Lab-grown spheroids thus, have to rely on surrounding media for nutrient supply. Consequently, as a result of nutrient gradient, the spheroids develop cellular heterogeneity as described above. As the cells proliferate, the number of dead cells accumulates as well, especially in the necrotic core of the spheroid leading to the formation of a dense inner core and an outermost scattered mono layer of shed cells (Fig. 7A, control). Since free DOX can be rapidly taken up by the outer layer of the spheroid cells, a pronounced DOX effect was observed initially. However, DOX effect dissipated in the cell medium as a relatively dilute anti-neoplastic drug, DOX was apparently not sufficient to induce death of remaining cells even after 72 h (Fig. 7A). Note that the inner dense (darker) core is reduced, despite the apparent growth of the tumor area. The widening of the tumor base is attributed to the reduced cell-cell adhesions resulting from DOX treatment which consequently undermines the integrity of the spheroid mass causing it to settle downward and spread. CNT-DOX-Fe₃O₄-mAb and CNT-DOX-Fe₃O₄-Tf nanobots were significantly more efficacious in tumor reduction than free DOX and the CNT-DOX-Fe₃O₄ nanobot. CNT-DOX-Fe₃O₄-mAb and CNT-DOX-Fe₃O₄-Tf nanobots were able to induce cell death resulting in tumor spheroid disintegration compared to control after 72 h of treatment, as shown in Fig. 7A. The lack in spheroid cohesion is apparent from 48 h for both treatments, while the inner dense cores were abolished completely by 72 h. On the

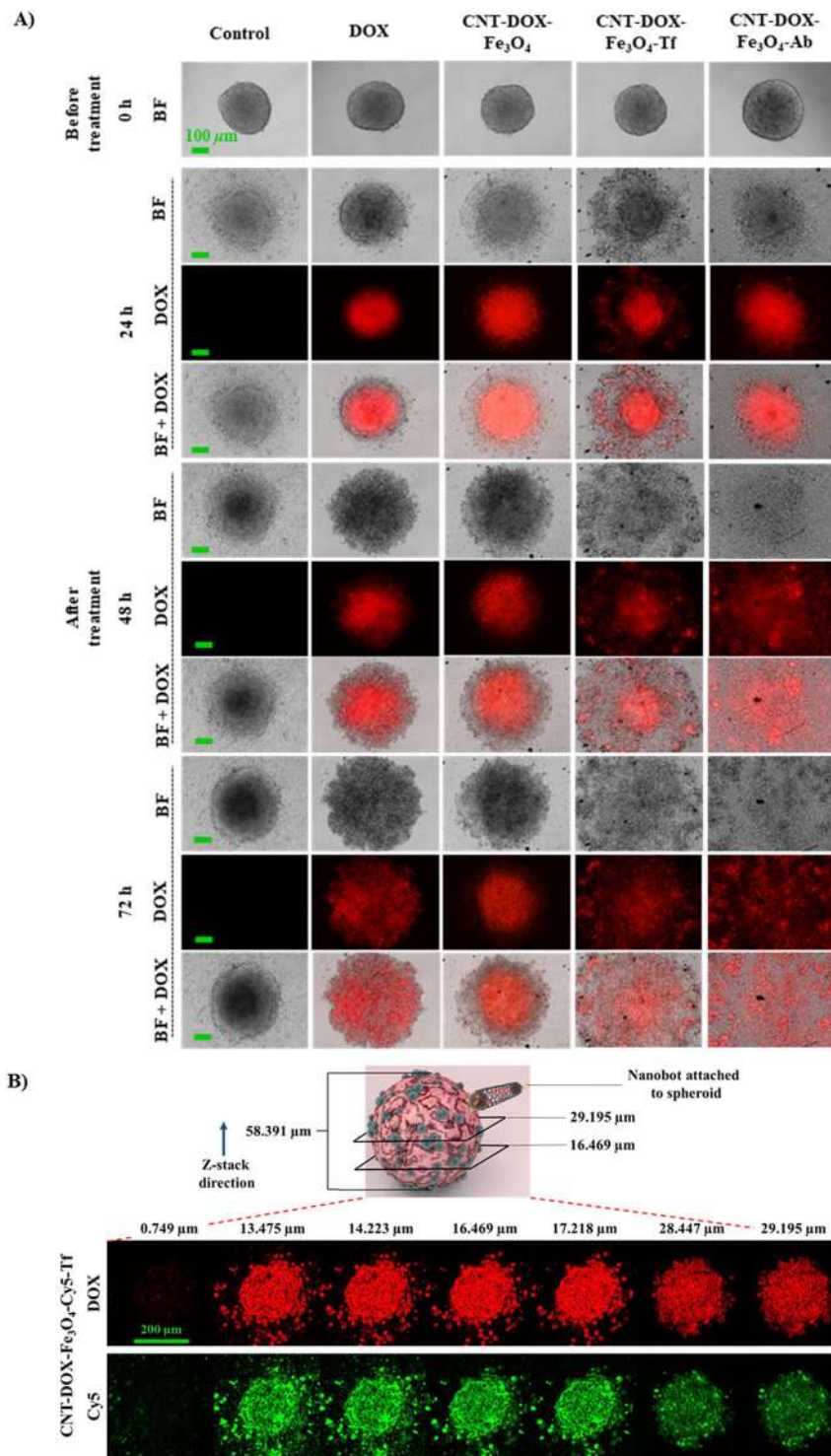


Figure 7. (A) Anti-tumor effect of free DOX, CNT-DOX- Fe_3O_4 and CNT-DOX- Fe_3O_4 -Tf on HCT116 spheroids. Red color shows the fluorescence of DOX under an excitation light with a wavelength of 488 nm. After 72 h exposure, CNT-DOX- Fe_3O_4 -mAb and CNT-DOX- Fe_3O_4 -Tf were efficacious in tumor-spheroid disintegration and were able to induce significant cell death due to enhanced tumor penetration compared to control (untreated tumor). Scale bar for panel represents 100 μm . (B) Deep penetration of CNT-DOX- Fe_3O_4 -Cy5-Tf NPs into the tumor-spheroid core. Confocal microscopy of spheroid reveals co-localization of DOX (red) and Cy5 tagged CNT-DOX- Fe_3O_4 -Cy5-Tf NPs (green) at various depths in the tumor mass suggesting deep penetration of the NPs. The schematic depicts the spheroid thickness (58 μm) and the representative planes shown in the confocal image panel below. Scale bar for panel represents 200 μm .

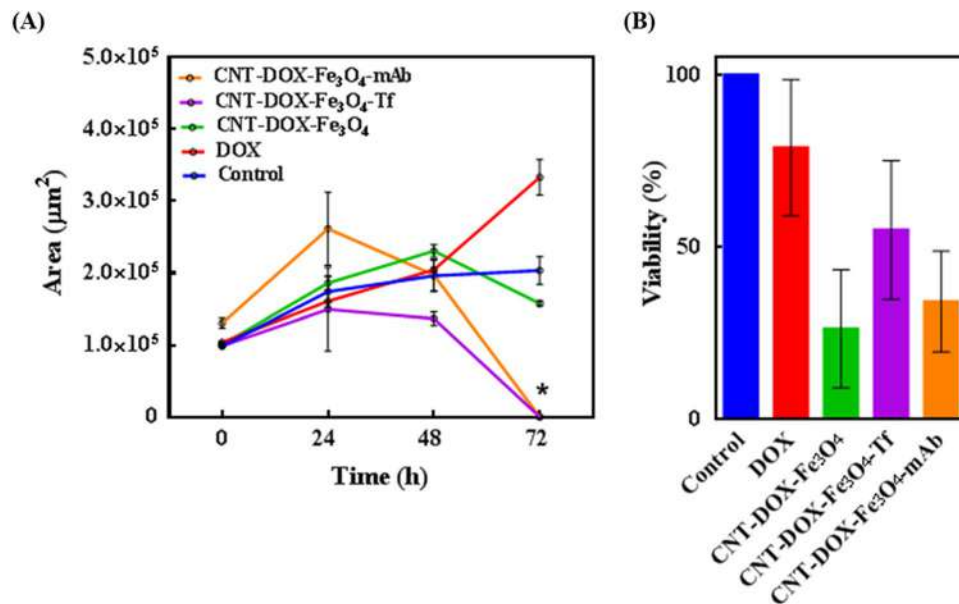


Figure 8. Anti-tumor efficacy of administered nanobots on HCT116 spheroids. (A) The tumor mass is expressed as area over a period of 72 h. Tumor disintegration (*) is indicated by reduction in tumor area of spheroids treated with CNT-DOX-Fe₃O₄-mAb and CNT-DOX-Fe₃O₄-Tf. (B) Tumor viability under various treatments are depicted as percent survival, compared to control.

other hand, the control tumor after 72 h depicted an increase in core area by ~104% (from $\sim 9.8 \times 10^4$ to $\sim 20.3 \times 10^4 \mu\text{m}^2$) and CNT-DOX-Fe₃O₄ nanobot treated tumor by ~62% (from $\sim 9.9 \times 10^4$ to $\sim 15.8 \times 10^4 \mu\text{m}^2$) compared to their respective before treatment area. One reason for the enhanced efficacy may be the deep tumor penetration ability of CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb due to the forward thrust obtained by nanobots and the delayed DOX clearance at the tumor site because of the retention property of the NPs. DOX is also responsible for inhibiting/blocking the transcriptome⁴³, which may also affect the cancer cells ability to maintain the cell adhesion/cell contact machinery. It is conceivable that sustained DOX exposure may reduce the ability of spheroid cells to self-adhere/assemble and be subject to disaggregation and thus be increasingly more prone to the cytotoxic effects of DOX. The effects of CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb appear to manifest in a manner consistent with the above statement (Fig. 7A). Additionally, deep tumor penetration of CNT-DOX-Fe₃O₄-Cy5-Tf nanobots into the tumor-spheroid core was studied using confocal microscopy. Z-stack images of the spheroids revealed co-localization of DOX (red) and Fe₃O₄-Cy5 (green) signals at various planes, suggesting deep penetration of NPs as well as their internalization into individual tumor cells (Fig. 7B). The DOX and Fe₃O₄-Cy5 signals were visible with substantial intensity up to the core ($\sim 29 \mu\text{m}$) of the entire tumor mass ($\sim 58 \mu\text{m}$). The ablation of the dense tumor cores (Fig. 8A) are indicative of exposure to CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb particles. Furthermore, the protection of CNT-encapsulated DOX against rapid drug efflux prior to endocytosis and the subsequent intracellular release of DOX may contribute to the enhanced antitumor effect. In contrast, free DOX and CNT-DOX-Fe₃O₄ were less effective in tumor regression possibly as a result of the small size of free DOX or extracellularly released DOX that would be rapidly diffused away from the tumor interstitium. Interestingly, tumor viability studies demonstrated a greater anticancer activity for CNT-DOX-Fe₃O₄ particles (Fig. 8B), compared to the targeted NPs. This may result from sustained non-specific TME-acid triggered Fe₃O₄ uncapping and DOX release in the immediate vicinity and interior of the spheroid. The resultant system is hypothesized to have generated a very high localized DOX concentration in the TME resulting in significant cell death, but insufficient impact to destroy the tumor integrity. Tf and anti-EpCAM mAb conjugated nanobots exhibited greater cell surface targeting, however this delayed the release of DOX payload intracellularly. The effect can be attributed to surface epitope interactions between Tf as well as anti-EpCAM mAb nanobot ligands and over-expressed cell surface receptors.

Finally, although Tf and anti-EpCAM mAb conjugated nanobots achieve greater targeting their cellular internalization mechanism, release from the overexpressed cell surface receptors, and the release of DOX inside the cells seems to be delayed. This can be attributed to the specific and tight interactions between over-expressed cell surface receptors and the Tf as well as anti-EpCAM mAb nanobots. However, the self-propulsion, cell surface specificity, cell kinetics, and finally the anticancer activity measurements makes these nanobots interesting to be further explored in anticancer therapy.

Conclusions

We have demonstrated a novel self-powered multifunctional gated nanobot that offers promising alternative drug delivery system based on rapid autonomous motion for quicker and deeper delivery to the tumor site. The nanobots were fabricated by chemically coordinating and conjugating multiple components such as Fe₃O₄ NPs and targeting moiety such as Tf or anti-EpCAM mAb to CNT. This nanobot system combines several intriguing

features, namely self-propulsion, high DOX loading, tumor targeting and profound penetration ability, *in situ* pH triggered release of the DOX, and improved drug availability. The CNT-DOX-Fe₃O₄-Tf nanobots demonstrated ultrafast self-propulsion (0.972 and 0.535 mm s⁻¹) not only in high ionic media (PBS buffer) but also in biological media such as DMEM (2.333 and 1.120 mm s⁻¹) and blood serum (8.026 and 1.120 mm s⁻¹), a crucial ability necessary for its use in biomedical applications. The speed of the nanobot in serum was ~8.3 and ~3.4 times the speed seen in PBS and DMEM. The driving force of 592, 1304 and 5435 pN for the nanobot's upward propulsion was significantly higher. The high driving force and thus higher speed of CNT-DOX-Fe₃O₄-Tf nanobot in serum is maybe due to adsorbed serum catalase enzyme which may be imparting additional propulsion by catalytic property and thus enhancing generating of oxygen bubbles. Thus, propulsion of nanobot was also observed in serum with no external H₂O₂ indicating ability of the nanobot to propel in blood and penetrate tumor by utilizing H₂O₂ present in the TME. The cellular uptake study showed controlled release of DOX due to opening of pH-sensitive nanogates by cleavage of amide bond in the acidic lysosomal compartments. Further, higher intensity of DOX in nucleus for CNT-DOX-Fe₃O₄-Tf nanobot indicated not only efficient and steady release of DOX but also superior retentive property of the nanobot carriers. Upon administration to tumor spheroids, CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobots were significantly more efficacious in tumor reduction at 72 h than the control groups including free DOX and CNT-DOX-Fe₃O₄ nanobot. One reason for the enhanced efficacy might be the profound tumor penetration ability due to the propulsion of CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobots, and the delayed clearance at the tumor site because of the retention property of the NPs. Thus, the synthesized CNT-DOX-Fe₃O₄-mAb and CNT-DOX-Fe₃O₄-Tf nanobots would be effective in smaller numbers, designed to selectively and efficaciously deliver the drug payload in targeted cancer cells alone within the TME.

Materials and methods

Reagents. Multi-walled carbon nanotubes (CNTs) having outer diameter of 10–15 nm; length 1–5 μm; and purity >99%, were purchased from Ad-Nano Technologies, India. Ferric chloride tetrahydrate, ferrous chloride hexahydrate, transferrin (Tf), *N*-(3-Dimethylaminopropyl)-*N'*-ethylcarbodiimide (EDC.HCl), glutathione (GSH) and horseradish peroxidase (type VI) were purchased from Sigma-Aldrich, USA. Doxorubicin hydrochloride (DOX) was received as a gift from Naprod Life Sciences, India. Cy5 mono NHS ester was procured from GE Healthcare UK Limited, and LysoTracker Green DND-26 was procured from Invitrogen, Thermo Fisher Scientific. HCT116 cells were obtained from the National Centre for Cell Science, India. McCoy's 5A, fetal bovine serum (FBS), Penicillin and streptomycin were purchased from Sigma-Aldrich, USA. Ultrapure water (MilliQ) acquired from a Merck Millipore system, Germany, was used throughout. All other chemicals procured were of analytical grade and utilized without further purification.

Functionalization of CNTs (CNT-COOH). CNT was purified and oxidized using a modified literature procedure⁵². In brief, 85 mg of CNT was dispersed in 100 mL mixture of H₂SO₄/HNO₃ (3:1) and then sonicated for 6 h. The mixture was diluted with 100 mL ice cold water, concentrated by centrifugation and washed with 5% NaOH solution and ultra-pure water. Resulting functionalized CNT was dried at 80 °C (12 h).

Synthesis of Fe₃O₄-GSH. Fe₃O₄ NPs were prepared by co-precipitation of ferric and ferrous ions (2:1) using aqueous ammonium hydroxide solution and then heated at 80 °C for 30 min, washed for several times with ultra-pure water and ethanol and finally dried at 70 °C (4–6 h)⁵³. 5 mg of Fe₃O₄ NPs were dispersed in 150 μl of ultra-pure water and 50 μl of methanol and sonicated for 15 min. 4 mg of GSH was dissolved in 50 μl of ultra-pure water, added in above solution and again sonicated for 2 h. The GSH functionalized NPs were then isolated by magnetic separation, washed repeatedly with ultra-pure water and dried well⁵⁴.

Loading of DOX in CNT-COOH (CNT-DOX). Loading of DOX in CNT-COOH was carried using a modified procedure previously reported by us²⁴. Briefly, 20 mg of CNT-COOH were suspended in 5 mL solution of DOX (8 mg/mL). The solution was sonicated for 6 h and was allowed to stand for further 12 h. The synthesized product, CNT-DOX was collected by centrifugation and dried well at room temperature.

Synthesis of CNT-DOX-Fe₃O₄. 20 mg of CNT-DOX and 5 mg of EDC were added in 5 ml of phosphate buffer (pH 7.4) and then agitated for 30 min. 20 mg of Fe₃O₄-GSH was added in the same mixture and agitated for another 1 h. The conjugated CNT-DOX-Fe₃O₄ NPs were magnetically separated, washed extensively with phosphate buffer to remove externally adsorbed DOX and then dried well at 40 °C.

Synthesis of CNT-DOX-Fe₃O₄-Tf. 10 mg of CNT-DOX-Fe₃O₄ were treated with 1 mL of EDC and NHS solution (50 mM each solution in phosphate buffer (pH 7.4)). After 30 min of agitation, CNT-DOX-Fe₃O₄ NPs were separated with magnet and washed with PBS (3 times). 1 mL of Tf solution (5 mg/mL) was added. The reaction was then agitated for 4 h. The synthesized product, CNT-DOX-Fe₃O₄-Tf NPs were collected by magnetic separation and dried well at room temperature. Similarly, conjugation of anti-EpCAM mAb to CNT-DOX-Fe₃O₄ NPs was carried out.

Characterization. TEM analysis was carried out using Tecnai FEI G2 (accelerating voltage of 300 kV). The samples were prepared by placing a drop of CNT-DOX-Fe₃O₄-Tf suspensions (in DI water) onto a Formvar-covered copper grid. The water was allowed to evaporate in air at room temperature before imaging. FTIR spectral studies were carried out using a Perkin Elmer Fourier Transform Infrared (FTIR) spectrometer, USA in the range between 4000 and 400 cm⁻¹, with a resolution of 2 cm⁻¹. The UV-Vis absorption spectra were recorded on Agilent Technologies Cary 60 UV spectrophotometer.

Catalytic activity of Fe₃O₄ in H₂O₂. The catalytic activity of Fe₃O₄ in H₂O₂ was evaluated by incubating a 500 µg/mL dispersion of Fe₃O₄ in PBS pH 7.4 with various concentrations of H₂O₂ (0.006 w/v% to 0.05 w/v%) for 30 min. The difference in initial concentration of H₂O₂ and the concentration of H₂O₂ after 30 min was used to determine the rate of reaction. The concentration of H₂O₂ in solution was determined using a modified horseradish peroxidase (HRP) based colorimetric assay⁵⁵. Briefly, 10 µL of test sample (either standard H₂O₂ solutions for calibration curve or reaction samples) was added to 990 µL of an enzyme mixture and incubated for 30 min in dark. The enzyme mixture comprised of 500 µL of 84 mM phosphate buffer pH 7, 350 µL of 12 mM phenol, 100 µL of 0.5 mM 4-aminoantipyrene and 40 µL of 1 U/mL of HRP in 84 mM phosphate buffer pH 7. The absorbance was read at 505 nm.

Motion behavior of nanobot in different fluids. The self-propulsion of the CNT-DOX-Fe₃O₄-Tf nanobot in PBS, DMEM and serum with different concentrations of H₂O₂ (0, 0.05, 0.1, 0.5, 1, 2, 4, 6 and 8%), was recorded with Dino-Lite digital microscope at 50× magnification, using the Dino-Capture 2.0 v (<https://www.dino-lite.com/>). This was then processed to convert in to Avi format using Format Factory and chosen best clip using VirtualDub 1.10.4 v (<http://www.virtualdub.org/>). The propelling microparticles were tracked and calculated its speed using MTrackJ plugin from ImageJ 1.8.0_112v (<https://imagej.net/MTrackJ>).

Drug release profiles of the nanobot. pH dependent *in vitro* release profile of DOX from CNT-DOX-Fe₃O₄-Tf was evaluated by suspending 10 mg of material in 20 ml of pH 5 and pH 7.4 phosphate buffer. The nano system was stirred continuously at ambient temperature. 1 ml of aliquot was withdrawn at different time intervals, centrifuged and was analyzed using UV spectroscopy at λ_{max} of 484 nm. 1 ml of fresh phosphate buffer of same pH was replaced at every time point in the dissolution media. All the experiments were performed in triplicate.

Cell culture. HCT116 was procured from NCCS and cultured in McCoy's 5A, supplemented with 10% fetal bovine serum and 100 unit/ml penicillin, 100 mg/ml streptomycin and maintained in CO₂ incubator at 37°C and 5% CO₂ saturation.

Nanobot's efficacy as drug delivery vehicle. The cytotoxic activity of compounds was quantitatively determined by a colorimetric assay utilizing (3-(4, 5-dimethylthiazol-2-yl)-2, 5-diphenyltetrazolium bromide) (MTT). HCT116 cells were seeded in 96-well plates (5000 cells/well) and maintained in CO₂ incubator for 24 h at 37°C in McCoy's 5A medium supplemented with 10% FBS and 1% antibiotics. The free DOX, CNT-COOH, CNT-Fe₃O₄, CNT-DOX-Fe₃O₄-Tf and CNT-DOX-Fe₃O₄-mAb nanobots were added in the wells and incubated for 48 h. The DOX concentration in the study was 0.377 µg/ml (IC₅₀). The cells were then incubated with MTT for 4 h at 37°C. In the viable cells mitochondrial succinic dehydrogenase reduced MTT to an insoluble formazan precipitate. After removal of the media, dimethylsulfoxide (DMSO) was added to each well. After complete solubilization of the purple MTT formazan (approximately 10–15 min), the absorbance was measured at 570 nm with a microplate reader on Infinites F200 PRO (Tecan, Austria). Background readings (blank) were obtained from cell-free wells containing media also incubated with the MTT solution.

Time dependent cellular entry studies using fluorescence microscopy. 5000 cells of HCT116, were seeded in each well of 96 well plate. After 24 h, cells were treated with free DOX, CNT-DOX-Fe₃O₄ and CNT-DOX-Fe₃O₄-Tf nanobots in a time dependent manner (1 h, 4 h, 24 h and 48 h). The concentration of DOX was 0.377 µg/ml (IC₅₀). The free DOX and all the nanobots were added according to the IC₅₀ value of DOX and the DOX loading (60 µg/mg) in the nanobots. The media were removed and cells were washed with phosphate buffered saline (PBS) after consecutive time points and processed for fluorescence microscopy. Cells were fixed with 4.0% (w/v) paraformaldehyde for 15 min at room temperature, then washed with PBS and maintained in PBS. Cells were stained with 4,6-diamidino-2-phenylindole (DAPI) (Sigma) and examined under a fluorescence microscope (Carl Zeiss, AxioObserver A3, USA).

Additionally, the co-localization of DOX in acidic lysosomal compartments with LysoTracker green as a fluorescent probe was studied using confocal laser scanning microscopy (CLSM), Leica Microsystems.

Time dependent cellular entry studies using zeta potential. HCT116 cells were incubated with CNT-DOX-Fe₃O₄-Tf nanobots at pH 7.4 and 6.5 in presence or absence of H₂O₂ (4.98 mM). The 5000 cell were re-suspended in 1 mL of 40 mM HEPES buffer pH 7.4 and 6.5. The zeta potential values of HCT116 cells and cells incubated with CNT-DOX-Fe₃O₄-Tf for different time duration *viz.* 0 min and 24 h, were measured using Zetasizer Nano ZS (Malvern Instruments, Worcestershire, UK). All the Zeta (ξ) potential measurements were carried out at room temperature using phase analysis light scattering mode.

Culture of HCT116 cell 3D spheroidal tumor. 3D tumor spheroids were formed by a modified method of the hanging drop technique⁴⁹. In brief, the lid of sterile 12 well plates were coated with poly(dimethoxysiloxane) (PDMS) and Sylgard 184 in a 10:1 ratio and cured at 80°C for around 45 min. The lids were then placed under UV for 30 min to ensure sterility of the PDMS coated surface. HCT116 cell suspension was prepared in complete McCoy's 5A medium. 20 µL drops of the cell suspension with a density of 2,500 cells/drop were placed at regular intervals on the PDMS coated lid. The wells were filled with sterile MilliQ water to ensure hydration of drops upon incubation. Thereafter, the cells were incubated at 37°C in presence of 5% CO₂ for three days. Finally, the coherent mass of 3D tumor spheroids formed was selected for further studies.

Antitumor efficacy of drug loaded nanobots. Tumors generated by hanging drop method were transferred to 96 well plate for treatment with DOX and nanobots. The 3D tumor spheroids upon transfer to 96 well

plate were immediately treated with free DOX (5 µg/mL) and nanobots containing equivalent DOX for 72 h. The images of tumors were captured using Carl Zeiss, AxioObserver A3, USA, USA inverted fluorescence microscope. The exposure time while capturing bright field images was fixed at 100 ms and the exposure time while capturing fluorescence images was fixed at 400 ms.

Furthermore, the viability of tumors after 72 h was analyzed by MTT assay following similar protocol mentioned earlier. Similarly, for CLSM the 3D tumor spheroids were transferred to a glass bottom well plate before capturing z-stack images. The z-stack images were captured at intervals of 0.75 µm.

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Author contributions

S.S.B. and J.J.K. conceived the idea and designed the research. S.S.B., J.J.K., R.D.W., K.D.D. and Y.N.P. co-analyzed the experimental and calculated data. S.S.B., J.J.K., S.S.A., R.D.W., G.P.C. and Y.N.P. contributed to the writing and editing of the manuscript. R.D.W. prepared the nanobots and also performed the motion experiments. K.D.D. performed the *in vitro* cellular entry and cytotoxicity studies. B.V.T. supported the experiments on TEM characterization. S.S.A. supported all *in vitro* tumor experiments. S.S.B. directed the project. All authors reviewed the manuscript.

Competing interests

The authors declare no competing interests.

Additional information

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Shashwat Banerjee <shashwatbanerjee@mitmimer.com>

Lecture on Intellectual Property Rights, Feb 19-20, 2020

Shashwat Banerjee <shashwatbanerjee@mitmimer.com>

Wed, Feb 5, 2020 at 3:27 PM

To: MEDICAL DIRECTOR MIMER <director@mitmimer.com>, Ghaisas Virendra <virendraghaisas@gmail.com>, Suchitra Karad <suchitra@mitpune.com>, PRINCIPAL MIMER <principal@mitmimer.com>, "PRINCIPAL, COLLEGE OF PHYSIOTHERAPY" <principal_th@mitmimer.com>, medical Superintendent <ms@mitmimer.com>, Dr Arun Jamkar <jamkar@gmail.com>, Admin Office MIMER <admin@mitmimer.com>, Department <department@mitmimer.com>

Dear Madam/Sir,

It is our pleasure to invite all faculties & residents for lectures on:

Topic: Introduction to Intellectual Property Rights (IPR)

Speaker: Dr. Govind Chate [Ph.D. (Pharmaceutics)], Registered Patent Attorney (IN/PA 3623)

Date: 19 & 20 February 2020

Time: 2.30 – 3.30 pm

Venue: Sushrut hall, OPD Building

Warm regards,

Dr. Shashwat Banerjee
Head, Central Research Lab
MIMER Medical College
Talegaon Dabhade, Dist Pune 410507, India.
Phone: +91 2114308312
Email: shashwatbanerjee@mitmimer.com

MIMER MEDICAL COLLEGE TAEGAON (D)

DEPARTMENT OF BIOCHEMISTRY

Attendance

Topic: Introduction to Intellectual Property right (IPR)

Date: 19/02/2020

Sr. No.	Name of faculty	Department	Signature
1.	Dr. Suchitra Magane	Admin	
2	Dr. Sandhya S. Kulkarni	Principal 1/c	
3	Dr. Prashant Kamalt	Med. supdt	
4	Dr. Jadhav Dhanaji S.	vice principal	
5.	Dr Derek D'Souza	Dentistry	
6	Dr Sudeep Kemkar	radiology	
7.	Dr Pratinidhi	Biochemistry	
8.	Dr. D.V. Gopalghare	ORL	
9	Dr. Darpan M	Ortho	
10	Dr Ashlesha Jandekar	Comm Med	
11	Dr. Arpita Kulkarni	Anaesthesia	
12	Dr. dardi Charan Kam	Micro	
13	Smita Anand Wate	Micro	
14	Dr. Janice Jaison	Patho	
15	Dr. Smita Bhide	Patho	
16	Dr. DUBE. S.B	surgery	
17	Dr. S.K Chavan	Anatomy.	
18	Dr Sonali Khate	Anatomy.	

MIMER MEDICAL COLLEGE TAEGAON (D)
DEPARTMENT OF BIOCHEMISTRY

Attendance

Topic: Introduction to Intellectual Property right (IPR)

Date: 19/02/2020

Sr. No.	Name of faculty	Department	Signature
19	Dr. Shaohant Vedpatark	Anatomy	
20	Dr. Vivek K. Nimale	Anatomy	
21	DR. SWARNIL A. MORE	PATHOLOGY	
22	Dr. Kavya Iyer (Junior resident-I)	ORTHOPAEDICS	
23	Dr. Vidya R. Chalker	Physiology	
24	DR. SAMEER DESAI	ORTHOPAEDICS	
25	DR. SHRIRANG GOBBOLE	ORTHOPAEDICS	
26	Dr. Sunil Yadav	Orthopaedics	
27	Dr. Vinay S. Fedwal	Ophthalmology	
28	Dr. Dipti Thakur (JR 2 Skin V.D.)	SKIN V.D	
29	Dr. Shubham Qadkar (JRI)	SKIN & V.D	
30	Jr. Santhosh KR	ENT	
31	Dr. Poochi S. Pandeykar	Dentistry	
32	Dr. Ajay. J. G.	Dentistry	
33	Dr. Swraj Pawar (SR)	SKIN V.D	
34	Dr. Rajni Munde	ORATHO	
35	Dr. Shivraj Konde	ortho	
36	Dr. Nitin Kanode	Ortho	

MIMER MEDICAL COLLEGE TAEGAON (D)
DEPARTMENT OF BIOCHEMISTRY

Attendance

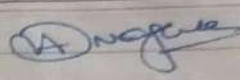
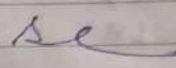
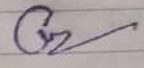
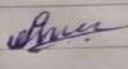

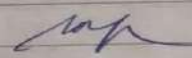

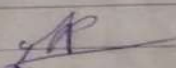
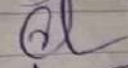
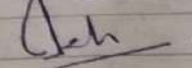
Topic: Introduction to Intellectual Property right (IPR)

Date: 19/02/2020

Sr. No.	Name of faculty	Department	Signature
37	Dr Santosh Borkar	Ortho.	
38	Dr. Tustars Kanawade	Medicine	
39	Dr. Sagar Kulkarni	Ortho	
40	Dr. Vijith Hegde	Ortho	
41	Dr. Varsha Kumbhar	OBGY	
42	Dr. Nikhila Agate	OBGY	
43	Dr. Nandan Nagaonkar	OBGY	
44	Dr. Snehal Salunkhe	OBGY	
45	Dr. Manoj Kete	Paediatrics	
46	Dr. Aniraj Patil	Medicine	
47	A.S. Chuncholkar	Pharmacol	
48	Dr. Sadhana Chate	Micro	
49	Dr. Smile Pawar	Ophthal	
50	DR. MANGALA NAGARC	Patho	
51	Dr. Chandresh Chate	Patho.	
52	Dr. Sandesh Guwade	Surgery	
53	Dr. Ashish Ubhale	AP/PSY.	
54	Dr. Pooja Munde	Patho	
55	Dr. Shalaka Saraf	Pathology	
56	Dr. Prachi Kete	Pathology	
57	Dr. Sayli Phande	Pathology	
58	Dr. Vibhavan Borhate	Ophthal	
59	Dr. Lushma Sharma	Obgyn	
60	Dr. Bhavansing	Surgery	

20/2/20

Topic - Introduction to intellectual property rights

Sr. No.	Name of faculty	Dept	Sign
1)	DR. MANGALA NAGARG	Patho	
2)	Dr. Smita Bhide	Patho	
3)	Dr. Gausi Metkar	Patho	
4)	Dr Swati Belsare	Anatomy	
5)	Dr. Sadhana Chate	Micro	Schale
6)	Sangeeta. B. Trimbale	Biochem	8152
7)	Heta Chandhi	---	
8)	Dr Pratinidhi	Biochem	
9)	Anjum Satted	Biochem	AKS
10)	Dr. P. N. Basavkar	Biochem	
11)	Dr. Aastha Pandey	PC M	
12)	Dr. S. V. Chincholkar	PSM	
13)	Dr. S. J. Kulkarni	PSM	
14)	Dr S.S. Kulkarni	Micro	Ksandy -
15)	Mrs. Anyali Jaywant	Micro	AR
16)	Mrs Charan Kaur Dardi	Micro	Chur

Sl No.	Name of faculty	Dept	Signature
17	Dr. Smita Bhide	Pathology	SB
18	DR. SWARNIL A. MOLE	Pathology	SM
19	Dr. James Jaisan	Pathology	JJ
20	Dr. Kunal Munde	Pathology	KM
21	DR. Mangala, Nar	Pathology	MN
22	Dr. Shashwat Banerjee	Pathology	SB
23	Dr. P. S. Kamelt	Ortho	PK
24	DR. KOTNIS D. P.	ENT	DK
25	Dr. Madhura Ashwkar	PSM	MA
26	Smita watre	Micro	SW
27	Dr. Sadhana Chate	Micro	SC
28	Dr. R. S. Baburaj	Physiology	RS
29	Dr. A. J. Pyari	F.M.T.	AP
30	M. J. Bedekar	Physio	MB

IPR

19/8/20

Activity Report

Department : Central Research Lab
Activity : Overview on Intellectual Property Rights
Duration : From _____ To _____ 19th Aug 2019
Participant : No. of Faculty: : 32
No. of Students:

Objective of the activity:

To give an overview on intellectual property (IPR) rights to faculties and students.

Outcome of the activity:

The participants get to know about IPR and how to protect their IPRs.

Asi
Submitted by

Dr. Shashwat Banerjee
Head, Central Research Laboratory
MIMER Medical College



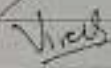

Topic - Introduction to Intellectual property rights. (1)

Sr no.	Name of faculty	Dept	Sign
1)	Dr. Aparna Chaudhari	Biochem	<u>Asl</u>
2)	Dr. Ratna Rajkumdar	Com. Med	Rajkumdar
3)	Dr. Madhwa Ashutkar	Com. Med	<u>Mad</u>
4)	Dr. Swati Patil	Anatomy	<u>Swati</u>
5)	Dr. Geeta Bhatia	Biochem	<u>GB</u>
6)	Sangeeta B. Trimbak	Biochem	8157
7)	Mrs. Hulan Chavhan	Biochem	<u>Hulan</u>
8)	Dr. Parvati	Biochem	<u>Parvati</u>
9)	Ms. Anjali Sattod	Biotech	<u>AS</u>
10)	Dr. P. N. Basmkar	Biochem	<u>P.N.</u>
11)	Dr. Aastha Pandey	PS II	<u>AP</u>
12)	Dr. S. V. Chinchikar	PSM	<u>SV</u>
13)	Dr. S. J. Kulkarni	PSM	<u>SJ</u>
14)	Dr. S. S. Kulkarni	MICRO	Kulkarni
15)	Mrs. Anjali Jaywant	MICRO	<u>AJ</u>
16)	Mrs. Charan Kaul Dardi	MICRO	<u>CKD</u>

Introduction to Intellectual property right

Sr no	Name of faculty	Dept	Sign
17)	DR. Smita Bhide	pathology	Se
18)	DR. SWAPNIL A. MORE	Pathology	Se
19)	DR. Jaijee Jaisan	Patho	Se
20)	DR. Rupali Munde	Pathology	Se
21)	DR. Mangata Nor	Patho	Se
22)	DR. Shashwat Banerjee	CRL	Se
23)	DR. P. S. Kamit	Otho	Se
24)	DR. KATKIS D. J	ENT	Se
25)	DR. Madhura Ashkuler	PSM	Se
26)	Smita Watwe	Micro	Se
27)	DR. Sadhana Chate	Mino	Se
28)	DR. R. S Baburdivar	Physiology	Se
29)	DR. A. J. Rymre	F.M.T.	Se
30)	M. Y. Bedekar	Physio	Se

Introduction to Intellectual property right (13)

Sr no	Name of faculty	Dept	Signature
31)	Dr. Gauri Metkar	Patho	
32)	Dr. Ashwini Gundeaware	Patho	
33)	Dr. Vivek K. Nimale	Anat.	
34)	Dr. Swapnil Anuradha Chaudhary	Anat	

MIMER MEDICAL COLLEGE, TALEGAON DABHADE

No./MIMER/Cir/1624/2019

Date: 28.08.2019

CIRCULAR- Good Clinical Practices (GCP) Workshop

**To -
HOD - Pre/Para/Clinical departments -**

A workshop on Good Clinical Practices (GCP) Guidelines will be held on 31st August 2019. The workshop will include sessions on GCP Guidelines (ICMR & ICH), Schedule 'Y' Regulations in Clinical trials, Rules & Responsibilities of IEC/IRB members, Sponsor & Investigator & latest Regulatory updates.

Attendance by all participants is compulsory for all sessions for award of certificate.

The workshop will be held at Sushruta Hall, 1st floor, OPD complex from 09:30AM to 03:30PM. Working lunch will be provided.


Principal

Principal
MIMER Medical College
Talegaon DabhaDE - 410 507
Copy to

- Medical Director
- Executive Director (P. & D.)
- Executive Director (H.A.)
- Director - P.G. Programme - R. & D.
- Medical Supdt.
- Asst. Registrars
- HR Head

Copy for necessary arrangement-

- Electric Dept- Sound & mike system
- IT Dept- Projector & screen system
- Artist dept- Photography
- Maintenance dept - Table & chairs arrangement

Good clinical Practice (GCP) workshop Attendance Sheet on 31st Aug. 2019
MIMER Medical College & B.S.T.R .Hospital

Sr. No.	Name	Designation	Department	Signature
1	Dr. Vivek K. Nirmale	Asso.-Prof.	Anatomy	Vivek
2	Dr. Sonali A. Khake	Asso.-Prof.	Anatomy	Sonali Khake
3	Dr. Swati Belsare	Prof. & Head	Anatomy	Swati
4	Dr. Deepa S. Nair	Prof. & Head	Physiology	Deepa
5	Dr. Rupali S. Baburdikar	Asso.Prof.	Physiology	Rupali
6	Dr. Vidya Ohatkar	Tutor	Physiology	Vidya
7	Dr. Sadhana S. Chate	Professor	Microbiology	Sadhana
8	Dr. Rupali Bagga	Asso. Prof.	Community Medicine	Rupali
9	Dr. Sudam Khedkar	Asso. Prof.	Medicine	Sudam
10	Dr. Meenakshi Surve	Asst. Prof.	Obst. & Gyn	Meenakshi
11	Dr. Priya Karmani	Asst. Prof.	Obst. & Gyn	Priya
12	Dr. Jaya Barla	Asst. Prof.	Obst. & Gyn	Jaya Barla
13	Dr. Khushboo Singh	SR	Obst. & Gyn	Khushboo
14	Dr. Prajakta Sambarey	Prof & Head	Ophthalmology	Prajakta
15	Dr. Vijay Bhavari	Assoc. Prof	Paediatrics	Vijay
16	Dr. Ujjwala Keskar	Assoc. Prof.	Paediatrics	Ujjwala
17	Dr. Vidya Fadnis	Asst. Prof.	Paediatrics	Vidya
18	Dr. Sudhir Dube	Professor	Surgery	Sudhir
19	Dr. Samadhan Kshirsagar	Assit. Prof	Surgery	Samadhan
20	Dr. Ajit Jadhav	Assit. Prof	Surgery	Ajit
21	Dr. Shantaram Gulve	Assit. Prof.	Surgery	Shantaram
22	Dr. Atul Gowardhan	Assit Prof	Surgery	Atul
23	Dr. Manas Pusalkar	Assit Prof	Orthopedic	Manas
24	Mr. Santosh Chitnis			Santosh Chitnis
25	Mr. Shashank Ogale			Shashank
26	Mr. Jag Mohan Dingra			Jag Mohan
27	Miss.Sunita Solanki	MSW	Comm. med.	Sunita

28 Adv. PAURANI GAMBHIR
 29 Dr Ravindra Vedpathak Tutor Anatomy
 30 Dr Santosh Borkar Prof ortho
 31 Dr Manas Pusalkar Ortho
 32 Dr Sandesh Gunde Ortho

Paurani
 Ravindra
 Santosh
 Manas
 Sandesh

- | | | | | |
|-----|--------------------|----------------------|-------------------------|----------------|
| 33. | Dr. Aneesh S. Bhat | Assoc Prof | Psychiatry | |
| 34. | Dr. Rupali Verma | Bagga Associates | Prof Community Medicine | |
| 35. | Dr. Snehal Ghoday | Principal/Professor | Physiotherapy | 1/2 |
| 36. | Dr. Supriya Korde | Private Practitioner | Physiotherapy | 1/2 |
| 37. | Dr. Pramil Pawar | Retired - cardinal | MIRREN | 1/2 |



PRINCIPAL MIMER <principal@mitmimer.com>

Workshop on Good Clinical Practices (GCP) Guidelines

PRINCIPAL MIMER <principal@mitmimer.com>
To: "Dr. Yuvraj Patil" <yuvrajpatil@mitmimer.com>

25 April 2019 at 17:02

To,

Dr Yuvraj Patil

This is to inform you that you have been nominated to the Institutional Ethics Committee of this Institution.

A workshop on "Good Clinical Practices (GCP) Guidelines" is being organized as part of the mandatory training for IEC members.

The date & timing of the workshop are 29th April 2019 from 10.00AM to 1.00PM at Shushruta Hall on 1st floor of OPD Bldg.

Please ensure that you are attend the workshop. Kindly confirm your attendance.

Please confirm your attendance by replying to this email.

Sd/-

Dr. Rajendra Prasad Gupta
Principal,
MIMER Medical College
Talegaon (D), Pune - 410507



PRINCIPAL MIMER <principal@mitmimer.com>

Workshop on Good Clinical Practices (GCP) Guidelines

PRINCIPAL MIMER <principal@mitmimer.com>
To: rupali baburdikar <drupalibaburdikar@gmail.com>

25 April 2019 at 16:59

To,

Dr Rupali Baburdikar

This is to inform you that you have been nominated to the Institutional Ethics Committee of this Institution.

A workshop on "Good Clinical Practices (GCP) Guidelines" is being organized as part of the mandatory training for IEC members.

The date & timing of the workshop are 29th April 2019 from 10.00AM to 1.00PM at Shushruta Hall on 1st floor of OPD Bldg.

Please ensure that you are attend the workshop. Kindly confirm your attendance.

Please confirm your attendance by replying to this email.

Sd/-

Dr. Rajendra Prasad Gupta
Principal,
MIMER Medical College
Talegaon (D), Pune - 410507



PRINCIPAL MIMER <principal@mitmimer.com>

Workshop on Good Clinical Practices (GCP) Guidelines

PRINCIPAL MIMER <principal@mitmimer.com>
To: santoshborkar197616@gmail.com

26 April 2019 at 09:54

To,

Dr Santosh Borkar

This is to inform you that you have been nominated to the Institutional Ethics Committee of this Institution.

A workshop on "Good Clinical Practices (GCP) Guidelines" is being organized as part of the mandatory training for IEC members.

The date & timing of the workshop are 29th April 2019 from 10.00AM to 1.00PM at Shushruta Hall on 1st floor of OPD Bldg.

Please ensure that you are attend the workshop. Kindly confirm your attendance.

Please confirm your attendance by replying to this email.

Sd/-

Dr. Rajendra Prasad Gupta

**Good clinical Practice (GCP) Workshop Attendance sheet on
29th April 2019
MIMER Medical College & B.S.T.R. Hospital**

Sr. No.	Name	Designation	Department	Signature
1	Dr. Vivek K. Nirmale	Asso.-Prof.	Anatomy	Vivek
2	Dr. Sonali A. Khake	Asso.-Prof.	Anatomy	Sonali Khake
3	Dr. Swati Belsare	Prof. & Head	Anatomy	Swati
4	Dr. Deepa S. Nair	Prof. & Head	Physiology	Deepa
5	Dr. Rupali S. Baburdikar	Asso.Prof.	Physiology	Rupali
6	Dr. Vidya Ohatker	Tutor	Physiology	Vidya
7	Dr. Sadhana S. Chate	Professor	Microbiology	Sadhana
8	Dr. Rupali Bagga	Asso. Prof.	Community Medicine	Rupali
9	Dr. Sudam Khedkar	Asso. Prof.	Medicine	Sudam
10	Dr. Meenakshi Surve	Asst. Prof.	Obst. & Gyn	Meenakshi
11	Dr. Priya Karmani	Asst. Prof.	Obst. & Gyn	Priya
12	Dr. Jaya Barla	Asst. Prof.	Obst. & Gyn	Jaya Barla
13	Dr. Khushboo Singh	SR	Obst. & Gyn	Khushboo
14	Dr. Prajakta Sambarey	Prof & Head	Ophthalmology	Prajakta
15	Dr. Vijay Bhavari	Assoc. Prof	Paediatrics	Vijay
16	Dr. Ujjwala Keskar	Assoc. Prof.	Paediatrics	Ujjwala
17	Dr. Vidya Fadnis	Asst. Prof.	Paediatrics	Vidya
18	Dr. Sudjhir Dube	Professor	Surgery	Sudjhir
19	Dr. Samadhan Kshirsagar	Assit. Prof	Surgery	Samadhan
20	Dr. Ajit Jadhav	Assit. Prof	Surgery	Ajit
21	Dr. Shantaram Gulve	Assit. Prof.	Surgery	Shantaram
22	Dr. Atul Gowardhan	Assit Prof	Surgery	Atul
23	Dr. Manas Pusalkar	Assit Prof	Orthopedic	Manas



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Swati Belsare

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Usha Khadtare

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Shilpa Pratinidhi

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Sandhya Kulkarni

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Ketaki Pathak

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Ashwini Gundewar

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Aastha Pandey

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



MAEER's

MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Ranjit Wagh

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Ganesh Pentewar

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

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DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Vaishali Korde

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Sushma Sharma

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Manas Pusalkar

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

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Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Avinash Pujari

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr (Col) Derek SJ DSouza

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Ramchandra Bhardwaj

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Aparna Chincholkar

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Santosh Borkar

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Dattatreya V Gopalghare

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

The programme included sessions on GCP Guidelines (ICMR & ICH), Schedule ‘Y’, Regulations in Clinical Trials, Roles and responsibilities of IEC/IRB members, Sponsor & Investigator, and Regulatory Updates.

Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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Certificate

This is to certify that

Dr Ujjwala Keskar

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College



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MIMER Medical College Talegaon (D), Pune

Certificate

This is to certify that

Dr Sandesh Gawade

has successfully completed the training programme on

“Good Clinical Practice (GCP) Guidelines” held on 29th April 2019 at this institution.

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Dr Khokan Debnath
GCP Trainer
Mumbai

Dr Deepak Langade
Prof & Head, Dept of Pharmacology
DY Patil University School of Medicine, Navi Mumbai

Dr Rajendra P Gupta
Principal
MIMER Medical College

MIMER Medical College, Talegaon Dabhade

Value Added Courses

Year	Name of Course	No of Participants
2020-2021	Haemorrhoids	11
2020-2021	Mucormycosis workshop	25
2020-21	Orientation to Methods in Clinical Research	23
2020-21	Basic Life Support	151
2019-20	Workshop on wheels (Johnsons and Johnsons)	27
2019-20	Basic Life Support	151
2018-2019	Spine Cadaveric Hands on Workshop	7
2018-2019	Basic Life Support	150
2017-2018	Orientation to Trauma life support	38
2017-2018	Suturing, Knotting & Staplers	34
2016-2017	SURGICAL KNOTTING & SUTURING Workshop	7

MIMER MEDICAL COLLEGE, TALEGAON DABHADE

Value-Added Courses During The Last Five Years

Sr. No	Name of the value-added courses (with 15 or more contact hours) offered during the last five years	Year of offering	Name of students enrolled in the year
Year 1			
1	Life Skill Training	2020-21	as per list attached (150)
2	Meditation and pranayam sessions	2020-21	as per list attached (150)
3	Basic Life Support	2020-21	as per list attached (150)
Year 2			
4	Meditation and pranayam sessions	2019-20	as per list attached (150)
5	ISSH Basic Hand Surgery Course and Cadaveric Hand Workshop	2019-20	as per list attached (13)
6	Workshop on Wheels (Laproscopy)	2019-20	as per list attached (26)
7	Live Endoscopic Surgical Skills Enhancement Workshop	2019-20	as per list attached (15)
8	Basic Life Support	2019-20	as per list attached (150)
Year 3			
9	Certificate Course in Clinical Research	2018-19	as per the list attached (60)
10	Suturing, knotting & Staplers	2018-19	as per the list attached (27)
11	Basic Life Support	2018-19	as per list attached (150)
Year 4			
12	Certificate Course in Clinical Research	2017-18	as per the list attached (29)
Year 5			

MIMER MEDICAL COLLEGE, TALEGAON DABHADE

Policy & SOP for quality of care and patient safety procedures.

Policy for maintaining quality of care in hospital

Patient Input – Classified as

1. New patient
2. Already registered patient
3. Referred patient
4. Pick up by ambulance
5. Walk in/ brought in patient
6. Sent from OPD

Service given	Control point
OPD	OPD paper, OPD register, speciality register
Admission in ward/ ICU	Case file- history and findings, progress notes, referral sheets, consent and preanaesthetic check-up notes, OT list, blood transfusion forms, OT register, patient clinical register, police intimation register
Transfer/ Discharge	Transfer letter, referral form, discharge card, ambulance register
DAMA/ Death	DAMA consent form, discharge card
Death	Death certificate, postmortem referral letter

Patient Output –

1. Treated and sent as outpatient OPD paper.
2. Admission in ward/ICU.
3. Transfer, discharge at request

4. Discharge against medical advice

5. Death

Policy for uniform care of patients

- All patients are to be treated alike irrespective of religion, caste, social status, financial ability.
- Similar care is given in different settings which are guided by applicable laws and regulations. Setting may include right from admission to discharge for IPD services, in OPD services and emergency services. All protocols are uniformly given in the same manner to all patients irrespective of the category status.
- Clinical practice and SOP's are adopted whenever possible.

SOP for reception of patients in emergency room (casualty)

- Emergency staff shall ensure availability of wheelchairs and stretcher trolleys at the emergency room main door.
- After examining the patient and immediate resuscitative and stabilization care the chief medical officer (CMO) shall contact the consultant on call in the relevant specialty by means of the telephone and inform the registrar on call (who is sitting in the casualty) in the relevant specialty.
- Registrars/ CMO shall inform the consultant of the patient's condition and take instructions regarding investigations and treatment.
- Registrar/ CMO shall write admit in the casualty paper if the patient requires admission after consultant advice
- Patient shall be transferred to the allocated bed at the earliest after screening diagnostic test or if the patient's condition so requires it.
- Entry to be made in the casualty register about patients name, diagnosis and treatment given.
- CMO shall inform concerned police station if it is a medicolegal case.
- If a patient is to be transferred to a higher facility adequate details about treatment given. If necessary ambulance facility will be provided after informing the medical superintendent who will also decide the staff(doctor/nurse) to accompany patient to higher center.
- If there are economic issues in treatment CMO/ registrar will inform the medical superintendent to waive off emergency charges for few patients investigations and/or treatment.
- Custody of medicolegal case records shall be under the CMO on duty. MLC records shall be kept under lock and key.
- In case of dying patient a senior staff of the hospital remains with the patients' relatives and permits them to complete the formalities. Death certificate and death summary will be handed over to the police. Body to be handed over to the police to be/ shifted for post mortem in case of death of patient.
- If patient is posted for emergency surgery registrar of concerned specialty follows instructions for surgery. Patient should be shifted to minor OT/ major OT depending on the complexity of the case.
- Arrange for blood if necessary instructions from blood bank.

SOP for triaging in casualty

Policy of prioritizing patients based on their individual need for medical care

Under normal working conditions patients shall be triaged and allotted beds in the emergency room as per the urgency of their medical needs using ESI scores.

During external disasters (code red) patients shall be triaged as red, yellow and black.

Red - First priority, most urgent

Life threatening shock or hypoxia is present or imminent but patient can be stabilized and if given immediate care shall probably survive.

Examples of red: -

- Compromised airway
- Respiratory arrest or survive respiratory distress or SpO₂ < 90
- Trauma patient who is unresponsive or requires immediate fluid resuscitation
- Overdose with a respiratory rate of 6
- Severe bradycardia or tachycardia with signs of hypo-perfusion, chest pain, pale, diaphoretic, blood pressure < 70 mmHg (palpatory method)
- Anaphylactic reaction
- Baby that is flaccid
- Hypoglycemia

Yellow - Second priority, urgent

Injuries have systemic implications or effects but patient is not yet in life threatening shock or hypoxia although systemic decline shall ensue and given appropriate care patient seems able to withstand a 45-60 min wait without immediate risk.

Examples of yellow: -

Following diagnosis with stable blood pressure

- Acute abdominal pain
- Gastrointestinal bleeding
- Acute arterial occlusion
- Fever in immunocompromised patients
- Testicular torsion
- Acute renal failure
- Ectopic pregnancy
- Spontaneous abortion
- Meningitis
- Acute cerebrovascular accident
- Vomiting/diarrhea in children.
- Acute asthmatic attack
- Pleural effusion
- Spontaneous pneumothorax
- Road traffic accident with transient loss of consciousness.

Green -Third priority, non-urgent

Injuries are localized and without systemic implications, with a minimum of care.

Black - Dead

The above color coded ID bands shall be used during a code red.

SOP for ICU

1. Each patient shall be under the care of one nurse, always maintaining the patient to nurse ratio of 1:1 for patients on ventilator and 1:2 for their patients in ICU
2. Intensive care areas shall follow infection control practices
3. Visitors shall not be allowed in ICU except in special situations during visiting hours- one relative only
4. One empty bed shall be reserved at all times for emergency patients
5. Patients requiring emergency care only are to be admitted or shifted to the ICU. After substantial resolution of the problems responsible for admission patient may be transferred to the ward- after order by the treating specialist
6. Specialized life support equipment like ventilators, infusion pumps, defibrillators, central oxygen supply and suction must be readily available in the ICU. Biomedical engineer shall check this equipment on weekly basis
7. Staff on duty should be trained to handle specialized equipment

Infectious cases need isolation from other patients in ICU

Surgical Safety Checklist

Sign in- Before induction and anesthesia

1. Patient has confirmed (identity, site, procedure and consent)
2. Site marked/ not applicable
3. Pulse oximeter placed n patient and is functioning
4. Check for any known allergies that the patient has
5. Difficult airway/ aspiration risk – Yes/No
6. Equipment/ Assistance/ IV Access available- Yes/ No
7. NBM status- Yes/ No
8. Blood Availability- Yes/ No

Time out- Before skin incision

1. Confirm whether all team members have introduced themselves
2. Surgeon, anesthetist and nurse confirm patient, site and procedure
3. Surgeon reviews critical step, operative duration, anticipated blood loss
4. Anesthetist reviews patient specific concerns
5. Nursing team reviews sterility of the OT and equipment
6. Antibiotic prophylaxis given- Yes/No
7. Essential imaging displayed- Yes/ No

Sign out- After operation

1. Nurse confirms procedure name, specimen, instruments used, sponge count
2. Surgeon/ Anesthetist/ Nurse reviews key concerns for postoperative recovery

Patient safety in ward protocol

1. Identification band with patient's name and other important details around wrist or ankle.
2. All hospital staff members have to wear identity cards at all times on duty.
3. All hospital staff must maintain privacy and security of patient's health information at all times.
4. Washing hands properly by patient after using toilet is compulsory. Also, washing hands by staff after coming in contact with a patient is compulsory.
5. Dressings must be done by only resident doctor on duty with autoclaved dressing material only with the help of trained staff in ward. Dressing trolley to be checked for infection before dressing.
6. Patient must do deep breathing exercises during their ward stay to prevent chest inflation.
7. Sister in charge to see that patient's skin is clean and dry. All patients must change their position in bed every one hour to prevent development of bed sore/ water bed to be provided to patients at risk of bed sore.
8. Medical superintendent and nursing in charge to ensure proper cleaning of wards daily by concerned staff.
9. To prevent fall related injuries patient to keep personal items within reach to get them. Patient must ask for help when patient needs to get out of bed for toilet if patient is feeling unsteady. Patient's slippers or other footwear should be checked so that they are proper and no slippery. For some patient in need proper walking aid should be provided. Appropriate railings may be provided to bed of patient at risk of falling.
10. Personal and hospital owned electrical appliances should be checked by electrician regularly (at least once weekly)
11. It is not allowed to bring food from outside hospital for patients without informing the nursing staff on duty for food safety.
12. Patients are not allowed to consume any medicine without consent of medical team/ if it is not prescribed by doctor.

13. Patient should not keep jewelry, lot of money or valuable personal items to ward.

14. Visitor's access to ward is limited to two visitors per day during visiting hours only. However for pediatric patients and those patients in need, one or two relatives can stay with the patient.

SOP FOR OPD

1. The registration desk is arranged at the entrance lobby.
2. Opd paper dispensing is available near the entrance lobby.
3. Waiting area with efficient spacing is available near the opd registration desk.
4. Patients are directed to specialized opd based on their symptoms.
5. Patients with acute symptoms and emergency conditions are directly shifted to emergency department.
6. Ramps and elevators are available for immediate shifting of such patients.
7. The help desk always guides the patient regarding specialized opd, registration counters, cash counters, emergency departments, restrooms etc.
8. Restrooms available for males, females and handicapped.
9. Doctors, nurses and cleaning staff are checked regularly for symptoms, body temp etc.
10. Hand washing facilities in all OPD clinics, wards, emergency, ICU and OT areas. There shall be proper written handwashing protocols
11. Sanitization practices are followed before and after checking a patient
12. Surface cleaning and disinfection including doors, handles, elevator buttons and frequently touched surfaces.
13. Safe clinical practices as per standard protocols to prevent health care associated infections and other harms to patients.
14. Restrooms are cleaned and disinfected .
15. Wheel chair, trolleys and other transport equipments are available handy and staff to carry the patients are well trained and available at all hours.
16. Formation of Infection control team and provision of trained Infection Control nurses.
17. Hospital shall develop standard operating procedure for minor opd aseptic procedures, culture surveillance
18. Safe Injection administration practices as per prescribed protocols.

19. Ensuring Safe disposal of Bio-medical waste as per rules (National Guidelines to be followed)
20. Immunization of Health care workers against Tetanus and Hepatitis B.
21. Provision of round the clock Post exposure prophylaxis against HIV in cases of needle sticks injuries.
22. During opd consultation and minor procedures, female patients are always attended by a female attendant.
23. Arrangements made for medicine dispensing in the same premises of opd.
24. Medicines once dispensed are crosschecked and schedule of such drugs explained to the patient by the treating consultant.

Pharmacovigilance Committee Attendance

Dept. of Pharmacology


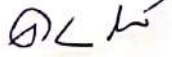
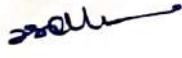



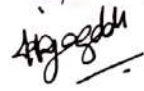
Date: 13/12/2019

Dr. R. J. Wagh (Secretary)

Name

Sign

Copy to:

- | | | |
|-----|--------------------------------------------------------------------------------------------------------------|------------------------------------|
| 1) | Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine) |
| 2) | Dr. R. J. Wagh (Secretary)  | Prof & HOD (Pharmacology) |
| 3) | Dr. P. S. Kamat  | Medical Superintendent |
| 4) | Dr. Ashok Ohatkar  | Prof & HOD (Orthopedics) |
| 5) | Dr. E.P. D'Souza | Associate Professor (Paediatrics) |
| 6) | Dr. Sandesh Gawade | Asso. Prof (Gen. Surgery) |
| 7) | Dr. Vaishali Korde | Professor (OBGY) |
| 8) | Dr. Aneesh Bhat  | Asso. Prof. (Psychiatry) |
| 9) | Dr. V. B. Powar  | Incharge, Blood Bank |
| 10) | Dr. Mrs. Aditi Deshmukh  | Senior Resident (Skin VD) |
| 11) | Mrs. Jagdale H.  | Matron In Charge |

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Friday, 13/10/2019, at 12.00 pm in the cabin of the Medical Superintendent Dr. Kamat Sir. All the members are requested to attend the same.

Date: 13/12/2019

Dr. R. J. Wagh (Secretary)

Copy to:

- | | | |
|-----|--------------------------------|------------------------------|
| 1) | Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine) |
| 2) | Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology) |
| 3) | Dr. More Vinayak | Medical Superintendent |
| 4) | Dr. P. S. Kamat | Prof & HOD (Orthopedics) |
| 5) | Dr. Maya Borle | Prof & HOD (Paediatrics) |
| 6) | Dr. Sandesh Gawade | Asso. Prof (Gen. Surgery) |
| 7) | Dr. Vaishali Korde | Professor (OBGY) |
| 8) | Dr. Aneesh Bhat | Asso. Prof. (Psychiatry) |
| 9) | Dr. V. B. Powar | Incharge, Blood Bank |
| 10) | Dr. Mrs. Aditi Deshmukh | Senior Resident (Skin VD) |
| 11) | Mrs. Jagdale H. | Matron In Charge |

MIMER MEDICAL College, Talegaon, (D)

Dept of Pharmacology

Minutes of the IPvC meeting held on 21/06/2019

1. Minutes of the last meeting were read and approved by members present.
2. Since last 3 months, 8 ADR cases were reported from Depts. of Ortho, OBGY, MEDICINE, Psychiatry, Surgery, ICU as per the information gained during the weekly visits by the staff of Dept. of Pharmacology.
3. Some of the members have now been reappointed, as follows
Dr. Ashok Ohatkar, Prof. HOD, Ortho.
4. P'V Seminar for the newly admitted PG students will have to be conducted.
5. It was decided that next meeting will be held on 27th September, 2019, in the office of Med Superintendent.

Institutional Pharmacovigilance Committee Meeting

Venue: Dept. Ortho Library

Date: 21/06/2019

Attendance:

Name		Sign
1) Dr. Dilip Bhoge (Chair person)	Prof & HOD (Gen. Medicine)	
2) Dr. R. J. Wagh (Secretary)	Prof & HOD (Pharmacology)	(B)
3) Dr. P. S. Kamat	Medical Superintendent	PK
4) Dr. P. S. Kamat	ex Prof & HOD (Orthopedics)	PK
5) Dr. E. P. D'Souza	Associate Professor (Paediatrics)	
6) Dr. Sandesh Gawade	Asso. Prof (Gen. Surgery)	
7) Dr. Vaishali Korde	Professor (OBGY)	
8) Dr. Aneesh Bhat	Prof. (Psychiatry)	
9) Dr. V. B. Powar	Incharge, Blood Bank	sp
10) Dr. Mrs. Aditi Deshmukh	Senior Resident (Skin VD)	
11) Mrs. Helen Jagdale	Matron In Charge	HJagdale
12) Dr. Ashok Dhatkar	HOD, Prof. Orthopaedics.	AD

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Friday , 21/06/2019, at 2.00 pm in the Dept. of Ortho Library . All the members are requested to attend the same.

Date: 18/06/2019

Dr. R. J. Wagh (Secretary)

Copy to:

- | | | |
|-----|--------------------------------|------------------------------------|
| 1) | Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine) |
| 2) | Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology) |
| 3) | Dr. P. S. Kamat | Medical Superintendent |
| 4) | Dr. P. S. Kamat | Prof & HOD (Orthopedics) |
| 5) | Dr. E.P. D'Souza | Associate Professor (Paediatrics) |
| 6) | Dr. Sandesh Gawade | Asso. Prof (Gen. Surgery) |
| 7) | Dr. Vaishali Korde | Professor (OBGY) |
| 8) | Dr. Aneesh Bhat | Asso. Prof. (Psychiatry) |
| 9) | Dr. V. B. Powar | Incharge, Blood Bank |
| 10) | Dr. Mrs. Aditi Deshmukh | Senior Resident (Skin VD) |
| 11) | Mrs. Jagdale H. | Matron In Charge |

MIMER Medical College, Talegaon (D.)

Minutes of the IPvC Meeting held on 13/03/19

Dept of Pharmacology

- 1) Dr. Dilip Bhoge (Chair person) welcomed all the members in the Dept. of Gen. medicine. Other teaching staff viz. Dr. Madhu Bansode, Dr. Usha Khadtare also were also present who were also apprised of various IPvC activities
- 2) Last meeting minutes were discussed.
- 3) Causes of less reporting of Adverse Drug Reactions were discussed in detail-
 - Number of Patients ignore the adverse events associated with drug usage thinking them as trivial e.g. Fever, any other symptoms of patients
 - Good nursing care, scrupulous exclusion of patient related contraindications
- 4) Skin dept. staff will be told to report all adverse events related to cosmetic procedures and topical drugs application.
- 5) Blood transfusion reactions need to be reported by the particular department to the BTO and Dept. of Pharmacology/ ADR reporting centre as soon as possible. A circular to be issued to each ward to send patients blood bag (remaining) along with the tubings, IV set, urine and blood samples of patient to BTO.
- 6) Cardboard boxes with ADR forms are fixed at the nursing stations in wards; Gen. Medicine wards have been provided first and other wards shortly.
- 7) Talegaon D IMA to be addressed with IPvP and members to be motivated for reporting ADR. Dr. Sudam Khedkar would be contacted for arranging for such a briefing during April meeting (1st Friday, 9 pm -11 pm, attending members no. 30-55); a circular to be issued to IMA members.
- 8) The meeting was concluded by Dr. R. J. Wagh, Secretary, paying a vote of thanks.

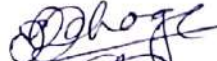


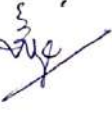




PROFESSOR & HOD
PHARMACOLOGY DEPARTMENT
MIMER MEDICAL COLLEGE
TALEGAON (D.) - 430507

Pharmacovigilance Committee Attendance

Dept. of Pharmacology

Date: 13/03/2019

Name		Sign
1) Dr. Dilip Bhoge (Chair person)	Prof & HOD (Gen. Medicine)	
2) Dr. R. J. Wagh (Secretary)	Prof & HOD (Pharmacology)	
3) Dr. More Vinayak	Medical Superintendent	V M L.
4) Dr. P. S. Kamat	Prof & HOD (Orthopedics)	
5) Dr. E.P. D'Souza 	Associate Professor (Paediatrics)	
6) Dr. Sandesh Gawade	Asso. Prof (Gen. Surgery)	
7) Dr. Vaishali Korde	Professor (OBGY)	
8) Dr. Aneesh Bhat	Asso. Prof. (Psychiatry)	
9) Dr. V. B. Powar	Incharge, Blood Bank	
10) Dr. Mrs. Aditi Deshmukh	Senior Resident (Skin VD)	
11) Mrs. Jagdale H.	Matron In Charge	

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Wednesday , 13/03/2019, at 2.00 pm in the Dept. of Medicine . All the members are requested to attend the same.

Date: 13/03/2019

Dr. R. J. Wagh (Secretary)

Copy to:

- | | | |
|-----|--------------------------------|------------------------------------|
| 1) | Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine) |
| 2) | Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology) |
| 3) | Dr. More Vinayak | Medical Superintendent |
| 4) | Dr. P. S. Kamat | Prof & HOD (Orthopedics) |
| 5) | Dr. E.P. D'Souza | Associate Professor (Paediatrics) |
| 6) | Dr. Sandesh Gawade | Asso. Prof (Gen. Surgery) |
| 7) | Dr. Vaishali Korde | Professor (OBGY) |
| 8) | Dr. Aneesh Bhat | Asso. Prof. (Psychiatry) |
| 9) | Dr. V. B. Powar | Incharge, Blood Bank |
| 10) | Dr. Mrs. Aditi Deshmukh | Senior Resident (Skin VD) |
| 11) | Mrs. Jagdale H. | Matron In Charge |

Minutes of the IPvC meeting held on 28/09/18

1. All the members were welcomed by Dr. Wagh.
2. He briefed the members about the ADR reported in the last 6 months. Dept of Gen. Medicine 2, Skin-3, Gen Surgery-1, Ortho-1, OBGY- 1 ADR were reported respectively. Out of these none were serious. All patients recovered on stopping the medication. The possible causality and preventability of these ADR were discussed.
3. He further reiterated that the weekly visits by the staff of Dept. of Pharmacology to various wards and guiding the concerned clinical personnel there, resulted in more reporting of ADR.
4. He also informed that they were in process in arranging and fixing for ADR form boxes at the nursing stations at various wards.
5. The meeting was concluded with a vote of thanks.



PROFESSOR & HOD
PHARMACOLOGY DEPARTMENT
MIMER MEDICAL COLLEGE
TALEGAON DABHADE - 410507



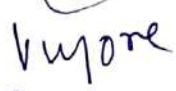

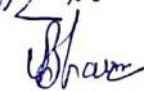
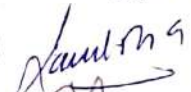
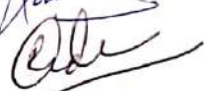
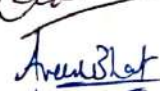


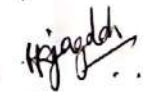
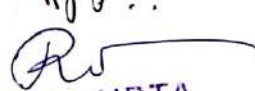
Chairman / Secretary / Member
Institutional Pharmacy & Therapeutics Committee
MIMERC, ESH/Ph. Talegaon (D) 410 507

Pharmacovigilance Committee Attendance

Dept. of Pharmacology

Date: 28/09/2018

Dr. R. J. Wagh (Secretary)

Name	Sign
1) Dr. Dilip Bhoge (Chair person)	Prof & HOD (Gen. Medicine) 
2) Dr. R. J. Wagh (Secretary)	Prof & HOD (Pharmacology) 
3) Dr. More Vinayak	Medical Superintendent 
4) Dr. P. S. Kamat	Prof & HOD (Orthopedics) 
5) Dr. Maya Borle	Prof & HOD (Paediatrics) 
6) Dr. Sandesh Gawade	Asso. Prof (Gen. Surgery) 
7) Dr. Vaishali Korde	Professor (OBGY) 
8) Dr. Aneesh Bhat	Asso. Prof. (Psychiatry) 
9) Dr. V. B. Powar	Incharge, Blood Bank 
10) Dr. Mrs. Aditi Deshmukh	Senior Resident (Skin VD) 
11) Mrs. Jagdale H.	Matron In Charge 
12) Dr. Col. R. P. Gupta	Principal 

Dr. R P GUPTA
PRINCIPAL
MIMER Medical College
Talegaon Dabhade,
Pune - 410507.

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Wednesday, 28/09/2018, at 12.00 pm in the Dept. of Pharmacology. All the members are requested to attend the same.

Date: 28/09/2018

Dr. R. J. Wagh (Secretary)

Copy to:

- | | | |
|-----|--------------------------------|------------------------------|
| 1) | Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine) |
| 2) | Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology) |
| 3) | Dr. More Vinayak | Medical Superintendent |
| 4) | Dr. P. S. Kamat | Prof & HOD (Orthopedics) |
| 5) | Dr. Maya Borle | Prof & HOD (Paediatrics) |
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| 9) | Dr. V. B. Powar | Incharge, Blood Bank |
| 10) | Dr. Mrs. Aditi Deshmukh | Senior Resident (Skin VD) |
| 11) | Mrs. Jagdale H. | Matron In Charge |

Minutes of the IPvC meeting held on 29/06/2018.

- 1) The honorable Principal, Dr. Col. R. P. Gupta Sir, had presided over this meeting. Dr. Wagh welcomed all the members and briefed about the meeting's agenda.
- 2) It was noted that no ADR reporting in the prescribed format was done about two serious ADR events had taken place during the last month. Dr. More briefed the members about a serious ADR case of a child following vaccination, was admitted in the NICU ward of our hospital for a stay of about a week. The DHO was informed about this incidence and the necessary steps to control the ADR was vigorously followed. Dr. More also informed about a case of anaphylaxis following ASV that was managed with ICU care. It was decided that these cases need to be duly followed and reported as per the ADR reporting format to a Pv Centre by the resident in Dept. of Pharmacology.
- 3) Dr. Madhu Bansode, also briefed about 2 cases of ADR viz. fever and chills following IV 3% NS plus Inj. Optoneuron, in Gen. Medicine ward that had occurred on 29/06/2018. The IV administration was stopped in both the cases and the ADR were controlled. These cases would also be reported in proper format to the IPv centre.
- 4) Dr. Col. Gupta Sir, pointed out that all the Incharge of the various clinical units at our hospital and the clinical staff working there should be informed about the urgency of reporting and consequences of not reporting of any serious ADR occurring in the hospital during the following Bed Occupancy Meeting.
- 5) Dr. More also suggested to maintain an ADR reporting register clinical unit wise and to make it compulsory for the Incharge of such clinical units to report the number of ADR whether serious or not, occurring in a week by every Friday.
- 6) Dr. Wagh further told that a brief seminar about ADR reporting will be arranged for the newly admitted post-graduate residents tentatively on Friday, 06/07/2018.
- 7) Dr. Wagh concluded the meeting with a vote of thanks.



PROFESSOR & HOD
PHARMACOLOGY

Pharmacovigilance Committee Attendance

Dept. of Pharmacology

Date: 29/06/2018

Dr. R. J. Wagh (Secretary)

Name

Sign

- 1) Dr. Dilip Bhoge (Chair person) for Prof & HOD (Gen. Medicine)
- 2) Dr. R. J. Wagh (Secretary) Prof & HOD (Pharmacology)
- 3) Dr. More Vinayak Medical Superintendent
- 4) Dr. P. S. Kamat Prof & HOD (Orthopedics)
- 5) Dr. Maya Borle Prof & HOD (Paediatrics)
- 6) Dr. Sandesh Gawade Asso. Prof (Gen. Surgery)
- 7) Dr. Vaishali Korde Professor (OBGY)
- 8) Dr. Aneesh Bhat Asso. Prof. (Psychiatry)
- 9) Dr. V. B. Powar Incharge, Blood Bank
- 10) Dr. Mrs. Aditi Deshmukh Senior Resident (Skin VD)
- 11) Mrs. Jagdale H. Matron In Charge

Signature

(Signature)

OK

Aneesh Bhat

Jagdale H.

12) Dr. Col. R.P. Gupta. Principal.

6/19/2018

MAER's MIMER Medical College Mail - Institutional Pharmacovigilance Committee meeting



Pharmacology Department <pharmac@mitmimer.com>

Institutional Pharmacovigilance Committee meeting

1 message

Pharmacology Department <pharmac@mitmimer.com>

To: Medicine Department <medicine@mitmimer.com>, PAEDIATRICS DEPARTMENT <paediatrics@mitmimer.com>, ORTHOPAEDICS DEPARTMENT <ortho@mitmimer.com>, SURGERY DEPARTMENT <surgery@mitmimer.com>, & VD DEPARTMENT <skin@mitmimer.com>, medical Superintendent <ms@mitmimer.com>, "Mrs.H.D. Jagdale" <hdjagdale@mitmimer.com>, PSYCHIATRY DEPARTMENT <psychiatry@mitmimer.com>, OBST & GYNAE DEPARTMENT <gynaec@mitmimer.com>, Blood Bank MIMER <bloodbank@mitmimer.com>

Tue, Jun 19, 2018 at 10:00 AM

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Friday, 29/06/2018, at 12.00 pm in the Dept. of Pharmacology. All the members are requested to attend the same.

Date: 19/06/2018

Dr. R. J. Wagh (Secretary)

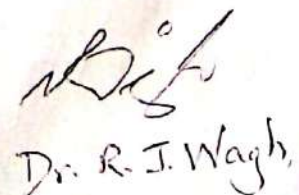
Copy to:

- 1) Dr. Dilip Bhoge (Chair person)
 - 2) Dr. R. J. Wagh (Secretary)
 - 3) Dr. More Vinayak
 - 4) Dr. P. S. Kamat
 - 5) Dr. Maya Borle
 - 6) Dr. Sandesh Gawade
 - 7) Dr. Vaishali Korde
 - 8) Dr. Aneesh Bhat
 - 9) Dr. V. B. Powar
 - 10) Dr. Mrs. Aditi Deshmukh
 - 11) Mrs. Jagdale H.
- Prof & HOD (Gen. Medicine)
Prof & HOD (Pharmacology)
Medical Superintendent
Prof & HOD (Orthopedics)
Prof & HOD (Paediatrics)
Asso. Prof (Gen. Surgery)
Professor (OBGY)
Asso. Prof. (Psychiatry)
Incharge, Blood Bank
Senior Resident (Skin VD)
Matron In Charge

PROF & HOD
DEPT. OF PHARMACOLOGY
MIMER MEDICAL COLLEGE
TALASGAON - 410507

Minutes of the IPvC meeting held on 28/03/18

- 1) Dr. Wagh welcomed all the members and briefed about the meeting's agenda.
- 2) As, Dr. Deepali Ambike has resigned from her post, so in her place, Dr. Vijay Bhavari, Asso. Prof., Dept. of Paeds has consented to be an IPvC member to represent various Paediatric ADR issues.
- 3) Similarly, Dr. Ninad Khaladkar from Dept. of Skin, VD would be the IPvC member representing the ADR issues among their patients in place of Dr. Aditi Deshmukh.
- 4) There was reporting of 2 ADR from Dept. of Pharmacology during last three months it was reported to ADR reporting centre at AFMC by e-mail.
- 5) Dr. Mrs. A. S.Chincholkar, Prof., Dept. of Pharmacology, has planned a study titled "the knowledge, attitude and practice of ADR reporting amongst (our institutional) PG students in a tertiary care hospital - a questionnaire based study". The study questionnaire was discussed and was suggested with some changes.
- 6) Dr. Mrs. Jayashree Nikose, Tutor, Dept. of Pharmacology, is regularly visiting the wards and OPDs to collect ADR forms. She has noticed that the ADR forms have not been kept at a proper visible and accessible place there. It was mooted to bring this to the notice of concerned HODs, Unit heads and matron and make due provision accordingly.
- 7) Tentative date for the next IPvC meeting would be 29/06/2018, Friday.







Dr. R. J. Wagh

Pharmacovigilance Committee Attendance

Dept. of Pharmacology

Date: 28/03/18

Dr. R. J. Wagh (Secretary)

Name		Sign
1) Dr. Dilip Bhoge (Chair person)	Prof & HOD (Gen. Medicine)	
2) Dr. R. J. Wagh (Secretary)	Prof & HOD (Pharmacology)	
3) Dr. More Vinayak	Medical Superintendent	
4) Dr. P. S. Kamat	Prof & HOD (Orthopedics)	
5) Dr. Maya Borle	Prof & HOD (Paediatrics)	
6) Dr. Sandesh Gawade	Asso. Prof (Gen. Surgery)	
7) Dr. Vaishali Korde	Professor (OBGY)	
8) Dr. Aneesh Bhat	Asso. Prof. (Psychiatry)	
9) Dr. V. B. Powar	Incharge, Blood Bank	
10) Dr. Mrs. Aditi Deshmukh	Senior Resident (Skin VD)	
11) Mrs. Jagdale H.	Matron In Charge	

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Wednesday, 28/03/2018, at 12.00 pm in the Dept. of Pharmacology. All the members are requested to attend the same.

Date: 26/03/2018

Dr. R. J. Wagh (Secretary)

Copy to:

- | | |
|-----------------------------------|------------------------------|
| 1) Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine) |
| 2) Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology) |
| 3) Dr. More Vinayak | Medical Superintendent |
| 4) Dr. P. S. Kamat | Prof & HOD (Orthopedics) |
| 5) Dr. Maya Borle | Prof & HOD (Paediatrics) |
| 6) Dr. Sandesh Gawade | Asso. Prof (Gen. Surgery) |
| 7) Dr. Vaishali Korde | Professor (OBGY) |
| 8) Dr. Aneesh Bhat | Asso. Prof. (Psychiatry) |
| 9) Dr. V. B. Powar | Incharge, Blood Bank |
| 10) Dr. Mrs. Aditi Deshmukh | Senior Resident (Skin VD) |
| 11) Mrs. Jagdale H. | Matron In Charge |

Minutes of the IPVC meeting held on 29/12/17

1. It was proposed that the information of newly introduced drugs in the clinical practice to be distributed to the clinicians working in the college hospital.
2. It was also proposed to find out the incidence of ADR with i.v. Iron sucrose (compared to of patients who received it) to be studied retrospectively.
3. The Blood Transfusion Officer, found that wrong blood groups were reported during the sampling process, and stressed the need of the group reporting to be checked strictly.
4. Display of ADR reporting forms in wards has to be regularly checked.
5. It was also mooted to seek information from ADR reporting centre, regarding the causality analysis and the incidence etc., of the reported ADR.
6. We should also try to establish an ADR reporting center in our College


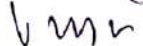



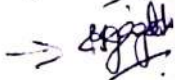
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Pharmacovigilance Committee Attendance

Dept. of Pharmacology

Date: 29/12/2017

Dr. R. J. Wagh (Secretary)

Name		Sign
1) Dr. Dilip Bhoge (Chair person)	Prof & HOD (Gen. Medicine)	
2) Dr. R. J. Wagh (Secretary)	Prof & HOD (Pharmacology)	
3) Dr. More Vinayak	Medical Superintendent	
4) Dr. P. S. Kamat	Prof & HOD (Orthopedics)	
5) Dr. Deepali Ambike	Prof & HOD (Paediatrics)	
6) Dr. Sandesh Gawade	Asso. Prof (Gen. Surgery)	
7) Dr. Vaishali Korde	Professor (OBGY)	
8) Dr. Aneesh Bhat	Asso. Prof. (Psychiatry)	
9) Dr. V. B. Powar	Incharge, Blood Bank	
10) Dr. Mrs. Aditi Deshmukh	Senior Resident (Skin VD)	
11) Mrs. Jagdale H.	Matron In Charge	

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Friday, 29/12/2017, at 12.00 pm in the Dept. of Pharmacology. All the members are requested to attend the same.


Date: 09/12/2017



Dr. R. J. Wagh (Secretary)

Copy to:

- 1) Dr. Dilip Bhoge (Chair person)
- 2) Dr. R. J. Wagh (Secretary)
- 3) Dr. More Vinayak *VML*
- 4) Dr. P. S. Kamat
- 5) Dr. Deepali Ambike
- 6) Dr. Sandesh Gawade
- 7) Dr. Vaishali Korde
- 8) Dr. Aneesh Bhat
- 9) Dr. V. B. Powar *VP*
- 10) Dr. Mrs. Aditi Deshmukh
- 11) Mrs. Jagdale H.

FOR 
Prof & HOD (Gen. Medicine)

Prof & HOD (Pharmacology)

Medical Superintendent

Prof & HOD (Orthopedics)

Prof & HOD (Paediatrics) *PKL*

Asso. Prof (Gen. Surgery) *Dr. J. K. ...*

Professor (OBGY) *For JVL*

Asso. Prof. (Psychiatry) *For JVL*

Incharge, Blood Bank

Senior Resident (Skin VD) *M&F*

Matron In Charge *13/12/17*

Institutional Pharmacovigilance Committee Meeting

An emergency meeting of IPvC was called upon on 25.09.17 in the Dept. of Pharmacology to discuss a serious ADR case (Ref no. Pv 11/03/17) of an IUD that followed after a pregnant mother received i.v. Inj Iron sucrose for treatment of anemia.

1. The detailed case study (attached herewith) was presented by Dr. Jaya Barla of OBGY Dept. The case was discussed by the various IPvC members present and a possible cause of such on ADR was sought. Since the case was scrupulously followed by the attending doctors, any obvious preventable primary cause of such an ADR could not be derived at. It was concluded that this could be due to the secondary effect on foetal heart following maternal hypotension due to an anaphylactic like reaction to the i.v. Iron sucrose. It is further noted that intradermal skin testing of Iron sucrose should be routinely performed while keeping all the resuscitative measures ready and possibility of such an unfortunate incidence must be mentioned in the consent form before administration i.v. iron sucrose.
2. Dept. of Pharmacology has organized a seminar on Indian Pharmacovigilance Programme for the newly admitted PG residents is arranged on 27.09.17. All the concerned clinical departmental Heads were urged to bring it to notice of these students to have a good attendance.
3. Apart from this discussion it was noted that ADR forms in the wards were not kept at visible and accessible place, so all the nursing staff of the various hospital wards were provided new ADR forms to be kept at a right place and do the needful.

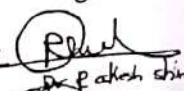



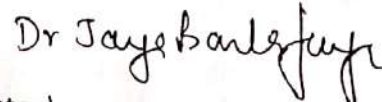


Next meeting of IPVC has been scheduled for 29/12/17, Friday.

Pharmacovigilance Committee Attendance

Dept. of Pharmacology

Date: 25/09/2017

Dr. R. J. Wagh (Secretary)

Name	Sign
1) Dr. Dilip Bhoge (Chair person)	Prof & HOD (Gen. Medicine) For  Dr. P. Akshay Shinde.
2) Dr. R. J. Wagh (Secretary)	Prof & HOD (Pharmacology) 
3) Dr. More Vinayak	Medical Superintendent 
4) Dr. P. S. Kamat	Prof & HOD (Orthopedics)
5) Dr. Deepali Ambike	Prof & HOD (Paediatrics) 
6) Dr. Sandesh Gawade	Asso. Prof (Gen. Surgery)
7) Dr. Vaishali Korde	Professor (OBGY) 
8) Dr. Aneesh Bhat	Asso. Prof. (Psychiatry)
9) Dr. V. B. Powar	Incharge, Blood Bank 
10) Dr. Mrs. Aditi Deshmukh	Senior Resident (Skin VD)
11) Mrs. Jagdale H.	Matron In Charge 

Minutes:

Agenda: A serious ADR (Ref no. 11-03/17) of IVFD following IV Iron Sucrose in

Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Monday, 25/09/2017, at 12.00 pm in the Dept. of Pharmacology. All the members are requested to attend the same.



Dr. R. J. Wagh (Secretary)

Date: 22/09/2017

Copy to:

- 1) Dr. Dilip Bhoge (Chair person) 9822046935- Prof & HOD (Gen. Medicine)
- 2) Dr. R. J. Wagh (Secretary) Prof & HOD (Pharmacology)
- 3) Dr. More Vinayak - 9822423331 Medical Superintendent
- 4) Dr. P. S. Kamat 942235841 9890761303 Prof & HOD (Orthopedics)
- 5) Dr. Deepali Ambike 9373002072 Prof & HOD (Paediatrics)
- 6) Dr. Sandesh Gawade 9890950097 Asso. Prof (Gen. Surgery)
- 7) Dr. Vaishali Korde 9372478118 Professor (OBGY)
- 8) Dr. Aneesh Bhat 7558311835- Asso. Prof. (Psychiatry)
- 9) Dr. V. B. Powar - 9604871471 Incharge, Blood Bank
- 10) Dr. Mrs. Aditi Deshmukh - 9422987272 Senior Resident (Skin VD)
- 11) Mrs. Jagdale H. 8149479148 Matron In Charge

5) Dr. Deenali Ambike

Minutes of the IPvC meeting held on 30/06/2017.

1. It was noted that the response of the residents to **Sensitization of Indian Pharmacovigilance Program, ADR Reporting** seminars arranged in 19th & 21st April 2017, was bleak. However such it was well received by the **nursing fraternity** with active interaction. So, it was decided that another such seminar needs to be arranged for the new as well as the old residents in the month of **September 2017**.
2. It was mooted of an urgent need of spreading the awareness about the reporting of ADE, amongst the General Practitioners in and around Talegaon, by organizing a CME.
3. It was also deliberated on how to encourage the reporting of ADE by the general public visiting the BSRTH.
4. A Drug Information Centre has been set up at the Drug Store at the OPD complex and is managed by the Dept. of Pharmacology.



Dr. R. J. Wagh
(Secretary, IPvC)






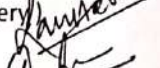
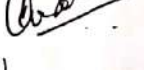


Circular

Please note that a meeting of the Institutional Pharmacovigilance Committee will be held on Friday, 30/06/2017, at 02.30 pm in the Dept. of Pharmacology. All the members are requested to attend the same and brief about any ADR reporting.

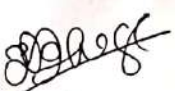


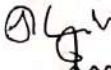
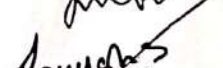
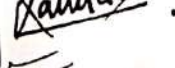
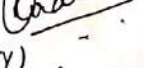


Date: 27/06/2017


Dr. R. J. Wagh (Secretary)

Copy to:

- | | |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------|
| 1) Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine)  |
| 2) Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology)  |
| 3) Dr. More Vinayak | Medical Superintendent  |
| 4) Dr. P. S. Kamat | Prof & HOD (Orthopedics)  |
| 5) Dr. Deepali Ambike | Prof & HOD (Paediatrics)  |
| 6) Dr. Sandesh Gawade | Asso. Prof (Gen. Surgery)  |
| 7) Dr. Vaishali Korde | Professor (OBGY)  |
| 8) Dr. Aneesh Bhat | Asso. Prof. (Psychiatry) |
| 9) Dr. V. B. Powar | Incharge, Blood Bank  |
| 10) Dr. Mrs. Aditi Deshmukh | Senior Resident (Skin VD)  |
| 11) Mrs. Jagdale H. | Matron In Charge |

The Institutional Pharmacovigilance Committee was held on 30/06/2017 was attended by:

- | | |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------|
| 1) Dr. Dilip Bhoge (Chair person) | Prof & HOD (Gen. Medicine)  |
| 2) Dr. R. J. Wagh (Secretary) | Prof & HOD (Pharmacology)  |
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Minutes of the IPvC meeting held on 07/04/2017.

1. The Committee welcomed new members *Dr. P. S. Kamat, Dr. Sandesh Gawade* (in place of *Dr. J. B. Pardeshi*), *Dr. Aneesh Bhat, Dr. V. B Powar, Dr. Mrs. Aditi Deshmukh* (in place of *Dr. Rohini Gaikwad*, who resigned) and *Mrs. H. Jagdale* to strengthen ADR reporting system.
2. It was decided to conduct seminars for the hospital clinical staff, viz. the residents and the nursing staff about the **Pharmacovigilance Program of India** and the procedure of ADR reporting.
3. The staff from the Dept. of Pharmacology viz. *Dr. R. J. Wagh* (Prof. HOD), *Dr. A. S. Chincholkar* (Prof.) and *Mr. Rahul Kedare* (Asst. Prof.) have attended the National Conference in Pharmacovigilance held by Dept. of Pharmacology, LTMMC, GH, Sion, Mumbai, on 17/03/2017. It was decided to avail their expertise for the training of the clinical and nursing staff at BSRTH, Talegaon, in future.



Dr. R. J. Wagh.
(Dr. R. Secretary, IPvC)

PROFESSOR & HOD
PHARMACOLOGY DEPARTMENT
MIMER MEDICAL COLLEGE
TALEGAON DABHADE - 410507

Report submitted to
MCI inspectors on 28.08.17







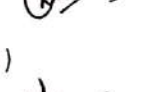


Circular

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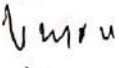



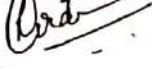
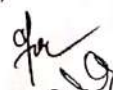

Date: 03/04/2017


Dr. R. J. Wagh (Secretary)

Copy to:

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|-----------------------------------|-------------------------------------------------------------------------------------------------------------------|
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The Institutional Pharmacovigilance Committee was held on 07/04/2017 was attended by:

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MIMER Medical College, Talegaon (D)

Link for

- Clinico Pathological Correlation Meet
- Mortality & Morbidity meeting
- Tumor Board Meeting

<https://mimer.edu.in/02-pdf/naac/2.3.5-cpc-morbidity-tumor-board.pdf>