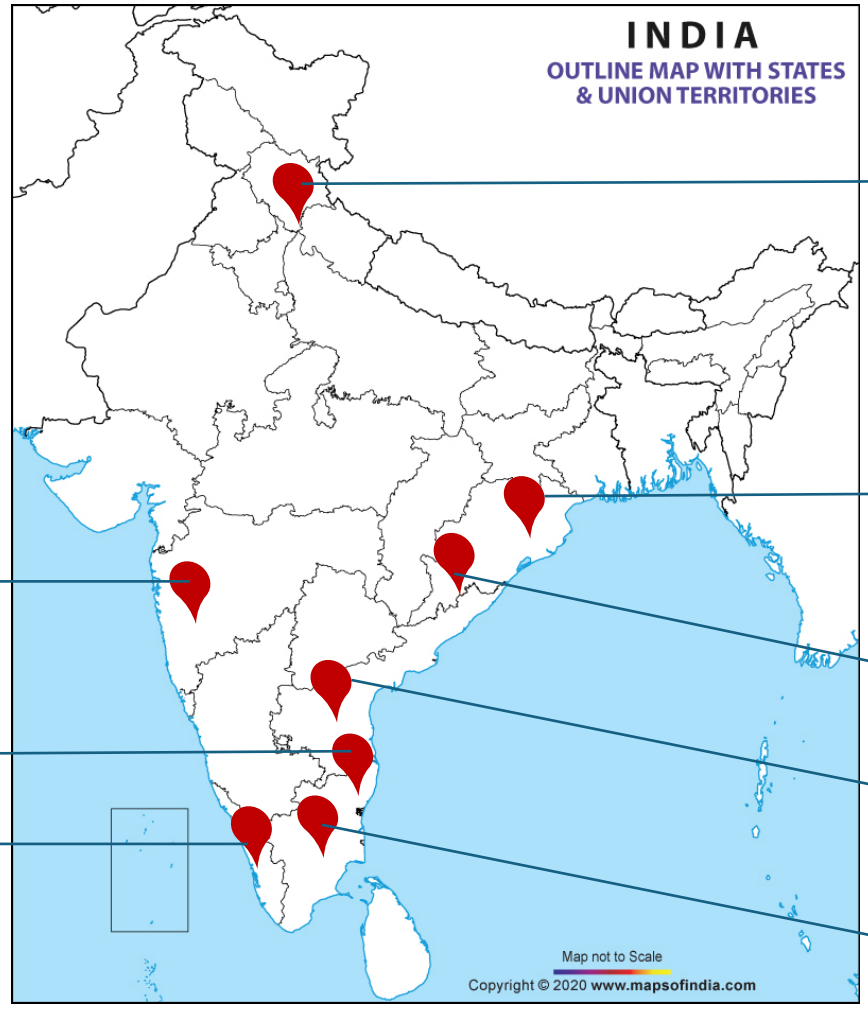
Significant events

AMDRC AIIMS Bhubaneswar

Referral mycology services- 76 Requests Year 1



Pathkind , Delhi

Apollo Bhubaneswar
LV Prasad Eye hospital, Bhubaneswar
KIMS Hospital Bhubaneswar

Vikash Hospital Baragada

Yashoda Hospital Hyderabad

Velammal Medical College, Madurai

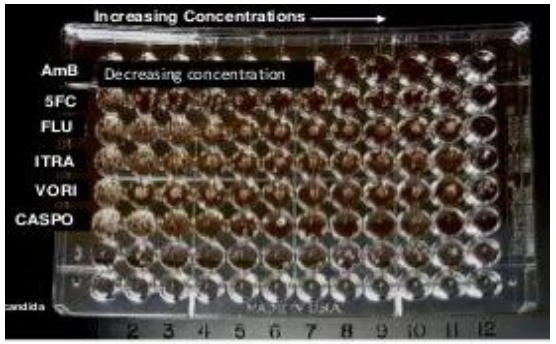
Jupiter Hospitals Pune

Apollo Hospitals Chennai

Kottayam Medical College

Year 1

Antifungal Susceptibility testing as per CLSI M27 & 38



AFST of 20 Yeast Isolates as per CLSI M27

Fluconazole			Voriconazole			Caspofungin			Micafungin			Flucytosine			Amphotericin B		
S	SDD	R	S	SDD	R	S	SDD	R	S	SDD	R	S	SDD	R	S	SDD	R
19 (95%)	0(0%)	1 (5%)	20 (100 %)	0 (0%)	0 (0%)	19 (95%)	0 (0%)	1 (5%)	20 (100%)	0 (0%)	0 (0%)	20 (100%)	0 (0%)	0 (0%)	18 (90%)	0 (0%)	2 (10%)

Year 1

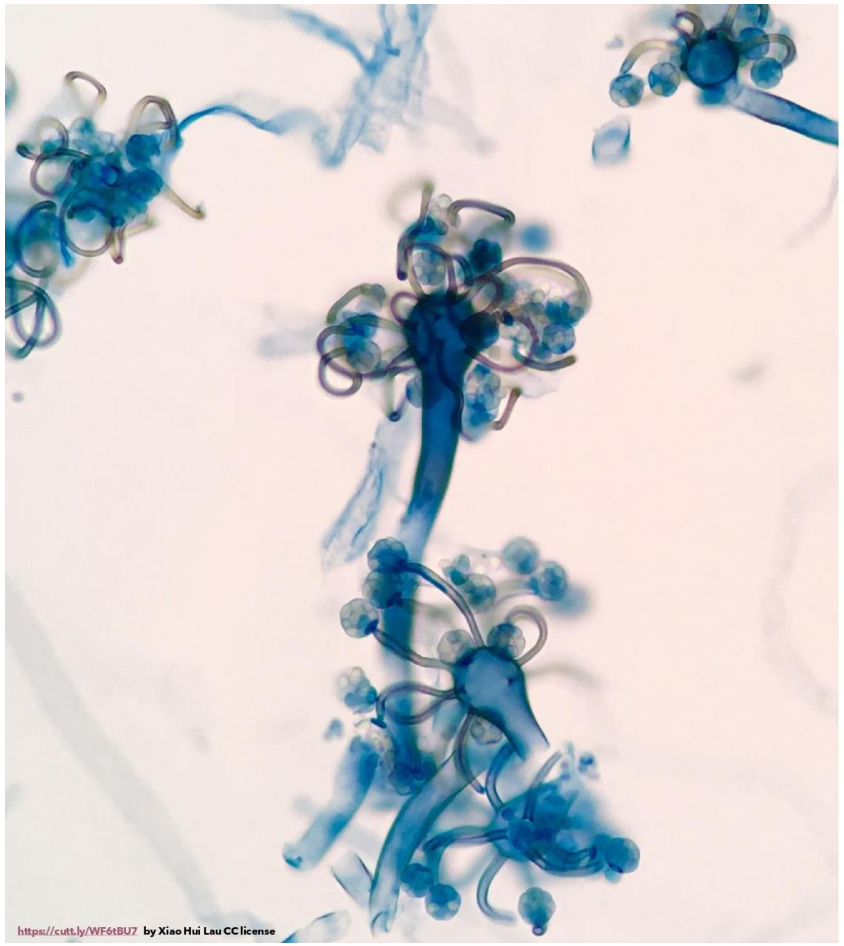
Antifungal Susceptibility testing as per CLSI 38 for *Trichophyton* species

AFST of 60 isolates of *T. mentagrophytes- T. interdigitale* complex

Parameter	Terbinafine (TBF)	Ciclopirox (CIC)	Itraconazole (ITZ)	Luliconazole (LUL)	Sertaconazole (SCZ)
Range	0.125- 8	0.160-1.6	0.64-4	0.016-0.16	0.125-8
Geometric mean	3.442	0.739	0.231	0.0193	1.504
MIC_{50}	8	0.74	0.25	0.016	1
MIC_{90}	8	1.6	0.50	0.035	4
Isolates above UL of WT 95% .	33, (55%)	43, (71.7%)	4, (6.67%)	3, (5%)	30, (50%)

Year 1

Manpower training



1st Diagnostic Mycology Crash Course

26TH-28TH MAY 2022

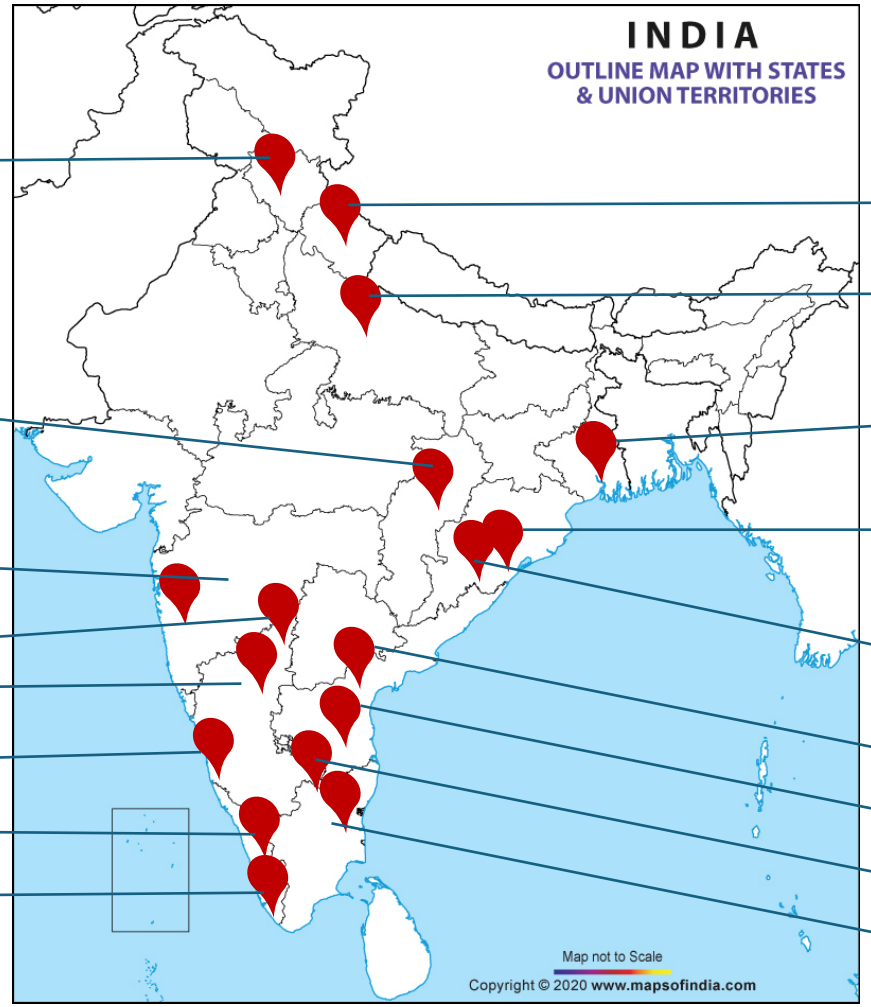
Organised by

ICMR Advanced Molecular & Diagnostics Research Centre for Fungi
AIIMS Bhubaneswar
in collaboration with
National Academy of Medical Educators

ICMR Advanced Molecular Diagnostics & Research centre for Fungi, Bhubaneswar

Advanced Molecular Diagnostic and Research Centre for fungi
AIIMS Bhubaneswar Year 2

Referral mycology services- 116 Requests



Tanda Medical College

Sparsh Hospital Raipur

Dhirubhai Ambani Hospital, Mumbai

ESIC Kalburgi

SDM Dharwad

FMMC, Mangalore

BMH Kozhikode

GMC Kottayam

AIIMS Rishikesh

AIIMS Gorakhpur

AIIMS Kalyani

Apollo Bhubaneswar

LVPE hospital, Bhubaneswar

KIMS Hospital Bhubaneswar

SCB Cuttack

SMC, Vijayawada

NIMS Hyderabad

Railway Hospital, & SRMC Chennai

VMCH, Madurai

Advanced Molecular Diagnostic and Research Center for fungi
AIIMS Bhubaneswar 2nd year

Upgradation of molecular Mycology

Significant /Game Changing events

Keratitis- *Phaeoacremonium fuscum*, *Neodeightonia subglobosa, A. rasikaravidrae*
From Odisha – 1st time in world

Discovery of eumycotic mycetoma drug resistant *Madurella fahalii* for 1st time India

Chromoblastomycosis
F. nubica & *F. monophora*– 1st time from India

Phaeohyphomycosis
R. rufulum 1st time Tamil Nadu
Accepted for Publication in IDOJ

Taking Baby steps towards describing new epidemiological foci. With sequencer we will capture 95% of all clinically relevant fungi

Advanced Molecular Diagnostic and Research Centre for fungi
AIIMS Bhubaneswar Year 2

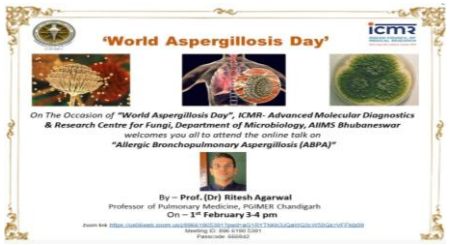
Manpower training

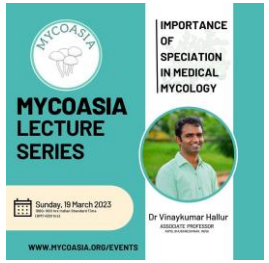
Workshop

2nd Diagnostic Mycology Crash course 21th to 23rd April 2023

A total of 35 participants (MD, faculty, PhD) took part

Physician & Public Education





Observation of World Aspergillosis day-webinar Talk by Prof Ritesh Agarwal.

Public Talk & Poster Competition for & students

Hands On Training

A total of 7 students underwent varying duration of hands on training at ICMR AMDRC.
2 students were from Odisha
3 students were from Gujrat
2 students were from Karnataka

Helping other Institutes

INDIAN COUNCIL OF MEDICAL RESEARCH
icmr | RMRCBB
REGIONAL MEDICAL RESEARCH CENTRE, BHUBANESWAR

PONDICHERRY INSTITUTE OF MEDICAL SCIENCES

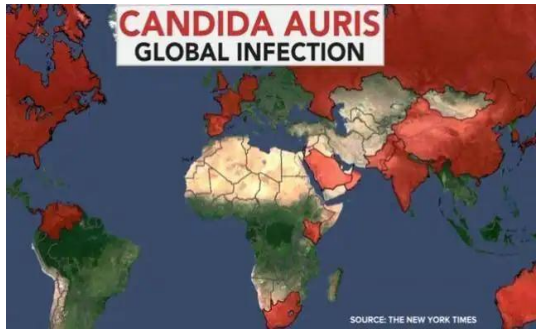
R.G.KAR MEDICAL COLLEGE

Advise & help set up Mycology lab- RMRC BBSR
Shared protocols
Shared resource materials for conducting

AMDRC Bhubaneswar Empowering Doctors to Conquer Fungal Infections With Precision & Speed, One Culture at a Time

Advanced Molecular Diagnostic and Research Center for fungi
AIIMS Bhubaneswar Started on 1.07.2021

Research on Fungal infections *Candida auris*



All *C. auris* isolates were confirmed by specific PCR

Antifungal susceptibility testing was done at AIIMS Bhubaneswar & reconfirmed at PGIMER

AFLP typing was done at PGIMER Chandigarh

Analysis was done at AIIMS Bhubaneswar

ICMR Student thesis Grant

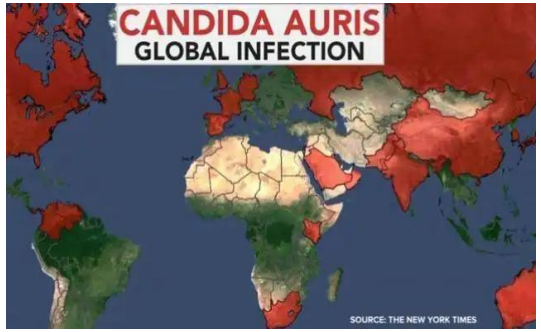
AFST of 49 isolates of *C. auris*

Parameter	Amphotericin B(AMB)	Fluconazole(FLU)	Itraconazole (ITZ)	Voriconazole(VOR)	Posaconazole (POS)	Caspofungin(CAS)	Anidulafungin(ANI)
Range	1-2	0.125-64	0.03-8	0.03-2	0.03-0.5	0.03-0.5	0.03-0.25
Geometric mean	1.53	_	0.19	0.08	0.09	0.13	0.12
MIC_{50}	2	_	0.12	0.06	0.06	0.25	0.25
MIC_{90}	2	-	0.12	0.12	0.25	0.25	0.25
Isolates R	30(61.2%)	28 (57.1%)	10(20.4%)	-	-	O%	0%

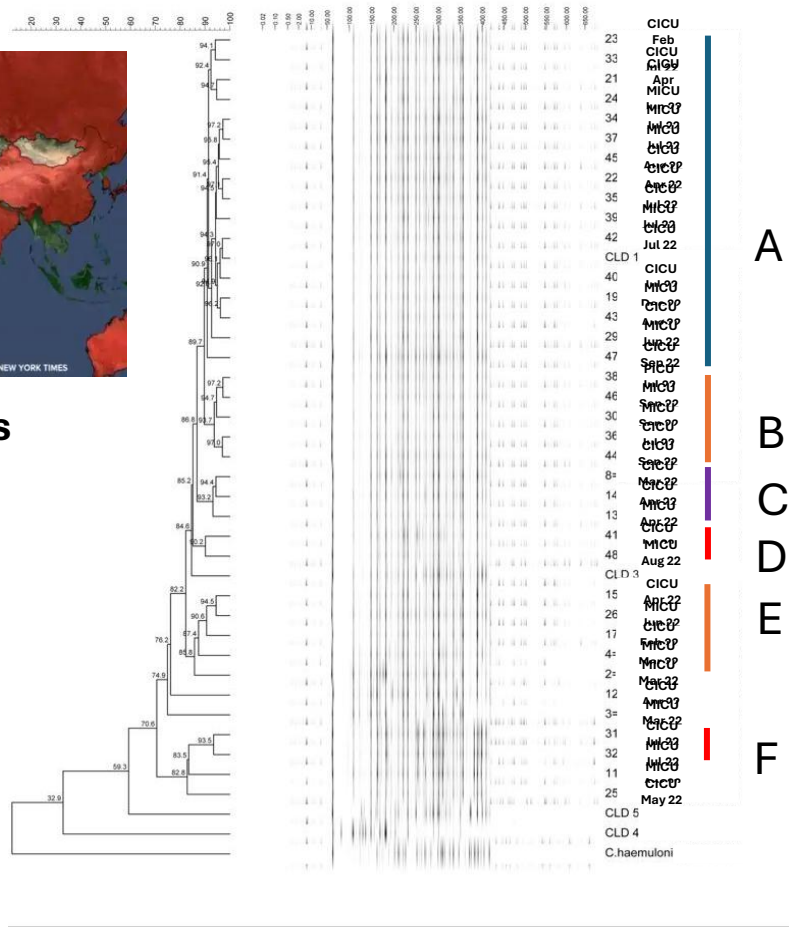
Informed Intensive care to not use AMB, FLU and ITZ for treatment of *C. auris* infections- Antifungal stewardship

Advanced Molecular Diagnostic and Research Center for fungi
AIIMS Bhubaneswar Started on 1.07.2021

Research on Fungal infections *Candida auris*



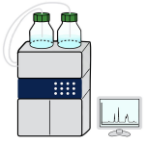
ICMR Student thesis Grant



- **Multiple clones of *C. auris* circulating at our hospital.**
- **Some isolates grouped with clade 3- novel finding not yet described from India**

GAPS-Equipment/Test unavailable

Lyophilizer



HPLC

Scheduled for next years

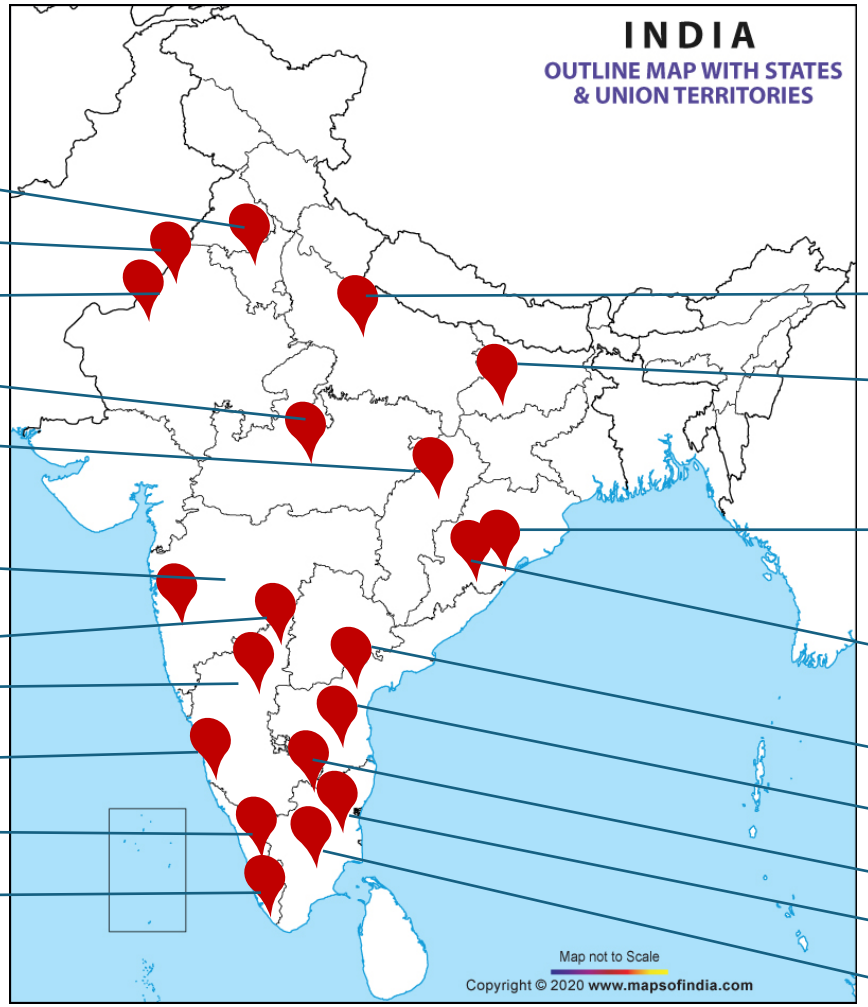
Sequencer

Needed for Fungal Identification Fungal Typing

Received Lyophilizer from Institute, HPLC will be done in pharmacology, Sanger sequencer needed to typing & outbreak investigation

Advanced Molecular Diagnostic and Research Centre for fungi
AIIMS Bhubaneswar Year 3

Referral mycology services- 116 Requests



Hisar Haryana

JLNMC, Ajmer

AIIMS Jodhpur

GRMC Gwalior

CCMAME, Chattisgarh

Manjushree Lab, Aurangabad

ESIC Kalburgi

SDM Dharwad

FMMC, Mangalore

VPLSH, Kochi

GMC Kottayam

AIIMS Gorakhpur

AIIMS Patna

Apollo Bhubaneswar

LVPE hospital, Bhubaneswar

MKCG, Berhampore

SCB Cuttack

SMC, Vijayawada

KMCH Coimbatore

PIMS & JIPMER Pondicherry

VMCH, Madurai

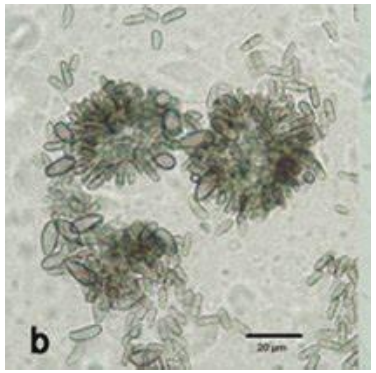
MMCH, Madurai

Advanced Molecular Diagnostic and Research Center for fungi
AIIMS Bhubaneswar 3rd year

Molecular Mycology

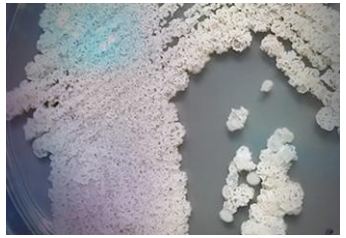
Significant /Game Changing events

Keratitis: *Corynespora casseicola*



Lobectomy: *Triadelphia pulvinata*

Phaeohyphomycosis: *Thyridium curvatum*



Fereydounia khargensis

Taking Baby steps towards describing new epidemiological foci.

Advanced Molecular Diagnostic and Research Centre for fungi
AIIMS Bhubaneswar Year 3

Manpower training

Workshop

3rd Diagnostic Mycology Crash course 2nd to 4th May 2024

A total of 35 participants (MD, faculty) took part

Physician & Public Education

3 Webinars for physicians , Microbiologists

Hands On Training

Molecular identification of fungi at Microcon 2023 with KGMU Lucknow

1 student underwent varying duration of hands on training at ICMR AMDRC.

Helping other Institutes

Kalyan Singh Super Speciality Cancer Inst
C G City, Lucknow

सी.एस.आई.आर - सूक्ष्मजीव प्रौद्योगिकी संस्थान
विज्ञान एवं प्रौद्योगिकी मंत्रालय, भारत सरकार
CSIR - Institute of Microbial Technology
Ministry of Science & Technology, Govt. of India

JNCASR

SRMC Chennai

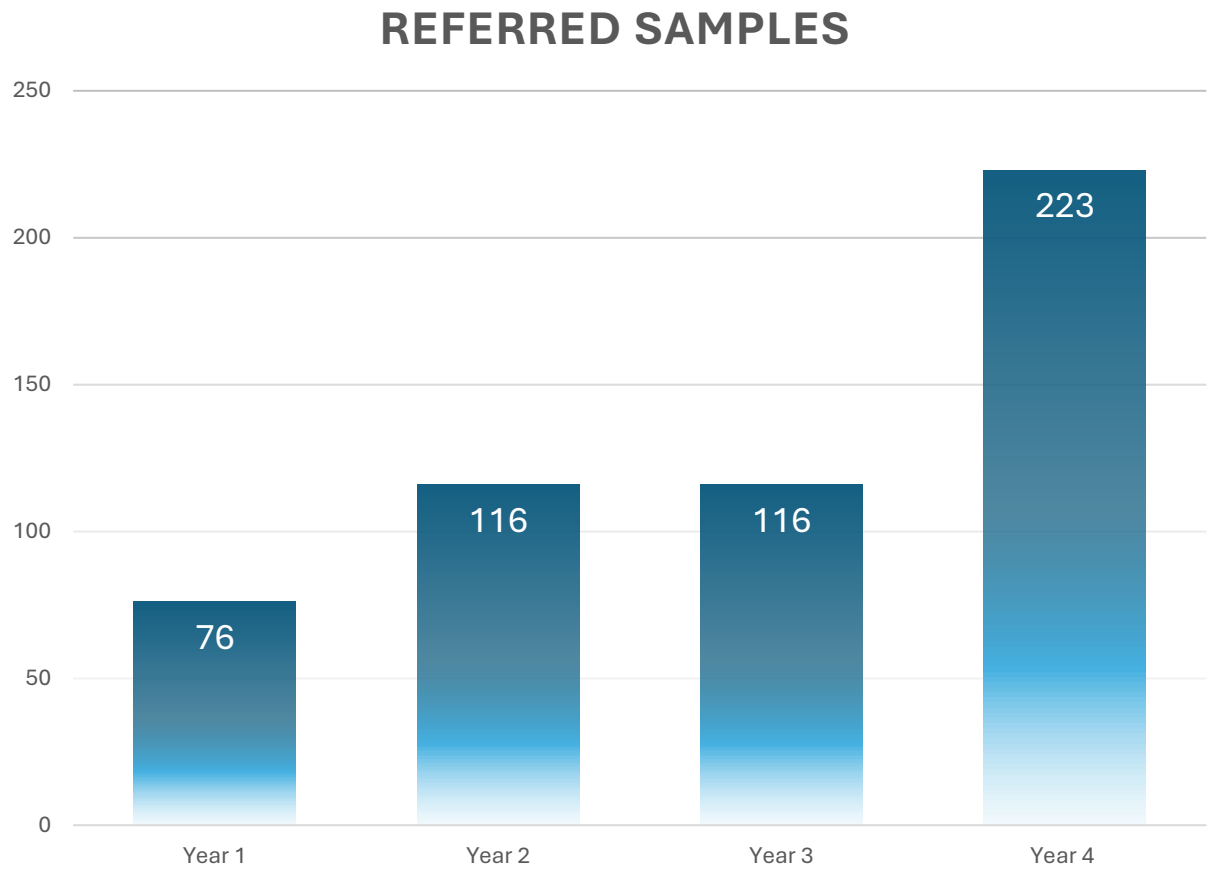
Advise & help set up Mycology lab- AIIMS Gorakhpur, Yashoda Secunderabad

Shared protocols

Shared resource materials for conducting workshop

"If you can't do great things, do small things in a great way." Napoleon Hill

Referral Services Year 4



AFST Data Yeasts year 4

Sample Type	Species	Isolate No	FLU %R	VOR %R	CAS %R	MICA %R	AMB % R
Blood	*C. tropicalis*	54	9.25	0	0	0	0
Blood	*C. parapsilosis*	30	30	6	0	0	0
Bood	*C. auris*	26	100	69	0	0	46
Blood	*C. albicans*	14	7	0	0	0	0
Blood	*C. glabrata*	6	100	100	0	0	0
Blood	*T. asahii*	6	0	0	100	NA	0
Blood	*C. gulliermondi*	5	40	60	0	0	0
Blood	*C. pelliculosa*	5	20	0	0	0	0
Blood	*C. lusitaniae*	2	0	0	0	0	0
Blood	*C. krusei*	1	100	0	0	0	0
Blood	*C. rugosa*	1	100	0	0	0	0
Blood	*C. lipolytica*	1	100	0	0	0	0

Molds

Sample Type	Species	Isolate No	VOR %R	CAS %R	AMB % R
BAL	***A. fumigatus***	**36**	**0**	**0**	**0**
BAL	***A. flavus***	**32**	**0**	**0**	**0**
PUS	***A. fumigatus***	**6**	**0**	**0**	**0**
PUS	***A. flavus***	**8**	**0**	**0**	**50**
PUS	***A. versicolor***	**2**	**0**	**0**	**0**

NTDs

S. No	Isolate No	Species	Antifungal Susceptibility of agents of Chromoblastomycosis at ICMR AMDRC AIIMS Bhubaneswar							
			Amphotericin B	Fluconazole	Itraconazole	Posaconazole	Voriconazole	Anidulafungin	Micafungin	Flucytosine
1	F35	*F. monophora*	0.5	>8	0.125	0.125	0.25	0.5	0.0625	2
2	F500	*F. monophora*	0.25	>8	0.25	0.25	0.25	2	0.125	4
3	28 TISSUE	*F. monophora*	1	>8	1	2	0.25	0.5	8	2
4	119 TISSUE	*F. monophora*	1	>8	0.25	0.25	0.25	0.5	0.125	4
5	196 PUS	*F. monophora*	0.5	>8	0.125	0.125	0.25	0.25	0.0625	2
6	F206	*F. monophora*	0.5	>8	0.25	0.25	0.25	1	0.125	4
7	F252	*F. monophora*	0.25	>8	0.25	0.25	0.25	2	0.125	2
8	F336	*F. monophora*	0.5	>8	0.125	0.125	0.25	1	0.0625	2
9	FP 22	*F. monophora*	1	>8	0.125	0.125	0.25	1	0.125	4
10	F1	*F. nubica*	0.5	>8	0.125	0.03	0.25	8	8	2
11	58 TISSUE	*F. nubica*	1	>8	0.5	0.25	0.25	0.5	4	2
12	63 TISSUE	*F. nubica*	0.5	>8	1	0.5	0.25	1	8	2
13	37 TISSUE	*F. pedrosoi*	0.5	>8	0.5	2	0.25	0.5	1	2
14	92 TISSUE	*F. pedrosoi*	1	>8	0.25	0.25	0.25	0.25	0.125	4