



# Winter Internship 2022

## Mushroom Spawn Preparation

*Organized by*

The Department of Botany  
St. Joseph's College (A), Jakhama

*Activities*

- @ Theory Sessions
- @ Pure culture Preparation
- @ Mother spawn preparation
- @ Spawn multiplication

*Learning Objectives*

- @ Produce quality spawn for different Mushroom
- @ Procure mushroom spawn from authentic source
- @ Agri-entrepreneurship through Mushroom Cultivation
- @ Improve living standard through Mushroom cultivation

*Schedule & Eligibility*

12th & 13th December, 2022 (10 am - 2 pm)  
Class 12 (Science students)  
B.Sc Students  
Only 25 seats available

*Registration & Contact*

Contact no: 8787885681  
Rs. 500 per student (Gpay: 7628857743/Cash)  
Click the link to register:

<https://forms.gle/RhMkDP6dGJPzmpA4A>

**IMPORTANT  
NOTICE**

Certificates for all Participants  
\*  
Refreshment will be Provided  
\*  
Participants will have to arrange  
their own means of transport  
\*  
10th Dec, 2022: Last date for  
registration



75  
Azadi Ka  
Amrit Mahotsav





## Department of Sociology ST. JOSEPH'S COLLEGE (AUTONOMOUS) JAKHAMA, KOHIMA, NAGALAND

### LAUNCHING OF ECO-FRIENDLY PRODUCTS BY THE DEPARTMENT OF SOCIOLOGY

**Launching of Newspaper Pencils:** The first ever Newspaper pencils in Nagaland was launched on 3<sup>rd</sup> June, 2022 by the Department of Sociology, St. Joseph's College (Autonomous), Jakhama under the entrepreneurial initiative of Mr. Keneisezo Thomas Belho, a Post Graduate Student of Department of Sociology of the College.



**Launching of Plantable Badge:** An Eco-Friendly Initiative by the Department of Sociology, St. Joseph's College (Autonomous), Jakhama on 9<sup>th</sup> September, 2022.



Dr. Hormila G Zingkhai  
Assistant Professor, Department of Sociology  
St. Joseph's College (Autonomous)



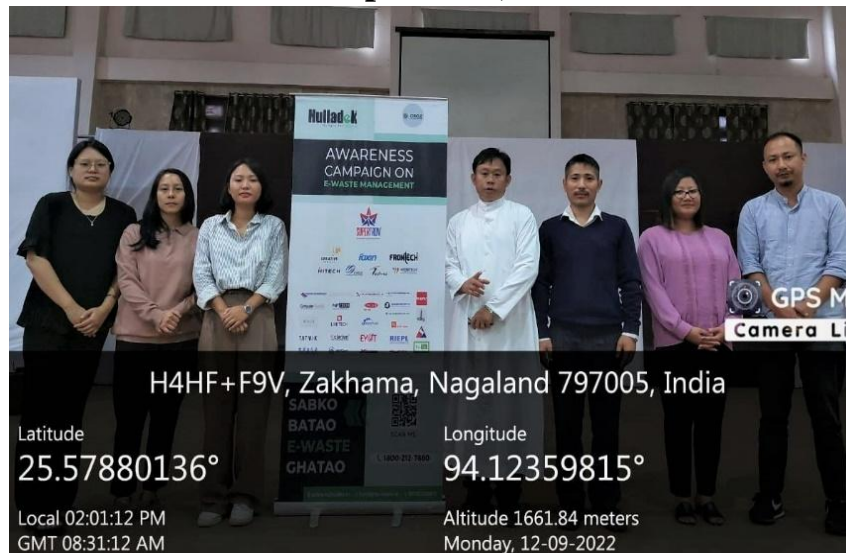




**St. Joseph's College (Autonomous), Jakhama  
E-Waste Club**

**Awareness Programme Cum E-Waste Bin Installation**

**Organised by E-Waste Club, SJC(A) In Collaboration With e-Circle  
12<sup>th</sup> September, 2022**

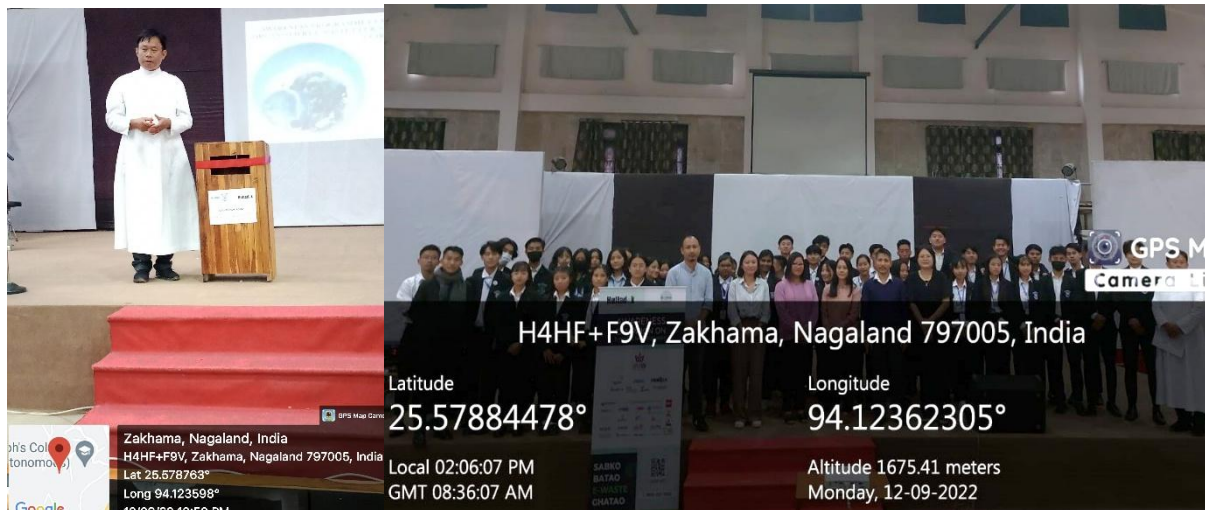


The E-Waste Club, SJC(A), carried out an Awareness Programme Cum E-Waste Bin installation in collaboration with the e-Circle management team on the 12<sup>th</sup> of September, 2022 in the indoor stadium of the college.

The objective of the programme was to enlighten the students about the hazards of electronic wastes and the pollution it causes to our environment and to our health. Ms. Soweteii K.Letro, managing partner of e-CIRCLE gave a presentation on the impacts of electronics waste and stated that the e-waste from Nagaland has very little data and therefore stressed on the importance of keeping track on the collection for further studies on e-waste emitted by our State.

Dr.Fr. George Keduolhou Angami, Principal, SJC(A), graced the programme by inaugurating the E-Waste bin and encouraged the students to promote e-waste management for a better and sustainable tomorrow.

The E-Waste Club directors Dr. Thejasenuo Julia Kirha, Sr. Moatemsu and Sr. Lipokrenba conveyed their gratitude to the e-CIRCLE for their collaboration and would also expressed their sincere thanks to the Eco Club directors Ms. Neithongunuo Angela Belho and Sr.Joyrison Kamba for their active participation along with their members.



*Julia*

Dr. Thejasenuo Julia Kirha  
Assistant Professor  
Botany Department  
St.Joseph's College (A)

*Moatemsu*

Mr. Moatemsu  
Assistant Professor  
Commerce Department  
St.Joseph's College (A)

*Lipokrenba*

Mr. Lipokrenba  
Assistant Professor  
Zoology Department  
St.Joseph's College (A)



# St. Joseph's College (Autonomous), Jakhama E- WASTE CLUB Collection Drive



The E-Waste club, SJC(A), Jakhama, with the aim of e-waste free environment carried out door to door collection drive at CMC Women's Hostel, Art's Block and Men's Hostel. The E-Waste club conducted the collection drive on the 12<sup>th</sup> of February, 7<sup>th</sup> and 9<sup>th</sup> of March, 2023. Some of the waste collected were earpiece, desktop, laptop charger, wires etc.,



Given below is the list of e-waste collected for reference:

<b>IT AND TELECOM</b>	<b>CONSUMER ELECTRONICS</b>	<b>INDUSTRIAL ELECTRONICS</b>	<b>MEDICAL EQUIPMENTS</b>
CRT Monitor	TV (CRT 21 inches)	Current Transformer	Sterilizer machine
Flat Screen Monitor	TV (Flat Screen 26 inch)	Dosing Pump	Medical balance
CPU	Split AC	function generator	Centrifuged machine
Laptop	Table Fan	Heat Gun	X Ray machine
Motherboard	Toaster	Hydra Machine	Portable X ray machine
Laptop battery	VCR	Hydrologic Trolley	Pulse oxy meter monitor
Laptop Charger	Washing Machine Front Load/Top Load	Main Switch Extra Large	Bedside monitor
CD/DVD Rom Drive	Video Conferencing device	Main Switch Large	X ray view box
Compact Server	Video Recorder/DVD Player/Tape recorder	Main Switch Medium	Calling box
Control Panel	Wall Clock	Main Switch Small	BP testing device
CPU Fans	Entertainment Equipment (Tandberg Data)	Motor Pump	Analyzer
Data Switch	Water Filter	pressure gauge	Submersible pump
Dish TV Satellite	Water Heating Jug	Rotor	
DVR	Wires	Scrubbing Machine	
DVR Switch	Woofer	UPS Extra Large	
EpabX Console	CCTV Camera	UPS Extra Large	
EpabX Machine	CCTV Rotinal base	Voltage Meter	
Extension Cord	CFL Bulb	Automotive battery	
Fire Panel	Copper Chokes	Walky Talky	
Floppy Drive	Cross Trainer	Kymograph Machine	
Graphics Card	Electric Heater	submersible pump	
Hard Disk	Electric Kettles	Colorimeter	
Headphones	Fan	MS Scrap	
Keyboard	Inverter battery	Signal Generator	
KOT Printer	Fire Alarm	Voltmeter	
KVM/Ethernet Switch	Grinder	Voltmeter	
LAN Cable	Gym Cycle	Electric Motor	
PCB	Halogen Frame	Stabilizer	
Phone	Hand Blender	Change Over	
POS	Hand Mixer		
LCD Flat Screen	Hot Air Oven		
Power Bank	Induction Cooker		



Power Cord Battery	Iron		
Power Supply	Lamp Frame		
RAM	Lamps		
Smart Phone	LED Bulb		
SMPS (Power Supply)	LED Fitting		
Speaker	Light Board		
Tablet	microwave oven		
Telephone	Mini Bar		
Deskjet Printer/Fax	Mobile Phone Charger		
Dot Matrix Printer	Music Player		
LaserJet Printer / Scanner	Music System		
Multi-Functional Printer	OTG		

Paper Shredder	Pencil Battery		
Photostat Machine/Xerox Machine	Radio		
Postal Franking Machine	Radio/Transistor		
Over Head Projector	Refrigerator Any Door		
Router/Modem/LAN	Room Heater		
scanner(Finger)	Roti Maker		
Scanner jet	Set Top Box		
Security Camera	Speakers		
Typewriter	Capacitor		
USB Drive	Card Scanning Machine		
Ving Card	Treadmill		
Spike Buster	Ceiling Fan		
Telephone wires	Chandelier		
Bar Code Printer	Compressor		
Currency Counting Machine	Emergency Light		
Fake Currency Detector	Entertainment Equipment		
Managed Switch	Exhaust fan		
Network Switch2	Generator		

Network switch3	Halogen		
Networking Rack	Inverter Big		
Adaptor	Power Cable		
Calculator	Small Domestic Appliance		
Cartridge	Standing Fan		
Server Rack (Medium)	Vacuum Cleaner		
Stamp Machine	Water Heater/Geysler		
UPS Medium	Water Purification		
All in one printer	Weighing Scale		
Bill Printer	Aluminum cables		
	LED Fitting(3)		
	Microscope		
	Ballast		
	Coffee Machine		
	Air Purifier		
	Ballast(Tube light)		
	Blade Server		
	Blower		
	Camera		

*Julia*

*Moatemsu*

*Lipokrenba*

Dr. Thejasenuo Julia Kirha  
Assistant Professor  
Botany Department  
St. Joseph's College (A)

Mr. Moatemsu  
Assistant Professor  
Commerce Department  
St. Joseph's College (A)

Mr. Lipokrenba  
Assistant Professor  
Zoology Department  
St. Joseph's College (A)



# DEPARTMENT OF PHYSICS St. Joseph's College (A), Jakhama



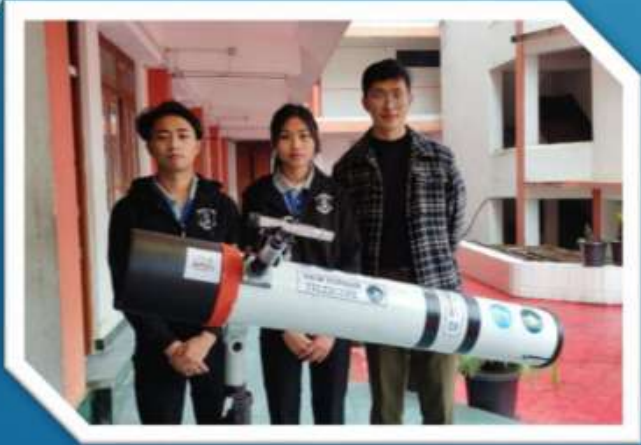
Inauguration of the Newtonian Telescope assembled and built by the Department of Physics, St. Joseph's college Autonomous, Jakhama. 10<sup>th</sup> May, 2022



**Innovation**



Zakhama, Nagaland, India  
H4JF+2P7, Zakhama, Nagaland 797005, India  
Lat 25.580143°  
Long 94.124395°  
10/05/22 11:24 AM



Zakhama, Nagaland, India  
H4JF+2P7, Zakhama, Nagaland 797005, India  
Lat 25.580132°  
Long 94.124372°  
10/05/22 11:24 AM



## Report on Innovative Undertaking on making the Newtonian Telescope by the Department of Physics

The Newtonian Telescope Making is an innovative undertaking by the Department of Physics, St. Joseph's College (Autonomous), Jakhama along with the B.Sc 6<sup>th</sup> semester students under the supervision of Mr. Antidong Jamir, Assistant Professor with much guidance and assistance from the Dean of Science, Fr. Peter Solo.

The Undertaking was based on the 6<sup>th</sup> semester course "Astronomy and Astrophysics" under course code PHC-6.3 with the objective of letting the students learn hands-on and also to instill practical knowledge in the process of learning the particular paper. The St. Joseph's college (A) version of Newtonian Telescope is a 5" Newtonian Telescope.

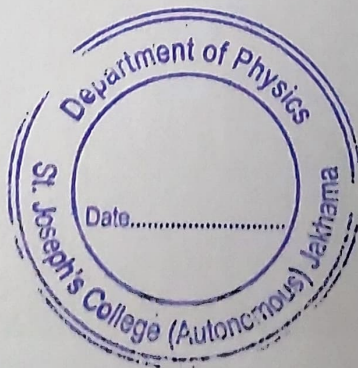
The Telescope was made using waste material from in and around the campus such as used PVC pipes for the tube of the telescope, the main catchment area of the telescope was made using a worn out casserole, the mounting scope was made using lenses from damaged microscope from the laboratory. The mounting of the telescope was also made from metal scraps from the college fabrication center, bearing and a discarded pulley from one of the college buses, old bolts and screws also from the fabrication center, etc. The process of assembling and designing the entire telescope took around approximately three weeks. It has a magnification of about 45X and a resolving power of about 0.91 arc second.

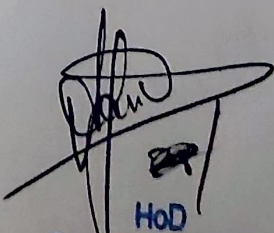
### Working Principle of the Telescope

The Newtonian Telescope is a reflecting telescope that uses a concave primary mirror and a flat diagonal secondary mirror. The large single concave primary mirror is placed at the back of the telescope which focuses light onto the secondary flat mirror placed at a certain distance from the primary mirror set at 45° to the axis of the tube. The light is then brought to a focus at the side of the telescope where the eyepiece is placed. For the proper functioning of the telescope, the mirrors need to be collimated and the optics must be effective. Due to use of mirrors this telescope is free of chromatic aberration i.e. failure of a lens to focus all colors to a point. They are often less expensive than refracting telescopes and hence one of the biggest advantages that amateur astronomers want to consider.

The Telescope was inaugurated by the Principal, Dr. Fr. George Keduolhou Angami on the 10<sup>th</sup> of May, 2022 at the Science Block SJC (A), Jakhama at 9:10 AM in front of the Science Block building. The inaugural program was attended by all the department faculties and the department students. The inaugural session was followed by a short demonstration on how to operate the telescope and also it was kept on display for two days.

Reported by,  
Mr. Antidong Jamir  
Assistant Professor  
Department of Physics  
SJC (A), Jakhama



  
HoD  
Department of Physics  
St. Joseph's College (Autonomous) Jakhama





# DEPARTMENT OF CHEMISTRY

ST. JOSEPH'S COLLEGE (AUTONOMOUS), JAKHAMA 797005

'IMAGINE AND EXPLORE'

## REPORT ON

Installation and Production of Distilled Water by Department of Chemistry on 16/8/22



In Photo: B.Sc V semester (Chemistry dept.)

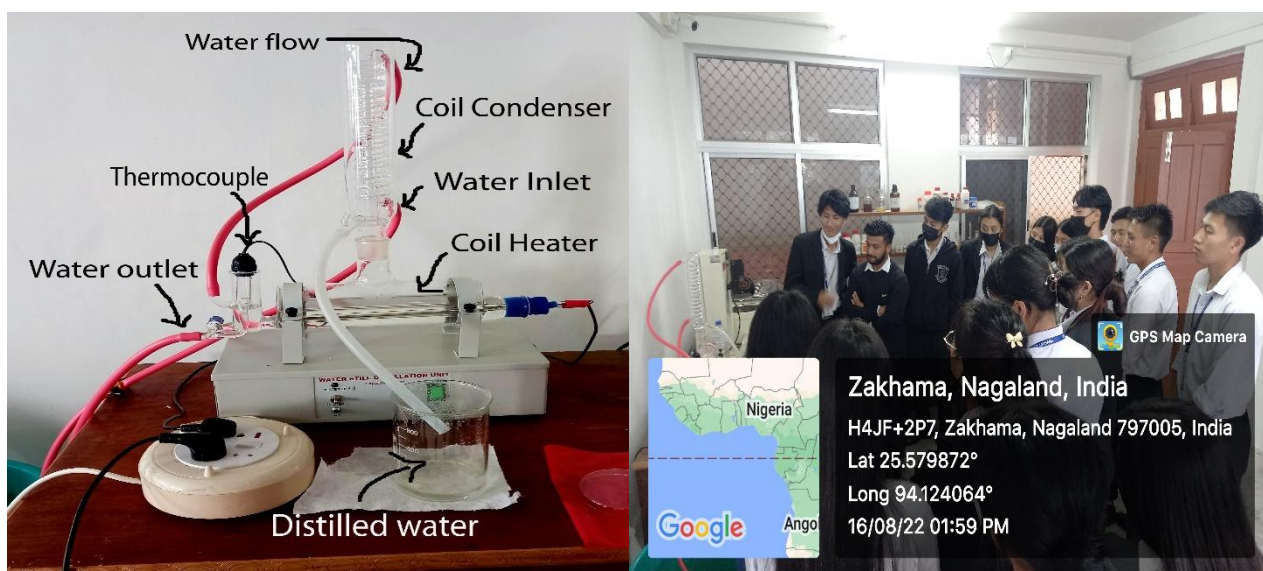


Fig: Water distillation unit with its parts details. In photo: B.Sc V sem (Chemistry dept.)

## **Principle:**

A water distiller is a water treatment method that produces contaminant-free water by converting water into vapour before condensing it and returning it to liquid state. During the evaporation process, impurities like bacteria, heavy metals, and arsenic are eliminated because they are unable to turn to steam. As the water transitions from a liquid to a gaseous state, these contaminants are left behind in the boiling chamber. The distiller then cools the evaporated water, returning it to its liquid state as a mineral-free, highly pure water.

## **Working process:**

The water distiller boils the water, turning it into steam. The steam is then condensed and cooled, returning it back to a liquid state. Anything that cannot turn into steam, like minerals and microorganisms, is left behind.

The process of distillation begins when water is poured into the boiling chamber with the help of a pipe connected through a water inlet. The boiling chamber is equipped with a heating element which will raise the temperature of the water to a rolling boil. As the temperature of the water elevates, steam is produced. The steam rises through the vent into the coil condenser where the coil carries the cold water. As the steam rises everything from bacteria to fluoride is left behind. The coil condenser then is a coil where the vapour will be converted back to a liquid state.

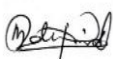
The capacity of the water distillation unit to produce distilled water is upto 2L/hour.

## **Installation and uses:**

The installation of the water distillation unit was done on 16<sup>th</sup> /August/2022 by the department of Chemistry SJC-A with the initiative of Fr. Peter Solo, Dean of Science SJC-A at the Research lab of the Science block.

The distilled water produced will be supplied to all the science labs of the Department of Science SJC-A. It will also be used for refilling of Batteries used in the cars in the college.

## **Report by/-**



Mr. Madovi David

HoD, Department of Chemistry

St. Joseph's College (Autonomous)

Date: 17/08/22





# DEPARTMENT OF ZOOLOGY

## St. Joseph's College (Autonomous) Jakhama

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### OIKOS OF ALBINO MICE

Date of Report: 29 April 2022

The Oikos of Albino Mice is an innovative undertaking by the Department of Zoology, St. Joseph's College (A) Jakhama, under the supervision of Ms. Noyingbeni M. Odyuo, Asst. Professor, Dept. of Zoology, St. Joseph's College (A), Jakhama with able guidance from the Dean of Science, Fr. Peter Solo.

“Oikos of Albino Mice” has been undertaken with the hope of giving the students a first-hand experience in keeping and caring for live animals and to instil in them the love for the organisms handled in the laboratories. The Albino mouse, commonly known as the laboratory mouse is a small mammal of the order Rodentia is used as a research model for genetics, physiology, medicine, reproductive biology and other scientific disciplines. This initiative helped the students study the reproductive cycle through the Albino mice. It has also helped them understand the vulnerability of the Albino mice.

#### **Classification of Albino Mice:**

Kingdom : Anamalia  
Phylum : Chordata  
Class : Mammalia  
Order : Rodentia  
Family : Murinae  
Genus : Mus  
Species : mus

The students of Zoology B.Sc VI semester, studying reproductive Biology under Course code: 6.3 (P) has been tending the Albino mice for a period of 5 months. 10 pairs of Albino Mice were initialled housed in the Oikos of Albino Mice, but in due course of time, remarkable multiplication has been taking place and the number of mice in the Oikos of Albino Mice has increased significantly.

Ms. Noyingbeni M. Odyuo  
Asst. Professor  
Zoology Department  
St. Joseph's College (A), Jakhama





DEPARTMENT OF ZOOLOGY  
St. Joseph's College (Autonomous) Jakhama

# OIKOS OF ALBINO MICE

Innovative Undertaking of the Department of Zoology  
St. Joseph's College (A), Jakhma



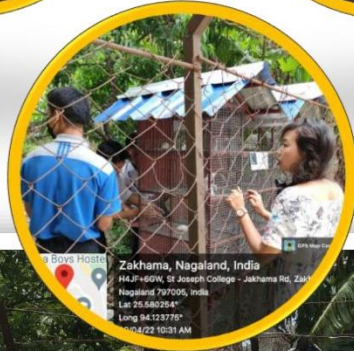
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Zakhama, Nagaland 797005, India  
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29/04/22 10:29 AM



Zakhama, Nagaland, India  
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Long 94.123904°  
29/04/22 04:11 PM



Zakhama, Nagaland, India  
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29/04/22 10:37 AM



Zakhama, Nagaland, India  
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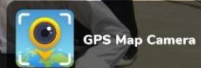


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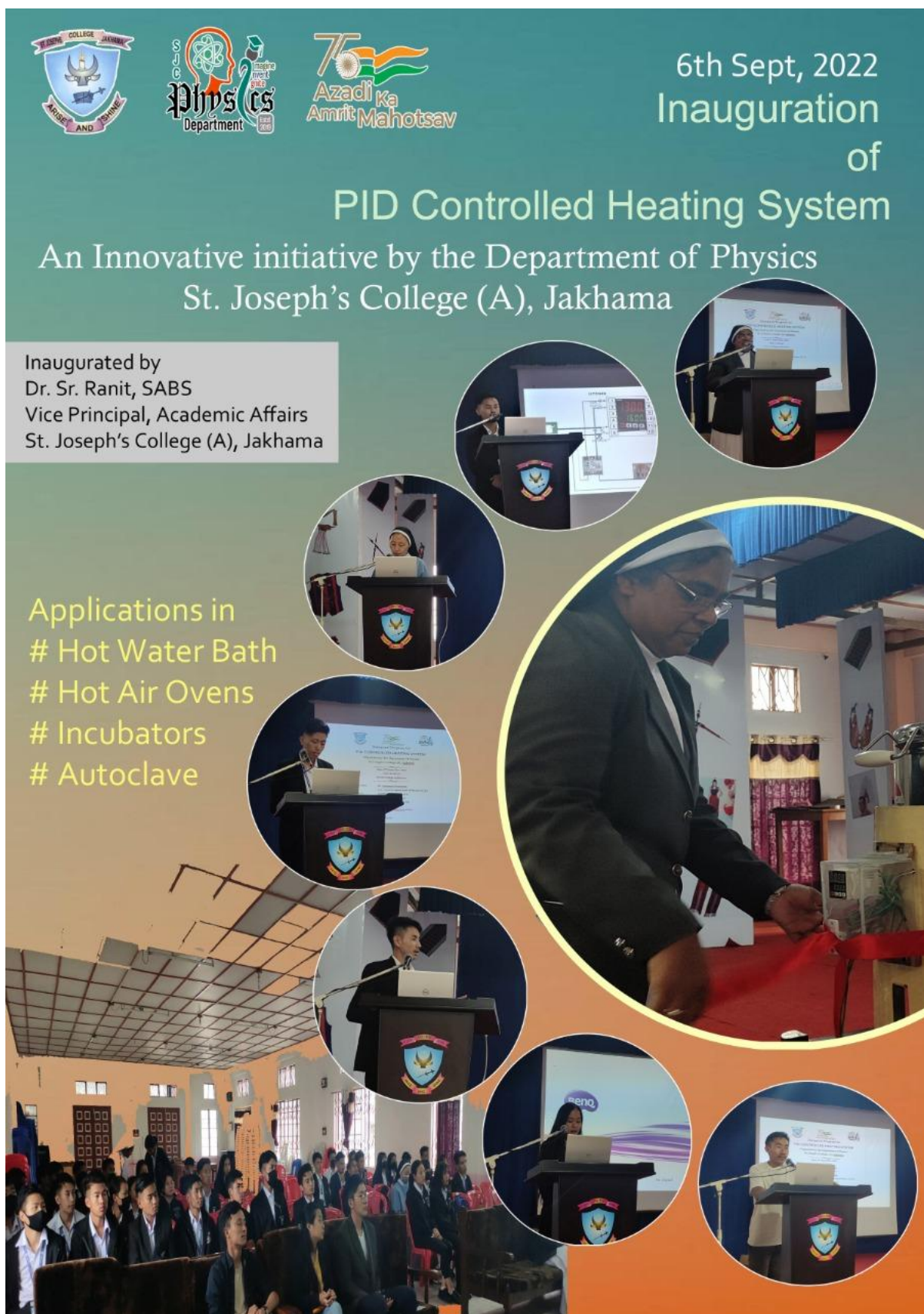


Zakhama Boys Hostel  
St. Joseph's College (Autonomous)  
Google

Zakhama, Nagaland, India  
H4JF+6GW, St Joseph College - Jakhama Rd, Zakhama, Nagaland  
797005, India  
Lat 25.580231°  
Long 94.123755°  
29/04/22 11:08 AM







6th Sept, 2022  
Inauguration  
of  
PID Controlled Heating System

An Innovative initiative by the Department of Physics  
St. Joseph's College (A), Jakhama

Inaugurated by  
Dr. Sr. Ranit, SABS  
Vice Principal, Academic Affairs  
St. Joseph's College (A), Jakhama

Applications in  
# Hot Water Bath  
# Hot Air Ovens  
# Incubators  
# Autoclave

75  
Azadi Ka  
Amrit Mahotsav

The poster features a collage of circular images showing the inauguration ceremony. A large central image shows a woman in a black and white habit cutting a red ribbon. Other smaller circular images show various individuals speaking at a podium with the college logo. A large background image at the bottom shows an audience of students seated in a hall. Logos for St. Joseph's College (A), Jakhama, the Physics Department, and the 75th Azadi Ka Amrit Mahotsav are displayed at the top.



**NAME:** Inauguration of PID Controlled Heating System

**DATE:** 06-09-2022

**TIME:** 12:40 pm

**VENUE:** Auditorium, St. Joseph's College (A) Jakhama,  
Kohima, Nagaland



**DEPARTMENT OF PHYSICS  
ST. JOSEPH'S COLLEGE (AUTONOMOUS)  
JAKHAMA, NAGALAND**

**1. PARTICIPANTS DETAILS:**

PARTICIPANTS DETAILS				TOTAL NUMBER OF PARTICIPANTS
NUMBER OF MALE PARTICIPANTS SJC(A)	NUMBER OF FEMALE PARTICIPANTS SJC(A)	PARTICIPANTS FROM SJC(A)	PARTIPANTS FROM OUTSIDE (BOTH MALE AND FEMALE)	
34	26	60	-	60

**2. NAMES OF THE RAPPORTEUR:** Mr. Tiwe Wetsah

**3. PURPOSE OF THE ACTIVITY:** To inaugurate the PID Controlled Heating System build and assembled in the Department of Physics. And also to educate the students of the department on the working principle of the system and to make aware of the possibilities and application of controlled heating system and PID controllers.

**4. OUTCOME OF THE ACTIVITY:** The primary outcome of the whole activity is the development of a controlled heating system which would be engaged for the purpose of sterilizing glasswares and seeds to be used for producing spawns of mushrooms. Through this activity the participating students were informed of the possibilities of innovation through easily available products. The students were also exhorted to engage in innovative endeavor.





**DEPARTMENT OF PHYSICS  
ST. JOSEPH'S COLLEGE (AUTONOMOUS)  
JAKHAMA, NAGALAND**

**REPORT OF THE INAUGURATION PROGRAM FOR PID CONTROLLED HEATING SYSTEM**

An inaugural ceremony for the PID Controlled Heating system built and assembled in the Department of Physics, St. Joseph's college (A) Jakhama was held on Tuesday, 6<sup>th</sup> September 2022 at 12:40 pm.

The program started with Dr. Sr. Ranit SABS, Vice Principal (Academic Affairs) and Fr. Peter Solo, Dean of Science arriving at the venue at 12:40 pm.

Mr. Seyieneizo Benupfuno, Assistant Professor, Department of Physics, SJC(A) warmly welcomed the Vice Principal and the Dean of Science and gave the introductory word.

The program continued with a prayer by Sr. Angelle Shingnaisui, 5<sup>th</sup> semester Dept. of Physics. This was followed by Mr. Chumbise, 3<sup>rd</sup> semester, Dept. of Physics presenting on the working principle of heating of metals due to electrical current.

After which a presentation on the parts and the working of the PID control heating system was delivered by Mr. Thango, 5<sup>th</sup> semester Dept. of Physics. He deliberated in detail the working mechanism of the PID controller using visual aid. Mr. Moasunep, 5<sup>th</sup> semester Department of Physics spoke on the primary application of the PID controlled heating system which has been assembled, and also on the various possible application of such control heating systems. He also showed the audience some of the college laboratory equipments which make use of PID controller.

The program continued with the inauguration of the PID Controlled Heating System by traditional ribbon cutting ceremony by Dr. Sr. Ranit SABS. After which Dr. Sr. Ranit SABS graced the students with her wise words, speaking about how Physics could impact our contemporary local society and the employment possibilities that could be generated.

A vote of thanks was delivered by Miss. Münülü Vero, 5<sup>th</sup> semester Dept. of Physics. The program marked its conclusion at 1:30 pm.

After the formal program a time for the physical inspection of the system and Q/A session was allotted to the students.

Report by:

Mr. Tiwe Wetsah,  
5<sup>th</sup> Semester, Department of Physics  
St. Joseph's College (Autonomous)  
Jakhama, Nagaland

Ms. Thejano  
Head, Department of Physics  
St. Joseph's College (Autonomous)  
Jakhama, Nagaland



**NAME OF THE ACTIVITY: Innovative undertaking on mushroom spawn cultivation**

**DATE: 25<sup>th</sup> April, 2022**

**VENUE: Botany Lab, Science Block.**

**1. PARTICIPANTS DETAILS:**

PARTICIPANTS DETAILS		TOTAL NUMBER OF PARTICIPANTS
NUMBER OF MALE PARTICIPANTS	NUMBER OF FEMALE PARTICIPANTS	48
28	20	

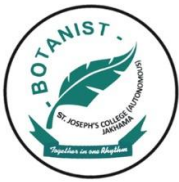
**2. NAME OF THE TEACHER IN CHARGE: Dr. THEJASENUO JULIA KIRHA**

**3. OBJECTIVE OF THE PROGRAM:**

- To enable students to develop skills and acquaint themselves with the techniques involved in production of mushroom spawns.
- To enable the students to explore the vast potentials of mushroom cultivation for future income generation and employment.

**4. OUTCOME OF THE PROGRAM:**

- The students learnt the detailed process of mushroom spawn preparation.
- They could also identify the numerous prospects of mushroom cultivation in the food industry as well as to take it up as a career option in the future.



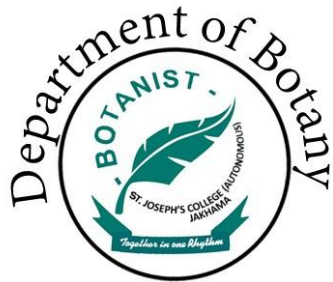
DEPARTMENT OF BOTANY  
ST. JOSEPH'S COLLEGE (AUTONOMOUS),  
JAKHAMA, NAGALAND

Email: deptofbotsjac@gmail.com  
Phone: 8731065074



St. Joseph's College (A), Jakhama

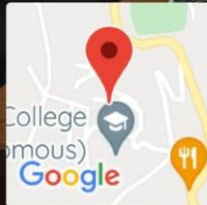
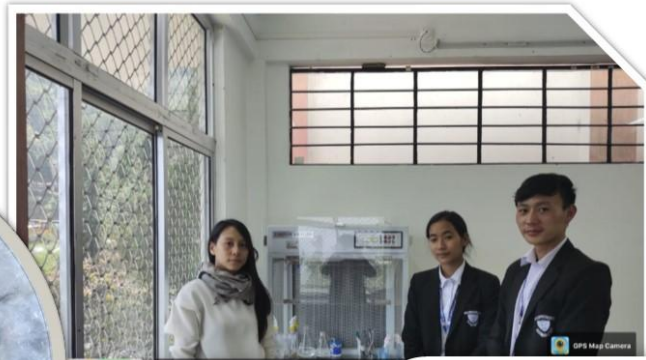
INNOVATION



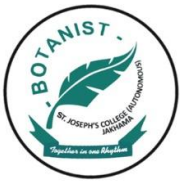
## Mushroom Spawn Production



Zakhama, Nagaland, India  
H4JF+2P7, Zakhama, Nagaland 797005, India  
Lat 25.580125°  
Long 94.124636°  
25/04/22 01:15 PM



Zakhama, Nagaland, India  
H4JF+2P7, Zakhama, Nagaland 797005, India  
Lat 25.58013°  
Long 94.124643°  
25/04/22 01:13 PM



## Mushroom Spawn Cultivation

### An Innovative undertaking on Mushroom Spawn production by the Department of Botany

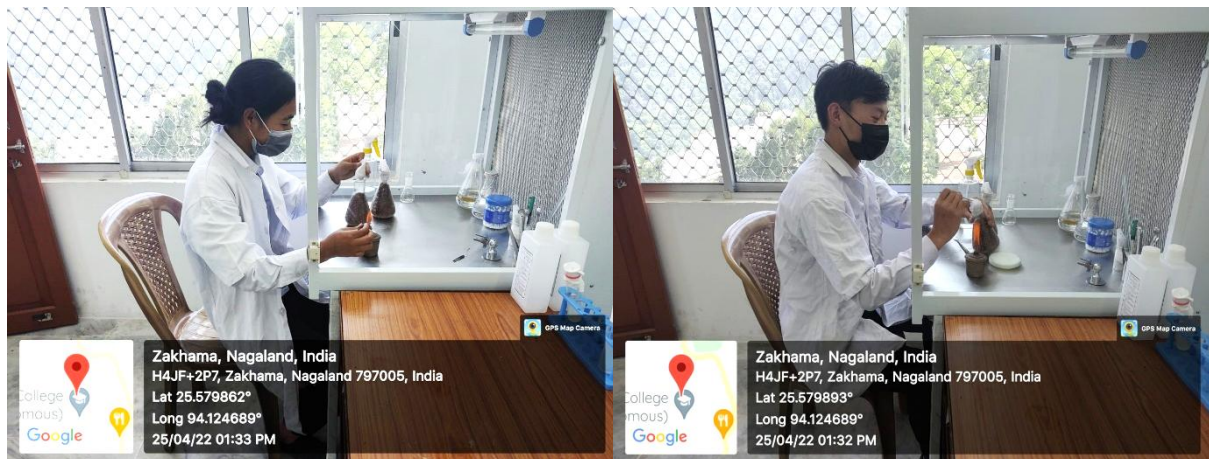
Mushroom cultivation, an environmentally friendly farming has played an integral part in agriculture. Being one of the ideal food items, mushroom needs to be explored for its impact in the economy, medicinal and nutritional properties and in the maintenance of health. There are about 2000 species of mushroom and only a small percent has been exploited the world over. Role of mushroom in sustainability and food security makes mushroom cultivation an important area to be discussed and practiced in a large scale.

#### Oyster Mushroom

The *Pleurotus* spp. derives their name due to the oyster-like shape. It has a wide range of temperature adaptability making it resilient to climatic conditions and therefore, available almost round the year.

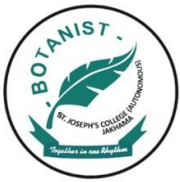
#### Spawn production

Spawn comprises of mycelia of the fungus profusely multiplying on a substrate such as wheat or paddy grains. For the production of good quality spawn, supplies such as paddy grains, sterile laboratory conditions with laminar air flow and storage temperature of about  $25\pm 2^{\circ}\text{C}$  were taken into considerations to avoid any contamination.



Students inoculating mycelium from pure culture media



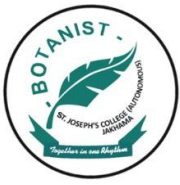


### Pure culture preparation

Pure culture of Oyster mushroom was obtained using Potato Dextrose Agar (PDA) media. The mycelia plug is placed on the petri plates containing the media and incubated at a temperature of  $25\pm 2^{\circ}\text{C}$ . In about a week or two mycelium is observed on the entire surface of the media ready to be inoculated.

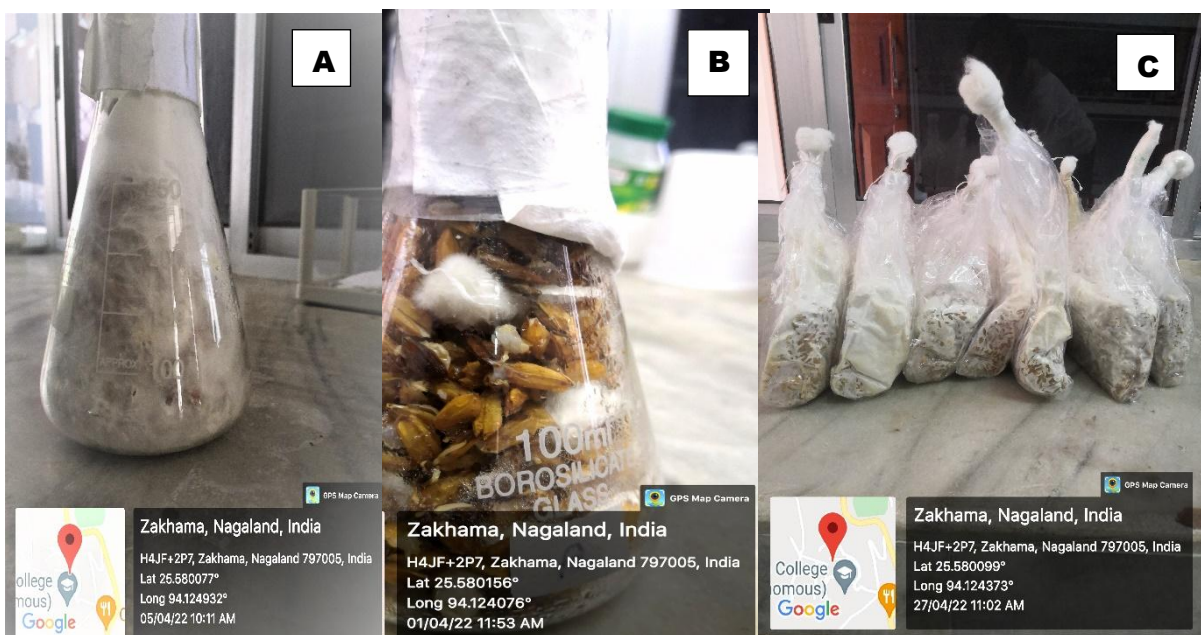


**Mycelium growth of Oyster mushroom in PDA media**

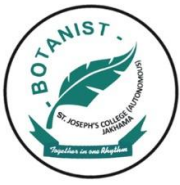


### Spawn preparations

Paddy grains as a suitable substrate is washed and pressurized to open the husk grains. After excess water is drained, about 20g of calcium carbonate ( $\text{CaCO}_3$ ) is mixed with per kg of grains to increase the pH suitable for the rapid growth of spawn. The mixture of about 200g is filled in a polypropylene bag and plugged with cotton plugs, autoclave for about 1 or 2 hours. Once the polypropylene bags were cooled, mycelium from pure culture media and tissue taken aseptically from the stalk were inoculated inside the laminar air flow and stored in a dark room. Mycelium were observed in about a week.



**A. Mycelium observed in paddy grain. B. Tissue culture. C. Spawn of Oyster mushroom.**



### PROSPECT

The opportunities mushroom cultivation holds can open ample doors for the benefit of people in need of employment and people in general. As food demand increases, mushroom cultivation can decrease burden on other food produce due to its inexpensive and easy availability of requirements needed for cultivation. For the health conscious, it serves as a great dietary food. The medicinal and nutritional properties can be explored creating more avenues. Production of good quality spawn in itself is a promising endeavor, which is the key factor for the success of mushroom cultivation.



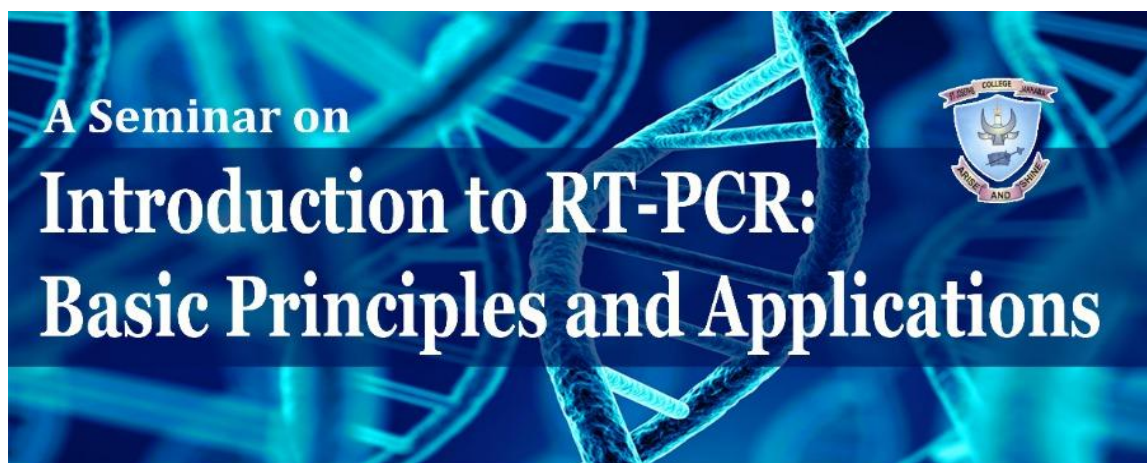
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Jointly Organized  
by



The Department of Zoology  
St. Joseph's College (A) Jakhama  
Kohima, Nagaland

&



The Department of Botany  
St. Joseph's College (A) Jakhama  
Kohima, Nagaland

**SPEAKER**



**Ms. Rukutalu**  
Head of Department  
Department of Zoology  
St. Joseph's College (A) Jakhama

**SPEAKER**



**Ms. Neithongunuo Angela**  
Head of Department  
Department of Botany  
St. Joseph's College (A) Jakhama

**Date: 2nd February, 2023**

**Time: 12:40 pm**

**Venue: Conference Hall 1 (Arts Block)**

**Participants: 6th Semester ( B.sc Botany & Zoology)**



**A Seminar on "Introduction to RT-PCR: Basic Principles and Applications"**

**DATE: 2<sup>nd</sup> February, 2023.**

**VENUE: Conference Hall 1 (Arts Block)**

**1. PARTICIPANTS DETAILS:**

PARTICIPANTS DETAILS			TOTAL NUMBER OF PARTICIPANTS
NUMBER OF MALE PARTICIPANTS	NUMBER OF FEMALE PARTICIPANTS	PARTICIPANTS FROMSJC(A)	
26	43	69	69

**2. NAME OF THE RESOURCE PERSONS** i) Ms Neithongunuo Angela Belho

**Head of Department  
Department of Botany  
St. Joseph's College (A)  
Jakhama.**

ii) Ms. Rukutalu

**Head of Department  
Department of Zoology  
St. Joseph's College (A)  
Jakhama**

**3. NAME OF THE MODERATOR:**

**Ms.Nzanti N Ngullie  
Assistant Professor  
Department of Zoology  
St. Joseph's College (A)  
Jakhama.**

**4. OBJECTIVE/S OF THE PROGRAM:**

- i) To enable the students to understand the basic difference between conventional PCR and RT-PCR.
- ii) To enable the students to become well acquainted with the principle of RT-PCR.
- iii) To make the students well aware about the various applications of Real Time-PCR in diverse fields of Science.

**5. OUTCOME OF THE PROGRAM**

The participants particularly the B.Sc 6<sup>th</sup> Semester students of Botany and Zoology attained valuable knowledge, applications and importance of RT-PCR. They also understood the basic difference between PCR and RT-PCR as well as the important need of acquiring the skills to perform RT-PCR accurately especially in the wake of the Covid Pandemic. Also the promising possibility of carrying out many research works or projects in life sciences using the RT-PCR was also an important aspect of the training which all the participants were made aware of.



Date: 06.02.2023

### Seminar on “Introduction to RT-PCR: Basic Principles and Applications

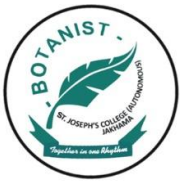
The Department of Zoology and Department of Botany, St. Joseph's College (Autonomous), Jakhama, jointly organised a seminar on “Introduction to RT-PCR: Basic Principles and Applications” on the 2<sup>nd</sup> of February, 2023 in Conference Hall no. 1 (Arts Block) at 12: 40 p.m. The participants for the same were the B.Sc 6<sup>th</sup> Semester students taking up Botany and Zoology Honours. The whole session was moderated by Ms. Nzanti N Ngullie, Assistant Professor, Department of Botany, St. Joseph's College (Autonomous), Jakhama.

The session began at 12:40 p.m. with a welcome note by Ms. Nzanti N Ngullie, Assistant Professor, Department of Zoology, SJC (A) which was followed by an invocation by Mr. Joel Ajay J, B.Sc 6<sup>th</sup> Semester, Department of Botany, SJC (A). Ms. Nzanti N Ngullie introduced the two speakers for the seminar after which the session was taken over by the first speaker Ms. Neithongunuo Angela Belho, HOD Department of Botany, St. Joseph's College (Autonomous), Jakhama. Ms. Belho began with a quick review on some important properties of DNA and proceeded on with the basic differences between the conventional PCR and RT-PCR. Ms. Belho emphasized on the principles of RT-PCR, procedure and data analysis. This was followed by the next session which was taken over by Ms. Rukutalu, HOD Department of Zoology, St. Joseph's College (Autonomous), Jakhama. Ms Rukutalu talked about the various applications of RT-PCR in the field of various disciplines. Ms Rukutalu explained on the role of RT-PCR on forensics DNA detection, identifying GMOs, detection and quantification of viral infections, wildlife conservation and gene expression analysis.

The interactive session followed after the speakers ended their talk, during which the students cleared their doubts and queries. The program ended with a vote of thanks by Ms. Pounamdiuliu K C, B.Sc 6<sup>th</sup> Semester, Department of Zoology, St. Joseph's College (Autonomous), Jakhama.

Ms. Neithongunuo Angela Belho  
Head of Department  
Department of Botany  
St. Joseph's College (Autonomous)  
Jakhama, Nagaland.





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