

# St. Mary's College (Autonomous)

Re- accredited with A+ grade by NAAC (4th Cycle)

Thoothukudi, Tamilnadu



## NEWSLETTER

# *Annual Report*



**Department Of Zoology**  
**2021 - 2022**



## HOD'S MESSAGE

“Education is not preparation for life; education is life itself”

–John Dewey

One of the crucial role of educators is to recognize the potential of students and help bring out their talents to achieve their goals. In this year of faith, as our Lord says, “everything is possible for the person who has faith” (Mark 9:23) believing in God and oneself is one of the fundamental aspect of personal growth which motivates one to work diligently towards success. Faith provides us with the strength to face uncertainties, acting as a beacon of hope, inspiring us to race towards a brighter future. The unwavering faith our institution has in the transformative power of education inspires students to realize their potential and strive for excellence.

Our department has been working hard diligently to maintain high academic standards by offering students the recent advancements in curriculum, required facilities and infrastructure, along with ample opportunities to equip themselves for their future career. Our dedicated faculty provide a nurturing environment that builds self-confidence and self-esteem ensuring that every student feels valued, heard, and empowered to explore and achieve their highest potential.

As we move forward to the future, let us hold onto our faith in ourselves, in each other, in humanity, in shared values, and in a greater purpose. Let us create an academic community that thrives on the belief that anything is possible when we work together with conviction and purpose. I wish the faculty and students success in all their future endeavours. May the God of hope fill you with joy and peace and guide you through great success.

# DEPARTMENT OF ZOOLOGY

## Editorial Team

- **Dr. P.J.Joslin M.Sc., M.Phil., Ph.D.(HoD)**
- **Dr. S. Mary Baptista Janet M.Sc., M.Phil., B.Ed., Ph.D.**
- **Dr. Sr. C. Shibana M.Sc., B.Ed., M.Phil., Ph.D**
- **Dr. Jemma Hermelin Jesy Diaz M.Sc., M.Phil., B.Ed., Ph.D..**
- **Dr. S.R.T. Sherly Cross M.Sc., M.Phil., B.Ed., Ph.D.**
- **Dr. S. Selvi M.Sc., M.Phil., SET., B.Ed., Ph.D.**
- **Dr. R. Sripriya M.Sc., Ph.D., NET**
- **Dr. M. Paripooranaselvi M.Sc., M.Phil., B.Ed., Ph.D., SET**
- **Dr. P. Subavathy M.Sc., M.Phil., SET., Ph.D.**

## Association meeting 2021-2022

### A ROAD MAP FOR MARINE DRUG DISCOVERY: INDIGENOUS TO MODERN

The first Zoology association meeting for the year 21-22 was held on 28. 9.21 in the Zoom meeting platform. Dr. T. Ramanathan, M.Sc., M.Phil., Ph.D., Associate Professor, Centre for Advanced Studies in Marine Biology, Annamalai University was the resource person. Dr. Ramanathan delivered a lecture on the topic 'A road map for marine drug discovery: Indigenous to modern'. He explained to the students on the various marine resources from which compounds of medical importance can be harnessed. He stressed the importance of the rich wealth of medicinal compounds which can be isolated from the marine flora and fauna. He also focused on the unexplored ocean wealth. His presentation was very informative and colourful. It created an interest among the faculty and students to take up research in this area. 136 UG and PG students of Department of Zoology were the beneficiaries.

New office bearers were introduced in the meeting. K. Jeyachithra Varshini of III UG Zoology, M. Balasowmya of II B.Sc.Zoology and R. Eva Sherlin of I B.Sc. Zoology were nominated as the President, Secretary and Vice president of the Zoology association for the current year respectively.

**St.Mary's College (Autonomous),Thoothukudi**  
(Reaccredited with A+Grade by NAAC)  
**Department of Zoology**  
Organises an  
**Association Meeting**

**A ROAD MAP FOR MARINE DRUG  
DISCOVERY: INDIGENOUS TO MODERN**

Date: 28th September 2021  
Time: 10.30 A.M. - 11.30 A.M.

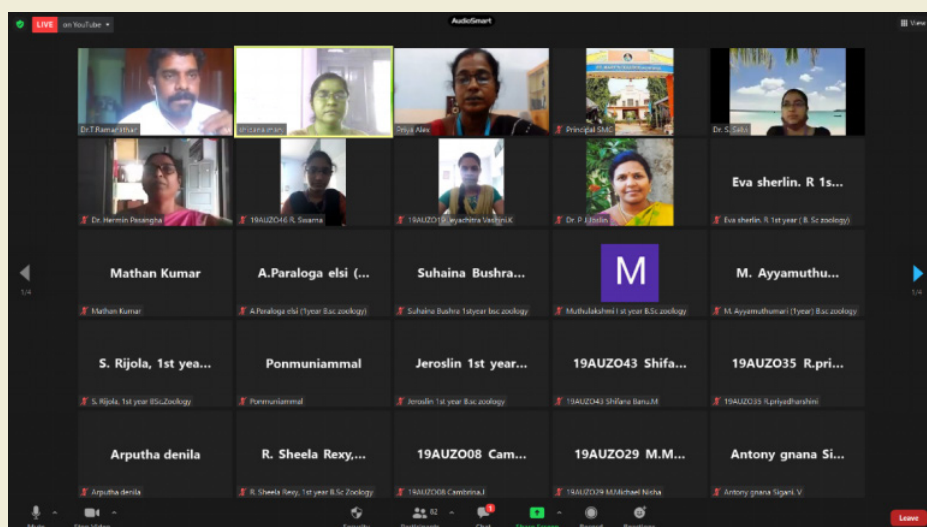
**Resource Person**  
**Dr. T. Ramanathan, M.Sc, M.Ed, Ph.D,**  
Associate professor,  
CAS in Marine Biology,  
Annamalai University

**Office Bearers**  
K.Jeya Chitra Vashini- President  
M.Bala Soumya- Secretary  
R.Eva Sherlin- Vice President

**Head of the Department**  
Dr. Hermin Pasangha

**Organizing Committee**  
**Members**  
Dr. Sr. C. Shibana  
Dr. R. Sri Priya

**Best Wishes from**  
Rev. Sr. Flora Mary, Secretary  
Rev. Dr. Sr. A.S.J. Lucia Rose, Principal





## Association meeting 2021-2022

### BATS, BEHAVIOR, AND BUILDINGS: A TALE OF BAT-HUMAN COEXISTENCE IN SOUTHERN INDIA

The Zoology association meeting was held on 16.5.22 at the Star hall on the topic 'Bats behaviour and buildings: A tale of Bat-human coexistence in Southern India'. Baheerathan Murugavel, Bat Conservation International Student Scholar, Behavioral and Evolutionary Ecology Lab, Indian Institute of Science Education and Research, Thiruvananthapuram was the resource person. The talk was focused on the behavioral aspects of bats and their habitat. The importance of bat conservation was stressed upon in the talk. The myths on the relationship between the pandemic and the bats was discussed and the students were given a clear idea about it. About 136 UG and PG Students of the Department of Zoology were the beneficiaries. Dr. Hermin Pasangha, Head and Associate Professor, Department of Zoology welcomed the gathering. The minutes of the previous meeting was read by Ms. V. Balasowmy (II, B.Sc. Zoology), Secretary of the Association. Ms. Shifana Banu of III B.Sc. Zoology proposed the vote of thanks. Dr. Sr. C. Shibana and Dr. R. Sri Priya, In charges of the Association of Department of Zoology for the year 2021-22 organized the meeting.

(Re-accredited with 'A+' Grade by NAAC)  
Thoothukudi, Tamilnadu

Department of Zoology  
Organizes  
**ASSOCIATION MEETING**

TOPIC  
**BATS, BEHAVIOR, AND BUILDINGS: A TALE OF  
BAT-HUMAN COEXISTENCE IN SOUTHERN INDIA**

RESOURCE PERSON  
**Baheerathan Murugavel**  
Bat Conservation International Student Scholar  
Behavioral and Evolutionary Ecology Lab,  
Indian Institute of Science Education and Research,  
Thiruvananthapuram

Date: 16.05.2022  
Venue: Star Hall  
Time: 11.30 a.m

Office Bearers  
K. Jeyachitra Vashini-President  
V. Balasowmy- Secretary  
R. Eva Sherlin -President

Head of the Department  
Dr. Hermin Pasangha  
Organizing Committee Members  
Dr. Sr. C. Shibana  
Dr. R. Sri priya

With special wishes from  
Rev. Sr. Flora Mary, Secretary  
Rev. Dr. Sr. A. S. J. Lucia Rose, Principal



# Department Of Zoology

2021 - 2022

NEWSLETTER



## Activities Of the Department

Workshop, Seminars conducted on Research methodology, IPR, Entrepreneurship, Skill development during the AY 2021 - 2022

### **1. World Food Day Celebration – 23.10.2021**

The Departments of Zoology and Microbiology jointly celebrated World Food Day on 23rd October 2021 in the college auditorium. Mrs. S. Jenita Sharmila Freeda, Dietician from AVM Hospital, served as the resource person, emphasizing the theme "Safe Food Now for a Healthy Tomorrow" and highlighting the importance of safe food and reducing food waste.

The event included cultural programs like dances and skits to raise awareness of healthy food habits. Distinguished guests, including Rev. Dr. Sr. Lucia Rose (Principal) and Dr. Hermin Pasangha (Head of Zoology), graced the occasion. A total of 312 students from various departments participated and benefited from the program.

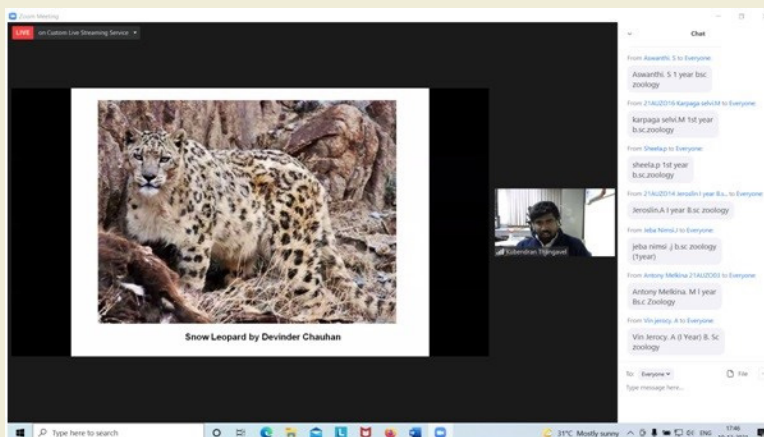
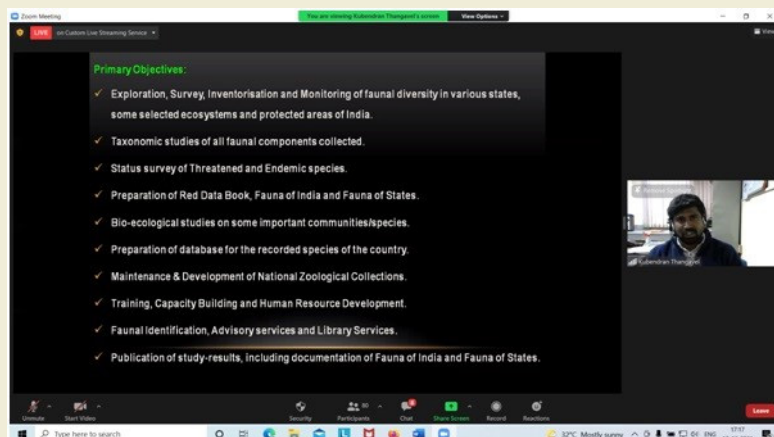
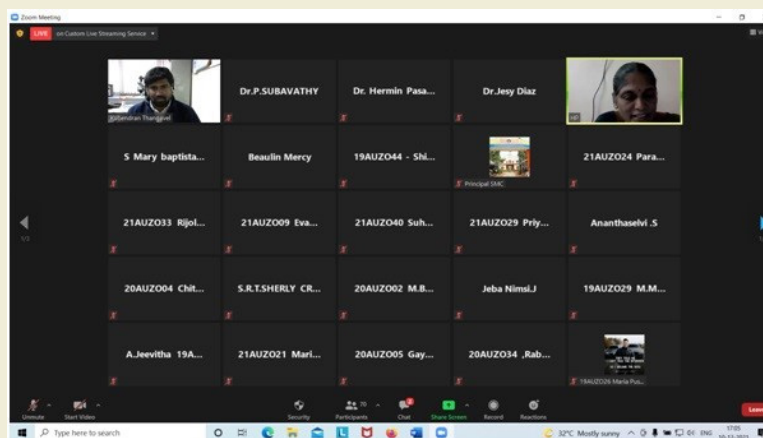


## 2. National Webinar on Aquatic Insects – 10.12.2021

The Department of Zoology at St. Mary's College (Autonomous), Thoothukudi, organized a National Webinar on Aquatic Insects on 10th December 2021. Dr. T. Kubendran, Scientist-C from the Zoological Survey of India, was the resource person.

Dr. Kubendran delivered an engaging lecture on aquatic insect diversity, systematics, life history, and their ecological roles. He discussed biomonitoring studies, new taxonomic descriptions, and rearing techniques for mayflies. The session also highlighted India's biogeographic regions, unique fauna, threats to biodiversity, and the importance of conservation.

Additionally, he informed participants about merit scholarships and research fellowships available through the Government of India. The webinar, attended by 117 participants, successfully bridged gaps between scientific knowledge, conservation efforts, and education.





### 3. In-House Training Programme on Clinical Laboratory Technology (13.12.2021 – 17.12.2021)

The Department of Zoology conducted a five-day in-house training program for 115 students from II and III B.Sc Zoology and III B.Sc Chemistry. The program provided hands-on training in clinical laboratory techniques and equipment, including autoanalyzers, urine analyzers, and other lab instruments like centrifuges, stethoscopes, and sphygmomanometers.

#### Key Activities:

- Analysis of urine components (e.g., protein, pH, bilirubin) using a urine analyzer.
- Blood group identification and blood cell counting (RBC, WBC).
- Training on laminar flow chambers, bacterial culture preparation, and aseptic techniques.
- Biochemical tests, including enzyme alkaline phosphatase assays and hemoglobin estimation.
- BOD (Biochemical Oxygen Demand) analysis for water samples.

#### Outcomes:

Students enhanced practical skills in specimen analysis, bacterial culture preparation, and serum testing for disorders. The program bridged theoretical knowledge with experiential learning, fostering confidence in laboratory practices.

**Instructors:** Dr. N. Arokiya Mary, Dr. Jemma Hermelin Jesy Diaz, Dr. S.R.T. Sherly Cross, Dr. M. Paripooranaselvi, and Dr. P. Subavathy.





#### 4. Training Programme on Breeding and Culture of Ornamental Fishes – 18.12.2021

The Department of Zoology organized a training program on Breeding and Culture of Ornamental Fishes for III UG students at Rajan Aquafarm, Sakkammalpuram, under the DBT STAR College Scheme. A total of 33 students visited the aquafarm and observed 150 species of African cichlids being cultured in various ponds based on size and age.

##### **Key Activities:**

Demonstration of the harvesting method of fries from mouth-breeding female fish.

Observation of different culture methods, fish collection, pond transfer, and feeding techniques.

##### **Outcomes:**

Students gained practical skills in aquaculture and research insights into breeding and culture methods.



## 5. In-House Training on Isolation of DNA and Electrophoretic Techniques (15.12.21 – 18.12.21)

The Department of Zoology organized an in-house training on Experimental Biotechnology for undergraduate students under the STAR College Scheme at St. Mary's College. The training, conducted by Dr. R. Sri Priya, Assistant Professor of Zoology, covered key biotechnology techniques, including DNA isolation, agarose gel electrophoresis, and SDS-PAGE.

**Participants:** II B.Sc Physics and Chemistry (37), III B.Sc Botany (20), and III B.Sc Zoology (35).

### Activities:

Hands-on training on DNA isolation, gel electrophoresis, and SDS-PAGE.

Students prepared cultures, processed samples, and loaded gels. They performed the experiments under standard conditions, observed results, and learned to interpret them.

**Outcome:** Students gained practical skills in biotechnology experiments and handled laboratory instruments confidently.



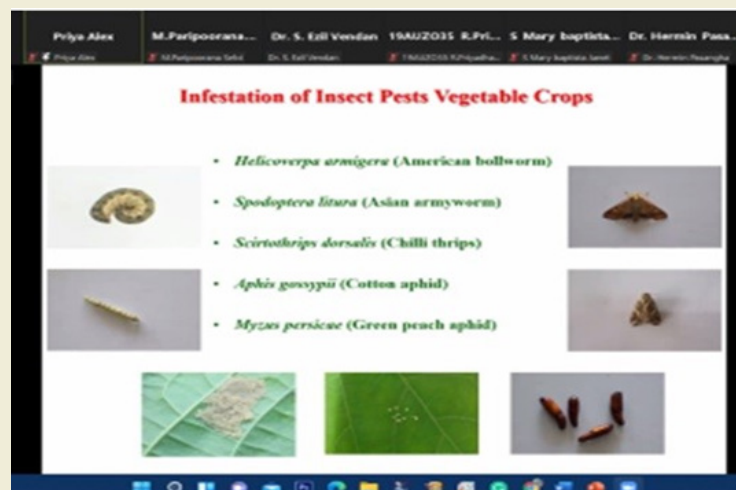
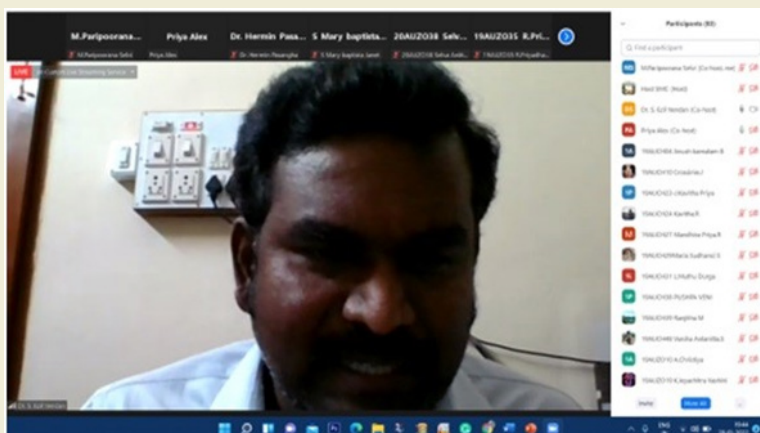
## 6. Lecture on Chemical Pesticides vs. Natural Pesticides for Safe Storage of Food Grains – 28.01.2022

The Department of Zoology, St. Mary's College, organized an invited lecture as part of the Star College Programme on 28th January 2022 via Google Meet. Dr. S. Ezhil Vendan, Scientist at CSIR-Central Food Technological Research Institute, Mysore, was the resource person.

The lecture focused on insect pests affecting stored food grains and their adaptive features. Dr. Ezhil Vendan highlighted the benefits of natural pesticides and the negative impacts of chemical pesticides.

**Participants:** 113 students and faculty from the Departments of Zoology and Chemistry.

The session provided valuable insights on safe food storage and pest management.





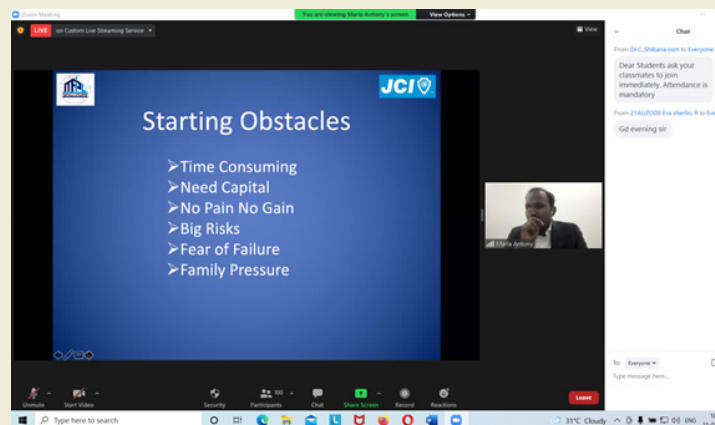
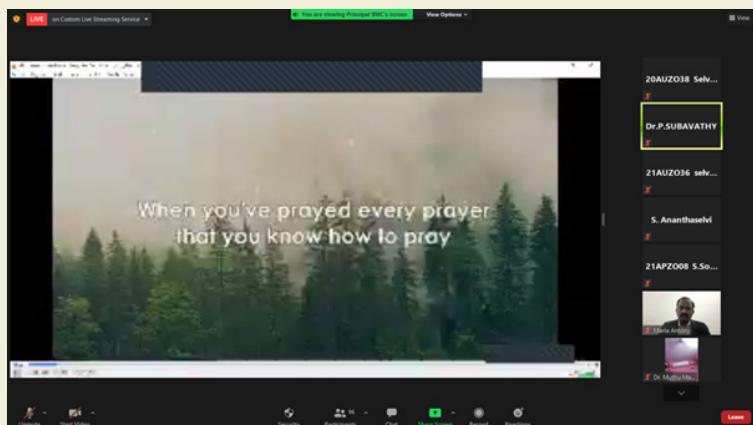
## 7. International Webinar: My Story - Motivational Session by Successful Innovators (31.01.2022)

The Institution's Innovation Council and PG & Research Department of Zoology jointly organized an international webinar on 31st January 2022. The session featured Mr. M. Maria Antony, Executive Director of John Group, Maria International Pvt. Limited, Singapore, as the resource person.

Mr. Antony delivered an inspiring talk on overcoming business challenges, emphasizing patience, perseverance, and continuous learning. He discussed influential factors in innovation, such as social, legal, and economic aspects, and encouraged students to focus on their core interests. Insights were shared on business development plans, data analysis, entrepreneurship, and the role of women entrepreneurs, with a particular focus on overcoming barriers to their growth.

**Participants:** 115 faculty members and students.

The session motivated attendees, especially women students, to pursue entrepreneurship and develop essential skill sets.





## 8. Video Making Competition on Ideation for Startup on Bioinnovation – 15.02.2022

The PG and Research Department of Zoology and the Institution's Innovation Council at St. Mary's College, Thoothukudi, organized a Video Making Competition on Ideation for Startup on Bioinnovation on 15th February 2022 via Microsoft Teams.

### Key Highlights:

Students from various colleges submitted videos on themes like biofuel, GM crops, biodynamic farming, and natural fibrous materials.

12 students presented their ideas, fostering creativity and entrepreneurial skills in biological innovation.

Dr. P.J. Joslin, Associate Professor of Zoology, evaluated the entries.

### Winners:

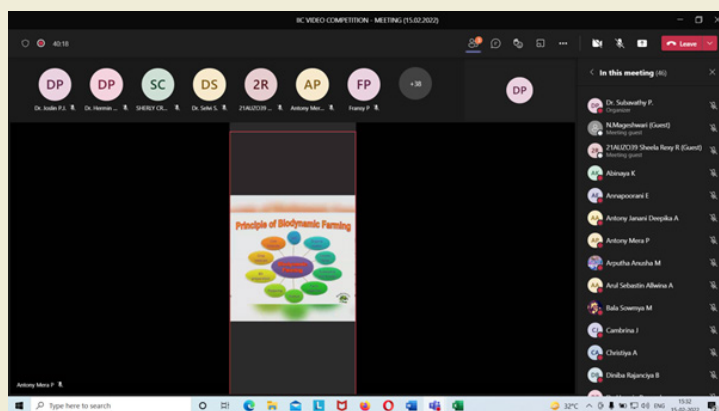
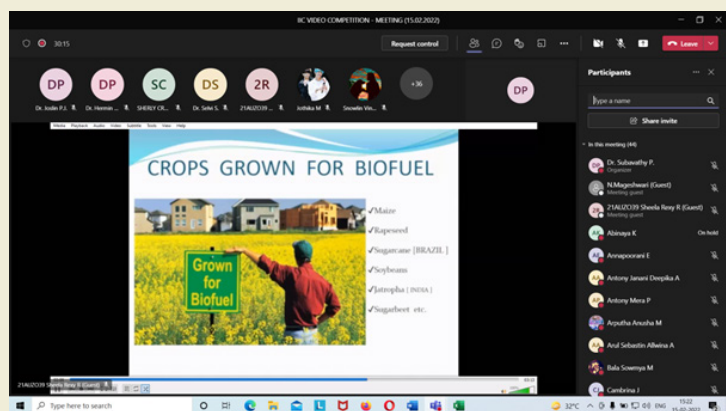
First Prize: J. Snowlin Vinnarasi, II M.Sc Zoology

Second Prize: R. Sheela Raxy, I B.Sc Zoology

Third Prize: P. Antony Mera, II B.Sc Chemistry

### Impact:

A total of 48 students and 8 faculty members benefited from this program, which encouraged innovative thinking and awareness about bioinnovation startups.



## 9. Webinar: Ideation and Innovation - A Motivation for Young Innovators (16.02.2022)

The PG and Research Department of Zoology and Institution's Innovation Council at St. Mary's College, Thoothukudi, organized a webinar titled Ideation and Innovation: A Motivation for Young Innovators on 16th February 2022 via Zoom.

### Key Speaker:

Mr. K. Sivakar, Partner, Sivanthi Joe Choirs, delivered an inspiring talk on entrepreneurship and startup processes, emphasizing that founders are created through ideation and effort.

### Highlights:

Insights into startup processes and programs in India.

Challenges faced by women innovators and the role of women entrepreneurs.

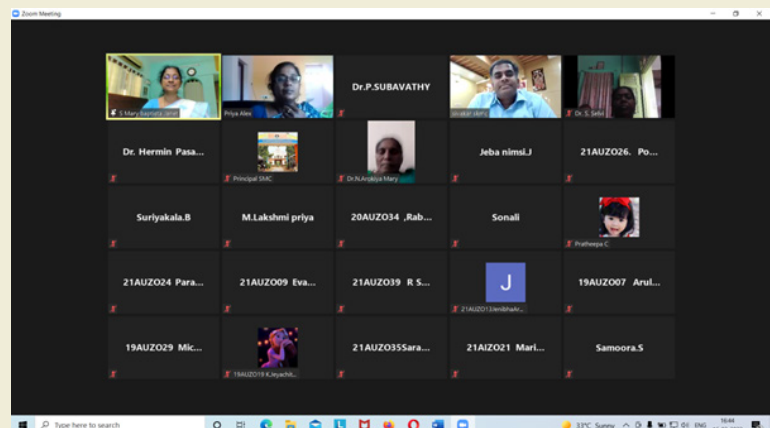
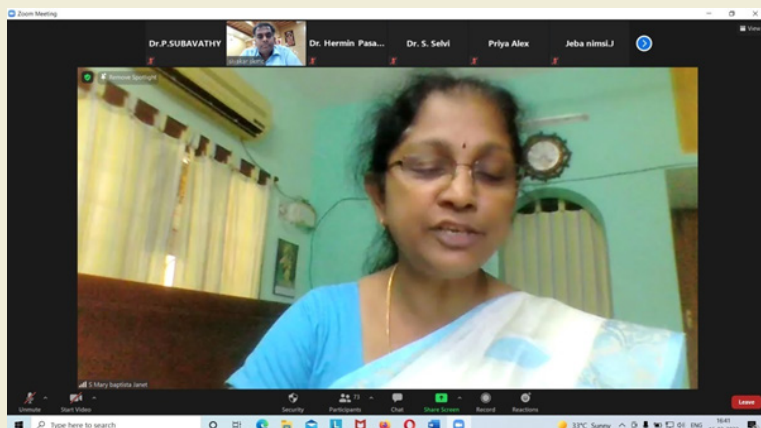
Steps and strategies for generating simple yet impactful business ideas.

Motivational stories and personal experiences in entrepreneurship.

**Participants:** 90 faculty members and students.

### Outcome:

The session instilled entrepreneurial skills and inspired young minds, particularly women students, to explore innovation and entrepreneurship.



## 10. Marian Star Science Expo 2022 – 10.03.2022 & 11.03.2022

Marian Star Centre, St. Mary's College (Autonomous), Thoothukudi, organized the Marian Star Science Expo on 10th and 11th March 2022 under the DBT Star College Scheme. The event was inaugurated by Rev. Dr. Sr. A.S.J. Lucia Rose, Principal, with arrangements coordinated by Rev. Dr. Sr. A. Arockia Jenecius Alphonse.

### Key Highlights:

Exhibits by the School of Biological, Physical, and Computing Sciences showcased scientific innovations.

Zoology Department demonstrated experiments including blood group identification, haemoglobin estimation, RBC/WBC counting, and mitosis observation.

Lab instruments such as colorimeter, stethoscope, and phase contrast microscope were explained.

Visitors explored the Zoology museum and a virtual dissection lab with interactive animal simulations.

Participants: 2,686 students from 222 schools.

### Outcome:

The expo ignited interest in science among school students, fostering curiosity and enthusiasm for scientific exploration.





## 11. Training Programme on Sparrow Conservation – 12.03.2022

The Marian Star Centre, Department of Zoology, St. Mary's College (Autonomous), Thoothukudi, organized a Sparrow Conservation Training Programme on 12th March 2022 in the college auditorium.

### Resource Person:

Er. N. Dhanasekar, Founder of Chittukuruvigal Arakkattalai, Coimbatore.

### Programme Highlights:

The lecture emphasized sparrow biology, behavior, population decline, and the importance of conservation.

Causes of sparrow population reduction, including habitat loss and dwindling ecological resources, were discussed.

Practical tips were shared to promote sparrow revival, aligning with the theme of World Sparrow Day (20th March).

Hands-on training included creating nest boxes and feeders using recyclable materials like shoe and cardboard boxes.

### Participants:

83 school students.

113 college students.

### Outcome:

The session inspired the younger generation to actively contribute to sparrow conservation through innovative and sustainable practices, fostering care and compassion for these birds.





## **12. International Faculty Development Programme on Biotechnological Innovations in Health Care(14.03.2022 to 18.03.2022)**

**Organized by:** Marian Star Centre, Department of Zoology, St. Mary's College (Autonomous), Thoothukudi.

**Platform:** Virtual

The five-day International Faculty Development Programme (FDP) explored biotechnological advancements in health care, featuring distinguished speakers from various domains.

## Day 1 (14.03.2022)

## Topic: Stem Cell Therapy for Ocular Surface Reconstruction

Speaker: Dr. Gowripriya Chidambaram, Scientist, Department of Immunology and Stem Cell Biology, Aravind Medical Research Foundation.

Focused on stem cell therapy for treating limbal stem cell deficiency.

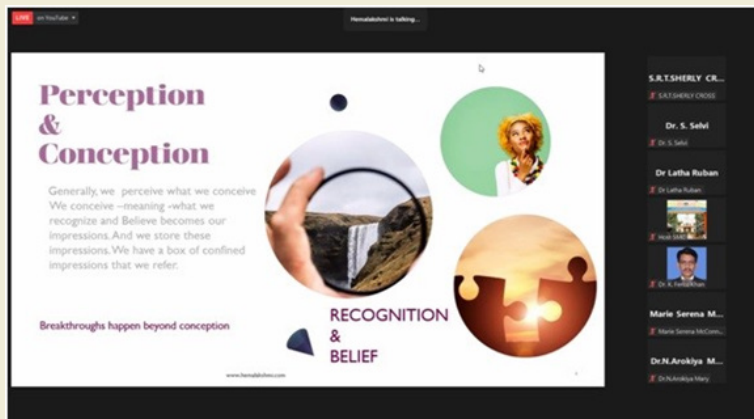
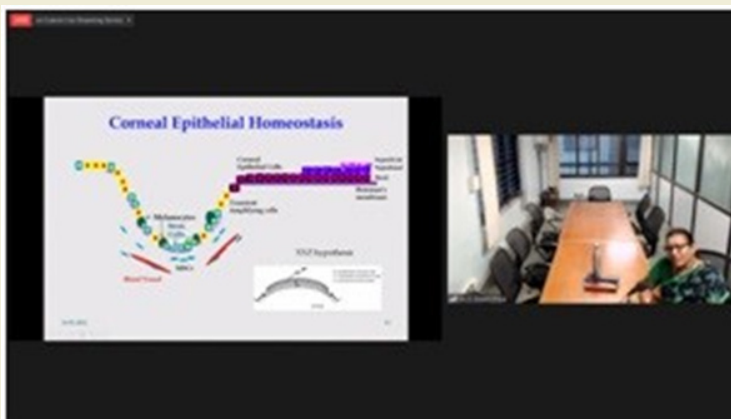
## Day 2 (15.03.2022)

# Topic: Molecular Diagnostic Methods and Its Applications in Hereditary Eye Diseases

Speaker: Dr. J. Nallathambi, Senior Scientist, Molecular Signalling and Gene Therapy, GROW Laboratory, Narayana Nethralaya Foundation, Bangalore.

Highlighted molecular and genetic diagnostic techniques for hereditary eye conditions.

Discussed the genetic basis for accurate diagnosis and therapy.



### **Day 3 (16.03.2022)**

Topic: We Perceive What We Conceive - Biotechnology in Health Care

Speaker: Ms. Hemalakshmi, Project Manager, Gulf International Cancer Centre, Abu Dhabi.

Covered the role of biotechnology in diagnostics and therapeutics. Emphasized healthcare practices in multispecialty hospitals.

### **Day 4 (17.03.2022)**

Topic: Healthy Aging

Speaker: Dr. Kousalya Nathan, Anti-aging Consultant, Apollo Hospitals.

Discussed lifestyle modifications for healthy living.

Covered factors like diet, stress management, and senescence prevention.

### **Day 5 (18.03.2022)**

Topic: Overview of Autism Spectrum Disorder Using Syngap1 Heterozygous Mutant Mouse Model

Speaker: Dr. James Premdoss Clement, Associate Professor, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore.

Explored Autism Spectrum Disorder caused by Syngap mutations. Highlighted the use of Syngap1 mutant mouse models for research.

**Outcome:** 77 faculty members participated.

The FDP provided insights into cutting-edge biotechnological innovations in clinical care, advancing knowledge in diagnostics, therapeutics, and personalized health strategies.



## 13. In-Service Training Programme for School Teachers(24.03.2022)

**Organized by:** Department of Zoology and DBT Star College Programme, St. Mary's College (Autonomous), Thoothukudi.

An in-service training on practical zoology experiments for higher secondary school teachers was conducted, with 15 participants from schools in and around Thoothukudi.

### Programme Highlights

**Trainers:** Dr. R. Sri Priya and Dr. M. Paripooranaselvi, Assistant Professors, Department of Zoology.

### Topics Covered:

Plasmid DNA isolation  
Restriction digestion of DNA  
Estimation of haemoglobin  
Counting of RBC and WBC  
ABO blood grouping



Participants were provided with a practical manual and hands-on training to handle instruments and perform experiments independently.





# Department Of Zoology

2021 - 2022

 NEWSLETTER



## Lab Activities

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The Zoology Department organized a total of 134 lab activities, including 72 for postgraduate (P.G.) students and 62 for undergraduate (U.G.) students.

## Bridge Courses

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The Department of English conducted bridge courses on 24th & 25th of August for first-year B.Sc. Zoology students and on 2nd September for PG Students to enhance their speaking abilities and communication skills. The course started with Foundational grammar and vocabulary, moving towards more advanced aspects like fluency, pronunciation, and articulation. It emphasized group discussions, debates, and role-playing to help students practice real-life scenarios, thereby boosting their confidence in communicating with peers and teachers.

## Mentor – Mentee Program

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I B.Sc: Mentors included Dr. Hermin Pasangha, Dr. S.R.T. Sherly Cross, and Dr. P. Subavathy, each with 14 mentees. Meetings were held on October 29, November 5, and December 3, 2021, and again on February 25, March 4, and March 11, 2022.

II B.Sc: Mentors included Dr. P.J. Joslin, Dr. S.M.B. Janet, and Dr. Jessy Diaz, with 15, 15, and 14 mentees, respectively. Meetings followed the same schedule as the I B.Sc.

III B.Sc: Mentors included Dr. S. Selvi, Dr. R. SriPriya, and Dr. M. Paripooranaselvi, with 13, 11, and 11 mentees, respectively. Meeting dates were the same.

## Certificate Courses

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A certificate course in Clinical Laboratory Technology was conducted for 32 II B.Sc. students, focusing on practical skills and knowledge relevant to the field.

A course on Value Added Food Products was offered to 41 III B.Sc. students.

I M.Sc: Dr. N. Arockia Mary mentored 8 students, with meetings held on the same dates.

II M.Sc: Dr. Sr. C. Shibana mentored 10 students, with meetings on the same dates.

Overall, the meetings aimed to provide guidance and support to students across all years and programs in the Department of Zoology.

## Alumnae Meet

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The Alumnae Meet conducted on 27.03.2021, provided a platform for alumni to reconnect with the department, share their experiences, and forge meaningful connections with current students and faculty members.



# Department Of Zoology

## Board of Studies

The Board of Studies Meeting for the Department of Zoology took place on February 27, 2021.

**Members Present:** Five External members, including

- 5 external members and 11 internal faculty members.
- The meeting focussed on the framing the content of various courses, reviewing and updating the content from time to time.

- Dr. K. Sahaya Raj (St. Xavier's College, Palayamkottai),
- Dr. P. Veeramuthumari (V.V. Vanniaperumal College for Women, Virudhunagar),
- Dr. S. Kalidass (Manonmaniam Sundaranar University, Tirunelveli),
- Mrs. Chandra Manoharan (Diamond Sea Foods, Thoothukudi), and
- Dr. S. Mohamed Ramlath Sabura (Sadakathullah Appa College, Tirunelveli).

All academic programmes are delivered through the **Outcome Based Education (OBE)**, in which an emphasis is placed on a clearly articulated idea of what students are expected to know and be able to do.

## PTA

The Parent-Teacher Association meeting, held on 06.09.2021, 26.03.2022 and 09.04.2022 for the students of II, and III year UG Students and on 19.03.2021 & 07.05.2022 for I and II PG Students has provided a platform for parents to engage with the department, share experiences, and forge meaningful connections.

## MoU

For the year 2021 - 2022, the Memorandums of Understanding (MoUs) signed are as follows:

1. **Britto Sea Food** - Signed on 5th January 2022.
2. **Biozone** - Extension of Memorandum of Understanding, signed on 17th May 2022.

# PAPERS PUBLISHED

*In 2021 - 2022, the Department of Zoology published the following papers:*

## ***Dr. Jemma Hermelin Jesy Diaz:***



- *Screening and Evaluation of Biodegradability of Polythene by Soil Bacteria. Indian Journal of Natural Science Vol 12 (68) 34338- 3434*

## ***Dr. S.R.T. Sherly Cross:***



- *Open Journal of Marine Science Vol.11 No.02(2021), Article ID:108866,11 pages  
10.4236/ojms.2021.112007 Seasonal Variation of Heavy Metals in the Intertidal Gastropod Trochus radiatus of Gulf of Mannar*

# *Books/Chapters Published*

*In the academic year 2021-2022,*

*The Department of Zoology at St. Mary's College (Autonomous), Thoothukudi, showcased significant scholarly contributions through the publication of various books and chapters.*



- Dr. Sr. C. Shibana and Dr. P. Subavathy, both serving as Assistant Professors, co-authored the book "Exploration of Marine Derived Compounds for Drug Discovery." This work was published by JPS Scientific Publications, India, on January 11, 2022, and includes two ISBN numbers: 978-81-951323-7-9 and 978-81-951323-7-10. The focus of this book lies in investigating marine-derived compounds, which are increasingly recognized for their potential in drug discovery and development.*



*Additionally,*

- Dr. M. Paripooranaselvi, Assistant Professor, contributed a chapter titled "Tunicates as Nutritious Food." This chapter was published by Research Culture Society and Publication in July 2021, with the ISBN 978-93-5279-062-3.*

*It emphasizes the nutritional value of tunicates, underscoring their significance as a food source. Collectively, these publications reflect the department's dedication to advancing research in marine biology and exploring its implications for health and nutrition.*





## Resource Persons

During the academic year 2021-2022, faculty from the Department of Zoology served as resource persons in various events:



- *P. J. Joslin: Chairperson for the session on Environmental, Agricultural, Chemical and Biological Sciences at Kamaraj College, Thoothukudi, on January 26, 2022 (International).*
- *P. J. Joslin: Subject Expert for the CAS Screening cum Evaluation Committee at V.O. Chidambaram College, Thoothukudi, on March 26, 2022.*



- *Dr. R. Sri Priya: Presented on Marker-Free Transgenic Plants by Agrobacterium-tumefaciens Mediated Co-Transformation at the National Refresher Course in Life Science at Madurai Kamaraj University on October 28, 2021.*



- *Dr. P. Subavathy: Discussed Water Conservation: Sustainable Management of Natural Resources at St. Mary's College (Autonomous), Thoothukudi, on March 10, 2022 (Local).*

# Seminars, Webinars, Conferences, and Workshops

2021 - 2022

International seminars, webinars, conferences, and workshops attended by each professor from the Department of Zoology:

## **Dr. N. Arokiya Mary**

- Advancements in Arts, Science and Humanities - June 6, 2021
- Microbiome: Understanding Host-Pathogen Interactions - June 18, 2021
- Recent Trends in Immunostimulants Application in Aquaculture Industry - June 24, 2021
- Current Trends in Biostatistics - June 29, 2021
- My Story - Motivational Session by Successful Innovators - January 31, 2022
- Importance of IP in Scientific Research - An Overview - March 1, 2022

## **Dr. Hermin Pasangha**

- Microbiome: Understanding Host-Pathogen Interactions - June 18, 2021
- Recent Trends in Immunostimulants Application in Aquaculture Industry - June 24, 2021
- Importance of IP in Scientific Research - An Overview - March 1, 2022

## **Dr. P. J. Joslin**

- Effect of Information Communication Technology (ICT) Tools Among Academics - June 12, 2021
- Understanding Changes in Indigenous Farming Systems - June 14, 2021
- Current Trends in Biostatistics - June 29, 2021

## **Dr. S. Mary Baptista Janet**

- Microbiome: Understanding the Host-Pathogen Interaction - June 18, 2021
- Nanostructures for Applications Fabricated via the Electrospinning Technique - June 24, 2021
- Current Trends in Biostatistics - June 29, 2021

## **Dr. S.R.T. Sherly Cross**

- Organic - Agro Movement for Sustainable Rural Development - September 27, 2021

## **Dr. S. Selvi**

- Effect of Information Communication Technology (ICT) Tools Among Academics - June 12, 2021
- Current Trends in Biostatistics - June 29, 2021
- Importance of IP in Scientific Research - An Overview - March 1, 2022

# Seminars, Webinars, Conferences, and Workshops

2021 - 2022

International seminars, webinars, conferences, and workshops attended by each professor from the Department of Zoology:

## **Dr. C. Shibana**

- Current Trends in Biostatistics - June 29, 2021
- Importance of IP in Scientific Research - An Overview - March 1, 2022

## **Dr. Jemma Hermilin Jesy Diaz**

- Microbiome: Understanding the Host-Pathogen Interactions - June 18, 2021
- Impact of Nanobiotechnology in the Field of Medicine - December 16-17, 2021
- Importance of IP in Scientific Research - An Overview - March 1, 2022

## **Dr. R. Sri Priya**

- Microbiome: Understanding the Host-Pathogen Interactions - June 18, 2021
- Creating Interactive E-Assessment Tools - June 14-18, 2021
- Importance of IP in Scientific Research - An Overview - March 1, 2022

## **Dr. M. Paripooranaselvi**

- Transmission, Pathogenesis of SARS-CoV-2 & Host Immune Response - June 11, 2021
- Effect of Information Communication Technology (ICT) Tools Among Academics - June 12, 2021
- Current Trends in Impact of Toxicants on Biodiversity and Human Health - June 18, 2021
- Environmental, Agricultural, Chemical and Biological Sciences - January 22-26, 2022

## **Dr. P. Subavathy**

- Ecosystem Restoration Through Sustainable Biodiversity - June 5, 2021
- Gene Expression and Pathway Activity Meta-Analysis of SARS-COV2 Infection - June 17, 2021
- Microbiome: Understanding the Host-Pathogen Interactions - June 18, 2021
- Recent Advances in Chemical, Physical, and Biological Sciences - June 29-30, 2021
- Systematic Research Methodology - A Transformative Tool - July 22, 2021
- Best Practices in Scholarly Publication - August 19, 2021
- Effective Research Writing and Scholarly Publishing - August 19-20, 2021
- Recent Trends in Life Sciences – Phase II - September 1, 2021
- Multidisciplinary Aspects of Environment and Sustainable Development - October 15-18, 2021
- Climate Change and Future Challenges - March 3-4, 2022



# Faculty Development Program

## **Dr. N. Arokiya Mary (Associate Professor)**

- Attended programs including Bioinformatics, Digital Skills in Smart Teaching, Biotechnology for the 21st Century, and Exploring New Frontiers in Chemical and Biological Science.
- Participated in a Disciplinary Refresher Course in Zoology and focused on bioinformatics, chemical science, and digital teaching skills.

## **Dr. Hermin Pasangha (Associate Professor)**

- Engaged in programs on Herbal Technology, Biotechnology for the 21st Century, and Exploring New Frontiers in Chemical and Biological Science.
- Focused on innovative biological sciences and herbal technology over varying durations.

## **Dr. P.J. Joslin (Associate Professor)**

- Participated in a range of FDPs, including Yoga for Well-being, Medical Image Processing, Innovation and IPR, and Transformation in Indian Education.
- Emphasized health, wellness, and educational innovations.

## **Dr. S. Mary Baptista Janet (Associate Professor)**

- Participated in Pedagogy and Research Methods, Bioinformatics, Transformation in Indian Education, and Biotechnology for the 21st Century.
- Focused on pedagogy, bioinformatics, and teaching methodologies.

## **Dr. Sr. C. Shibana (Assistant Professor)**

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- Attended FDPs such as Virtual Practices and Security, Digital Skills for Smart Teaching, and Exploring New Frontiers in Chemical and Biological Science.
- Developed teaching skills and digital competency.

## **Dr. Jemma Hermilin Jesy Diaz (Assistant Professor)**

- Participated in ICT Tools for Effective Teaching and Learning, Biotechnology for the 21st Century, and What, Why, and How of Patents.
- Emphasis on technology in teaching and intellectual property.

## **Dr. S. Selvi (Assistant Professor)**

- Engaged in Pedagogy and Research Methods, Transformation in Indian Education, Revised NAAC Framework, and Exploring New Frontiers in Chemical and Biological Science.
- Focused on educational reforms, quality assurance, and chemical science.

## **Dr. R. Sri Priya (Assistant Professor)**

- Attended programs such as Pedagogy and Research Methods, Online Teaching-Learning Evaluation, and Transformation in Indian Education.
- Covered pedagogy, educational transformation, and online safety practices.
- Dr. M. Paripooranaselvi (Assistant Professor)
- Engaged in FDPs on Graphics Design, Scientific Paper Writing, Medical Image Processing, and Strategies for Sustainable Green Environment.
- Focused on digital skills, environmental sustainability, and research development.

## **Dr. P. Subavathy (Assistant Professor)**

- Participated in diverse programs including Lab on Chip, Bioinformatics, Yoga for Well-being, Pedagogy of Teaching, and Recent Trends in Research.
- Developed expertise across digital, research, and wellness fields.

## **Dr. S.R.T. Sherly Cross (Assistant Professor)**

- Attended FDP on "Thesis Writing" held on 21st April 2021, Conducted by LIBA, Chennai

# Department Of Zoology

## E- Content

The Department of Zoology has prepared E-Content contributions from 12 faculty members, with each faculty member creating one E-Content resource. This initiative aims to enhance digital learning and provide accessible educational materials for students.

## Ph.D. Candidate Registration

Scholar: **S. Shanmugasundari**  
Registration No.:  
**MSUQE2117695**  
- Commencement Date:  
**17.08.2021**

This entry reflects the registration details of a Ph.D. candidate for the academic year.

## Doctoral Comittee Meetings

Scholar: P. Kanthimathi  
Guide: Dr. P.J. Joslin  
Department: Zoology  
Date: 11 November 2020  
2022 Meeting:

Scholar: J. Esther Mereen  
Guide:  
Dr. Jemma Hermelin Jesy Diaz  
Department: Zoology  
Date: 27 January 2022

## Project Funding

**Dr. P. Subavathy** from the Zoology Department received funding for a research project under the **Technology Development** Project of **Unnat Bharat Abhiyan, IIT New Delhi**, starting on **21st March 2022**.

# Community Development Program

The Department of Zoology at St. Mary's College (Autonomous), Thoothukudi, for the academic year 2021-2022 engaged in various community development programs (CDP) and the Unnat Bharat Abhiyan (UBA) scheme. Several initiatives were undertaken by the department, emphasizing their commitment to community development, environmental education, and skill development in rural areas. Below is a detailed summary of the key activities organized and their impact on the community.

## **1. Participation in Grama Sabha Meeting (2nd October 2021)**

To commemorate Gandhi Jayanti on October 2, 2021, the Department of Zoology, along with the CDP Deputy Coordinator Rev. Sr. Dr. Kulandhai Terese and students, attended a Grama Sabha meeting in the Mappillaiyoorani Panchayat. The meeting was presided over by Panchayat President Mr. Saravana Kumar and attended by various professionals including lawyers, government officials, ward councillors, and child welfare officers.

The villagers presented their grievances and requirements for development, and the following key resolutions were taken:

Water connections would be provided to all households under the Mappillaiyoorani Panchayat by the Tuticorin corporation.

A ban on advertising banners and flex boards was agreed upon.

A collective pledge was taken to eradicate child labor, child marriage, and dowry demands.

This meeting provided an important platform for villagers to voice their concerns, and the involvement of the college through the CDP initiative demonstrates the institution's role in facilitating dialogue between local governance and the community. After the meeting, students and staff participated in a sapling plantation drive, symbolizing their commitment to environmental sustainability.

### **Community development Programme was held in St.Mary's College in view of Gandhi jayanthi**



Thoothukudi, Oct 11: In view of Gandhi Jayanti, in St.Mary's College (Autonomous) Thoothukudi, under Unnat Bharat Abhiyan scheme and Community Development Programme, Students from Department of Zoology along with CDP Deputy Coordinator Rev. Sr. Dr. Kulandhai Terese participated in the grama sabha meeting conducted by Mappillaiyoorani Panchayat. Gram sabha meeting was presided over by Panchayat President Mr. Saravana Kumar. The meeting was attended by various Lawyers, Academics, Government Officials, Ward Councillors and Child Welfare Officers. The village people actively participated in the event. In the meeting the villagers expressed their grievances and their requirements for their Development and Welfare.

The following resolutions were taken after the meeting.

\*Water connection will be given to all houses under the Mappillaiyoorani panchayat by the Tuticorin corporation.

\* Advertising banners and Flex boards will be banned.

The people from the panchayat took a pledge to eradicate Child labour, Child marriage and the Demand for Dowry.

After the meeting the CDP Deputy Coordinator and the Students from the Department of Zoology planted various saplings along with the villagers and the officials.

We thank Our Principal Rev. Sr. Dr. Lucia Rose, CDP Deputy Coordinator Rev. Sr. Dr. Kulandhai Terese, Our H.O.D, Department of Zoology, Dr. Hermin Pasangha and the CDP Incharges for the chance and the guidance for the Community Development Programme.



## 2. World Food Day Celebration and Socioeconomic Survey (12th October 2021)

On October 12, 2021, the Department of Zoology, in collaboration with the UBA and St. Antony's Higher Secondary School, celebrated World Food Day at Siluvaipatti. The event aimed to raise awareness about food security and global hunger, while also appreciating the food people consume daily.

As part of the event, ten students from the II B.Sc. Zoology course visited 50 houses in the Siluvaipatti North and South regions to conduct a socioeconomic survey. This survey provided valuable data regarding the local community's living conditions, food consumption patterns, and nutritional habits. The activity emphasized the department's dedication to community outreach and their role in addressing food security challenges.



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## 3. Digital Education for Rural Children (17th February 2022)

The department organized an innovative initiative titled "Digital Elucidation of Bio-Living Creatures" at St. Antony's Higher Secondary School in Siluvaipatti. This initiative aimed to improve educational standards for rural children by introducing them to digital learning methods in zoology.

Two staff members and 40 students from the Zoology Department engaged with 65 school children, helping them understand bio-living creatures through digital presentations. The use of digital tools helped deepen the students' understanding of biological concepts, allowing them to visualize and interact with zoological content beyond traditional textbooks.

This initiative not only expanded the children's knowledge but also enhanced their digital literacy skills, thus bridging the gap between rural and urban educational resources.





#### 4. Digital Dissection Demonstrations (17th February 2022)

On the same day, the department organized another event, "Digital Presentation of Dissection in Invertebrates and Chordates," at St. Antony's Higher Secondary School. This program was aimed at teaching school children about invertebrate and chordate anatomy through virtual dissections.

By conducting this dissection program digitally, students were able to manipulate and study internal anatomy without needing actual specimens, which can sometimes be limited or unavailable in rural schools. Virtual dissection has several advantages, including allowing students to repeat the process, pause, and explore different anatomical structures. This method not only enhanced the students' learning experience but also equipped them with modern educational tools.



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#### 5. Election Awareness Campaign (17th February 2022)

As the local body elections were approaching in Tamil Nadu, the Department of Zoology, under the CDP and UBA schemes, took the initiative to organize an election awareness campaign in Thai Nagar and Siluvaipatti.

Two staff members and 40 students from the department visited these areas to educate the local community about the importance of voting. They carried placards with captions encouraging people to vote, explaining that elections—especially local body elections—play a significant role in selecting leaders responsible for municipal and corporate governance. The campaign emphasized that choosing the right candidates is crucial for future development and improving living standards.

The initiative successfully reached 65 people, raising awareness about the power of voting and the negative consequences of voter negligence. This campaign fostered a sense of civic responsibility among the rural population and demonstrated the department's commitment to community engagement.

## 6. Promotion of Artificial Jewelry Making (3rd March 2022)

The Department of Zoology organized a skill development program aimed at promoting artificial jewelry-making among young girls in the adopted village of Siluvaipatti. This program, conducted in collaboration with the UBA scheme, aimed to teach women and girls practical skills that could lead to self-employment opportunities.

Two department staff members, along with 35 students, taught 50 young girls how to make artificial jewelry. This initiative not only fostered creativity but also encouraged entrepreneurial behavior among the participants, giving them the potential to earn a living through small-scale home-based businesses. The program played a vital role in promoting economic independence and improving the living standards of the local women.



## 7. Hands-on Training in Origami Craft (3rd March 2022)

In another creative and skill-building initiative, the department conducted hands-on training in Origami Craft: Art from Paper. The goal was to help students develop craft skills and foster creativity.

As part of the UBA's handicraft training initiative, 35 students from the department taught 50 young girls from the adopted village how to create paper crafts using origami techniques. This program not only provided the participants with a new creative outlet but also encouraged entrepreneurship by showing them how such skills could be transformed into profitable ventures. The program instilled a spirit of creativity and innovation among the rural youth.

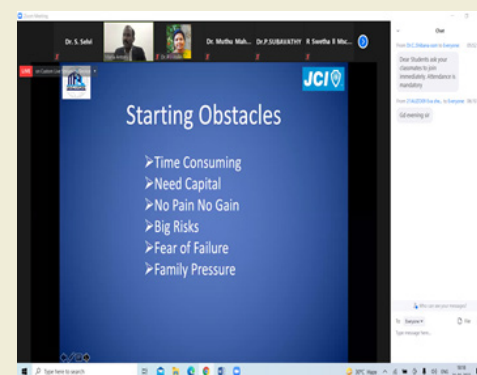


The Department of Zoology at St. Mary's College (Autonomous), Thoothukudi, has actively contributed to community development through a variety of initiatives under the Unnat Bharat Abhiyan and Community Development Program. From fostering environmental consciousness and skill development to improving education through digital tools and raising civic awareness, the department's efforts have had a profound impact on the local community. These activities highlight the department's commitment to blending academic knowledge with practical outreach, addressing both social and economic challenges in rural areas. Through these engagements, the department not only enhances the educational experience of its students but also plays a pivotal role in empowering and uplifting local communities.

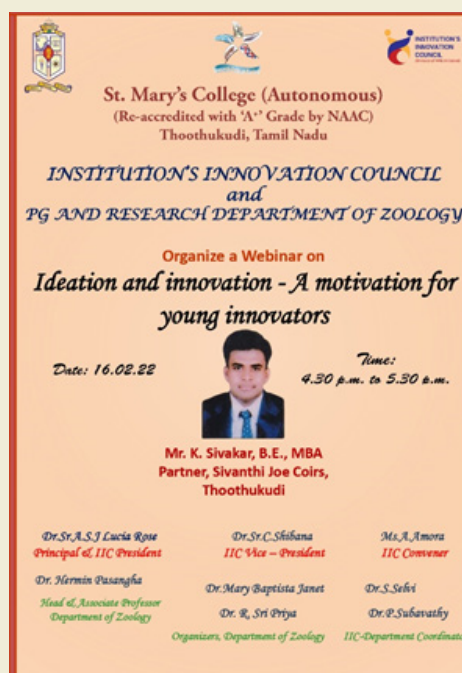


# IIC Webinars

On **January 31, 2022**, the Department of Zoology at St. Mary's College organized an international webinar titled "My Story – Motivational Session by Successful Innovators". The speaker was M. Maria Antony, Executive Director of John Group Maria International PTE Ltd., Singapore. The session was attended by 115 students and aimed to inspire them with stories of innovation and personal success. The webinar provided valuable insights into entrepreneurship and innovation, motivating students to pursue their ambitions.



On **February 16, 2022**, a webinar titled "Ideation and Innovation – A Motivation for Young Innovators" was conducted, featuring Mr. K. Sivakar, Partner at Sivanthi Joe Coirs, as the resource person. The session was attended by 82 students, focusing on inspiring innovation among young minds.



# Educational Trip to Chennai

**Date:** April 19-20, 2022

**Class:** III B.Sc Zoology,  
St. Mary's College (Autonomous),  
Thoothukudi

The III B.Sc Zoology students undertook an educational trip to Chennai, visiting significant locations to enhance their understanding of biodiversity and conservation.

## **Day 1:**

**Vedanthangal Bird Sanctuary:** A major waterbird sanctuary where students observed various birds, including painted storks and pelicans, in their natural habitat.

**Indian Sea Shell Museum, Mahabalipuram:** One of South Asia's largest seashell museums, featuring a diverse collection of seashells and a Dinosaur Museum with interactive models, providing an engaging learning experience.

## **Day 2:**

**Guindy Snake Park:** The largest snake park in India, home to various snake and reptile species, fostering curiosity and hands-on learning.

**Arignar Anna Zoological Park (Vandalur Zoo):** Focused on conservation, the zoo showcased numerous endangered species and provided insights into wildlife preservation.

Overall, the trip enriched students' knowledge of wildlife and conservation, inspiring a commitment to environmental stewardship.







# Student Participations



## Workshops/ Seminars

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The Zoology Department has a very outstanding number of participations in the year 2021 - 2022. Over **250 Students** participated in Various National & International Seminars, Webinars, Conferences, Workshops, Competitions & Quizzes.

## NCC

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Several B.Sc. Zoology students participated in NCC activities:

1. **J. Lispa** : Attended International Yoga Day Quiz (21-Jun-21) and NCC Annual Training Camp (29-Nov to 3-Dec-21).
2. **M. Karpaga Selvi, V. Antony Gnana Sigani, and A. Jeya Pelsiya** : Attended ATC Camp at Sarah Tucker College (01-May to 10-May-22).

## Sports Performances

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**M.JENOVIN**

**M. Jevovin**, a III B.Sc. Zoology student, achieved several accolades in various sports:

- **Weightlifting**: II Prize at the Intercollegiate Championship (07-Dec-21, T.D.M.N.S College, Valiure).
- **Kabaddi**: I Prize (Rs 5000 Cash Award) at the State Level Festival Championship (11-Dec-21, Svaryar Puram).
- **Hammer Throw**: III Prize at the Intercollegiate Championship Athletics Tournament (17-19 Dec-21, Anna Stadium, Palayamkottai).
- **Shot Put**: III Prize at the Intercollegiate Championship Athletics Tournament (17-19 Dec-21, Anna Stadium, Palayamkottai).
- **Beach Kabaddi**: I Prize at the District Level Beach Games (26-Mar-22, Tharuvaikulam Beach).
- **Beach Kabaddi**: I Prize (Rs 3000 Cash Award) at the State Level Beach Games (02-03 Apr-22, Tharuvaikulam Beach).

# Department Of Zoology

## **Student Achievements**

### **Undergraduate Students**

#### **Group Mime:**

**Students:** G. Vijila, N. Shinely, N. Muneeswari, K. Abinaya

**Year:** II B.Sc Zoology

**Prize:** II Prize

**Event:** Marian College, Thoothukudi (District Level)

**Date:** 10-Mar-2021

#### **Art and Craft Participation:**

- **Vegetable Carving:** Maria Swetha, Swerna (II B.Sc Zoology)
- **Glass Painting:** Samyuktha (I B.Sc Zoology)
- **Solo Singing:** Abitha (II B.Sc Zoology)
- **Art from Waste:** Y. Maria Pusha Reni (II B.Sc Zoology)

**Event Organizer:** Marian College, Thoothukudi

**Dates:** 08-10 March 2021

#### **State-Level Participation (CM Trophy):**

**Student:** Veera Santhiya (II B.Sc Zoology)

**Venue:** Nehru Stadium, Chennai

**Date:** 06-Dec-2020

### **Postgraduate and Research Scholars**

#### **Elocution Competitions:**

- **K. Sakthi Vinmathi** (II M.Sc Zoology): I Prize (World Jellyfish Day), National Level by CMFRI (03-Nov-2020)
- **J. Esther Mereen** (Ph.D. Scholar): III Prize, Organized by CMFRI (03-Nov-2020)

#### **Group Dance:**

**Students:** Iswarya, Rajakumari, Vincy Rebekka

**Year:** III B.Sc Zoology

**Prize:** I Prize

**Event:** Marian College, Thoothukudi (District Level)

**Date:** 10-Mar-2021

#### **Group Singing:**

**Students:** Asmitha Shri M.P, Jeya Abirami J, Bala Sowmya, Maria Pushba Reni

**Years:** I & II B.Sc Zoology

**Event:** Marian College, Thoothukudi

**Date:** 08-Mar-2021

#### **National-Level Online Achievements:**

##### **R. Swarna (II B.Sc Zoology)**

- **Pencil Drawing:** I Prize (World Mental Health Day), Organized by Psychology Dept., St. Mary's College (10-Oct-2020)
- **Jelly Fish Facts:** Participation, Organized by CMFRI, Thoothukudi (03-Nov-2020)  
Sorna Revathi (III B.Sc Zoology): NSS Quiz Participation (Zonal, 17-Jul-2020)

#### **Online Competitions (Jellyfish Facts):**

- **A. Methonisha** (II M.Sc Zoology): II Prize, National Level by CMFRI (03-Nov-2020)
- **A. Judiya & Suthapackiyam S** (II M.Sc Zoology): Participation

This diverse set of accomplishments reflects the students' engagement in cultural, scientific, and creative pursuits at district, state, and national levels.



# Department Of Zoology

## MOOC Results

In the Zoology department for the I MSc program, a total of 10 students appeared for the MOOC course titled "Introduction to Research," out of which 9 successfully passed the course.

## Projects

The number of projects by the students are as follows:

B.Sc.: 7

Ist M.Sc.: Field Projects: 3

II M.Sc.: 10

## Student Progression

In the 2021-2022 academic year, the student progression to higher studies was as follows:

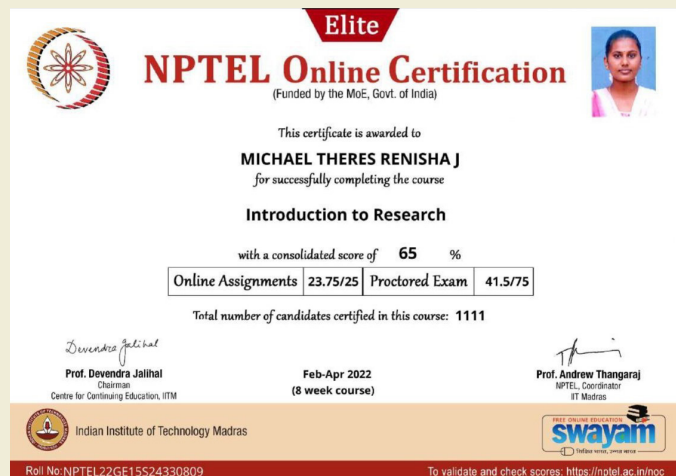
**UG to PG:** 11 students

**UG to B.Ed.:** 5 students

**PG to B.Ed.:** 2 students

## Student Enrolment

In the 2021-2022 academic year, **42** UG Students and **11** PG Students Enrolled in the College.



## Placements

- **J. Snowlin Vinnarasi** was placed at Servite School CBSC in Maravanmadam, Thoothukudi.
- **Y. Maria Pushpa Reni** was hired by Fox Conn Han Hai Technology, in their smartphone manufacturing facility, specifically the FATP project in the Viper department, located in Sungasathiram, Kanchipuram district.

## Pass Percentage

Our UG and PG students have both achieved a **100% Pass rate**, reflecting their dedication and faculty support.