



St. Xavier's College (Autonomous)

(Recognized as "College with Potential for Excellence" by UGC & Accredited at A⁺⁺ grade with CGPA of 3.66/4 in IV Cycle by NAAC)

Palayamkottai – 627 002

ANNUAL REPORT 2023-2024

DEPARTMENT OF BOTANY

Inaugural Ceremony - July 20, 2023

The Botany Association marked its inception on 20.07.2023, with a distinguished inaugural ceremony at St. Xavier's College, Palayamkottai. The event was graced by Rev. Dr. S. Mariadass S.J., Principal, St. Xavier's College, who delivered an inspiring presidential address. Reverend Dr. G. Pushparaj S.J., Secretary, St. Xavier's College, felicitated the gathering. Dr. L. Joelri Michael Raj, the Head in-charge, outlined the comprehensive action plan for the academic year 2023-24. Dr. B. Ramasamy, BSMS, Resident Medical Officer at Govt. Siddha Medical College, Palayamkottai, was the resource person, and he delivered a lecture on "Drug Selection in Siddha Medicine." The interaction session between students and Dr. Ramasamy was moderated by Rev Dr. M. Anthonysamy S.J. The event was successfully commenced by the welcome address by Ms. Regoboth Sylvia of III B. Sc. Botany, and Ms. M. Muthuselvi of II M. Sc. Botany proposed the vote of thanks.



Biowiz -2023- 21st September:

Department of Botany, St. Xavier's College organized an intercollegiate meet BLOWIZ - 2023 on 21.09.2023 on the theme "Lifestyle for Environment". 115 students from 9 different Institutions participated. The Inaugural function started at 9.30 a.m. in Fr. Caussanel Hall. Rev.

Dr. S. Mariadoss, S.J., Principal felicitated the function and keynote address was given by the Chief Guest, Dr. M. Udayakumar, Assistant Professor of Plant Science, Manonmaniam Sundaranar University, Tirunelveli on the aspects of Climate change. Various events such as Art from Biowaste, Botanical Drawing, Essay writing, Foliar arrangement, Plant Identification, Photography, Poster presentation and Quiz were conducted at various venues throughout the day. Rev. Dr. S. Pushparaj, S.J., Secretary felicitated and distributed prizes and certificates to prize winners of various events during the Valedictory function. The overall Championship was won by Department of Botany, VHNSN College, Virudhunagar and Runners Trophy was won by Department of Plant Science, Manonmaniam Sundaranar University, Tirunelveli.

National Workshop: 28, 29-November 2023:

On 28.11.2023 & 29.11.2023, the Department of Botany in association with the Department of Zoology organized a two-day National Workshop on “Cell Imaging and Cytological Techniques Using Bright Field, Fluorescence and Phase Contrast Microscopy” sponsored by Incise Infotech Pvt. Ltd. Dr. L. Joelri Michael Raj, Assistant Professor and Head, Department of Botany was the convener, Dr. P. Raja, Assistant Professor, Department of Zoology was the co-convener, and Dr. M. Johnson Gritto, Assistant Professor of Botany and Dr. S. Mabel Parimala, Assistant Professor of Zoology were the organizing secretaries.

On the first day, 28.11.2023, the workshop was inaugurated at 9.30 a.m. in MCA Seminar Hall. Welcome address was delivered by Dr. L. Joelri Michael Raj. Rev. Fr. Dr. S. Mariadoss, S. J., the Principal gave the presidential address. Mr. V. Subash, Deputy Manager, Incise Infotech Pvt. Ltd. delivered the keynote address. Dr. V. Irudayaraj, Associate Professor (Retd.), Department of Botany, St. Xavier’s College was the chief guest who also addressed the gathering.

The technical sessions of the workshop began at 10.30 a.m. The first technical session was handled by Dr. A. John Paul, PG Coordinator, Department of Zoology, St. Joseph’s University, Bengaluru who gave an elaborate lecture on the different types of microscopes, basic principle, components, working mechanism, significance and applications of phase contrast microscopy. The second technical session was at 11.30 a.m. by Dr. V. Irudayaraj who shared his extensive knowledge on bright field microscopy and gave the first practical session at 12.30 p.m. on the techniques involved in cellular imaging in microscopy such as sample preparation, cell number optimization, optimal image acquisition techniques, and its applications. Post-lunch

second practical session was at 2.30 p.m. by Mr. V. Subash who gave a vivid explanation on the different components and working operation of Nikon 80i model fluorescence and phase contrast microscope. The third practical session held at 3.30 p.m. by Dr. V. Irudayaraj on techniques involved in permanent slide preparation of mitosis, meiosis, and sporocytes observation.

On the second day, 29.11.2023, the workshop began at 9 a.m. with the third technical session by Dr. A. John Paul, who spoke extensively on the advantages and limitations of phase contrast and fluorescence microscopy. In the fourth practical session by Mr. J. A. Victor Rozario, General Manager - South India, Incise Infotech Pvt. Ltd., he gave practical experience on the functioning and operation of filters used in phase contrast and fluorescence microscopy. At 11.45 a.m., the fifth practical session was held with Dr. A. John Paul who demonstrated multiple steps involved in specimen preparation, including the workflow, fluorescence labelling, staining and visualization for basic fluorescence and phase contrast microscopy using crab and prawn haemocytes. The sixth and final practical session was handled by Dr. V. Irudayaraj where he displayed the techniques of plant histology, specimen mounting for karyo typing studies and different methods of ploidy determination with special emphasis on ferns.

The valedictory ceremony was held at 3.30 p.m. in MCA Seminar Hall. The department choir led the prayer song followed by welcome address by Dr. P. Raja. Rev. Fr. Dr. G. Pushparaj, S. J., the Secretary felicitated the gathering. Mr. J. A. Victor Rozario offered the valedictory address and Dr. S. Mabel Parimala presented a brief report of the workshop. Dr. L. Joelri Michael Raj closed the session with vote of thanks.

The workshop had 35 participants from various colleges including St. Mary's College, Thoothukudi, Scott Christian College, Nagercoil, Lady Doak College, Madurai, Centre for Marine Science and Research, Rajakkamangalam, G.V.N. College, Kovilpatti, Sadakathullah Appa College, Tirunelveli, Vivekananda College, Kanyakumari, Bishop Heber College, Trichy, Institute of Forest Genetics and Tree Breeding, Coimbatore, Carmel College, Thrissur and St. Xavier's College, Palayamkottai. The workshop had four resource persons, experts in the field of microscopy: Dr. V. Irudayaraj, Associate Professor (Retd.), Department of Botany, St. Xavier's College, Dr. A. John Paul, PG Coordinator, Department of Zoology, St. Joseph's University, Bengaluru, Mr. V. Subash, Deputy Manager, Service South India, Incise Infotech Pvt. Ltd. and Mr. J. A. Victor Rozario, General Manager, South India, Incise Infotech Pvt. Ltd. The attendees were trained and updated in the field of microscopy and had a productive experience learning the

working, and applications of bright field, phase contrast and fluorescence microscopy, and cell imaging techniques.

Career Guidance Meeting

The second meeting was held on 30.01.2024 along with department of Zoology and placement cell of our college in Botany lab. The primary focus was to provide career guidance for outgoing students specializing in life sciences. Mr. Injamamulhaq, CEO, and founder of IMCI Universe Pvt. Ltd., served as the resource person. He enlightened the students on career opportunities in medical coding under the theme "Scope of Medical Coding."

Lecture on Gardening and Landscaping

The third was meeting held on 20.02.2024, at the Botany lab. Ms. Sugnatha Ravi of Green Olive Consultancy, V.M. Chatram Tirunelveli was the resource person. Ms. Ravi shared her extensive experience in the field of gardening and landscaping. Her lecture, titled "Gardening and Landscaping," not only provided insights into these domains but also inspired students by illustrating how a degree in Botany can lead to entrepreneurial ventures.

National Conference:

On 29.02.2024, the department of Botany conducted a one day National Conference on Advances in Medicinal Plant Research (NAMPR – 2024) at Fr. Caussanel Hall. The convener of the national conference was Dr. L. Joelri Michael Raj, HoD (i/c), and Organizing Secretaries were Dr. M. Johnson Gritto and Dr. N. Maria Francis Jeffrey Bose. More than 60 participants participated in person or through online through Zoom Portal from different states like Kerala, Telangana, Anthra Pradesh & Rajasthan. Inauguration of the Conference was held on 29.02.2024 at 9.15 am. Rev. Fr. Dr. V. Henry Jerome, Rector of St. Xavier's Institution inaugurated the conference and gave felicitation address. Keynote address was given by Dr. K. N. Sunil Kumar, Research Officer, Central Council of Research in Siddha, Chennai. He emphasized the importance of medicinal plant sector in the wellbeing of human beings. *Book of Abstracts* was released by Fr. Dr. V. Henry Jerome. The first copy was received by the Chief Guest Dr. K. N. Sunil Kumar.

In Plenary Session- I Dr. K. N. Sunil Kumar spoke on "Key Identify Tests for Diagnosing Official Ayush Botanicals - Glimpses on Pharmacopoeial and DNA based methods". He gave detailed insights on how to identify the medicinal plants, authentications and DNA barcoding methods.

The plenary session- II was chaired by Dr. S. AjayanSadanandan, President, Center for Indian Medical Heritage, AVP Medicinal plant garden, Kanjikode, Palaghat, Kerala. He delivered a lecture on “Traditional Indian Outlooks on Medicinal Plants for Biodiversity Conservation and Health”. He emphasized the importance of planting indigenous trees.

The plenary session- III was chaired by Mr. T.R. SasiVarier, Executive Director, K.S. Varier’s Ashtanga Ayurvedics (P) Ltd., Tiruchirappalli. He delivered a lecture on “Farm to Pharmacy – A Culinary Journey”. He shared insights about herbal preparations and importance of plants in Ayurvedic System of Medicine.

The National Conference on Advances in Medicinal Plant Research paved way for the participants to present their research work, interact, debate and disseminate ideas amongst the distinguished professionals, eminent scientists, technologists and industrialists from different parts of the country. Among many abstracts, a total of 50 abstracts were accepted for publications and all abstracts were printed in abstract book in prescribed format. A total of 33 research findings were presented via three modes, 17 through offline mode, 10 through Online & 6 through poster mode. Faculties and Scientists from various institutions acted as chairperson and led the presentation. This session served as a good platform for young researchers to interact with eminent researchers in the leading field of Medicinal Botany. The plenary session IV was chaired by Dr. A. Rajesh, Assistant Professor, Department of Medicinal Botany, Government Siddha Medical College, Palayamkottai. He delivered a lecture on “Cultivation and Conservation of Medicinal Plants for Sustainable Utilization”. He instilled the values of medicinal plants in pharmacy.

The valedictory function was presided over by Rev. Fr. Dr. Pushparaj, S.J., Secretary of the College. The best paper and oral presentations were honored with certificates. Feedbacks were collected from online and offline participants. The Conference was a grand success and facilitated researchers across the country to make meaningful discussion in the field of Medicinal Botany and established collaborative research activities among institutions.

Valedictory Ceremony - February 29, 2024:

The valedictory ceremony of the association coincided with the National Conference on Advances in Medicinal Plant Research on 29.02.2024. Dr. A. Rajesh, Assistant Professor of Medicinal Botany at Siddha Medical College, Palayamkottai, delivered an enlightening valedictory address.

Dr. T. Leon Stephan Raj, Assistant Professor of Botany at St. Xavier's College, Palayamkottai, served as the staff in-charge for the association activities throughout the academic year 2023-2024.

TABLE.8.a . PAPERS PUBLISHED IN JOURNALS (2023.2024)

S. NO	Name of the Teacher	Name of the Department	Title of the Paper	Name of the Journal	Volume No/ Issue No/ Page No /year	ISSN No. / e.ISSN No.	Cited in Web of Science / Scopus Indexed/UGC Approved / Not Found in UGC.CARE List	National / International	Impact Factor	Month & Year of public ation
01.	Dr.L. Joelri Michael Raj	Botany	Effect of biofilm formation and cytotoxicity of biogenic silver nanoparticles (AgNPs) synthesized from a medicinal plant <i>Sterculiafoetida</i> L.	Digest Journal of Nanomaterials and Biostructures	Vol 18(4): Pp:1503.1513	ISSN: 1842.3582	Scopus indexed	International	0.9	Oct – Dec 2023
02.	Dr.L. Joelri Michael Raj	Botany	The Biochemical Analysis and Characterization of <i>Strobilanthes ciliatus</i> Nees (Bremek): Leaf Extracts.	Journal of Stress Physiology and Biochemistry	Vol 19(4).Pp:114 119	ISSN 1997.0838	UGC care listed	International	.	Dec 2023
03.	Dr.L. Joelri Michael Raj	Botany	Cytotoxic properties (MDA MB.231. an epithelial breast cancer cell line) and bactericidal activity of Silver nanoparticles mediated by <i>Strobilanthes ciliatan</i> ees.	International Journal of Nano Dimension	14(4). Pp: 356.365.	ISSN 2008.8868	Web of science	International	.	Oct 2023

04.	Rev.Dr.M. Anthonysamy SJ	Botany	Mosquitocidal Susceptibility and Non.Target Effects of <i>Tricholomaequestre</i> Mushroom (Agaricomycetes) on the Immature Stages of <i>Aedesaegypti</i> , <i>Anopheles stephensi</i> and <i>Culexquinquefasciat</i> <i>us</i>	International Journal of Medicinal Mushrooms	26(3): Pp:41–53	ISSN 1940 . 4344	Scopus	International	1.7	2024
05.	Rev.Dr.M. Anthonysamy SJ	Botany	Effect of biofilm formation and cytotoxicity of biogenic silver nanoparticles (AgNPs) synthesized from a medicinal plant <i>Sterculiafoetida</i> L.	Digest Journal of Nanomaterials and Biostructures	Vol 18(4): Pp:1503.151 3	ISSN: 1842.3 582	Scopus indexed	International	0.9	Oct – Dec 2023
06.	Rev.Dr.M. Anthonysamy SJ	Botany	The Biochemical Analysis and Characterization of <i>Strobilanthes ciliatus</i> Nees (Bremek): Leaf Extracts.	Journal of Stress Physiology and Biochemistry	Vol 19(4).Pp:114 119	ISSN 1997.0 838	UGC care listed	International	.	Dec 2023
07.	Rev.Dr.M. Anthony samy SJ	Botany	Cytotoxic properties (MDA MB.231. an epithelial breast cancer cell line) and bactericidal activity of Silver nanoparticles mediated by	International Journal of Nano Dimension	14(4). Pp: 356.365. (2023)	ISSN 2008.8 868	Web of science	International	.	Oct 2023

			<i>Strobilanthes ciliatanees.</i>						
--	--	--	-----------------------------------	--	--	--	--	--	--

TABLE 9 . BOOKS / BOOK CHAPTERS PUBLISHED (2023- 2024)

S. No	Name of the Teacher	Department	Title of the Books / Proceedings	Title of Book Chapters	Place, Publisher, Page No.	National / International	ISSN / ISBN No.	Month & Year of publication
01.	Dr. M. Joe Virgin Largia	Botany	Plants for Immunity and Conservation Strategies	In Vitro Studies in <i>Andrographis paniculata</i> Pertaining to Andrographolides Accumulation	Springer 97–112	International	ISBN : 978.981.9 9.2823.1	July 2023