





ANNUAL 2023REPORT



Visalakshi Educational Trust

461/3, Amman Nagar, L&T BY Pass Road, Eachanari, Coimbatore-641 021, Tamilnadu, India









Annual Report -2023

Centre for Bioscience and Nanoscience Research

(Affiliated to Bharathiar University), ISO 9001:2015

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Head of the Institute

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Ms. Abhirami V (Part Time)- Microbiologist

Ms. Vishnu Priya. R – Biotechnologist

M. Mridhuna Manoharan - Biotechnologist

CBNR

Centre for Bioscience and Nanoscience research (CBNR) was founded in 2010 under Visalakshi Educational Trust, Coimbatore. The goal of CBNR is to render a common platform for the biologists to interact with each other mutual benefit and providing high quality research facilities in various disciplines of life sciences. It has been certified by ISO (9001-2015) for its infrastructure and facilities. It is affiliated to Bharathiar University, Coimbatore and it presently offers full time / part time M. Phil. and Ph.D. programs in Microbiology and Biotechnology.

CBNR has well-furnished laboratory with modern automated equipments to carry out research works under the effective guidance of many distinguished scientists in worldwide. Our key research area is Bio-prospecting of polymer products-based Nanoscience, Food Nanobiotech, Industrial Nanoscience and Agriculture and Medical Microbiology. The current strength of CBNR comprises of two regular research supervisors, 3 faculty members, eight PhD scholars, and a technical assistance. CBNR has taken a different route to embark upon quality training. We aim at delivering innovative and customized training for the special needs of students of Biological Sciences, B.Tech., M.Tech., B.Sc., M.Sc., B.Pharm., M.Pharm., M.Phil., Ph.D., PDF and all fields of life sciences.

Vision and Mission Statement

Our motto is "Towards Excellence"

CBNR is a Centre for higher learning in the life sciences, provides all areas of academic and industrial need through research and development at **affordable cost to the students**. We aimed to develop the skills that are necessary to the students and research scholars in the field of life sciences, enable them for the placements and affinity towards the subject.

Accreditations

 Affiliated to Bharathiar University to conduct M. Phil. and Ph.D. in Microbiology and Biotechnology

- ISO 9001:2015 CERTIFIED
- MSME Approval
- BCIL Certification
- Applied for Food Safety Compliance System
- Approved by FSSAI
- NGO Darpan id was obtained

Highlights of CBNR

- More than 100 gene sequences submitted to NCBI
- More than 100 papers published in National and International Journals
- Conducted 26 workshops & 4 Faculty Development programme
- 10 MoU with leading colleges / Industry support for the placement
- 56 students got placement so far
- Acquiring latest Knowledge by hands-on training and research experience & exposure to the research field
- Fee concession and free training for the merit & economically weaker students
- Experienced research scientist / Eminent visiting scientists from industry and academia.
- Enrichment scientific knowledge / panel discussion with scientists
- Completed one project on Edible fruit coating

Laboratory facilities

We are equipped with the state of art facilities for pursuing research in the current thrust areas of Life sciences. We have separate labs for Microbiology, Animal cell culture, Bionanotechnology, Molecular biology and Bioprocess, with state of art laboratory facilities on par with RD centers.

Research Collaboration

CBNR collaborates with a number of National academic institution and industry to achieve the Research goals. There are number of eminent scientists who are the mentors or collaborators in our research projects. We encourage any research which can help the general humankind and are open to collaborate with the individuals and agencies with similar aim.

Benefit to the Society

Now a days there is a decline in number of students opting the bioscience courses due to lack of awareness and available of minimal number of technically skilled persons in the field. So we aimed to create awareness among undergraduate and post-graduate students in universities, colleges etc. on issues related to importance of Microbial biotechnology & its potential applications. The recent and continuing advances in life sciences clearly unfold a scenario energized and driven by the new tools of Microbial biotechnology. Microbial Biotechnology is a knowledge-driven technology, which needs to be driven by allow of new ideas and concepts in the development of new tools for research to generate green environment.

Area of Research work carried out in CBNR

- Molecular Biology/ rDNA technology /Medical Molecular Microbiology
- Bio nanotechnology Synthesis of Silver/ Gold / CNTs nanoparticles and its textile/medical applications
- Plant Biotechnology/ Ethanobotany
- Microbial enzyme technology / Bioremediation / Food Science
- Agricultural/ Food Microbiology/ Biotechnology / Bio preservative
- Environmental Biotechnology / Aquatic stress management
- Microbial diagnosis using rDNA technology / Plasmid mediated
- Protein Engineering / All types of Bioinformatics work
- Bioactive compounds/ antioxidant/ characterization from Herbal plants/ Microbes / Phytochemistry
- Animal cell culture / cancer biology
- Herbal drug formulation
- Nanoparticle synthesis using biopolymer, biomolecules etc.

Annual Report 2023 (January to July 2023)

Total of more than 15 programmes were conducted in the year of 2023 at CBNR campus, more than 297 number of students, research scholars, teaching and non teaching staffs were atteneded and benefited. In detail, research review meeting, college committee meeting, one day training in molecularbiology technique, value added industrial programme on poultry microbiology and a Mphil viva-voce was conducted. Other details are given below,

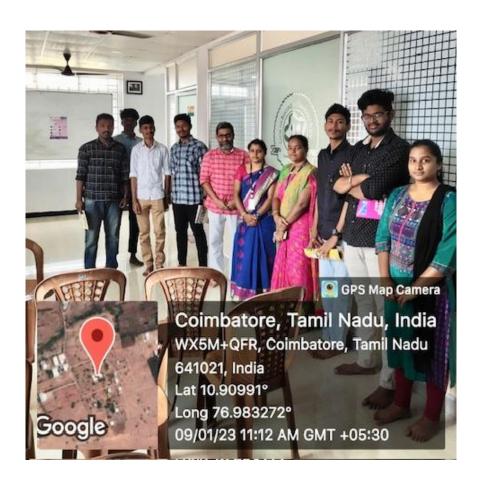
Important activities conducted in CBNR

Awarded for FSSAI Affiliation



Industrial training

➤ Department of Biotechnology, Hindustan College of Arts and science, Coimbatore has came for industrial training on 09.01.2023. Dr.R.Ragunathan, V. Abirami has handled the session.



Workshop on molecular biology technique

➤ Conducted one day training in molecular biology technique on 26.01.2023 for the department of zoology students, Sri GVG college, Udumalpet.



Research Review meeting

Research Review meeting for the Ph.D research scholar was conducted on 26.07.2023 at Johnas salk seminar hall, all the research scholar of Department of Biotechnology and microbiology was participated and presented their research finding. Dr.P. Senthilkumar, Associate professor, and Head, Department of biotechnology, Hindustan college of arts and science, Coimbatore.



Memorandum of understanding

➤ Centre for Bioscience and Nanoscience Research has signed MOU with Sree Abirami College of Pharmacy, Coimbatore A inorder to improve the practical skills in the field of microbiology and pharmacy on 16.12.2022, MOU was signed with the presence of College Chaiman, Vice Principal and other management teams.



College committee meeting

➤ College committee meeting was conducted on 26.07.2023 at Johnas salk seminar hall, Dr.R. Srinivasan, Associate professor, and Head, Department of Physics, Bharathiar University, Coimbatore was the universittee nominee, other staffs of CBNR was also attended the meeting

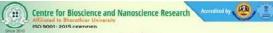
ValueAdded course- IndustrialProgramme - PoultryMicrobiology

➤ This programme was conducted for the students who are interested to become an entrepreneur in the poultry field for the Department of Microbiology, Nehru Arts and Science College, Coimbatore. V Abirami, Dr.Jesteena Johney, Dr.R.Ragunathan were handled the session (20-02-2023 to 28.02.2023).



National Bioconclave

➤ 5th national Bioconclave on on Bio Pharmaceuitcs for Sustainable Development-NBBSD-23 was conducted in Dr.Johnas Salk seminar hall on 15.9.2022. more than 70 partcipants were attended the conference from all over India which includes BS.c, MS.c, Research scholars, teaching faculties and scientist. Behalf of CBNR all the faculties, management team and research scholars were actively participated the conference.



Organizing

5th National Bio Conclave

"Bio Pharmaceutics for Sustainable Development" (NBBSD- 23)

National Conference

NATIONAL CONFERENCE

Registration fees

Industry person / Faculty - Rs. 1200 Best Paper Award Competition - Rs.

Last date for Registration: 26, September, 2023 Registration Link: tops://documents/1900.50000 5-bears minusk225/etf-p-th-9015-grow-broken

Further Contacts:

Conrcindia@gmail.com





About Conference

Aim and Objectives of the Conference

- The observe of the conference is to raise awareness among situag people and the soc general on the essential role of bin pharmaceutics for sustainable develo-play in our life, as well as of their biotechnological potential.

Thrust Areas of Themes

- ➤ Pharmscology and Pharmscognosy

- Agricultural Hotechnole
 Applied Immunology
 Proteomics and Metabol
 Computational Biology
 Macine medicine
 Phytochemistry

Conference Details

Participation: Participation is open to students, research scholars, academicians and faculties.

Conference Highlights

- ➤ Talks by International and National Scientists ➤ Best Paper Award
- ➤ Oral presentations for participants
- > Certificate to all the participants

(1) Chief Guest & Keynote Speaker



(i) Invited Speakers







CBNR Committee

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Hands on Training

➤ Shri Devaraja Urs Academy of Higher Education & Research CBNR and Institute of Nutrigenetics cordially conducted two days hands on training on Nutritional Genomics for research and Clinical Practice on 03 to 04.12.2023 at CBNR campus. Dr.R Ragunathan, Dr.Jesteena Johney, Ms.mridhuna Manoharan aad Abirami were handled the session.



Industrial Visits

➤ From the Department of food science, St.Teresa College Ernakulam, Kerala was visited CBNR for One day on 23-03-2023, 19 students and 2 faculty members are came and learned the instruments opertaions.



As part of the study Final year B.Sc Biochemistry, Sarada Vilas College, Mysore, has visited our Institute and learned PCR and Phytochemical analysis works on 16.11.2023.

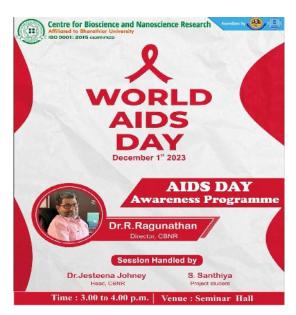


➤ From the Department of Biochemistry, Erode arts and Science College, Erode, Tamilnaduhas visited CBNR for One day on 22-12-2023, morethan 35 students students and 5 faculty members are came and learned the instruments opertaions.



AIDS day Awareness Programme

AIDS day Awareness Programme was conducted by CBNR on 01/12/2023 for the CBNR students. Dr.R.Ragunathan, Dr.Jesteena Johney and Ms. S.Sathiya was handled the session.



Auspicious celebration/ Awards

Republic Day

74th Republic Day was celebrated on 26th January 2023 at CBNR campus.



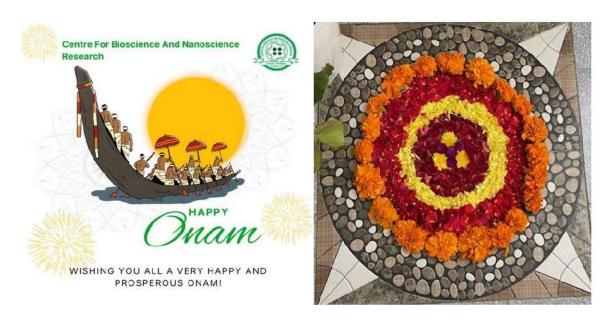
Independence day celebration

To mark the 75th Diamond Jubilee Independence Day Celebrations of India's freedom, The National Flag was hoisted by the Director along with chairman, staffs and other dignitaries along with students on August 15-2022.



Onam celebration

Onam was celebrated at the institute premises on 29thAugust 2023. Staffs and students are participated and celebrated.



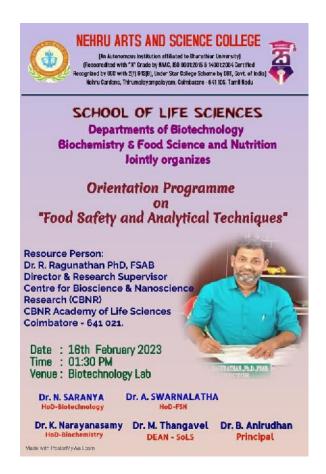
Saraswathi Pooja Celebration

Saraswathi Pooja has been celebrated in the presence of chairman, director and other staff members on 21th October 2023.

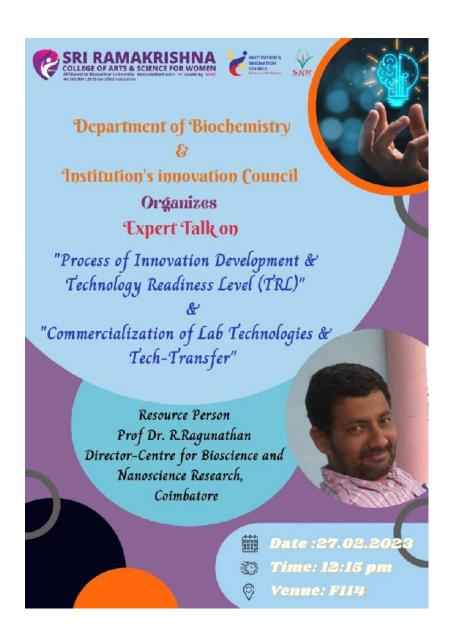


Staff activities

➤ School of Life sciences, Department of Biotechnology, Biochemistry and Food science and Nutrition Jointly Organized Orientation programme on Food safety and Analytical Technique on 16.02.2023 at Nehru Arts and Science College, Coimbatore. Dr. R.Ragunathan, Director of Centre for Bioscience and Nanoscience Research.



➤ Dr. R.ragunathan, Director of Centre for Bioscience and Nanoscience Research gave an expert talk on "Process of innovation Development and Technology readiness Level and Commercialization of Lab Technologies and Tech-Transfer" for the Department of Biochemistry and Institutions innovation council, Sri Ramakrishana College of Arts and Science for Women, Coimbatore on 27.2.2023.



➤ Dr. R.Ragunathan, Director of Centre for Bioscience and Nanoscience Research acted as Resource Person for the one day Seminar on "Scope and Challenges in Bio - Entrepreneurship" for the Department of Biotechnology Karpagam Academy of Higher Education, Coimbatore on 24.07.2023.

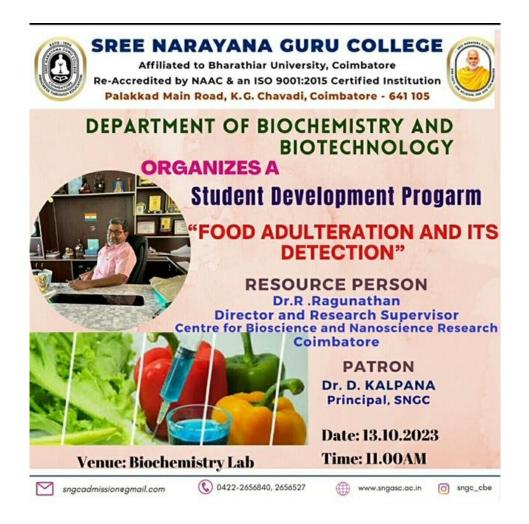


➤ Internal Quality Assurance Cell organised an International Multidisciplinary Conference on Emerging Trends Challenges and Oppertunities on 24 and 25 of august 2023, Dr.R.Ragunathan, Director Centre for Bioscience and Nanoscience Rsearch was acted as resource person.





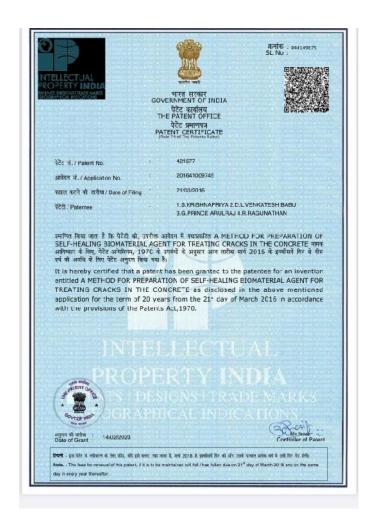
➤ Sree Narayana Guru College, Coimbatore and CBNR organized a Student Development Programmeon the topic of Food Adulteration and its Detection on13.10.2023. Dr R.Ragunathan acted as Resource person, Mridhuna Manoharana, V. Abirami were handles practical sessions for the students.



Achievements of CBNR

Patent

➤ Patent has been granted for a method for Preparation of self healing biomaterial agent for treating cracks in the concrete, with the provisions of he patents act 1970, the date of grant is 14.02.2023.



Ph.D Awards

Ms. Jesteena Johney was awarded for the Ph.D in Food and Nutrition, from Bharathiar University on 28.07.2023 and she has been promoted as Head of the Institute.



M.Phil Award

Mr.VipinKrishnaS.L was awarded for M.Phil under the guidance of Dr.R.ragunathan Director of Centre for Bioscience and Nanoscience Rsearch on 23.022023.



Best Oral Presentation

Best oral presentation award was received for the paper T itled **Plant based nanoparticles and their Potential Applications** presented by Ms.Linima V.K, R.Ragunathan and Jesteena Johney in the 9th Geo Green Summit organized by BioLEAGUES on 29th and 30th December 2023



FDP

M. Mridhuna Manoharan, Biotechnologist was attended one week faculty development programme conducted by Shri Venkateshwara College of pharmacy on pharmaceutical education: Trends and Tools from 18th to 23 Feb 2024.



Donations

➤ Centre for Bioscience and Nanoscience Research- Visalakshi Educational Trust has donated stationary items for the Government Higher Secondary School, Bujanganar, Coimbatore, Tamilnadu.

Research achievements of CBNR

Paper Publications in National and International Level – 13

NCBI Gene Sequencing – 41

Research Scholars achievements

Sl.No	Scholar name and	Name of Conference/Seminars	Date and venue	Title of the paper
	Department			
1		UGC Sponsored Two- Day National Conference on New Horizons in Biological Science Research	4 th and 5 th January 2023, Department of Botany, Avinashilingam University, Coimbatore.	Biological synthesis of iron nanoparticles and its biomedical applications
2		International Multidisciplinary conference on Emerging trends, Challenges and Opportunities	24 and 25 August 2023, SNGC college, Coimbatore	Biological synthesis of Desmodiumtrifloru m mediated iron nanoparticles and its antibacterial study
3	V.K.Linima	National conference on Environmental and Ecology	4 th and 5 th October, 2023, Department of Environmental science, Bharathiar University, Coimbatore	Centellaasiatica leaves extract for a green synthesis of iron nanoparticles : antimicrobial and cytotoxicity effects
4		Current Trends in Nano Based Drug Delivery Rsesearch	09 th December 2023, Department of Pharmacy,SreeAbira mi College of Pharmacy,Coimbator e	Biofabrication of Desmodiumtrifloru m mediated iron nanoparticles and its antimicrobial activity

5		5 th National Bio	4 th and 5 th , October	Biosynthesis of
3		conclave on	2023, Department of	Centellaasiatica
			Biotechnology	extract based
		Biopharmaceutics for Sustainable	CBNR, Coimbatore	silver
		Development	CBNK, Collibatore	
		(NBBSD'23)		nanoparticles: cytotoxicity and
		(NDBSD 23)		cytotoxicity and antibacterial
				effects
				effects
6		International Seminar	20 th March 2023, PG	Biological
		on Environmental	and Research	synthesis of metal
		Toxicology	Department of	nanoparticles and
			Zoology, KMC	its biomedical
			college, Coimbatore	applications
7		National conference on	4 th and 5 th of January	Molecular
		new Horizons in	2023./ Avinashilingam	identification of
		Biological Science	Institute for home	Biosurfactant
		Research	science and higher	producing Bacillus
			education for Women.	sp and its
	Brinda C.M		Coimbatore	antibacterial study:
8		Fifth National Bio	4 th and 5 th Oct 2023./	Biosurfactant
		conclave on Bio	Centre for Bioscience	production by
		Pharmaceutics for	and Nanoscience	Bacillus
		sustainable	Research (CBNR)	amyloliquefaciens
		development.	Coimbatore	MN243658,
				characterization
				and its potential
				applications
9		National Bio Conclave	04-10-2023, CBNR,	Isolation, screening
	Geethu Suresh	on Biopharmaceuticals	Coimbatore	and molecular
		for sustainable		identification of
		development		lignin degrading
				fungi From
				Western Ghats of
				India

Distingushed Visitors

Sl No	Date	Details of the visitor
		Dr. Rajalakshmi
1	23/02/23	Professor and Head, Department of Biotechnology
		Hindusthan College of Arts and Science, Coimbatore
		Dr. Senthil Kumar
2	26/07/23	Associate Professor and Head, Department of Biotechnology
		Hindusthan College of Arts and Science, Coimbatore
		Dr. K. Srinivasan
3	26/07/23	Professor and Head, Department of Physics
		Bharathiar University, Coimbatore-641046
		Dr. P. Agastian
4	04/10/23	Associate Professor, Plant Biology and Biotechnology
		Loyola College, Chennai
		Dr. S. Suja
5	04/10/23	Professor and Head, Department of Biochemistry
		Bharathiar University, Coimbatore
		Dr. M. Senthil Kumar
6	05/10/23	Research Director, Sree Abirami College of Pharmacy, Coimbatore
		Dr. Rama Bhatt P
7		Professor and Head, PG Dept. of Biotechnology
	05/10/23	Alva's College
		Dr. N. Vanitha
8	09/11/23	Professor, Department of Microbiology
		Hindusthan College of Arts and Science, Coimbatore-28

