

NGP - DBT SCIENCE - BULLETIN



Dr. N.G.P. ARTS AND SCIENCE COLLEGE



(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)
Approved by Government of Tamil Nadu and Re-accredited by NAAC with 'A' Grade
DST – FIST | DBT – Star College Scheme

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Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world. Life is moving in the way of science and technology. We will always have to march ahead with these developments. Some things will drop out of the public eye and will go away, but there will always be science, engineering, and technology. Science is fun. Science is curiosity. We all have natural curiosity. Science is a process of investigating. It's posing questions and coming up with a method. It is delving in. I feel elated to note that the Faculty of Bio Sciences, Dr.N.G.P. Arts and Science, Coimbatore is bringing out the annual newsletter consolidating the activities under the DBT-Star Scheme. The support from DBT has strengthened the physical infrastructure in laboratories, library, teaching aids, and promoted networking with neighboring institutes. Hands-on training and projects of day to day relevance have enhanced interest in students to pursue science courses at Undergraduate and Postgraduate level. Dr.N.G.P. Arts and Science takes pride in organizing such Scientific programmes which will create a unique platform to analyze the present and future objectives and to update technological advancements in Science and Technology.

Dr. Nalla G Palaniswami

Chairman

Kovai Medical Center and Hospital (KMCH)



We are thankful to the Government of India, New Delhi for sanctioning the prestigious DBT-star college scheme of Department of Biotechnology. Under the scheme currently four departments are supported: Biotechnology, Biochemistry, Microbiology and Food & Nutrition. The scheme has helped immensely in improving the infrastructural facilities in these departments. Various students-centric activities are being conducted for over all departments of students, including DBT-Star series, hands on training, workshops, industrial & academic visits, research projects and competition as well as faculty trainings. We are living in a society where we depend on continuous improvement in technology, good understanding of a science to take care of the environment and safe guard from various pollution. We all know that over future generation will be suffering if we don't take care of our environment. We all have to work hand in hand to improve the environment with the help of science and technology.

Dr. Thavamani D Palaniswami

Secretary

Dr. NGP Educational Institutions



I am very delighted to note that the DBT Newsletter is being brought by the participating departments under DBT-Star scheme. The Newsletter brings out the various activities organized under DBT-Star scheme at our College. The support from Department of Biotechnology, Government of India has strengthened the laboratory infrastructure, library, and other technology enabled learning resources of the participating departments. The programmes organized by the departments paved way to promote networking with neighboring institutions. I am happy to know that various activities were conducted to create a unique platform to students for updating their skill and knowledge in recent technological advancements in Science and Technology. I wish the Principal, Deans, DBT-Star college overall Programme Coordinator and the Department Coordinators, Staff, and Students of our College a great success in all their future endeavors.

Dr. O. T. Buvaneshwaran

Chief Executive Officer

KMCRET



It is my pleasure to extend heartfelt greetings to the readers of the first issue of the biannual Newsletter of the DBT-Star departments of our College. Department of Biotechnology (DBT), Government of India recognized the excellent Research and Development activities of the various departments of our College and sanctioned DBT-Star scheme to the Biochemistry, Biotechnology, Microbiology and Food and Nutrition Programmes. The main objective of the scheme is to motivate UG research and provide platform for innovative learning of Graduate students. Under this scheme, the participating departments of our College strive to disseminate their expertise and knowledge to the other participating Colleges and to the Community. Dr.N.G.P. Arts and Science College has organized a National Symposium on Under Graduate Research an annual conference, the first of its kind in India by forming DBT-Star Scheme Cluster of Colleges to explore the inherent talent and Innovative Research among the Graduate students in India. On behalf of the Management and on my own behalf, I congratulate Dr. S. S. Sudha, DBT-Star scheme Coordinator of our College and Prof. S. Senthil Prabhu, Coordinator of DBT-Star scheme, Dept of Microbiology, Dr. M. Poongothai, Coordinator of DBT-Star scheme, Dept of Biotechnology, Dr. T. Indhumathi, Coordinator of DBT-Star scheme, Dept of Biochemistry, and Dr. S. Uma Maheswari, Coordinator of DBT-Star scheme, Dept of Food and Nutrition in addition to Dr. S. Balasubramanian, Dean-Research and Development for their sincere and arduous efforts to organize various programmes to kindle the unquenchable fire of curiosity and inquiry in students and the general public. We congratulate the DBT-Star Departments for bringing out this Newsletter to reach the Community.

Prof. Dr. V. Rajendran

Principal

Dr.N.G.P. Arts and Science College



I feel delighted in penning a message to an annual newsletter being brought out by the Faculty of Biosciences to mark the successful completion of the first year of DBT-Star college scheme and eventual display of comprehensive activities undertaken by them. Star College Scheme is an initiative of Department of Biotechnology (DBT), one of the premier national scientific establishment functioning under the aegis of Department of Science and Technology (DST), Government of India. The scheme objective is to provide support to institutions offering undergraduate programmes to strengthen and improve teaching and learning outcomes in science disciplines. It is important to note that all participating departments of Dr.N.G.P. Arts and Science College, with the support from DBT have strengthened the physical infrastructure in laboratories, library, teaching aids and promoted networking with neighboring institutes. In equal measure, they have organized various activities to improve upon the skills of teachers, technical staff, and most importantly to elevate student interest in learning. Having the cardinal features of DBT-Star college scheme instituted in the first year, the participating departments should sight on organizing scientific programmes which will create a unique platform for achieving excellence in teaching and learning, and stimulate original thinking among students. I heartily congratulate the departments and wish them all success in the forth coming years.

Dr.S.Balasubramanian

Dean - Research and Development
Dr.N.G.P. Arts and Science College



I sincerely acknowledge the Department of Biotechnology (DBT), Government of India, New Delhi for considering Dr. N. G. P. Arts and Science College under DBT-Star college scheme. Microbiology, Biotechnology, Biochemistry and Nutrition & Dietetics are the four participating departments under this scheme. Alone we can do little, and together we can do a lot. This aptly suits for the Departments that participate in DBT Star College Scheme. As an overall Programme Co-ordinator initially I had a doubt, how these activities can be done and executed well, but the department heads, department programme coordinators, each & every staff member of the department joined hands under the guidance of our team leader Prof. Dr. V. Rajendren, Principal and Dr. S. Balasubramanian, Dean R&D. The one year journey under DBT-Star College Scheme provided me insights and experience widely. All four participating departments have done their maximum level and striding to reach acme in the forth coming years. The concept of learn, unlearn and relearn has been practiced by all members of faculty of participating department. Through this DBT-Star College Scheme teacher quality & teaching quality are being improved. Students are highly motivated and they show keen interest to comprehend practical methodologies in a conducive way. It is an opportunity for them to visit Industries, to participate in Conferences, Seminars and Workshops to take up the mini group projects in order to ameliorate their personal skills. I, sincerely thank the mentors Dr. R. Rajendren and Dr. N. Ezhili for their support and suggestions. Finally, I owe my heartfelt thanks to our management for their constant and consistent support in all the steps that we initiate.

Dr. S. S. Sudha

DBT-Star College Scheme Coordinator
Dr.N.G.P. Arts and Science College

Kovai Medical Center Research and Educational Trust (KMCRET) is a non-profitable voluntary organization established in 1990. The goal of the trust is to render quality and character building education and providing research facilities to the youth of India and abroad. The trust extends its educational service through 6 institutions. Dr. N.G.P. Arts and Science College (Dr NGPASC) is an organization of KMCRET trust which was established in the year 1997 under the leadership of Dr. Nalla G. Palaniswami, as its Chairman and Dr. Thavamani D. Palaniswami as its Managing Trustee and Secretary. The Institution has begun with four Undergraduate programmes namely B.Sc. Biochemistry, B.Sc. Computer Science, B.Com. and B.B.M. with a student strength of 78 and with Faculty members of 9. This co-educational self-financing College was started in a rural area in Kalapatti, Coimbatore District with a motto on Nurture, Grow and Prosper, is affiliated to Bharathiar University, Coimbatore. The College has been recognized under 2(f) and 12(B) by UGC, New Delhi. The University Grants Commission, New Delhi has conferred autonomous status from the Academic year 2015-16. This facilitates the institution a freedom of designing the curricular and co-curricular activities to mould the students and meet global standards. The college was re-Accredited by NAAC with "A" Grade with the CGPA of 3.17 on March 17, 2016. The National Institutional Ranking Framework (NIRF) of MHRD has ranked our college at 44th, 91st and 67th positions in the years 2017, 2018 and 2019 respectively.

At present, 7068 students are pursuing their graduate, Postgraduate and research programmes at Dr NGPASC. The institution has 310 faculty members and 75 administrative and technical staff. The teacher student ratio is 1: 20. The institution offers 27 UG courses, 14 PG courses and 12 research programmes (M. Phil./Ph.D.) In order to promote research activities among Staff and Students, the Management has initiated the in-house funding (Seed money, Student Start-up projects, research incentives/ honorarium, travel grant support etc.). To promote inter disciplinary and quality research; the research advisory/steering committee guides the Faculty in drafting/finalizing their research proposals for funding. The Institution has been granted a sum of Rs. 3.53/- Crore for projects, schemes, seminars, conferences and workshops from various funding agencies like UGC, DRDO, ICMR, ICSSR, CSIR, DST, DBT and TNSCST. The Alumni Association conducts the alumni meet in India and abroad through chapters frequently in order to enrich the connectivity of Alumni. The Institution recognizes the meritorious Alumni with awards on 26th January every year. The NSS has 3 units which extends its service to the community. Outreach activities are carried out in areas such as village adoption, Awareness camps on health issues, Cashless transaction, Digital India etc. under Swachh Bharat initiatives. The deep involvement of students in different club activities.

DBT-STAR COLLEGE SCHEME

The Department of Biotechnology (DBT), Government of India, New Delhi, has launched Star College Scheme with an aim to strengthen life science and biotechnology education and training at undergraduate level. The purpose is to improve critical thinking and provide 'hands on' experimental work in the cutting edge-technologies needed for modern biological studies at undergraduate level in life sciences and as a result of such experiences, more students will take up life science as a career.

Under this scheme various programmes is being organized to strengthen academics and research for achieving excellence in teaching and training and to enhance the quality of learning.

This also helps to enhance the teaching process and to stimulate original thinking through 'hands-on' exposure to experimental work and participation in summer schools. The scheme envisages intensification of interdisciplinary approach among the science departments and also with nearby institutions for small research projects, expert lectures, visits and training programmes and outreach activities.

This program intends to provide an equal opportunity to all staff members (teaching and technical assistants) and selective student representatives from participating departments to attend workshops (hands on) and undergo training organized by nationally renowned institutions in very carefully chosen discipline specific skill development areas. Both the staff and student attendees after receiving hands on experience should share and impart the knowledge to their discipline and interdisciplinary peers. The following discipline specific skill development areas are identified in the current academic year (2018-19), and both the staff and students are sent to receive training under the DBT-Star scheme.

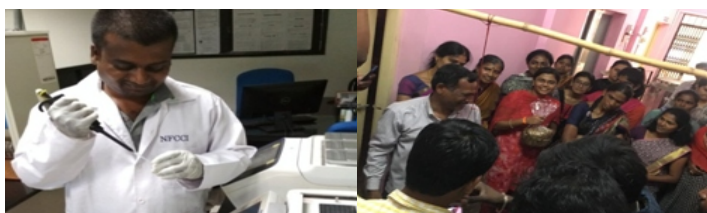
MICROBIAL DIVERSITY

Prof. S. Senthil Prabhu from the Microbiology department participated in the workshop on "Taxonomy, Biodiversity, Ex-Situ Conservation and Applications of Fungi" held at National Fungal Culture Collection of India (NFCCI), Agharkar Research Institute (ARI), Pune from 21st to 28th May 2018.

Dr. N. Vidhya & Prof. C. Sasikala from Microbiology department participated in the workshop on "Prospects and Challenges in Algal studies" held at Department of Botany, Catholicate College, Pathanamthitta, Kerala on 5th and 6th October 2018.



Professor of Biochemistry, Dr. C. Venkatesan at Stem Cell Culture and Flow Cytometry training in Stellixir Biotech (Pvt) Ltd, Bengaluru.



Professor of Microbiology, Mr.Senthil Prabhu during a workshop session at Agharkar Institute, Pune.

Students and staff members of Microbiology during the Mushroom Cultivation Training session at TNAU, Coimbatore

ENTREPRENEURIAL

Skill impartment on "Mushroom Cultivation" was given for 7 students from the Department of Microbiology at TNAU, Coimbatore on 05.02.2019.

Training on "Mushroom Cultivation" was provided for 14 students from the Department of Biochemistry and Biotechnology, at TNAU, Coimbatore, on 07.01.2019.

Exactly 2 technical staff from the Department of Biotechnology, received Training on "Mushroom Cultivation" at TNAU, Coimbatore on 05.04.2019.

Training on "Amla Processing" was provided for 6 students and 1 Faculty member from the Department of Nutrition & Dietetics at the Post Harvest Technology Centre, TNAU, CBE, on 09.01.2019.

Exactly 6 students and 1 faculty member from the Department of Nutrition & Dietetics, took part in the 2 day Training Programme on Novel Bakery at the Post Harvest Post Harvest Technology Centre, TNAU, Coimbatore, on 29th and 30th January 2019.

Training on "Value Added Products using Tomato and Noni Fruits" was provided for 2 Faculty members from the Department of Nutrition & Dietetics, at the Post Harvest Technology Centre, TNAU, Coimbatore, on 19th and 20th February 2019.

Two Days Training Programme on "Quantitative Analysis of Bioactive Compounds" was given to 4 faculty members from the Department of Nutrition & Dietetics, at the Alpha Labs, Coimbatore, on 21st and 22nd February 2019.

Training on "Novel Value Added Products from Millets" was provided for 8 students from the Department of Nutrition & Dietetics, at the Post Harvest Technology Centre, TNAU, Coimbatore, on 27th and 28th February 2019.

Three days Training on "Value Added Products from Millets" was provided for 2 faculty members from the Department of Nutrition & Dietetics, at Ramaswamy Chinnasamy Trust, Coimbatore from 23rd to 25th February 2019.

BIOINFORMATICS

Dr. S. Gowri from the Biochemistry department participated in the two day workshop on "Computational methods in Drug Discovery" held at JSS College of Pharmacy, Ooty on 28th and 29th September 2018.

Dr. D. Pradeepa from the Biochemistry department participated in the workshop on "In Silico Molecular Modeling and Drug designing" held at Bioinformatics Centre and ARIS Cell, Madras Veterinary College, Chennai from 07th to 11th January 2019.

Students of Biochemistry department participated in the one day workshop on "R-Programming for Biologists" held at the Dept. of Biotechnology, School of Agriculture and Biosciences, Karunya Institute of Technology and Sciences, Coimbatore on 09.02.2019.

Dr. M. Poongothai from the Biotechnology department participated in the two day workshop on "Computational Methods in Drug Discovery" held at JSS college of Pharmacy, Ooty on 28th and 29th September 2018.



Professor of Biochemistry, Dr. Usha during the e-Teaching workshop at Avinashilingham University, Coimbatore.

CELL CULTURE TECHNIQUES

Dr. N. Kannikaparameswari from the Biochemistry department received hands on training on “Cell Culture Techniques” at The South Indian Textile Research Association, Coimbatore on 12th and 13th February 2019.

Dr. C. Venkatesan from the Biochemistry department received hands on training on “Stem Cell Culture and Flow Cytometry” at Stellixir Biotech Pvt. Ltd., Bangalore from 15th to 17th February 2019.



Biochemistry students during R-Programming workshop held at Karunya University, Coimbatore.

Dr. T. Indhumathi, Professor of Biotechnology at Western Blotting Technique Workshop held at PSGCAS, Coimbatore.

E-LEARNING

Dr. V. Usha from the Biochemistry department and Prof. P. Arun Biotechnology department participated in three days workshop on Enablers of E-Teaching and E-Learning at the Avinashilingam Institute for Home science and Higher Education for Women, Coimbatore from 06th to 08th March 2019

BIOTECHNOLOGY AND VIROLOGY

Dr. V. Dhana Rangesh Kumar from the Biochemistry department participated in the UGC & DBT Sponsored National Seminar cum Workshop on “Genomics and Proteomics-2019” held at Alagappa University, Karaikudi from 06th to 08th February 2019.

Dr. T. Indhumathi & Dr. K. Rajathi from the Biochemistry department participated in the national workshop on “Western Blotting Technique” held at PSG College of Arts and Science, Coimbatore on 15th and 16th February 2019.

6 students from the Biotechnology department participated in the workshop on “Advance Biotechnology Techniques Module-1: Volatile molecule analysis by Gas Chromatography” held at Karpagam Academy of Higher Education, Coimbatore on 03rd and 04th January 2019.

4 students from the Biotechnology department participated in the two day workshop on “Computational Genomics molecular docking and Biomolecular visualization tools (Hands on training)” held at Karpagam Academy of Higher Education, Coimbatore on 07th and 08th January 2019.

3 students from the Biotechnology department participated in the international workshop on “Recent Advances in Virology” held at Karunya institute of Technology and Sciences, Coimbatore on 06.03.2019.



Dr. M. Poongothai, Professor of Biotechnology, participating in a workshop held at JSS College of Pharmacy, Ooty.

Students of N&D participating in AMLA processing Training held at TNAU, Coimbatore.

WORKSHOPS AND TRAINING CONDUCTED

The recipients (staff and selective student representatives) of a well intended training from nationally renowned institutions as well as staff members and students who are expertise in various skill development areas organize training programs for the rest of academic community. Certain skill areas which are already developed into processes or products are exhibited in shows organized by participating departments. The following are training programs and exhibits organized in the current academic year (2018-19) under the DBT-Star scheme.

LABORATORY SAFETY

Dr. A. M. Ramachandran and Prof. E. Kumaran from the microbiology department offered training to 10 laboratory assistants from biosciences and chemistry departments on laboratory safety measures, symbols and awareness on 11.09.2018.

Department of Biotechnology organized hands on training on “Operation of bottle top dispenser for dispensing acids and other corrosive reagents” to Laboratory assistants from DBT-Star and basic science

Departments on 1st February 2019. Ten lab assistants participated in the workshop and the resource person was Mr. V. Manikandan, Microlit.



Dr. A. M. Ramachandran, Microbiology Professor, addressing laboratory assistants on Laboratory Safety Measures.

Mr. E. Kumaran, Professor of Microbiology handling training session on Microscopy to students of Microbiology.

IPR

DBT-Star departments of Dr.NGP ASC jointly with PSGR Krishnammal College for Women, Coimbatore organized one day workshop on Intellectual Property Rights and Innovations on 27.10.2018 where Dr. M. Kantha babu from Anna University was a resource person. 12 staff members from the DBT-Star departments attended the meeting.

DBT-Star departments jointly with IPR cell organized national workshop on Intellectual Property Rights (WIPR-19) on 15th and 16th February 2019. Dr. S. P. Subramanian, Deputy Controller and Mr. V. Palanisamy, Assistant controller from Chennai Patents Office were resource persons. More than 350 students and all staff members in the DBT-Star departments attended the program.

MICROBIAL DIVERSITY & ITS APPLICATION

Microbiology department organized interdepartmental workshop on "Identification of Fungi & Algae and Hands on training in Fold scope" for Bioscience departments of our college on 08th and 09th January 2019. 44 students participated in the workshop.

Microbiology department organized intercollegiate workshop on "Identification of Fungi & Algae and Hands on training in Foldscope (WIFATF-19)" on 06th and 07th February, 2019. 53 students from neighboring colleges received hands on training.

Microbiology and Catering Science departments jointly organized workshop on "Microbes and their role in baking" on 13.02.2019. 92 students from partnering departments participated in this knowledge exchange program.



Professor of Biotechnology, Mrs. Shanmugavadivu demonstrating the functioning of Nanodrop to student participants.

Student participants receiving hands on training on Nanodrop usage at the Biotechnology department.

INSTRUMENTATION

Microbiology department offered training to 230 students on handling of Stereo and Inverted microscopy from 11th to 15th February, 2019.

Biochemistry department offered training to 120 students on Quantification of alkali and alkaline earth metals in Biological samples by flame photometry on 23rd February, 2019.

Nutrition and Dietetics department organized workshop to 177 students on handling of Extruder Machine & Ice cream machine on 08th, 29th January, 2019 and 11th February, 2019.

Dr. N. Kannikaparameswari and Dr. D. Pradeepa of Biochemistry department offered hands on training to 27 students from bioscience departments on Phytochemical

Biotechnology department offered training to 100 interdepartmental students on handling of Nanophotometer on 10.01.2019.

Biotechnology department offered training to 150 interdepartmental students on Microtome handling on 07.02.2019.

Dr. Radha Palaniswamy of Biotechnology department offered hands on training to 50 intercollegiate students on Operations and Applications of UV-Visible Spectrophotometer on 21.02.2019.

MOLECULAR BIOLOGY

Prof. M. Shanmugavadivu and Dr. M. Poongothai of Biotechnology department offered hands on training to 150 intradepartmental students on PCR and Nanophotometer on 13.02.2019.

Dr. M. Poongothai of Biotechnology department offered hands on training to 80 intercollegiate students from Coimbatore on Protein & Nucleic Acid Quantification with Nanophotometer on 19.02.2019.



Dr. Subramanian, Controller of Patents & Design, and Mr. Palanisamy, Asst. Controller of Patents & Design, at the inauguration session of WIPR-19.

Professor of Biotechnology, Dr. A. Poongothai explaining the functioning of Nanodrop to student participants.

TISSUE CULTURE

Biotechnology department organized one day intradepartmental Skill Development Programme on Plant Tissue Culture for 50 students on 31.08.18.

Biotechnology department organized interdepartmental training programme on Animal Tissue Culture Techniques to 10 teaching staff, 5 research Scholars and 2 non-teaching staff from bioscience departments on 30.03.2019.

SOFT-SKILL TRAINING

Nutrition and Dietetics department organized soft skill training to 120 interdepartmental students in Memory Management on 06.09.2018.

SOFTWARE TOOLS TRAINING

Ms. G. Kaavya, Ms. C. Meena, Ms. N. Suganya, Ms. S. Sneha, Mr. S. Pukazhendhi and Mr. K. Hariprasath of Biochemistry department offered training to 40 interdepartmental students on R-Programming for Biologists on 14th February, 2019.

CONFERENCES, SEMINARS AND SYMPOSIUMS ORGANIZED

This program is design to provide a platform for teaching and technical fraternity and student community to acquire experience and organizational skills through identification of subject element for scientific deliberations, selecting expertise resource persons in the chosen topic from nationally renowned institutions and organizing the planned professional meetings successfully. The following are the notable conferences, seminars and symposiums organized in the current academic year (2018-19) under the DBT-Star scheme.

GRADUATE RESEARCH SYMPOSIUM

DBT-Star college departments jointly organized a National Symposium on Graduate Research on 26th and 27th February, 2019. In this meeting, 980 students from various colleges in Coimbatore and other parts of Tamil Nadu participated and presented their research findings. Best research projects received awards and



Dr. S. Krishna Kumar, Senior Technical Officer, MoD, DRDO, Chennai, addressing the gathering at NSBP 19.

BIODIVERSITY AND BIO-PROSPECTING

Microbiology and Biotechnology departments jointly organized a National Seminar on Biodiversity and Its Prospecting (NSBP-19) on 28th February, 2019. In this meeting, 230 students from various colleges in Coimbatore participated.

Chief guest Dr. M. Palanisamy, Scientist 'D', BSI, SRC, Coimbatore during the NSBP 19 session.



HEALTH CARE AND NUTRITION

Department of Nutrition and Dietetics organized a guest lecture on “Benefits of Breast Milk and its Nutritive Value” on 07th August, 2018. Dr.Lakshmi, M.B.B.S., Clinical Diabetes, Coimbatore addressed 200 students and 10 faculty members. The students were insisted upon the importance of breast feeding.

Department of Nutrition and Dietetics organized a guest lecture on “Health Care Nutrition in Today's Hospital Set-Up” on 5th September, 2018. Mr.Madhumohan and Mr.Vikraman Kalidass, Executive Nutritionists, Nestle, Coimbatore addressed 300 students and 15 staff members of DBT-Star departments.

Department of Nutrition and Dietetics organized a guest lecture on “Importance of Nutrition among Expectant and Lactating Women” on 02nd August, 2018. Ms.Rekha and Ms.Jency, Dietitian, GKNM Hospitals, Coimbatore addressed 350 students and 7 staff members of DBT-Star departments.

Department of Nutrition and Dietetics organized a guest lecture on “Awareness about Nutrition for School Children among ICDS Workers” on 28th September, 2018. Mrs.Fathima Roshan ICDS CDPO Officer addressed 257 students and 7 staff members of participating department.

Department of Nutrition and Dietetics organized a guest lecture on “Awareness about Nutrition for School Children among ICDS Workers” on 28th September, 2018. Mrs.Kavitha, Dietitian, PSG Coimbatore addressed 257 students and 30 ICDS employees.

NATURAL MEDICINE

“Biochemistry, and Nutrition and Dietetics departments jointly organized a National conference on prospects of Nutraceuticals and Natural medicine” on 25th February, 2019. There were 750 student participants from various colleges in Coimbatore.

VACCINE AND IMMUNOLOGY

Microbiology department organized the guest lecture on “Blood: The Testament of Life from development to disease” on 01st February, 2019. Dr. B. M. Kanthesh, JSS AHMER, Mysuru addressed 250 students and 11 staff members of Microbiology department attended the guest lecture.

Biotechnology department organized the invited lecture on “Trends in Microbial Vaccine Production” on 22nd February, 2019. Dr. S. Jaganathan, Pasteur Institute of India, Coonoor addressed 250 students and 11 faculty members of Biotechnology department attended the guest lecture and gained knowledge about vaccine production



Judges valuating posters presented at the National Conference on Prospects of Nutraceuticals and Natural Medicine



Dignitaries releasing the proceedings of National Conference on Prospects of Nutraceuticals and Natural Medicine in a CD.

GUEST LECTURES - INHOUSE FACULTY

The objective of this program is to provide an opportunity to teaching and technical fraternities who have received training from nationally/internationally renowned institutions or expertise in various science and technology domains to offer in-house lectures and share their opinions, ideas and research findings with the rest of academic community. The following are the list of in-house faculty lectures given by the staff of DBT-Star departments during the academic year (2018-19) under the DBT-Star scheme.

BIODIVERSITY AND BIO-PROSPECTING

Prof. S. Senthil Prabhu of Microbiology department delivered a lecture on "Identification of Fungi" to 630 intradepartmental and interdepartmental students respectively on 28th June and 02nd July, 2018.

Dr. V. Shanmugaraju of Biotechnology department delivered a lecture on "Bio-prospecting and its perspectives" to 250 students and staff members of DBT-Star departments on 31st January, 2019.

FOLDSCOPE

Dr. A.M. Ramachandran of Microbiology department delivered a lecture on "An Introduction to Foldscope" to 200 intradepartmental and interdepartmental students respectively on 28th June and 02nd July, 2018.

WORLD FOOD DAY

Dr. S. Uma Maheswari of Nutrition and Dietetics department delivered a lecture on "Food Security" to 200 intradepartmental and interdepartmental students and 10 faculty members on 25th October, 2018.

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Dr. D. Sri Devi of Nutrition and Dietetics department delivered a lecture on "Importance of Copyrights" to 350 students of Dr. N.G.P. Arts and Science College and neighboring college at IPR workshop on 15th and 16th February, 2019.

WOMEN REPRODUCTIVE HEALTH

Dr. D. Sri Devi of Nutrition and Dietetics department delivered a lecture on "Menstrual Health" to 300 intradepartmental and interdepartmental female students on 04th March, 2019.



Dr. Kanthesh, JSS AHMER, Mysuru, addressing students and staff members of Microbiology during a seminar.

The objective of this program is to provide a platform for teaching and technical fraternities and student community to display their manufactured products, invented process, ideas etc. to the rest of academic community and general public. The following are the list of product and process exhibits organized by the students and staff of DBT-Star departments during the academic year (2018-19) under the DBT-Star scheme.

EXHIBITIONS

Nutrition and Dietetics department observed “World Food Day” and conducted a “Food Expo” on 16th October, 2018.

Nutrition and Dietetics department organized a “Food Expo” and exhibited prepared food products on 06th March, 2019.

Nutrition and Dietetics department organized a “Value Added Product Sale” on 20th March, 2019.

Nutrition and Dietetics department jointly with Integrated Child Development Services (ICDS) organized “Food Expo” on 28th March, 2019.

STUDENT SKILL EXHIBIT

Microbiology department organized an interdepartmental Bio-photography competition on 08th January, 2019. 105 students participated.

Biochemistry department organized a colloquium: “Savor of Research” summer interns presented their research findings on 12th September, 2018. 240 students participated.

Nutrition and Dietetics organized an interdepartmental cooking contest: “Snacky feast for expectant and lactating mothers” on 31st July, 2018. 190 students participated.

Nutrition and Dietetics organized an interdepartmental poster competition on 02nd August, 2018. 250 students participated.

Nutrition and Dietetics organized an intradepartmental Skit (5 Min) on 06th August, 2018. 257 students participated.

Nutrition and Dietetics organized an intradepartmental creative cookery competition jointly with Nestle, Coimbatore on 04th September, 2018. 257 students participated.

Nutrition and Dietetics organized an intradepartmental slogan competition on 28th September, 2018. 189 students participated.

Biotechnology department organized an interdepartmental “Bio-Idea'18” contest on 14th August, 2018. 60 students participated.

Biotechnology department organized an intradepartmental poster presentation competition to observe “Rose Day-A day for Cancer patients” on 25th September, 2018. 40 students participated.



Students preparing for Interdepartmental Bio-Photography competition.



Professor of Microbiology, Dr. A. M. Ramachandran & Mrs. A. D. Priyadharshini, evaluating participant's presentation during the Bio-photography competition.



Students and staff members of N&D department during the inter-departmental skit competitions organized as a part of Breast Feeding week celebrations.



Observation of Rose Day - A day for cancer survivors organized by the dept. of Biotechnology

The primary goal of this program is to provide a platform to undergraduate students to acquire multidisciplinary research experience while they are at study, and take up research and development related career in future. Students of participating departments are grouped, and allowed to choose interesting scientific question on their own and prepare a presentation on the chosen topic for review by the expert committee. In this manner, many projects which address scientific problems in the following focus areas are selected, and given support from the DBT-Star scheme.

LARVICIDAL SCREENING STUDIES

Larvicidal activity of *Bacillus thuringiensis israelensis* and its enhanced activity with selected plants - Department of Microbiology.

Larvicidal Activity with Combination of Medicinal Plants - Department of Biochemistry.

ANTI-MICROBIAL SCREENING STUDIES

Anti-microbial Activity of *Calophyllum inophyllum* extracts - Department of Microbiology.

Anti-bacterial activity of Anthocyanin from the petals of *Hibiscus rosa-sinensis* - Department of Microbiology and Department of Clinical Lab Technology.

Anti-bacterial activity of *Syzygium cumini* leaf on various strains of bacteria - Department of Microbiology and Department of Clinical Lab Technology.

Determination of Anti-oxidant and Anti-microbial Activities in Rhizome of *Alpinia Purpurata* - Department of Biochemistry.

NANO-BIOTECHNOLOGY

Green Synthesis of Titanium Nanoparticles using *Abutilon indicum* leaf extract and its anti-bacterial, anti-oxidant, anti-inflammatory and anti-arthritis activity - Department of Microbiology and Department of Clinical Lab Technology.

Synthesis of copper nanoparticle from leaves of *Casabela thevetia* and evaluation of their anti-bacterial activity - Department of Microbiology and Department of Clinical Lab Technology.

Green synthesis ZnO nanoparticles from *Piper betel* leaves and to test for anti-fungal and anti-bacterial activities - Department of Biotechnology.

Green synthesis of Zinc oxide nanoparticles using Edible blue green Algae (*Cynophyta*) and their Anti-oxidant and anti-bacterial activity - Department of Biotechnology.

FOOD AND WATER MICROBIOLOGY

Study of Microbial Quality of Street Vended Foods - Department of Microbiology and Department of Nutrition and Dietetics.

Survey on assessing quality of the water consumption among domestic animals around Sulur area in Coimbatore - Department of Nutrition and Dietetics.

Microbiological profile on water Selection of food product among the school going children-a pilot study - Department of Nutrition and Dietetics.

BIO-PROSPECTING

Anti-oxidant, Anti-inflammatory and Angiogenic Activity of *Tridax Prouimbens* - Department of Biochemistry.

Anti-arthritis, Anti-oxidant and Comparative Studies with Methanol, Ethanol and Aqueous Extract of *Calotropic Gigantea* (Stem) - Department of Biochemistry.

Efficacy of Fruit Waste on the Seed Germination of *Capsicum Annum* - Department of Biochemistry.

Anti-oxidant, Anti-diabetic and Anti-arthritis Activity of *Alpinia Purpuratta* - Department of Biochemistry

Evaluation of Total Anthocyanin Content (Tac) in Selective Flowers and To Compare the Tac Using Different Solvents - Department of Biochemistry.

A Study on Efficacy of *Andrographis Echioides* against Skin Biome - Department of Biochemistry.

Anti-oxidant and Free Radical Scavenging Properties of *Mukia Madaraspatta* - Department of Biochemistry.

Evaluation of anti-cancer activity from the leaf extracts of *Phyalis minima* - Department of Biotechnology.

Isolation, Identification and Pathogenicity of Fungi associated with Spoilage of cauliflower (*Brassica oleracea var. botrytis*) - Department of Biotechnology.

Phytochemical analysis and Anti-microbial activity of *Ixora coccinea* and *Cissus quadrangularis* - Department of Biotechnology.

Phyto-Niosome production from *Curcuma Longa* and *In-vivo* analysis of Anti-microbial and Wound Healing Properties - Department of Biotechnology.

Production of third generation Bio-fuel: Bio-ethanol using Algae *Tetraselmis indica* - Department of Biotechnology.

Phytochemical analysis of Nadusi plant for anti-coagulant activity - Department of Biotechnology.

Extraction of Keratin from chicken feathers - Department of Biotechnology.

Testing of Anti-coagulant activity in *Tridax procumbens* by Department of Biotechnology.

Isolation of cellulose from *Prosopis Juliflora* tree for biomaterials production - Department of Biotechnology.

Confirming *Arabidopsis* vascular pyrophosphatase (AVP1) gene in *Sorghum* plant - Department of Biotechnology.

Reduction of nucleic acid in Single cell protein from *Sacchromyces cerevisiae* - Department of Biotechnology.

FOOD FORMULATIONS

Subjective analysis of soy milk enriched proco waffles - Department of Nutrition and Dietetics.

Formulation of sprouted coconut juice - Department of Nutrition and Dietetics.

Formulation of soy incorporated muffins - Department of Nutrition and Dietetics.

Development of pumpkin cookies incorporated with veld grape powder - Department of Nutrition and Dietetics.

Development and formulation of *Rosa damascene* flavoured ice cream - Department of Nutrition and Dietetics.

Development and quality evaluation of cake incorporated with soya flour - Department of Nutrition and Dietetics.

Formulation of nutria-bar enriched with palmyrah sprout flax seed - Department of Nutrition and Dietetics.

Formulation and evaluation of *Spirulina* incorporated stevia jelly and mocktail - Department of Nutrition and Dietetics.

Study and development of gooseberry incorporated health mix - Department of Nutrition and Dietetics.

IMPACT OF STAR COLLEGE

- Improvisation in Teacher and Teaching skills
- Training in secondary agricultural practices resulting in enhancement of entrepreneurial skills
- Exposure in workshops and training helps to identify the research problems
- Mini project Completion and statement of purpose secures admission in foreign universities
- Contests create awareness on science and its significances
- UG research initiatives like “Bio-idea” help to take up interdisciplinary research
- Student actively engaged in innovative research ideas
- Student external exposures secure training in reputed national institutions
- Student peer discussion instills interpersonal and leadership skills
- Interdisciplinary approach has enhanced student's academic insights and performance
- Good Laboratory Practices (GLP) help in smooth conduct of lab experiments
- Students feel comfortable in handling laboratory equipments.
- Outreach programmes inculcate the moral and ethical values among students

DBT STAR ACTIVITIES 2018-19

S.No	Event / Activity	MB	BT	BC	N&D	Total
1.	Industrial Visits	3	3	3	3	12
2.	Summer Training Attended	2	-	-	1	3
3.	Training / Workshop Attended	3	7	11	6	27
4.	Conference / Seminar Attended	2	3	3	3	11
5.	Seminars Conducted	1	-	1	-	2+2 (IPR & NSGR)
6.	Training / Workshop Conducted	5	8	5	8	26
7.	Special / Guest Lecture	7	3	3	6	19
8.	Inter Departmental Competition	1	2	-	2	5
9.	Summer Training / Internship Attended	2	-	-	60	62
10.	Mini Project	2	13	9	12	36
11.	Inter Disciplinary Project	7	-	-	-	7
12.	Outreach activities	8	8	4	14	34

FUTURE PLAN

- Model e-content development
- Innovation, process, product development and start-ups
- Intense students training
- Training the Student Trainee
- Focusing on impact of community programmes
- Inter institution research partnership in thrust areas
- Digitalization of plant, animal and microbial specimen slides
- National Symposium on Graduate Research - 23rd & 24th Jan 2020
- Science Popularisation among School Children
- Star Student Awards - Project | Products | Case Study etc.



Dr. N.G.P. ARTS AND SCIENCE COLLEGE

(An Autonomous Institution, Affiliated to Bharathiar University, Coimbatore)

Approved by Government of Tamil Nadu and Re-accredited by NAAC with 'A' Grade

DST – FIST | DBT – Star College Scheme

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