

BIRLA COLLEGE वृत्तांत

#BirlaCollegeNewsletter

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*To accomplish
great goals
We must not
only act,
But also dream,
Not only plan
but also
believe,
Best wishes for
your exam!!!*

Inside the Issue.....

- National Seminar on Biosciences
- Certificate Course in Cyber Forensics



Birla College, Kalyan

National Seminar on ‘Biosciences: A Journey Towards Innovation’

21st Century is known as the Age of Biology. Innovations in Biosciences play a pivotal role in developing biological solutions that sustain, restore and improve the quality of life for humans, plants and animals in the world. Advances in biosciences have an enormous transformative impact on the economy of the country. In this light, Departments of Botany, Zoology, Microbiology, Biotechnology, Bioanalytical Sciences and Environmental Sciences, organized a One Day National Seminar on ‘*Biosciences: A Journey Towards Innovation*’ on Saturday the 10th March 2018, under ‘Star Status’ Scheme of DBT and CE of UGC

The aim of this seminar was to merge the boundaries of different fields of sciences. There is a need to develop the young scientists equipped with latest technological methods, upgradation of knowledge and skills to meet the future challenges. The Seminar intends to provide a platform to the young scientists for interchanging ideas amongst themselves and interact with eminent researchers and scientists. This seminar will promote research in various fields of Biotechnology, Bionanotechnology, Bioanalytical Sciences and Environmental Sciences, etc.

The Program included the Inaugural function, Poster Presentations Competition and Valedictory function. Three Guest Speakers, Dr. Savita Kulkarni, Scientific officer BARC, Mumbai, Dr. Nixon Abraham, Assistant Professor, IISER Pune, and Dr. Neelima Joshi, Senior Vice President and Head, Drug Discovery Research, Glenmark, Mumbai were invited in three sessions to give specific talk on this occasion. The two Judges for the Poster sessions were Dr. S. S Barve, Dy. Director, Scientific Research Centre, Kelkar Education Trust, Mumbai and Dr. Roshan D’souza, Head Department of Zoology, Sophia College Mumbai.

The 203 participants registered for the seminar were from various colleges like CHM Ulhasnagar, K.J. Somaiya, Vidyavihar, Ismail Yusuf, Jhunjhunwala College, Mithibai College, G. M. Momin College, St. Xavier’s College and Vivekanand College. These included UG students, PG students, research Scholars and Faculty from various departments. 71 posters were presented during the poster session.

Speaker I: *Dr. (Smt.) Savita Kulkarni*

Radiation Medicine Centre,
Bhabha Atomic Research Centre

Topic: Host-Pathogen interactions & Immunomodulators in tuberculosis

Dr. Savita Kulkarni gave a wonderful lecture on '*Host-Pathogen interactions & Immunomodulators in tuberculosis*'. Of all the infectious agents that have plagued man ever since his emergence on this planet, tuberculosis has been responsible for the large amount of death and hence it has earned the title of "**Captain of all the men of death**". She gave a brief idea of the causative organism- *Mycobacterium tuberculosis*, its general characters and epidemiology of the disease caused emphasizing on the global cases and Indian scenario of the disease. Some reasons for mounting global tuberculosis burden were emphasized like Poverty, lack of awareness, malnutrition and aging, Inadequate detection and cure rates, Vaccination, Mechanism underlining pathogenesis, virulence and persistence is poorly understood, etc. She spoke about the emergence of MDR and XDR strains of *M. tuberculosis* and the reason why these strains are emerging which has resulted in many deaths as lack of antibiotics to prevent the diseases. Dr Kulkarni also mentioned about the Cornerstones of tuberculosis control programme dealing with topics like Rapid diagnosis, Drug sensitivity detection, Epidemiology, Effective treatment, Effective vaccine. She mentioned about the Developed and marketed indigenous PCR kit (in collaboration with BRIT) which is developed by her and its use in diagnostic and the new diagnostic tests recommended by WHO, called as GeneXpert MTB/RIF. She also discussed about her work where she has worked on various MDR strains - Different type of MTB strains may use different strategy to subvert host immunity, for its survival, establish infection and cause disease. This may also be cause of differential pathology. She also spoke about the Major advantages of use of immunomodulators in TB and her work on G1-4A- A Polysaccharide from stem of *Tinospora cordifolia* commonly known as Giloy, Guduchi, was explained which concluded that G1-4A can be used as an adjunct therapy especially for MDR strains of MTB. This novel approach of treatment was proved to be effective both in cell lines and animal studies.

Speaker 2: Dr. Nixon Abraham
Assistant Professor & Wellcome Trust DBT Alliance Intermediate Fellow
Indian Institute of Science Education and Research, Pune

Topic: - Correlation to Causality: Recent Development in Neurosciences

The session delivered by Dr. Nixon Abraham was on a very innovative branch of Neurosciences. He elaborated the importance of Natural circuit to behavior and molecule synapse neuron network system behavior. He explained that the Reflex action is action potential of body and two important ions of sodium and potassium are responsible for action potential. He elaborated how the neurons talks to each other by action potential which is generated from soma-axon-axon terminal which is unidirectional. The neurotranspifase include different chemicals synapses which include glutamate, ampa receptor, Camk2, Psd, Psd95 were stressed upon. With wonderful videos of the test animals under study he explained the Behavior studies with high temporal precision. The response of test animals to light sensitivity and the part of the controlling brain function was also beautifully depicted using live videos.

Speaker 3: Dr. Neelima Khairatkar Joshi, Ph.D.
 Sr. Vice President, Head, NCE (New Chemical Entity) Discovery
 Glenmark Pharmaceuticals

Topic: Discovering New Medicines- "From Class room preaching to clinical practice"

Dr. Neelima Joshi spoke on the evolution of therapeutics, the process of new drug discovery, the time taken to launch a new drug along with the cost and risk factors of succeeding or failing. She emphasized on how different fields of biology namely Biosciences plays an important role in drug or therapeutic discovery. She also spoke about the new therapeutic, Secukinumab: A human McAb that selectively inhibits IL-17, discovery by Glenmark for Psoriasis. She started by explaining the causes and effects of Psoriasis and how it affects the quality of life. Dr. Joshi explained in detail the underlying pathobiology behind Psoriasis, the role of IL-17 in Psoriasis and how a monoclonal antibody was created to target IL-17 to treat Psoriasis. She also discussed about the various insulin produced by various companies and their stories of success and failure. She spoke about how classroom science is translated to medicines in clinic research. Her main idea was to tell the students that merging the boundaries of all sciences is the need of the hour.

Session II : POSTER PRESENTATION

Total Abstracts Received: 81

Total No of Posters Displayed: 71

UG: 14

PG: 42

Research Scholars and Faculty Members: 15

The winners for the poster competitions were divided in three categories: UG, PG, Research Scholars and Faculty members

The Following were the winners for

Section	Prize	Name of the student	Name of Topic for Poster
Undergraduate	1 st Prize	Mr. Nimish Deshpande et. al	Comparative phytochemical analysis and antimicrobial activity of tropical mushrooms
	2 nd Prize	Ms. Swapna Ramchandra et.al.	Antimicrobial Activities of Leaf Extracts of Guava (<i>Psidium guajava</i> L.)
Post Graduate	1 st Prize	Ms. Shristi Ella et.al	Designing environmental management system through system engineering approach for removal of duplication from execution of ISO 14001:2015 and MAARS
	2 nd Prize	Mr. Prashant Singh et.al.	Development and characterization of gelatin-polyethylene glycol composite hydrogels and hydrogels containing nanoparticles
	3 rd Prize	Ms. Farheen Shaikh et. al.	Bioreduction of chromium by resistant organisms isolated from industrial effluent
	Consolation 1	Ms. Bhakti Ramesh Bhadra et.al.	Comparative study of green space management and its effects on local diversity, maintained by Municipal Corporations of Navi Mumbai and Mumbai
	Consolation 2	Mr. Dayare Vishnu et.al.	Antimicrobial coating for food preservation

Faculty/ Research Scholars	1 st Prize	Ms. Vandana Gupta et.al.	Exploring Biosorption capacity and Biosynthesis of Metal Nanoparticles using Cauliflower Leaves
	2 nd Prize	Ms. Laxmishree S. et.al.	Screening of phytochemicals from stem of <i>Dendrophthoe falcata</i> parasite on diverse host

Session III: VALEDICTORY FUNCTION

The Valedictory Function started at 4.15 pm. It started with the felicitation of the judges, Dr. S. S. Barve and Dr. Roshan D'souza.

Dr. Geetha Unnikrishnan introduced Dr. Roshan D'souza and invited her to speak a few words.

Dr. Roshan Dsouza thanked the organizers for giving her an opportunity for judging the posters. She mentioned that it was a learning experience for her. She was very glad to know the large number of students participating for the event. She also appreciated the diverse fields in which the students were pursuing research where the students thought about the research topics out of the syllabus and sought information about diverse fields. She emphasized the amazing courage of students to showcase their work in confident manner. Dr. D'souza said that all students are winners and to give prizes is a formality. Participation itself is the quality of a winner. She requested the students to take the work forward for their Post-Graduation and Ph.D. in a constructive manner. She wished them the best for their future.

Dr. S. S. Barve, Deputy Director for Scientific Research Centre, Kelkar Education Trust, Mumbai, said it was a pleasure to come to Birla College. He was very happy about the Seminar as it was a great for scope of upcoming Innovations. He emphasized how innovation in bioscience is the topic of interest for current world and the current century is of biological sciences. He mentioned about the importance of out of box ideas. India has youngest creative population. He was very impressed about the diverse topics selected for the Posters which included nanotechnology, management and others merging with biosciences. He emphasized that Biosciences is a broad topic with no boundaries. He was very specific in his views about India having biggest biodiversity in the world with major biodiverse areas including the gene biodiversity and how it is important to explore these resources by the young scientists who have a great potential. He also gave his insights about certain posters having standardization procedures and gave suggestions like characterization of standards, efficacy and toxicity study before giving final product. He also cited the example of the 'Avishkar Innovative Science festival' where more students need to participate and explore the quality of research going on in the country. He appreciated the efforts made by the students.

Feedback from Participants.

First feedback was from a faculty member of CHM College. She appreciated the efforts of the organizing team to arrange such a seminar. She said that the speakers of the day emphasized the importance of health through the quotes 'Prevention better than cure'...'Physical health is as important

as mental health', Having more than 70 posters was very good response. Hospitality and food was appreciated. She said she would be looking forward for the similar seminars in Birla College.

Feedback from students

One PG student from M.Sc. Environmental Sciences was happy to share her feedback thanking organizers and faculty members for organizing such an informative seminar. According to her the motto of seminar was that irrespective of field chosen for PG knowledge from any related fields is always helpful. Although she was from Environment Science she got to learn the basics of various topics from Tuberculosis to Neurosciences to Pharmaceutical. She was happy to know after PG and Ph.D. there are diverse fields for students to explore. She also mentioned about the efforts taken by the students to gather information about the various research topics and present posters for the same. The effort, intelligence and hard work of the students can take them to newer heights in their career. She also mentioned about the wonderful hospitality provided.

Launch of Certificate Course in Cyber Security and Cyber Forensics

Department of Information Technology was granted Star College Scheme by Department of Biotechnology, New Delhi. So the department started with a new innovative Certificate Course in Cyber Security and Cyber Forensics under DBT Star Scheme which will help in enhancing the skills required for building a safe and secured cyber space. It was launched on 31st March 2018. The basic information regarding the course like Modules, Duration was told to the students. Prin. Dr. Naresh Chandra graced the occasion and addressed the gathering. Guest Speaker Mr. Ramesh Oganina spoke on topic Cyber Law. He introduced the students with the basic laws available in our country related to cybercrimes. He emphasized that cyber laws in our country are at very nascent stage. He said that various efforts are taken by the government to build a strong cyber laws framework. Another guest speaker Mr. Amar Deshpande introduced the basics of cyber security. He spoke on Password protection, Intrusion Detection etc. Various employees from IT Department of Century Rayon also attended the event.