

February 2020

27. Two-day Annual Festival *BIOGALA*'2020 of B.Sc. (Life Sciences) on 24th-25th Feb 2020.

BIOGALA'2020, an annual 2-day festival of the Life sciences society, under the aegis of DBT star college scheme organized a variety of academic events on 24th and 25th February, 2020.

Detail Report

The main highlight was lecture on "**Anecdotes in Biological Science**" and a workshop on "**Gene Synthesis**" by Dr S. Lakshmi Devi, Founder Principal, Shaheed Rajguru College of Applied Sciences for Women and Honorary Director, Centre for Entrepreneurship and Career Oriented Programs, University of Delhi. A lecture on "**Bioremediation and detoxification**" by Prof. I.S. Thakur, School of Environmental Sciences, JNU, aware students with different remediation technologies for treating both soil and groundwater using microorganisms. An online photography competition "**Quick Pic**" on the topic "**Biodiversity and Emotions**", "**La Painture**"- the painting competition on the topic "**Wings of Fire**" depicted students astonishing thoughts. The other events included **DIY (Do It Yourself)**, **Just-A-Minute session** and **Quiz Competition**.



Lecture and workshop during the Biogala'20



Various inter-college competition organized during Biogala'20

28. The Department of Zoology held a One-day workshop on “Basic Techniques in Animal Cell Culture” on 27th Feb 2020

The workshop was especially designed to apprise the students about the advantages of studying Animal cell culture and develop skill among the students as it plays a prominent role in the research on various human diseases such as diabetes, cancer, atherosclerosis and neurodegenerative diseases.



Kirori Mal College
University of Delhi



One Day Workshop
on
“Basic Techniques in Animal Cell Culture”
under the aegis of DBT Star College Scheme



CELL CULTURE TECHNIQUES

Learn about the principle, concept and application of cell culture techniques. A platform to understand the handling of cells in vitro

Organized by
Department of Zoology

27th Feb, 2020
Venue : ZL-4
Time: 10am-4pm



Demonstration of Fluorescent Inverted Microscope by Voxxlab



CYTOTOXICITY ASSAY

Hands on training on performing cytotoxicity assay (MTT Assay) as well as the data analysis

Workshop Organizer
Dr. Amod Kumar



Coordinator
DBT Star College Scheme
Dr. Anita K. Verma



Detail Report

The workshop was part of the Curriculum of B.Sc. (H) students and has helped students in their project. Around 60 students participated from shradhanand and Hansraj College, a few research scholars and faculty members from different colleges were present too. Dr Anita K. Verma, DBT Star Co-ordinator introduced and apprised the participants about the necessity of cell culture and its applications. Dr Amod, the organizer of the workshop gave a lecture on the Basic layout of an animal cell culture lab and emphasized on the specialized equipment required for cell culture. Zafar gave a virtual tour of the existing Animal Tissue culture Lab to each participant.



Collage of the various lectures given at the workshop.

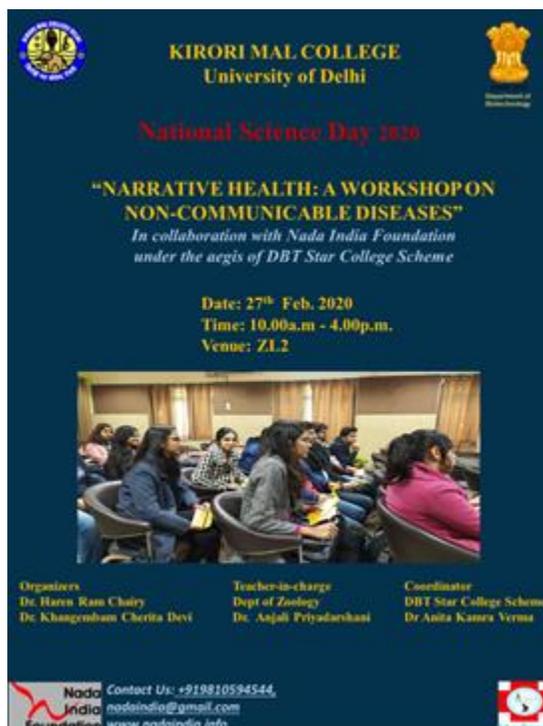
The workshop consisted of a brief theory session followed by hands-on experiments of essential techniques in animal cell culture including preparation of media and sterilization test, revival of cells from Liquid nitrogen (cell bank); sub-culturing and passaging; freezing of cells- Cryopreservation; Cell counting; Trypan Blue Cell Viability Assay and MTT Assay for proliferation/cytotoxicity that has become indispensable for most of the application areas of cell culture including drug development and cytotoxicity testing.

Cell culture is also used to produce a significant proportion of biopharmaceuticals as well as monoclonal antibodies for diagnostic use. In addition, the use of animal cells is expanding in a wide range of other applications such as drug screening, tissue engineering, gene therapy, toxicology and traditional applications such as immunology, cell and molecular biology. Disha,

Largee, Monika, Priyanka and Karishma assisted the participants and made it a highly interactive session with discussions on facilities, precautions, safety measures and ethical considerations that are critical for working in Animal Cell Culture laboratory. The participants were extremely happy and satisfied as per their feedback.

29. National Science Day Celebrations at Department of Zoology, K.M. College

On the occasion of “*National Science Day*”, Nada India Foundation organized a workshop on “Narrative Health” in collaboration with The Society of Biomedical Laboratory Scientists (SBMLS) India at Kirori Mal College, University of Delhi on February 27th, 2020 for the students of B.Sc. (H) Zoology.



About 42 students participated in the six hour session that was conducted by Development professional & Nada India Focal Point Capacity Building, Ms. Jyotsna Roy and facilitated by Mr. Suneel Vatsyayan (Chairperson, Nada India), Ms. Pallavi V. (Project Director, Nada India) and Ms. Riya Thapliyal (Youth Catalyst cum Peer Counsellor, Nada India). The session

was also briefly attended by Dr. S.D Mehta (President, SBMLS) and Dr. Sanjai Bhatt (Professor, Delhi School of Social Work DU)



The Guests being welcomed by Dr Sanjukta and Dr Anita K.Verma

[Detail Report](#)

The workshop commenced with the introduction of the guests by Dr Rana Samad welcoming team Nada. Dr Anita K. Verma, Coordinator, DBT Star and Dr Sanjukta presented the team with a token of appreciation. After Dr Verma had addressed the gathering, Ms. Thapliyal introduced the organisation and the cause they work for, i.e., prevention and/or early detection of non-communicable diseases as well as the purpose that brought them to Kirori Mal college which is to train the students as health advocates and offer them a platform to take their health initiatives forward after which she invited Ms. Roy to commence the training. Through the next hour, Ms. Roy began a dialogue with the students, establishing the link between science and good health, inviting the students to share what “Good Health” meant to them. Responses from students covered the physical, mental, social as well as reproductive aspects of health highlighting healthy diet, appropriate water intake, physical activity, meditation as factors leading to Good Health.



Active participation of the students in the workshop on Good Health

“Good Health is attained when we stay away from diseases”, reflected one of the participants. Taking from this definition, for the purpose of this workshop, Ms. Roy divided “Diseases” into “Communicable Diseases” and “Non-Communicable Diseases (NCDs)” and spent the next hour discussing NCDs and their risk factors. She shared her journey as a person living with an NCD and invited the participants to share their journey either as a person living with an NCD or a person acting as a caregiver for someone living with an NCD through the activity “River of Life” wherein all the participants drew their respective timelines in the form of a river and later in groups discussed the similarities and differences in their stories. While the differences were subjective, similarities included failure in early detection of the diseases that led to worsening of the scenario, the burden of caregiving, etc. “We learnt what the similarities in our experiences were”, observed Umang, one of the student participants.

The students next moved on to create their own newspapers using articles that they found relevant in the discourse of “Good Health” in groups of 4, discussing among each other why an article should be placed at a specific spot and how it is adding value to the narrative on good health. While the students participated in the session, Mr. Vatsyayan conducted a focus group discussion with the faculty members in another room. Some of the points highlighted in that discussion by Dr. Rana Samad, Dr. Cherita, Dr. Haren Ram Chiary were regarding the Social immersion Programme/Opportunities that should be included for the students in the curriculum. Easy and

affordable access to junk food around the college like at the cafes of the popular Hudson lane leads to unhealthy consumption and should be looked into by authorities. To enhance employability, co-curricular activities like engagement with civil societies should be encouraged.



Good Health Narrative

While the faculty members discussed this, the students, after identifying the risk factors and establishing a relationship with NCDs, were shown a video of Malala Yousafzai as an advocate to transit into the session on advocacy.



Students watching video of Malala Yousafzai



Grand Finale

The participants identified traits and skills associated with advocacy from the video and were further provided with more knowledge and skills around the same. Upon being asked what they noticed in the video, one of the participants mentioned, “you shouldn’t be afraid to speak for your rights”.

In order to help them convert their learning into practice, they were asked to advocate for incorporating healthy food in the college canteen menu to a Minister (Mr. Sisodiya) in the form of an elevator pitch. Some of the points that the participants raised were: Unhealthy food items are

cheaper than healthier food items, Hygiene in college canteens are considered secondary and Oil that is used was not clean.

Some of the suggestions that students offered to make their college canteen a healthy space were: Items like chhole-bhature should be replaced with healthier options like poha, Subsidize healthy food items, Organize seminars and health meetups to promote good health.

To conclude, the students were taught how to convert their ideas into initiatives and an internship was offered as a platform to run the initiatives.

Finally, Team Nada thanked all the faculty members, students and the staff at Kirori Mal College for their enthusiasm and participation and hopes to take the issues raised by the students and teachers forward in the form of initiatives under their project "*My Community and I*" in an attempt to make our society a healthy space to live in.

30. Industrial Visit to Sun Pharma, Research and Development Centre, Gurgaon by students of Department of Chemistry on 28th Feb 2020

The Department of Chemistry, Kirori Mal College under the aegis of DBT Star college scheme organized an industrial visit to Sun Pharma, Research and Development Centre, Gurgaon on 28th February, 2020. Sun pharma which is one of the top world pharma companies in generic drugs production gave exposure to the students Around 50 students of B.Sc. (Hons) Chemistry participated. Students were introduced to various instrumentation techniques which play a significant role in examining the drug molecules.

[Detail Report](#)

Sun Pharma, a pioneer among Indian pharmaceutical companies, invests in research & development (R&D). Their core strength lies in our ability to excel in developing generics and technologically complex products through focused teams in formulations, process chemistry and analytical development.



Collage of students and teachers visit to Sun Pharma

Their scientists have expertise in developing generics, difficult to make technology intensive products, New Chemical Entities (NCEs), Active Pharmaceutical Ingredients (APIs), and Novel Drug Delivery Systems (NDDS). Their formulation expertise lies in the areas of taste masking, spray-drying, drug-layering, nano-milling, lyophilisation and other pharmaceutical unit operations that enable us to cater to various formulation design needs and concepts. The ability to develop difficult-to-make, complex APIs by using the latest technologies is the key differentiating factor of our research.

The students were given a Lab-wise tour of the R& D centre. The working of all the instrumentation involved in drugs analysis, viz HPLC, GCMS, NMR, Mass spectrometry, TGA, SEM, UV, IR, ICP-MS etc. were demonstrated to students. The Students' interaction session with

the Scientists and staff working in industry provided them indepth knowledge about the significance of industry in nation development. The students were fascinated, had a great learning experience of both knowledge and technical skills in the area of analytical research and development. Further, they had a great exposure of quality and compliance systems.

31. Visit to National Science Centre by students of Department of Physics on 28th February, 2020

Undergraduate students of Physics Department along with three faculty members of Physics Department paid a visit to National Science Centre, New Delhi, on 28th February, 2020 to celebrate the National Science Day. Students had the golden opportunity to attend “Vigyan Samagam- Pushing the Frontiers of Science” the first Mega Science on-going Exhibition in India (21st January to 20th March, 2020). Participants attended a motivating lecture by Dr. Ananda Hota, a renowned Astrophysicist on “Interplay between star formation and active black holes”. The day was full of wonderful activities. The lecture was followed by “Science show” where many basic concepts of science were demonstrated, 3D show on the formation of Solar system and finally a Fantasy Ride- a virtual ride on the Great Wall of China. All in all, students had a fruitful day, exploring and widening their horizons beyond their classroom learning.





Visit of the Students and Faculty to the National Science Centre

32. आरोहण Regional Centre for Biotechnology Open Day: Outreach Program on National Science Day 28th Feb 2020.

The Regional Centre for Biotechnology organized an Outreach Program to celebrate the National Science Day on 28th February, 2020. Four students from Department of Zoology, Kirori Mal College participated in the program.



क्षेत्रीय जैवप्रौद्योगिकी केंद्र
Regional Centre for Biotechnology

United Nations Educational, Scientific and Cultural Organization

आरोहण: RCB OPEN DAY
Outreach Program on National Science Day
28th February 2020

अभिव्यक्ति RCB SciComm: Science Narratives

अभिव्यंजना **Debate Competition**
 "Is innovation in biotechnology hampered by over-regulation?"

आविष्कार **Sketching & Skit Competitions**
 "Biotechnological innovations"

अनुसंधान **RCB Research Displays & Facility Visits**

Regional Centre for Biotechnology, NCR-Biotech Science Cluster,
 3rd Milestone, Faridabad-Gurugram Expressway, Faridabad-121001
 Contact us: rcb_openday@rcb.res.in; 0129-2848800

Detail Report

The students registered themselves for the program upon reporting to the venue and then attended a Lecture on the topic “Cancer – Is India ready to face the challenge?” by Dr Avinash Bajaj. The lecture enlightened the audience about how research can help us win the battle against Cancer, by introduction of various biotechnological innovations like Immunotherapy & CAR-T cell technology to name a few. The students then attended science narratives by the PhD scholars working in various research laboratories at RCB. The audience then dispersed for a short tea break. After the break students from different educational institutions attended a presentation on Cellular Dynamics by Dr. Sivaram VS Mylavarapu and also watched a movie on Cell Division & Inter-Cellular communication. Professor also enlightened the students about various academic programmes at RCB.



Various events at the Regional Centre for Biotechnology on National Science Day

The audience was dispersed for Lunch Break shortly after. RCB organised various competitions for students like Debate & Skit competition. The debate competition—अभिव्यंजन witnessed students debating whether Biotechnological Process is hindered by over regulation or not. आविष्कार – the skit competition was based on Biotechnological Innovations and how they contribute to betterment of the society. The audience also visited various galleries by the research laboratories where models and exhibitions of the research work being undertaken were placed. The programme was indeed very enlightening for the students wherein they were acquainted with scope of research. The students were motivated to pursue Science in future and contribute to the well-being of the mankind.

33. Workshop On “Computational Chemistry & Molecular Modelling in Drug Design” on 29th Feb 2020



Kirori Mal College
University of Delhi



COMPUTATIONAL CHEMISTRY & MOLECULAR MODELING IN DRUG DESIGN

Hands-on Workshop
for
Undergraduate Chemistry (Hons.) Students





February 29, 2020



9:30 AM – 4:30 PM



Organised by
Department of Chemistry
(under the aegis of DBT Star College Scheme)

SESSION ONE

📍 Academic Auditorium

<p>LECTURE 1 9:30 AM</p> <p>A Beginner's Guide to Molecular Modeling</p>	<p style="text-align: center;">Prof. Rita Kakkar (Department of Chemistry, University of Delhi)</p>	
<p>LECTURE 2 10:30 AM</p> <p>Molecular Modeling of Drug Molecules</p>	<p style="text-align: center;">Dr. Hemant K. Kashyap (Department of Chemistry, IIT, Delhi)</p>	

SESSION TWO

📍 Computer Lab 1 & 2

<p>HANDS-ON TRAINING (Software: AVOGADRO)</p>		<p style="text-align: center;">Dr. Rakhi Thareja, St. Stephen's College Dr. Shashwat Malhotra Dr. Ruchi S. Pandey Dr. Md. Mirajul Islam</p>
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Dr. Reena Saxena
Co-ordinator, Chemistry,
DBT Star College Scheme

Dr. Sunil K. Singh
Teacher In charge

Dr. M. Ramananda Singh
Convener, Seminar Committee

Dr. Vibha S. Chauhan
Principal

The Department of Chemistry, Kirori Mal College, under the aegis of the DBT Star College Scheme, recently organised a one-day Hands-on Workshop on “Computational Chemistry and Molecular Modelling in Drug Design” on **29th Feb 2020**. In today’s world, the applications of computers in chemistry are revolutionising the drug discovery and life sciences in a huge way, and it is important for students to be well versed with the molecular modelling techniques. The workshop was conducted in two sessions. Session I was a two-lecture series, while Session II was a hands-on session for the B.Sc. Chemistry (Hons) students conducted in the Computer labs.

[Detail Report](#)

Session 1 started with a note by Dr. Reena Saxena, Coordinator-Chemistry, DBT Star College Scheme, where she enlightened the participants about the need for understanding molecular modelling for drug designing, especially in the wake of worldwide scare by Corona Virus. This was followed by a very informative talk by Prof. Rita Kakkar from the Department of Chemistry, University of Delhi, on the topic “A Beginner’s Guide to Molecular Modeling”. The second lecture in the series was another very interesting session by Prof. Hemant Kashyap from the Department of Chemistry, IIT, Delhi, on “Applications of Computational Chemistry to Drug Design”. Both the sessions were compendious and introduced our students to the world of Molecular Mechanics and Computational Chemistry with special attention on its applications in the field of pharmaceutical design. This was followed by a brief introduction to the hands-on session by Dr. Rakhi Thareja, Assistant Professor, Department of Chemistry, St. Stephens College.



Eminent Speakers for the first session

Session 2 started in Computer labs and students were introduced to the magical world of molecular modelling using the freeware software Avogadro by Dr Ruchi S Pandey, Dr Shashwat Malhotra and Dr Md. Mirajul Islam, Assistant Professors, Department of Chemistry. PhD Research scholars, Aditya and Monika from IIT, Delhi helped students to run exercises on Molecular Modelling using Avogadro's software. The students were taught how to build several drug molecules, learnt about various force fields and understood how to arrive at geometry and energy minimised structure of drugs. They also acquired the skill to build DNA and RNA fragments and double-walled carbon nanotubes as carriers for drugs.





Collage of the various speakers and Hands-on practice for Session 2