Society of Biological Chemists INDIA 1930

SBC(I) NEWSLETTER

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SBC(I) during the period 2024-2025

A report of happenings at SBC(I) and other thoughts

The last newsletter was released on July 2024, this year there has been a slight delay and my apologies as the President of SBC(I). Over the past one year we had 5 Executive Committee (EC) meetings, all online, during which official tasks were executed. With the completion of the tenures of the SBC(I) secretaries, Professors Deepak Kumar Saini (Department of Developmental Biology & Genetics, Indian Institute of Science (IISc), Bengaluru) and Vinay Nandicoori (Director, Centre for Cellular and Molecular Biology, Hyderabad), the EC inducted Professors Aravind Penmatsa (Molecular Biophysics Unit, IISc) and Samit Chattopadhyay (Department of Biological Sciences, BITS-Pilani, Goa Campus) as the new SBC(I) Secretaries. SBC(I) would like to place on record its appreciation to Professors Saini and Nandicoori, for their contributions to the functioning of the Society and a very warm welcome to Professors Penmatsa and Chattopadhyay. We had the SBC(I) Annual General Body Meeting (AGBM) from 27th to 29th December, 2024 at the Maharaja Sayajirao University (MSU) of Baroda, Vadodara with the theme being 'Biochemistry: On going explorations of actions and reactions of life'. The SBC(I) symposium had a wide range of talks covering diverse areas of biology, *viz*., immunology, genetics, developmental biology, chromatin organization, metabolism etc. The award talks were delivered by Prof. Sathees Raghavan, IISc (BP Rama Rao award), Dr. Deepak Modi, ICMR-National Institute for Research in Reproductive Health, Mumbai (CR Krishna Murti award), and Dr. M. Kemparaju, University of Mysore, Mysore (Shadakshwaraswamy award). Along with the lectures, students put up an enthusiastic presentation of posters. The highlight of the event was the much-awaited talk by the Nobel Laureate Prof. Venkataraman Ramakrishnan. The title of Prof. Venki's talk was "Why we die: The New Science of Aging and the Quest for Immortality" based on his newly released book of the same title. Aging is a part of life that cannot be defied, with death being the only certainty in life.

With the venue of the 93rd Annual General Body meeting of SBC(I) being MSU, we were hosted by one of India's oldest Department of Biochemistry, started by Prof. C. V. Ramakrishnan. The symposium was also held to commemorate the 70th anniversary since the founding of the Biochemistry Department at MSU. Prof. C. V. Ramakrishnan was expected to address the audience on line but unfortunately, he passed away before the meeting at the age of 98. A video of the history of the department was projected to all assembled. We also had the opportunity to meet very senior retired former faculty members who came specially for the occasion.

During the 93rd Annual General Body meeting of the SBC(I), Professor Naresh Sepuri made a

bid for hosting the 2025 SBC (I) symposium at the Department of Biochemistry, University of Hyderabad and this was approved. The 94th SBC(I) meeting at University of Hyderabad (Hyderabad) is scheduled for December 17-19, 2025. The theme of the symposium, title and other details are available on SBC(I) website https://sbcihq.in.

Prof. Umesh Varshney requested that he be relieved from his position as the Indian delegate of SBC(I) at FAOBMB. The EC nominated Dr. Vinay Nandicoori to take over as the delegate of SBC(I). SBC(I) thanks Umesh for successfully representing SBC(I) over the past many years and Vinay for taking over.

Prof. Raghavan Varadarajan, Molecular Biophysics Unit, Indian Institute of Science, Bangalore, was selected to deliver the GN Ramachandran Award Lecture, 2024 at Melbourne, Australia at a conference that was a combination of three congresses: the 26th Congress of the International Union of Biochemistry and Molecular Biology (IUBMB), the 17th Congress of the Federation of Asian & Oceanian Biochemists & Molecular Biologists (FAOBMB), and the 22nd ComBio Conference.

During the EC meeting on 22nd November 2024, it was decided that SBC(I) should make a bid to host the 19th FAOBMB congress in 2030 at IISc Bangalore as this coincides with the centenary of SBC(I). A preliminary proposal was submitted and thereafter, a detailed proposal was requested for by the FAOBMB. This was also submitted. In the FAOBMB meeting at Busan, Korea, Dr. Nandicoori made a presentation on behalf of SBC(I) to host the 19th FAOBMB congress (2030) at IISc, Bengaluru. This was favourably received and the FAOBMB has awarded the hosting rights for the 2030 FAOBMB Congress to SBC(I). The venue will be the Indian Institute of Science, Bengaluru.

The SBC(I) meeting room has been fitted with all facility for holding video conferences.

While writing this report, I have been thinking about the recent global changes that could impact students and young researchers in STEM. This relates to the US government's policies on the admission of foreign students and post-doctoral fellows, visa restrictions, cut of research funds etc. that is indirectly going to impact STEM students and young researchers in India. Two categories of STEM students go to the US in large numbers. First are the students who have completed their under-graduation and proceed to the US and Europe for a Masters degree and often follow this up with a PhD degree. Second are students who have a MS or PhD from Indian Institutions. A good number of MS degree holders from our country go abroad (US or Europe) for a Ph.D degree and those with a PhD do so for a post-doctoral stint. Major scientific groups in developed countries carry out cutting-edge research, and training in such laboratories provides the young scientists with exposure to state-of-the-art technologies and current thinking. These young scientists essentially form the manpower that feed into premier academic institutions in the country as new faculty. Over the past few decades, this foreign stamp has become an essential criterion for faculty positions in all premier institutions. With the US government cutting funds, imposing visa restrictions where do Indian students go?? Though the government has initiated new programmes, this has to be enhanced to cover a much larger number. The scientific community, at large, should seriously think of a solution that focuses on internal sustenance, if research in academic institutions has to continue attracting very talented students.

GUIDELINES FOR ABSTRACT SUBMISSION

94th ANNUAL MEET OF THE SOCIETY OF BIOLOGICAL CHEMISTS

Venue: University Of Hyderabad, Hyderabad, India
Dates: 17th to 19th December 2025

Title Of The Abstract In Times New Roman, Font Size: 14, Bold, Centred Paragraph

Author Names Times New Roman, Font Size: 12, Regular, Centred Paragraph

A. B. Last Name, C. D. Last Name

* Presenting Author's Name In Bold

Address Of The Institution (Times New Roman, Font Size: 12, Regular, Centred Paragraph)

E-Mail Of Presenting Author (Times New Roman, Font Size: 12, Regular, Centred Paragraph)

The Main Text, Times New Roman, Font Size: 12, Regular. Paragraphs Are Justified (Straight-Edged) On Both Left And Right.

Do Not Change The Page And Margin Formatting, width A4 And 1 Inch On Each Side.

The Limit For Your Abstract Is 300 Words Only. Abstracts That Do Not Meet These Formatting Requirements Will Be Returned.

The Organizing Committee Reserves The Right To Edit Abstracts For Correct Formatting.

Figure/Scheme: If Any, Please Insert Only One File In Tiff Or Jpeg Format.

Keywords: Maximum Five (5) Keywords Are Allowed; Times New Roman, Font Size: 12, Regular. Paragraphs Are Justified (Straight-Edged) On Both Left And Right.

About The University Of Hyderabad

The University of Hyderabad (UoH), also known as Hyderabad Central University, is a premier public central university located in Gachibowli, Hyderabad, Telangana. Established in 1974 by an Act of Parliament, UoH is recognized as an Institution of Eminence (IoE) by the Government of India in 2019.

The **Symposium** is organized by the **Department of Biochemistry (DoB), School of Life Sciences, University of Hyderabad**, which is a well-known Department in the country. The DoB offers quality teaching to Master's students and cutting-edge research projects for the Graduate program, for many PhD students and postdocs at the University of Hyderabad.

Funded by **DST-FIST** and **UGC-SAP-DRS** programs, the Department of Biochemistry is renowned for its teaching programs and cutting-edge research activities. The department offers **M.Sc., PhD, and Integrated M.Sc.-PhD** programs. The primary aim of these academic programs is to train students to ask important scientific questions as well as provide them with the wherewithal and knowledge for finding the relevant solutions to these problems. We lay special emphasis on **analytical and critical thinking, knowledge creation, and discovery**.

Focused research programs in various fields of modern biology make the department a hub of basic fundamental research and an emerging epicentre for translation research. The research activities in the Department of Biochemistry revolve around the following broad areas:

- **Genome maintenance, organization and expression**
- **Protein synthesis, homeostasis, structure-function correlation and engineering**
- **Organelle biogenesis and trafficking of macromolecules**
- **Intra-cellular communication, cancer biology and stem cell development**

- **Infectious diseases and host-pathogen interactions**
- **Bioinformatics and computational biology**
- **Natural and engineered biological sensors, cellular dynamics and imaging**

For further information, please visit our webpage: **www.uohyd.ac.in** For the School of Life Sciences: **www.sls.uohyd.ac.in**

Registration & Fees

Important Dates

Registration Deadline :**10th October 2025**

Abstract Submission Deadline :**10th October 2025**

Selected Abstracts Notification :**7th November 2025**

Note: Selected abstracts for short talks and posters will be notified by 7th November 2025

Registration Fees

Category	Fee
Master's students	**Rs. 3,000**
PhD students/Postdoc	**Rs. 6,000**
Faculty/Scientist	**Rs. 9,000**
Industry	**Rs. 15,000**

Accommodation included for the first 400 registrations.

All invited speakers receive complimentary accommodation.

93rd Annual meeting of Society of Biological Chemists (India) &

International Conference on "Biochemistry: Ongoing Explorations of Actions and Reactions of Life"

Organized on the Platinum Jubilee of The Department of Biochemistry,
The M. S. University of Baroda

The Department of Biochemistry at The Maharaja Sayajirao University of Baroda, Vadodara, India organized the 93rd Annual meeting of the Society of Biological Chemists (India) from 27th to 29th December 2024, to mark the Department's Platinum Jubilee. This milestone event was celebrated by hosting the 93rd Annual Meeting of the Society of Biological Chemists (India), aka SBC(I), and an International Conference on "Biochemistry: Ongoing Explorations of Actions and Reactions of Life" in collaboration with Alumni Association of Biochemistry Department (ABCD).

Prof. Haribhai Kataria, the Dean of Faculty of Science inaugurated the 93rd SBC(I) meeting and the international conference and spoke on the achievements of the M.S. University of Baroda and those of the Faculty of Science. He appreciated the excellent contributions of the Department of Biochemistry to the outstanding performance of the Faculty and the University.

The convener of the 93rd SBC(I) meeting and the international conference, Prof. C. Ratna Prabha apprised the delegates of the magnificent journey of the Biochemistry Department through the last seven glorious decades on the occasion of its Platinum Jubilee. She also spoke on the theme of the conference as understanding life's molecular complexities and coming up with potential solutions to the problems of disease, poverty and pollution. Prof. Hemalatha Balaram as the President of SBC(I) spoke on the pivotal role of SBC(I) in bringing together biochemists of India and in promoting biochemical sciences in the country. She also informed the delegates about the various activities of SBC(I) to encourage scientists in the various stages of their careers.

The conference hosted three SBC(I) award lectures: Prof. K. Kemparaju, University of Mysore, delivered the M. Shadaksharaswamy award lecture. Dr. Deepak Modi, NIRRH, Mumbai, gave the C.R. Krishna Murti award lecture, while Prof. Sathees C. Raghavan, IISc, Bengaluru, gave the P.B. Rama Rao award lecture.

The main highlight of the conference was the talk given by the Nobel Laureate **Dr. Venkataraman (Venki) Ramakrishnan** on "Why We Die: The New Science of Aging and the Quest for Immortality". The talk, which lasted for more than an hour, kept the audience completely enthralled. Further, Dr. Venkataraman Ramakrishnan also gave the message of his father late Prof. C. V. Ramakrishnan to the delegates. Prof. C. V. Ramakrishnan was the founding Head of the Department of Biochemistry. He established the Department in 1955 with the funds donated by Prof. K.G. Naik, a professor of Chemistry. Prof. C.V. Ramakrishnan a visionary to the core is remembered for his dedication to the department, extreme discipline and unique organisational skills. Dr. Venki Ramakrishnan highlighted the importance of "purpose of life", which guided his father's long life.

The conference organized in collaboration with the Alumni Association of Biochemistry Department (ABCD) also hosted Prof. L.J. Parekh Memorial Lecture, Prof. C.V. Ramakrishnan Lecture and Prof. S.D. Telang Memorial Lecture, by Prof. Mulchand Patel, University at Buffalo, USA, Prof. L. S. Shashidhara, Director, NCBS, Bengaluru, and Prof. Harish Padh, former Vice-chancellor of S.P. University, Anand, Gujarat, respectively.

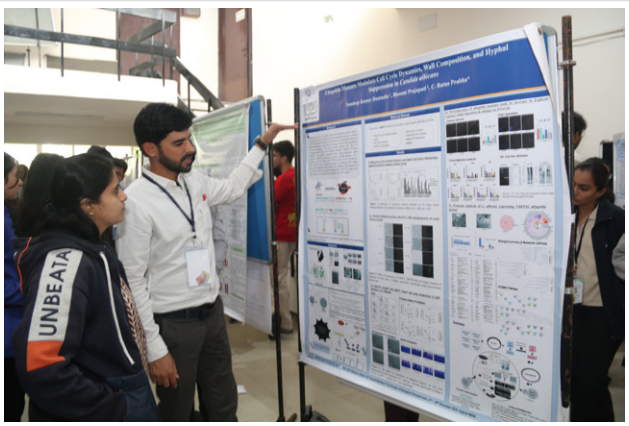
The conference highlighted the dynamic nature of Biochemistry with a range of topics including basic biochemistry, metabolism, cell biology, molecular biology, microbiology, virology, structural biology, genetics, protein structure and engineering, biotechnology, evolution, nanobiotechnology, developmental biology, stem cell biology, drug research and other allied areas of biochemistry. The conference spread over three days with three parallel sessions, hosted 45 distinguished speakers from premier institutes of the country and abroad, who presented their latest research, shared insights and engaged the delegates in stimulating discussions. In addition, meetings of the members of the executive council and the General Body Meeting of SBC(I) were also held.

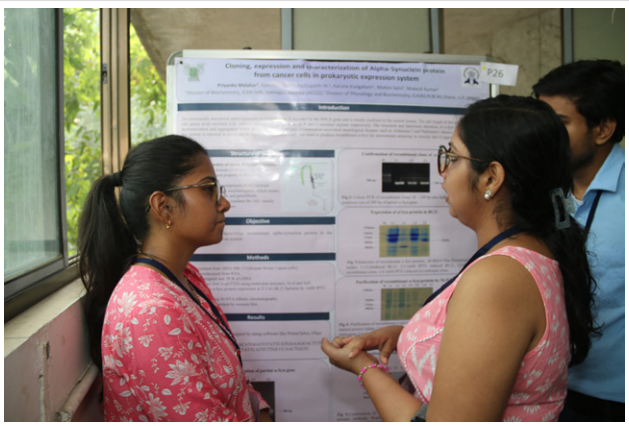
This conference, while celebrating the remarkable achievements of the Department of Biochemistry over the past seven decades, provided a platform for fostering new collaborations and exploring innovative ideas that will shape the field's future. The event with 45 speakers and 350 delegates from 85 premier institutes located across the country and 6 speakers from abroad served as a platform for scientific excellence. There were 11 flash talks to encourage young

investigators. The poster session conducted to encourage budding scientists was split over two days and had 142 posters. There were ten poster awards given away by SBC(I).

The organizers of the conference expressed their sincere gratitude to DBT, GSBTM, CSIR and BRNS for support with generous grants which made this mammoth event a reality. The conference concluded successfully on the 29th of December 2024 leaving an indelible impression on the delegates and enthused the young minds with the advances of Biochemistry.

-Prof. C. Ratna Prabha
Convener, SBC(I) Vadodara Branch
Convener of the International Conference
Head, Department of Biochemistry
The M. S. University of Baroda





NOMINATIONS FOR 2025 SBC (I) AWARD

This year P.S. Sarma Memorial Award, P A Kurup Endowment Lecture Award, D P Burma Memorial Award and A. Krishnamurthy Award (best paper published in Indian Journal) will be given at the Annual Meeting of SBC(I) to be held at University of Hyderabad, Hyderabad. Please send nominations in a single consolidated PDF including cover letter addressed to Hon. Secretary, SBC(I) along with membership status and brief resume of the nominee to sbcihq@gmail.com

The complete application should reach the SBC(I) office on or before 30th September 2025.

CRITERIA FOR 2025 AWARDS

P.S. SARMA MEMORIAL AWARD		
Year of Commencement	Frequency	Value
1973	Once in three years	Rs.10,000/- with a citation

Eligibility:

1. The award is for the best work done in the field of Biochemistry and Allied Sciences in India
2. The recipient of the award should not have completed 50 years before January 1st in the year for which the award is announced.
3. The eligible person has to be nominated by life member of the society and self-nomination is not accepted.
4. A lecture will be scheduled at the Annual Meeting of SBC(I) and presentation will be made at that time.
5. The Award is open to all Indian Scientist who must be Life member of the Society of Biological Chemists (India).
6. Only one person can be nominated for one award

P A KURUP ENDOWMENT LECTURE AWARD		
Year of Commencement	Frequency	Value
1991	Once in three years	Rs.10,000/- with a citation

Eligibility:

1. The recipient of the award should be below 60 yrs of age on January 1st of the year of the award
2. The award is given for Biomedical Research
3. The eligible person has to be nominated by a life member of the society and self-nomination is not accepted.
4. The awardee should give a lecture during the Annual Meeting of SBC(I)
5. The Award is open to all Indian Scientists who are Life members of the Society of Biological Chemist India.
6. Only one person can be nominated for one award

D P BURMA MEMORIAL AWARD		
Year of Commencement	Frequency	Value
2007	Once in three years	Rs. 20,000/- with a citation

Eligibility:

1. An eminent scientist for outstanding life time contribution in the field of Biological Sciences.
2. No age limit.
3. The eligible person has to be nominated by life member of the society and self-nomination is not accepted.
4. A lecture will be scheduled at the Annual Meeting of SBC(I) and presentation will be made at that time.
5. The Award is open to all Indian Scientist who must be Life member of Society of Biological Chemist India.
6. Only one person can be nominated for one award

A. KRISHNAMURTHY AWARD		
Year of Commencement	Frequency	Value
1976	Annually	Rs.2,000/- with a citation

Eligibility:

1. The recipient of the award should be below 30 years of age on January 1st of the year of the award.
2. The paper should be in the area of Biological Chemistry and Allied Sciences and the work should have been carried out in India.
3. The paper published in any Indian Scientific Journal in the previous year will be considered for the award.
4. In the case of multiple authorship, the senior author can nominate one of the authors or could be shared by all the eligible authors.
5. The Award is open to all Indian Scientist who must be Life member of Society of Biological Chemist India.
6. Only one person can be nominated for one award

Here's is an opportunity to be very creative and show your Talent!

Put your creations in the form of cartoons, science comics, comic strips, limericks, excerpts from the conference you attended! Anything to do with Science, commentaries on new exciting developments is also welcome.

We are looking for young talents who can contribute to the SBC(I) Newsletter, which we are planning to bring every few months. Submit your contributions to us and of course the best contribution will be rewarded!

We will accept the contributions throughout the year but hurry up to see your contribution in the next Newsletter. Don't wait! Pen down your excellent creative thoughts and reach us at

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Indian Institute of Science
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Phone 91-080-23601412, Email sbcihq@gmail.com
Send us a hard copy by post and a soft copy by an E-mail

INTERNATIONAL TRAVEL FELLOWSHIPS

GUIDELINES FOR AWARDING INTERNATIONAL TRAVEL FELLOWSHIPS FOR Ph.D. STUDENTS BY THE SOCIETY OF BIOLOGICAL CHEMISTS (INDIA)

One travel fellowship of Rs.15,000/- per quarter (Two awards per year) will be awarded

* Award period	** Last Date for receipt of application
I. Jan - Mar	……... Dec 31 Previous Year
II. Apr - June	…… Mar 30
III. July - Sept	…… June 30
IV. Oct - Dec	…… Sept 30

For example, those who wish to attend an International meeting scheduled to be held during July–Sept 2025, should submit the application by 30 June 2025.

*Award period refers to the period during which the meeting is scheduled to take place.
** The Committee will meet on these days to decide on the award.
This award is meant for Ph.D. students only.

The applicant should currently be a member of the SBC(I) and should have been a member for at least two consecutive years.

2024 ANNUAL AWARDS

The Society announced the Annual Awards for the year 2024 at its Annual Meeting Held at M. S. University Baroda during December 27th to 29th 2024. This year three awards were given and the society congratulates all the awardees and wishes them good luck in perusing their goals. A brief description of the research interests, as provided by the awardees, is given below.

M SHADAKSHARASWAMY ENDOWMENT LECTURE AWARD

Dr. K. Kemparaju
Professor & Chairman
Department of Studies in Biochemistry
University of Mysore
Mysuru 570 006.

Pathophysiology of *Echis carinatus* venom-induced tissue destruction, the role of neutrophil extracellular traps, and deoxyribonuclease as a strategic therapeutic target

Snakebite envenoming is a neglected tropical disease that kills about 150,000 people and disables over 400,000 people each year worldwide. India by contributing 40,000 to 58,000 deaths each year to the global burden, is considered a global hotspot. Although humans are not the target, the accidental bites by venomous snakes are deleterious and deadly. The target-specific toxins generally affect vital systems (nervous, muscular, and circulatory systems) and become fatal if not treated in time by intravenous infusion of anti-venom. In many cases, snake envenomation also inflicts devastating and terrifying tissue damage at the bite site, popularly called local toxicity. Often, tissue damage is more long-lasting and dangerous than diabetic gangrene, endorsing a lack of knowledge on the mechanism and the remedy. Thus, it remained an enigmatic challenge for the toxinologists. Of the 'big-four' venomous snakes in the Indian subcontinent, Russell`s viper (*Daboia russelii*), and saw-scaled viper (*Echis carinatus*) are known to inflict debilitating local toxicity. Of the many challenging areas our laboratory is working on, we are currently giving importance to understanding the molecular mechanism and finding a possible treatment for *E. carinatus* venom-induced local toxicity. Interestingly, our lab discovered the vital role of NETosis during *E. carinatus* venom-induced local tissue destruction, a critical event responsible for sustained tissue destruction in a mouse model. NETosis is a process of recruiting and stimulating neutrophils for NET (Neutrophil Extracellular Trap) formation, where neutrophils eject their decondensed chromatin coated with many antimicrobial and cytotoxic agents. Meantime, we also discovered the role of deoxyribonuclease in snakebite pathology. The stable NETs were found to block the blood vessels resulting in the development of a kind of compartment syndrome, an important process that triggers the onset of tissue destruction. The stable NETs were due to the lack of deoxyribonuclease in *E. carinatus* venom, a key factor that degrades and clears the NETs and helps to reestablish the blood flow. Thus, deoxyribonuclease could serve as an important strategic target and may be explored to achieve better therapy in managing terrifying sustained tissue destruction caused by *E. carinatus* bite.

P. B. RAMA RAO MEMORIAL AWARD

Sathees C. Raghavan
Department of Biochemistry, Indian Institute of Science, Bangalore -560 012

DNA Structural Deviation at Oncogenes renders Fragility to the Human Genome during Chromosomal translocations Associated with Leukaemia and Lymphoma

Shivangi Sharma and Sathees C. Raghavan
Department of Biochemistry, Indian Institute of Science, Bangalore-560 012.

Hematopoietic neoplasia, including leukaemia and lymphomas, accounts for approximately 8–10% of all cancers worldwide (Bispo et al., 2020). These malignancies are often characterized by specific chromosomal translocations, which serve as critical genetic markers for diagnosis and prognosis (Nambiar and Raghavan, 2011). Chromosomal translocations arise from aberrant DNA double-strand breaks (DSBs) occurring on heterologous chromosomes, followed by error prone repair and joining. However, the precise mechanisms underlying the formation of such DSBs remain largely unclear.

Emerging evidence, including studies from our laboratory, suggests that many translocation-prone fragile sites adopt non-B DNA conformations, deviating from the canonical B-form double helix (Javadekar and Raghavan, 2015; Nambiar et al., 2008). These alternative DNA structures include G-quadruplex DNA, cruciform DNA, triplex DNA, and R-loops, all of which have been implicated in genome instability (Bispo et al., 2020;

Gopalakrishnan et al., 2024; Javadekar et al., 2018; Katapadi et al., 2012; Kumari et al., 2023; Liang et al., 2024; Matos-Rodrigues et al., 2023; Nambiar et al., 2008; Nambiar et al., 2013; Paranjape et al., 2022; Poggi and Richard, 2021; Roy et al., 2024b; Sharma et al., 2025). Such structures can impede normal DNA replication and repair, making them hotspots for breakage and translocation events.

Our recent studies show that G-quadruplex (G4) DNA structures contribute to the fragility of BCR genes during the formation of the Philadelphia chromosome associated with chronic myelogenous leukaemia (CML). Using various lines of experimentation, we showed that multiple G4 DNA structures are formed at BCR breakpoints leading to single-stranded regions at the complementary DNA which is highly prone to DNA damage (Sharma et al., 2025). AID, the activation-induced cytidine deaminase, enzyme can bind to such single-stranded regions, induce cytosine deamination, which ultimately trigger the DNA breakage, driving t(9;22) chromosomal translocations in the CML (Sharma et al., 2025).

Additionally, we have reported that besides AID, recombination-activating gene (RAG) proteins primarily involved in antigen receptor diversification, may contribute to the formation of various chromosomal translocations in lymphoid cancers (Kumari et al., 2023; Kumari and Raghavan, 2015; Naik et al., 2010; Naik and Raghavan, 2012; Nambiar and Raghavan, 2011; Nilavar et al., 2020a; Nilavar et al., 2020b; Roy et al., 2024b). Our recent findings further reveal that the presence of a nonamer sequence near non-B DNA structures or a single-nucleotide mismatch due to cytosine deamination at CpG sites can significantly enhance RAG-mediated cleavage (Paranjape et al., 2022). This provides a novel molecular basis for RAG-induced chromosomal translocations, shedding light on their role in hematopoietic malignancies.

Strict regulation of RAGs is essential to prevent genomic rearrangements and chromosomal translocations in lymphoid cells. Our studies have identified microRNAs (miRNAs) that regulate RAG1 expression, regulating V(D)J recombination efficiency. Specifically, miR-501 directly interacts with the 3' UTR of RAG1, reducing its expression upon overexpression, while inhibition leads to increased RAG1 levels, thereby modulating V(D)J recombination in B cells (Roy et al., 2024a). Besides, miR-29c and miR-29a acts as a B cell stage-specific regulator of RAG1 in both mice and humans, with CRISPR-Cas9 genome editing confirming its target specificity (Kumari et al., 2021; Roy et al., 2024a). Importantly, both miRNAs exhibit an inverse correlation with RAG1 in leukaemia patients, suggesting their potential as biomarkers and therapeutic targets.

In summary, our studies provide insights into the molecular mechanisms driving chromosomal translocations in hematopoietic malignancies. We demonstrate that non-B DNA structures, such as G-quadruplexes, contribute to genomic instability and serve as hotspots for DNA breakage. The involvement of AID and RAG proteins in these processes underscores their role beyond antigen receptor diversification, linking them to oncogenic translocations. Additionally, the regulation of RAG1 by miRNAs highlights potential therapeutic and diagnostic avenues.

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C.R. KRISHNA MURTI AWARD

Dr. Deepak Modi
NIRRCH, Mumbai

Dr. Deepak Modi's research career spanning two decades at the ICMR-National Institute for Research in Reproductive Health (Mumbai, India) has transformative impact in three major areas; 1) Embryo implantation and early placentation, 2) Genetics of sex development and infertility and, 3) Pregnancy and COVID-19.

His laboratory conclusively demonstrated that signals from the embryos alter endometrial gene expression in a cell type-specific manner to harmonize the uterine environment for a successful pregnancy. Particularly, his investigations underscored the pivotal role of HOXA10 in interpreting embryonic signals for implantation and trophoblast invasion. His studies uncovered the fundamental molecular and cellular signatures associated with endometrial decidualization and inflammation to drive maternal control of early placentation. Currently, he is developing organoids and organ-on-chip models of endometrium and placenta to study the molecular mechanism of embryo-endometrial interactions and pregnancy-associated diseases. Extending his fundamental research to clinically relevant discoveries, Dr Modi's laboratory pioneered the development of animal models for disorders like infertility, endometrial cancer, endometriosis, and preterm birth

His work on male infertility genetics is notable as it led to the discovery of diagnostic markers and an AI-based tool to predict the outcomes of IVF in men with Y chromosome microdeletions. Both of these are translated in the form of technologies and commercialized.

Dr Modi's laboratory pioneered research on the impact of SARS-CoV-2 in pregnancy. His laboratory was the first to demonstrate the existence of SARS-CoV-2 receptors and their replication in the human placenta which laid the foundation to explain the congenital transmission of SARS-CoV-2 and the risk of adverse pregnancy outcomes. Further, as a part of the PregCovid Registry team their work showed an increased incidence of adverse pregnancy outcomes and neonatal outcomes in pregnancies complicated with SARS-CoV-2. This work also fueled global research to study the impact of COVID-19 on placenta and pregnancy.

In essence, Dr Modi's multidisciplinary research bridges basic science with clinical applications advancing our understanding of reproductive health with tangible impacts on healthcare practices.

SBC(I) Poster Award Winners 2024

B. S. Narsinga Rao Award for Best Poster	
	Clinical Biochemistry
1	Ms. Bhoomi Prajapati
	Analytical Biochemistry
2	Mr. H. K. Bunha
	P. R. Sudhakaran Poster Award
	Cell Biology and Cell Signalling
1	Mr. Shashank Saxena
	D. P. Burma Poster Award
1	Ms. Arpita Kar
2	Ms. Priyanka Malakar
	U. K. Mishra Award for Best Poster
1	Mr. N. Dan
	Other Noteworthy Awards for Posters
1	Ms. Aditi Saha
2	Ms. Shirin Sultana
3	Mr. S. Sengupta
4	Mr. Debraj Manna

Report on International Conference of the Korean Society of Molecular and Cellular Biology (KSMCB) 2024.

Prof. Benu Brata Das

Prof. **Benu Brata Das**, from the *Indian Association for the Cultivation of Science (IACS), Kolkata, India*, was invited as a **Distinguished Speaker** to deliver a lecture at the **Global Network Session (GNS)** of the *International Conference of the Korean Society for Molecular and Cellular Biology (ICKSMCB) 2024*. The conference was held at the **Jeju International Convention Center (ICC Jeju), South Korea**, from **October 8–11, 2024**. Prof. Das delivered his lecture on **October 10th (Thursday)** between 12:20 and 14:00 at *Samda Hall (3rd Floor)*, where he was scheduled as a **speaker**.

Prof. Das was nominated to this prestigious platform as the recipient of the **Sreenivasaya Memorial Award 2023**, conferred by the *Society of Biological Chemists, India* SBC(I).

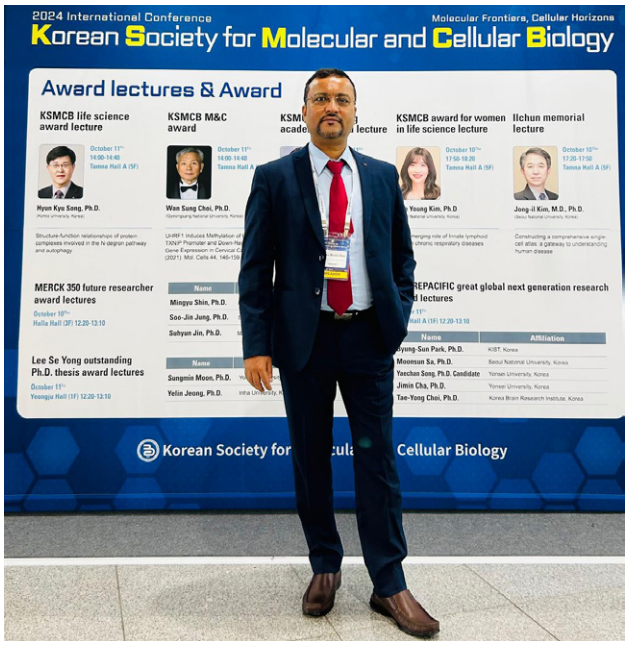
The ICKSMCB conference served as a dynamic forum for sharing **cutting-edge scientific discoveries**, fostering **international collaborations**, and building **invaluable global networks** among leading scientists.

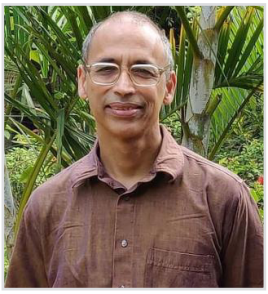
Prof. Das presented a lecture entitled:
"Decoding Disease: How DNA Breaks Lead to Genomic Instability."

In his talk, he highlighted the critical role of **DNA Topoisomerase I (Top1)**, an essential enzyme that regulates DNA supercoiling to ensure accurate transmission of genetic information. He explained how Top1 becomes toxic when trapped on DNA (Top1-DNA cleavage complexes; Top1cc) by anticancer drugs such as camptothecin (CPT) and its clinical derivatives, widely used in treating solid tumors including colon, lung, and ovarian cancers. Since such lesions threaten genome integrity, cells must rely on efficient **DNA repair mechanisms** for survival.

Prof. Das emphasized the function of tyrosyl-DNA phosphodiesterase I (TDP1) in repairing Top1cc lesions in both the nucleus and mitochondria. His research further demonstrated how **post-translational modifications fine-tune the activity of repair enzymes**, thereby maintaining genome stability. Importantly, his group uncovered that **protein arginine methyltransferase 5 (PRMT5)** and **poly(ADP-ribose) polymerase 1 (PARP1)** are **key regulators of Top1-associated DNA break repair**, acting as guardians of genomic integrity.

This international recognition of Prof. Das's pioneering contributions underscores **India's leadership in advancing molecular and cellular biology** and highlights the growing role of Indian scientists in shaping global biomedical research.





R. Varadarajan

Report on the Bimolecular Horizons Meeting

R. Varadarajan, GNR Ramachandran Lecture Awardee, 2024

I had the privilege of attending the meeting and delivering the GN Ramachandran lecture. The meeting was held in Melbourne, Australia from September 22-26, 2024. It was a combination of three prestigious congresses: the 26th Congress of the International Union of Biochemistry and Molecular Biology (IUBMB), the 17th Congress of the Federation of Asian & Oceanian Biochemists & Molecular Biologists (FAOBMB), and the 22nd ComBio Conference. There was huge diversity in the program with the multiple parallel sessions, so what follows is a brief summary of the small fraction of the program that I was able to attend. I reached on the evening of September 23rd. Soon after I met with Prof Terry Piva, the incoming Secretary General of FAOBMB, and an ardent cricket fan, he was keenly looking forward to the upcoming series with India in Australia. Terry was kind enough to introduce me to several of his colleagues at the meeting. The next morning started with a plenary lecture delivered by Prof Norbert Pardi from the University of Pennsylvania who gave a broad and insightful overview of mRNA-LNP technology, its advantages, potential applications and also areas where progress was needed. He discussed the importance of removing double stranded RNA contaminants in addition to formulation improvements to reduce reactogenicity and allow for frequent administration. He also emphasized the need for organ, tissue and cell type specific targeting by tuning physical properties, surface conjugation to targeting ligands and endogenous targeting by binding to serum proteins. In a later session Yue Wan from the Genome Institute of Singapore discussed ways of probing RNA structure including crosslinking and proximity ligation as well as the use of Nanopore technology. Damian Purcell from the Doherty Institute discussed increases in immunogenicity obtained by fusing multiple Receptor Binding Domains in an mRNA context. He also provided a comparison of subunit protein and mRNA-LNP vaccine modalities and for the latter, indicated how expression could be enhanced through mutating endoplasmic reticulum retention signals. Nikolay Shirokikh from Australian National University next discussed tools to study mRNA integrity, emphasizing the utility of direct RNA sequencing. Shortly after this session I gave the GN Ramachandran lecture. It was well attended. During the lecture I discussed the difficulty of reliable prediction of stabilizing mutations for complex, hetero-oligomeric proteins, notwithstanding the recent transformative advances in AI, machine learning and large language models. While large mutant libraries are readily screened for improved activity or ligand binding, screening for stabilized mutants is more challenging. Most current viral vaccine formulations, including for COVID-19, require low temperature storage. This is a major impediment to widespread deployment, and contributed to the highly skewed distribution of vaccines, worldwide. I described our methodology to rapidly isolate stabilized protein variants, including identification of thermostable Receptor Binding Protein (RBD) derivatives of the Spike protein of SARS-CoV-2 and other sarbecoviruses. These display enhanced yield and immunogenicity relative to the corresponding wild-type RBD as well as to stabilized Spike ectodomains. The COVID-19 formulations could be stored at 37°C for several weeks without loss of antigenicity or protective efficacy. I mentioned that we are employing similar approaches to stabilize other viral vaccine antigens, to enhance protective efficacy and to minimize cold chain requirements, thus facilitating deployment in resource limited settings. There were several questions after the talk on our protein stabilization approach as well as a discussion on alternative ways of stabilization, for example through formulation optimization. Later in the day there was another session on mRNA technology. Angus Johnston from Monash University talked about mRNA-LNP targeting by conjugation of LNPs to nanobodies or monoclonal antibodies. Another useful mRNA related talk was delivered by Ling-Ling Chen from the Shangai Biomedical Research Institute who talked about the biogenesis, function and potential application of circular RNAs. These are less prone to degradation and have longer half-lives *in vivo* which in turn leads to higher expression. However, achieving quantitative circularization is challenging and yields are lower than for corresponding liner mRNA. Another interesting session was on protein design, including a talk by Shogo Nakano which described a new computational optimization procedure to examine and predict the effects of multiple mutations on protein stability. There were also talks on AI/ML applications in synthetic biology including a critical overview by Jennifer Listgarten from UC Berkeley which described a combined experimental and computational approach to improve the efficiency of gene delivery using adeno-associated viral vectors. Another talk by Will Kelton from the University of Waikato discussed the use of Fc fusions to enhance immunogenicity with a focus on SARS-CoV-2 RBD-Fc fusions. Yet another interesting session was on the application of Biotechnology and Synthetic Biology for industrial protein production. Efficient protein secretion is important in many instances. Joe Brock from the Australian National University described high-throughput optimization of protein secretion in yeast via an engineered biosensor. He employed a MoClo tool kit to assemble a diverse collection of common promoters, signal peptide, coding sequences and terminators to probe secretion and derive some general guidelines to optimize protein secretion in yeast. A later talk in the same session by Mutsa Takundwa from CSIR, South Africa described a new miniaturized directed evolution process for selection of CHO cells before bioreactor scale up using 20 stressors at 8 different concentrations. Overall, the conference showcased a series of interesting talks in diverse areas and provided an opportunity to connect with many scientists from different parts of the world that I would not ordinarily have come in contact with. I am very grateful to SBC(I) for the opportunity to deliver the GN Ramachandran lecture and attend this very useful conference.

BRANCH ACTIVITIES 2024

SBC(I), India, Jorhat Branch North East Chapter
Activities (2024-225)

Convenor : Dr. BG Unni

Speakers	Topics
Ms.Shinu Shoba Vincent Chennai, Tamilnadu	Opportunities through the fully funded Fulbright fellowships for Indian Citizens
Dr.BG Unni Palakkad Kerala	How to write a strong Application for Fulbright Fellowships-Some Tips
Mr.Rajesh Namboothiri Kochi, Kerala	Importance and Applications of Quality Management In Educational organizations
Dr.Rajeeb Gogoi Sikkim	My journey as a student of Taxonomy
Dr.Renu Swarup New Delhi	Biotechnology revolutionizing innovative product development
Dr.Anandharamakrishnan Trivandrum Kerala	Science, Technology and Innovation for sustainable future
Ms.Shahma Sherin Malappuram, Kerala	Contemporary Social Issues
Prof. (Dr.) Ms. V. Bharathi Harishankar Coimbatore Chennai	Bridging the Skill Gap"
Dr.Balagopalan Unni Palakad Kerala	Impact of Environmental Pollutants on Human Health

From the venue of the conference

Malaysian Society of Biochemistry & Molecular Biology

Delivered the speech on " Oral Cancer"at the conference

Dr.Balagopalan Unni , Former Chief Scientist of CSIR-NEIST Jorhat Assam was invited and attended the "Cancer and Cellular Diseases" Section of the Malaysian Society of Biochemistry & Molecular Biology which was held at Four Points by Sheraton Puchong, Selangor, Malaysia during August 14th &15th , 2024. Dr.Unni presented his research work entitled "Oral Cancer in the session "Cancer & Cellular Diseases" at the MSBMB conference. Currently Dr.Unni is the Director of Academic & Research at GEMS Arts & Science College (University of Calicut) Kerala, and Research Adviser Assam Downtown University, Guwahati Assam on honorary capacity

Delivered a keynote lecture at the conference

An international conference on "Innovations in Healthcare and Environmental Sustainability" (ICIHES 2025) from 25 to 27 February, 2025 was jointly organized by the Department of Biochemistry, Biotechnology & Bioinformatics Avinashilingam Institute for Home Science and Higher Education for Women (Deemed University) & Society of Biological Chemists, India. Coimbatore Chapter

Dr.Balagopalan Unni , was invited and attended the international Conference (ICIHES 2025) organized by Avinashilingam University jointly with the Society of Biological Chemists (India) Coimbatore Chapter , and delivered a keynote lecture entitled "Impact of Environmental Pollutants on Human Health" at the conference

Dr. BG Unni
Convener, SBC(I) North East Chapter

Mumbai Chapter of SBC(I)
"One-Day Seminar on Synthetic Biology"

The Sunandan Divatia School of Science, SVKM's NMIMS (Deemed-to-be University), Mumbai, under the auspices of tha Mumbai Chapter of the Society of Biological Chemists, India SBC(I), organized a "**One-Day Seminar on Synthetic Biology"** on February 21, 2025. The symposium began with a traditional lamp-lighting ceremony, Saraswati Vandana, and the NMIMS anthem, followed by an introduction to the school by Prof. Jayakumar S Bondili, Dean, SDSOS. Dr Jayant Gandhi, the Secretary, SVKM's NMIMS, was the Chief Guest of the function**.** Prof. Hari Misra the convener of Mumbai Chapter of SBC(I) introduced SBC(I) and activities and mandates for the academic growth in India. Nearly 200 participants representing the colleges, universities and research institutions in Mumbai, attended the seminar. A day-long meeting witnessed 09 invited talks by the faculties working in different institutes in Pune and Mumbai, and 27 posters presented by the students and young faculties from NIRRCH, BARC-Mumbai, IITB, TMC-ACTREC and colleges in Mumbai. The details of speakers and titles of theit talks are as follows.

Sr No.	Name and affiliation of speaker	Title of the talk
1	Prof. Smita Mahale, Former Director, ICMR-NIRRCH, Mumbai	Structural and Functional Determinants of FSH Receptor: Implications in Female Reproduction
2	Prof. Jomon Joseph, National Centre for Cell Science (NCCS), Pune	Understanding the Functions of an Underexplored Cell Organelle - Annulate Lamellae
3	Prof. Birija Sankar Patro, Head, Bio-Organic Division & Dean (Academics), BARC, Mumbai.	CHK1-mediated regulation of TOP1 catalytic activity suppresses replication and transcription- associated genomic instability
4	Dr. Debasis Das Tata Institute of Fundamental Research (TIFR), Mumbai	Defining a nascent protein conformation on the ribosome.
5	Prof. Jacintha D'Souza, CEBS-University of Mumbai	How Cells Move - Signaling Proteins to the Rescue
6	Dr. Jayeeta Giri, DBT Wellcome Trust IA Fellow, ICMR-NIRRCH, Mumbai	Adult stem cells in Female reproductive organ: Friend or Foe
7	Dr. Siddhesh Kamat IISER, Pune	An Integrated Metabolomics & Chemoproteomics Approach Towards Enzyme Function Annotation
8	Dr. Harinder Singh SDSOS, NMIMS, Mumbai	Exploring the Role of Cold Shock Proteins in Bacterial Stress Tolerance
9	Dr. Shruti Mishra Bhabha Atomic Research Centre (BARC), Mumbai	Molecular mechanisms underlying the nucleoid organization in Deinococcus radiodurans
10	Mrs. Rezina Billimoria, PhD Scholar, SDSOS, NMIMS	Chrysin Ameliorates Adverse Effects of Therapy- Induced Senescence in Breast Cancer by Attenuating cGAS-STING pathway
11	Dr. Shubham Sherekar, Postdoctoral Fellow, IIT Bombay	Modeling signal flow variability for ensemble- level regulation of cancer cells


The seminar was concluded with the Vote of Thanks to all with a special mention to Dr. Bajarang Kumbhar, Assistant Professor, SVKM's NMIMS University and the convener of the symposium, for his tireless efforts.

OOOOOO

Malda Workshop – 2024

Topic: **"Drug Resistance & Drug Induced Toxicity: Implications in Infection, Cancer & Metabolic Diseases"**
Venue: Sanaullah Mancha, Malda College Auditorium, Malda, West Bengal
Date: 11.11.24 & 12.11.24.

A workshop on "Drug Resistance & Drug Induced Toxicity: Implications in Infection, Cancer & Metabolic Diseases" was held at Sanaullah Mancha, Malda College Auditorum, Malda, West Bengal on 11th & 12th November, 2024. About 350 participants from more than 50 schools & colleges of Malda, Uttar Dinajpur, Dakshin Dinajpur & Murshibad districts including a good number of teachers, professors and doctors participated in the workshop. Prof. Tapas K Kundu of JNCASR, Bangalore acted as mentor, Dr. R. Selvi, IISER, Berhampur and Prof. Chandrima Das, SINP, Kolkata acted as co-mentors of the workshop. Seven scholars of JNCASR, IISER & SINP along with one Software Engineer were present as course guides. The workshop was organised by Paschim Banga Vigyan Mancha, Malda in collaboration with IQAC, Malda & Samagra Siksha Mission, Malda. It was supported by the Society of Biological Chemists (India) (SBC(I)), Prof. Ranga Uday Kumar, JNCASR, Bangalore; Dr. Sadhan Ch. Das, Dr. Parijat Senapati, Dr. Rahul Modak, KIIT, Bhubaneswar; Dr. Siddhartha Singh, Dr. Akash K Singh, Dr. Aditya Bhattacharya, Dr. B. N. Banerjee, Saha Institute of Nuclear Physics (SINP), Kolkata; Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru, Chemical Biological Society, India (CBSI); Indian Institute of Science Education & Research (IISER), Berhampur & Rotary Club of Mango, Malda. This year Indian National Science Academy (INSA), New Delhi also supported the workshop.

Workshop was inaugurated with a warm welcome of the dignitaries. In his welcome address, Monoranjan Das, working President of PBVM, Malda told about the different aspects of organising the 13th Malda Workshop and choosing the topic Drug Resistance for this year. He also expressed his thanks to JNCASR, SINP, IISER for participating in the workshop & gratitude to IQAC, Malda College; SSM, Malda for extending their collaboration. In his welcome speech, Dr. Parthapratim Mukhopadhay, Principal, Malda Medical College gave his best wishes for the workshop and thanked PBVM, Malda for choosing the topic of Drug Resistance. Principal Dr. Manas Kr. Baidya expressed his thanks to PBVM, Malda for organising this workshop and asked the students to be attentive during the lectures. Dr. Sudipta Bhaduri, Deputy CMOH, Dr. Sujit Kr. Samanta , DI of Schools (Primary), Malda; Smt. Basanti Barman, President , Malda Dist. Primary Education Council; Bilwadal Roy, DPRDO;

Malda Workshop on "Drug Resistance & Drug Induced Toxicity : Implications in Infection, Cancer & Metabolic Diseases" at Malda WB - 11th & 12th November, 2024

Registration

Inauguration

Inaugural Speech by Prof. Tapas K Kundu, JNCASR, Bangalore

Introductory Speech by Prof. Kundu

Talk by Aindrila Kabiraj, SINP, Kolkata

Talk by Bipasa Mandal, SINP, Kolkata

Mood of the Workshop

It's Lunch Time

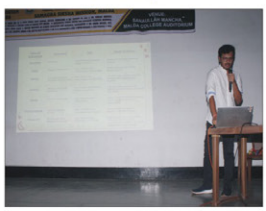
Poster Session

Talk by Dr. R. Selvi, IISER, Berhampur

Talk by Rohini Bhatt, JNCASR, Bangalore

Talk by Sangita Lala, IISER, Berhampur

Talk by Supriya Varsha Bhagat, JNCASR, Bangalore



Talk by Prasun Chakraborty, IISER, Berhampur

Talk by Nabanita Das, JNCASR, Bangalore

Talk by Mr. Abhik Khara, Software Engineer

Question Answer Session

Thanks given by Sunil Das, Secretary, PBVM, Malda

Felicitation

Poster Competition Prize Giving

Participants with Poster Compitition Prize

Happy Ending of the Workshop

Dr. D. Sarkar and other dignitaries expressed their thanks to PBVM, Malda for organizing such a workshop at Malda. Prof. Kundu in his inaugural speech congratulated PBVM, Malda from the core of his heart for organising such a workshop. He also said why this relevant topic has been chosen, what is a drug and, the problem of unrestricted drug availability. Lastly he hoped that the workshop will give every participant an opportunity to work for a better tomorrow.

After the inaugural session, Dr. Selvi started the workshop detailing the course content and programme of the workshop. The first talk of the workshop was given by Prof. Tapas K Kundu on the topic "Introduction to Drug resistance & Drug Toxicity". In his talk, Prof. Kundu gave a brief summary of drug resistance and toxicity, their effects on human beings and how we can overcome this situation. The second talk was given Aindrila Kobiraj from SINP, Kolkata on "Drug Resistance in the context of Microbial Diseases, with special emphasis on Bacterial Diseases", where she spoke about the discovery of antibiotics and antibiotic resistance and, about alternatives to antibiotics. Bipasa Mandal from SINP, Kolkata delivered a talk on "How to combat drug resistance (Bacterial)". She gave a brief introduction to drug resistance, introduction to genomes, gene expression, and jumping genes in bacteria and their role in drug resistance.

Posters were evaluated by Prof. Kundu, Dr. Selvi and their associates and 10 posters were short-listed for awards. The talk delivered by Dr. R. Selvi, IISER, Berhampur was titled –"Drug Resistance & Non-communicable disorders with special emphasis on Diabetes & Associated complications". She gave an overview of Drug Resistance and non-communicable diseases. She also gave a brief introduction to diabetes, diabetes associated complications and a detailed overview of diabetic nephropathy. This was followed by a brief overview of the interplay between drug resistance and diabetic complications. A brief introduction to another non-communicable disease cancer, and associated drug toxicity and kidney dysfunction was also provided. Lastly she gave an overview on stem cells & their role in understanding diseases biology and combating drug resistance.

The next talk was given by Rohini Bhatt from JNCASR, Bangalore on "Drug Resistance in Cancer". She informed that one of the leading causes of failure in the treatment of cancer is the development of drug resistance by cancer cells. The sixth talk of the workshop was given by Sangita Lala from IISER, Berhampur on –'How to combat Cancer Drug resistance". In her talk she told about cancer drug resistance and why cancer drug resistance occurs. She then talked about cancer stem cells, their contribution to cancer growth, and how to target cancer stem cells. Lastly she talked about therapeutics for combating cancer drug resistance. The next talk was given by Mr. Abhik Khanra, a software engineer on "AI in Healthcare & how it can help to combat Drug Resistance". He addressed the challenges facing healthcare followed by definition of AI. Thereafter, he told about the role of AI in healthcare. Lastly, he spoke about the specific challenges of AMR and the role of AI in addressing these challenges. Supriya Barsha Bhagat of JNCASR, Bangalore spoke on "Drug induced Toxicity" and the need for awareness among patients about safe and effective usage of drugs as well as their adverse effect. The 9th talk was given by Prasun Chakraborty, IISER. Berhampur on "Use & Abuse of Drugs". He spoke on the effect of drug addiction on physical health and the treatments available.

The last talk of the workshop was given by Nabanita Das from JNCASR on "Drug Resistance on Metabolic Dysfunction with special emphasis on Liver Disorders". In her talk she said that healthy diet leads to healthy body and spoke about diseases related to unhealthy diet. She also talked about drug abuse which leads to antibiotic resistance and gut dysbiosis and touched upon possible solutions.

At the end of the workshop, a question - answer session was held where more than 70 interesting questions were answered by the team of Prof. Kundu. During valedictory session, the participants shared their experiences. Sri Sunil Das, Secretary, PBVM, Malda thanked Prof. Kundu and his associates, the collaborators and co-partners of the workshop (Malda College, Malda & SSM, Malda), and all others who made the workshop a success. President, Rotary Club of Mango City Malda, Dr. Goutam Kundu; President of PBVM, Malda, Mr. K. P. Singh and other dignitaries handed over mementos to Prof. Kundu & his associates. Lastly Prof. Kundu handed over prizes to the awardees of the best poster competition. The Malda Workshop - 2024, an outreach program of SBC(I) ended with great expectations for the next year.

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Meeting Report – IMMUNOCON-2024

Date and Venue: 17-20 October 2024, J. N. Tata auditorium, IISc, Bangalore-560012, INDIA

Key speakers: Prof. JP Allison, Prof. Rafi Ahmed, Prof. Vijay Kuchroo, Prof. GP Talwar Prof. Narinder Mehra, Prof. Carla Rothlin, Prof. Benedict Seddon, Prof. Clive Gray, Prof. Sergio Lira and many others.

Topics: Cellular Immunology, Molecular Immunology, Systems Immunology, Cancer Immunology, Comparative and evolutionary immunology, Immunoengineering, Cytokines, Inflammation, Vaccines, Ocular immunology, Skin disorders etc.

Number of participants: ~750 Meeting summary:

The 51st annual meeting of the Indian Immunology Society known as IMMUNOCON- 2024 was held at the iconic J.N. Tata Auditorium Complex of Indian Institute of Science (IISc), Bengaluru from 17th-20th October 2024. It was just the second time the annual conference was hosted by IISc Bengaluru and was held after 31 years of the first one held in 1993. Prof. Dipankar Nandi from Department of Biochemistry, IISc convened the meeting with able support from Prof. Udaykumar Ranga (JNCASR Bangalore) and Prof. Shripad Patil (NIMHANS, Bangalore) as co-conveners. The team were also supported by 25 faculty members from IISc and other research institutions in Bangalore such as JNCASR, InStem and MAHE. These young faculty along with 58 student volunteers helped in facilitating the smooth organization of the meeting.

The theme for IMMUNOCON-2024 was chosen as '***Newer beginning in immunological munificence***'. This was to address the fact that after completing fifty years of the Indian Immunology Society, the Society needed to take a fresh guard and restart a new chapter in the growth of Indian Immunology Society. Keeping this aspect in mind, the scientific committee of the conference had ensured that speakers were representative of various institutions all over our country; in addition, the gender balance among the speakers was also kept in mind. The organizers also paid attention to equal representation of various domains in modern Immunology in the meeting. Focused talks on upcoming and contemporary areas and a panel discussion on Immunology teaching and research was part of the program. This was supplemented with the talks on the historical aspects of Immunology research in India. This was done to prime the student community about the rich Immunology research history in India. The IMMUNOCON-2024 lectures have been made available on YouTube to allow the reach of scientific content to the broader audience (https://www.youtube.com/live/65gzhQXD_Ok?si=nnbr9cgGq_PfS6U3

day 1. https://www.youtube.com/live/wPNewdgoAbk?si=YRSrRcpe7fYaQZz9

day 2. https://www.youtube.com/live/M3dr4f_Eh8A?si=CAM8Oo2_q4rt-KvN

day 3. https://www.youtube.com/live/hdOUwUBrXBI?si=shVew3e5nU4sKQNb day 4)

For the benefit of young and budding immunologists, a few pre-conference educational events were planned. On 14th and 15th October 2024, a continuing medical education (CME) was held in NIMHANS, Bengaluru. On 16th October 2024 a 'Hands on workshop on Flow cytometry' conducted by the tech-experts was held in the Department of Biochemistry, IISc, Bengaluru. The efforts at NIMHANS were led by Prof. Shripad Patil while at IISc Dr. Kesavardhana Sannula (IISc) took the lead in organizing the Flow workshop. The Flow workshop included teaching sessions from Dr. H. Krishnamurthy, NCBS; Dr. Uttara Chakraborty, MIRM; Beckman Coulter team; and Dr. Hemant Agrawal and Dr Rekha Gaur, TETC. There was an overwhelming response from the community to attend this workshop and we had ~100 participants in the workshop. This highlights the growth of Immunology research in India and the need of many such workshops throughout the year.

On 17th October 2024, the meeting started with formal inauguration followed by an ensemble of talks by invited speakers for the next 3 days. The meeting speakers not only included prominent immunologists from India, but several recognized international speakers also delivered the talks during the meeting. This was done to expose our young students to the latest advances in research and knowledge in the rapidly expanding field of Immunology. The deliberations by the galaxy of eminent international and national faculty inspired the immunology community and ensured a memorable experience. IMMUNOCON-2024 hosted ~100 speakers and 4 parallel sessions were organized to accommodate all the talks in 4 days.

To highlight a few talks: Prof. James Allison delivered a lecture on his Nobel prize winning discovery of immune check-point CTLA-4; Prof. Vijay Kuchroo highlighted the roles of immune check-point inhibitor molecules on immune cells other than T cells; Prof. Rafi Ahmed discussed about CD8 T cells in chronic viral infection and cancer; Prof. Carla Rothlin talked about heterogeneity in naïve T cells; Prof. Amara Rama Rao discussed his research on monkeypox-specific immunity and the development of vaccine for this virus; Prof. Wilfried Ellmeier pointed towards the key regulatory role of histone deacetylases in T cell development and function; Prof. Leighton Grimes talked about his research on single cell analysis in immune cell-

fate decisions; Prof. Harinder Singh discussed the role of transcription factors in the regulation of B cell maturation and plasma cell differentiation; Prof. Soumen Basak presented his recent data on role of non-canonical signaling pathways in dendritic cells and how they can impact gut pathology; Dr. Dhiraj Kumar discussed his research on the role of neutrophil-derived IL-17 and autophagy in tuberculosis disease progression; Dr. Devinder Sehgal highlighted his efforts on glycoconjugate vaccine development; Dr. Tarun Madan talked about the role of immune pathways in driving preeclampsia; Dr. Amit Awasthi presented his recent research on the role of retinoic acid in promoting succinate-consuming gut bacteria to suppress intestinal inflammation; and many more.

The meeting also included few talks by awardees: Prof. Alpana Sharma, AIIMS, New Delhi received Senior Scientist award, and Mid-career scientist award was bestowed to Prof. Mirza S. Baig, IIT-Indore. The meeting also provided a platform to 4 young scientists who delivered talks on diverse topics including single cell analysis of T cells, thymic development, intracellular oncodrivers in immunotherapy, and KIR signaling in NK cells. Immunology teaching is critical for the growth of new generation of young students and recognizing this importance the Indian Immunology Society awarded Prof. Biswadev Bishayi, University of Calcutta with Polyfeenolix-IIS Best Immunology Teacher Award 2024. Emphasizing of the need of 'academia-industry' partnership, Dr. Gene Lay, the CEO of Biolegend was awarded IIS Industry Academia Award 2023.

The last session of the meeting on 20th October 2024 included a few special talks for the broader audience. Prof. P Balaram, ex-Director of IISc and a well-known biochemist introduced the audience to his interactions with Immunologists, while Prof. Sandeep Eswarappa summarized on the relationship between evolution and medicine. This session was also a platform for oral talks by selected students and poster awardees were honored in this session.

In addition, the technical sessions and industry exhibitions during the event encouraged interactions and fostered 'academia-industry' partnership. The social events during the meeting, first one by YAKSHAGANA (Karnataka folk) and second one by Rhythymica (students-driven), created opportunities for delegates to intermingle, exchange ideas, develop collaborations and long-term relationships. Special attention was paid to the food arrangements, and the guests relished the local as well as international cuisine. Based on the feedback, it appears that the vast majority of the participants enjoyed this meeting and returned with cherished memories, enhanced knowledge and inspiration for future endeavors.

The meeting concluded on 20th October 2024 (afternoon) with word of thanks by current President of Indian Immunology Society, Prof. Amit Awasthi and meeting convener Prof. Dipankar Nandi. Overall, IMMUNOCON-2024 was a resounding success, and it would not have been possible to organize the meeting of such large scale without the support of funding agencies, industry partners and IISc. We are extremely thankful to all stake holders, speakers, participants, volunteers and local organizing members for offering their support to this memorable meeting.

CAMA MEMORIAL TRAVEL GRANT

Scientists attending and presenting a paper in an International Congress or FAOBMB meeting held once in 2 years or at infrequent intervals may apply for the award.

The candidate should be a member of SBC(I) for at least two consecutive years.

The candidate should have obtained partial support from other agencies and there should be a proof to that effect.

Applicants are invited to respond appropriately to the details informed in the advertisement. The application should reach the following address before 1st April of the year of the award.

Hon Secretary
Society of Biological Chemists
Indian Institute of Science
Bangalore 560 012

FELLOWSHIPS FOR YOUNG SCIENTISTS

The Society of Biological Chemists (India) has instituted "financial support for research" scheme to support young research workers to carry out short term training/research activities in well established laboratories/ institutions in India. The value of the fellowship is fixed at Rs.5,000/- per term per selected fellow, and the total number of fellowships awarded every year will be up to 10.

Terms and Conditions;

1. Funding Rs.5,000/- per fellow for periods up to 6-8 weeks.
2. The grant of Rs.5,000/- will be awarded in the form of Rs.1,000/- for the fellow as personal maintenance/allowance for a minimum period of 6 weeks and Rs.4,000/- as contingencies for the purchase of laboratory items including stationery, preparation of reports, photographs and other expenses related to the research work.
3. The Research/Training may be conducted in any of the leading research institutions/ laboratories/universities, with approval from SBC(I).
4. The candidate should be below the age of 32 years at the time of application.
5. The SBC(I) Membership is compulsory for eligibility for the fellowship award.
6. The fellowship amount will be released by the SBC(I) to the research supervisor by the 2nd or 3rd week of the training program.
7. The application should be forwarded through the investigator-in-charge of the laboratory in which the candidate proposes to undergo training.

SOCIETY OF BIOLOGICAL CHEMISTS, INDIA

APPLICATION FOR MEMBERSHIP

The Hon. Secretary
Society of Biological Chemists, India
D-Wing, 1st Floor
Biological Sciences Building
Indian Institute of Science
Bangalore 560 012
Phone: 080-23601412 Email: sbcihq@gmail.com
Website: http://www.sbcihq.in

I wish to become a **Student Member/Ordinary Member/Life Member** of the Society. I enclose herewith Membership fee Rs. ..... (Cash / Demand Draft / Cheque / Online payment) as my membership contribution.

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Student Member	Rs. 500.00
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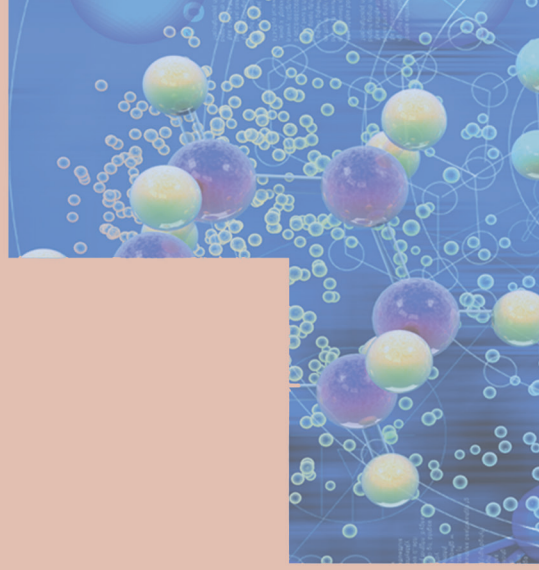

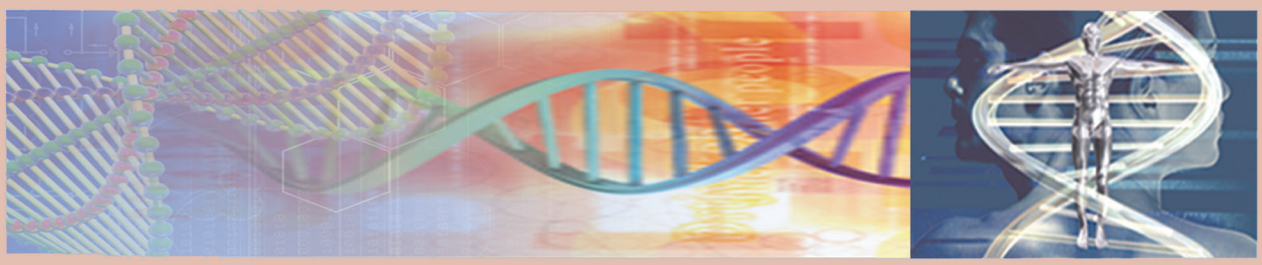

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