Society of Biological Chemists INDIA 1930

SBC(I) NEWSLETTER

Vol. No. 119 July 2026 Email: office@sbcihq.in / sbcihq@gmail.com http://www.sbcihq.in

The Society of Biological Chemists (India) will soon be celebrating a centenary of its existence in 2030. With four years left, it is a good time to discuss its contributions as well as challenges. Over the years, SBC(I) has served as a platform to encourage scientists from various parts of India and from different disciplines to come together to celebrate aspects of research related to the BROAD area of Biological Chemistry. Many faculty often recall that their initial scientific experiences, as students, in terms of poster presentations and interactions with well-known scientists were in a SBC(I) meeting. We should encourage this display of scientific research and innovations in varied spheres under a BROAD roof such as our society.

With time, age has taken a toll so let me discuss some of the challenges facing our society. One important aspect is that several local chapters are not functioning optimally. Chapters are an important part of the Society as it gives an opportunity for scientific presentations and interactions in smaller groups. This aspect is important as it gives confidence to budding scientists. In addition, I will urge the Convenors of the SBC(I) chapters to include members from varied institutions in their area and make the meetings more inclusive. We will need to reactivate many of these chapters and allow for newer and younger leadership to take charge. As scientific institutes have spread throughout India, it is also a good time to start newer chapters. During the past few months, we have been actively working to reactivate old chapters and start new chapters. The head office will be happy to encourage branches to organize scientific meetings. In fact, the head office in Bangalore has taken the lead and a local chapter meeting has been scheduled on 18 July 2026 in the Biological Sciences Building, IISc.

Since the beginning of this year, I am happy to inform that we have been able to enrol many life members into our Society. I will urge existing life members to encourage younger students and colleagues to enrol as life members. The alternate is to enrol as an annual member but the membership is for a calendar year (Jan to Dec of that year) so best to enrol as life member, if possible. In addition, several young faculty who are SBC(I) life members from all over India have been included as part of the reconstituted Executive Council. We are also revising our email mailing lists so do let us know if any members are not receiving regular information from the head office. These aspects are important as we prepare for the Centenary celebrations and a small working group has already been constituted.

Thanks to the efforts of several members and approval from the Sohonie family, I am glad to inform that SBC(I) has constituted an award in the memory of Dr. Kamala Sohonie, the first woman student in IISc. Dr. Kamala Sohonie's entry into IISc was a struggle and I will urge students to read up more on how she gained admission here. Dr. Kamala Sohonie was a trail blazer in the field of higher education and opened avenues for women so it is only fitting that this award will be given to an accomplished woman scientist.

You will notice that the SBC newsletter have undergone some revisions. I am happy that there are several articles from senior scientists who share their personal reminiscences about SBC(I). In addition, many students who were poster awardees in earlier SBC(I) meetings have contributed short articles for the Newsletter. This trend needs to continue and we look forward to articles by senior scientists and students describing their interests or associations with SBC(I) to enrich the newsletter.

The past annual meetings of SBC(I) in Goa, Vadodara and Hyderabad have been very successful, and I encourage members to please attend the next meeting in Lucknow. The convenors and their team are making a lot of effort I request members to attend and encourage students to present their work in CDRI, Lucknow. We are looking to meet you all from 28 – 30 October 2026 in Lucknow during the SBC(I) meeting.

I must thank the new committee and SBC office staff for helping in running the day-to-day work and also implementing newer initiatives. We need to do more and it will be nice to hear from fellow members regarding their thoughts, and aspirations for the society. I will request senior members to please send their reminiscences on SBC(I) and younger members to send short scientific write ups on areas of interest. A gentle reminder to the Convenors of local chapters to restart smaller scientific meetings and send a short report to the SBC(I) headquarters. Do remember to include some images and photos as they make the article more attractive. Please do write to sbcihq@gmail.com and I look forward to hearing from you.

Dipankar Nandi
President
SBC(I)

95th ANNUAL MEET OF THE SOCIETY OF BIOLOGICAL CHEMISTS (INDIA)

Venue: CDRI, Lucknow

Dates: 28th - 30th October 2026

About CDRI

The Central Drug Research Institute (CDRI) Lucknow

The Central Drug Research Institute (CDRI) is a constituent laboratory of the Council of Scientific and Industrial Research (CSIR) under the Department of Scientific & Industrial Research, Government of India, Ministry of Science and Technology, Government of India. The Institute is engaged in the development of drugs, diagnostics and process technologies in disease areas of national relevance to enable affordable healthcare. Since its inception in 1951, CDRI has made significant advancements in its mission, with 13 drugs and more than 80 process technologies licensed to industry.

CSIR-CDRI is a unique biomedical research centre with strengths in basic and applied research. At present, our activities span 8 therapeutic areas: Microbial Infections, Parasitic Infections, Viral Infections, Cancer, Metabolic Disorders, Bone and musculoskeletal disorders, Neurological Disorders and Reproductive Health. Scientists are engaged in cutting edge fundamental research, aimed at dissecting cellular, molecular and chemical processes underlying pathological conditions. In addition, scientists have access to the full gamut of expertise in drug discovery and early clinical development, including medicinal chemistry, pharmacology, pharmacokinetics and toxicology. This allows for a seamless translation from basic research into application. The Institute's sizeable publication and patent portfolio reflects this blend of research capabilities.

For further information, please visit our webpage: https://cdri.res.in/sbci2026 , https://sbcihq.in

Registration Fees

Registration & Fees without Accommodation

Category	Fee (INR)
Students	**₹ 5,000**
Post-Doctoral Fellows	**₹ 7,000**
Faculty Members	**₹ 10,000**
Industry Delegates	**₹ 15,000**

94th Annual meeting of Society of Biological Chemists (India) &

International Conference on "Biological Communications in Disease and Development"

Organized by the Department of Biochemistry, School of Life Sciences, University of Hyderabad

SBCI Conference Highlights

The 94th Annual Meeting of the Society of Biological Chemists, India (SBCI) was held at the University of Hyderabad, Telangana, with the scientific theme "Biological Communications in Disease and Development." The conference was organized by the Department of Biochemistry, School of Life Sciences, University of Hyderabad. The conference served as a major national and international forum for discussions on advances in biological chemistry and related life sciences.

The 94th Annual Meeting and International Conference (ICBCDD) was held from December 17–19, 2025, and over 400 delegates, including approximately 300 students and 100 national and international scientists were attended.

The SBCI Conference was formally inaugurated with a dignified inaugural session that marked the commencement of scientific deliberations and set the conference's vision. The session was attended by distinguished academicians, scientists, institutional leaders, and delegates from across the country, reflecting the conference's national stature and interdisciplinary reach.

The inaugural proceedings commenced with an invocation through Saraswati Vandana, invoking blessings for knowledge and intellectual pursuit. This was followed by a welcome address by the Convenor of the 94th Annual Meet, Prof. Bramanandam Manavathi, who outlined the objectives of the conference and emphasized its role in fostering excellence in biological sciences through interdisciplinary collaboration.

An address was delivered by Prof. Naresh Babu, Head of the Department of Biochemistry, and Prof. Anand Kumar Kondapi, Dean of the School of Life Sciences, who highlighted the host institution's academic strengths and the importance of advancing life science research aligned with national priorities.

The inaugural address was delivered by the Vice Chancellor of the University of Hyderabad, Prof. B. J. Rao, who underscored the role of universities in promoting scientific innovation, interdisciplinary research, and societal impact. This was followed by the presidential address by Prof. Hemalatha Balaram, titled *"An Unusually Stable Succinimide in a Hyperthermophilic GATase: Investigations on Formation, Stability and Function"*, in which she presented insights into protein chemistry and functional stability under extreme biological conditions.

The session also featured a keynote address by Prof. Sandhya Visweswariah of the Indian Institute of Science, Bengaluru, and was chaired by Prof. B. J. Rao. Her lecture, titled *"Gut Reactions and Gut Instincts: The Role of cGMP"*, highlighted emerging perspectives on cyclic nucleotide signaling and gut physiology.

The inaugural proceedings also included SBCI Award Lectures, chaired by Prof. Hemalatha Balaram. The P. S. Sarma Memorial Award Lecture was delivered by Dr. Sanjeev Shukla (IISER Bhopal) on *"A Hypoxia-Induced Epigenetic–Splicing Axis Promotes EMT in Breast Cancer"*. This was followed by the P. A. Kurup Endowment Award Lecture by Dr. Ravishankar Ramachandran (CSIR–CDRI, Lucknow), titled *"Novel Mechanisms of AP-Site Recognition and Repair in DNA and mRNA: Insights from Mycobacterium tuberculosis"*.

The inaugural session concluded with a vote of thanks, formally acknowledging the contributions of the speakers, organizers, and participants, and setting a strong academic foundation for the scientific sessions that followed.

There were 121 lectures in this 3 day international conference including, keynote lectures, thematic lectures by experts in the fields of microbiology, cancer biology, structural biology, plant physiology, genome biology and so on alongside short talks by the young researchers, a large poster session (176) and interactive discussions, the conference concluded with a deeper understanding of how precise communication within and between the cells orchestrates development, and how its dysregulation leads to disease.

The conference attracted around 400 delegates, including more than 300+ students and 100 national and international scientists, making it a significant forum for exchange across career stages.

Delegates participated in oral and poster presentations across thematic sessions focused on biological chemistry, cellular communication, molecular mechanisms in disease processes, and developmental biology.

The event provided a platform for networking and forging collaborations between early-career researchers and senior scientists, especially in areas linking biochemical signaling to disease mechanisms and developmental processes.

It reinforced the role of interdisciplinary research in tackling complex questions in health and developmental biology — bridging basic biochemistry with translational potential.










NOMINATIONS FOR 2026 SBC (I) AWARDS

This year Sreenivasaya Memorial Award, Prof I. S. Bhatia Award, Prof. A. N. Bhaduri Memorial Lecture Award, Dr. Kamala Sohonie Memorial Lecture Award for Women Scientists and A. Krishnamurthy Award (best paper published in Indian Journal) will be given at the Annual Meeting of SBC(I) to be held at CDRI Lucknow. 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 10th September 2026.

CRITERIA FOR 2026 AWARDS

*** Note: A Person is entitled to only one SBC(I) Award in a life time**

SREENIVASAYA MEMORIAL AWARD		
Year of Commencement	Frequency	Value
1972	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 award has to be nominated by a life member of the society and no self-nomination is 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 a life member of Society of Biological Chemist India.
6. One person can be nominated for only one award.

PROF I. S. BHATIA AWARD			
Year of Commencement	Frequency	Value	Field of research
2000	Once in three years	Rs.10,000/- with a citation	Original research contributions in Plant Biochemistry, Molecular Biology & Allied Sciences

Eligibility:

1. The Award will be considered for "life time" achievements in the above disciplines.
2. The award has to be nominated by a life member of the society and no self-nomination is accepted.
3. The Awardee should give a lecture at the Annual General Body Meeting of the Society of Biological Chemists (I) and should have been a member of the Society for at least two years.
4. The Award is open to all Indian Scientist who must be a life member of Society of Biological Chemist India.
5. One person can be nominated for only one award.

PROF. A.N. BHADURI MEMORIAL LECTURE AWARD		
Year of Commencement	Frequency	Value
2006	Once in three years	Rs.10,000/- with a citation

Eligibility:

1. The recipient of the award should be below 50 years of age on December 31st of the year of the award.
2. The award is open to all Indian Scientists who hold a permanent position in Universities, public funded Institutes and National laboratories.
3. The award is given for Biological Chemistry and Allied Sciences, preferably related to parasitic infections.
4. The award has to be nominated by a life member of the society and no self-nomination is accepted.
5. A lecture will be scheduled at the Annual Meeting of SBC(I) and presentation will be made at that time.
6. The Award is open to all Indian Scientist who must be a life member of Society of Biological Chemists India.
7. One person can be nominated for only one award.

Dr. Kamala Sohonie Memorial Lecture Award for Women Scientists		
Year of Commencement	Frequency	Value
2026	Once in three years	Rs. 20,000/- with a citation

Description: The award is instituted by the Society of Biological Chemists (India) in the memory of Dr. Kamala Sohonie who was one of the earliest Indian women scientists to earn a PhD for her research in biochemistry. The SBC(I) establishes this award from the year 2026 to recognize an eminent woman scientist of India with a distinguished track record in the field of biological chemistry and related areas. The award will be given once in three years at the annual SBC(I) meeting.

Eligibility: The recipient should be a woman scientist with a distinguished independent research career in any university or research institution in India in biological chemistry and allied sciences. The Award is open to all Indian Scientists who must be a life member of Society of Biological Chemist (India).

Nomination: The nomination should be received from a life member of the society and self-nominations are not acceptable.

Award: The awardee would receive a citation and sum of 20,000 INR for this lecture award.

Note: A Person is entitled to only one SBC(I) Award in a Lifetime.

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 a life member of Society of Biological Chemist India.
6. One person can be nominated for only one award..

Here's is an opportunity to be 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
Bangalore 560 012
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.45,000/- 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, should submit the application by 30 June.

*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.

2025 ANNUAL AWARDS

The Society announced the Annual Awards for the year 2025 at its Annual Meeting Held at University of Hyderabad during December 17th to 19th 2025. 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.

D P BURMA MEMORIAL AWARD

K N Balaji
IISC, Bangalore

Pathogens like *Mycobacterium tuberculosis* co-opt select epigenetic factors to elicit robust reprogramming events and ensure survival within host cells. Our laboratory investigates how these events contribute to pathogenesis, with the aim of identifying novel targets for Host-Directed therapy (HDT). To achieve this, we utilise multi-omics analysis and validate potential targets by cell culture studies and small animal models of mycobacterial infection.

Our recent work has delineated the molecular pathways by which Mtb modulates host iron homeostasis through the differential regulation of iron storage and mobilisation, resulting in an excess of labile iron in infected macrophages. This induces oxidative stress, uncontrolled lipid peroxidation, and membrane rupture, leading to a necrotic mode of cell death termed as ferroptosis. Interestingly, ferroptosis facilitates Mtb dissemination, detrimental inflammation and tissue damage during TB. Mechanistically, we report a role for the altered regulation of post translation modifiers, such as KAT8 (Lysine acetyltransferase) and PRMT5 (Protein arginine methyltransferase) in regulating the localisation and downstream activation of key mediators of the pathway. Pharmacological inhibition of these distinct factors compromised the progression of Mtb infection in BALB/c mice, marking them as potential candidates for HDT. Parallel studies from our laboratory have also identified a novel role for lipoxygenases, and ACSL4, in driving this uncontrolled lipid peroxidation during Mtb infection.

Collectively, our findings provide a framework for understanding how cellular reprogramming controls ferroptosis during Mtb infection. Importantly, our studies demonstrate how metabolic vulnerabilities can be targeted in HDTs for a more effective clinical management of mycobacterial infections.

Selected Publications

1. Satish B. A, Sundar S, Rajmani R. S, **Balaji K. N**, Role of Activin A–Mediated KAT8 Expression in Regulating Ferroptosis During *Mycobacterium tuberculosis* Infection, ***J Infect Dis***, 2025; jiaf482.
2. Lohia G. K, Shah A, **Balaji K. N.** Histone demethylase LSD1 regulates lipid homeostasis during *Cryptococcus neoformans* infection. ***iScience.*** 2025; 28(9): 113405
3. Prakhar P, Bhatt B, Lohia G. K, Shah A, Mukherjee T, Kolthur-Seetharam U, Sundaresan N R, Rajmani R S, **Balaji K. N.** G9a and Sirtuin6 epigenetically modulate host cholesterol accumulation to facilitate mycobacterial survival. ***PLoS Pathog.*** 2023; 23;19(10):e1011731

P A KURUP ENDOWMENT LECTURE AWARD

Prof. Ravishankar Ramachandran
CDRI, Lucknow

Novel Mechanisms of AP-Site Recognition and Repair in DNA and mRNA: Insights from *Mycobacterium tuberculosis*

Prof. Ravishankar Ramachandran, is Chief Scientist and Professor, Biochemistry and Structural Biology Division, CSIR-Central Drug Research Institute (CDRI), Lucknow, an Institute that bridges translational studies and drug discovery. He has established himself as a leader in Molecular Biophysics and Structural biology-aided drug discovery. His research portfolio seamlessly integrates fundamental science with translational outcomes that address pressing health challenges.

One key area of his research involves nucleic acid repair. Apurinic/apyrimidinic (AP) sites represent critical lesions in both DNA and RNA, posing significant threats to genomic and transcriptomic integrity. In *Mycobacterium tuberculosis* (MTB), efficient recognition and repair of

AP sites are vital for bacterial survival under oxidative and UV stress conditions. This talk will explore our seminal findings on the distinct mechanisms governing AP-site repair in DNA and mRNA, focusing on the roles of the class II AP-endonuclease/3'-5' exonuclease (XthA) and the ribosomal protein Rps3 respectively. XthA engages with NAD^+-dependent DNA ligase A (LigA) and the ß-Clamp to form a BERosome to counter futile cleavage and ligation cycles in Base Excision Repair, ensuring robust DNA repair. In contrast, Rps3 exhibits a novel AP-endoribonuclease activity, recognizing and cleaving AP sites in mRNA via its conserved 130RR131 motif within the 30S ribosome's mRNA entry tunnel. High-resolution Cryo-EM structures reveal cleaved mRNA products and a hyper-rotated 30S ribosome conformation, facilitating downstream processing by ribosome quality control factors. Knockdown studies in MTB H37Ra further underscore Rps3's protective role against stress-induced mRNA damage. By comparing these mechanisms, his work has highlighted the sophisticated surveillance systems in MTB that safeguards nucleic acid integrity, offering insights into bacterial stress response and potential therapeutic targets and strategies.

Dr. Ramachandran's is an elected *Fellow of INSA and NASI academies*. His recognitions include the *Tata Innovation Fellowship* (2022-2023), *National Bioscience Award* (2010), *NASI-SCOPUS Young Scientist Award* (2010) and *Alexander von Humboldt* Fellowship (1999-2001), that reflects his sustained excellence. His leadership in National committees e.g., Task Force on Repurposing Drugs for COVID-19, Chairperson of KGMU-DHRMRU, APDC Member of NIPER, and over 100 high-impact publications and mentorship of over 25 Ph.D. students, further underscore his research contributions.

P.S. SARMA MEMORIAL AWARD

Prof. Sanjeev Shukla's
IISER, Bhopal

Prof. Sanjeev Shukla's most innovative contribution is his groundbreaking elucidation of how epigenetic mechanisms orchestrate alternative splicing to drive cancer progression, particularly within the tumor microenvironment. His seminal work first unveiled a novel mechanism where intragenic DNA methylation and the oncofetal protein BORIS cooperatively regulate PKM alternative splicing to its cancer-specific PKM2 isoform. This critical event fuels the Warburg effect, providing a metabolic advantage and identifying a promising therapeutic vulnerability (Singh et al., PNAS 2017). Building on this, Prof. Shukla extended this paradigm to the hypoxic tumor microenvironment. He identified CTCF as a novel hypoxia-inducible gene, demonstrating its upregulation via HIF1α-TET2 mediated epigenetic modifications, promoting EMT (Kakani et al., Cell Reports 2024). Crucially, he then showed that hypoxia-driven CTCF redistribution across the genome leads to COL5A1 alternative splicing through CTCF-mediated chromatin looping and RNA Pol II pausing, producing isoforms that drive metastasis (Kakani et al., Cell Reports 2025). This landmark report, the first linking CTCF-mediated chromatin looping directly to alternative splicing, offers profound insights into how long-range chromatin interactions dynamically regulate splicing in response to the tumor microenvironment. Additionally, Prof. Shukla's lab provided the first evidence of CTCF's role in regulating autophagy through alternative splicing of the hypoxia-induced autophagic gene BNIP3L in breast cancer (Pandey et al., JBC 2024). Concurrently, His group recently published the first report demonstrating that PRMT5-mediated histone methylation directly orchestrates alternative splicing, a mechanism shown to regulate TCF3 under hypoxia to promote EMT and invasion in breast cancer (Mutnuru et al., PLOS Biology 2025). Collectively, Prof. Shukla's body of work consistently uncovers sophisticated epigenetic-splicing axes that underpin cancer's adaptability and aggressiveness, identifying crucial therapeutic vulnerabilities.

SBC(I) Poster Award Winners 2025

Best poster awards given by SBC(I)	
1.	Pratikshya Tripathy (IISER, Berhampur)- D P Burma Best Poster Award
2.	Suryansh Sengar (BITS-Bilani, Hyderabad)-D P Burma Best Poster Award
3.	Keshav Gupta (BRIC-CDFD, Hyderabad)-PR Sudhakaran Best Poster Award
4.	Ninni Sutradhar (CFTRI-Mysuru)- BS Narasinga Rao Best Poster Award
5.	Sowmya Reddy Gurrala- (ICMR-NIN) - BS Narasinga Rao Best Poster Award
6.	Nanditha Pramod (UoH-Hyderabad)- UK Misra Best Poster Award
7.	Sakshi Anand (JNU-New Delhi) - SBC (I) Best Poster Award
8.	Sonal Negi (ACTREC-Mumbai)- SBC (I) Best Poster Award
9.	Kishori Lal (BHU, Varanasi)-SBC (I) Best Poster Award
10.	Poulomi Sarkar (IICB-Kolkata)-SBC (I) Best Poster Award
11.	Puja Laxmanrao Shinde (BRIC-RGCB)-SBC (I) Best Poster Award
12.	Adyasha Sarangi (UoH-Hyderabad)- SBC (I) Best Poster Award
13.	Kagolla Priscilla (CUK-Kalburgi)-SBC (I) Best Poster Award
14.	Madhulika Singh and Deepti Chandra (IISc- Bangalore)-SBC (I) Best Poster Award

Best poster awards by the organisers	
1.	Zonunsiami Leihang, JSS Academy, Mysuru
2.	Rahul Dey, CSIR-IICT, Hyderabad
3.	Sowmya V, Bangalore University, Bengaluru
4.	Ajanas Kizhuvedatg, University of Hyderabad, Hyderabad
5.	Apeksha Hedoo, University of Hyderabad, Hyderabad
6.	Havila Thiyyagura, Guntur Medical College, Guntur
7.	Freya Cardozo, IISc, Bangalore
8.	Gousiya Begum Shaik, Sri Krishnadevaraya University, Anathapuramu
9.	Swathi, BITS-PILANI, Hyderabad
10.	Sarath KS, ICMR-RMRC, Srivijaya Puram, A&N Islands
11.	Jitender Jangra, IIT-Hyderabad
12.	Sruti Biswal, NIT-Rourkela
13.	Minati Nayak, BARC Trombay, Mumbai
14.	Pankaj, Davangere University, Karnataka
15.	Ankur Chatterjee, (UoH-Hyderabad)

Prof. N. Appaji Rao

The growth of SBC(I) from local to national to international

Initial associations with SBC(I)

I did my PhD with Prof. K. V. Giri at the Department of Biochemistry, IISc. At that time, IISc would give an Associate degree of the Institute (equivalent to a Masters degree) so I was registered for PhD under the University of Rajasthan, Pilani. I would work in Prof. Cama's lab in the basement of the MCBL building and a wooden partition separated the lab from the SBC(I) office. Dr. S. Natarajan from the Medical Department. Government of Mysore was the President of SBC(I); in addition, he was the editor of a Kannada humor magazine. Dr. Natarajan requested me to help with clerical duties of society during breaks in experiments and also asked me to become a member of SBC(I) by paying Rs 50. Now Rs 50 was an enormous amount to pay given that my monthly stipend from the Institute was Rs. 75. The cost of living was much lower those days and the hostel mess with excellent food was 60 paise per day, so about Rs 18/month. IISc was initially paying for the staff employed but later withdrew it.

Post PhD and post-doctoral research, I was hired as a CSIR pool officer in 1960s. By this time, Prof. P. S. Sarma became the Chair and he brought some order to the Department of Biochemistry, IISc. At that time, the Chair of the Department of Biochemistry was automatically the President of SBC(I). I was involved in the activities of SBC(I) and it was Prof. Sarma who made me Secretary of SBC(I). Unfortunately, both Prof. Giri and Prof. Sarma passed away at a young age of 52 years.

From local to national

The Annual General Body Meeting (AGBM) in Hyderabad in 1976 is important for SBC(I) as it played important roles at a national level. First, a resolution was passed supporting the establishment of CCMB, Hyderabad by Dr. Pushpa Bhargava. This resolution was helpful as CCMB was officially established the next year, i.e. April 1977. Second, it was decided that SBC(I) would be associated, along with CSIR, with the publication of the Indian Journal of Biochemistry (started in 1964 by CSIR) and included in the widely read Current Contents. Presently, the journal is known as the Indian Journal of Biochemistry and Biophysics or IJBB. Both these important decisions led SBC(I) to play important national roles.

The two Presidential elections

Usually, Presidents are nominated by the Executive council (EC) and accepted by the AGBM. As far as I remember, there were two instances where elections were held for the post of President, SBC(I). The first was the AGBM in 1972 at Pantnagar, Uttarakhand. Prof. A. N. Radhakrishnan was nominated by the EC; however, in the AGBM, another person nominated Prof. Bacchawat. Following a show of hands and counting of slips, Prof. A. N. Radhakrishnan was declared the winner and served as President from 1973-1974. Incidentally, Prof. Bacchawat served several terms as President, SBC(I): 1969-70, 1979 and 1990-1994.

The second Presidential election occurred during my election in Trivandrum (now known as Thiruvananthapuram), Kerala in 1986. Prof. P. A. Kurup, Dr. V. M. Sivaramakrishnan and myself were candidates. Dr. V. M. Sivaramakrishnan was nominated as other contestant and elections were announced followed by counting of ballots. Finally, I was elected and served the society as President from 1987-88.

From national to international

This transition occurred when I was the Secretary, INSA and Dr. Varadarajan was the President, INSA. Previously, the affiliation to the international organization, IUBMB, by the Government of India was INSA. I felt that SBC(I) should be the contact point as in all countries societies were part of IUBMB. Consequently, both INSA and SBC(I) were co-opted to be the contact point for IUBMB. In 1991, Prof. Padmanabhan and I attended the IUBMB Congress in Jerusalem, Israel to put forth our case for organizing a meeting in India. The President of the congress was highly supportive as he recalled many students from the Department who had done well. I can recall two names now: Prof. Inder Verma who worked on Cuscuta with Prof. S. Mahadevan and Prof. V. Krishnan who worked in our lab, then did his PhD in Weizmann Institute of Science, Israel and is now a faculty in VIT, Vellore.

The 1994 IUBMB Congress held in Hotel Ashoka, New Delhi was a grand success with large number of delegates and budget outlay. After settling the accounts, I started to slow down and retired from the Institute in 1995.

Main roles of SBC (I)

In my view, SBC(I) has been a useful platform in holding meetings and facilitating interactions between students and faculty and

between institutions. Several students have got opportunities to meet distinguished faculty from abroad and secure post-doctoral fellowships. In fact, I have benefitted from meeting faculty at SBC(I) meetings and these have enriched my research and led to life-long friendships. These meetings also foster cooperation between institutions. I recall a meeting organized in 1967 between the Biochemical Society, UK and SBC(I). A lot of effort went in organizing this meeting with multiple sessions and a pandal had to be created to serve food to the delegates. Thankfully, the state government and the Institute were highly cooperative.

I am thankful to all the folks who were part of my journey. Special thanks are also due to M. L. Krishnarao, office secretary, and Venkatesan, Prof. Cama's secretary, who worked for SBC(I) with no payment but worked on a honorary capacity and goodwill. It was a different world those days! In addition, I thank M. Vijayakumar working in Finance section, IISc did a yeoman's service by keeping accounts for symposia organized over thirty years. The crowning act was four years spent for the IUBMB meeting and accompanying me on several trips to Delhi.

This write up is as per the conversations of Prof. N. Appaji Rao with Dipankar Nandi and Madhusudan on 18 April 2026.

G Padmanaban
Department of Biochemistry, Indian Institute of Science, Bangalore

Society of Biological Chemists, India

I think, I became a member of SBCI in 1969. I was a Post-Doctoral Fellow in the Department of Biochemistry, IISc. I had submitted my thesis for the PhD degree at IISc in 1965 and got the degree in 1966. Unlike others, I had not gone abroad and wanted to do research in India. In 1969, SBCI had its annual meeting at Mumbai (BARC). I and my colleague S L N Rao wanted to attend and found that SBCI will give travel funds to students, but they have to be members of the Society. I think, SBCI has around 2000 members, although it just started with 40 members in 1930. The annual meetings were held in different parts of the country and so it gave an opportunity to travel and get in touch with the scientific community. SBCI played an important role in the establishment of Biochemistry as an independent Department. The norm at that time was that Biochemistry as a Department did not exist or was part of Zoology Department, in general. The department of Biochemistry at IISc is considered to be oldest (established 1921) next only to its establishment in Liverpool University (established in 1902) in UK. To quote a few other examples, M C Nath was considered to be a pioneer with the establishment of the Department in Nagpur, 1946. C V Ramakrishnan established the Department in M S University, Baroda in 1955 (father of Venky Ramakrishnan, Nobel Laureatte)

The Annual meetings of SBCI were held in different parts of the country with advice from the Central establishment at IISc, Bangalore. The branches decided on the main focus of the meeting. The Head office usually made a small advance sum for the branch to initiate the organization of the meeting. After conclusion of the meeting, the branch was expected to return the advance. More often, the amount was more than the advance received and the branch was encouraged to initiate some activity to promote research. SBCI funds were generally used for travel awards to students and active scientists. Although, the amount was modest, it helped the candidates to raise funds from other sources, such as DST, DBT, National Science/ Engineering Academies. The SBCI head- quarters has always been at IISc over the years and the Executive Committee used to meet in the basement of the old Microbiology and Cell Biology Laboratory, adjacent to the old Biochemistry Department. I think SBCI has now moved to a modern office in the New Biological Sciences Building at IISc.

When Molecular Biology was born as a discipline, there were suggestions that SBCI should become SBCMB. But, after heated discussions, it was decided that SBCI would not change its name. SBCI, however, became a member of FAOB (Federation of Asian and Oceanian Biochemists) and also hosted very successfully the IUBMB Congress in Bangalore. It had several parallel sessions and was considered to be one of the best meetings held!

I can recall an interesting anecdote, when a group of scientists visited UK to participate in the joint meeting of the SBCI and British Biochemical Society. I do not remember the dates. I think, Bimal Bacchawat was the President of SBCI and the team included Pushpa Bhargava (who established CCMB at Hyderabad). I was also a member along with two or three more younger scientists. We all made our presentations in the slots assigned to us during the day. But, Pushpa Bhargava insisted that his presentation has to be an Evening Lecture. The British counterparts were a bit skeptical about the attendance of people for the lecture. In any case, we went ahead and assembled in the hall, similar to the Faculty Hall at IISc. There were exactly 8 people in the audience, 4 from our group and 4 from the British office bearers in a hall with an accommodation capacity of around 300! But, the striking feature was that Pushpa did not mind the poor attendance and gave the talk meant for a larger audience!

Another interesting episode, as described by Appaji Rao, involved the Japanese scientist Dr Kunio Yagi, who was the chief guest at the SBCI meeting in Tirupati. On the day he arrived at Chennai, the city was closed down, since M G Ramachandran (MGR), the most popular film actor had passed away. While, the people at Bangalore were concerned about his safety, apparently 'the bubbly old gentleman in a bowler hat had whale of a time', placing flowers and lighting incense sticks at the photographs of MGR placed at street corners and said that was the most interesting experience in all his travels around the world.

I wish SBCI a great future and a grand Centenary celebration ahead. It has played a vital role in spreading newer concepts in Life Sciences through various workshops. It is now time to spread concepts of Synthetic Biology and Quantum Biology among scientific community in the country, especially among the younger generation, who will take the country towards global leadership.

K.P. Gopinathan

My Experiences with SBC

Prof. KPG is a distinguished molecular biologist and former Chair of the Microbiology and Cell Biology Department, IISc, Bengaluru.

When I was requested by the SBC President to pen a few lines for the current Issue of the Newsletter on my experiences with the Society, perhaps due to my very long association with the Society I was confused as to where to start or where to end. I had a mixed-up sense and gobbled mind-set, partly because of my age and gobbled up clarity as to what should be included or not, and should it include the names of individuals and make biographical sketches. Pardon me if I have overstepped and request the individuals (or their *parampara*) to tolerate me. My association with SBC started as a student member in 1962 when I was a PhD student at IISc and became a life member before I left for the US in 1965 On my return from the US 1969 end, I was made the junior Secretary, along with Prof Appaji Rao, a person with the longest association with SBC, who had served as President, Secretary and Treasurer of SBC. The other contemporaries were Profs Moudgal, Adiga and Vaidyanathan from the BC Department. The SBC Office was located in the basement of my Department (known as Pharmacology then). Soon I became the Senior Secretary and Vice President afterwards (but never The President!!). During my Senior Secretary Tenure the Annual General Body (AGM) was held at CFTRI, Mysore. SBC was founded in Bangalore but registered under the Societies Act of Mysore, in 1930 and therefore, had close relationships. There was a contest for the election of the President, which is normally done unanimously) as there were two contestants. Prof. T.A. Venkata Subramaniam (TAV) who was at VP Chest institute in Delhi (it later became CBT and presently IGIB) and Prof. G.P. Talwar at AIIMS, New Delhi. Attempts were made to dissuade TAV but one of the senior executive members of SBC, Prof. A.N. Radhakrishnan stood up and said that the nomination of TAV stands and therefore, Presidential elections were conducted - lo and behold TAV won and served as President (1975-76) I served as an executive committee (EC) member of SBC Secretariat for long years. Perhaps the quorum demanded the presence of 9 members and I was always available locally. I enjoyed these meetings as all the EC members and the President used to take my advice seriously.

Simultaneous with my involvement, I also had the Secretaryship of the Biochemical Society, a major constituent of SBC. Prof P. S. Sarma was the President of both SBC and the Biochemical Society and provided ample opportunities to interact. Apart from arranging quarterly scientific meetings, we also conducted joint picnics at the exotic spots close to Bangalore. These outings were very popular with the members of the Society but members from even the non-biology departments.

After Prof. Sarma's unexpected death abroad while he was attending an international conference in Rome due to a massive heart attack the coffin bearing his body was brought back to Bangalore. When his coffin bearing the dead body arrived some of our senior professors shed tears. Soon afterwards, in early 1970s, the society decided to install some memorial awards honoring selected eminent Biologists in the country and the Sarma Memorial Award and Sreenivasaya Memorial Awards were instituted. I coined these words, along with T. Ramasarma, "*Karma Sanyasat Karma Yogo Vishishyathe*" for the citation for the Sarma Memorial Award, to reflect what a task master P.S. Sarma was because those words roughly translated into "*hard work is better than renunciation of duty*". These citation lines were removed when the certificate format was redesigned by the later office bearers, Although I did not get either of these awards, in later years I received the Prof. C.R. Krishna Murti Award.

Sreenivavasaya was heading Fermentation Technology, physically located on the ground floor of the Pharmacology Bldg. He was an Editorial Board member of the prestigious Journal BBA which was the leading Biochemistry journal those days. I was a student of Pharmacology, headed by Prof. Sirsi, a gentleman par excellence and a medical doctor by training from Austria, Vienna. The idea was to work together with the Organic Chemistry Department to screen synthetic anti-tubercular agents, mostly amino acid conjugates generated there. As a joint student with Sirsi for my Ph.D. registration, I was engaged with

the tuberculosis related activities. After my return from the US with postdoctoral stints at the University of Illinois and Yale University, I was recruited to Pharmacology Lab. At that time, I was elected as the Secretary of SBC. Traditionally in the first year as junior secretary and second year onwards, the Senior Secretary. I worked with Prof. Appaji Rao, who had served as Secretary, Treasurer, Vice President as well as the President.

Subsequently Prof. P. M. Bhargava (PMB), then working at CSIR RRL (presently IICT), later founded the CCMB. He was an excellent institution builder apart from being a good scientist and later became the SBC President. One major weakness(?) of PMB was dropping names whenever he got a chance. He added the letter "I" to follow SBC and to read SBC(I) to ensure the all India nature of the Society. Somehow many of us were not that happy because of some political developments prevailing at the national level. I was the senior secretary when the AGM and Annual Scientific meetings were conducted at M.S. University, Baroda (now Vadodara). PMB's Presidential address was on his "pet" molecule isolated from Bull Semen. To establish the versatility of this molecule he stated that apart from controlling male fertility, it also had anti-viral activity against HIV, and summarized by stating that "If you work with exotic molecules, you will get exotic results!! A senior member sitting next to me among the audience whispered in my ear "it is exotic to the cow". Even here PMB dropped names after the entertainment function before concluding the GBM. The artist was Mallika Sarabhai, an excellent Kuchipudi dancer and the daughter of Vikram and Mrinalini Sarabhai. PMB dropped names again by saying how he knew her when she was a toddler!!!

I had served as Vice President of SBC during the tenure of Prof. B.K. Bachhawat, another stalwart of Biochemistry in the country but a poor speaker who used to mumble while giving talks. The AGM and Annual conference that year was held at Madurai Kamaraj University. The President couldn't arrive in time as his flight to Madurai was delayed by hours. At that time organizers requested me to stand by, a role for the VPs, and deliver the Presidential address. I was on stage and delivering the address, the President arrived and he had no qualms to move me out without letting me complete my address!! I took it lightly and took the incident as a personal idiosyncrasy of the President. BKB talked about his pet topic of glycobiology. Of course, most audiences did not understand what he talked due to the mumbling. Later, BKB and I became great friends after he moved to head Delhi University South Campus Biochemistry. I became close to his family also.

SBC is one of the major constituents of Federation of the Asian and Oceanic Biochemistry and Molecular Biology (FAOBMB). I had attended the FAOBMB meeting held at Perth, Australia and gave a talk at the "Colloquium" session on transcription. Although I was not an official delegate of the SBC for this meeting, I had vested interests to visit Perth and attend the meeting on my own. Once again as an organizing Committee member of the IUBMB meetings held in Delhi in 1982, I organized a session on "Transcription" with many international speakers. There were two parallel sessions on Eukaryotic Transcription and I had concentrated more on the "ODD polymerases" comprising of Pol I and Pol III.

I hope the readers of this newsletter will pardon me for flaws, if any, that I have made and overstepping my limits. Let me end up by saying "Jai Ho" SBC!

Prof. M. S. Shaila

My associations with the Society

Earliest recollections of SBC(I)

I was a student member of SBC(I), having joined for PhD with Prof. T. Ramakrishnan in the Department of Pharmacology in 1967. Subsequently, Prof. K. P. Gopinathan (also a former student of Prof. TR) joined the Department as faculty and I was a joint student of both working on streptomycin resistance in *Mycobacterium tuberculosis*.

Initially, the ground floor of our building was the Department of Fermentation Technology was led by Prof. J. V. Bhat, a microbiologist. The Department of Pharmacology was on the first floor and was led by Prof. M. Sirsi, a medical doctor interested in the pharmacological action of drugs. Subsequently, both Departments merged to form the Department of Microbiology and Pharmacology. Once Prof. H. Sharat Chandra joined as faculty, the department's name was changed to Department of Microbiology and Cell Biology (MCBL).

Prof. T. Ramakrishnan was forward-looking and encouraged his students to attend and present their findings in SBC(I) meetings. I presented a small piece of work for the first time during my second year of PhD. Do note that the SBC(I) office was at the basement of our building, so it was convenient for us to have close associations.

I completed my PhD in 1973. After a postdoctoral stint in Yale university, I returned as a postdoctoral fellow in Prof. K. P. Gopinathan's laboratory in 1976, joined as a lecturer in the same department in 1979 and became an Assistant Professor in 1984.

Simultaneously, more faculty and students were joining the Institute and SBC(I) was also growing with newer people and newer areas. I am happy to note that I was awarded the A. Krishnamurthy award of SBC(I) in 1976 for the best scientific paper published in an Indian journal. Also, I became the Vice-President of SBC(I) during 1995-96 when Prof. G. Padmanaban was the President.

Recollections of SBC(I) meetings and people

I recall several SBC(I) meetings and the folks involved. In 1980, there was the Golden Jubilee celebrations of SBC(I). I recall G. K. Garg, a joint student of Prof. Appaji Rao and Prof. C. S. Vaidyanathan from the Department of Biochemistry, IISc. He went to Pantnagar and set up Biochemistry as a subject of research there. I recall attending the 1985 SBC(I) meeting in Pantnagar.

The 1992 meeting in Hyderabad was another one and I recall Prof. P. M. Bhargava's contributions. The 1994 IUBMB meeting in Delhi was a glorious one and SBC(I) played a pivotal role in organizing it.

I have collaborated extensively with Prof. Rabindranath Nayak who served as Chair, Central Animal Facility (CAF), IISc for a long time. At some point, he was Chair of CAF as well as Chair of MCBL. He fortified associations of several faculty with SBC(I) during his tenures.

Being part of SBC(I) has been useful as it served as a platform for interactions and newer ideas.

Experiences as a woman during the early days

At the time I joined for PhD, there were very few women students. However, by the time I completed my PhD there were more students in Prof. KPG's lab. As far as I recall, I was the first woman faculty in the Division of Biological Sciences, IISc.

The SBC(I) meetings were a place for us to meet scientists and discuss ideas. One person whom I met and was most impressed with was Dr. Mahtab Bamji, a pioneer in the areas of nutrition research and public health.

As SBC(I) moves to its centenary, I wish it the very best in the years to come.

Prof. Shaila visited the SBC(I) office, IISc, Bangalore on 16 May 2026 and this write up is based on her discussions with Dipankar Nandi, Madhusudan and Ravi.

A Historical Overview of the Society of Biological Chemists (India)

Prof. Hemalatha Balaram recently wrote an insightful overview of the history of the Society of Biological Chemists (India) in a newsletter published by the International Union of Biochemistry and Molecular Biology (IUBMB) in December, 2025. As the SBC(I) nears its centenary in 2030, the article by Prof. Hemalatha Balaram puts a spotlight on the historical beginnings of this society in 1930 and traces its growth and contribution to Indian science over the last century to its recent past. Interesting snippets of the society's registration, early presidents and its contribution towards the second world war effort can be learnt from this overview. It further reveals details of how the society is administered and describes its activities primarily focused on holding symposia and the annual meeting of the society that continue to be enthusiastic gatherings of scientists and students engaged in research in biological chemistry. The venues of SBC(I) annual meeting and local chapters' symposia have spanned all regions of the country over the last several decades and there is a record of one meeting being held in Lahore prior to the partition of the country in 1947. The SBC(I) continues its association with both Federation of Asian and Oceanian Biochemists and Molecular Biologists (FAOBMB) and IUBMB to participate in their international activities and remains a focal organization within India coordinating annual meetings, encouraging young biochemists and recognizing the contributions of Indian scientists in biological sciences.

Prof. Hemalatha Balaram's article about SBC(I) can be accessed at the following link:
https://iubmb.org/wp-content/uploads/2026/01/IUBMB-Newsletter-Issue-20_December-2025.pdf

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Jeewanu: India's unfinished claim on the origins of life

Curiosity around the origins of life has always piqued the interest of biochemists. Most scientists are aware of the classic experiments by Stanley Miller and Harold Urey in the 1950s (1, 2), which demonstrated that organic molecules could arise from inorganic precursors under simulated conditions prevalent on prebiotic Earth. Less widely remembered is a daring parallel effort carried out in India around the same period by Indian chemists, Krishna Bahadur and S. Ranganayaki, at the Department of Chemistry, University of Allahabad.

Working with a mixture of simple compounds, including paraformaldehyde, ferric chloride, potassium nitrate, ammonium phosphate, molybdenum dioxide, sodium chloride, and water, and exposing it to light, they reported the formation of tiny spherical particles. They called these structures *Jeewanu*, meaning "particles of life". In a series of publications, they proposed that these particles could grow, divide, contain amino acids, and even fix nitrogen, suggesting a primitive cell-like organisation, emerging from inorganic matter (3, 4, 5, 6). In their view, these were protocells.

The claim was provocative, and it drew attention far beyond India. At the same time, it also attracted scepticism. Later, a 1967 NASA report found no convincing proof that *Jeewanu* were alive or metabolically active. It suggested that much of the supporting data rested on assays that, by modern standards, were rudimentary (7). Over the years, the work slipped into obscurity. Few laboratories attempted to replicate the Indian duo's protocol, and critics argued the original evidence was insufficient or artefactual. Without molecular tools, imaging methods, and rigorous biochemical validation, the *Jeewanu* story remained tantalising but unresolved.

Today, Bahadur and Ranganayaki's work is a piece of historical curiosity. Their "particles of life" was a bold idea ahead of their time, predating many origin-of-life experiments, but it remained an enigma for a long time. Currently, researchers at the National Centre for Biological Sciences (NCBS) in Bangalore are revisiting the concept using advanced tools. They have retested the old recipe with modern techniques, and their findings are available as a preprint (8). The legacy of *Jeewanu* lies in this renewed scrutiny: it reminds us that even forgotten experiments can inspire fresh inquiry. For Indian biochemists, the story of *Jeewanu* illustrates both the creativity of past scientists and the importance of rigorous validation in frontier research.

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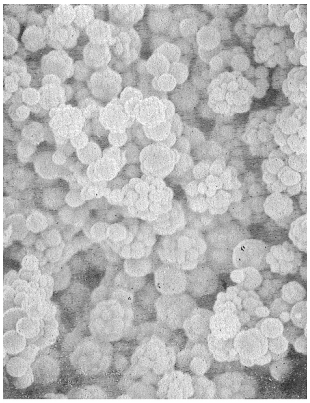

Scanning electron micrograph of Jeewanu,
(x 2000, *by the courtesy of Dr. A.E. Smith of Concordia University, Montreal, at present in Ames Research Center, NASA, Moffett Field, California*).

Image reference: Grote, M. (2011). Jeewanu, or the 'particles of life' The approach of Krishna Bahadur in 20th century origin of life research. *Journal of Biosciences*, *36*(4), 563-570.

Debraj Manna's research interest is in non-canonical translation. In addition, he is interested in decoding complex scientific discoveries into compelling narratives. He is committed to sharing the stories behind scientific advancements while shedding light on the lives of researchers.

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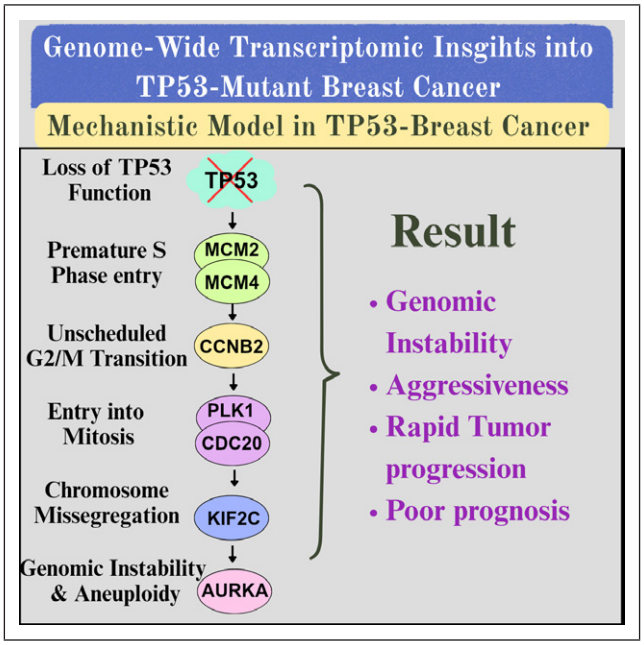
Genome-Wide Transcriptomic Insights into TP53-Mutant Breast Cancer

Breast cancer remains the leading cause of cancer among women, accounting for nearly 27 – 32% of all female cancers and contributing substantially to cancer- associated mortality worldwide. Owing to its molecular heterogeneity, patient response to therapy and clinical prognosis vary considerably across subtypes, necessitating the identification of robust molecular biomarkers and therapeutic targets. Among the most frequently altered genes in breast cancer, TP53 mutations are particularly significant, occurring in approximately 30% of overall breast cancer cases and reaching frequencies of 70 – 80% in aggressive Basal like, Triple- Negative Breast Cancer (TNBC) and HER2 – enriched subtypes. Despite the established role of TP53 in tumour progression, comprehensive genome wide transcriptomic comparison between TP53 mutant and wild type breast cancer remain limited. To address this gap, our study performed an integrative RNA- sequencing-based transcriptomic analysis using TCGA - BRCA cohort data, comparing more than 1,000 breast cancer samples obtained from the UCSC XENA browser. Samples were stratified into TP53 mutant (N = 261) and wild type (N = 957) groups, followed by differential expression analysis using the limma Voom pipeline with stringent statistical thresholds (FDR < 0.05 |log2FC| < 0.5 and |log2FC| > 0.5). The analysis identified 4, 123 differentially expressed genes, including 2,039 upregulated and 2,084 down regulated genes, indicating that nearly 20% of the transcriptome is altered due to TP53 mutation - driven molecular dysregulation.

Comprehensive transcriptomic and pathway analysis revealed profound biological alterations associated with TP53 mutations. Heatmap and PCA- based visualisation demonstrated clear transcriptomics separation between mutant and wild-type groups. TP53-mutant tumours showed enrichment of genes such as KRT5, KR4, KRT6B, SOX10 and PRAME, whereas wild type tumours exhibited enrichment of TFF1, TFF3, MUC1, and AGR3. Functional enrichment and Gene Set Enrichment Analysis (GSEA) demonstrated strong activation of pathways related to cell cycle progression, E2F targets, G2/M checkpoint signalling, CMYC signalling, DNA repair, Mitotic Spindle regulation and PI3K-AKT signalling, highlighting uncontrolled proliferation and Genomic instability in TP53-mutant tumours. Integrated analysis identified 73 core dysregulated genes, including PLK1, CDC20, KIF2C, CCNB2, MCM2, MCM4, AURKA, CDK1 and KPNA2 which are associated with DNA replication, mitotic progression, chromosomal instability and tumour proliferation. Notably TBRG4 and CBX3 emerged as potentially novel candidate genes in TP53-mutant breast cancer, warranting further investigation. Mechanistically loss of TP53 function appears to promote premature S-phase entry and schedule G2/M transition chromosomal mis segregation and maintenance of aneuploidy, collectively driving aggressive tumour behaviour. As TP53 mutations are highly prevalent in TNBC. Our future work focuses on subtype specific analysis, validation using independent cohorts such as METABRIC and functional in vitro studies to further establish these molecular signatures as potential diagnostic and therapeutic targets in aggressive breast cancer.



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eIF2A: Silent Bystander or Secret Saviour

In the crowded, tightly regulated world of protein synthesis, few factors have lived a curious life as eIF2A (eukaryotic Initiation Factor 2A). Once thought to be a central player, then dismissed as irrelevant, it re-emerges decades later as a specialist operating in the shadows of cellular stress. Its story is less a straight line of discovery than a loop of chance discovery, neglect, and rediscovery. This is what makes eIF2A so fascinating, because sometimes, the most interesting stories in science are not about what we have solve but about the unresolved puzzles. Thus, the story of eIF2A is not just about one protein. It reflects a broader truth in science, that the absence of evidence is often mistaken for evidence of absence.

In 1975, Anderson et al. identified IF-M1 (later termed eIF2A) as a eukaryotic initiation factor involved in initiator tRNA binding during translation initiation. However, subsequent studies revealed that a heterotrimeric complex of eIF2, initiator tRNA and GTP is involved in the main or the canonical pathway. Thus, eIF2A was set aside, and slowly faded away from the attention of researchers.

The comeback of eIF2A research happened in early 2000s when researchers started to study protein synthesis under conditions where the canonical system fails. For example, under cellular stress conditions, such as viral infection, nutrient deprivation, and ER stress, translation declines globally. Yet, paradoxically, some proteins continue to be synthesised. How? In 2004, Schwab et al. showed that cells can generate MHC-I antigens from an unusual non-AUG start codon, like CUG, revealing that cryptic translation is indeed biologically meaningful. Later studies found that eIF2A could help deliver leucine-tRNA during alternative CUG initiation. This is where eIF2A re-entered the story, suggesting that eIF2A plays a more selective role in protein synthesis. Interaction assays from our laboratory have also demonstrated the formation of the eIF2A-tRNA complex, proposing its context-dependent role. What once looked like redundancy now appears to be specialisation. If eIF2 complex is the main highway of translation, eIF2A is the side road quiet, rarely used, but critical when the highway is blocked.

Despite decades of research, scientists still do not fully understand how eIF2A works. Does eIF2A directly initiate translation by bringing the first amino acid to the ribosome, or is it merely assisting in some indirect, supportive role that we have not clearly defined yet? Does it function independently, or does it rely on partnerships with other, perhaps still unidentified, factors within the cell? And perhaps the most intriguing question of all is whether it is simply a backup system that steps in when the primary machinery fails, or is it something far more specialised, designed for unique situations? We are only beginning to understand.

Studies on eIF2A have highlighted its puzzling role in cancer biology, viral infections and stress-related disorders. While some reports suggest that eIF2A supports HCV-IRES-mediated translation under stress, others contradict it and demonstrate that HCV-IRES translate efficiently without eIF2A. Furthermore, reports have linked eIF2A to the selective translation of stress-survival proteins in tumours. Yet many cancers showed little dependence on eIF2A, which raises the question- is eIF2A a driver of cancer adaptation or just one of several backup translation factors? Similarly, studies in neurodegenerative diseases linked eIF2A to the production of toxic peptides through a specialized mode of protein synthesis (RAN translation) and toxic peptide production, although later reports showed only partial or inconsistent effects after its depletion. In our laboratory, we are trying to catch eIF2A in the act by switching it off to see what breaks, turning it on to see what changes, and placing cells under stress to recreate the very moments where it might matter the most. We are also interested in tracing the proteins that appear when global protein synthesis shuts down, looking for patterns, for signatures, for anything that reveals eIF2A role. Each experiment is like setting a trap, hoping that this elusive molecule will finally reveal what it has been doing all along, as eIF2A may hold clues to how certain diseases persist, adapt, and resist. We hope that one day we would learn to manage or control these diseases in a better fashion.

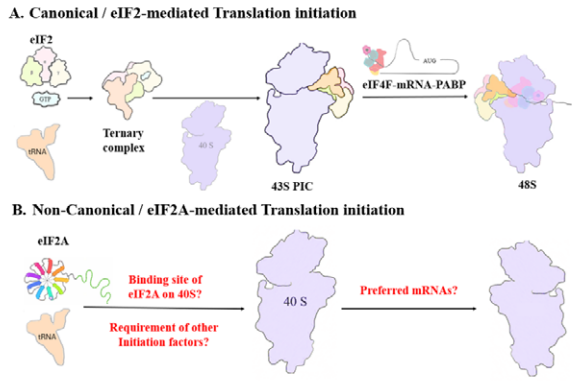

Figure legend:

A: Schematic of canonical eukaryotic translation initiation where eIF2 delivers initiator tRNA as a ternary complex, followed by recruitment of mRNA by eIF4 factors to form 48S PIC.

B: Unknown details of eIF2A-mediated tRNA delivery pathway to 40S to start polypeptide synthesis.

Shailya Gupta is a PhD scholar in the group of Prof. Tanweer Hussain and is studying the role of eIF2A in protein synthesis for her doctoral thesis.

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Protein- Templated DNA synthesis: new horizon for Bacterial Defense research

A fascinating paper published in *Science* this April (2026) has caught the attention of many researchers. Deng and colleagues reported the DRT3 system – a clever bacterial weapon against viruses (bacteriophages). In this system, two reverse transcriptases (Drt3a and Drt3b) work together with a small non-coding RNA to produce long stretches of alternating GT/AC DNA repeats. The Drt3a is doing the copying from the RNA template, but the Drt3b is not doing the usual work; it builds the matching DNA strands without a nucleic acid template. The correct repeating pattern is corrected by the help of specific amino acids in its active site, like a mold. The cryo- EM structures at near- atomic resolution beautifully reveal how these proteins assemble into a large symmetric complex to carry out this job (Deng et al., 2026) which comprises two distinct RTs (Drt3a and Drt3b.

This discovery adds an exciting new twist to our understanding of how genetic information can flow in living cells and further expands the known exceptions to the classical Central Dogma. Found widely in bacteria, the DRT3 is showing a strong resistance to bacteriophage, most likely by producing DNA products that obstruct viral replication, perhaps serving as signaling molecules or molecular imitations. The discoveries of bacterial defense systems have led to a revolution in biology, and it's like the discovery of CRISPR. This will open a new research door to the researcher and exciting avenues in synthetic biology, development of new antiviral strategies, and enzyme engineering. Exploring analogous systems in diverse microbes could yield powerful tools for genome editing and therapeutics (Deng et al., 2026) which comprises two distinct RTs (Drt3a and Drt3b.

Reference:

Deng, P., Lee, H., Armijo, C., Wang, H., & Gao, A. (2026). Protein-templated synthesis of dinucleotide repeat DNA by an antiphage reverse transcriptase. *Science*, eaed1656. https://doi.org/10.1126/science.aed1656.

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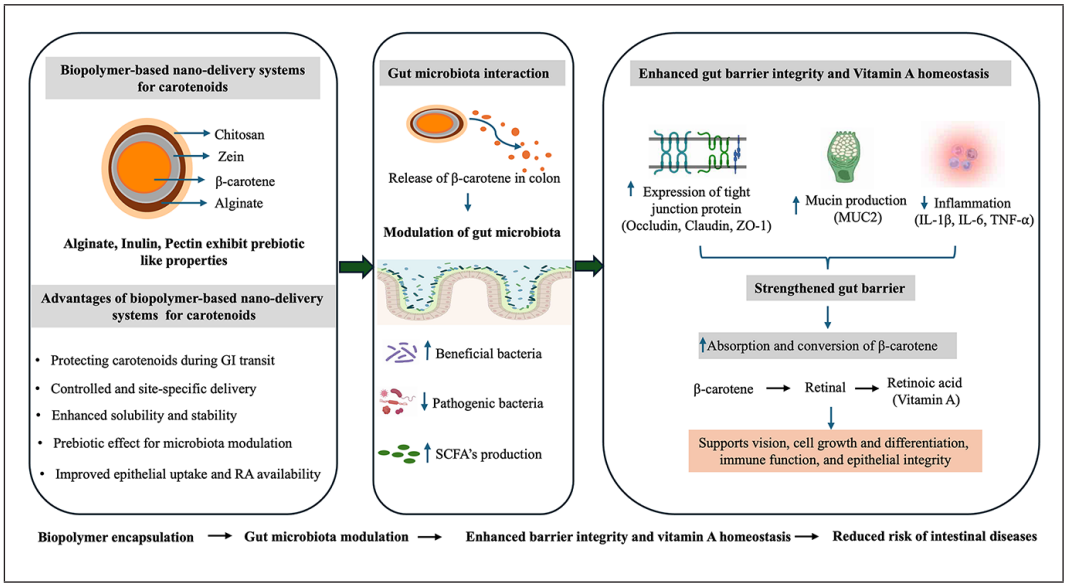
Biopolymer-based nanodelivery of carotenoids and gut microbiota interactions bridging vitamin A homeostasis and intestinal barrier integrity

Vitamin A homeostasis plays a major role in maintaining intestinal barrier integrity, a crucial determinant of gut health. Among retinoids (retinol, retinal, and retinoic acid), retinoic acid (RA) is the biologically active form responsible for gene expression. RA is a key metabolite that regulates intestinal epithelial barrier function, immunity, and oxidative stress responses in the intestine. Primarily, RA regulates the expression of tight junction-related proteins (zonula occludens-1, occludin, and claudins) in the intestinal barrier, which are crucial for preventing the development of leaky gut and controlling the entry of toxins, pathogens, and antigens. Therefore, adequate vitamin A levels are essential to maintain tight junction integrity and selective permeability. Also, RA influences epithelial cell differentiation through specialised cells such as enterocytes, goblet, and Paneth cells by increasing mucin (MUC2) production and secretion, thereby forming a protective physical barrier over the intestinal lining. Likewise, RA promotes immune modulation, maintain oxidative stress levels, and protect epithelial cells from oxidative damage. Moreover, disruption/deficiency of vitamin A homeostasis can compromise barrier function by reducing tight junction integrity, decreasing mucus production, and increasing inflammation. These situations are associated with a higher risk of infections and colon carcinogenesis. In contrast, an excess of vitamin A can dysregulate signalling and cause cellular toxicity; hence, maintaining a balanced system is vital.

Besides, the bioavailability of carotenoids was found to be very low due to poor aqueous solubility and chemical instability. In general, carotenoid absorption in the intestine is low and highly variable due to dietary and physiological factors, which ultimately lead to inefficient generation of RA at the intestine and fail to restore epithelial barrier function. To overcome these limitations, our lab is exploring the use of biopolymer-based nanodelivery systems as an alternative strategy. Biopolymer-based nanocarriers are considered superior due to their biocompatibility, biodegradability, functional versatility, pH responsiveness, controlled release, and mucoadhesive properties. Natural biopolymers (zein, alginate, chitosan, pectin, inulin, casein, etc.) are commonly used to encapsulate carotenoids to improve solubility and stability, and also sustained-release properties, thereby achieving vitamin A homeostasis in the intestinal region. An important and often underappreciated aspect of intestinal health is the correlation between dietary components, delivery systems, and gut microbiota. The gut microbiota plays an important role in maintaining epithelial integrity, and its interaction with carotenoids and biopolymers can significantly influence therapeutic outcomes. Carotenoids can influence composition of microbes by decreasing oxidative stress and supporting RA signalling, while biopolymers such as alginate, pectin, and inulin could exhibit prebiotic-like properties, serving as substrates

for microbial fermentation by producing short-chain fatty acids (SCFAs). SCFAs serve as a key energy source for colonocytes, enhance tight junction expression, and exert anti-inflammatory effects. Together, these effects lead to increased expression of barrier proteins, enhanced mucus production, reduced inflammation, and improved epithelial function. In conclusion, vitamin A homeostasis is essential for maintaining intestinal epithelial integrity, and its disruption is closely linked to gut diseases, including colon cancer.



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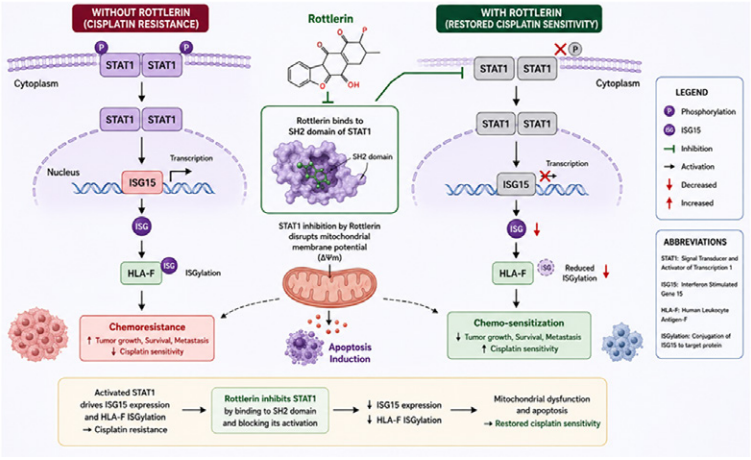
ISGylation and Chemoresistance in Tongue Cancer

Tongue cancer is one of the most aggressive subtypes of oral squamous cell carcinoma, which poses a significant clinical challenge due to its rapid progression, metastatic potential, and poor patient survival rates. Moreover, cisplatin resistance represents a substantial hurdle to effective therapy, highlighting the importance of identifying molecular drivers of therapeutic failure and devising novel targeted therapies. Recently, accumulating data have revealed that ISGylation, a ubiquitin-like post-translational modification catalyzed by Interferon-Stimulated Gene 15 (ISG15), plays a vital role in cancer by modulating immunological signaling, protein stability, metastasis, and treatment resistance. The ISGylation pathway has been aberrantly activated in a variety of malignancies and is related to aggressive tumor behavior and poor therapeutic response. ISG15 stabilizes ISGylated proteins by halting their ubiquitination; however, its role in tongue cancer is poorly known.

In our work, we applied transcriptomic signature–based drug repurposing along with functional and mechanistic validations and unveiled a novel molecular mechanism of chemoresistance in tongue cancer. We identified Signal Transducer and Activator of Transcription 1 (STAT1) as a major hub in tongue cancer, which is highly elevated in the malignancy and correlates with cisplatin resistance. Signature reversal analysis further identified the phytocompound rottlerin as a candidate STAT1-targeting molecule capable of reversing the resistant phenotype. Functional validation using gain-of-function assays showed that STAT1 promotes tumorigenesis and cisplatin resistance, while STAT1 silencing with siRNA significantly reduced these oncogenic properties. This confirmed that STAT1 is a key driver of tongue cancer progression and therapeutic resistance.



Mechanistically, our results indicate that the compound binds to the SH2 domain of STAT1 and inhibits its phosphorylation and nuclear translocation. This results in diminished STAT1 signaling and transcriptional activation of ISG15, leading to reduced ISGylation of downstream target proteins, including HLA-F. Co-IP experiments also indicated that ISG15 directly interacts with HLA-F, suggesting that HLA-F is a potential ISGylation substrate involved in tumor growth and chemoresistance. In support of this observation, ISGylation of HLA-F was verified by CRISPR/Cas9-mediated deletion of ISG15, resulting in the absence of the HLA-F band in Co-IP studies. Moreover, rottlerin-mediated suppression of STAT1 disrupted mitochondrial membrane potential, linking STAT1 signaling to mitochondrial dysfunction and apoptosis induction. Collectively, these results indicate that the STAT1-ISG15-HLA-F signaling axis plays a significant role in ISGylation-mediated cisplatin resistance in tongue cancer and suggest that rottlerin may be a viable chemo-sensitizing drug that might restore cisplatin responsiveness.

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From Enzyme to Architect: A Phosphatase as a Molecular Scaffold in mTOR Kinase Regulation

Protein phosphorylation serves as a reversible molecular switch that dynamically modulates the functions of proteins by influencing their specificity/functional complexity (through modulation of binding partners), altering their conformation or stability, or triggering changes in their subcellular localization, enabling precise responses to cellular signals (1-3). The coordinated actions of phosphatases and kinases regulate reversible protein phosphorylation, a critical PTM that is involved in maintaining nearly all cellular pathways and thereby confers cellular homeostasis. The classical view in biochemistry posits that phosphatases regulate cellular functions by catalyzing the removal of phosphate groups from phosphoamino acid residues on their substrates. However, a recent study from our group challenges this paradigm. Using an integrative approach combining interactome mapping with biochemical, genetic, and functional analyses, we identified protein tyrosine phosphatase non-receptor type 22 (PTPN22) as a key modulator of mTORC2 activity and function. We demonstrated that PTPN22 is essential for the activation of the mTORC2/AKT axis, irrespective of cell lineage. Mechanistically, PTPN22 functions as a scaffolding protein that promotes the mSIN-RICTOR interaction, thereby preserving the structural integrity of the mTORC2 complex. Notably, this adaptor function of PTPN22 does not require its tyrosine phosphatase activity. Functionally, our findings establish that PTPN22 is critical for cell growth and survival, as demonstrated using both cellular systems and nude mouse xenograft models. Collectively, these results reveal a non-canonical role for PTPN22 that operates independently of its enzymatic activity (4). These findings not only expand our understanding of the complexity of mTOR regulation but also challenge the classical view of phosphatase biology, highlighting the functional versatility of phosphatases in cellular signaling networks. Additionally, our findings reshape the prevailing paradigm by demonstrating that phosphatases do not invariably act in opposition to kinase functions. Instead, they can exhibit cooperative and mutually supportive roles, working in concert to regulate cellular processes. This highlights a more nuanced and dynamic interplay between these two classes of enzymes. Such coordination underscores the complexity of signaling networks and challenges the traditional view of strict antagonism. Ultimately, this perspective opens new avenues for understanding regulatory mechanisms and their implications for cellular function.

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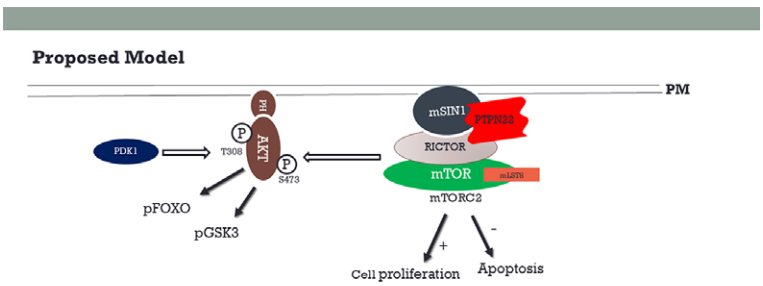

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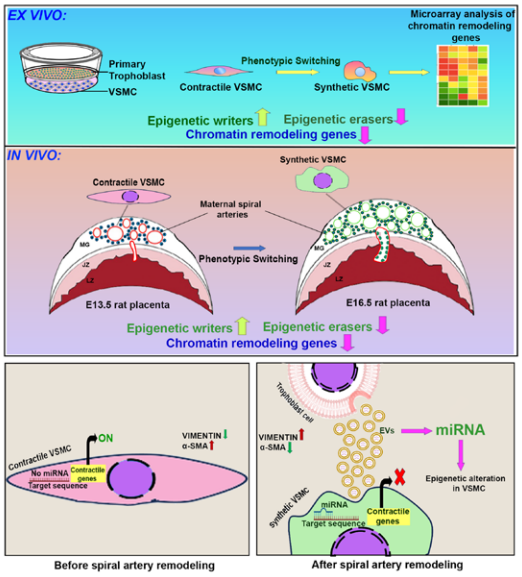
Trophoblast cells-derived exosomes modulate the epigenome of vascular smooth muscle cell via exosomal miRNAs: Role in spiral artery remodelling

Uterine spiral artery remodelling (SAR) is essential for establishing adequate uteroplacental circulation and healthy fetal development. This process depends on trophoblast-induced phenotypic modulation of vascular smooth muscle cells (VSMCs) from a contractile to a synthetic phenotype. Defective SAR is strongly associated with pregnancy-related complications such as intrauterine growth restriction (IUGR), preeclampsia, and fetal morbidity. Despite its physiological importance, the molecular mechanisms underlying trophoblast-VSMC communication remain incompletely understood. In the present study, VSMC dedifferentiation was induced by co-culturing A7r5 VSMCs with E16.5 rat primary trophoblast cells. This phenotypic transition was confirmed by altered expression of VSMC genotypic markers and was accompanied by extensive epigenetic reprogramming. Significant upregulation of epigenetic "writers," including CBP, DNMT1, and DNMT3A, together with downregulation of epigenetic "erasers" such as HDAC1, HDAC2, and HDAC3, indicated active chromatin modification during VSMC transition. Concurrent increases in activating histone marks (H3K27ac and H3K9ac) as well as repressive histone marks (H3K27me3 and H3K9me3) further suggested dynamic chromatin restructuring associated with trophoblast-mediated VSMC plasticity. Chromatin remodelling PCR array analysis identified downregulation of 13 chromatin remodelling genes in dedifferentiated VSMCs, which was subsequently validated by immunoblot analysis. Importantly, similar suppression of these genes was observed in vivo within the E16.5 rat metrial gland, the site of uterine spiral artery entry, thereby supporting the physiological relevance of the findings. Functional involvement of these chromatin remodelling factors was confirmed through antisense oligonucleotide-mediated knockdown experiments, where inhibition of these genes prevented trophoblast-induced VSMC phenotypic switching. These observations establish chromatin remodelling as a critical regulatory mechanism governing VSMC plasticity during SAR. Importantly, the metrial gland of IUGR rats exhibited reversal of both chromatin remodelling factor expression and VSMC phenotypic markers, highlighting the pathological significance of impaired epigenetic regulation during abnormal pregnancy. We further demonstrated that trophoblast-derived exosomes are key mediators of trophoblast-VSMC communication. Inhibition of exosome release significantly reduced VSMC plasticity, while uptake of trophoblast-derived exosomes by VSMCs was experimentally confirmed. Since exosomes function as extracellular cargo carrying bioactive molecules, their involvement suggests a highly coordinated intercellular signalling mechanism during placental vascular remodelling. Next-generation sequencing of exosomal small RNAs identified 238 miRNAs, supporting their role as functional regulatory cargo. Furthermore, exosomal miRNA-mediated regulation of VSMC dedifferentiation was demonstrated. Collectively, these findings identify a novel exosome-epigenome axis regulating VSMC plasticity during uterine spiral artery remodelling. This study provides important mechanistic insight into trophoblast-mediated vascular transformation and identifies chromatin remodelling pathways and exosomal signalling as potential therapeutic targets for pregnancy-associated disorders. [This work was supported by grants from Department of Biotechnology, BT/PR49910/MED/97/642/2023].



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REPORTS BY SBC(I) CHAPTERS

REPORT - ANNUAL SEMINAR BY SOCIETY OF BIOLOGICAL CHEMISTS (INDIA) KERALA CHAPTER, 2025

Annual Seminar by the Society of Biological Chemists (India) Kerala Chapter was convened at Seminar Hall, Department of Biochemistry, University of Kerala at 18th September 2025 at 10.30 am. The meeting was presided over by Prof (Dr) P.R. Sudhakaran, Emeritus Professor, Department of Computational Biology and Bioinformatics. He provided an overview of the formation of society and conveyed the activities of the Society. Dr. A. Helen, Professor Biochemistry & Head Department of Computational Biology and Bioinformatics, Secretary Society of Biological Chemists (India) Kerala Chapter welcomed the gathering. Invited talks were given by Dr. Amrutha Swaminathan and Dr. Vijay Jayaraman. Dr Amrutha is an Assistant Professor in the Molecular Neurodevelopment Lab, Indian Institute of Science Education &Research, Thiruvananthapuram. Her theme was on Epilepsy and Epigenetics: Exploring Non-Synaptic Mechanisms of Brain Development and Disease. She gave an elaborate description of how epigenetic modification of genes of zebra fish larvae can induce seizures and the prospect of using this as an animal model to understand the same in humans. Dr. Vijay Jayaraman, Assistant Professor, School of Biology, IISER, Thiruvanathapuram, focused on the Design principles of antagonistic bifunctional enzymes in biology. He explained how bioinformatics tools can be used to identify and understand bifunctional enzymes and their application in understanding metabolism and disease.

The seminar series was preceded by the distribution of first and second rank holders of M.Sc. programs and endowment awards for the best paper publications with the highest impact factor, encouraging young talents. Fousiyamol MN & Sruthy Unnikrishnan received first and second rank awards for the year 2023 respectively. Meanwhile Parvathy B & Revathi received first and second rank awards for 2024 respectively. Mr. Rajagopal endowment Award instituted by Prof (Dr) M Indira, former professor Department of Biochemistry is awarded to scholar and Guide for publishing paper in higher impact peer reviewed Journals. 2023 and 2024 Endowment Award was received by Aneesh RJ (scholar) and Dr. Arun A Rauf, Associate Prof & Head Department of Biochemistry (his guide). The meeting was felicitated by Dr. Mini. S. Professor & Former Head Department of Biochemistry, University of Kerala and Dr. Amrutha Swaminathan, Assistant Professor Molecular Neurodevelopment Lab, IISER. The meeting and seminar had a huge audience, both offline and online. Faculties, students, research scholars, scientists and members of SBC (I) attended the session with active participation and valuable discussion. Vote of Thanks was delivered by Dr. Arun A. Rauf Associate Professor& Head Department of Biochemistry, University of Kerala and Treasurer SBC (I), Kerala Chapter. The meeting was concluded at 12.30 pm with refreshments, informal talks and a photo session.

POST CONFERENCE REPORT ON

"BioChemTech-SD 2026: National Conference on Emerging Biological and Chemical Technologies for Sustainable Development" held during April 10-11, 2026 at Santiniketan, W. Bengal

Event Summary
Conference Organisers: Society of Biological Chemists (India) Kolkata Chapter

Office-bearers of SBC(I) Kolkata Chapter

- President: Dr. Susanta Roychoudhury, IICB
- Vice-President: Prof. Gaurisankar Sa, BI
- Vice-President: Dr. Arun Bandyopadhyay, IICB (Not attended)
- Secretary: Prof. Tanya Das, BI
- Convener: Prof. Koustubh Panda, CU (Not attended)
- Treasurer: Prof. Atin K. Mandal, BI
- Other EC members present are Dr. Bidyut Roy, ISI, Dr. Sibsankar Roy, IICB, Dr. Anupam Basu, NIBMG & BU, Dr. Sudip K Ghosh, IIT-KG
- Advisor: Prof. Subrata Majumdar, BI

Guest of Honour: Prof. Chandrima Shaha, J. C. Bose Chair Distinguished Professor IICB-Kolkata; Ex-Director NII-New Delhi; Ex-President, Indian National Science Academy, New Delhi

Special Invitee: Dr. Amit Ghosh, Honorary Scientist (NASI), ICMR-NICED-Kolkata

Funding support: Proposed funding support from the SBC (India) Head Office of Rs. 30,000/- and Registration received from the participants

Venue: Sanai Lodge, Bolpur-Santiniketan

Number of Attendees: 82 attendees registered for the conference.

Overview: The conference is intended to provide a platform for scientists, academicians, industry professionals, and students to share recent advances at the interface of biological and chemical sciences. The conference aims to highlight innovative technologies and interdisciplinary research addressing major global challenges related to sustainability, environmental protection, healthcare, and efficient resource utilization. The meeting combines a Keynote Speech, oral presentations and poster presentations by research scholars and post graduate students.

Objective of this conference:

- Inspire young researchers with recent advancements in Biological Chemistry
- Enhance research skills and expose fellows to new methodologies
- Foster networking opportunities to spark ideas and inspiration
- Provide early-stage feedback to refine research work
- Build a community of biologists for interaction and collaboration

Conference Format:

- The two-day conference comprised of six (06) Technical sessions for Oral presentations by young researchers (8+2 minutes each presenter) and a Keynote lecture on Day 1.
- 2 sessions for poster presentations – one by postgraduate students on Day 1 and another by research scholars on Day 2.
- One Brain Storming Session with 10 panellists on Day 1.
- The sessions were structured to foster discussion between participants around the core themes.
- Each day of the seminar also allotted one hour for lunch, and 15 minutes for morning and afternoon tea to allow participants to continue their discussions after each session.

Conference Themes:

- Infection and Host Pathogen Interaction
- Omics Studies
- Cancer Biology
- Bioinformatics and Molecular Structure

- Physiological Dysfunctions and Therapy
- Therapeutic Designs

Report:

The conference was commenced on April 10, 2026 at 03.30 pm with felicitation of the dignitaries on the dais followed by an welcome address by Dr Susanta Roychoudhury (President, SBC(I) Kolkata Chapter) and Prof. Tanya Das (Secretary, SBC(I) Kolkata Chapter). The Keynote Speech was delivered by the Guest of Honour Prof. Chandrima Shaha, J. C. Bose Chair Distinguished Professor, IICB-Kolkata. The Technical Session-1 started after the afternoon tea-break followed by Poster Session-1 by the postgraduate students. The sessions ended with a Brain Storming by ten panelist members. Programmes on Day-2 started at 09.00 am with consecutive Technical Sessions. In between a Poster Session was held from 11.30 to 01.30 pm by the research fellows. The conference ended with a valedictory session, student's feedback and then Vote of Thanks by Dr Sib Sankar Roy, EC Member, SBC(I) Kolkata Chapter.

Few glimpses of the Conference SBC(I) Kolkata Chapter

SBC, India -Jorhat Branch (North East Chapter)

Activities (2025-26)

Convenor : Dr. B.G. Unni

Speakers	Topics
Prof.P.Prakash Babu Puducherry India	Role of Youth in Vikasit Bharat-2047
Dr.Balagopalan Unni Kerala India	Intellectual property rights in Biotechnology Trends and Challenges ahead
Prof. (Dr) Jayaraman Setharaman USA	Structural Biology and Drug Discovery
Prof.(Dr) Ajai Kumar B. Kunnumakkara Assam India	Novel Oncogenic Drivers as Emerging Molecular Targets in Oral Cancer.
Dr. Douglas Law Malaysia	Life underwater Pharmacognosy
Prof.Jagadeesh Bayry Kerala ,India	Regulatory T cells: Immune regulation and therapeutic avenues.
Dr. Harshini Sarojini USA	Enduring Ischemia: insights into Long –term Effects on Wound healing Mechanisms.
Prof.Dr.Geetha Subramaniam Malaysia	Nature's Pharmacy Harnessing Plant Extracts for wound healing
Dr.Balagopalan Unni Kerala India	How to write a scientific paper and file patent ?
Dr.Tapan Dey USA	Novel role of Cell cycle regulators in Pulmonary Arterial Hypertension (PAH) , a cardiovascular disease with limited therapeutic options.
Prof.Dr. Mohammed Abdallah AboEl-Eneen Gad Egypt	Molecular identification of yellow Rust Pathotypes and its Virulence to Wheat Genotypes .
Prof. Dr. C.Gopinath, Kerala India	High Rate Biomethanation - Scale up Issues and Opportunities
Prof. Iyabo OlunikeOmomowo Nigeria	Microbial Resources Roles in Mitigation and Adaption to Adverse influence of climate change on Food security and the environment.
Dr. Ms.Suma Arun Dev, Kerala India	DNA tools for Timber Forensics
Prof.Manash Pratim Sarma Assam India	Smoked food and Cancer
Prof. Sandip Chattopadhyay West Bengal, India	Unmaking PCOS: beyond Reproductive Health and Nutritional Persepectives.

Other activities (Meeting report)

International Experts Lecture Series (GEMS – 2025-26) jointly organized with Society of Biological Chemists-India Jorhat (North East Chapter)

The International Experts Lecture Series (GEMS – 2025-26), organized by GEMS Arts and Science College (Autonomous), Ramapuram, Malappuram, Kerala, in collaboration with the Society of Biological

Chemists(India), North East Chapter, was conducted during December 2025 to January 2026 in hybrid

mode. The speakers from the topmost institutions from India , Malaysia, Thailand, Nigeria, Egypt and USA spoke on the various topics such as Cancer biology, Molecular mechanism of wound healing , Structural Biology and Drug Discovery, Agricultural crops and diseases, Harnessing Plant Extracts for Wound Healing, Beyond Reproductive Health and Nutritional Perspectives, Smoked Food and Cancer,

marine pharmacognosy, adverse influence of climate change on food security environment, molecular mechanism of allergy, enduring Ischemia, and pulmonary arterial hypertension: Immune regulation and therapeutic avenues. The lecture series brought together eminent national and international scientists to share recent advances in biological, biomedical, pharmaceutical, and environmental sciences. overall, the International Experts Lecture Series provided valuable exposure to cutting-edge research, promoted interdisciplinary learning, and enhanced academic and research awareness among the participants

Delivered keynote lectures

Attended and delivered keynote lectures at the 10th Edition of "Global Congress on Plant Biology and Biotechnology (GPB 2026)" held at Singapore with the theme "Unveiling the Future of Plant Biology and Biotechnology" at Village Hotel Changi 1 Netheravon Rd, Singapore, March 26-28, 2026

Dr. Balagopalan Unni, Former Chief Scientist of CSIR-(Department of Science & Technology, Govt of India) NEIST Jorhat Assam attended the Session "Plant Biotechnology and Applications", and delivered keynote lectures entitled "Isolation and functional properties of biomolecules of plants and its application" & Natural plant Bio-resources and its medicinal properties" held at Village Hotel Changi, 1 Netheravon Rd, Singapore during March 26-28, 2026. Academicians from more than 25 countries attended the conference.

Currently Dr.Unni is the Director Academic & Research at GEMS Arts & Science College (Autonomous) Kerala, and Adviser Research Assam Downtown University, Guwahati, Assam on honorary capacity

Dr. B. G. Unni, Convenor
SBC-I Jorhat (North East Chapter)
10th April, 2026

Tezpur Chapter (NE) Branch Activity

The two-day national seminar titled ***'Integrative frontiers in disease biology and biotechnology: research advances and emerging developments'*** organized by the Department of Molecular Biology and Biotechnology (MBBT), School of Sciences, Tezpur University, in collaboration with the SBC (India) North East Chapter on 9th and 10th March 2026, successfully brought together researchers, academicians, and students to discuss recent advances in molecular biology, biotechnology, and disease biology. The seminar featured a series of keynote and invited lectures delivered by expert's scientists from premier institutions. The keynote sessions highlighted the research findings of geographical variation of snake venom proteome composition, disease biology of snakebites in India, bacterial toxin-antitoxin systems, diagnostic challenges of rickettsial diseases in Northeast India, and innovative microbial and biotechnological solutions for sanitation in high-altitude regions. These talks emphasized the translational relevance of basic research in addressing public health challenges.

Invited lectures covered a broad spectrum of interdisciplinary topics such as snake venom proteomics and its clinical implications, exercise-induced myokines and metabolic disorders, validation of traditional knowledge through scientific approaches, molecular mechanisms of cancer progression, and regional insights into diseases like polycystic ovary syndrome. Additional talks explored emerging areas including single-cell transcriptomics, probiotics as functional bioagents, regulatory toxicology, and computational approaches for drug target identification.

A major highlight of the seminar was the enthusiastic participation of young researchers through oral and poster presentations. The oral sessions showcased diverse research themes including viral evolution, plant stress biology, nanotechnology-based seed quality assessment, host-microbe interactions, cancer therapeutics, antimicrobial resistance, and vaccine development. Several studies also addressed region-specific health concerns such as scrub typhus diagnostics and environmental issues like crude oil bioremediation using indigenous microbial communities.

Poster presentations further enriched the scientific discourse by presenting innovative work in areas such as environmental biotechnology, protein structure analysis, machine learning applications in healthcare, and microbial physiology. These sessions provided a valuable platform for students and early career researchers to interact with experts, receive feedback, and foster collaborations.

Overall, the seminar successfully facilitated knowledge exchange across multiple domains of life sciences, with a strong emphasis on integrating fundamental research with real-world applications. It highlighted the importance of interdisciplinary approaches in tackling pressing challenges in health, environment, and biotechnology, particularly in the context of Northeast India. As many as 200 plus members have participated in the two-day seminar and the event concluded with a shared commitment to strengthening collaborative research and advancing scientific innovation in the region.

Dr. Ashis Mukherjee
Tezpur University

SBC(I) Grants

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.

SUPPORT TO LOCAL CHAPTERS

SBC(I) local chapters are encouraged to organize smaller, focused meetings to promote the participation of local researchers and highlight scientific work spanning diverse areas of biological chemistry. Upon request from the Convenor, SBC(I) headquarters will provide financial support of ₹20,000 for a one-day meeting and up to ₹30,000 for meetings lasting two days or more. Each chapter is eligible for funding only once in a financial year (April to March).

After the meeting, the Convenor must submit a one-page report (2–3 paragraphs, along with a few photographs) to the SBC(I) headquarters summarizing the proceedings.

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.

Name .....

Address .....

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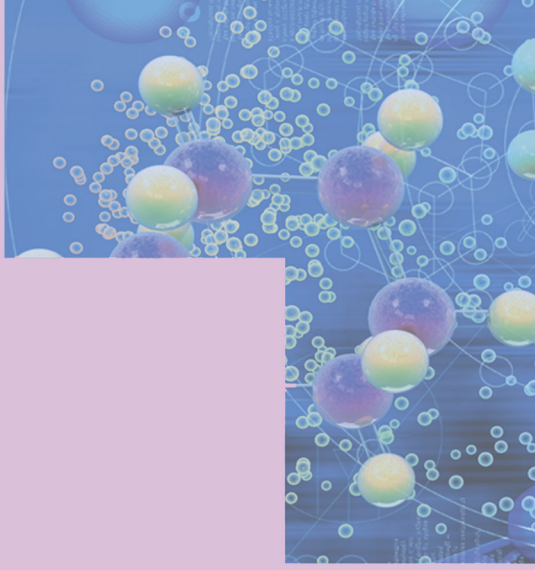

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