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# SVBBI

## SOCIETY OF VETERINARY BIOCHEMISTS & BIOTECHNOLOGISTS OF INDIA

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IVRI, Izatnager - Host institute for the  
SVBBI-2023 Convention

### From the President's Desk



My Dear Founder Fellows and  
Members,

It is indeed a great pleasure to present before you the very First issue of the SVBBI Newsletter (Vol. 1, No.1 & 2). It has been decided to make it a half-yearly Newsletter; January to June (Issue No. 1) and July to December (Issue No. 2).

The present volume provides extensive coverage of the VII Convention of the SVBBI (SVBBI-2023) organized by the Division of Biochemistry, Indian Veterinary Research Institute (IVRI), Izatnagar, Bareilly at IVRI, Izatnagar on 14-15 December 2023.

Keeping the career advancement of the Members and advancement of our discipline in the forefront, several initiatives have been planned and would be implemented by the next convention (SVBBI-2024) at DUVASU, Mathura. Institution of Fellowship of the Society for the members, new awards to be instituted for scholars and faculty members for encouraging students as well as faculty members to carry out deeper investigations in different sub-disciplines of Veterinary Biochemistry and Biotechnology are in the pipeline. Publishing the research papers and abstracts presented during the SVBBI-2023 is another priority and we are in touch with publishers for this. Bimonthly online meetings of the Society would be conducted regularly for exchange of thoughts and ideas and for providing a research-networking platform to the members.

As you know, our Society is relatively a young society and we have the scope to strengthen it and make it quite vibrant. Let's join hands and progress with synergy for the advancement of the Veterinary Biochemistry and Biotechnology research in the country, ultimately ensuring better disease management and better animal husbandry practices for better animal health leading to food safety and nutritional security in the One-

Jai Vigyan

Dr. Bimal Prasanna Mohanty, ARS, FNAAS  
President SVBBI

### Special Editorial Contribution



Dr. Barkha Gupta,  
Assistant Professor  
PGIVER, Jaipur



Dr. Sasmita Barik  
Assistant Professor  
GADVASU, Ludhiana

# A REPORT ON THE VII SVBBI CONVENTION (SVBBI-2023)

## Inaugural Session

The VII annual Convention of SVBBI and International Symposium was organized on “Multiomics to One Health: Challenges and Way Forward in Biomedical Research” during 14th - 15th December 2023 at IVRI, along with an alumni meet commemorating the journey of 50 Years of establishment. The Convention was inaugurated by the chief guest Dr. Dheer Singh, Director and Vice Chancellor of the National Dairy Research Institute (NDRI), Karnal and Dr. Triveni Dutt, Director of the Indian Veterinary Research Institute (IVRI). In the event the stalwarts of Biochemistry spread all over the world has been invited to share their experience and expertise. Dr B. P. Mohanty, ARS, Assistant Director General - ICAR chaired and supervised the entire session as president SVBBI. Dr Subhasis Batabyal (Professor, WBUAFS) welcomed all the participants, speakers, organizers as the secretary of the society. Dr Vineet K Singh (Professor, Microbiology, A.T. Still University of Health Sciences) delivered a talk on role of branched chain fatty acids in developing pathogenicity in *Staphylococcus aureus*. Dr Yogesh Saini (Professor, Immunology and Toxicology, NCSU college of Veterinary Medicine) has enlightened about the multiomic approaches to identify pathways of environmental lung diseases. Dr Dhanjit K Das (Scientist E, ICMR-NIRRCH) discussed about disease modelling using induced pluripotent stem cells (iPSCs) and Dr Chanchal Singh (Professor, GADVASU) shared his experience on organoid technology.



Lighting the Lamp by the Chief Guest Dr. Dheer Singh, Director NDRI Karnal; Chief Patron Dr. Triveni Dutt, Director IVRI, Izatnagar, and President SVBBI Dr. B. P. Mohanty



Delegates in Inaugural Function of the SVBBI-2023 Convention



Dr. Manish Mahawar, addressing the Inaugural Function of the SVBBI-2023 Convention as Organizing Secretary



Releasing of the Souvenir-Cum-Compendium of the VII Annual Convention of the Society of Veterinary Biochemists and Biotechnologists of India (SVBBI) and International Symposium



## Technical Sessions

There were 6 Technical Sessions conducted in the SVBBI-2023 Convention at IVRI, Bareilly and each Session comprised of lead papers, invited papers, oral and poster presentations.

- I - Concept of multi-omic approaches in animal health and production
- II - Structural & Synthetic Biochemistry-Role in rational drug design
- III- Comprehending one health through host-pathogen interaction
- IV - Augmenting animal health through new-generation vaccines and diagnostics
- V - Nutritional interventions to ensure food security
- VI - Chemistry to omics: Role of biochemistry in clinical diagnosis

### Details of Technical Sessions

#### Technical Session I - Concept of multi-omic approaches in animal health and production

Lead Paper 1 - Interactome analysis to understand the systems biology behind the phenotype of a disease Condition  
Speaker – Dr. Ravi Kumar Gandham, V.P.P.S., Principal Scientist & Head, Division of Animal Biotechnology, ICAR- National Bureau of Animal Genetic Resources (NBAGR), Karnal-132001 (Haryana), India; Email: gandham.ravikumar@icar.gov.in  
Lead Paper 2 - Delineating the population structure, antibiotic resistance, and virulence potential of *Salmonella* - A bioinformatics approach

Speaker – Dr. Prasad Thomas, Senior Scientist, In-charge National *Salmonella* Center (Veterinary) and Anaerobe Laboratory, Division of Bacteriology & Mycology, ICAR-Indian Veterinary Research Institute, Izatnagar-243122, Bareilly, U.P., India; Email: prasadthomas99@gmail.com

Invited Paper - Concepts of multi-omics approaches in animal health and production

Speaker – Dr. Amit Kumar, Senior Scientist, Division of Animal Genetics, ICAR- Indian Veterinary Research Institute, Izatnagar-243122, U.P., Bareilly, India; Email: vetamitchandam07@gmail.com

There were 9 oral presentations (OP -1.9) and 15 poster presentations (PP 1.1 - 1.15)

#### Technical Session II - Structural & Synthetic Biochemistry-Role in rational drug design

Lead Paper - Targeting “adaptability”: Exploring novel therapeutic opportunities and strategies to shorten the current anti-TB regimen

Speaker – Dr. Amit Kumar Pandey, Mycobacterial Pathogenesis Laboratory, Infection and Immunology, Translational Health Science and Technology Institute (THSTI), Faridabad-121001, Gurugram, Haryana, India

Invited Paper 1 - Design and evaluation of a novel peptide based on lung splunc1 loaded nanoparticles against *S. aureus* biofilms: A promising approach to combat against antimicrobial resistance

Manish Gaur, Sarita Maurya, Ritu Tripathi, Awadh Bihari Yadav

Speaker – Dr. Awadh Bihari Yadav, Centre for Biotechnology, University of Allahabad, Allahabad-211002, India

Invited Paper 2 - Canine stromal vascular fractions: Isolation and immunomodulatory properties

Ratan Kumar Choudhary, Hitesh Rana, Paramjeet Sharma and Shanti Choudhary

Speaker – Dr. Ratan Kumar Choudhary, Animal Stem Cell Laboratory, College of Animal Biotechnology, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana-141004, Punjab, India

Invited Paper 3 - Advances in Organoid Technology: Implications for Animal Health and Drug discovery

Speaker – Dr. Chanchal Singh, Department of Veterinary Physiology and Biochemistry, College of Veterinary Science, Guru Angad Dev Veterinary and Animal Sciences University, Ludhiana, India

There were 12 oral presentations (OP 2.1 -2.12) and 11 poster presentations (PP 2.1 – 2.11)

#### Technical Session III- Comprehending one health through host pathogen interaction

Lead Paper 1 - The mastitis pathogen of the dairy food chain: A special reference to *E. coli*

Sachinandan De, Manisha Behera, Chanchal Rana and Mayank Roshan

Speaker - Sachinandan De, Animal Biotechnology Centre, ICAR-National Dairy Research Institute, Karnal-132001, Haryana, India

Lead Paper 2 - Tackling zoonotic tuberculosis in India: Need for one-health approach

Speaker - Premanshu Dandapat, Division of Bacteriology & Mycology, ICAR-Indian Veterinary Research Institute, Izatnagar-243122, Bareilly, India



Invited Paper 1 - Deciphering the Leptospira-host interaction to develop various diagnostics and intervention strategies  
Speaker – Dr. Manish Kumar, Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati, Guwahati-781039, Assam, India

Invited Paper 2 - Codon deoptimization approach: A new window for viral vaccinology  
Niraj K. Singh , Anuj Tyagi , Praveen K. Gupta

Speaker – Dr. Niraj K. Singh, College of Veterinary and Animal Science (Kishanganj), Bihar Animal Sciences University, Patna 800014, India

Invited Paper 3 - One-health approaches to tackle rising antimicrobial resistance (AMR)  
Ravindra P Veeranna and Raghavendra Amachavadi

Speaker - Ravindra P Veeranna, Xavier University School of Veterinary Medicine, Aruba Campus, Oranjestad, Woodbury, New York, 11797, USA

There were 14 oral presentations (OP 3.1 -3.14) and 11 poster presentations (PP 3.1 – 3.11)

#### **Technical Session IV - Augmenting animal health through new generation vaccines and diagnostics**

Lead Paper - Vaccination against Lumpy Skin Disease: Current state of the art

Speaker - Naveen Kumar, National Centre for Veterinary Type Cultures, ICAR-National Research Centre on Equines, Hisar, India

Invited Paper 1 - Integrating one-health concept into shrimp dna vaccine design and delivery

Speaker – Dr. Aparna Chaudhari, ICAR-Central Institute of Fisheries Education, Versova, Andheri (west), Mumbai-400061, India

Invited Paper 2 - Understanding the role of alpha-synuclein in the Japanese Encephalitis virus infection: A plausible biomarker

Speaker – Dr. Sachin Kumar, Department of Biosciences and Bioengineering, Indian Institute of Technology Guwahati Guwahati-781039, Assam, India

Invited Paper 3 - Reverse genetics approaches for the development of new vaccines against viral infections

Speaker – Dr. Chetan D. Meshram, CSIR-Central Drug Research Institute, Lucknow-226031, U.P., India

There were 12 oral presentations (OP 4.1 -4.12) and 10 poster presentations (PP 4.1 – 4.10)

#### **Technical Session V - Nutritional interventions to ensure food security**

Lead Paper - Lipidomics signature and its implications on meat quality and health concern

M. Roy, M.K. Kesariya, S.K. Singh, S.D. Borkar

Speaker - M. Roy, Department of Veterinary Physiology & Biochemistry, College of Veterinary Science & Animal Husbandry, Anjora, Dau Shri Vasudev Chandrakar Kamdhenu Vishwavidyalaya Durg (Chhattisgarh), India

Invited Paper 1 - Importance of antioxidant trace minerals in amelioration of heat stress in animals

Speaker – Dr. Jadhav Sunil Ekanath, Animal Nutrition Division, ICAR-Indian Veterinary Research Institute, Izatnagar-243122, Bareilly, U.P., India

Invited Paper 2 - Application of high-performance liquid chromatography for the analysis of low-calorie sweeteners

Anuradha Kumari, Sumit Arora and Sonika Choudhary

Speaker – Dr. Anuradha Kumari, Dairy Chemistry Department, Sanjay Gandhi Institute of Dairy Technology, Bihar Animal Sciences University, Patna, Bihar

There were 10 oral presentations (OP 5.1 -5.10) and 10 poster presentations (PP 5.1 – 5.10)

#### **Technical Session VI - Chemistry to omics: Role of biochemistry in clinical diagnosis**

Lead paper - Role of DNA finger printing methods in clinical diagnosis of tuberculosis

Speaker - Devendra Singh Chauhan, Department of Microbiology & Molecular Biology, ICMR-National JALMA Institute for Leprosy & Other Mycobacterial Diseases, Agra-282001, India

Invited paper 1 - Clinical and molecular biochemistry in human disease diagnosis: disease mudslinging induced pluripotent stem cells (iPSCs)

Speaker – Dr. Dhanjiti K. Das, Stem Cell Biology Department, ICMR - National Institute for Research in Reproductive and Child Health (ICMRNIRRCH), JM Street, Parel, Mumbai-400012, India

Invited paper 2 - FACS in veterinary disease diagnosis

Speaker- Shalini Sharma, Department of Veterinary Physiology & Biochemistry, Lala Lajpat Rai University of Veterinary & Animal Sciences Hisar, Haryana, India

There were 11 oral presentations (OP 6.1 -6.11) and 13 poster presentations (PP 6.1 – 6.13)



## Golden Jubilee Celebration of Division of Biochemistry



The Society of Veterinary Biochemists and Biotechnologists of India (SVBBI) observed Golden Jubilee Celebration cum International Symposium on “Multiomics to One Health: Challenges and Way Forward in Biomedical Research” along with its VII Annual convention at IVRI from 14th to 15th December, 2023. During the convention, eminent scientists and ex HODs from the Division of Biochemistry, IVRI have been felicitated for their landmark contribution to scientific community, mentorship in fostering future scholars, and leaving an enduring legacy in the realm of biochemistry. The society honored Late Dr L.N. Singh (Tenure: 1972- 2002), Dr Ashok Kumar (Service Tenure:1976-1993), Dr H.K.L Tandon (Service Tenure:1976-1993), Dr Ugra Sen Singh (Tenure: 1978- 1988), Dr Bhaskar Sharma (Service Tenure: 1977- 2015, ICAR National Professor 2009-2015), Dr Paritosh Joshi (Service Tenure: 1978-2018) and Dr (Mrs) Meena Kataria (Service tenure:1984-2019) for providing an enriched legacy in the landscape of research and academia in the field of Biochemistry.

From left to right - Felicitation of Dr Ashok Kumar, Dr Ugra Sen Singh & Dr Bhaskar Sharma



From left to right - Felicitation of Dr Paritosh Joshi & Dr (Mrs) Meena Kataria

## Alumni Meet

Around 40 alumni of division of biochemistry and 250 researchers from different disciplines including students, faculties and scientists from different state and central institutes gathered at Executive club, Bareilly for a gala night to remember the journey, to cherish the achievements and to leverage further on diverse pathways as an architect of transformation, as torch bearers of our alma maters legacy.



Alumni meet, the great amalgamation of academics, friendships and self-discovery, sharing the experiences to overcome challenges in life as well.

## Valedictory Session

The best research among the papers presented in two days was awarded at the Valedictory ceremony. Dr. Manmohan Singh Chauhan, Vice-Chancellor, GBUAT, Pantnagar, Uttarakhand graced the Valedictory session as the Chief Guest and shared his experiences associated with IVRI. Dr. Barkha Gupta and Dr. Varuna P. Panicker were conferred with "the Best Teacher of the Year-2022 Award" and "the Best Scientist Award" of the Society of Veterinary Biochemists and Biotechnologists of India (SVBBI), respectively in the VII Annual Convention of SVBBI and International Symposium at Indian Veterinary Research Institute (IVRI), Izatnagar, Bareilly (U.P.), held during 14-15 December, 2023.



Dr. Manmohan Singh Chauhan, Vice-Chancellor, GBUAT, Pantnagar, Uttarakhand, addressing the Valedictory session as the Chief Guest



Dignitaries on Dais during Valedictory Session



Dr. Barkha Gupta, Assistant Professor, PGIVER, Jaipur (RAJUVAS) receiving the "Best Teacher of the Year-2022 Award"



Dr. Varuna P. Panicker, Assistant Professor, CVAS, Mannuthy (KVASU) was awarded the "Best Scientist Award". (Dr. Sasmita received the award on her behalf).



## Annual General Body Meeting -SVBBI

The Annual General Body Meeting of the Society of Veterinary Biochemists and Biotechnologists of India (SVBBI) was held on 15.12.2023 at ICAR - IVRI, Izatnagar during VII Annual Convention of SVBBI. Various important decisions were taken in the meeting regarding Website development, publication of the Newsletter of the Society etc. A total of 29 members were present at the Society's AGB meeting. It was decided in the meeting that the next VIII Annual Convention of the SVBBI will be organized at DUVASU, Mathura (U.P.).

## Launching of SVBBI Website

The official website of the Society was launched virtually on World Veterinary Day, 2024 i.e. Saturday, 27 April 2024. Web link: <http://www.svbbi.in>



## Office Bearers of SVBBI (2023-24)

### Executive Committee:

Dr. B. P. Mohanty (President)  
Dr. P. E. Prasad (Vice president)  
Dr. S. Batabyal (Secretary)  
Dr. V. Pandey (Joint Secretary)  
Dr. C. Singh (Joint Secretary)  
Dr. K. Padmanath (Joint Secretary)  
Dr. P. C. Behera (Treasurer)  
Dr. A. Gattani (Joint Treasurer)

### Selection Committee:

Dr. S. Sarma (Chairman)  
Dr. T. P. Rao (Member)  
Dr. S. V. Perumal (Member)  
Dr. Ramesh D. (Member)

### Editorial Committee:

Dr. B. S. Wasudeorao (Chairman)  
Dr. P. S. L. Sesh (Co-Chairman)  
Dr. B. Gupta (Member)  
Dr. P. Raghuwanshi (Member)

### Advisory Committee:

Dr. R. L. Prasad (Chairman)  
Dr. P. C. Bisoi (Co-Chairman)  
Dr. R. Nigam (Co-Chairman)

## Zonal Representatives ( ZR ) :

Sl.No.	Zone Name	States	Zonal Representatives
1	North Zone	Jammu and Kashmir, Ladakh, Himachal Pradesh, Punjab, Uttar Pradesh, Uttarakhand	Dr. Pawanjit Singh (Mathura) Dr. Ajay Kumar (IVRI)
2	South Zone	Karnataka, Kerala, Andhra Pradesh, Tamil Nadu, Pondicherry	Dr. K. Padmanath (TN) Dr. Ramesh D (Karnataka)
3	East Zone	Bihar, Jharkhand, Orissa, West Bengal	Dr. Ajeet Kumar (Bihar) Dr. Apratim Maity (WB)
4	West Zone	Rajasthan, Gujarat, Haryana, Goa	Dr. Barkha Gupta (Rajasthan) Dr. Surbhi (Haryana)
5	Central Zone	Maharashtra, Chhattisgarh, Madhya Pradesh, Telangana	Dr. T. Prasad Rao (A.P.) Dr. Sonali Borker (Maharashtra)
6	North- East Zone	All North Eastern states	Dr. Partha Sarthi Behera (Aizawl) Dr. Shantanu Tamauli (Assam)



## Announcements - SVBBI Convention - 2024 at DUVASU, Mathura

VIII Annual Convention of the Society of Veterinary Biochemists and Biotechnologists of India (SVBBI) and National Symposium on "Unlocking the Potential of Veterinary Biochemistry and Biotechnology for Food and Nutrition Security" will be organized from 20-21 December 2024 at Veterinary University (DUVASU), Mathura (UP). Dr. Vijay Pandey, Professor and Head, the Department of Veterinary Biochemistry, College of Veterinary Science and Animal Husbandry, Mathura is the Organizing Secretary of the Convention.



Special moments with the President and Secretary SVBBI



Illuminated Biochemistry Division on its Golden Jubilee

**Editors: Dr. Barkha Gupta & Dr. Sasmita Barik**

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