



## INTERNATIONAL SYMPOSIUM CURRENT TRENDS AND FUTURE PERSPECTIVES OF NUCLEIC ACIDS RESEARCH IN HEALTH & DISEASES



### Hosted by

**Mahatma Gandhi Medical Advanced  
Research Institute, Pondicherry**

### In collaboration with

**Frontier Institute for Biomolecular  
Engineering Research (FIBER), Konan  
University, Japan**

### Supported by

JSPS Core to Core Project, JSPS, Japan and  
Sri Balaji Vidyapeeth (Deemed-to-be  
University), Pondicherry, India

The Symposium will bring together national and international experts of to empower healthcare and basic science professionals to gain knowledge of emerging technologies, in the field of nucleic acids research to make effective decisions with the goal of improving patient care.

**Date: 30.11.2023 and 1.12.2023**

**Venue: Sri Balaji Vidyapeeth (Deemed-to-be  
University), SBV Campus, Pillayarkuppam,  
Puducherry 607402**

**For Agenda, registration: <https://sbvu.ac.in/mgmari/>**

### Registration Fee

Students 1000.00  
Faculties 1500.00

### Registration Benefits

- International Certificate
- Scientific Poster
- Award to best submissions
- Oral presentation to best submissions
- Collaborations

**Registration Open  
Till 25.11.2023**

**Day 1  
Poster Presentation  
(online and offline)**

**Day 2  
Symposium and best  
abstracts submission talk**

**SUBMIT YOUR ABSTRACT NOW**  
Abstract Presentation and Awards

The symposium will be suitable for clinicians, Dentists, Bio Medical Industry, Medical, Biological and Inter-disciplinary faculties, young researchers and students

### Meet the Leaders



**Dr. S.R. Rao**  
Vice President, SBV;  
Former Sr. Advisor, DBT,  
Govt. of India



**Prof. Naoki Sugimoto**  
Director, FIBER, Konan  
University, Kobe, Japan



**Dr. Sanjeev K Varshney**  
Scientist G/ Advisor, Int.  
Cooperation, DST, Govt. of  
India

Register here



FOR QUERIES, CONTACT

Coordinator: Dr. Sudipta Bhowmik,  
[sudiptab@mgmari.sbv.ac.in](mailto:sudiptab@mgmari.sbv.ac.in)

Joint Coordinator: Dr. Abhijit Poddar & Dr. Raj Kumar C  
[abhijitp@mgmari.sbv.ac.in](mailto:abhijitp@mgmari.sbv.ac.in); [rajkumarc@mgmari.sbv.ac.in](mailto:rajkumarc@mgmari.sbv.ac.in)

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## INTERNATIONAL SYMPOSIUM

# CURRENT TRENDS AND FUTURE PERSPECTIVES OF NUCLEIC ACIDS RESEARCH IN HEALTH & DISEASES

### Date

30<sup>th</sup> November - 1<sup>st</sup> December 2023

### Hosted by

**Mahatma Gandhi Medical Advanced Research Institute, Sri Balaji Vidyapeeth  
(Deemed-to-be University), Pondicherry, India**

### In collaboration with

**Frontier Institute for Biomolecular Engineering Research (FIBER), Konan  
University, Japan**

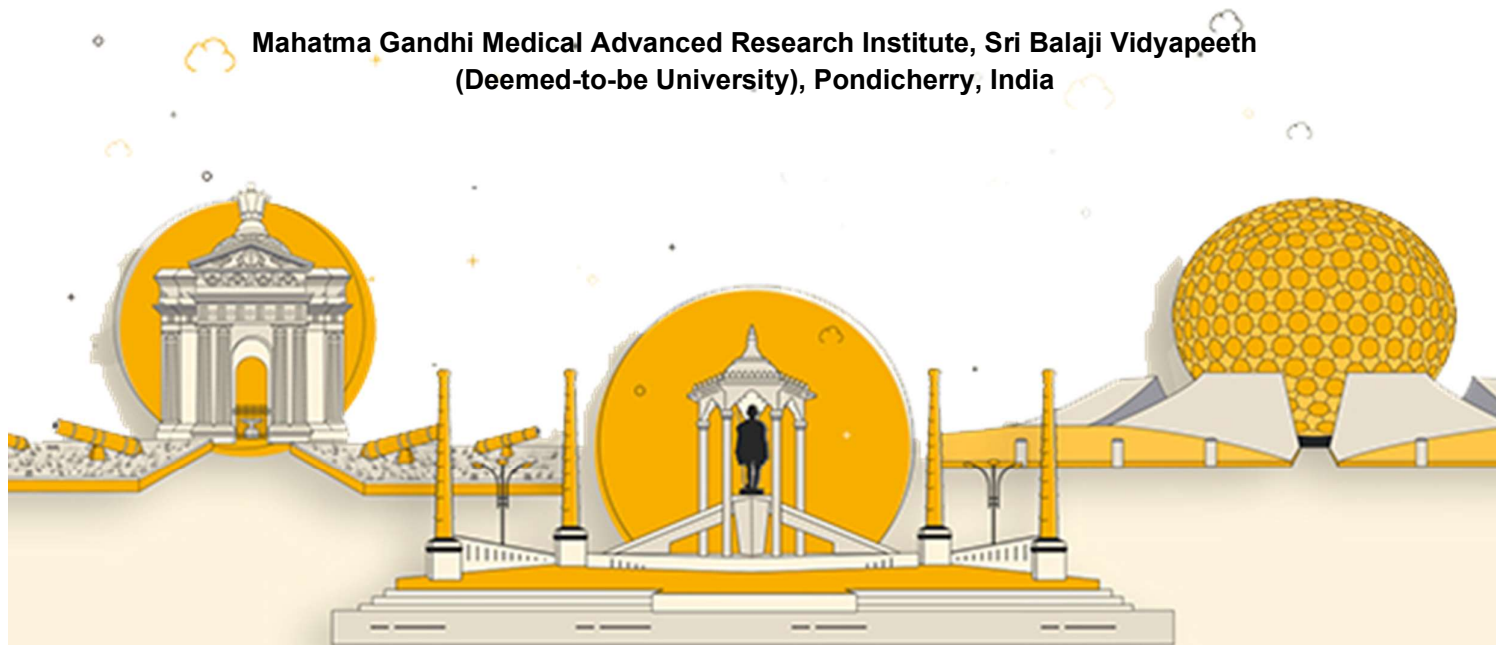
### Supported by

**JSPS Core to Core Project, JSPS, Japan**

**Sri Balaji Vidyapeeth (Deemed-to-be University), Pondicherry, India**

### Venue

**Mahatma Gandhi Medical Advanced Research Institute, Sri Balaji Vidyapeeth  
(Deemed-to-be University), Pondicherry, India**



Day 1: Thursday, 30 <sup>th</sup> November 2023: Pre-Symposium Oral and Poster Presentations	
9:00 – 12:00 AM	<b>High Level International Meeting</b> Restricted Access, only Invitation based
12:00-1:30 PM	<b>Lunch</b>
1:30 – 2:00 PM	<b>Participants welcome and registration</b>
2:00 – 4:00 PM	<b>Session: Poster Presentation</b> Limited slots, Registration mandatory
4:00 – 4:30 PM	Closing of Day 1: Reflection of the day

Day 2: Friday, 1 <sup>st</sup> December 2023: International Symposium	
9:00 – 9:30 AM	<b>Inauguration</b>
9.40 – 9.50 AM	<b>Welcome Address</b> <b>Dr. Sudipta Bhowmik,</b> Symposium Co-ordinator
9.50 – 10.00 AM	<b>Opening Remarks</b> <b>Prof. Nihar Ranjan Biswas,</b> Vice Chancellor, Sri Balaji Vidyapeeth (Deemed-to-be University)
10.00-10.30 AM	<b>Inaugural Talk</b> <b>Dr. Sanjeev K Varshney,</b> Scientist G/ Advisor, Head, International Cooperation, Department of Science & Technology, Govt. of India, New Delhi
<b>Tea break (10.30 – 10.45 am)</b>	
10.45 – 11.15 AM	<b>Biotechnology (DNA Technology) development in India</b> <b>Dr. S.R. Rao,</b> Vice President, Research, Innovation & Development, Sri Balaji Vidyapeeth (Deemed-to-be University); Former Sr. Advisor, Department of Biotechnology, Govt. of India
11.15 – 12 PM	<b>Keynote Address: “To <u>B</u> or not to <u>B</u>” of Nucleic Acids Research in Health &amp; Diseases</b> <b>Prof. Naoki Sugimoto,</b> Director, Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, Japan

<b>Lunch break (12 – 1.30 pm)</b>	
<b>1.30 – 2.15 PM</b>	<p><b>High pressure study for the functions of non-canonical nucleic acids structures aiming for therapeutics and health care</b></p> <p><b>Dr. Shuntaro Takahashi,</b> Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, Japan</p>
<b>2.15 – 2.45 PM</b>	<p><b>Dietary plant flavonoid: A potential candidate targeting non-canonical DNA structures</b></p> <p><b>Dr. Sudipta Bhowmik,</b> Mahatma Gandhi Medical Advanced Research Institute, Sri Balaji Vidyapeeth (Deemed-to-be University), Pondicherry, India</p>
<b>Tea break (2.45 – 3.00 pm)</b>	
<b>3.00 – 3.30 PM</b>	<p><b>Effect of the surrounding environments on behaviors of noncanonical structure DNAs investigated by simulations</b></p> <p><b>Dr. Tatsuya Ohyama,</b> Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University</p>
<b>3.30 – 4.00 PM</b>	<p><b>Exploring the chemical interactions to regulate i-motif DNAs for cancer theranostic applications</b></p> <p><b>Dr. Sinjan Das,</b> Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University</p>
<b>4.00 – 5.00 PM</b>	<p><b>Satellite Talk by young investigators</b></p> <p><b>From the participants (4)</b></p> <p><i>4 best research submissions will be selected. The Corresponding authors will be invited for the talk before the international gathering for further networking and R&amp;D promotion.</i></p>
<b>5.00 – 5.15 PM</b>	<b>Vote of thanks</b>



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## About the Speakers

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### **Dr. Sanjeev K Varshney,**

Scientist G/ Advisor, Head, International Cooperation, Department of Science & Technology, Govt. of India, New Delhi

Dr. Sanjeev Kumar Varshney has assumed the charge of Head, International Bilateral Cooperation Division (IBCD), Department of Science & Technology (DST) from 1st June. Dr. Varshney has worked as Scientific Officer with Government of India in the Department of Science & Technology since 1990. He has worked as Counsellor (S&T) with Embassy of India in Moscow to facilitate bilateral scientific cooperation between India and Russia during April 2008 – June 2011. He has developed policy documentation to promote international scientific cooperation as well as scientific – industrial cooperation. He is also Involved in financial planning of the group, including preparation of documents and creation of mechanisms for support. He has worked as researcher in Geoscience, as Researcher (JRF, SRF) at University of Delhi, Faculty at Kurukshetra University, Counsellor (Science and Technology), Embassy of India in Moscow.



### **Dr. Naoki SUGIMOTO**

Director and Professor of Frontier Institute for Biomolecular Engineering Research (FIBER), and Professor of Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, Japan

Naoki Sugimoto received Ph.D. in 1985 from Kyoto University, Japan. After postdoctoral work at University of Rochester, NY in USA, he joined Konan University, Kobe, Japan in 1988 and is a full professor since 1994. From 2003, he holds a director of Frontier Institute for Biomolecular Engineering Research (FIBER) at Konan University. He was a first chairman of Forum on Biomolecular Chemistry (FBC) from 1998 to 2001, and a chairman of Division of Biofunctional Chemistry of the Chemical Society of Japan (CSJ) from 2011 to 2013.

He was a president of the Japan Society of Nucleic Acids Chemistry (JSNAC) from 2017 to 2020. He is a member of the Editorial Board of *Nucleic Acids Research* and *Scientific Reports*, and so on. He received the Dr. Masao Horiba's Award in 2004, Distinguished Scientist Award from ICA (International Copper Association), New York, USA in 2005, Hyogo Science Award from Hyogo Prefecture, Japan in 2006, the CSJ Award for Creative Work in 2007, the Honorable Speaker for Applied Chemistry Lecture Series from the Chinese Academy of Sciences in 2011, Contribution Award

from the Japan Society of Coordination Chemistry (JSCC) in 2014, The Imbach-Townsend Award from IS3NA (International Society for Nucleosides, Nucleotides, and Nucleic Acids), San Diego, USA in 2018, The Chemical Society of Japan Award (Top Award) in 2020, and so on.



**Dr. S.R. Rao**

Vice President, Research, Innovation & Development, Sri Balaji Vidyapeeth (Deemed-to-be University); Former Sr. Advisor, Department of Biotechnology, Govt. of India

Dr. Rao is currently overseeing the research, innovation and development ecosystem of Sri Balaji Vidyapeeth by catalysing integration of basic and translational research, promotion of IPR, technology transfer, international engagement and policy investigations. He has been instrumental in establishment of MGM Clinical Trials and Training Center, MGM Advanced Research Institute, MGM -Preclinical Animal Research Center, and School of Biological Sciences, MGM Bio incubator.

During this service period in the Government of India he had gained experience in dealing with R&D promotion in agricultural medical and Animal biotechnology; planning, budget and technical coordination; biotechnology regulations in Europe; establishment of sophisticated biotechnology facilities; capacity building universities and institutions interdisciplinary Research, Education, teaching and training; establishing modalities and negotiation in accessing major international facilities; forging international collaboration with developing and developed countries; public private Partnerships; IPR, Patent facilitation and negotiations with attorneys as well technology transfer negotiations, agreement; licensing and royalty collection and dispute resolution etc., and biodiversity and bio-security issues; negotiating in international conventions such as Convention on Biological Diversity (CBD). Biological Weapons Convention (BWC) through inter-ministerial participation. He was officer on Special Duty (OSD) during 2005-2007 to Minister of Science and Technology and implemented projects and programmes at the interface between Science and society like telemedicine, S&T interventions in Judiciary.

Dr. Rao is the co-founder of the Global Alliance for Pandemic Preparedness and Response (APAR) that advances global health security through South-South and North-South Collaboration. He is also the founder and editorial board member of the Asian Biotechnology Development Review (ABDR). He has published 40 research papers in national/international Journals, two books on Animal vaccines and diagnostics and other on Biotechnology in Asian countries. He has visited more than 50 countries on scientific and official matters and made about 100 scientific and technical presentations in cutting edge area of biological sciences and applications in various national and international conferences.



**Dr. Shuntaro Takahashi**

Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University

Dr. Shuntaro Takahashi is an Associate Professor at the Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University. Dr. Takahashi earned his PhD degree in Tokyo Institute of Technology in 2007. After a period of research at Tokyo Institute of Technology as an Assistant Professor, he joined FIBER in 2012. He is currently studying the biophysics of nucleic acids in cells and the mechanism of molecular crowding for nucleic acid structures that affect cellular metabolism.



**Dr. Sudipta Bhowmik,**

Mahatma Gandhi Medical Advanced Research Institute, Sri Balaji Vidyapeeth (Deemed-to-be University), Pondicherry, India

Sudipta Bhowmik obtained his Ph.D. in Biochemistry from University of Kalyani, India in 2012. He was research associate in IISER-Kolkata and IACS Kolkata, India in 2012-2013. He joined FIBER, Konan University, Kobe, Japan in 2013 as postdoctoral fellow. He returned to India in 2014 as DST INSPIRE Faculty and joined in Dept. of Biophysics, Molecular Biology and Bioinformatics, University of Calcutta, India. In 2017-2018 he gathered another postdoctoral experience in Umea University, Umea, Sweden. In 2022, he joined Mahatma Gandhi Medical Advanced Research Institute (MGMARI), SBV(Health University), Pondicherry, India, as Assistant Professor. His research interests focus on biophysical chemistry, DNA nano-technology and natural products. He has more than 9 years of independent research experience with 32 publications.



**Dr. Tatsuya Ohyama,**

Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University

Dr. Tatsuya Ohyama received Ph. D. degree in 2013 from Toyohashi University of Technology, Japan. After working as a pressman of a newspaper publishing company, he joined FIBER, Konan University, Japan in April 2015. He moved once to RIKEN and then back to FIBER in 2020. His research interests include the effect of the surrounding environment on stability of

noncanonical structure nucleic acids using molecular dynamics simulations and electronic state calculations.



**Dr. Sinjan Das,**

Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University

Dr. Sinjan Das received Ph.D. degree in 2021 from Jadavpur University, India in the field of spectroscopy and photochemistry. He joined FIBER, Konan University, Japan in July, 2022 for his postdoctoral research in the field of nucleic acid chemistry. He obtained outstanding poster award in FIBER International Nucleic Acid Summit 2023. His current research is focused on the exploration of binding interactions

governing the tetraplex nucleic acids structure formation during cell cycle progression.

