



सत्यमेव जयते

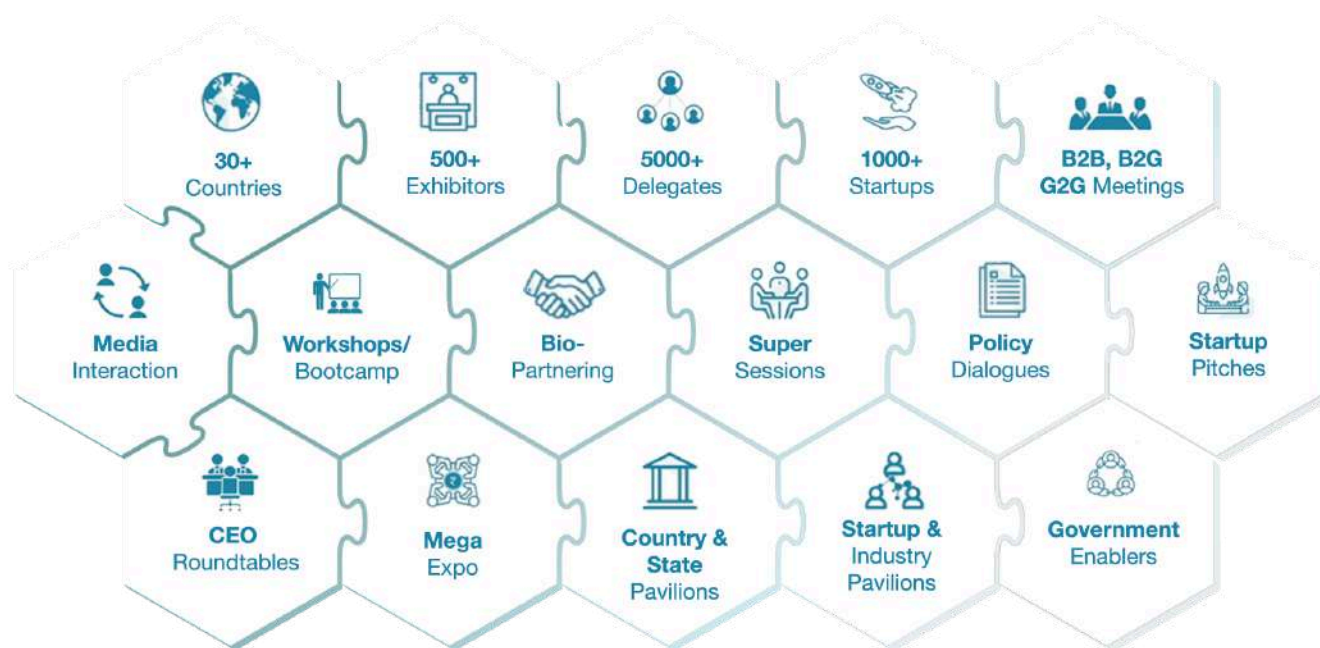
Department of Biotechnology  
Government of India



# GLOBAL BIO-INDIA 2024

12-14 September 2024

Hall no. 5, Pragati Maidan, New Delhi



*A Technical Report Prepared by ABLE*



**Global  
Bio-India  
2024**

**Transforming Lives**

**Biosciences to Bioeconomy**

**12-14 September, 2024**

**Hall 5, Pragati Maidan, New Delhi**

**Detailed Agenda**



DEPARTMENT OF BIOTECHNOLOGY  
Ministry of Science & Technology  
Government of India



Biotechnology Industry Research  
Assistance Council  
Government of India Enterprises

**Dates: 12-14 September, 2024**

Venue: Hall no. 5, Pragati Maidan, New Delhi

## Day 1: 12th September, 2024

**INAUGURAL  
SESSION**  
SYNERGY HALL

MEGA EXPO

TIME	SESSIONS	
08:30 – 10:00 hrs	Registration	
10:30 – 10:35 hrs	Lamp Lighting and Ganesh Vandana	
10:35 – 10:40 hrs	Opening Address	Dr. Jitendra Kumar <i>Managing Director, BIRAC</i>
10:40 – 10:45 hrs	Highlights of India Bioeconomy Report	Mr. G S Krishnan <i>President, Association of Biotech Led Enterprises</i>
10:45 – 10:55 hrs	Welcome Address	Dr. Rajesh S. Gokhale <i>Secretary, Department of Biotechnology, Chairman, BIRAC and DG-iBRIC</i>
10:55 – 11:00 hrs	Industry Perspective	Dr. Kiran Mazumdar Shaw <i>Executive Chairperson, Biocon Limited &amp; Biocon Biologics Limited</i>
11:00 – 11:05 hrs	Remarks	Dr. Tina Sejersgård Fanø, <i>Executive Vice President, Planetary Health Biosolutions, Novonosis</i>
11:05 – 11:10 hrs	Remarks	Dr. (Mrs.) N. Kalaiselvi <i>Director General, CSIR &amp; Secretary DSIR</i>
11:10 – 11:15 hrs	Remarks	Prof. Abhay Karandikar <i>Secretary, Department of Science &amp; Technology</i>
11:15 – 11:20 hrs	Remarks	Prof. Ajay Kumar Sood <i>Principal Scientific Adviser, Government of India</i>
11:20 – 11:25 hrs	Announcement of Letters of Intent Moderated by Ms. Shilpy Kochhar, <i>Head-Business Development &amp; Communications, BIRAC</i>	
11:25 – 11:35 hrs	Launch of Report and Booklets	<ul style="list-style-type: none"> <li>India BioEconomy Report 2024</li> <li>BIRAC Compendium of Products and Technologies 2024</li> <li>GBI Exhibitor Directory</li> <li>Insights into BIRAC Equity Fund</li> <li>Amrit Grand Challenge JanCARE Innovations Report</li> </ul>
11:35 hrs onwards	Address by Chief Guest	Dr. Jitendra Singh, <i>Union Minister of State (Independent Charge), Science &amp; Technology, MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Government of India</i>
	Vote of thanks by FCA Nidhi Shrivastava, <i>Director Finance, BIRAC</i>	
12:00 hrs	Inauguration of the Mega Exposition	

12:00 – 13:30 hrs	<b>CEO Roundtable (Vision Hall)</b>	
13:00 – 14:00 hrs	Networking at Lunch	
<b>SUPER SESSION 1</b>	<b>Biomanufacturing - Driving the Bioeconomy to become a Global Leader</b>	
14:00 – 14:05 hrs	Welcome Address	Dr. Jitendra Kumar, MD-BIRAC
14:05 – 14:15 hrs	Highlights of BioE3 Policy	Dr. Alka Sharma, Senior Adviser, DBT
14:15 – 14:20 hrs	Short video about BioE3 Policy	
14:20 – 14:25 hrs	Release of 'BioE3 (Biotechnology for Economy, Environment and Employment) Policy' Brochure By <i>Secretary, DBT</i>	
14:25 – 14:35 hrs	<b>Dr. Rajesh S. Gokhale</b> , <i>Secretary; DBT; DG, BRIC and Chairman, BIRAC</i>	
14:35 – 14:50 hrs	<b>Moderated Fireside Chat</b> <b>Ms.Tina Sejersgård Fanø</b> , <i>Executive Vice President-Planetary Health Biosolutions, Novonosis</i> <b>Dr.Ajikumar Parayil</b> , <i>Founder &amp; CEO, Manus</i>	
14:50– 15:30 hrs <b>Synergy Hall</b>	<b>Panel Discussion</b> <b>Moderator</b> <b>Dr. PM Murali</b> , <i>President, ABLE Council of Presidents and CMD-Jananom Pvt. Ltd</i> <b>Panelists</b> <b>Dr. Pramod Kumbhar</b> , <i>President and Chief Technology Officer, Praj Industries</i> <b>Dr. Sanjay Singh</b> , <i>CEO, Gennova Biopharmaceuticals Ltd</i> <b>Mr. Shreehas Tambe</b> , <i>CEO and Managing Director, Biocon Biologics</i> <b>Mr. Laxmi Narayan Neti</b> , <i>COO, Biological E</i> <b>Mr. Rajesh Krishnamurthy</b> , <i>CEO, Laurus Bio</i>	
	Vote of thanks by <b>Dr. Vaishali Punjabi</b> , <i>DBT</i>	

**TECHNICAL SESSION 1**

15:30 – 16:30 hrs

**Discovery Hall**

Role of shared infrastructure in driving the bio-economy

**Moderator**

**Dr. Mahesh Bhalgat**, *Group CEO, Veeda Clinical Research*

**Speakers**

**Dr. Murali Ramachandra**, *Chief Executive Officer, Aurigene Oncology Ltd*

**Mr. Ajay Bhardwaj**, *CEO, Founder and Managing Director, Anthem Bioscience*

**Dr Manni Kantipudi**, *CEO, Aragen Life Sciences*

**Dr Amritha Jaishankar**, *Executive Director (Cell and Gene Therapy Center), IQVIA*

**Dr Sudhir Nambiar**, *Head (CMC Small Molecules), Syngene Intl Ltd*

**TECHNICAL SESSION 2**

15:30 – 16:30 hrs

**Catalyst Hall**

Accelerating bio-transformation - Navigating Technology Access, Technology Co-Creation & Licensing to realize the potential of Biomanufacturing in India

**Moderator**

**Mr. K Vijayraghavan**, *Founder Director, Sathguru Management Consultants*

**Speakers**

**Dr. Paresh Verma**, *CEO, Bioseed*

**Dr. Shekhar Varshney**, *South Asia Regulatory & Stewardship Leader, Corteva Agrisciences*

**Ms. Pushpa Vijayraghavan**, *Director, Sathguru Management Consultants*

**Dr. Joy Goswami Sr.** *Director of Corporate Engagements - WSE, Johns Hopkins University*



		<b>Dr. Rahul Purwar</b> , Associate Professor, IIT Mumbai <b>Dr. Jogin Desai</b> , Founder & CEO, Eyestem Research Private Limited <b>Dr. Suresh Korpole</b> , Head, MTCC, IMTECH <b>Dr. Guhan Jayaraman</b> , Professor, IIT-Madras <b>Mr. Krishna Mohan Puvvada</b> , Senior Vice President, Planetary Health BioSolutions, <b>Novozymes</b> <b>Dr. Rajesh Krishnamurthy</b> , CEO, Laurus Bio <b>Dr. Tulip Nuwal</b> , Intas Pharmaceuticals
15:30 -17:30 hrs	Startup Pitches <b>(Ad'Venture' Hall-Ground Floor)</b>	
16:00 -18:00 hrs <b>Vision Hall</b>	<b>Roundtable session</b> <span>By Invite</span> Enhanced Biomanufacturing Through Global Regulatory Convergence: A Unified Approach	
16:30 - 16:45 hrs	Tea-break	
16:45 - 18:30 hrs <b>Catalyst Hall</b>	<b>Science Connect: Stalwarts in Science</b> <b>Keynotes</b> <b>Dr Archana Sharma</b> , Senior Physicist and Scientist at CERN, Geneva In conversation with <b>Vishnu Som</b> , Executive Editor, NDTV  <b>Sir Ian Blatchford</b> , Director of the Science Museum Group In conversation with <b>Jahnavi Phalkey</b> , Founding Director, Science Gallery Bengaluru  <b>Dr Balram Singh</b> , Chairman of the of the Boston Center of Excellence for Health and Human Development, in conversation with <b>Sarthak Kaushik</b> , Radio Broadcaster	
17:00 -18:00 hrs <b>Vision Hall</b>	<b>Registered technology transfer professionals (RTTP)</b> Round table <span>By Invite</span>	
18:30 - 19:30 hrs	<b>Cultural Evening</b>	
19:30 hrs onwards	<b>Networking Dinner</b>	



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## Day 2: 13th September, 2024

TIME	SESSIONS
10:00 – 11:30 hrs <b>Super Session 2</b> <b>Synergy Hall</b>	<p><b>Steering New Generation Therapeutics</b></p> <p><b>Moderator</b></p> <p>Dr. Ajith Kamath, <i>External R&amp;D head, Ex- Pfizer</i></p> <p><b>Speakers/Panelists</b></p> <p>Dr. Gaurav Narula, <i>Tata memorial Hospital, Mumbai</i></p> <p>Dr. Shridhar Narayanan, <i>CEO, Foundation for Neglected Disease Research</i></p> <p>Mr. Sanatan Upmanyu, <i>Head of Data Sciences, Executive Director at InveniAI GmbH</i></p> <p>Dr. Nitin Damle, <i>EVP and chief Innovation Officer, Sun Pharma Advanced Research Company Ltd.</i></p> <p>Dr. Murali Ramachandra, <i>CEO of Aurigene Oncology, Aurigene Discovery Technologies Ltd.</i></p> <p>Dr. Annam Visala, <i>Joint DCGI, CDSCO</i></p>
10:00 – 11:00 hrs <b>Discovery Hall</b>	<b>India IP SME Helpdesk - European Commission</b>
<b>State Roundtable</b> <b>By Invite</b> 10:00 - 11:30 hrs <b>(Vision Hall)</b>	<b>SPARSH Partners Meet</b> <b>By Invite</b> 10:00 -12:00 hrs <b>(Ideation Hall)</b>
11:00 – 13:00 hrs	<b>Startup Pitches (Ad'venture' Hall-Ground Floor)</b>
<b>TECHNICAL SESSION 3</b> 11:30 -12:30 hrs <b>Discovery Hall</b> <b>Non-Animal Methodologies (NAMS)</b> <b>for drug development and biomedical research</b> <b>Moderator</b> Prof. Maneesha S Inamdar, <i>Director at DBT-inStem</i> <b>Panelists</b> Dr. Annam Visala, <i>Joint DCGI, CDSCO</i> Dr. Surat Parvatam, <i>Senior Strategist, Research and Regulatory Science, Humane Society International/India</i> Dr. Jagadish Mittur , <i>IBioM, Bengaluru</i>	<b>TECHNICAL SESSION 4</b> 11:30 -12:30 hrs <b>Catalyst Hall</b> <b>Catalyzing Digital Health Landscape in India</b> <b>Moderator</b> Dr. Anurag Agrawal, <i>Dean, BioSciences and Health, Ashoka University</i> <b>Panelists</b> Dr. Karthik Adapa, <i>Regional Advisor, Digital Health, World Health Organization, South-East Asia Regional Office (SEARO)</i> Dr. Rajendra Pratap Gupta, <i>President, Global Digital Health Corporation.</i>

MEGA EXPO

**Dr. Subrahmanyam Vangala**, *Founder & CEO Reagene Biosciences*

**Dr. Jugnu Jain**, *Founder CEO of Sapien Biosciences*

**Prof. Tim R. Dafforn**, *Professor of Biotechnology, University of Birmingham*

**Dr. Suresh Pothani**, *Retd. Director I/c & Scientist "G", ICMR-National Animal Resource Facility for Biomedical Research*

**Mr Neeraj Jain**, *India Country Director, PATH*

**Dr. Anand Krishnamurthy**, *Technical Head, BIOVIA, Dassult Systemes*

**Mr Madhav Joshi**, *Chief Executive Officer, India Health Fund*

**Mr Kolli Sarath**, *Chief Executive Officer, Boltzmann Labs. Private Limited*

12:00 – 13:30 hrs

## Roundtables

By Invite

### Roundtable on International Bioeconomy: U.S.- Indian Bioeconomy Efforts

Ideation Hall

Global Panel with representation from embassies, science councils, international clusters etc.

Vision Hall

13:00 – 14:00 hrs

### Networking at Lunch

14:00 – 15:30 hrs

## Super Session 3

### Synergy Hall

### Enhancing Food Security Through Agrifoodtech Innovations- Opportunities and Challenges

Moderator

**Mr. Mark Kahn**, *Managing Partner, Omnivore*

Panelists

**Mr Raj Ganguly**, *Senior Agribusiness Specialist at the World Bank Group in New Delhi, India.*

**Mr. Suman S**, *Director-Climate action and Rural Livelihoods, Dr. Reddy's Foundation. India*

**Mr. Ravi Tennety**: *CEO of The BeST (Foundation for Bengaluru Science and Technology Indian Institute of Science, India*

**Mr Karavadi Srinivasakumar**: *President of BioAg Business, Absolute, India*

**Dr. Murli Manohar**: *Founder, Ascribe Bioscience, USA*

**Dr. Neha Awasthi**: *Project Leader & Domain Expert Biosensors, Institute for Molecules and Materials & One Planet Research Centre, Netherlands*

### TECHNICAL SESSION 5

14:00 – 15:30 hrs

### Ideation Hall

The NIH/NIAID vaccine adjuvant program:  
New insights, access to novel adjuvants  
and opportunities for collaborations

Moderators

**Dr. Wolfgang Leitner**, *Chief, Innate Immunity Section*

**Dr. Jyoti Malik Logani**, *Scientist F, Department of Biotechnology.*

**Dr. Kentner Singleton**, *Program Officer, Division of Allergy, Immunology, and Transplantation (DAIT), NIAID, NIH, USA.*

### PANEL DISCUSSION

14:00 – 15:30 hrs

### Catalyst Hall

Building Regulatory Capabilities for Bio Startups  
in India

(Powered by : U.S. Pharmacopeia)

Moderator

**Dr. Annu Uppal**, *Director Scientific Affairs & Strategy, USP*

MEGA EXPO

## Panelists

**Dr. Lisa Morici**, Professor, Tulane University School of Medicine, USA.

**Dr. Robert K. Ernst**, Professor, University of Maryland – Baltimore, USA

**Dr. Chase Kempinski**, CEO, Enepret Inc., USA.

**Dr. Nikolai Petrovsky**, Chairman and Research Director, Vaxine Pty Ltd., Adelaide, Australia.

**Dr. Juhienah Khalaf**, Director of Chemistry, Inimmune Corporation, USA.

**Dr. Tomoko Hayashi**, Project Scientist, University of California San Diego, USA.

**Dr. Prabhudda Kundu**, Co-Founder and MD, Premas Technologies Inc.

**Dr. Kapil Maithal**, President, Vaccines, Zydus Group.

**Dr. Swarnendu Kaviraj**, Associate Director, R&D, Gennova Biopharmaceuticals Ltd.

**Dr. Amulya Panda**, Associate Director, Panacea Biotec.

**Dr Jayanta Bhattacharya**, Professor and Dean, Translational Health Science and Technology Institute (THSTI).

**Dr. Anuradha Tripathi**, Scientist F, National Institute of Virology (NIV).

**Dr. Hariprasad Raju**, General manager, Zydus life

**Dr. Nimesh Gupta**, Chief, Vaccine Immunology Lab, National Institute of Immunology (NII).

**Dr. Deepak Salunke**, Assistant Professor, Panjab university

## Panelists

**Dr. Fouad Atouf, SVP**, Global Biologics, USP

**Sonia Gandhi**, DGM & Head (Regulatory Affairs & Policy Advocacy), BIRAC

**Dr. Shirish Arya**, Co- Founder, ImmunoAct

**Dr. Deepanwita Chattopadhyay**, Chairman & CEO IKP Knowledge Park

**Dr. Anil Kondareddy**, COO Aspire-BIONEST, University of Hyderabad

## Speakers

**Matruprasad Priyadarshi**, Senior Director-Region & Program Operations, USP

**Dipankar Das**, Director-Biologics, USP

**Hina Ansari**, Senior Product Manager, Global Biologics, USP

## Coordinator

**Koustavayan Chowdhury**, Manager, International Public Policy, Advocacy, & Engagement, USP

MEGA EXPO

14:00 -15:30 hrs

**Vision Hall**

**India-UK Biomanufacturing Roundtable**

By Invite

14:00 -15:30 hrs

**Discovery Hall**

**Masterclass for Incubators**

(powered by ISBA)



## TECHNICAL SESSION 6

15:30 – 16:30 hrs

### Discovery Hall

Evolving landscape of the food Industry: Smart proteins and Functional Foods

#### Moderatos

**Dr. J. B. Prajapati**, *Chairman, IDA (WZ), Mumbai, Ex. Chairperson, Verghese Kurien Centre of Excellence, IRMA, Anand, Ex Principal & Dean, AAU, Anand, Gujarat*

#### Panelists

**Dr. Bhaskar Narayan**, *Director, CSIR-IITR, Lucknow.*

**Mr. Anurag Chadha** – *Director Food & Beverage Biosolutions, South Asia, Novonesis, Mumbai*

**Dr. Prabodh Halde**, *Regulatory Head Marico, Chairman MH AIFPA, SEA EC member, Ex-president AFST India*

**Mr. Subramani Ramachandrapa**, *Founder, Fermbox Bio, Bangalore*

**Mr. Bharath Bhakaraju**, *Founder & CEO, Phyx44 Labs*

**Dr. Padma Ishwarya**, *Science & Technology Specialist, GFI-India*

15:30 – 16:30 hrs

### Catalyst Hall

## India's potential as a Global Hub for MedTech Manufacturing and Innovation

(Powered by AMTZ)

#### Keynote

**Dr. Jitendra Sharma**, *MD & Founder CEO, AMTZ*

#### Moderatos

**Dr. Ekta**, *CEO-Define Bio (P) Ltd. AMTZ*

#### Speakers/Panelists

**Mr. Jatin Mahajan**, *Managing Director, J Mitra & Co (P) Ltd.*

**Dr. Suresh Thakur**, *President – Scientific Affairs – Trivitron Healthcare (P) Ltd.*

**Ms. Chandra Gunjoo**, *Executive Director & Group CEO, Trivitron Healthcare (P) Ltd.*

**Mr. Niraj Khinvasara** – *CEO-WTC, Pune*

15:30 – 16:30 hrs

Startup Pitches (**Ad' Venture' Hall**-Ground Floor)

15:30 – 16:30 hrs

Refreshment break

16:30 – 17:30 hrs

### Vision Hall

## Opportunities and Challenges - Clinical Trial Networks of India

#### Co-Moderatos

**Dr. Sanish Davis**, *R&D Director, The Janssen Pharmaceutical Companies of Johnson & Johnson*

**Dr. Aparna Mukherjee**, *Scientist-F & In-Charge, Clinical Studies, Trial & Projection Unit, Division of Epidemiology and Communicable Diseases, ICMR*

#### Panelists

**Mr. R. Chandrashekar**, *Joint Drugs Controller DCGI,*

**Dr Prasanth Ganesan**, *Additional Professor & Head, Medical Oncology – JIPMER*

**Dr Anil K**, *Head of Medical Affairs, National Regulatory Affairs, Clinical Research and Pharmacovigilance, Biocon Pharma Limited*

MEGA EXPO

**Dr. Pramod Kashid** – CEO Expecto Health Science Singapore Distinguished professional in clinical research

**Dr. Seema Pai**, Senior Director and Head, Global Clinical Operations, Pfizer

**Dr. Sujay Shetty** – PwC Global Health Industries Advisory Leader, India Health Industries Leader, PwC

**Dr. Rakesh Lodha** Professor paediatrics AIIMS New Delhi

**Dr. Gopal Pillai** Professor and Head of Ophthalmology and Chief of Vitreo Retinal Services Amrita Institute of Medical Sciences, Kochi

**Dr. Anil Purty**, Professor & Registrar of Community Medicine, Pondicherry institute of Medical Sciences

**Dr. Manju Sengar**, Professor, Adult haematolymphoid disease management group, Medical Oncology, Tata Memorial Centre

**Dr. Smita Pattnaik** Professor Clinical Pharmacology PGIMER Chandigarh

**Dr. Sucheta Banarjee** Principal Scientist II CDSA-THSTI Head training clinical trials

## Science Connect with Society

16:30 – 18:00 hrs

### Discovery Hall

**Vincent Doumeizel**, Senior Advisor, Oceans, UN Global Compact, (author of The Seaweed Manifesto)

**Diya Karnad**, Assistant Professor of Environmental Studies, Ashoka University

**In conversation with**

**Nayantara Jain**, Executive Director, Reefwatch India, Scuba Instructor, Marine Biologist

### Roundtable

16:30 – 18:00 hrs

### Ideation Hall

India-UK-South Africa  
Biomanufacturing Roundtable

By Invite

### MASTERFORUM

16:30 – 18:00 hrs

(Ad'Venture' Hall-Ground Floor)

Mentoring & Assistance for  
Successful Translational &  
Entrepreneurial Research Series I

18:00 – 18:30 hrs

Networking Tea

MEGA EXPO



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Transforming Lives  
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## Day 3: 14th September, 2024

### TIME

### SESSIONS

10:00 – 11:30 hrs

#### Super Session 4

#### Synergy Hall

### Green initiatives for sustainable growth

#### Moderator

**Dr. Anjan Ray**, *Venture Capitalist and Former Director, CSIR- Indian Institute of Petroleum*

#### Panelists

**Mr. M. Devesh**, *Managing Director, Embio Ltd., India*

**Dr. SSV Ramakumar**, *CTO and Executive Vice President, AM Green, India*

**Dr. Anand Ghosalkar**, *Chief Scientist, Praj Industries, India*

**Dr. Sreenivas Rao Ravella**, *Fermentation Scientist, Epoch Biodesign, UK*

**Dr. Arun Kumar**, *Founder, Feynman Energy, India*

**Dr. Sanjeev Kumar Chandrayan**, *DGM, Reliance Industries, India*

#### Roundtable

10:30 – 12:00 hrs

#### Vision Hall

Investor Roundtable  
(powered by IVCA)

By Invite

#### TECHNICAL SESSION 7

11:00 – 12:00 hrs

#### Discovery Hall

Tapping the Blue Economy

#### Opening Remarks

**Dr. Mrutyunjay Suar**, *Chairman, BCKIC, Odisha*

#### Keynote

**Shri Krushna Chandra Patra**, *The Hon'ble Minister,  
Food Supplies & Consumer Welfare, Science & Technology,  
Government of Odisha, India*

#### TECHNICAL SESSION 8

11:00 – 12:00 hrs

#### Catalyst Hall

Bold Targets and Breakthroughs  
for Climate Resilience

#### Moderator

**Prof. Anjal Prakash**, *Clinical Associate Professor  
(Research) & Research Director, Bharti Institute  
of Public Policy, Indian School of Business (ISB), Hyderabad*

MEGA EXPO

### Moderator

**Dr. Shrikumar Suryanarayan**,  
*Chairman and co-founder, Sea6 Energy Pvt. Ltd.*

### Panellists

**Dr. Santanu Dasgupta**, *Senior Vice President,  
Head of Synthetic Biology, and Algae  
to Oil R&D, Reliance Industries Ltd*

**Dr. C.R. Subhashini**, *Director, Aristogene Biosciences*

**Ms. Neha Jain**, *MD, Zerocircle*

**Mr. Nelson Vadassery**, *CEO, Sea6 Energy*

**Mr. Arpan Bhalerao**, *Chief Growth Officer, Aquaconnect*

### Panellists

**Dr. Nisha Mendiratta**, *Executive Director,  
Indo-U.S. Science and Technology Forum (IUSSTF)*

**Prof. N Raghuram**, *Professor, Founder and Head,  
Centre for Sustainable Nitrogen and Nutrient Management,  
Guru Gobind Singh Indraprastha University, New Delhi*

**Dr. Purvi Patel**, *Sr Consultant, National Programme  
on Climate Change & Human Health (NPCCHH),  
Centre for Environment & Occupational Health and Climate  
Change & Health (CEOH-CCH), NCDC, New Delhi*

**Dr. Parag Acharya**, *Senior Fellow in Food Innovation,  
Innovation Growth Manager, Growing Kent & Medway  
Cluster, Food and Markets Department, Natural Resources  
Institute (NRI), University of Greenwich Medway Campus, U.K.*

**Dr Ananya Chakraborty**, *Senior Research Specialist,  
Climate Resilience Practice, World Resources Institute  
(WRI), India*

## MASTERFORUM

11:00 - 12:00 hrs

**(Ad'Venture' Hall-Ground Floor)**

**Mentoring & Assistance for  
Successful Translational &  
Entrepreneurial Research Series II**  
*(powered by TiE)*

12:00 -13:00 hrs

**Synergy Hall**

### Meet the Unicorn

**Mr. Prashant Tandon** *CEO, TATA 1mg*  
In conversation with **Mr. Mohit Joshi**, *CEO, Havas Media (Moderator)*  
*(Powered by TiE Delhi NCR)*

13:00 - 14:00 hrs

**Synergy Hall**

### Valedictory Session

Product Launches  
Innovator Awards  
Startup Awards  
Incubator Awards

14:00 hrs onwards

**Lunch and Departure**

MEGA EXPO



# DAY 1: 12<sup>th</sup> September 2024

## Inaugural Session

The 4th edition of Global Bio-India 2024 was a three day event from 12-14 September 2024 held at Hall no. 5, Pragati Maidan, New Delhi. The event was organized by the Biotechnology Industry Research Assistance Council (BIRAC), a Public Sector Undertaking under the Department of Biotechnology (DBT) - Ministry of Science and Technology, Government of India showcasing India's Biotech growth and opportunities to the world. Association of Biotechnology Led Enterprises (ABLE) was the Technical Partner to the event.

**Dr. Jitendra Singh** – Union Minister of State (Independent Charge), Science & Technology; MoES PMO, Personnel, Public Grievances, Pensions, Atomic Energy, and Space, Government of India; **Prof. Ajay Kumar Sood** – Principal Scientific Adviser, Government of India; **Dr. Rajesh S. Gokhale** – Secretary, Department of Biotechnology; Chairman, BIRAC; and DG-iBRIC; **Dr. (Mrs.) N. Kalaiselvi** – Director General, CSIR & Secretary, DSIR; **Dr. Jitendra Kumar** – Managing Director, BIRAC; **Dr. Kiran Mazumdar-Shaw** – Executive Chairperson, Biocon Limited & Biocon Biologics Limited; **Dr. Tina Sejersgård Fanø** – Executive Vice President, Planetary Health Biosolutions, Novonesis were a part of the inaugural session.



**Dr. Jitendra Singh**, Union Minister of State (Independent Charge), Science & Technology, MoES PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Government of India formally inaugurated the event. "Global Bio India Unveils 30 Breakthrough Startups, Paving the Way for the Future of Biotech" said Union Minister Dr. Jitendra Singh at the inaugural ceremony. Dr. Jitendra Singh congratulated DBT and BIRAC for enabling the phenomenal growth and said India's bioeconomy has experienced remarkable growth, skyrocketing from \$10 billion in 2014 to over \$151 billion in 2024, with projections to reach \$300 billion by 2030.

*A Technical Report Prepared by ABLE*

As India emerges as a Global Biotech Powerhouse, said **Dr. Jitendra Singh**, Prime Minister **Shri. Narendra Modi** will be hailed across the world as the champion of the new Biotech Boom, which promises to boost the economy, innovation, jobs, and environmental commitments.



**Dr. Jitendra Singh** launched the 'India Bio Economy Report 2024' brought out by the Department of Biotechnology and BIRAC in association with ABLE that captures the phenomenal progress made by the Indian Biotech industry. He hailed the visionary leadership of Prime Minister Shri. Narendra Modi is guiding us in this new era of Biotechnology transformation.



Highlighting the importance of Global Bio-India, Dr. Jitendra Singh said "GBI offers a unique business networking platform for varied participants, including Central and State Ministries, Startups, SMEs, Large industries, Bioclusters, Research institutes, Investors, Incubators, Regulators, Policy Makers, Business analysts, Legal, IP, CROs, Innovation missions from other countries, international bodies, Industry Associations". Tracing the journey, he lauded the DBT-BIRAC for successfully organizing three editions of Global Bio-India. Dr. Jitendra Singh called the Global Bio-India 2024 a much bigger event as compared to 2023 with participation from 30+ countries, 500+ exhibitors, 5000+ delegates, 1000+ startups, B2B, B2G, G2G meetings and much more.

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**Dr. Jitendra Singh** said “There are a billion reasons to invest in India, the reasons being India has 60% share of global vaccine production, it has the 2nd highest number of USFDA approved manufacturing plants outside the USA. Opportunities for investments are available in Bio-Pharma, Bio-Agri, Bio-Industrial, Bio-energy, Bio-Services and Med-Tech.” Underscoring that “Bio-revolution” in India synonymous to the IT Revolution driven by the western world, Dr. Jitendra highlighted the BioE3 (Biotechnology for Economy, Employment, and Environment) Policy recently approved by the Union Cabinet under the leadership of PM Modi.



Sharing details on the BioE3 Policy, he called this policy as the timely intervention at this crucial juncture for our country in the back drop of global climate change to enable creation of a cleaner, greener, and prosperous India. He expressed confidence that the new policy would contribute significantly to the global economy while protecting our environment. He also reiterated the key areas of focus

such as bio-based chemicals and enzymes, smart proteins, precision biotherapeutics, climate-resilient agriculture, carbon capture and utilization, and advanced marine and space research. Dr. Jitendra Singh referred to these as the future of biotechnology and drive growth and innovation across various industries. The BioE3 Policy will support this transformation by establishing cutting-edge biomanufacturing facilities, bio foundry clusters, and Bio-AI hubs. The biotech hubs will bridge the gap between research and commercial manufacturing, fostering collaboration between startups, SMEs, and established companies, thereby, boosting High performance Biomanufacturing and Bioeconomy. Integration of AI to analyze large-scale biological data, will pave the way for advancements in gene therapies, food processing added the minister. Emphasizing on the employment opportunities being created, particularly in tier-II and tier-III cities he stated that biomanufacturing hubs will use local resources and contribute to regional economic development, promoting more inclusive growth. Dr. Jitendra Singh gave clarion call to raise the bar, break barriers, and reach new heights. He said “With the momentum we’ve gained and the convergence of talent India@2047 will be a Biotechnology leader.

BIRAC also signed Letter of Intent with 11 leading international organizations in Biotechnology namely United States Pharmacopeial Convention (USP); UK Research and Innovation (UKRI), UK; DHR Holding India Pvt. Ltd. (Danaher India); Mauritius Institute of Biotechnology Ltd (MIBL); La Trobe University, Australia; Blockchain for Impact (BFI), United Arab Emirates; US-India Strategic Partnership Forum (USISPF); IBioM (Indian Biotech MSME and Startup Foundation); Bharat Startup and Innovation Society (BSIS); the Children’s Investment Fund Foundation, and IPE Global to promote co-funding partnerships.



The **Indian Bio Economy Report 2024** was launched at the Global Bio-India 2024 along with **BIRAC Compendium of Products and Technologies 2024**. In addition to this the event also witnessed the launch of **BIRAC Exhibitor Directory** coupled with **Biotechnology Innovation Fund - Fund of funds - AcE (Accelerating Entrepreneurs)**, **Insights into BIRAC's Equity Fund Scheme**, **Amrit Grand Challenge-जनCARE Report On Early-Stage Innovations**.



**Dr. Rajesh S. Gokhale**, Secretary, Department of Biotechnology, Chairman, BIRAC and DG-iBRIC highlighted the pivotal role of such an international conference. He stated, "This year's BioE3 economy has laid a foundation not just for biotechnology growth, but for social transformation as well. With funding and incubation, it's been impactful, especially for SMEs and MSMEs, driving employment and embracing bigger challenges."





**Dr. Jitendra Kumar**, Managing Director, BIRAC gave the opening remarks acknowledging the significance of the occasion, calling it "the largest gathering of biotech professionals in India's history."



**Dr. Kiran Mazumdar-Shaw**, Executive Chairperson of Biocon Limited and Biocon Biologics Limited and non-Executive Chairperson of ABLE, emphasized the need for increased cooperation and collaboration to expand India's pharmaceutical market share and volume. She remarked, "It's an exciting time to be at the Global Bio India Event, particularly as biology emerges as one of the most transformative fields of our era. Today, biology represents a new frontier—an arena where we are redefining the limits of human knowledge and capability in ways that were once thought impossible."



**Mr. G S Krishnan**, Hon. President of ABLE presented the 'Highlights of **India Bioeconomy Report 2024**'. "The recently unveiled BioE3 Policy is a big initiative for the recognition of biotechnology in India. We'll achieve our target of 300 billion dollars by 2030," he said.

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**Dr. Tina Sejersgård Fanø**, Executive Vice President of Planetary Health BioSolutions at Novonesis, expressed her gratitude to India for the BioE3 policy. She emphasized the importance of pursuing sustainable solutions, stating, “There is a huge need for more sustainable solutions, sustainable development and healthier lives”.



**Dr. (Mrs.) N. Kalaiselvi**, Director General, CSIR & Secretary DSIR emphasized that the goal of the bioscience industry extends beyond merely reaching the consumer market. She stated, “We aim to transform lives through next-level innovation and a robust economy, building on our current approach to science and technology”. The remarkable turnout at this year’s Global Bio-India, with over 8,000 participants in just four years, reflects the growing awareness and aspirations for bioscience and bioeconomy among Indian youth.



**Prof. Ajay Kumar Sood**, Principal Scientific Adviser, Government of India said “It is a pleasure to be a part of this festival of biotechnology, where we celebrate the success of this field in the country. India is on the rise to become a global leader in biotechnology and is rapidly becoming a pivotal hub for global research, innovation and excellence solidifying its status as a science and technology powerhouse”.





The Global Bio-India expo was launched by **Prof. Ajay Kumar Sood**, Principal Scientific Adviser, Government of India; **Dr. Rajesh S. Gokhale**, Secretary, Department of Biotechnology, Chairman, BIRAC and DG-iBRIC; **Prof. Abhay Karandikar**, Secretary, Department of Science & Technology; **Dr. (Mrs.) N. Kalaiselvi**, Director General, CSIR & Secretary DSIR; **Dr. Jitendra Kumar**, Managing Director, BIRAC; and **Dr. Kiran Mazumdar-Shaw**, Executive Chairperson, Biocon Limited & Biocon Biologics Limited.



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## **Super Session 1**

### **Biomanufacturing - Driving the Bioeconomy to become a Global Leader**

This session focused on the "Biomanufacturing" initiative, which aimed to establish a robust national infrastructure supported by pilot-scale manufacturing units across various sectors, including food additives, biopharmaceuticals, bulk chemicals, animal feed, flavors and fragrances, biomaterials, and Agri-bio products. Renowned experts in this field delved into the challenges and opportunities towards sustainable manufacturing and shared their vision of developing India as a biomanufacturing hub to become a global leader.



**Dr. Jitendra Kumar**, MD, BIRAC gave the welcome address highlighting that “The bioeconomy represents a visionary future, addressing net-zero goals, ecological sustainability, and efficiency. Countries investing in these areas are emerging as leaders in their fields. India is pursuing biomanufacturing in mission mode through the BioE3 policy, which addresses economic growth, job creation, and ecological sustainability.”



**Dr. Alka Sharma**, Senior Advisor, DBT gave the highlights of BioE3 Policy and stated that “India's remarkable transformation from strong economic growth to a leading vaccine producer is noteworthy. With the implementation of the BioE3 policy, we are not only seeing a significant boost in the bio-economy but also creating new jobs and opportunities for startups”.





**Dr. Rajesh S. Gokhale**, Secretary, DBT; DG, iBRIC; and Chairman, BIRAC addressed the audience and stated that “Biology will drive the next technological revolution, impacting every aspect of our lives and reshaping the world at an unprecedented pace.”



**Dr. Tina Sejersgård Fanø**, Executive Vice President, Planetary Health Biosolutions, Novonesis had a fireside chat with **Dr. Ajikumar Parayil**, Founder & CEO, Manus Bio. They discussed that “The global embrace of the bioeconomy is evident, with the Danish government actively pursuing collaborations, partnerships, and funding to enhance biosolutions in the country.”



The plenary session featured an engaging panel discussion moderated by **Dr. P.M. Murali**, President, ABLE Council of Presidents and CMD-Jananom Pvt. Ltd. He emphasized, “For too long, we have been at odds with nature. Much of the industrialization we’ve seen, whether in India or globally, has contributed to pollution and climate change. However, the BioE3 policy signifies a shift; India’s economy will grow by increasingly leveraging living systems that coexist

harmoniously with the environment. We now have responsible guidelines for achieving sustainable growth.”

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The panel included distinguished leaders who shared their insights:



**Mr. Rajesh Krishnamurthy**, CEO, Laurus Bio stated “Our goal is to produce resilient products that meet our needs without relying on traditional sources, thereby enhancing biomanufacturing.”



**Mr. Shreehas Tambe**, CEO and Managing Director, Biocon Biologics stated “Innovation that isn’t affordable isn’t accessible. To supply products globally, we need large-scale manufacturing. At Biocon Biologics, we’ve invested in cutting-edge science and large-scale manufacturing to make lifesaving medicines accessible at affordable prices. Our significant investments in global-scale manufacturing infrastructure and R&D have transformed us into a player with a presence in over 120 countries. Our biosimilars are ‘Made in India for the World.’”



**Mr. Lakshminarayana Neti**, Chief Operating Officer, Biological E. Limited, quoted “As one of the largest vaccine producers, we rely on three key components concentrated in North America, Europe, and China. We have proactively addressed the supply chain challenges posed by the pandemic.”

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**Dr. Sanjay Singh**, CEO, Gennova Biopharmaceuticals Ltd and **Dr. Pramod Kumbhar**, President and Chief Technology Officer, Praj Industries were also a part of the panel discussions.



## CEO Roundtable



At the CEO Roundtable during Global Bio-India 2024, industry leaders engaged in a compelling discussion on accelerating investments and scaling biotech startups. The dialogue highlighted the benefits of collaborative efforts in advancing the bioeconomy and emphasized the importance of the BioE3 policy in driving the growth of the bio industry. Key topics included the impact of cutting-edge technologies, the role of global research collaborations, strategies for supporting biotech startups, and attracting investments to enhance health and environmental solutions worldwide.

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## Technical Session 1

### Role of shared infrastructure in driving the bio-economy

The session discussed the need to compete effectively with global leaders and highlighted the importance of India elevating its standards in delivery, manufacturing, and assembly while leveraging advanced technology as a key asset. The speakers emphasized that digital tools are essential for managing costs and reducing variability by connecting and analyzing data throughout the production process. They also noted that focusing on biotransformation will help eliminate harmful chemicals and impurities in nutrition products, revealing significant untapped potential. Additionally, supporting startups was identified as crucial, as their innovation drives progress in biotechnology and contributes to building a strong, advanced nation.

The session was moderated by **Dr. Mahesh Bhalgat**, Group CEO, Veeda Clinical Research. The panel of the session included **Dr. Murali Ramachandra**, Chief Executive Officer, Aurigene Oncology Ltd; **Mr. Ajay Bhardwaj**, CEO, Founder and Managing Director, Anthem Bioscience; **Dr Manni Kantipudi**, CEO, Aragen Life Sciences; **Dr Amritha Jaishankar**, Executive Director (Cell and Gene Therapy Center), IQVIA and **Dr Sudhir Nambiar**, Head (CMC Small Molecules), Syngene Intl Ltd.



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## **Technical Session 2**

### **Accelerating Bio-transformation - Navigating Technology Access, Technology Co-Creation & Licensing to realize the potential of Biomanufacturing in India**

In this session, alignment of modern commercial culture with the protection of depositors' rights and the maintenance of transparency in financial systems was emphasized. The impact of the bio revolution on the future of biotechnology was highlighted, with a focus on the importance of safeguarding bioproperty to foster sustainable innovation. The benefits of biofuels and cotton hybrids were also discussed, noting their contributions to environmental sustainability and enhanced farming methods. Additionally, the role of GM technology in making agriculture more sustainable and efficient was explored. These insights collectively demonstrate the transformative potential of biomanufacturing in India, blending technological progress with responsible practices.

The session was moderated by **Mr. K Vijayraghavan**, Founder Director, Sathguru Management Consultants. The panelists in the session were **Dr. Paresh Verma**, CEO, Bioseed; **Dr. Shekhar Varshney**, South Asia Regulatory & Stewardship Leader, Corteva Agrisciences; **Ms. Pushpa Vijayraghavan**, Director, Sathguru Management Consultants; **Dr. Joy Goswami**, Sr. Director of Corporate Engagements - WSE, Johns Hopkins University; **Dr. Rahul Purwar**, Associate Professor, IIT Mumbai; **Dr. Jogin Desai**, Founder & CEO, Eyestem Research Private Limited; **Dr. Suresh Korpole**, Head, MTCC, IMTECH; **Dr. Guhan Jayaraman**, Professor, IIT-Madras; **Mr. Krishna Mohan Puvvada**, Senior Vice President, Planetary Health BioSolutions, Novonesis; **Dr. Rajesh Krishnamurthy**, CEO, Laurus Bio and **Dr. Tulip Nuwal**, Intas Pharmaceuticals.



## **Roundtable Session**

Enhanced Biomanufacturing Through Global Regulatory  
Convergence: A Unified Approach Enhanced  
Biomanufacturing (Session Partner-WHO India Country Office)



A regulatory roundtable comprising of various stakeholders like regulators, policymakers, large industries, academic researchers, startups and SMEs was conducted in collaboration with **WHO India Office** to discuss possible ways for mutual recognition of the current regulatory practices of different countries for enhanced acceptance and market access.

The session was chaired by **Dr Rajeev Singh Raghuvanshi, DCGI, CDSCO** and **Dr Jitendra Kumar, MD, BIRAC** and aimed to bring together regulators and policymakers on a common platform to share regulatory knowledge and facilitate emerging innovative biopharma products and technologies. The recommendations from this diverse group pointed to the need for a dedicated forum for regulatory knowledge exchange to enhance collaboration among stakeholders in the biotech sector.

As a recommendation of the roundtable, BIRAC will conceptualise the **Global Regulatory Knowledge Exchange Forum for Emerging Technologies** to address technical challenges and contribute to the development of regulatory policies and framework for emerging areas of biotechnology and biomanufacturing.

## Science Connect: Stalwarts in Science



deepened our understanding of how things work.”

**Dr. Archana Sharma**, Senior Physicist and Scientist at CERN in Geneva, shared groundbreaking insights into her experiments with muons at the Large Hadron Collider (LHC) during her conversation with Mr **Vishnu Som**, Executive Editor of NDTV. Her innovative work in particle detection is expanding the frontiers of discovery. She noted, “Exploring the universe has led to incredible discoveries, such as the Higgs boson particle, which has



In a conversation with **Dr Jahnvi Phalkey**, Founding Director of Science Gallery Bengaluru, **Sir Ian Blatchford**, Director of the Science Museum Group, discussed how UK museums highlight groundbreaking discoveries and emphasized the importance of nurturing 'failed' innovations for progress. He also noted that India, with its rich 5,000-year-old scientific heritage, deserves a museum of its own.

**Dr Balram Singh**, Chairman of the Boston Center of Excellence for Health and Human Development, was also in conversation with **Mr Sarthak Kaushik**, Radio Broadcaster during the session.



## **Registered Technology Transfer Professionals Roundtable**

The Roundtable Session on a holistic approach to Technology Transfer at Global Bio-India 2024 provided valuable insights into the evolving landscape of technology management. With participation from over 50 Registered Technology Transfer Professionals (RTTPs), the session focused on the three fundamental pillars that underpin RTTPs' success: Technical Expertise, Legal Acumen, and Strategic Business Planning. These pillars were highlighted as critical enablers for ensuring the effective execution and management of innovations in Technology Transfer.



The session also highlighted the incredible role of the National Biopharma Mission (NBM) in supporting RTTPs, providing vital resources and guidance to strengthen the Technology Transfer ecosystem.

## DAY 2: 13<sup>th</sup> September 2024

### SUPER SESSION 2

#### Steering New Generation Therapeutics

The session, moderated by **Dr. Ajith Kamath**, External R&D Head and former Pfizer executive, featured distinguished panelists: **Dr. Gaurav Narula** from Tata Memorial Hospital, Mumbai; **Dr. Shridhar Narayanan**, CEO of the Foundation for Neglected Disease Research; **Mr. Sanatan Upmanyu**, Head of Data Sciences at InveniAI GmbH; **Dr. Nitin Damle**, EVP and Chief Innovation Officer at Sun Pharma Advanced Research Company Ltd.; **Dr. Murali Ramachandra**, CEO of Aurigene Oncology; and **Dr. Annam Visala**, Joint DCGI at CDSCO.



The session highlighted advancements in **Antibody Drug Conjugates (ADCs)** and the associated challenges of regulatory approval, funding, and market access for innovative oncology therapeutics. ADCs, with their ability to target cancer cells while sparing healthy tissues, were showcased as a promising approach in oncology. The panel emphasized the diversity in therapeutic pipelines, with molecules at various stages of development aiming to address critical gaps in cancer treatment and improve patient outcomes. Key challenges, including navigating complex regulatory landscapes, securing funding, and developing effective market penetration strategies, were discussed. Panelists stressed the importance of **collaboration between academia, startups, and industry** to drive innovation and ensure new therapies reach patients efficiently. They also highlighted the transformative role of **AI-based drug design and enabling technologies**, which enhance hypothesis generation and streamline therapeutic development. The session concluded with optimism about the future of oncology therapeutics and a call for strategic efforts to overcome existing barriers and maximize patient impact.

## India IP SME Helpdesk - European Commission



A short session elucidating the IP legal regime in the biotech sector was conducted. The session hosted by the **European Commission on Intellectual Property (IP)** for bio-manufacturing, key topics included the registration and protection of IP within the biotechnology sector. The discussions focused on existing IP mechanisms in India and Europe, such as patents and trademarks, and addressed the specific challenges which international bio-manufacturing entities face in safeguarding their intellectual property in India. Additionally, best practices for developing effective IP strategies were shared, aimed at helping biotech companies protect their innovations and achieve commercial success.



## State Roundtable



Representatives from partner states Karnataka, Odisha, Punjab, Kerala, Gujarat, Meghalaya, Assam, Telangana, Bihar, Uttarakhand, Goa, and Tamil Nadu gathered for a State Roundtable session to explore state-specific developments and international collaborations in biosciences. They presented detailed analyses of their unique bioscience and bioeconomy landscapes, discussing biotech needs and opportunities.

Key topics included leveraging local strengths to develop biomanufacturing hubs, bio-foundry clusters, and Bio-AI hubs tailored to regional needs, with a focus on boosting local biotech industries and job creation. The states are actively pursuing strategies to attract biotech investments through the BioE3 Policy, aiming to position their regions as prime destinations for biomanufacturing. Additionally, discussions covered integrating climate-resilient practices into biotech initiatives, emphasizing bio-based chemicals, carbon capture, and other sustainable technologies. Successful case studies and best practices were shared to provide actionable insights.

## **SPARSH Partners Meet**



The SPARSH Partners Meet focused on various funding models, investment strategies, and policy advocacy essential for supporting biotech innovations aimed at societal health. The discussions emphasized the importance of cross-sector partnerships to harness diverse expertise and resources for advancing healthcare solutions.

SPARSH Scheme's key areas aligned with its objectives and mission were highlighted, presenting notable developments and successful case studies. The session also explored strategies for scaling effective innovations to broaden their reach and ensure long-term sustainability.

## **Technical Session 3**

### **Non-Animal Methodologies (NAMS) for Drug Development and Biomedical Research**

The session was moderated by **Prof. Maneesha S Inamdar**, Director at DBT-inStem and featured a distinguished panel including **Dr. Annam Visala**, Joint DCGI, CDSCO; **Dr. Jagadish Mittur**, IBioM, Bengaluru; **Dr. Surat Parvatam**, Senior Strategist, Research and Regulatory Science, Humane Society International/India; **Dr. Subrahmanyam Vangala**, Founder & CEO Reagene Biosciences; **Dr. Jugnu Jain**, Founder CEO of Sapien Biosciences; **Prof. Tim R. Dafforn**, Professor of Biotechnology, University of Birmingham and **Dr. Suresh Pothani**, Retd. Director I/c & Scientist "G", ICMR-National Animal Resource Facility for Biomedical Research.



The session focused on exploring the transition from animal-based methodologies to innovative, non-animal alternatives. The session emphasized the limitations of traditional animal models, including their susceptibility to toxic effects, and the need for human-based systems or alternatives in drug development and biomedical research. Additionally, it underscored the importance of fast-tracked, dedicated investments and strategic partnerships to enable the widespread adoption of NAMS. The speakers shed light on the transformative impact on animal lives, underscoring the development of NAMS for human disease treatment. With centuries of animal testing and their sacrifices, yielding limited success stories, it's imperative for Indian stakeholders—researchers, funders, decision makers, and the public--- to accelerate the adoption of NAMS for discovery success and animal welfare. Fortunately, the pharmaceutical industry and academia have recognized the poor human translatability of animal testing, leading to a shift towards innovative NAMS such as Human Cell and Tissue Cultures, 3D Printing and Organ-on-a-chip, Stem Cells, Computer Stimulations, In Silico Clinical Trials, and Human Microdosing Trials. The speakers urged the funders and regulators to take note on expedite support for these ground breaking efforts, heralding a new era in discovery and transforming lives.



## Technical Session 4

### Catalyzing Digital Health Landscape in India



The session emphasized the government role in digitizing healthcare and advancing health equity in Indian contexts. The session highlighted digital health's potential in catalyzing scalable access to quality services, leveraging apps to manage or use data/clinical data effectively, digital health's potential to combat infectious diseases and innovative funding of the digital health development ecosystem. The session also covered feasibility of digital twins for manufacturing and bioeconomy and new directions where digital and AI are driving drug discovery. Standardization in data usage was identified as a key factor to spur innovation in the digital health space. The panel was moderated by **Dr. Anurag Agrawal**, Dean, BioSciences and Health, Ashoka University and featured key industry leaders **Dr. Karthik Adapa**, Regional Advisor, Digital Health, World Health Organization, South-East Asia Regional Office (SEARO); **Dr. Rajendra Pratap Gupta**, President, Global Digital Health Corporation; **Mr Neeraj Jain**, India Country Director, PATH; **Dr. Anand Krishnamurthy**, Technical Head, BIOVIA, Dassault Systemes; **Mr Madhav Joshi**, Chief Executive Officer, India Health Fund and **Mr Kolli Sarath**, Chief Executive Officer, Boltzmann Labs Private Limited.

## **Roundtable on International Bioeconomy**

### **U.S.-India Bioeconomy Efforts**

The Roundtable on International Bioeconomy: U.S.-Indian Bioeconomy Efforts brought together a diverse group of stakeholders dedicated to advancing collaboration between India and the U.S. in the bioeconomy sector. The Session was jointly hosted by **BIRAC, NASEM (National Academies of Science, Engineering and Medicine), USA and ABLE.**



The Session was co-chaired by **Mr Narayanan Suresh**, Chief Operating Officer, ABLE and **Ms Carmen Shaw**, Associate Program Officer, NASEM. Mr. Suresh highlighted the importance of defining and harmonizing bioeconomy terminologies globally. This would enable consistent measurement of biotechnology's economic impact across sectors and ensure alignment with sustainable development goals. He noted that the G20 Secretariat under Brazil's 2024 presidency is working towards this standardization. Participants explored areas of mutual interest, including biosimilars, climate change resilience, and regulatory reforms. A unified regulatory approach was deemed essential to streamline efforts and foster international partnerships. Discussions emphasized data policy implementation, intellectual property system improvements, and technology transfer to accelerate innovation. Investment in biomanufacturing and startups was highlighted as a priority to drive growth and expand market reach. The session laid the groundwork for the forum's launch in 2025, which aims to foster collaborative research, innovation, and supply chain integration between the two nations. The session concluded with a commitment to sustained engagement, focusing on fostering innovation, enhancing biomanufacturing capabilities, addressing biosecurity, and mobilizing financial resources. Collaborative efforts in emerging technologies, data privacy, and global regulatory standards were highlighted as critical steps toward a robust U.S.-India bioeconomy partnership. This roundtable served as a catalyst for future collaboration, marking a significant step in advancing the global bioeconomy and ensuring sustainable growth through innovation and strategic alliances.

## **Roundtable on Global Panel with representation from Embassies, Science Councils, International Clusters etc.**



The Global Panel Roundtable brought together 13 national and international delegates from countries such as the **United Kingdom, the United States, Korea, Japan, Sweden, the Netherlands, France, Hungary, Italy, Australia, Canada, South Africa, and Mauritius**. Representatives from embassies, science councils, and international clusters participated in this interactive platform to explore cross-border partnerships in biotechnology. With session sponsor **UK Research and Innovation (UKRI)** and session partner **Global Business Inroads**, the discussions focused on promoting bio-innovation, fostering international collaborations, facilitating policy dialogues, and identifying synergies to strengthen the global biotech landscape.



## Super Session 3

### Enhancing Food Security Through Agrifoodtech Innovations- Opportunities and Challenges

The session was moderated by **Mr. Mark Kahn**, Managing Partner, Omnivore. The other panelists were **Mr Raj Ganguly**, Senior Agribusiness Specialist at the World Bank Group in New Delhi; **Mr. Suman S**, Director-Climate action and Rural Livelihoods, Dr. Reddy's Foundation; **Mr. Ravi Tennety**, CEO of The BeST (Foundation for Bengaluru Science and Technology Indian Institute of Science; **Mr Karavadi Srinivasakumar**, President of BioAg Business, Absolute; **Dr. Murli Manohar**, Founder, Ascribe Bioscience, USA; **Dr. Neha Awasthi**, Project Leader & Domain Expert Biosensors, Institute for Molecules and Materials & One Planet Research Centre, Netherlands; **Mr. Sanatan Upmanyu**, Head-Data Science, InveniAI GmbH and **Dr. Annam Visala**, Joint Drugs Controller, Central Drugs Standard Control Organization (CDSCO)



“Read world data, patients data and expression data associated with patients are crucial to understand how human biology works and build the right tools. Collaboration between AI innovators and biology professionals extremely crucial to understand diseases and drug implementation”, says **Mr. Sanatan Upmanyu**, Head-Data Science, InveniAI GmbH.



“We have developed guidelines for vaccine development and bio-therapeutics and are in the process of formulating clear regulatory landscape for cell and gene therapy space as a chapter to the New Drugs and Clinical Trial Rules and strengthen legislation for biotherapeutics”, says **Dr. Annam Visala**, Joint Drugs Controller, Central Drugs Standard Control Organization (CDSCO).



“In the area of Bio-pesticides and plant metabolites where we are promoting beneficial bacteria and fungi, nematode related activity, and the entire flavonoids and induced peptides. In terms of the usage of such biological products, it is observed that it is definitely adding value in the production”, says **Mr. Suman S**, Director-Climate action and Rural Livelihoods, Dr Reddy's Foundation, India.



“If we see the innovations capacity to solve food security problems, it adds to \$24 billion. That is the economy that lies ahead of us if we can aggregate some of these agri-food-lifesciences innovations and bring them to efficient applicability”, says **Mr. Ravi Tenny**, CEO of The BeST (Foundation for Bengaluru Science and Technology, Indian Institute of Science, India.



“You can not solve the problems of climate in India on digital technologies alone. It requires the life sciences to achieve the breakthroughs we need for our future. Innovations in Agri, food and life sciences can play a very important role in tackling climate mitigation and adaptation and resilience”, says **Mr. Mark Kahn**, Managing Partner, OmnivoreFund.



“Biotech and Digitech together with a blended approach, not only helps to advance our researches, but it also helps in the delivery of such researches to meet scaling requirements. Globally, one-third of the food we produce gets wasted. While we are aiming at enhancing production in India, we also have to see how we manage the food we have”, says **Mr Raj Ganguly**, Senior Agribusiness Specialist at the World Bank Group.

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## **Technical Session 5**

The NIH/NIAID vaccine adjuvant program: New insights, access to novel adjuvants and opportunities for collaborations



‘The NIH/NIAID vaccine adjuvant program: New insights, access to novel adjuvants and opportunities for collaborations’ was moderated by **Dr. Jyoti Malik Logani**, Scientist F, Department of Biotechnology, **Dr. Wolfgang W Leitner**, Chief, Innate Immunity Section and **Dr. Kentner Singleton**, Program Officer, Division of Allergy, Immunology, and Transplantation (DAIT), NIAID, NIH, USA.

This insightful session focused on fostering global collaboration by aligning NIAID-supported adjuvant development capabilities to advance vaccine research. It brought together stakeholders, industry leaders, and panelists worldwide to discuss enhancing partnerships, leveraging public-private collaborations (PPP), and jointly developing innovative adjuvants. The discussions highlighted the critical role of uniting efforts to drive breakthroughs in vaccine adjuvant research and development, paving the way for transformative progress in global health.



## **Panel Discussion**

### **Building Regulatory Capabilities for Bio Startups in India**



The Panel Discussion on Building Regulatory Capabilities for Bio Startups in India, powered by **U.S. Pharmacopeia (USP)** was moderated by **Dr. Annu Uppal**, Director of Scientific Affairs & Strategy at USP. The session examined existing gaps in the regulatory framework and explored how incubation centers are bridging these gaps to better connect startups with regulations. Key discussions focused on fostering collaborations to address startups' needs and overcoming challenges in the regulatory landscape, emphasizing the importance of aligning support systems with the growth of bio startups.

The distinguished panel included **Dr. Fouad Atouf**, SVP, Global Biologics, USP; **Dr. Shirish Arya**, Co-Founder, ImmunoACT; **Dr. Deepanwita Chattopadhyay**, Chairman & CEO, IKP Knowledge Park; **Dr. Sonia Gandhi**, DGM & Head (Regulatory Affairs & Policy Advocacy), BIRAC and **Mr Matruprasad P**, Senior Director - Region & Program Operations, USP and **Dr. Anil Kondreddy**, COO, ASPIRE BioNEST, University of Hyderabad.

The session highlighted the critical role of collaboration and capacity building in creating a robust regulatory ecosystem for India's growing bio startup landscape.

## India-UK Biomanufacturing Roundtable



The India-UK Biomanufacturing Roundtable discussions underscored a transformative partnership in biomanufacturing, drawing parallels to the changes brought by the IT industry in the past. The session focused on forging a strong, meaningful connection between the two countries, with significant potential within their science and technology ecosystems. Key takeaways included the alignment of biomanufacturing and training initiatives, crucial for job creation and strengthening the ecosystem. The dialogue emphasized biotechnology as a future revolution, with both governments' policies designed to support and enhance this vital international cooperation.

## Masterclass for Incubators



The workshop emphasized the importance of resource sharing and knowledge exchange to foster collaboration with government agencies, state governments, and industry partners. Key discussions revolved around capacity building, addressing challenges faced by incubation centers, and identifying innovative environmental solutions. Designed as a masterclass, the session aimed to enhance the quality and sustainability of biotech incubation by exploring strategies to build a robust pipeline of opportunities and

drive long-term success in the sector.

## Technical Session 6

### Evolving landscape of the food Industry: Smart proteins and Functional Foods



This session delved into the innovation driving the food industry with a focus on smart proteins and functional foods. Key discussions revolved around sustainable food production (UN SDG Goal 12), consumer health (UN SDG Goal 3), and the importance of food technology in creating products that are nutritious and sustainable. Highlighting the role of biomanufacturing, smart proteins and functional foods are seen as central to India's **'High-Performance Biomanufacturing'** initiative, supporting the vision of a **'Viksit Bharat'**. Key topics included the alignment of BioE3 policy with the growing smart protein sector, as well as the regulatory frameworks that will guide its development. The session also covered the latest innovations in product development, addressing the evolving needs of consumers, and explored the challenges of achieving cost-effectiveness and scalability in smart protein production. Technological advances in plant-based protein manufacturing were discussed, along with the role of smart proteins in enhancing functional and fermented foods. Moreover, the session delved into the challenges faced by alternative proteins in achieving nutritional and functional parity with traditional proteins. Strategic roadmaps for the short- and medium-term development of the sector were also examined, alongside the latest research in food technology, including fermentation, extrusion, and protein extraction, which are critical to ensuring food security. Ultimately, the session underscored the transformative potential of smart proteins and functional foods in driving sustainability, fostering innovation, and fueling growth within India's food industry.



# India's Potential as a Global Hub For MedTech Manufacturing & Innovation (Powered by AMTZ)



AMTZ hosted a MedTech session, led by **Dr. Suseela Branham K.**, CEO of Bio Valley at Global Bio-India 2024. A key highlight was the presentation by **Dr. Jitendra Sharma**, MD & Founder CEO of Andhra Pradesh MedTech Zone Limited, who discussed "India's Potential as a Global Hub for MedTech Manufacturing and Innovation."

The session also featured a panel titled "Revolutionizing Healthcare: Harnessing the Power of Convergence in Medical Technology, Biologics, Diagnostics & Global Trade," focusing on India's strategic role in transforming global healthcare through innovation. The panel was moderated by **Dr. Ekta Khattar**, CEO of Define Bio (P) Ltd., AMTZ, and included speakers such as **Dr. Rajiv Chhibber**, Vice President of External Affairs at Sahajanand Medical Technologies Ltd., **Mr. Hemaal Dhar**, Global Product Manager at Genes 2 Me (P) Ltd., **Dr. Suresh Thakur**, President of Scientific Affairs at Trivitron Healthcare (P) Ltd., **Mr. Niraj Khinvasara**, Executive Director at WTC Pune, and **Mr. Abhinav Thakur**, MD of Accurex Biomedicals Pvt Ltd. The discussion highlighted how India is harnessing the convergence of medical technology, biologics, and diagnostics to establish itself as a leader in global healthcare and trade.

## Startup Pitches

**“Startup Pitches”** Session brought together over 30 biotech national and International startups to present their innovations to a panel of investors and industry experts. The session was held on 12th and 13th September 2024, the session allowed startups to share their business models and market potential through concise pitches, followed by Q&A sessions. With participation from 35+ investors, the event provided a great opportunity for startups to network, gain valuable insights, and explore potential investments and collaborations within the biotech sector.





## **Opportunities and Challenges - Clinical Trial Networks of India**

The session on "Opportunities and Challenges - Clinical Trial Networks of India" offered an in-depth exploration of the evolving landscape of clinical trials in India. The discussion commenced with a review of the inaugural network meeting that brought together diverse stakeholders from industry, regulatory bodies, and academia, emphasizing the importance of a unified approach to advancing clinical research.



The session underscored the need for a well-developed pool of investigators skilled in conducting clinical trials as well as the critical role of networks supported by BIRAC in fostering research and innovation. The conversation also addressed investor-initiated clinical trials and the various challenges faced by sponsored trials, including issues related to capacity building and the harmonization of Standard Operating Procedures (SOPs). Specific areas of focus included trials in oncology and vaccines, with discussions on improving community engagement and establishing robust demographic and environmental surveillance systems. A significant portion of the session was dedicated to exploring collaborative partnerships that are essential for ensuring high-quality data and sustainable practices in clinical trials. The discourse emphasized the need for continuous development and adaptation to overcome current challenges and enhance the efficiency and impact of clinical trial networks in India.



## Science Connect with Society

The Science Connect with Society session featured **Mr. Vincent Doumeizel**, Senior Advisor on Oceans at UN Global Compact and author of *The Seaweed Manifesto*, and **Dr. Diya Karnad**, Assistant Professor of Environmental Studies at Ashoka University. The conversation was moderated by **Ms. Nayantara Jain**, Executive Director of Reefwatch India, marine biologist, and scuba instructor.



The discussion delved into the profound question: *How deep are our oceans?* and examined the potential for a paradigm shift in global food security, transitioning from soil-based agriculture to saltwater ecosystems. The speakers also highlighted the role of seaweed farms as mini ecosystems that could support sustainable fisheries, emphasizing their contribution to environmental and economic sustainability.

This session brought together innovators and thought leaders from India and around the world, showcasing the transformative potential of biotechnology in addressing global challenges and shaping industries of the future.

## India-UK-South Africa Roundtable

The India-UK-South Africa Roundtable witnessed in-depth discussions on the progress and future steps in trilateral collaborations addressing the food and nutrition needs of India, the UK, and South Africa. The session emphasized cross-border innovation partnerships and the potential to expand collaborations into other sectors.

Key outcomes included an enhanced understanding, actionable recommendations, and the signing of the BIRAC-TIA MoU to formalize the relationship between India and SA.





## **MASTERFORUM Series I**

### **(Mentoring & Assistance for Successful Translational & Entrepreneurial Research)**

The MASTERFORUM Series I session on Mentoring & Assistance for Successful Translational & Entrepreneurial Research Series, moderated by **Ms. Deepanwita Chattopadhyay**, Chairman and CEO of IKP Knowledge Park, brought together esteemed panelists to discuss the essential elements of entrepreneurial success in the biotech industry.

The discussion emphasized the importance of discovering the right investors, having the right tools for entrepreneurial success, and the critical role of psychology in deal-making. Topics also covered the need for product IP, global scalability, and the significance of execution and long-term strategies in startups.



India was highlighted as an ideal environment for building innovative products and gaining global exposure. The panelists agreed that although adoption is still in its early stages, execution remains key to long-term success in the entrepreneurial journey.



## DAY 3: 14<sup>th</sup> September 2024

### Super Session 4

#### Green initiatives for sustainable growth

The session was moderated by **Dr. Anjan Ray**, Venture Capitalist and Former Director, CSIR-Indian Institute of Petroleum. The panelists were **Mr. M. Devesh**, Managing Director, Embio Ltd., India; **Dr.SSV Ramakumar**, CTO and Executive Vice President, AM Green, India; **Dr. Anand Ghosalkar**, Chief Scientist, Praj Industries, India; **Dr.Sreenivas Rao Ravella**, Fermentation Scientist, Epoch Biodesign, UK; **Dr. Arun Kumar**, Founder, Feynman Energy, India and **Dr. Sanjeev Kumar Chandrayan**, DGM, Reliance Industries, India.



"We need to ensure green and also ensure growth along with it. We are looking at decoupling the value chain of biogenic carbon atoms from economic growth and environmental impact", said **Dr. Anjan Ray**, Venture Capitalist and Former Director of CSIR-Indian Institute of Petroleum. He emphasized the importance of minimizing environmental impact while ensuring industries remain profitable, deliver shareholder value, and enable the country to achieve its sustainable development goals.



"We are looking at polylactic acid to be developed indigenously from sugar based feedstock. These are well proven to be compostable and are environmental friendly alternatives to polyethylene and polypropylene based plastics", said **Dr. Anand Ghosalkar**, Chief Scientist at Praj Industries, India. He further highlighted that, against the backdrop of the BioE3 policy, the emphasis is on sustainable growth and exploring new frontiers in renewable chemicals and materials. "Our

primary focus is on bioplastics, which are critical for both environmental sustainability and decarbonizing the plastics sector currently reliant on petroleum-based products," he added.

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“We make 40 different products and advanced intermediates through bioprocess technology, green chemistry and genetically engineered organisms at the scale of about 425,000 litres of fermentation”, said **Mr. M. Devesh**, Managing Director at Embio Limited.



“There is huge scope for optimization to improve the complex technology with new and advanced technology to improve the performance of digestors”, said **Dr. Sreenivas Rao Ravella**, Fermentation Scientist at Epoch Biodesign, UK.



“To succeed in biomanufacturing, we need to move out of stagnancy and design something scalable, surpassing commercial and technical challenges”, said **Dr. Sanjeev Kumar Chandrayan**, DGM at Reliance Industries Limited.



“In the bioenergy space, second generation ethanol is in sharp focus. The key highlight in optimising the cost and efficiency of enzymes for ethanol production is the optimisation of the cost of media, the selected fungi strain and the optimization of actual commercial manufacturing”, said **Dr Ramakumar SSV**, CTO and Executive Vice President at AM Green.

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## **Investor Roundtable** (Powered by IVCA)



The Investor Roundtable brought together venture capital and private equity representatives from India and overseas. With the approval of India's BioE3 policy in August 2024, the session underscored the importance of fostering IP-driven technologies and products developed domestically. Discussions centered on strategies to support the emerging yet expanding deep tech startup ecosystem in the biotech sector, with a particular focus on the critical role played by DBT-BIRAC in nurturing and strengthening this landscape.

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## Technical Session 7

### Tapping the Blue Economy



**Dr. Jitendra Kumar**, Managing Director of the DBT BIRAC, felicitated the keynote speaker, **Shri Krushna Chandra Patra**, the Hon'ble Minister of Food Supplies & Consumer Welfare, Science & Technology, Government of Odisha who focused on India's vision for sustainable ocean resource management. The session opened with remarks by **Dr. Mrutyunjay Suar**, Chairman, BCKIC, Odisha setting the tone for discussions on maximizing marine resources. **Dr. Shrikumar Suryanarayan**, Chairman and Co-founder, Sea6 Energy Pvt. Ltd. skillfully moderated the discussion, which featured esteemed panelists **Dr. Santanu Dasgupta**, Senior Vice President, Head of Synthetic Biology, and Algae to Oil R&D, Reliance Industries Ltd highlighted advancements in Synthetic Biology; **Dr. C.R. Subhashini**, Director, Aristogene Biosciences emphasized breakthroughs in marine biotechnology; **Ms. Neha Jain**, MD, Zerocircle discussed the potential of sustainable seaweed-based solutions; **Mr. Nelson Vadassery**, CEO, Sea6 Energy offered insights on leveraging seaweed for blue economy growth and **Mr. Arpan Bhalerao**, Chief Growth Officer, Aquaconnect focused on aquaculture innovations. The session highlighted how sustainable and innovative biofuel production can help address the world's energy challenges. It also explored the use of algae and seaweed in biofuel production and other innovative biotech manufacturing, advancements in aquaculture and fisheries, the potential for increasing marine resource exports, and the development of eco-friendly packaging solutions.

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## **Technical Session 8**

### **Bold Targets and Breakthroughs for Climate Resilience**



The session brought together experts to discuss innovative strategies for combating climate challenges. Moderated by **Prof. Anjal Prakash**, Clinical Associate Professor & Research Director at the Bharti Institute of Public Policy, ISB Hyderabad, the panel included **Dr. Nisha Mendiratta**, Executive Director, Indo-U.S. Science and Technology Forum (IUSSTF); **Prof. N. Raghuram**, Head, Centre for Sustainable Nitrogen and Nutrient Management, GGSIP University, New Delhi; **Dr. Purvi Patel**, Senior Consultant, NPCCHH, NCDC, New Delhi; **Dr. Parag Acharya**, Senior Fellow, University of Greenwich, U.K. and **Dr. Ananya Chakraborty**, Senior Research Specialist, WRI India.

The session emphasized the urgency of adopting bold, coordinated actions to address escalating climate risks. Discussions revolved around implementing climate-resilient agricultural practices, advancing renewable energy adoption, and fortifying infrastructure against extreme weather events. Addressing health concerns, the panel highlighted the integration of public health strategies with meteorology, disaster risk reduction, air and water quality monitoring, and energy efficiency to mitigate climate-induced health challenges. The conversation also underscored the need for social equity, policy innovation, and international collaboration to foster climate resilience and ensure sustainable development.

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## **Master Forum Series II**

(Guru Shishya Mentoring Sessions powered by TiE Delhi NCR)

The Master Forum Series II: Guru-Shishya Mentoring Sessions, powered by TiE Delhi NCR, featured a dynamic panel discussion on *Unlocking Growth Potential: Insights for Biotech Entrepreneurs*. The session provided valuable guidance on navigating the biotech ecosystem, addressing growth challenges, and leveraging strategic insights to foster innovation and sustainability.



Key topics included the role of mentorship in driving advancements in healthcare, agritech, and deep tech, as well as strategies for achieving product-market fit, ensuring regulatory compliance, and enhancing operational efficiency. Panelists emphasized the importance of collaboration and partnerships in unlocking new opportunities, from R&D initiatives to market access, while also exploring untapped global markets for scaling biotech ventures. Esteemed speakers included **Kapil Gupta**, Founder & CEO of Solh Wellness; **Kumaar Bagrodia**, Founder of Akrini PhotoBiolife & NeuroLeap; and **Seema Chaturvedi**, Managing Partner at AWE Funds. The session, moderated by **Dr. Shikha Nehru Sharma**, Founder of Nutriwel Health India, served as an inspiring forum for biotech entrepreneurs seeking to transform their ideas into impactful ventures.

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## Meet the Unicorn (Powered by TIE Delhi NCR)



At the Meet the Unicorn session hosted by TiE Delhi-NCR, **Mr. Prashant Tandon**, CEO, Tata 1mg shared insights into building Tata 1mg into India's leading healthcare platform. Speaking with Mr. Mohit Joshi, CEO of Havas Media and the session's moderator, Mr. Tandon highlighted how the integration of technology and data-driven processes has revolutionized India's healthcare ecosystem.

“The idea was to design 1mg as a patient-centric platform, leveraging data to drive technology and enhance healthcare services,” he explained. Tata 1mg quickly became the top healthcare app in the country, reflecting the widespread acceptance of this approach. Mr. Tandon emphasized the importance of assembling a multidisciplinary team - comprising doctors, data scientists, tech professionals, and operations experts - aligned toward a shared vision. This collaborative effort was pivotal in digitizing healthcare in India, showcasing how innovation and teamwork can transform traditional industries.

The session provided valuable insights into the journey of a healthcare unicorn and underscored the transformative potential of digital innovation in addressing critical healthcare challenges.

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## Highlights from Bio-Partnering Meetings

The Bio-Partnering sessions at Global Bio-India 2024 brought together industry leaders, innovators, and key stakeholders to explore transformative collaboration opportunities, shaping the future of biotechnology. Powered by the trusted *Inova One-on-One Partnering™* system, widely used by leading Pharma, Biotech, and Life Sciences companies, the platform facilitated seamless networking and strategic partnerships.

Bio-partnering at the event offered in-person meetings at designated booths during the three-day conference (12–14 September), complemented by two days of virtual meetings (16–17 September). This hybrid approach ensured maximum flexibility, accommodating diverse time zones and providing a robust company directory for direct communication and scheduling.



The impact of bio-partnering was reflected in the following impressive metrics:

**Delegates Registered on the Platform: 644**

**Companies Registered: 621**

**Meeting Requests: 2332**

**Total Meetings Scheduled: 680**

**Request Acceptance Rate: 42%**

These figures underscore the high level of interest and engagement among participants, with the remarkable 42% acceptance rate reflecting the platform's effectiveness in fostering meaningful connections. The bio-partnering activities at Global Bio-India showcased a vibrant ecosystem for collaboration, demonstrating its role as a dynamic platform for networking and advancing innovations within the biotech community.

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## Bio Quiz

The inaugural Science Quiz competition at Global Bio-India 2024 was a resounding success, drawing enthusiastic participation from over 150 students representing five esteemed schools. The event, tailored for 11th and 12th graders, unfolded over two engaging days filled with knowledge-sharing and spirited competition.



The students impressed audiences with their intellect and enthusiasm as they tackled challenging questions in a vibrant, interactive setting. The quiz not only encouraged teamwork and critical thinking but also motivated participants to explore the exhibition's exhibits and posters in greater depth, fostering meaningful engagement with the world of biotechnology.

This unique initiative highlighted the importance of inspiring young minds and nurturing the innovators of tomorrow. By combining education, fun, and healthy competition, the Science Quiz created a memorable and impactful experience for all involved.

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## Valedictory Session

The **BIRAC Innovators Award** celebrated outstanding achievements in various biotech categories, acknowledging their contributions to advancing India's innovative bioeconomy. Here are the award recipients:



- **Therapeutics and Vaccines:** Immuneel Therapeutics Pvt. Ltd., Bengaluru, and Wockhardt Ltd., Mumbai
- **Biomedical Devices & Diagnostics and Bioinformatics:** Piscium Health Sciences Pvt. Ltd., Mumbai, Sensivision Health Technologies, Bengaluru, and Sunfox Technologies Private Limited, Dehradun
- **Agriculture (including Veterinary Sciences and Aquaculture):** Indian Veterinary Research Institute, Bareilly, in collaboration with Genomis Carl Pvt. Ltd., Andhra Pradesh
- **Industrial Biotechnology:** GPS Renewables, Bengaluru, and Shriram Institute for Industrial Research, New Delhi
- **Innovation with High Social Impact:** Genrobotic Innovations, Thiruvananthapuram
- **AI-based Innovation:** Torchit Eigastronics Private Limited, Ahmedabad
- **Special Recognition:** Interactive Research School for Health Affairs, Pune

The **Best Incubation Centre Awards** celebrated the exceptional contributions of innovation hubs shaping the future of India's biotech ecosystem. These prestigious honors underscored the critical role these centers play in nurturing startups, advancing biotechnology innovation, and fostering entrepreneurial growth.



- **Best Incubation Centre (Tier I Cities):** BSC BioNEST Bio-Incubator, RCB, Faridabad, Delhi NCR, was recognized for its exemplary support in accelerating biotech startups in a metropolitan region.
- **Best Incubation Centre (Tier II Cities):** PSG-STEP, Coimbatore, and Manipal Govt. of Karnataka & BioNEST Bio-Incubator, Mangalore, were jointly awarded for creating dynamic innovation ecosystems in their respective regions.
- **Best Incubation Centre (Tier III Cities):** Technology Innovation and Development of Entrepreneurship Society (TIDES), IIT Roorkee, was honored for its impactful efforts in fostering entrepreneurship and innovation in smaller cities.
- **Best Incubation Centre Exhibit:** E-YUVA Centre, Career College, Bhopal, received recognition for an outstanding exhibit showcasing its contributions to advancing entrepreneurial ventures and biotech innovation.

The **BIRAC Best Startup Exhibitor Awards** were proudly presented to the following trailblazing companies for their outstanding contributions to biotechnology.



- **Agriculture:** Ekosight Technologies Pvt. Ltd.
- **Industrial Biotechnology:** Rigel BioEnviron Solutions Pvt. Ltd.
- **Healthcare Therapeutics:** Apramitha Innovations Pvt. Ltd.
- **Healthcare Devices and Diagnostics:** Denovo Bioinnovations Private Limited
- **International Participant:** Biopesticide Limited
- **Women Entrepreneur:** Inte-e-Labs Pvt. Ltd.

The Valedictory Session also highlighted the launch of several innovative products designed to tackle pressing global challenges. These included advancements in med tech, probiotic skin care, zero-calorie sugar, Hip Pro, dietary supplements, animal-free proteins, and fetal bovine serum alternatives among others. These products aim to address issues such as climate change, sustainability, malnutrition, health concerns, and plastic pollution, reflecting a commitment to solving some of the world's most critical problems through bio innovation and bio manufacturing.



**BioE3 Policy Awareness Campaign Competition Awards:** Organized by DBT in association with BRIC-Institute of Life Sciences Bhubaneswar for various themes. The following Awards were conferred:

**WINNERS OF SELECTED SLOGANS:**

1. “Go Green, Not Red, Not in Color, But by Nature:, Opt for Smart Proteins” by Dhanaswi Katore, DYPatil Univ., Navi Mumbai, Maharashtra
2. “Grow Resilient, Feed the Future” by Prithu Bhattacharyya, RKMVCC, Rahara, West Bengal
3. “Turning Today’s Emissions into Tomorrow’s Essentials” by Mayank Kapri, SJIPR, Palghar, Maharashtra
4. “कार्बन को कैद कर के, प्रकृति को आजाद करेंगे” by Shiwangi Kesarwani, IIT-BHU, Varanasi, Uttar Pradesh
5. “From Emissions to Sustainable Solutions, Carbon Capture for a New Revolution” by Anil Behera, ICGEB, New Delhi
6. “जलवायु से ताल मिलाओ स्मार्ट खेती से फसलें बचाओ” by Nishikanta Das, Bhadrak, Odisha
7. “Chemicals and Enzymes from Biomass, will avert the Future Energy and Economic Clash” by Smrutirekha Mishra, Ravenshaw Univ., Cuttack, Odisha
8. “मोटा अन्न सेहत का सार, ग्लूटेन से मुक्त, शक्ति अपार” by Bishakha Biswakarma, NABI, Mohali, Punjab
9. “When Microbes are at Play, Simple Cells turn into Chemicals Every Day!” by Geethadevi, PSGRKCW, Coimbatore, Tamil Nadu
10. “Uncharted Waters, Boundless Space: Exploring Beyond the Borders of the Sea and Space” by Jyotismita Ghosh, NABI, Mohali, Punjab

**WINNERS OF SELECTED ESSAYS:**

**Theme: “Bio-based Chemicals and Enzymes”**

1. “Bio-Based Chemicals and Enzymes for a Greener World” was awarded to Maharshi Limbola from Central Institute of Fisheries Education, Mumbai, Maharashtra
2. “Plastic to Bioplastic: The Bacterial Journey” was awarded to Shoham Ghosh from St. Xavier's College, Kolkata, West Bengal

**Theme: Climate Resilient Agriculture**

1. “Smart breeding, a boon for combating climate change” was awarded to Arpita Mohapatra from OUAT, Bhubaneswar, Odisha
2. “Sub-optimality and Robustness for Bio-Economy” was awarded to Vishwadeep Mane from Indian Institute of Science, Bengaluru, Karnataka

### Theme: Carbon Capture and its Utilization

1. “The Life and Transformation of Carbon Dioxide: A Journey Through Capture, Utilisation and the BioE3 Policy” was awarded to Keerthika K. from University of Madras, Chennai, Tamil Nadu.

### Theme: Futuristic Marine and Space Research

1. “The Blueprints of Life: From Ocean Depths to Cosmic Frontiers” was awarded to Disha Chattopadhyay from Dr. Homi Bhabha State University, Mumbai, Maharashtra
2. “Frontiers Unleashed: The Future of Marine and Space Exploration” was awarded to Mohd Yusuf from Bhaskaracharya College of Applied Sciences, New Delhi
3. “Futuristic Marine and Space Research” was awarded to Payal Pragnya Routray from Siksha O Anusandhan Deemed University, Bhubaneswar, Odisha
4. “Waste Management in Long-Term Space Missions: An Analysis” was awarded to Chelsi Narang from IIT BHU, Varanasi, Uttar Pradesh
5. “Futuristic Marine and Space” was awarded to Rakshita Dornal from Modern College of Arts and Science, Pune, Maharashtra

### STARTUP PRODUCT LAUNCH: 11 Products of Startups were launched

1. **Roundworks Technologies Pvt. Ltd.** launched **Alveofit**: A digital respiratory health care platform for asthma, COPD and lung care. Other products include Alveoair, AlveoMD, Alveoair Clinical Grade
2. **MedevPlus** launched **IXanner 7vn**: A Portable and handheld device for comprehensive screening of the eye using Optical Coherence Tomography
3. **Nanosafe Solutions** launched:
  - a. Active copper based antimicrobial technology formulations for coating, plastics, textiles, foam and cosmetics, construction chemicals,
  - b. Copper fortification of water and other edible liquids via plastic packaging,
  - c. Leaching copper, as a replacement for preservatives, through plastic packaging,
  - d. Shelf-life extension using copper ingredients in flexible film,
  - e. Organic, partially-import substituting antimicrobial formulation for application in medical devices coating, paints & polyurethane foam
4. **Neuome Technologies Pvt. Ltd.** launched **instaPRESERVE®**, solution for collection transport and storage of biospecimen at ambient temperature
5. **Genexis Biotech Pvt. Ltd.** launched **Bringing in 100 Animal-Free Proteins and FBS Alternative for a Sustainable Future**
6. **Ripple Healthcare Pvt. Ltd.** launched **Hip Pro**: Advanced airbag technology protects your hips and reduces the risk of injury due to fall
7. **Nutriciana Healthcare Pvt. Ltd. (BioNEST-NIPER Guwahati-BioNEST)** launched **Nutriciana Child** - A dietary supplement for malnutrition for children

8. **Revelations Biotech Pvt. Ltd, Hyderabad** launched **FOSLIFE**- A healthy sweet soluble functional prebiotic fibre (Fructo-oligosaccharides)
9. **Revelations Biotech Pvt. Ltd, Hyderabad** launched **ALLULOSE**- A sweet tasting zero calorie rare sugar
10. **Kcat Enzymatic Pvt. Ltd.** has pioneered innovative biocatalytic solutions using proprietary engineered enzymes Transaminase (Greenaminase®) & Hydroxylase (Greenhydroxylase®). These enzymes are designed to reduce carbon footprints, support sustainability, and provide cost-effective solutions for the production of APIs, and drugs.
11. **Prameela Life Sciences Pvt. Ltd.** launched **Advanced Probiotic based skincare formulations and raw materials.**

The **Valedictory Session** concluded with inspiring insights from distinguished leaders. Dr. Jitendra Kumar, Managing Director of BIRAC, highlighted the strides India is making in the bioeconomy, stating, *"We are achieving great milestones, and with the government's initiatives, we are poised to become an innovation-led economy."*

**Mr. G S Krishnan**, Hon. President of ABLE, emphasized the impactful discussions during the event, noting, *"Every session at GBI offered valuable takeaways, guiding specific sectors toward focused growth. India is the future of biotech, and with DBT and BIRAC, ABLE is ready to drive this forward."*

**Dr. Alka Sharma**, Senior Advisor at the Department of Biotechnology, reflected on the event's theme, *"The concept of 'Bioscience to Bioeconomy' sends a clear message: by combining science and entrepreneurship, we can address global challenges, from climate change to sustainability. Global Bio-India 2024 has advanced this vision by fostering innovation, collaboration, and a thriving bioeconomy."*

The event saw remarkable participation with **10,000+ attendees, 550+ exhibitors, 400+ startups, 90+ Incubators, 40+ Industry (including SMEs, Services/CROs), 14 State Government Departments, 35+ Academic Institutions** creating a vibrant platform for showcasing innovation and forging partnerships. Over **30 sessions, participants from 27+ countries, and 2300+ B2B meetings** celebrated the best in biotechnology, transforming lives by driving the journey from biosciences to bioeconomy.

