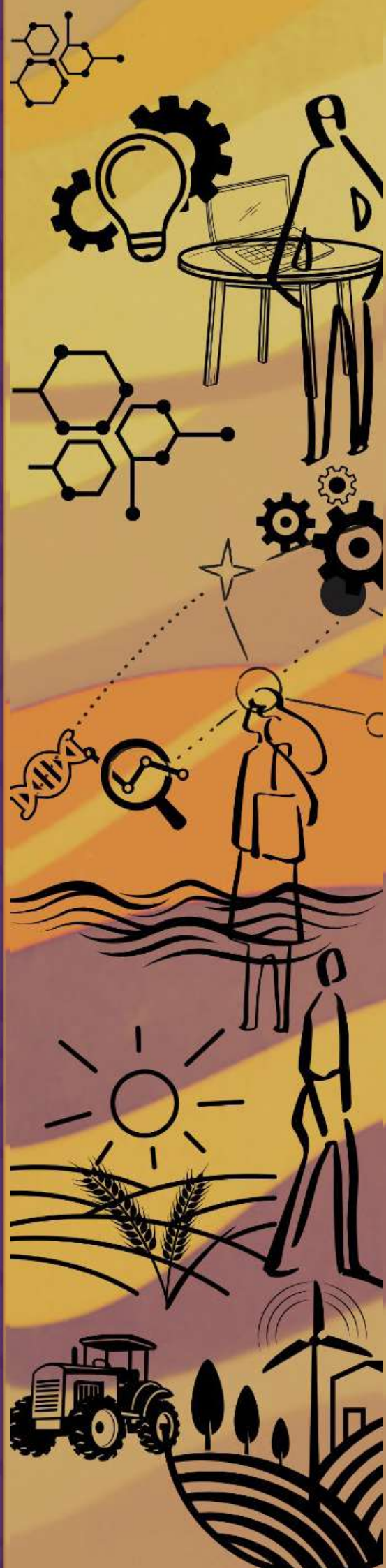
INDIA INTERNATIONAL CENTRE IIC where ideas grow

People's Festival of Innovations- 2023



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Honey Bee Network

NABARD

C-CAMP
Centre for Cellular and Molecular Platforms

Message

Dr. Renu Swarup

It is a pleasure to present the Second Edition of the "Peoples Festival of Innovation -PFI 2023" being held at the India International Centre, New Delhi from 28 th Nov to 2nd Dec 2023 .This is the first such Innovation Festival which brings together Deep tech and Grass root Innovations and provides a platform for their convergence . Organised by cCAMP ,Bengaluru and GIAN ,Ahmedabad , the Festival will bring together over 100 innovators ,more than 50 experts ,policy makers ,industry and academia researchers ,industries and investors .

India's Science led Innovation specially in deep tech biotech sector has made a great headstart. . We today have a strong vibrant Innovation ecosystem with High tech commercially viable innovations, grassroots innovations addressing local problems and a plethora of rural innovations which have widely impacted society . The Science led Innovations have today not just impacted society at all levels but are a strong driver of our Bioeconomy .As we progress in our journey of innovation it is imperative to build a robust ecosystem which can deliver scientific solutions to respond to local ,nation and global challenges .The Sustainable development goals pose grave concerns and innovative solutions which are affordable and accessible are needed to respond to healthcare ,climate change, agriculture ,food security and many such global challenges.

Today the country is seeing an exponential growth in the Biosciences sector and to sustain this growth trajectory it is imperative that we nurture and foster this innovation and entrepreneurial ecosystem. The key challenges faced in taking innovative ideas forward to create successful technologies and products and then scaling these innovations and enterprises with well developed sustainable models are issues which need a well thought out road map . The Pandemic exhibited the strength of the of the innovation ecosystem and the need for global collaboration.Today we have have very strong collaborations which allow innovations to move beyond borders . The National Conference on Scaling Innovations -from idea to impact , organised as a part of the Festival will be an interactive platform for all stake holders to connect and discuss these issues in detail .

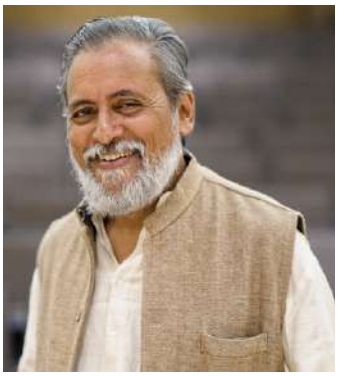
This festival will showcase the significant strides India's Science based innovators have made , and also showcase the contribution of grassroots innovators .The Festival will bring together nearly 100 innovators- deeptech and grassroot and various stakeholders from the national and global innovation ecosystems . The Festival will exhibit how innovation plays a major role to bring forward the connect between science and society that can usher in a new era for India's inclusive socio-economic development. A special feature of the Festival is a special session on North East ,J&K and Ladhak .

The Peoples Festival of Innovation is a unique platform and we look forward to the innovators interacting with all the stakeholders and productive 5 days which will give us a direction for the path forward .

Dr. Renu Swarup
Former Secretary to Government of India
Department of Biotechnology
Ministry of Science & Technology

Message

Prof. Anil K Gupta



The national and international conversation on inclusive, frugal and grassroots Innovations will get further impetus during second People Festival of Innovations being hosted graciously by Indian International Centre, New Delhi and jointly organized by C-CAMP and GIAN. Interaction with creative minds from formal and informal sector gives an opportunity to various stakeholders to empathize with their problems, internalize their constraints and generate inner will to address the roadblocks in their and societal path to progress. The Honey Bee network triggered a process of blending formal and informal science, technology and innovation ecosystem 35 years ago when the conversation on this subject was quite mooted. Slowly and slowly, the national and international consciousness about the cause of grassroots innovators began to rise. When different institutions emerged such as SRISTI, GIAN and NIF through the efforts of HBN volunteers, an ecosystem started to emerge. The Network expresses its gratitude towards the scientific community almost all of them helped in validating many grassroots innovations before they were eligible for Presidential award by not charging for their time, in some cases not even for the consumables. Similarly, Intellectual Property Law forms and attorneys helped in filing thousands of patents in India and many in USA without charging for their time. One area where the Network has not succeed as yet despite many successful pilots is the development of durable Micro Venture Innovation Fund to invest in early stage grassroots, inclusive and frugal innovations. It is important to recognize that frugal innovations are not developed only by materially constrained communities, even bigger firms can develop such innovations for making them affordable by the common people. What makes grassroots innovations special is that they are able to identify the unmet needs early and within their limited means develop solutions that are affordable not just by community members but also nature.

This time there is a special effort to bring inclusive innovations for and by communities from North East and Jammu and Kashmir. Institutional innovators will rub shoulders with grassroots innovators often not much educated. There are many challenges which future Festivals will try to address better through cooperation of all the well-wishers of the Network and the Festival. How to persuade more high net worth individuals and support agencies to engage with grassroots innovators but also with struggling start-ups emerging from rural hinterland and tier-3 cities. Persuading more and more higher education scientific and technological institutions to engage with nascent innovations emerging from grassroots including traditional knowledge based micro enterprises and hep them grow is another challenge. The Network is trying to make more and more open access knowledge and innovation databases available to facilitate these linkages. One of the recent databases at Gian.org provides open access to about one million abandoned US patents which can easily be blended with various innovations to make them more effective and affordable. Large scale in-field user trials to generate data for establishing robustness of innovations is needed by start-ups at grassroots level but also in the institutional settings. It is hoped that second PFI will help in addressing these and many more questions and help make innovation ecosystem become more inclusive, compassionate, collaborative and open access.

I compliment a very energetic team of C-CAMP (swati, bhavisha, Yogesham, Nutan etc.,) which cooperated with the team at GIAN coordinated by Anamika Dey (and Rageshri, Dhyanesh, Ankit, Saurabh, Kishore, Nadeem, Sabzar, Abhijeet, Herila etc.,) to bring all the pieces together to organize the festival. Mentoring by Renu Swarup, Taslmim Arif and Swati Basu deserves all the credit for making it happen.

Anil Gupta

Message

Dr. Swati Basu

Over the last decade, India has laid emphasis on innovation as a growth strategy. As a result of this, there is a rise in its 'World Innovation Index' ranking . Innovation creates growth in the society by addressing its diverse challenges and in the process changes lives. Thus, It is pivotal for the economic and human capital growth of the country. It is pertinent that emphasis should be laid not only on the number of the innovators that are encouraged and nurtured, but also in ensuring its impact is felt at the various levels of the society.

'People's Festival of Innovation' at the India International Centre has been providing an excellent platform for the second consecutive year, for showcasing various promising innovations that are being undertaken by different innovators across the country.

The first year was dedicated towards showcasing and celebrating various exciting innovations of grassroot and deep-tech innovators who shared their experiences and exchanged ideas regarding their possible complementarity in catalysing societal growth. It provided awareness and enhanced public dialogues among the innovation community.

While it is important that these innovations are showcased to a larger public including students, budding entrepreneurs, researchers and academia, it is crucial to engage with various industries and investors for scaling up these innovations based on their commercial viabilities.

As a consequence and in continuation of last year 'People's Festival of Innovation', this year's theme is Scaling Innovations: From Idea to Impact. These innovations cut across different sectors of national importance viz. Healthcare, Agriculture, Animal Health, farming machinery, natural resource management, environment and clean energy.

The current year is continuing to provide a platform and an opportunity to draw a path forward by identifying possible mechanisms to scale the innovations and assessing their likely impact on the society at large through fruitful interactions with investors, industry leaders and engaging with policy makers and domain experts.

The present e-book has compiled the amazing work of some of the promising innovators of the country and their incredible journey towards attaining the same. This will go a long way in inspiring the students, researchers, and entrepreneurs to become a part of the larger innovation eco system of the country and the world for a better future for all.

Dr. Swati Basu

Foreword

Dr Taslimarif Saiyed

Centre for Cellular and Molecular Platforms or C-CAMP is one of the founding partners of the People's Festival of Innovations (PFI). The biggest and broadest celebration yet of India's innovative spirit, PFI is a unique, national platform that embraces both deep science and grassroots innovations with an aim to increasing the public engagement, public dialogue and public participation in driving India's thriving innovation community towards success. Where innovations in farming coexist with innovations in stem cell therapy, innovations in rural, tradition-based sustainability meet innovations in state-of-the-art fermentation of greenhouse gases, the India Innovation Story is ready to be told as we, as co-organizer of this event feel and want to share with the audience.

The criticality of such a festival lies in creating opportunities for a showcasing of emerging technologies, grassroots and deep-science to stakeholders across the innovation value chain including laypersons like you and me, businesses, channel partners, investors, philanthropies, international partners and finally the public service systems. The hope is to foster cross-talks across specialties and disciplines that have historically ignited ideas for out-of-the-box innovation thinking whether in knowledge, technology or process development in the journey of idea-to-market.

The crux of People's Festival of Innovations as the mentors and organizers see it lies in understanding that the scope for problem-solving is not necessarily confined to the higher echelons of scientific research, that grassroots innovations with more immediate impact may solve problems on the ground faster. At the same time we deeply appreciate that cutting-edge progress and state-of-the-art scientific advancements catalyze pathbreaking impact on the long run, changing how we work, live and coexist. The confluence of both of these is the uniqueness of PFI.

Under the co-leadership of Dr Renu Swarup, Prof Anil Gupta, Dr Swati Basu and me, and with the able support of our fantastic collective teams across co-partners C-CAMP, GIAN and HoneyBee Network, this is an attempt to introduce you to a vibrant community of innovators be it healthcare, Agriculture & Animal Health, farm machinery, Natural resource management or Environment & Clean Energy, from Metros,Tier II Tier III cities and deeply rural societies. The Conference will bring together Experts from the ecosystem —policy makers ,industry, academia ,investors ,philanthropists ,international organisations ,regulators and incubators to witness India's modern day innovation revolution, discuss challenges and suggest models for building innovation-based entrepreneurships and scaling innovations for deployment so that technologies make larger impact on communities in need.

The objective of innovation is for, and with the people. We hope to ignite conversations on the commonalities of our problems and how grassroots and deeptech innovators in India can complement each other in solving these problems, catalyzing societal growth, and accelerating India's economic rise.

Dr Taslimarif Saiyed
Director-CEO, Centre for Cellular and Molecular Platforms C-CAMP

Sponsors

National Bank for Agriculture and Rural Development [NABARD]

NABARD is India's apex development bank, established in 1982 under an Act of Parliament to promote sustainable and equitable agriculture and rural development. In its journey of more than four decades, the premier development financial institution has transformed lives in Indian villages through agri-finance, infrastructure development, banking technology, promotion of microfinance and rural entrepreneurship through SHGs & JLGs and more. It continues to aid in nation building through participative financial and non-financial interventions, innovations, technology and institutional development in rural areas.

Genesis

The recognition of the importance of institutional credit in boosting rural economy by the Government of India led to the inception of a Committee to review the Arrangements for Institutional Credit for Agriculture and Rural Development (CRAFICARD). This was established under the able Chairmanship of Shri B. Sivaraman, former Member of Planning Commission on 30 March 1979.

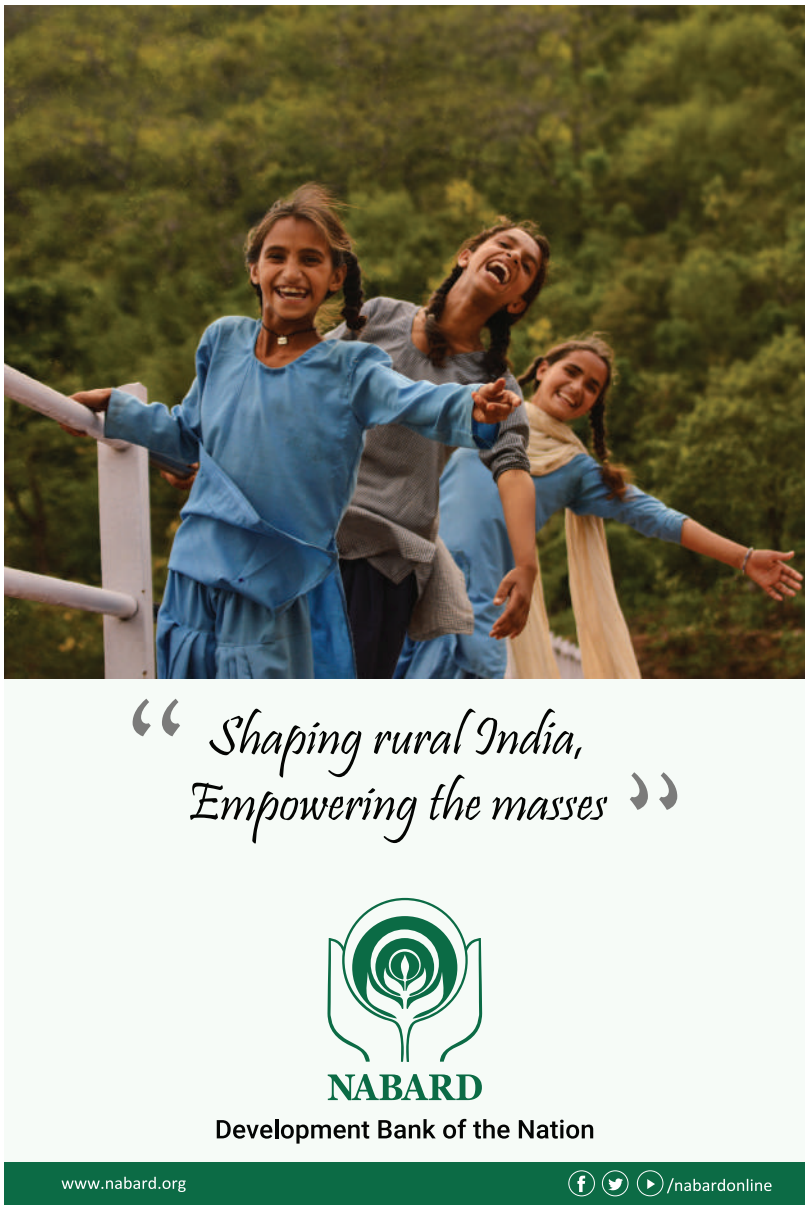
Based on the Committee's interim report recommendation, the creation of National Bank for Agriculture and Rural Development (NABARD) was approved by the Parliament through Act 61 of 1981. This unique development financial institution was created to focus on credit related issues linked with rural development

With this intent, the agricultural credit functions of RBI and refinance functions of the then Agricultural Refinance and Development Corporation (ARDC) was transferred to NABARD. It was dedicated to the service of the nation by the late Prime Minister Smt. Indira Gandhi on 05 November 1982. As a fully owned Government of India entity, NABARD continues to pen stories of prosperity in rural India.

Vision

Development Bank of the Nation for Fostering Rural Prosperity
Mission

Promote sustainable and equitable agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity.



Anthem Biosciences is a Contract Research and Innovation Service Provider (CRISP), with a built-up capacity to house over 1000 researchers and manufacture novel commercial drug actives, from its two sites in Bangalore, India.

Over its short history, since commencing operations in 2007, the company has become a powerhouse for drug and new products development and manufacture, with equal emphasis on biological and chemistry based products and services.

A team of experienced chemists, biologists and engineers own the responsibility of transparent and ethical dealing with customers. Anthem's labs have helped new and established biotechs and big pharma, develop, optimize and test proteins, monoclonal antibodies, peptides, large molecules, small molecules, toxins and much more.

In addition to product research and development, Anthem helps test drugs for safety, efficacy (in vitro and in vivo), pre-clinical animal studies in a GLP facility, clone development, Antibody Drug Conjugates, R&D and manufacture of highly potent compounds, flow chemistry based production and large scale commercial product manufacture. Anthem has been successfully inspected by USFDA, PMDA (Japan), EU QPs.
Anthem has leveraged its core competency in organic synthesis to develop new and challenging nutritional products with a strong scientific rationale. These are now being sold globally to nutraceutical and wellness product companies.

Anthem backs up its top flight R&D capabilities with one of the best in class Quality Control and Analytical development capabilities. In addition to optimizing manufacturing schemes, Anthem has helped its clients develop GMP analytical testing methods, characterization and testing, reference standards preparation, stability studies and much more for impurities, intermediates and products. Regulatory compliance, Quality Assurance and CMC documentation experts assist clients bring research products to market.
With its second to none infrastructure Anthem Biosciences can do GMP synthesis ranging from milligram to kilogram, multi-kilogram to multiple ton scale. Apart from modern well equipped labs, the company has a cGMP kilo lab and a versatile GMP pilot plant.

Aster Hospitals is one of the topmost healthcare providers in India. Our hospitals are renowned for their medical infrastructure and expertise as we have some of the finest doctors in the country, supported by ultra-modern technologies, research-based care in a warm & comforting environment. Our trusted doctors and a team of specialists work closely together to provide the best of healthcare.

As a leader in the healthcare industry, our hospitals are accredited by the National Accreditation Board for Hospitals & Healthcare (NABH), and our high-tech laboratory services are NABL endorsed. Two of our hospitals Aster Medcity, Cochin & Aster Ramesh, Guntur are accredited with the JCI (Joint Commission International), considered the gold standard in global health care.

Our 14 hospitals are present all across Karnataka, Kerala, Maharashtra, Telangana & Andhra Pradesh bring you world-class care and treatment. We endeavour to make Aster a world-class patient-centric hospital where we provide our patients with high-quality care and treatment while delivering the best possible medical results.

At Social Alpha, we believe that science and technology innovations and entrepreneurship has the potential to bring about a positive change in the life of masses. We search for entrepreneurs and innovators who are on a 'mission to create social, economic and environmental impact' and support them through their 'lab to market' journey, as they create compelling solutions to fight poverty and address India's intractable developmental challenges.

The current science and technology based entrepreneurship ecosystem needs innovative alternatives to mainstream venture investing models – a new category of risk underwriting which is not averse to extremely high early stage risk. We have carefully designed a 3-tier ecosystem architecture to nurture entrepreneurs and innovators through their lab to market journey.

This architecture connects the innovation and investment ecosystems and allows for an effective mechanism for allocating resources to mission driven entrepreneurs. The architecture has been designed to drive convergence between the objectives of the entrepreneurs seeking financial and operational support and the providers of risk capital and technical expertise. Social Alpha was launched in 2016.

Social Alpha architecture is built around a not-for-profit platform, Foundation for Innovation and Social Entrepreneurship (FISE) and operates through a nationwide network of technology and business incubation infrastructure, sponsored and enabled by Tata Trusts, Government of India and a number of academic, philanthropic and corporate partnerships.

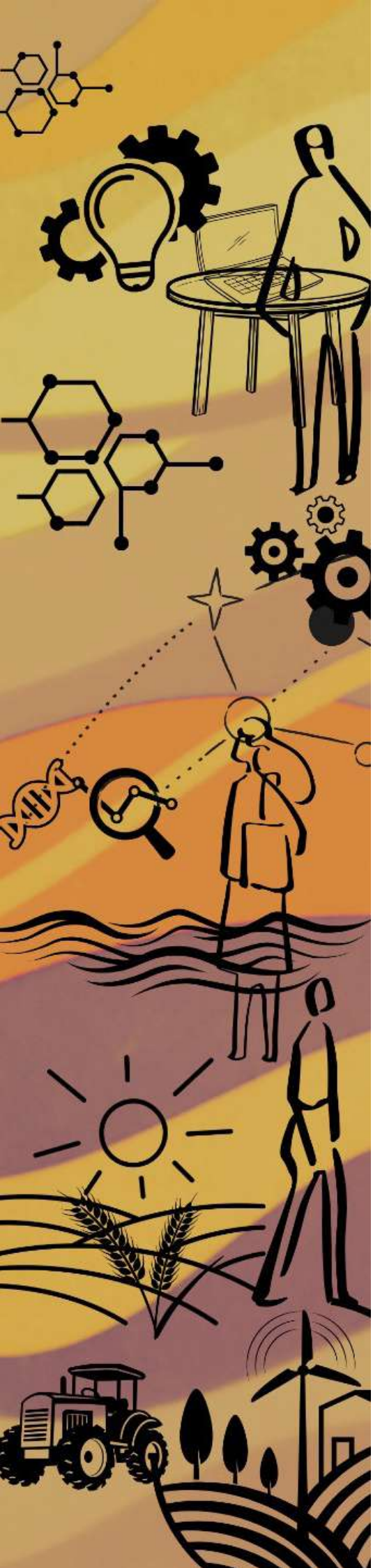
Koncepo Scientech International is a subsidiary of US based NASDAQ listed leader and a Global Advisory, Engineering and Construction company committed to creating and delivering, new-age, innovative and sustainable solutions/ projects, to address the ever-evolving needs of 'Research and Technical 'domains, enabling highest Safety and Functionality standards.

High investment for Biopharma facilities, makes the strategic planning process for these high-value products a formidable task. Our Agility, Flexibility and Resilience coupled with addressing frequent change in technology, processes and regulatory requirements to have optimal design to meet required attributes of product safety, potency, purity and efficacy have reshaped scientific discoveries and drug delivery into new treatments and cures for patients.

Cell and Gene Therapy (CGT's) are progressing rapidly through development pipelines and advancing through clinical trial phases. We are helping CGT innovation for both autologous and viral vector facilities to handle batches with agility. Understanding the potential obstacles and risks associated while defining both GMP and Biosafety in mind is the key to safe working condition and quality assurance in manufactured products.

Koncepo is honoured to serve as a trusted partner to many R&D and Manufacturing team from the feasibility stage to qualification of facility keeping both operational and regulatory compliance in mind. Connect us at marketing@koncepo.com for more information.

Small Industries Development Bank of India (SIDBI) set up on 2nd April 1990 under an Act of Indian Parliament, acts as the Principal Financial Institution for Promotion, Financing and Development of the Micro, Small and Medium Enterprise (MSME) sector as well as for co-ordination of functions of institutions engaged in similar activities. They were the partners for two rounds of Micro Venture Innovation Fund First with NIF and then with GIAN.



Partners

IIT Guwahati TIDF BioNEST

IIT Guwahati BioNEST started its operations in May 2021 with a vision to foster innovative research and entrepreneurial activities in Healthcare and Industrial biotechnology related areas. The startup ecosystem in NE is still in its formative stage and to establish the entrepreneurial mindset among youth of NE, there still exist gaps where strategic implementation of plans are required. Since its inception in 2021, BioNEST has gradually been successful in creating an ecosystem where innovative ideas are shaping into prototypes and startup ventures leveraging the technological excellence of IIT Guwahati. At present, BioNEST has 22 start-ups in its portfolio. Our infrastructure can house 55 incubatee companies physically at a time. Along with modular lab spaces, plug and play co-working space, BioNEST has developed state-of-art laboratory housing equipment related to fabrication, drug designing, molecular biology, drug screening, microbiology, 3D printing, PCB designing etc. Since 2021, we have supported the incubation of 26 companies, 4 of whom have already been graduated in 2023. BioNEST is well connected with other incubator ecosystem at IIT Guwahati; TIH, TIC and Research Park and the Bioincubator network of all "seven sisters" including other AICs and BioNESTs, facilitating our stratups in idea exchange, product validations and collaborations. Recently IITG BioNEST have implemented stratup funding program from North East Council (NEC), Shillong whose primary focus is to scout entrepreneurs from the remotest corners of NE especially women and tribal innovators and provide them a launch pad leveraging the IITG infrastructure and intellectual mentorship. BioNEST has helped resident stratups raise >3.0Cr from VC and Government sources. Since 2021, the incubatee startups together are able to generate employment for >100 people and have helped the livelihood of local artisans.

Contents


Your Bioscope to
see the world of
Indian Innovations

PEOPLE'S FESTIVAL OF INNOVATION - 2023

Meeting Agenda

Day 1 - 28th November 2023		
Topics	***Key points***	***Time***
Inauguration (Deshmukh Auditorium)	• **Welcome** – Dr. Taslimarif Saiyed, CEO & Director, C-CAMP • **Opening Remarks** - Shri K. N. Shrivastava, Director IIC • **Opening Address** – Prof. Anil Gupta, Fellow, Founder, Honey Bee Network, SRISTI, GIAN & NIF, Visiting Faculty, IIMA, IITB, Academy Professor, ACSIR • **About the Festival** - Convergence of Deeptech and Grassroot Innovations – Dr. Renu Swarup, Former Secretory, Dept. of Biotechnology, Govt. of India • **Presidential Address** - Shri Shyam Saran, Former Foreign Secretory, Govt. of India, President IIC • **Keynote** - Shri Trilochan Mohapatra, Former DG ICAR and Chair PPVFRA • **Inaugural –** Shri Shaji K V, Chairman, NABARD • **Vote of thanks** – Dr. Bhavisha Wala, C-CAMP	1000 – 1115 h
Tea Break	1115 – 1200h Inauguration of Exhibition	
Conference Session 1: Giving wings to ideas - **(Deshmukh Auditorium)**	• **Moderator** - Dr. Taslimarif Saiyed • **Lead Talk** – Dr. Sanjay Singh, Gennova Biopharmaceuticals Ltd. (1200 – 1215h) • **Kick-Off Panel** - My story (5 Min each from Innovators who are ready to take their Ideas to the Next Stage) (1215-1245 h) - Dr. Nijagun Hiremath, Ag senses - Dr. Nitish Satyanarayanan, Ultranutri - Ms. Veena Moktali, Periwinkle - Dr. Sanjai Saxenaa, AGPHARM Bio-innovations LLP • **Panel** - How Can Ideas Become Enterprises (Experts addressing the key issues in the entrepreneurial journey) 1245- 1345 h) - Shri Srikant Shastri, i3Gan - Dr. Sandeep Singh, AIIMS, Delhi - Dr. Geetika, TiE Delhi-NCR - Ms. Padmaja Ruparel, IAN - Mr. Vivek Mishra, Fibroheal • **Interactive session and closing remarks** (1345- 1400 h)	1200 - 1400 h

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Lunch Break	1400 - 1500 h Lunch and interaction with Innovators	
Conference Session 2: Scaling Innovations for Impact - **(Deshmukh Auditorium)**	• **Moderator** – Dr. Renu Swarup • **Lead Talk** – Mr. Sharad Sharma, Co-founder iSPIRT Foundation (1500 – 1515 h) • **My Story** (Innovators making an impact - Journey and challenges) Startups (1515-1545 h) - Dr. Renuka Karandikar, Bioprime - Dr Vinay Patel – Founder Shodhsens Diagnostics Pvt Ltd - Dr. Shrikant Pawar, MyLab - Jatin Sharma, Shapecrunch • **Panel** - Scalability vs Sustainability (1545- 1645 h) - Padmaja, Indian Angel Network - Ms. Deepanwita Chattopadhyay, IKP Knowledge Park - Umesh Shaligram - Serum - Radha Rangarajan, CDRI - Dr. Jogin Desai, Eyestem	1500 - 1700 h
Parallel session - Crorepati grassroots innovators (Conference room-1)	• Moderator – NABARD – CGM (1500 - 1700 h) **Topic - Learning from crorepati innovators** - Dharmbir Khamboj - Subhash Ola - Mansukhbhai Patel's son • Interactive session & closing remarks - (1645- 1700 h)	1500 - 1700 h

PEOPLE'S FESTIVAL OF INNOVATION - 2023

Meeting Agenda

Day 2 – 29th November 2023		
Conference Session 3: **Grassroot Innovations:** **Taking ideas forward to scalable enterprises - (Deshmukh Auditorium)**	• **Moderator**: Dr. Anamika • **Lead Talk** —Prof Arvind Sahay (0930 -0945) • **My Story** (Innovators making an impact - Journey and challenges) - Dharmbir Khamboj - Sanjay Tilwa - Saumita Basu - Subhash Ola (NIF) - Samir Gani - Mansukh Bhai Patel's Son • **Panel Discussion -** Challenges of taking an idea forward - Dr Ashok Jain, Former Director NISTADS (Chair) - Praveen Nahar Director, NID Ahmedabad (Co-Chair) - Rakesh Maheshwari, NIF - Prof. B K Chakravarthy, IITB (Nominated Prof Nishant Khamboj, Vishwakarma uni) - Chetan Patel & Ramesh Patel, SRISTI - Dr Pankaj Saran- EMPI Director (Confirmation pending) - Dr Kasturi Das - Dr Ranjana Aggarwal (Confirmation pending) - Prof Madhusudhan Rao, IITD - Dr. Vipin Kumar, Former director of NIF **Questions and Closing Remarks**	0930 – 1100 h
Tea Break	1100-11300 h – Networking and Tea Break	
Conference Session 4- Innovations Across Borders - (Deshmukh Auditorium)	• **Panel -** International best practices and opportunities • **Opening Talk & Lead Talk & Moderator -** Dr Kavita Singh - DNDi **Panelists:** - Arun Agarwal, Jaintri - Sharing their success of innovation beyond borders - Mr. Vicky, Niramai - Sharing their success of innovation beyond borders - Dr. Shirshendu Mukherjee, Mission Director, BMGF, BIRAC - Ms. Swati Saxena, British High Commission, - Dr. Dhoya Snijders-Embassy of Netherlands - Dr. Harish Iyer, BMGF - Dr. Markandeya Gorantla, ATGC - Dr. Manisha Sridhar, WHO	1130- 1330 h

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Parallel session - Grassroot to Global (g2G) - Partnership for supporting the diffusion of Grassroots frugal innovations– (Conference Room 2)	• **Moderator -** Prof Mohan Kaul, Chair, Global Equity Alliance & India Partnership Forum, Chairperson • **Opening Talk: Prof. Mohan Kaul** • **Panelists:** - Taufiqur Rahman (Bangladesh government- Innovation Expert (Device)) - Dr. Bola Olabisi, Director, GEA - Dr Samit Chakrabarty, FRSA - Rozita Singh, UNDP ACC Lab New Delhi - Ms. Anita Kumar, Amazon - Vivek Sinha, Innovation Manager, NTNU (confirmation pending) - Serge ROHMER, Professor at Université De Technologie De Troyes (confirmation pending)	1200 -1330 h
Lunch	1330 -1430 h - Lunch and interaction with Innovators	
Conference session 5: Innovations impacting social and global priorities - (Deshmukh Auditorium)	• **Panel I - Innovations Impacting Health with a focus on One Health** • Moderator – Ms. Deepanwita Chattopadhyay, IKP Knowledge Park • Lead Talk and setting the context – Dr. Y.K Gupta, AIIMS (15 mins) • Moderated Panel Discussion (60 mins) - Dr. Siraj Dhanani, Innaccel - Ms. Amrita Sukrity, Spot sense - Dr. Shridhar Narayanan, FNDR - Dr. Suresh Thakur, Trivitron, - Dr. Satyabrata Routray – PATH • **Panel II - Innovations Shaping Sustainability and Clean Energy** • Moderator - Dr. Premnath, Venture Center • Lead talk – Dr. Jai Asundhi, CSTEP - (15 mins) • Panel Discussion (60 mins) - Dr. Sanjiv Sambandan, Open water - Dr. Vanita Prasad, Revy - Mr. Karan Rao, Sauve Agro - Ms. Rema Subramanian, Ankur Capital - Dr Vibha Dhawan, TERI - **Representative from the World Bank** **Interactive session and closing remarks**	1430- 1730 h

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Day 3 – 30th November 2023		
Conference Session 6: Innovative Entrepreneurs: Catalyzing National Impact from Northeast, J&K, and Ladakh Regions – Part 1 - (Deshmukh Auditorium)	• **Key Note Speaker:** Shri Chanchal Kumar, Secretary, Ministry of Development of North Eastern Region • **Lead Talk:** Dr Manish Diwan, BIRAC • ***Moderator:*** Dr Md Aslam, Former Adviser, DBT, GoI - Highlighting Innovative Startups Hailing (Northeastern, J&K & Ladakh Region) - Dr Thiyam General, Generation Net Nutrition Pvt Ltd, Manipur - Dr. Priyangshu Sarmah, Innotech Pvt. Ltd. - Dr Khalid Z Masoodi, Cashmirbiotec Pvt Ltd - Dr Barkat Hussain, J&K - Akvotransiro Tech Pvt. Ltd. (IITG TIH)	1000 - 1115 h
Tea Break	1115 - 1145 h Networking and Tea Break	
Conference Session 7: Exploring the pivotal contribution of incubators in cultivating innovation - (Deshmukh Auditorium)	• **Lead Talk: Dr Arun K Sarma, DG, NECTAR** • **Panel Discussion** - Exploring the Pivotal Contribution of Incubators in Cultivating Innovation Within the Northeastern, J&K & Ladakh Region • ***Moderator:*** **Dr Mrutyunjay Suar, Chairman BCKIC & CEO KIIT TBI** - Dr Namrata Misra, CEO-BCKIC - Dr Swapnil Sinha CEO IIT Guwahati BioNEST - Dr Birendra Misra NEHU Tura BioNEST, Meghalaya - Dr. S Nandei, CEO, TQS Global Management System - Dr. Naveed Bhat, Chief Executive Officer/Head, SK Innovation, Incubation and Entrepreneurship Centre SKUAST K	1145 – 1300 h
Parallel Sessions: Story Telling – (Gandhi King Plaza)	• **Moderator:** Dr. Anil Gupta, Founder, Honey Bee Network, SRISTI, GIAN & NIF, Visiting Faculty, IIMA, IITB, Academy Professor, ACSIR - **Story telling of grassroot start-ups**	1145 – 1330 h
Conference Session 6: Innovative Entrepreneurs: Catalyzing National Impact from Northeast, J&K, and Ladakh Regions – Part 2 - (Deshmukh Auditorium)	• **Panel Discussion:** Innovative Entrepreneurs: Catalyzing National Impact from Northeast, J&K, and Ladakh Regions • ***Moderator:*** Dr Swapnil Sinha CEO IIT Guwahati BioNEST - Ms. Nengneithem Hengna & Tanay Maben, Hengna and Maben Pvt. Ltd., Nagaland - Dr. Akumtoshi Lkr, Sutsung Enterprise Pvt. Ltd. Nagaland - Dr Laldingngheti, Mizoram - Mr. Kabiir, Gr8 Sports India Pvt. Ltd. J&K. - Dr Mudasir A Mir, J&K	*1300 – 1345 h*
Lunch	1345 -1430 h - Lunch and interaction with Innovators	

PEOPLE'S FESTIVAL OF INNOVATION - 2023

Meeting Agenda

Conference Session 8: Scaling up grassroots innovations from Northeast & J&K (Deshmukh Auditorium)	• **Lead Talk: Dr Anil Gupta,** Founder, Honey Bee Network, SRISTI, GIAN & NIF, Visiting Faculty, IIMA, IITB, Academy Professor, ACSIR **Topic: scaling up grassroots innovations from Northeast & J&K** **Panelists** • Dr K. C. Badatya, CGM NABARD (chair) • Prof. Manoj Kumar Dhar, AcSIR Vice Chancellor (Co-chair) • Mr. Anish Babu, MD, IFCI Venture Capital Fund Ltd. • Mr. Maneesh Srivastava, Founder Alphavalue • Ms. Rozita Singh, UNDP Accelerator lab Delhi • Dr. Trilochan Mohapatra, ICAR (TBC) • Mr. Irwan Malhotra- GIVFUNDS (Story session each innovator 3 min) - Suneel S1 Walnut Variety - Suneel Singh - Improved hydro screw turbine generator- Khursheed Ahmad Malik - Easy-Go Walnut Washer - Naik Qayoom - Advanced Kashmiri Bukhari - Towseef Ahmad & Rafiq Ahanger - Herbal Medication for Wound Healing- Haken Naseer Ahmad - Herbal Medicine- Abhikesar Khatiwara - Mini Maize Grinder and Grain Mixer - Panthong - Pineapple Peeling Machine and Shredding cum Peeling Machine- Imkongsunep - Channel-making machine- Bilal Ahmad Ahanger - Tractor Harvester with Washer - Yanglem Brajamani Singh - Organic Manure to Rejuvenate Mining-spoiled Land- Smt Kyrsiew Ryngkhlem - Low-cost power tiller machine and thresher- Shri Hejew Klien - Plastic to fuel- Shri Just Synrem - Beehive made of mud- Smt. Lamuni N. Sangma - Low-cost & Zero energy Cold storage- Binolin Syiemlieh	1500 – 1730 h

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Parallel Session: Entrepreneurial Ventures Unveiling Their Innovations – (Conference room 2)	- Community-Based Products-Sikkim- Chungku Bhutia, Karna Maya Limbo - Community-Based Innovation- Jammu & Kashmir - Ishrat Farooq, Jabeena Banoo • **Lead Talk: Shri Harpreet Singh, Joint Secretary, Ministry of Development of North Eastern Region** • **Panel Discussion -** Frontiers of Entrepreneurship: Catalyzing Start-up Potential in NE, J&K, and Ladakh Regions • **Moderator - Dr. Naveed Bhat**, Chief Executive Officer/Head, SK Innovation, Incubation and Entrepreneurship Centre SKUAST K • Brief Talk by each startup - Mr. Premjit Okram, Maiyon Agro LLP (Manipur): - Rojen Leimapokpam, Picasoid Health Technology Pvt. Ltd (Manipur) - Mr. Trailukya Dutta, Tholua Pratisthan Private Limited (Assam) - Rinchon Kashung, October Pumpkin Co., Manipur	1430 – 1530 h
Conference Session 9: Showcasing triumphs and valuable insights guided by seasoned entrepreneurs and experts – (Conference Room 2)	• **Panel Discussion:** Sharing success stories & Insights Led by experienced entrepreneurs and Experts – NE & J&K • **Moderator**: **Dr Swati Basu, Former Scientific Secretary, O/o PSA to GoI** - K Chokhone, Dianthe Pvt Ltd. (Manipur) - Ms. Daphilari Nongkhlaw (Meghalaya) - Dr. S. S. Barve, Directo, KET Scientific Research Centre (TBC) - Dr. Atom Annupama Devi (Manipur), Associate Professor, Pandit Deen Dayal Upadhyay Institute of Agricultural Sciences, Grantee (Startup) - Shubra Devi, Founder, Meira Foods - Shri Aliul Islam, Managing Director, Green Harvest (India) Biotech Pvt. Ltd, Guwahati	1530 -1730 h
Closing Ceremony – (Conference room 2)	**Closing Ceremony** - Recap of the day's highlights. - **Dr Mrutyunjay Suar, Chairman BCKIC & CEO KIIT TBI**	1730 h
Day 4 – 01st December 2023		
Festival Session: Innovation Nexus: Connecting Visionaries – (Deshmukh Auditorium/ Gandhi King Plaza)	Investors, Industry, CSR Connect – Sangam Ventures, BLUME Ventures, OMNIVORE VC, Social Alpha, Alsisar, PeakXV	1000 – 1300 h
Tea	1100 – 1130 h	
Lunch	1330 -1430 h - Lunch and interaction with Innovators	

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Meeting Agenda

Festival Session: Story Telling – (Gandhi King Plaza)	Story Telling	1500 – 1700 h
Tea	1700 – 1730 h	
Day 5 – 02st December 2023		
Festival Session: Pathways to Progress: Paving the Way Forward (Multipurpose Hall)	Open house Interactive Session towards the development of a roadmap for the way forward for Grassroots and Deeptech Collaboration	1100 – 1300 h
Lunch	1300 – 1400 h	
Festival Closes - 1400 h		
Exhibition of about 35 Innovations Each Day Covering both Deeptech and Grassroot		

PFI SPEAKERS' BRIEF INTRODUCTION

Opening Address: **Prof Anil Gupta**-10:00 – 11:15 h, 29th November 2023

Padma Shri awardee Dr. Anil K Gupta is a scholar in grassroots innovation. He is the founder of Honey Bee Network, SRISTI, NIF & GIAN. Previously, he was a full-time professor and is currently a visiting faculty member at the Indian Institute of Management, Ahmedabad, and at IIT Bombay. One of his most popular courses is ShodhYatra. He holds a fellowship from the National Academy of Agricultural Sciences, the World Academy of Art and Science, California, 2001, and INSA; he is an AcSIR Academy professor.

Inauguration: ***Shri Shaji K V***- Chairman, NABARD-10:00 – 11:15 hrs., November 28 2023

Shri Shaji K V took charge as Chairman of the National Bank for Agriculture and Rural Development NABARD, Mumbai, on December 7, 2022. He initiated and implemented software-based programs. Moreover, he conceptualized Primary Agriculture Cooperative Societies (PACS). He established the Department of Refinance, which recorded an all-time high level of business in FY 2021-22, and the Finance Department of NABARD. Before NABARD, he worked in various strategic positions in Canara Bank for 26 years. He has extensive board-level experience and has been a member of many National Level Expert committees. He was the Chairman of Kerala Gramin Bank and NABKISAN Finance Ltd. Mr. Shaji is a post graduate in agriculture and PGDM from IIMA and has many other educational testimonials to his credit.

Conference Session 3 - 9:30 – 11:00 hrs., November 29, 2023

Moderator: **Prof. Anamika Dey** – CEO, GIAN-9:30 – 11:00 hrs., 29th November 2023

Dr. Dey has worked for over 15 years on understanding Grassroots Innovations and Entrepreneurship and outstanding traditional knowledge systems. She is currently the CEO-Gujarat Grassroots Innovation Augmentation Network-GIAN and Co-director of GIANASTRE GIAN. She is a visiting faculty member at IIMA and associate editor of Honey Bee, a quarterly newsletter on grassroots innovations. Her research interests are understanding grassroots and social innovations, their emergence, translation, and transfer across geographies, community resilience as contributed by women, etc. She has also worked with UN ESCAP, UNESCO, and UNICEF. She was a committee member of the Festival of Innovation and Entrepreneurship. For her expertise, she was invited by OXFAM-Bangladesh for an emotive programme on rural entrepreneurship and by FAO-Rome for the FFS Digitalization workshop. Her doctoral thesis is from IIT-ISM Dhanbad.

Lead Talk: ***Prof. Arvind Sahay***-Director of Marketing - 9:30-9:45hrs, November 29, 2023
Branding and Marketing of Grassroot Innovations: Lessons to be Kept in Mind

Professor Sahay joined the Management Development Institute (MDI) as Director and Professor of Marketing and International Business in October 2023. Before MDI, he was a faculty

member at the Indian Institute of Management, Ahmedabad, and London Business School. Prof Sahay's primary areas of interest include marketing strategy, consumer behavior, neuroscience, and international trade and investment. He has experience in the manufacturing and financial services sectors and worked as an IT consultant. He has been a regular columnist for the Outlook Business magazine and occasionally writes for leading business newspapers. In 2022, he authored Brands and The Brain: How To Use Neuroscience To Create Impactful Brands. His Ph.D. is from the University of Texas at Austin.

Panel Discussion 9:30 – 11:00hrs., 29th November 2023

Chair: ***Dr. Ashok Jain***- Former Director, NISTADS, Companion CPTM Ltd, London, Hon. Vice President at EMPI Business School - 9:30 – 11:00hrs., November 29th 2023

Dr Ashok Jain's professional career started in Physics research and teaching at the Universities of Delhi, Kyoto, and Bristol. Subsequently, Dr. Jain was appointed Science Attaché in the Indian Embassy, Tokyo in the Department of Science & Technology and Director of National Institute of Science Technology and Development Studies. He is associated with Science & Technology Management & Innovation Policy work. Honorary Vice President for Research and Academic Development at EMPI Business School, he has been involved in initiating a programme called 'Mission Innovative India' launched by Honourable Dr. A. P. J. Abdul Kalam. He has over a hundred publications in Physics and in the multidisciplinary area of Science Technology, and Society Studies. Ph.D. in Physics, he is a Fellow of the National Academy of Sciences, India.

Co-Chair: ***Praveen Nahar***-Director of National Institute of Design (NID) Ahmedabad- 9:30 – 11:00 hrs., November 29 2023

Praveen Nahar is the Director of the National Institute of Design (NID). Prior to joining NID, he was a lecturer in Industrial Design at IIT Bombay and a research associate in Transportation Research at IIT Delhi. Nahar was the Vice Chairperson of Outreach Programs and head of the Design Vision Centre at NID. He has been involved in various research and consultancy projects in industrial and social sectors. He has over 23 years of experience in design teaching, consultancy, and research. He has made significant contributions towards designing Mumbai Suburban Trains and Mumbai Monorails. His research project, ' Design thinking for Prison Industries' with UAL, UK, received many accolades. His post-graduation is in Sustainable Design from Delft University of Technology, Netherlands, and his master's in Industrial Design is from the Indian Institute of Technology (IIT) Delhi.

Rakesh Maheshwari - Sr Innovation Officer / Scientist E at National Innovation Foundation (NIF)- 9:30 - 11:00 hrs., November 29 2023

His professional journey began in 2006, and he has since then dedicated his expertise to the National Innovation Foundation. With an impressive track record, Rakesh has consistently demonstrated his commitment, serving as a Senior Innovation Officer and Scientist E for the organisation for a

remarkable period. His extensive experience and contributions reflect a commitment to innovation and excellence, substantially impacting the field. Notably, Rakesh's enduring dedication aligns seamlessly with the ethos of the renowned institution, IIT Kharagpur.

Nishant Kamboj – Dean, Vishwakarma University - 9:30 - 11:00 hrs., November 29 2023

Nishant Kamboj, based in Kalyan, Maharashtra,

India, is currently a Dean at Vishwakarma University, bringing experience from previous roles at Two Equals Design and IDC School of Design, IIT Bombay. Experienced Co-Founder with a demonstrated history of working in the design industry, his expertise lies in Design Thinking, Illustrator, Industrial Design, Product Design, Sketching, and more. Nishant Kamboj contributes valuable insights to the industry. Nishant Kamboj holds a Master's degree in Industrial and Product Design from the Indian Institute of Technology, Bombay.

Chetan Patel – SRISTI- 9:30 - 11:00 hrs., 29th November 2023

Chetan Patel graduated in Rural Studies and

post-graduated in Sociology. Over the past 13

years, he has contributed to various growth and developmental activities of SRISTI like SODHYATRA, scouting grassroots innovation, inventions, farm practices, traditional foods, children workshops, summer school, farmers' meet, teacher innovations, and many others. Till now, he has visited over 1000 villages in India and conducted workshops in over 2000 schools in India.

Dr. Pankaj Saran – Director, EMPI - 9:30 - 11:00 hrs., 29th November 2023

Pankaj Saran is currently the President at EMPI Business School, bringing experience from previous roles at Atal Incubation Centre - EMPI, Reserwater Innovation Foundation, Vittal Innovation City, and EMPI Business School. He is an Institution Builder, Management Professional and Consultant, Policy Analyst, and a Cognitive Scientist. His robust skill set includes Business Strategy, Thought Leadership, Strategic Leadership, Educational Leadership, New Business Development, and more. Dr. Saran is a consultant to various organizations in developing psychological tools for leadership potential. He has been involved in developing 'Gujarat Vittal Innovation City' and also a park in Bangalore of hi-tech clusters. He has floated two first-of-its-kind Initiatives – a participative Public Policy Forum for India and the EMPI Indian Innovation.

Prof. Kasturi Das - Director, Economic Environment and Policy - 9:30 - 11:00 hrs., November 29 2023

Prof. Das is an economist, a trade and climate policy practitioner, and an educator. She is presently a Full Professor of Economics and a member of many High-Level Advisory Committees. She was a Ford Fellow at the University of Cambridge, a Science and Innovation Leadership Fellow of the UK Foreign and Commonwealth office, and a Visiting Fellow at the University of East Anglia. She has published extensively in top journals. She has delivered talks and lectures and presented research papers at numerous high-level conferences globally. Kasturi is consulted by multiple institutions across geographies. Under her leadership, as the Founding Head of the I'M The Change Initiative on Sustainability & Social Responsibility they won many awards and laurels. Kasturi is a Gold Medallist in MSc-Economics from the University of Calcutta (CU).

Dr. Ranjana Aggarwal - Director, CSIR-NIScPR- 9:30 - 11:00 hrs., November 29 2023

Prof. Ranjana Aggarwal is the Founder

Director of CSIR-National Institute of Science Communication and Policy Research (CSIR-NIScPR). Dr Aggarwal is from Kurukshetra University, where she was a Professor of Chemistry and Director of the Women's Studies Research Centre. Subsequently, she worked in many well-known European Labs. She has been awarded the Commonwealth Fellowship, UK, Dr. Basudev Banerji Memorial Award, Prof. S. S. Katiyar Endowment Award, etc. Prof. Aggarwal is actively addressing the issues concerning Women's equality and development. Under her leadership, the 6th India International Science Festival IISF 2020 was successfully organized. She received her PhD from Kurukshetra University and then conducted two years of postdoctoral research on erythromycin biosynthesis at Cambridge University, UK.

P. V. Madhusudhan Rao-IIT Delhi - 9:30 - 11:00 hrs., November 29, 2023

P. V. Madhusudhan Rao is a professor in the Department of Mechanical Engineering and

Design at IIT Delhi. He is a co-founder of the Assistech lab at the Khosla School of Information Technology and coordinator of the IIT Delhi Design Innovation Center (DIC). He has several patents and design registrations to his credit, many of which have been commercialized. His current interests include product design manufacturing, especially medical and assistive devices. His translational research has led to successful products in the worldwide market. He received the Abdul Kalam Technology Innovation National Fellowship of INAE and IIT Delhi's K. L. Chopra Faculty Research Award. He has been conferred with the 2005 Vasvik Industrial Research Award and has twice received a National Award from the Ministry of Science & Technology. He obtained a masters in mechanical

engineering from IIT BHU and his Ph.D. from IIT Kanpur. He is a Fellow of ASME.

Dr. Vipin Kumar- Former Director and Chief Innovation Officer at National Innovation Foundation –India (NIF)- 9:30 - 11:00 hrs., November 29 2023

Dr. Vipin Kumar interests include incubation

and promoting inclusive and frugal innovations with value addition. He also works on intellectual property protection, business development, commercialization, and developing open-source technologies to generate employment opportunities. He incubated several innovative technologies that were marketed worldwide. He was a resource person in UNESCO's course on Innovation Management in the Asia-Pacific (APAC) region. His most profound work, MANAK, implemented by NIF and DST, motivates millions of students to pursue Science and a career in Research. He is instrumental in building social and inclusive innovation-based relationships between India and ASEAN Member States.

Conference Session 4 - 12:00 -13:30 hrs., November 29 2023

Moderator: ***Prof. Mohan Kaul*** - Chair, Formal Director General & Chief Executive at Commonwealth Business Council-12:00 -13:30 hrs., November 29 2023

Dr. Kaul is the current Director General of CBC. His goal is to achieve economic empowerment of the people through private sector development within the Commonwealth over the next decade. He was an Adviser to the South African government of President Mandela on public service reform. He has published over 100 research papers in journals of national and international repute. He recently published a book on management reforms in government,

An Outsider's Inside View. Dr. Kaul was involved in establishing the Commonwealth Association of Public Administration and Management (CAPAM), based in Canada, and the Malta-based Commonwealth Network for Information Technology (COMNET). As a senior faculty member at the Indian Institute of Management in Ahmedabad, he was an adviser and consultant to the Government of India, Public & Private Sector Organizations. Dr. Kaul was a member of the Board of Directors of Dredging Corporation of India. He has a Ph.D. from the University of Paris, Sorbonne, and is a Fellow of the Computer Society of India.

Taufiqur Rahman - Bangladesh Government Innovation Expert Devices - 12:00 -13:30 hrs., November 29, 2023

Taufiqur Rahman is a member of the Aspire to Innovate (a2I) Programme under the ICT Division. A2I, a multinational organization supported by UNDP based in Bangladesh, is at the forefront of digital transformation. His mission is to accelerate the digitization of

public services. His organization aims to make Bangladesh a prosperous, developed, poverty-free, and equitable nation under the ambitious 'SMART Bangladesh Vision 2041' and achieve the 2030 Sustainable Development Goals. Taufiqur is privileged to lead one of A2I's departments, the Innovation Lab (iLab), which aims to address societal challenges through indigenous innovation. He plans to align his work with the standard guidelines set forth by Prof. Anil Gupta, ensuring a unified approach toward grassroots

innovation.

Bola Olabisi - Founder of GWIIN, UK-12.00-13.30 hrs., 29th November 2023

Bola founded GWIIN in 1998 (now known as GlobalWIIN) in the United Kingdom mainly to research, develop, and encourage the growth and emergence of women entrepreneurship and women in the workplace. Collaborating with The Accelerator at The London Metropolitan University, GWIIN facilitates knowledge transfer concepts to support women in their entrepreneurial endeavours. With a professional background in law, personal and community development, Bola specializes in compliance law and adding her voice to gender diversity and sustainable development issues. She has expanded her expertise to build the capacity of women with remarkable ideas. Over the years, her experience and skills have extended to cultural competency and authentic leadership skills, corporate management, strategic communications, culture change, project management, sustainable development, and stakeholder engagement.

Lecturer: ***Dr. Samit Chakrabarty*** - 12.00-13:30

hrs., 29th November 2023

Visiting Associate Professor - Panum Institute, University of Copenhagen; Research Associate Professor - Columbia University, NYC, Dr. Chakrabarty is a systems neurophysiologist. His areas of expertise are sensory motor neurophysiology, medical technology, closed-loop stimulation systems, and rehabilitation. Dr Chakrabarty's ultimate goal is to decipher the underlying operating principles to be used to improve the therapies for restoring motor control in people suffering from movement disorders. His biomedical research aims to develop new diagnostic tools for neurologists and understand neurological dysfunctions like stroke, Parkinson's disease, and Cerebral Palsy. An executive member of Robotics at Leeds, he is a Ph.D. - University of Cambridge; Postdoc - Columbia University, NYC; Spinal Cord Research Centre, Winnipeg, Canada.

Rozita Singh - UNDP's Accelerator Lab, New Delhi-12:00-13:30 hrs., November 29th

2023

Rozita is the Head of Solutions Mapping at the UNDP's Accelerator Lab in India. Her notable roles are at organisations such as Daily Dump, Philips, and the UN Major Group for Children and Youth. She has worked at the research-policy interface to address global environmental sustainability challenges. She has expertise in urban resilience, waste management, circular economy, and energy access. Climate Change and Journalism reflect her commitment to addressing global challenges. She has many articles to her credit. She was selected as a Climate Change Champion by the British Council. She holds an academic background in Urban Management and Development from IHS, Erasmus University Rotterdam.

Anita Kumar – Amazon, Head of CSR and Corporate Philanthropy Programs for Amazon - 12:00-13:30 hrs., November 29 2023

Anita Kumar heads the CSR and Corporate Philanthropy programs for Amazon India and APAC. Their mission is to enable young people to thrive. She is especially interested in investing and partnering with innovative social change organizations and entrepreneurs—Amazon's community programs in India span Education, Disaster Relief, and Employee Volunteering. Prior to joining Amazon, Anita worked as a development consultant for a decade across research, strategy, and impact assessments in diverse areas, including education, skilling, gender, drinking water, and health. She holds a Masters in Development from the London School of Economics and an MBA from IIM Calcutta.

Vivek Sinha - Innovation Manager, NTNU-12:00-13:30 hrs., 29th November 2023

Vivek Sinha Innovation Manager, Department of Industrial Economics and Technology

Management Norwegian University for Science and Technology (NTNU)Energy Transition Strategies for Future Energy Systems' Energy Transition is a multidisciplinary hub of researchers and industry members. Vivek Sinha and his team are advisors on the transition to future energy systems and provide strategies that move sustainable solutions to the marketplace. Once a year, they organize Energy Transition Week, a key meeting point to debate challenges and solutions for the transition to a future sustainable energy system. Innovators and decision-makers like Mr. Sinha offer research opportunities and participate in research activities that advance shared objectives and work towards realizing sustainable future energy systems.

Prof. Serge Rohmer - University of Technologies of Troyes 12:00-13:30 hrs., November 29th 2023

Serge Rohmer is a teacher-researcher at the University of Technology of Troyes. His research focuses on developing methods and tools to help designers better design products from a

sustainability point of view. His interests concern the eco-design of products and industrial processes. Frugal engineering/Frugal Innovation are the current investigations of his research.

He is carrying out a research project in Togo, with the support of the UTT Foundation, to improve agricultural production on farms in a local village. His Ph.D. is from the University of Technology of Troyes, France Research Centre for Environmental Studies and Sustainability (CREIDD).

Conference Section 8 - 15:00 to 17:30

Prof. Manoj K. Dhar- Director, AcSIR – 15:00-17:30 hrs., November 30th 2023

Prof. Dhar, the former Vice-Chancellor of Jammu University, is the Director of the prestigious Academy of Scientific and Innovative Research (AcSIR). He is the Founder Director of the School of Biotechnology, University of Jammu. Prof. Dhar is a fellow of two prestigious Science Academies: the National Academy of Sciences, India, and the National Academy of Agricultural Sciences. He has been awarded many prestigious awards. He has established a strong research group on Genome Research. Prof. Dhar has about 150 publications in reputed National and International journals. Moreover, he has contributed significantly to understanding the genetic basis of rare genetic disorders in humans. He is a member of several National Committees in DST, DBT, SERB, etc.

Prof. Trilochan Mohapatra-Chairperson Protection of Plant Variety of Farmer Rights Authority, Ministry of Agriculture and Farmer Welfare Govt. of India-1500-17:30 hrs., November 30th 2023

Trilochan Mohapatra is currently the Chairperson of the Protection of Plant Variety of Farmer Rights Authority, Ministry of Agriculture and Farmer Welfare Govt. of India. Formerly, Government Secretary of the Department of Agricultural Research and Education (DARE) and former Director General of the Indian Council of Agricultural Research. He is a scientist, biotechnologist, and geneticist and was involved in research and teaching in the field of Molecular Genetics and Genomics at IARI. He served as Chairman of several high-level committees. Dr. Mohapatra has over 200 research publications in journals worldwide. The Department of Biotechnology of the Government of India awarded him the National Bioscience Award for Career Development, one of the highest Indian science awards, for his contributions to biosciences in 2003. He has received several honors and awards. Mohapatra is an elected fellow of the National Academy of Sciences, India, the National Academy of Agricultural Sciences, the Indian National Science Academy, and the Indian Society of Genetics and Plant Breeding. He has a Ph.D. in Genetics from the Indian Agriculture Institute, New Delhi.

Anish Babu, Managing Director IFCI, Venture Capital Funds Ltd. -15:00-17:30 hrs., November 30th 2023

Presently, Anish Babu is the Managing Director of IFCI, Venture Capital Funds Ltd. and Executive Director of the Institute of Leadership Development. He has been associated with IFCI

Ltd. since 2002. He has held several positions and assignments in IFCI Ltd. He has vast experience in the financial sector, having exposure of working under Credit Appraisal, Risk management, NPA

Management, Business Development, Regional Office administration, Subsidiaries and Associates Co-ordination, and Estates, etc. He is currently in charge of IFCI's Regional Office in Ahmedabad and is responsible for IFCI operations in Gujarat.

Irwan Malhotra-Founder and Manager-Vencap United -15:00-17:30 hrs., November 30th 2023

Irwan founded and manages Vencap United, a successful debt firm based in New Delhi. He has over 12 years of experience working with SME debt, particularly in our target markets. Irwan also founded Gavaksh India, a school for slum children in New Delhi. An entrepreneur passionate about Education, Social Enterprise, SMEs, Kashmir, and Manchester United. He aims to bring financial solutions to SMEs and the social sector.

Maneesh Srivastava - Co-Founder at Alpha Value Consulting Pvt., Noida-15:00-17:30 hrs., November 30 2023

Maneesh Srivastava is a Co-Founder of Alpha Value Consulting Pvt. and a Registered Valuer with IBBI. He has over 15 years of experience, with nine years in merchant banking. Maneesh is involved in Investment Banking, Transaction Advisory, Financial Valuations, and Business Development and leads significant client interactions. He has a multidimensional role across various verticals. Maneesh specializes in Mergers and Acquisitions, Financial Valuations, Due Diligence, ESOP scheme implementation, etc. He is empanelled as a valuer with GAIL Authority of India Ltd and Power Finance Corporation of India. Before starting his own enterprise, he worked with various financial companies. He is a mentor to various start-ups and incubation centers. His articles are published in leading Journals. He co-authored a book on Valuation. He is a Fellow Member of ICSI, MBA from IBS, and a PhD Scholar.

Prof. T.N. Prakash Kammardi - Former Chairman Karnataka Agriculture Price Commission - 15:00-17:30 hrs., November 30 2023

Prof. T.N. Prakash Kammardi is the former Chairman of the Karnataka Agriculture Price Commission. Before that, Dr. Kammardi was a Professor and the Head of the Department of Agricultural Economics at the University of

Agricultural Sciences, Bangalore. He was also the Chairman of the Government of Karnataka Agricultural Prices Commission (KAPC). He now works as a private consultant to various organizations in agricultural economics, sustainable and organic agriculture, and international trade in agricultural commodities.

KC Badatya - The Joint Director at the Bankers Institute of Rural Development (BIRD), NABARD-15:00-17:30 hrs., November 30 2023

KC Badatya currently serves as the Joint Director at the Bankers Institute of Rural Development (BIRD), NABARD, based in Kolkata. As an experienced professional with over 30 years of dedicated service in rural development, agricultural banking, economic analysis, and research, he held various Senior Managerial positions at different divisions of known organisations. He was also in the Ministry of Planning, Government of India. He taught Economics to Graduate / Undergraduate Students. With strong analytical and research skills, his expertise lies in rural development and agricultural banking.

Dr. Renu Swarup - The Vice Chair of the International Centre for Antimicrobial Resistance Solutions (ICARS) Copenhagen, Denmark-15:00-17:30 hrs., November 30 2023

Dr. Renu Swarup is the Vice Chair of the International Centre for Antimicrobial Resistance Solutions (ICARS). She is the former secretary to the government of India's Department of Biotechnology. She was the Chairperson of the Biotechnology Industry Research Assistance Council (BIRAC). Dr. Renu Swarup has been instrumental in planning and implementing major national-level programmes. She was actively engaged in formulating the National Biotechnology Vision and Strategy. As the Secretary of the Government of India's Department of Biotechnology, she led a network of various institutions. During the COVID pandemic, she handled the COVID Vaccine Diagnostic and Genome. Dr. Swarup is a member of the WHO Advisory Board. A recipient of many awards, she has been awarded the YB Chavan National Award 2021 for Public Service. She has a PhD in Genetics and Plant Breeding and is a Fellow of the National Academy of Sciences (NASI) India. She did her Post Doctoral Research at The John Innes Centre, Norwich.

Dr. Manish Diwan-Head-Strategic Partnership & Entrepreneurship Development, BIRAC- 15:00-17:30 hrs., December 1 2023

Dr. Diwan, as the Head-Strategic Partnership and Entrepreneurship Development at BIRAC, is excited to nurture and empower the Biotech Innovation Ecosystem in India. He is responsible for strategic partnerships at the national and international levels. He intends to facilitate BIRAC's mandate to promote the translation of innovative ideas to PoC and validation to commercialize innovative, affordable products and technologies. These addresses unmet needs in Health Care, Diagnostics, Medical Devices etc. He has about 25+ years of global experience in the Pharma/Biotech sector. He has contributed to several Clinical Drug Candidates for global drug development at Daiichi Sankyo (India), Ranbaxy, Dabur etc. He serves on several national-level committees, advisory boards, and national and international forums.

Dr. Jogin Desai

Dr. Desai, the Founder and Chief Executive Officer of Eyestem, is a visionary leader dedicated to revolutionizing access to cell therapy through a groundbreaking and scalable platform. With over 15 years of astute expertise in fostering and expanding businesses, Dr. Desai's journey spans pivotal roles, notably contributing to Quintiles' global leadership team and spearheading their cardiac safety division between 2001 and 2007. His impactful leadership continued as the CEO of Cenduit, a pioneering force in randomization solutions, solidifying its position as the world's largest standalone entity in this domain. Notably, under his guidance, Cenduit flourished across diverse locations, including Bangalore, Basel, Philadelphia, and North Carolina, as a significant joint venture with ThermoFisher Scientific. Dr. Desai's current job profile at Eyestem is to create a scalable cell therapy platform to treat incurable diseases and democratize access to these newer technologies for the bottom 99% of the population globally, marking a new era of medical possibilities guided by his innovative prowess and strategic acumen.

Ms. Swati Saxena

Ms. Swati Saxena, in her capacity as the Senior Science and Innovation Advisor stationed in New Delhi, stands as a pivotal liaison providing dedicated assistance to UK stakeholders, facilitating the establishment of robust R&D connections with India. Her primary focus encompasses fostering collaborative research endeavors within the dynamic realms of agri sciences and fisheries. Simultaneously, Ms. Saxena shoulders the crucial responsibility of orchestrating science-based initiatives across various UK government departments for the impending COP28, extending vital support to the SIN UAE team. With a wealth of expertise deeply rooted in agricultural research, Ms. Saxena's journey into this role was preceded by her active engagement with Indian Government agencies and academic circles deeply entrenched in agri-research. Her tenure as a regulatory officer at Monsanto, a prominent US-based agricultural multinational firm, not only fortified her professional prowess but also highlighted her significant contributions to the field. Notably, Ms. Saxena played a pivotal role in the core regulatory group that facilitated the groundbreaking commercialization of India's first genetically modified crop, showcasing her instrumental contributions to transformative advancements in agricultural technology.

Dr. Harish Iyer

Dr. Harish Iyer, currently serving as the Deputy Director of Digital & Health Innovation at the Bill & Melinda Gates Foundation, is a prominent figure deeply entrenched in the nexus of innovation, science, and technology, with a passionate focus on enhancing public health and fostering economic development. His role stands as a strategic linchpin, bridging

Indian researchers, global partners, and the Gates Foundation teams across multifaceted domains. Dr. Iyer's expertise spans critical areas such as vaccine-preventable diseases, disease surveillance and modeling, economics within health markets, utilization of digital approaches to broaden health access, gender equity, and poverty reduction strategies. Prior to his tenure at the foundation, Dr. Iyer held the esteemed position of CEO at Shantha Biotech from 2011 to 2015, spearheading endeavors centered on the development, manufacturing, and distribution of low-cost, accessible vaccines tailored for public markets. His diverse experience and unwavering dedication underline his pivotal contributions toward shaping innovative solutions that drive tangible impact in global health and well-being.

Dr. Dhoya Snijders

Dr. Dhoya Snijders, serving as the Innovation Counsellor for the Netherlands in India, plays a pivotal role in coordinating the Netherlands Innovation Network. This network stands as a cornerstone in fostering bilateral relations focused on science and technology between the Netherlands and India, operating across strategic locations such as New Delhi, Mumbai, and Bangalore. Prior to this, Dhoya's professional journey encompassed significant roles, notably at the Rathenau Institute, where he provided crucial advice to the Dutch parliament regarding the societal implications of technology. His expertise also extended to consulting within the public sector, showcasing his diverse range of skills and insights. Dhoya's academic background is equally diverse, reflecting his commitment to holistic learning. With studies in philosophy, information management, and organizational sciences, he culminated his academic journey with a PhD in the realm of environmental policy. Dhoya's multidimensional expertise and rich academic foundation position him as a driving force in fostering impactful collaborations and shaping the intersection of innovation, technology, and societal development between the Netherlands and India.

Dr. Premnath Venugopalan

Dr. Premnath, holding the esteemed position as Head of NCL Innovations at CSIR-NCL and serving as the Founder Director of Venture Center, stands as a driving force behind award-winning inventive enterprises and a deep-tech incubator. His multidimensional expertise spans across technology development, innovation management, incubation facilitation, startup mentorship, and co-founding two impactful medtech startups. Notably, one of his groundbreaking inventions—a revolutionary material for hip and knee joint replacements—has significantly impacted over a million patients globally, showcasing his profound contributions to the field. Dr. Premnath's leadership has been instrumental in guiding teams to national acclaim for excellence in technology development, intellectual property management, and business incubation. His academic journey reflects a commitment to excellence, holding a background in chemical engineering and graduating from esteemed institutions such as MIT in the US and IIT-Bombay (where he was recognized as a Distinguished Alumnus in 2022). Furthermore, his scholarship as a Chevening Technology Enterprise Scholar at Cambridge, UK, underscores his continuous pursuit of knowledge and excellence, marking him as a

catalyst in advancing transformative innovations and fostering entrepreneurial ecosystems.

Dr. Sanjay Singh

Dr. Sanjay Singh, serving as the CEO of Gennova Biopharmaceuticals Ltd based in Pune, India, is a distinguished figure at the forefront of biopharmaceutical innovation. Holding a Ph.D. in Biochemistry from the prestigious Central Drug Research Institute (CDRI) in Lucknow, India, Dr. Singh's leadership at Gennova has been transformative. Under his guidance, Gennova achieved a significant milestone by pioneering India's inaugural mRNA-based vaccine, earning Emergency Use Authorization (EUA). Dr. Singh's impactful leadership extends beyond the realm of vaccine development; he has played a pivotal role in fostering collaboration between industry and academia, bridging crucial gaps in the ecosystem. Currently holding memberships in several pivotal national committees, including the Scientific Advisory Board of the NCCS in Pune, CMBR in Lucknow, and TIGS in Bengaluru, Dr. Singh continues to contribute his expertise to various important national initiatives. Additionally, his membership in the National Committee for Biotechnology at the Confederation of Indian Industry in New Delhi further underscores his commitment to advancing biotechnological frontiers and fostering collaborative growth within the industry. Dr. Singh's pioneering work and multifaceted contributions stand as a testament to his profound impact on the biopharmaceutical landscape in India.

Dr. Jai Asundi

Dr. Jai Asundi, holding the esteemed position of Executive Director at the Center for Study of Science, Technology and Policy (CSTEP) in Bangalore, India, stands as a passionate advocate for sustainability and the utilization of digitally-driven decision support systems for addressing public policy challenges. As a senior member of the IEEE, Dr. Asundi's academic journey has been shaped by his pursuit of knowledge and excellence, culminating in M.S. and Ph.D. degrees from Carnegie Mellon University, where he currently serves as an Adjunct Associate Professor in the Department of Engineering and Public Policy. Dr. Asundi's pioneering efforts led to the establishment of the Centre for Air Pollution Studies at CSTEP, reflecting his commitment to impactful research. His expertise lies in the intersection of information technology and development, focusing on the creation of decision support systems tailored for diverse public policy issues. Dr. Asundi's dedication to leveraging technology for societal benefit underscores his pivotal role in advancing sustainable solutions and innovative approaches to address pressing challenges in public policy domains.

Dr. Umesh Shaligram

Dr. Umesh Shaligram, as the Executive Director and esteemed Board Member of Serum Institute

of India Pvt. Ltd., stands as a pioneering force driving the scientific evolution of vaccines, with a focused emphasis on COVID-19 vaccines and the advancement of next-generation biologics, including biosimilars and biobetters. At the helm of his responsibilities, Dr. Shaligram orchestrates innovative strategies aimed at reducing disease burden and achieving disease elimination through comprehensive approaches encompassing detection, treatment, and prevention. His leadership played a pivotal role in steering the development and manufacturing of billions of doses of COVISHIELD® and the pioneering Covovax/Neuvaxovid, marking India's first indigenous COVID-19 vaccine, and a historic milestone with its supply to the US. Dr. Shaligram's strategic guidance was instrumental in securing USFDA approval for the manufacturing plant at SIIPL, a testament to his commitment to global health standards. With extensive experience in various biologic technologies, biosimilars, and biobetters, he has led numerous collaborations, facilitated tech-transfers, and fostered crucial business relationships with diverse companies and research organizations. Dr. Shaligram's visionary leadership and profound expertise underscore his significant contributions to the advancement of life-saving vaccines and biologic innovations, reshaping the landscape of global healthcare.

Dr. Manisha Shridhar

Dr. Manisha Shridhar, in her role as Regional Advisor, serves as the distinguished technical lead at WHO-SEARO, overseeing a spectrum of critical domains including Intellectual Property Rights (IPRs), regulation, trade, and legal aspects within communicable diseases, pandemic influenza preparedness frameworks, traditional medicines, international health regulations, non-communicable diseases, tobacco control, and nutrition in public health. Her illustrious career path includes pivotal roles such as District Magistrate in the state capitals of Shimla and Kangra at Dharamsala, where she held responsibilities spanning public health programs. Dr. Shridhar's academic achievements are substantial, having earned a Master's degree in Intellectual Property Law, specializing in Patent and Biotechnology Law, and gaining certification as an International Mediator for IPRs from Franklin Pierce Law Center in Concord, USA. Her doctoral thesis, titled "Technology Innovation and Patent Activity in Indian Industry," was completed at the Indian Institute of Technology in Delhi. Notably, her book titled "Public Health: Innovations through a Maze of International Instruments," published by Thomson Reuters in 2023, highlights her profound insights in the field. Dr. Shridhar's multilingual capabilities in Hindi, English, and French enrich her contributions. Her tenure in the Indian Administrative Service, notably as Joint Secretary in the Ministry of Micro Small and Medium Enterprises, involved the formulation of pivotal policy and briefing documents crucial for negotiations in global trade arenas such as WTO, ASEAN, MERCOSUR, Bangkok Agreement, and SAFTA. Dr. Shridhar's rich expertise, extensive academic contributions, and multifaceted experience position her as a luminary in shaping international public health policies and frameworks.

Dr. Vinay Patel

Dr. Vinay Patel, an Institute Postdoctoral Fellow at the Indian Institute of Technology, stands as a pioneering force and co-founder of ShodhSens Diagnostics Private Limited, leading the development of an innovative, cost-effective diagnostic device catering to a range of on-site

tests encompassing chronic kidney disease, diabetes, lipid profiling, and more. His notable achievements include securing multiple grants such as BIG-BIRAC and IOE funds, showcasing his ability to garner substantial support for his groundbreaking endeavors. Dr. Patel's academic journey culminated in a PhD in Biomedical Engineering, complemented by nearly four years of extensive industrial experience focused on end-to-end product development within the realm of medical diagnostic devices. His affiliation as a member of esteemed organizations such as the Royal Society of Chemistry and IEEE further solidifies his commitment to advancing scientific frontiers and underscores his dedication to innovation in the field of biomedical engineering. Dr. Patel's relentless pursuit of accessible diagnostics through cutting-edge technology signifies his invaluable contributions to advancing healthcare accessibility and affordability.

Dr. Radha Rangarajan

Dr. Radha Rangarajan, currently serving as the Director of CSIR-Central Drug Research Institute, boasts an illustrious career spanning over two decades, dedicated to translational research and product development. Her focus lies in combating antimicrobial resistance through innovative approaches for diagnosing and treating drug-resistant infections. Dr. Rangarajan's impactful tenure at Dr. Reddy's Laboratories within the Drug Discovery division from 2003 to 2009 exemplifies her expertise in the pharmaceutical domain. She adeptly utilized public-private partnerships to establish an efficient innovation platform, yielding optimized candidates, patents, and companion diagnostics. Her remarkable contributions have earned her prestigious accolades, including the "Biotech Startup of the year" award for HealthCubed and the Federation of Indian Chambers of Commerce and Industry Award of Excellence for Women in R&D. Dr. Rangarajan's multifaceted engagements encompass her role as Chief Technology Officer at HealthCubed, overseeing product development, clinical validation, manufacturing, and regulatory affairs. She further extends her expertise through memberships in various esteemed committees and governing bodies, contributing significantly to the advancement of healthcare technology and innovation.

Dr. Kavita Singh

Dr. Kavita Singh, currently serving as the Director for South-Asia at Drugs for Neglected Diseases initiative, has forged a distinguished career at the nexus of clinical research, public health, and innovative delivery advancements. Her multifaceted experience spans roles within the pharmaceutical industry, government sectors, and non-profit organizations. Dr. Singh's tenure as the Mission Director of the National Biopharma Mission at Biotechnology Industry Research Assistance Council (BIRAC) exemplifies her leadership, preceding her role as Program Director for the Multi Vaccines Development Program within a not-for-profit scientific research society under the Department of Biotechnology. Her diverse industry engagements include Director of Business Development at Fortis Clinical Research Limited, leadership positions in Medical Affairs and Clinical Research at Ranbaxy Laboratories and Shantha Biotechnics Private Limited (now Sanofi Healthcare India Pvt Ltd). Dr. Singh, a trained physician with an MD in Microbiology

and a Postgraduate Diploma in Epidemiology, holds esteemed memberships in the Indian Association of Medical Microbiologists and the Indian Society of Clinical Research. Her strategic expertise and profound contributions stand as a testament to her pivotal role in advancing healthcare solutions for neglected diseases across South-Asia.

Ms. Veena Moktali

Dr. Veena Moktali, as the Co-founder and Director of Periwinkle Technologies Pvt Ltd, brings a wealth of expertise in technology product development and commercialization strategy garnered across 26+ years of industry experience. Her academic background includes a Master of Science in Engineering Management from San Jose State University, CA, USA, and a Bachelor of Engineering in Electronics from Walchand College of Engineering, Sangli, MH, India. Veena's professional journey has traversed the UK, USA, and India, specializing in emerging technologies. Her pivotal role within the company facilitated the acquisition of patents and regulatory approvals, fostering collaborations with prestigious research institutes, cultivating strategic partnerships, and successfully commercializing products in 2019. Veena's strategic initiatives have significantly expanded the company's reach, benefitting countless women across 18 Indian states and 4 other countries. Notably, Periwinkle Technologies received prestigious invitations to forums like the Geneva Health Forum, PHC Forum Jakarta, and G20 Digital Health Forum, earning recognition from the WHO as a "catalytic innovation." The company's excellence has been lauded with multiple national awards in India, including 1st prizes in the AB PM-JAY Grand Challenge by NHA, further underscoring Veena's transformative leadership and the company's impactful contributions to healthcare innovation.

Dr. Sharad Sharma

Dr. Sharad Sharma, a notable figure in India's technology landscape, stands as a co-founder of the iSPIRT Foundation, a pivotal non-profit technology think tank acclaimed for conceptualizing groundbreaking initiatives like India Stack and Health Stack, among other digital public goods. His entrepreneurial journey includes co-founding Teltier Technologies, a wireless infrastructure startup later acquired by CISCO. Beyond entrepreneurship, Sharad is a proactive angel investor with a portfolio comprising over two dozen investments. His instrumental role in the success of India's inaugural IP-focused fund, the India Innovation Fund, solidifies his impact in the startup ecosystem. Dr. Sharma's advisory contributions extend to national platforms, serving as a member of the National Startup Advisory Council and SEBI's Financial and Regulatory Technology Committee. Furthermore, he chairs the Expert Committee on Asset Tokenization at IFSCA and holds membership in the UN's AI Advisory Body. With an engineering background from Delhi College of Engineering, Sharad's illustrious career spans R&D leadership roles at renowned companies like Yahoo, VERITAS, Symantec, Lucent, and AT&T, reflecting his extensive expertise and pioneering contributions across diverse technological domains.

Ms. Amrita Sukrity

Ms. Amrita is the pioneering founder behind SpotSense, a cutting-edge medical diagnostics startup headquartered in Bangalore, with a focused mission on crafting, innovating, and producing rapid point-of-care diagnostics. Her professional trajectory includes significant tenure at Bosch within the manufacturing division, accumulating valuable expertise in product manufacturing and engineering reliability. SpotSense, under her visionary leadership, stands out as a design-first startup, centering its efforts on the development of near-patient diagnostics. The company's flagship product specializes in neonatal diagnostic technologies, showcasing its commitment to revolutionizing healthcare through innovation. SpotSense has significantly contributed to the medical landscape by successfully designing and commercializing an array of technologies spanning lab instruments, rapid test kits, and sensor technologies. Ms. Amrita's entrepreneurial drive and dedication to advancing diagnostics technologies position SpotSense as a frontrunner in delivering impactful solutions at the point of care, reshaping the landscape of medical diagnostics.

Dr. Shridhar Narayanan

Dr. Shridhar Narayanan, CEO of the Foundation for Neglected Disease Research (FNDR), boasts an extensive background with over 20 years dedicated to drug discovery and development within the Indian pharmaceutical industry, spanning various therapeutic areas. His academic journey is rooted in Pharmaceutical Sciences from the University of Mumbai, complemented by a PhD in Pharmacology from Ohio State University, coupled with post-doctoral expertise in Neuropharmacology at the University of California, Los Angeles. As a serial entrepreneur, Shridhar is not only the co-founder of Peptris Technologies Pvt. Ltd., an AI/ML company focused on novel drug discovery in rare diseases, oncology, and inflammation but also serves as the Founder Director, Chairman, and CEO of FNDR, a not-for-profit entity committed to discovering and developing drugs for diseases prevalent in developing regions. His leadership at FNDR has resulted in overseeing the successful discovery and development of notable drugs like Enmetazobactam, TBA-7371, ZY-19489, and 15 other clinical candidates, spanning infection, oncology, diabetes, inflammation, and respiratory diseases. Dr. Narayanan's profound expertise and entrepreneurial vision underscore his commitment to advancing medical solutions, particularly for neglected diseases, reshaping the landscape of pharmaceutical research and healthcare in underserved regions.

Ms. Deepanwita Chattopadhyay

Ms. Deepanwita Chattopadhyay, serving as the Chair & CEO of IKP Knowledge Park, has been instrumental in pioneering India's first LifeScience Research Park in Hyderabad, nurturing and supporting over 1500 innovators and startups. Her impactful contributions have earned her numerous accolades, including the

esteemed Golden Jubilee Biotech Park Lifetime Achievement Award in 2023. Recognized as a driving force in India's incubation ecosystem, she was honored among the top 10 Enablers and Champions by the Department of Science and Technology, Government of India, in 2022. Dr. Chattopadhyay's outstanding achievements extend to receiving the FICCI FLO Influential Women Award in 2021, and earlier, the "Top Women Achievers of the Year 2017 in Asia" by AsiaOne Business Magazine and "Women of the Decade in Life Sciences & Innovation" by the Women Economic Forum. Joining IKP as CEO in 2001 and subsequently assuming the Chairmanship in 2015, she has steered its growth and impact. Beyond her pivotal role at IKP, Deepanwita serves as the Chair and Co-Founder of Support Elders Pvt. Ltd. and holds key advisory positions globally, including the Advisory Council of the International Association of Science Parks in Malaga, Spain, and roles in multiple governing councils and committees, significantly shaping the trajectory of science, technology, and innovation ecosystems in India and beyond. Her visionary leadership and multifaceted contributions have solidified her position as a luminary in fostering innovation and entrepreneurship within the scientific community.

Dr. Nitish Sathyanarayanan

Dr. Nitish Sathyanarayanan, the Co-founder and Chief Scientific Officer of UltraNutri, spearheads the innovative startup incubated at CCAMP, focusing on revolutionizing insect agriculture by leveraging ligno-cellulosic biomass as a substrate to cultivate insects at an industrial scale. UltraNutri's pioneering technology aims to address the scarcity of fishmeal in aquaculture, marking its inaugural application. Notably, Dr. Sathyanarayanan was honored with the Prime Minister's fellowship sponsored by Evolva Biotech, a Synthetic Biology company headquartered in Switzerland. His academic journey, as a joint student in the esteemed laboratories of Prof. Ramaswamy at inStem and Prof. Sowdhamini at TIFR-NCBS during his PhD, contributed to several seminal works, including the groundbreaking first draft genome of "Tulsi" and the discovery of "cockroach milk protein," among other notable achievements. Dr. Sathyanarayanan's entrepreneurial drive led to co-founding two biotech startups: InfectionShied Biotech specializing in infection control and Aiyon Products focused on venom peptides for personal care, guiding both companies from inception to early market launch. His unwavering passion revolves around utilizing biotechnology to address critical issues in agriculture, food security, livelihood enhancement, and particularly the significant climate-related challenges, underscoring his commitment to transformative solutions in these domains.

Dr. R.Vanita Prasad

Dr. Vanita Prasad, a distinguished scientist turned Entrepreneur, stands as the Founder, Director & CTO of Revy Environmental Solutions Pvt. Ltd., pioneering Biotech solutions in the realm of environmental instruments. Recognized for her remarkable contributions, she has garnered prestigious accolades from esteemed national and international associations, including the BRICS Mulan and Indo-Israel Innovation challenge. Driven by a vision to alleviate the global crisis concerning food, water, and energy while fostering a cleaner, greener Earth, she established REVY Environmental Solutions Pvt. Ltd. Under her leadership, REVY has pioneered

the development of groundbreaking processes, including 'Anaerobic Granulated Sludge,' 'Aerobic Biomass,' and 'Biomass Growth Enhancement Formulations (BGEF)' tailored for both aerobic and anaerobic reactors. To complement these innovations, the company has unveiled R-EMAPP, an innovative app designed to remotely monitor and track the day-to-day performance of these biological reactors, enhancing user experience and product application. REVY's pioneering efforts have earned global recognition, evidenced by prestigious awards such as the ADBA – World Biogas Awards and the Sankalp Global Impact Awards, underscoring Dr. Prasad's commitment to pioneering solutions that positively impact the environment and contribute significantly to global sustainability endeavors.

Mr. Arun Agarwal

Mr. Arun Agarwal, the pioneering Founder and CEO, brings a multifaceted expertise encompassing biomedical engineering, intellectual property, and entrepreneurial acumen to the forefront of healthcare innovation. His academic foundation, a Master's in Biomedical Engineering, laid the groundwork for a professional journey that commenced as a patent analyst, where Arun cultivated his skills in intellectual property over a span of two years. Committed to tackling global challenges surrounding maternal and infant mortality, his strategic vision and leadership have been instrumental in steering the company's impactful contributions to the healthcare landscape. Driven by a passion for positive change, Arun served as a Social Innovator for two years within the Maternal & Child Care division of the BIRAC Bio-industry Research Assistant Council, further underscoring his unwavering dedication to advancing healthcare solutions. As a catalyst for transformation, Arun Agarwal propels Janitri Innovations forward, envisioning a future where innovative solutions bring about positive and life-altering transformations for both mothers and newborns alike.

Mr. Srikant Sastri

Mr. Srikant Sastri is a multifaceted luminary with an academic foundation from the Indian Institute of Technology Kanpur and the Indian Institute of Management Calcutta. Transitioning from a decade-long tenure at Unilever and McCann Erickson Advertising, he ventured into entrepreneurship in 1995, navigating uncharted waters in an era when startup culture and venture capital were unfamiliar concepts in India. Amid the 2020 pandemic lockdown, his leadership shone as he co-led a taskforce that achieved an extraordinary feat: conceptualizing and delivering a world-class ICU ventilator in an unprecedented 90 days, a remarkable journey chronicled in the bestselling co-authored book 'The Ventilator Project.' Championing entrepreneurship, Mr. Sastri actively advocates for aspiring entrepreneurs, shaping policy changes, and mentoring through his impactful YouTube channel, @MentorOnAMission. His commitment extends to academia, where as Visiting Faculty, he imparts wisdom in entrepreneurship at Ashoka University and BITSoM. A strategic advisor to startups and established enterprises, Srikant co-founded Crayon Data, a Singapore-based AI & Data venture, and serves as a Venture Partner at Entrepreneur First, emphasizing innovation, disruption, and transformative growth strategies in his diverse portfolio of endeavors.

Dr. Nijagun Hiremath

Dr. Nijagun Hiremath is a distinguished figure in the agricultural realm, boasting a robust background blending academia and entrepreneurship. Armed with a PhD in Agricultural and Management Studies from Canada, Dr. Hiremath is a reservoir of knowledge and expertise in agricultural practices. His primary focus revolves around farm mechanization, where he has pioneered innovative business models, notably the pay-per-use model, showcasing his forward-thinking approach. Currently steering a startup, Dr. Hiremath has spearheaded remarkable advancements in product development. His most notable achievement lies in the creation of an India-specific Potato Mini Combine Harvester—a groundbreaking addition to the agricultural machinery landscape. This invention underscores Dr. Hiremath's unwavering dedication to enhancing agricultural practices in India. With a unique fusion of academic insight and entrepreneurial flair, Dr. Nijagun Hiremath stands as a driving force in revolutionizing the agricultural sector. His contributions bring forth tailored solutions that cater specifically to the needs of the Indian farming community, marking his pivotal role in the sector's evolution and sustainable growth.

Dr. Renuka

Dr. Renuka stands as a seasoned professional in the intersection of agriculture and biotechnology, armed with a Ph.D. in Plant Biotech and extensive post-doctoral experience in genetic engineering, accumulating over two decades of invaluable research expertise. As the visionary founder of Bioprime, her journey is deeply entrenched in a fervent passion for revolutionizing agricultural practices and uplifting the farming community. Beyond scientific prowess, Renuka's commitment is a deeply personal mission, stemming from the firsthand witnessing of her family's struggles with ancestral farms. Bioprime, under her guidance, emerges as more than just a venture—it's a heartfelt endeavor aimed at reinstating pride and prosperity among farmers. Driven by a profound desire to make a tangible difference in the lives of those tilling the land, Renuka's dedication to Bioprime echoes a steadfast determination to restore dignity, profitability, and sustainable growth to agricultural communities, reflecting her pivotal role in reshaping the landscape of farming practices.

Mr. Karan Rao

Mr. Karan stands at the helm as the Founder and CEO of Swachh, a pioneering startup dedicated to crafting advanced air pollution control technologies catering to indoor, outdoor, and at-source environments. His professional journey reflects a rich tapestry of diverse experiences, having previously contributed his expertise to SPACE10, an autonomous laboratory associated with IKEA, and holding a founding directorship at Mekuva Technologies, a trailblazing venture focused on 3D Printing & additive manufacturing based in Hyderabad. Notably,

his role as an investor at a family office saw him spearheading investments in cutting-edge domains such as drones, defense technology, and SaaS, showcasing his astute understanding of innovative tech landscapes. An avid maker and inventor, Karan boasts several patents filed and in the pipeline, spanning medical devices, energy efficiency solutions, and advanced air filtration technologies. Presently, his focus remains steadfast on revolutionizing air pollution control and climate technology at Swachh, leveraging the startup's incubation at esteemed institutions like C-CAMP and Bangalore Bioinnovation Centre. Collaborating with IIT Delhi, Swachh has secured a technology development grant, underscoring Dr. Karan's commitment to pioneering solutions that address critical environmental challenges with cutting-edge technological innovation.

Mr. Vivek Mishra

Mr. Vivek Mishra is a seasoned techno-commercial professional, holding a B. Pharma degree and an MBA, currently steering Fibroheal Woundcare Pvt Ltd as its Founder, Director, and CEO. Since its establishment in 2017, Fibroheal, under Vivek's stewardship, has spearheaded revolutionary advancements in wound management, pioneering silk protein-derived solutions that have rewritten industry standards. Notably, Fibroheal stands as the trailblazing Indian company to successfully commercialize silk proteins for multifaceted wound healing applications, securing an impressive portfolio with over six patents. Supported by esteemed entities like CCAMP, BIRAC, and Karnataka government departments, alongside substantial funding from KITVEN and EXIM Bank, Fibroheal has surged ahead, excelling in delivering comprehensive wound care solutions at the forefront of innovation. Vivek actively contributes to influential committees, serving as a respected panelist for notable bodies such as BIRAC, IIT Guwahati, BioNest, and various life sciences incubators. His exceptional leadership has garnered Fibroheal prestigious accolades, including Elevate 100, Smart Bio Award 2020, National Technology Award 2020, and the distinguished title of "Best IP Managed Medtech Start-up" at BIOPHARMA World IE 2021 Bio Startup Awards, solidifying his instrumental role in positioning Fibroheal as a trailblazer in the medtech startup landscape and driving transformative innovation in wound care.

Mr. Vicky Nanda

Mr. Vicky Nanda serves as the Chief Operating Officer at Niramai, boasting a robust career spanning over 18 years across diverse sectors including Insurance, Information, Taxation, and Healthcare. His multifaceted expertise encompasses invaluable insights gleaned from pivotal roles held at Future Generali India Life Insurance, Reuters Market Light, H&R Block India, and Humain Health (Unit of Mirable Health services). With a strategic acumen and a penchant for driving new business initiatives, Vicky has been instrumental in shaping strategies and spearheading novel ventures in his previous assignments. His notable contributions include steering the end-to-end sales cycles for multinational corporations launching their operations in India, adeptly managing extensive teams, and successfully navigating online product launches to commercialization. Vicky's forte lies in account management, leveraging his robust negotiation skills to secure favorable business outcomes with both government and private sector entities.

Mr. Siraj Dhanani

Siraj stands as a luminary in the pharmaceutical realm, amassing decades of expertise, currently serving as the Founder & CEO of InnAccel Technologies, a trailblazing MedTech enterprise in India. His integral role spans the spectrum of responsibilities, from driving product development, crafting commercial strategies, and leading teams to overseeing financing operations within the company. Beginning his academic journey with a B.Pharm from the University of Bombay in 1993, he pursued a Master's in Science in Pharmacy Administration at The Ohio State University through a prestigious President's Fellowship in 1995, followed by an MBA from Stern School, New York University, earning a coveted spot on the Dean's List in 2000. Siraj commenced his career with a small consulting firm in the USA before making significant strides in prominent pharmaceutical companies on Wall Street. His entrepreneurial spirit led him to establish PharmARC, a knowledge processing outsourcing firm focused on pharmaceutical and healthcare verticals, where he was deeply involved in recruitment, team management, project execution, and client relations. Siraj envisions InnAccel as a global leader in MedTech, dedicated to addressing healthcare needs in India and emerging markets, aiming to introduce 20 innovative MedTech devices by 2025, impacting 25 million lives. Amid his professional commitments, he finds solace in adventure sports like trekking in the Himalayas, scuba diving, paragliding, and participating in long-distance runs when time permits.

Dr. Satyabrata Routray

Dr. Satyabrata Routray, a seasoned medical doctor and epidemiologist holding an MD in Social & Preventive Medicine, boasts a rich career spanning over 25 years in diverse sectors of public health. His extensive expertise encompasses roles within state government health systems, academic institutions, the World Health Organization, and international NGOs. Presently serving as the Director of Infectious Diseases at PATH for South Asia, Dr. Routray provides comprehensive oversight for projects targeting Neglected Tropical Diseases (NTDs), Malaria, Tuberculosis, Immunization, and offers technical assistance for the elimination of critical health issues like Visceral Leishmaniasis (VL), Lymphatic Filariasis (LF), and the control of Vector Borne Diseases (VBDs) including Dengue-Chikungunya. His responsibilities also encompass addressing Acute Encephalitic Syndrome (AES) as a public health concern, along with supporting Japanese Encephalitis (JE) vaccination campaigns in selected states through coordinated efforts involving government entities, donors, and partner organizations. Prior to his tenure at PATH, Dr. Routray contributed significantly as the National Measles Focal Person at the WHO Country Office for India, supporting Polio Eradication, Measles Elimination efforts, and strengthening Routine Immunization programs across the nation, including supplementary immunization activities and wide-age-range vaccination campaigns.

Ms. Rema Subramanian

Ms. Rema possesses over four decades of diverse experience across various stages of enterprises, from ideation to scaling businesses. Her career journey has revolved around pioneering ventures, investing in, and undertaking operational roles in future-forward technology companies. She boasts notable achievements such as spearheading the digitalization of the financial services sector in the early '90s, contributing to edtech during the internet's inception, and embracing SMB digitalization in the late '80s. She's been instrumental in establishing category-creating products, ranging from menswear to water treatment solutions. Her knack for identifying nascent tech use cases before they reach mainstream adoption has enabled her to forecast business opportunities adeptly. With a hands-on approach, Rema has effectively nurtured and facilitated the growth of multiple companies, achieving an average 20X growth rate across her ventures. Her forward-looking vision led to the establishment of Ankur Capital, driven by the belief that middle India held immense untapped potential, particularly in under-penetrated sectors like agtech, health, and related fields. She brings to the table a robust academic background, including qualifications as a Cost and Management Accountant (AICWA), ICS, and a PGD in Systems Management. Actively contributing to the ecosystem, she serves on the executive council of the Indian Venture Capital Association, the Selection Board of BIRAC, and previously held a position on the executive council of IIC.

Dr. Markandeya Gorantla

Dr. Gorantla serves as the Executive Chairman and Managing Director of ATGC Biotech Pvt. Ltd., boasting a remarkable academic journey and extensive contributions to biotechnology. Graduating from Nizam College, he holds dual Masters Degrees in Life Sciences and Chemical Engineering from Osmania University and JNTU. His pursuit of knowledge continued with a Ph.D. program under the Rockefeller Foundation at the University of Hyderabad, followed by a deputation in Coordinated Programs at United Nations Institutes. Pioneering achievements marked his career, notably contributing to the Gen Bank by identifying over 3,000 genes in Rice and Pearl Millet, a global first. Additionally, he's a Founding Promoter of Drug Discovery Companies in the USA, focusing on cancer solutions. Over the last six years, he's specialized in area-wide management of insect epidemics globally, developing innovative technologies utilizing mating disruption for insect population control. Engaged in acclaimed programs by DST, DBT BIRAC, USDA, NSF, USAID, and USISTEF, his groundbreaking tools are poised to revolutionize pest management and create new markets in the field.

Dr. Sanjiv Sambandan

Prof Sanjiv Sambandan, a distinguished academic, holds a position as a Professor at the Indian Institute of Science, Bangalore, India. His expertise spans various departments, including Instrumentation and Applied Physics, Electronic Systems Engineering, and the Interdisciplinary Centre for Water Research. Additionally, he served as an Associate Professor at the University of Cambridge until 2022. Dr. Sambandan's academic journey began with a BTech in Electrical Engineering (Energy Systems) from the Indian Institute of Technology, Kharagpur, in 2002, followed by a PhD in Electrical and Computer Engineering from the University of Waterloo, Canada, in 2006. He furthered his career at the Electronic Materials and Device Lab, Xerox Palo Alto Research Centre, California, USA, from 2006 to 2010. Notably, he's the founder of Openwater.in, a pioneering wastewater treatment startup, and holds the esteemed position of Fellow at St. Edmunds College, University of Cambridge.

Ms. Padmaja Ruparel

Padmaja Ruparel is a luminary within India's entrepreneurial realm, lauded for her foundational role in co-founding vital institutions and her active involvement as an angel investor. Recognized for four consecutive years as one of the 'Top 50 Most Powerful Women in Business' by Fortune India, listed in Forbes India's W-Power Trailblazers, and acknowledged in Business Today's '30 Most Powerful Women in India' for three consecutive years, Padmaja has significantly shaped India's business landscape. As a Co-Founder of the Indian Angel Network (IAN), she has propelled it to a global stature with nearly 500 investors across 10 countries and a portfolio spanning 17 sectors in 7 countries. Her leadership led to IAN's unprecedented international expansion into London, setting a benchmark for angel investor groups globally. Padmaja spearheads BioAngels, the first biotech sector-focused angel investor group in collaboration with BIRAC, a pioneering public-private partnership. Her influence extends beyond these ventures, actively contributing to multiple government committees focusing on innovation, incubation, and technology entrepreneurship. As the Senior Managing Partner of the IAN Fund I and a member of various boards and councils, including EM3 Services, Avendus Finance Pvt. Ltd., Ester Industries Ltd., and Manipal Technologies Ltd., Padmaja continues to be a driving force fostering innovation, entrepreneurship, and investment in India's dynamic business ecosystem.

Ms. Geetik Dayal

Ms. Geetika, a stalwart in India's entrepreneurial realm, has steered The Indus Entrepreneurs (TiE) Delhi-NCR for over two decades, shaping it into a pivotal force within the country's startup ecosystem. Her leadership has propelled TiE Delhi-NCR to foster a robust entrepreneurial environment, instrumental in nurturing some of India's biggest unicorns. Recognized globally, Geetika received the 'Best Executive Director Globally' award among 62 chapters in 2012 and the prestigious 'Chairman's Award' in 2016. Her notable accolades include the Women Entrepreneurship Mentorship Award and the Amity Leadership Award for Promoting Women Entrepreneurship. Geetika's advisory roles span across various influential boards, contributing significantly to governmental initiatives in

fostering innovation and entrepreneurship. Her strategic contributions to committees like the Department for Promotion of Industry & Internal Trade (DPIIT) have catalyzed transformative changes in evaluating state startup missions. TiE Delhi-NCR, under her guidance, has consistently won global acclaim, including the TiE Global Award and recognition for exemplary work in fostering the entrepreneurial ecosystem. Geetika's extensive experience, including her entrepreneurial journey, has fueled her commitment to mentoring startups and advocating for entrepreneurship, empowering diverse groups including women, social entrepreneurs, and early-stage innovators. Through TiE Delhi-NCR's robust mentorship, events, and workshops, Geetika has cultivated an invaluable platform supporting and propelling entrepreneurship in India.

Dr Vibha Dhawan

Dr. Vibha Dhawan boasts an illustrious association with The Energy and Resources Institute (TERI) dating back to 1985. Her leadership roles, notably as Vice-Chancellor of TERI School of Advanced Studies during 2005-2007, underscore her contributions to academia. A Fellow of the National Academy of Sciences, India, and an Adjunct Professor at Consul General South Asia Partnership, Michigan State University, Dr. Dhawan's academic prowess is showcased through six authored books and over 50 publications, enriching scientific research. Her influence extends across national and international research and policy platforms, evidenced by her involvement in esteemed committees and councils. Noteworthy roles include membership in the Networks Strategy Council advising the Sustainable Development Solutions Network for the United Nations and the Commission for Air Quality Management in the National Capital Region. Her leadership spearheaded the establishment of the National Centre of Excellence in Green Port & Shipping in collaboration with the Indian Ministry of Ports. Dr. Dhawan's expertise in bioresources and biotechnology garnered recognition through advisory roles and accolades, including the Game-Changers from India recognition by H.E. Sheikh Nahayan Bin Mabarak Al Nahayan and the Social Impact Leadership Award. Her multifaceted contributions have earned her accolades like the Indian Women Achievers Sammaan 2017 and the Kamal Kumari National Award for Science and Technology, cementing her legacy as a distinguished figure in the field.

Dr. Y.K. Gupta

Dr. Y.K. Gupta, the former Dean of Academics at the All India Institute of Medical Sciences, New Delhi, and previously the Director of the Indian Institute of Toxicology Research (IITR) in Lucknow from 2003 to 2005, embodies an illustrious career in academia and pharmacology. His esteemed fellowships from renowned organizations like the National Academy of Medical Sciences, Indian Pharmacological Society, and National Academy of Science validate his contributions to the field. With over 180 publications in esteemed international and national journals, Dr. Gupta's academic prowess has earned him prestigious honors such as the INSA Young Scientist Medal and the Shakuntala Amirchand Prize from the Indian Council of Medical Research (ICMR). He has held pivotal roles, serving as President of the Indian Pharmacological Society (2005-2006) and currently as President of the Society of Toxicology, India. Dr. Gupta's leadership extends to national

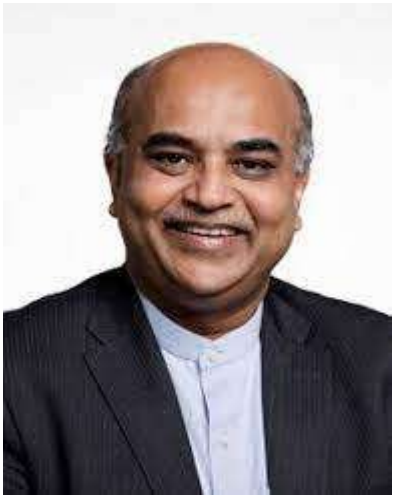
initiatives, overseeing the National Poison Information Centre and serving as the National Scientific Coordinator of the Pharmacovigilance Program of India (PvPI). Additionally, his chairmanship of the National Essential Medicine List Committee in 2011 under the Ministry of Health & Family Welfare, Government of India, speaks volumes about his influence in shaping healthcare policies.

Dr Shrikant Pawar

Dr. Shrikant Pawar stands as a pivotal figure in the development of India's pioneering Self-Test kit, 'CoviSelf,' launched in 2021, marking a significant contribution to the country's fight against the pandemic. His expertise spans diverse domains, from managing large-scale projects, such as high-throughput bacterial culturomics, to screening environmentally derived microbes for industrially vital enzymes. Dr. Pawar has contributed extensively to projects centered on antimicrobial resistance surveillance, microbial genomics, and the functional dynamics of various ecological niches. His keen focus extends to identifying bacterial isolates with probiotic potential, delving into their phenotypic and genotypic characteristics. Formerly affiliated with NCMR, NCCS, Pune, Dr. Pawar's illustrious career includes a Ph.D. in Microbiology focused on ISRO's Astrobiology Balloon Experiment. Beyond his scientific endeavors, Dr. Pawar embraces artistry, particularly in watercolor, offering a creative outlet for his non-scientific musings. Additionally, he serves as the Joint Secretary for the Association of Microbiologists of India (Pune Unit), reflecting his commitment to professional engagement and advancement in microbiology.

Dr. Suresh Thakur

Dr. Suresh Thakur stands as a visionary leader within the realm of In Vitro Diagnostics (IVD), exemplifying an unwavering commitment to healthcare advancement through pioneering scientific innovation. At Trivitron Healthcare, he assumes the role of President of Scientific Affairs, overseeing the comprehensive spectrum of operations within the IVD division. His purview extends across new product development, research and development, manufacturing, quality assurance, and regulatory affairs. Dr. Thakur's academic journey includes a Ph.D. in Biochemistry/Molecular Biology from DIPAS DRDO Delhi, followed by prestigious postdoctoral fellowships at Baylor College of Medicine and TAMHSC, Texas, USA. Complementing his scientific acumen, he holds an MBA equivalent in Business Management and Administration from the Indian Institute of Management, Lucknow. Bolstered by 21 years of combined academic and industrial expertise, Dr. Thakur's leadership epitomizes a forward-thinking approach, envisioning a future where diagnostics serve as a linchpin in healthcare delivery, providing personalized and precise solutions that empower clinicians and significantly enhance patient outcomes. His academic excellence remains foundational, shaping his ethos of leadership and innovation.



Dr. Shirshendu Mukherjee

Dr. Shirshendu Mukherjee, a highly accomplished professional, brings three decades of diverse experience across academic institutes, pharmaceutical companies, and extensive involvement in national and international philanthropic and governmental funding agencies. Currently serving in multiple pivotal roles, he stands as the Mission Director for Grand Challenges India, a flagship program of the Department of Biotechnology, Ministry of Science & Technology, in collaboration with the Bill & Melinda Gates Foundation. In this capacity, Dr. Mukherjee spearheads initiatives aimed at transforming India's health and development landscape. Additionally, he leads the Ind-CEPI mission, handling Intellectual Property (IP), Technology Transfer (TT), and Communications divisions at BIRAC (Biotechnology Industry Research Assistance Council). Notably, he played a critical role as the head of Mission Covid Suraksha, overseeing the Covid vaccine development initiative for the Government of India, instrumental in progressing four vaccine candidates to combat the pandemic. His impressive academic background includes a Ph.D. in Microbiology, a Law degree, and certifications from prestigious institutions like the Said Business School, University of Oxford, and the London School of Health & Tropical Medicine (LSHTM). Dr. Mukherjee's multifaceted expertise extends to his roles as a Registered Technology Transfer Professional (RTTP), Honorary Scientific Advisor to the Indian Patent Office, and a Country Ambassador in India for the Royal Society of Tropical Medicine & Hygiene (RSTMH). Additionally, he serves as the General Secretary of the Society for Technology Management Professionals (STEM).

Dr. Jatin Sharma

Jatin Sharma is the visionary co-founder propelling ShapeCrunch, an innovative health-tech startup redefining the medical footwear industry with its groundbreaking custom 3D-printed Shoes, Insoles, and Sandals. His robust engineering background and fervent interest in healthcare technology drive ShapeCrunch's mission to merge advanced technology with personalized healthcare solutions. His leadership spearheads the development of a unique app-based 3D scanning process, facilitating swift and precise foot scans via smartphones. This pioneering method, coupled with his team's biomechanical expertise, positions ShapeCrunch at the forefront of orthopedic innovation, offering unparalleled comfort and support for various foot-related concerns. Jatin's entrepreneurial journey is characterized by technological innovation, strategic alliances, and a steadfast commitment to enhancing the lives of those with mobility issues. His pursuit of excellence and adeptness in navigating healthcare technology complexities have garnered acclaim within the startup realm. As an enterprising trailblazer, Jatin remains committed to expanding ShapeCrunch's footprint, aspiring to establish it as a global leader in Comfort-Medical Footwear solutions.

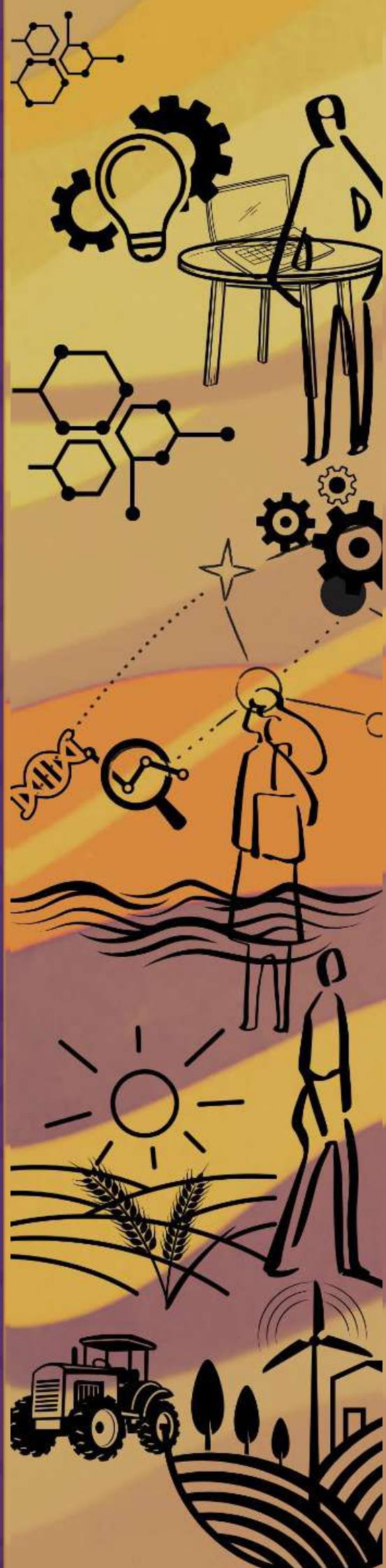
Dr. Sanjai Saxena

Dr. Sanjai Saxena is a seasoned academic and researcher with an extensive background spanning over two decades in biotech research and development. Currently holding the position of full professor at the Department of Biotechnology, Thapar Institute of Engineering and Technology in Patiala, India, Dr. Saxena embodies an innovative approach to both academia and entrepreneurship. His entrepreneurial spirit led him to establish Agpharm Bioinnovations LLP, a startup aimed at addressing unmet agricultural and pharmaceutical sector needs. Driven by a passion for exploring biological systems, particularly plant-microbe interactions, he dedicates his research to uncovering and utilizing novel biomolecules. His primary research areas encompass microbial secondary metabolites, microbial diversity, bioprospecting, biochemistry, and drug discovery. Notably, his work has garnered significant extramural funding, resulting in four patents, over 79 peer-reviewed publications in renowned research journals, 13 book chapters, and a comprehensive book on applied microbiology. Recognized for his expertise, Dr. Saxena holds the esteemed position of Fellow at the Association of Advancement of Biodiversity Science in Karnataka. Additionally, he contributes significantly to the academic community as a referee for approximately 25 peer-reviewed journals and serves on the editorial board of a couple of them.

Dr. Sandeep Singh

Professor Dr. Sandeep Singh stands as a luminary in the field of interventional cardiology, leveraging over three decades of expertise in this realm. Alongside his distinguished medical career, he passionately engages in MedTech innovation, shaping healthcare through his multifaceted contributions. With an extensive teaching background in Cardiology and an authorship of over 100 publications and book chapters, Dr. Singh embodies excellence in both academia and innovation. At the helm of the School of International Biodesign (SiB), funded by the Department of Biotechnology (DBT) and based at the All India Institute of Medical Sciences (AIIMS), New Delhi, Dr. Singh serves as the Executive Director. This pioneering program focuses on frugal innovation in medical devices, fostering biodesign processes nationally and globally. A co-inventor of several cost-effective devices, he holds multiple patents, recognized notably with the Tata Innovation Award from DBT, GOI, and the BMJ India Award for Innovation in Healthcare Technology. Furthermore, Dr. Singh leads the ICMR-National Centre for Assistive Health Technology (NCAHT) at AIIMS, New Delhi, a platform driving MedTech innovation in assistive health technologies. NCAHT's objectives include promoting innovation and conducting policy research in this transformative domain. Dr. Sandeep Singh's commitment to pioneering medical innovation and translating research into tangible solutions marks him as a prominent figure shaping the future of healthcare.

Grassroots Innovations



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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Paddy Transplanter

Nishi Biswas
Bhopal, Madhya Pradesh

Problem Addressed

A majority of paddy farmers, mostly women plant paddy seedlings by hand in a painful back-bending posture, with minimal tools. They cannot afford expensive tractor-powered machines used by farmers with large holdings. They also face shortage of labour. Sometimes they cooperate to transplant paddy in respective fields.

Technology

A hand crank powers the chain and sprocket mechanism which moves two fingers. They carry seedlings from the storage tray into the soil. Requiring only a single person to operate, it can plant at least two to three seedlings per hill in two rows. The depth is adjustable as is the row-to-row distance up to 25 cm. A boat-shaped float made of FRP (Fibre-Reinforced Plastic/Polymer) supports its whole weight, propelling it forward. Powder coating keeps it rust free.

Societal Impact

The innovator reviewed various designs to adopt an indigenous manual paddy transplanter. The machine saves time and effort as it requires zero fuel and can be navigated smoothly on small plots of land. Women farmers can easily use it due to its ergonomic handle and light weight.

Current status

The innovator has sold 72 units country-wide. With technical and marketing support under the GRIPP project, he has improved the design and fabrication of the manually-operated version of the machine.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

TechRedi

Tejaswi Velugapally
Hyderabad, Telangana

Problem Addressed

Decay of fresh produce on street vending carts leads to significant waste. Existing electric carts are too expensive and require a power outlet to charge.

Technology

The innovator has created a solar-powered storage solution, available as a stationary cart, mobile cart, and cabin-mounted traditional cart. It is easily steered, and comes with a solar dryer and compost facility. In conditions of 32° C and 73% humidity, the cart maintains an internal environment of 25°C and 91% humidity.

Societal Impact

The cart offers fresher, hygienic produce to consumers. The eco-friendly innovation reduces income lost by vendors due to spoilage, and prevents wastage.

Current status

The innovator has tested the cart among street vendors who provided feedback. The refined design was received favourably. Patent filing is in process.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Hariyali Handi

Nayak Suratanbhai, Nayak Kavliben
Chhota Udaipur, Gujarat

Problem Addressed

Usually, non-stick cookware is coated with harmful substances that leach into food. They have to be replaced as the coating wears off over time.

Technology

The non-stick substance used in Hariyali Handi comes from lalic insects that inhabit Pohim trees. It is made by boiling raw lac twice, brewing a homogenous solution. When applied to hot earthenware, it seeps into the porous clay and hardens into a uniform coating.

Societal Impact

The communities of Dhanuka, Nayak and Bhil belonging to Gujarat, Maharashtra and Madhya Pradesh benefit a lot from this ancient practice. The natural lac coating is non-toxic, scrape free, and requires less oil. It has found tremendous contemporary demand among those consumers who don't want to use chemical coated non-stick vessels. Design training arranged by GIAN has brought improvement in the design, look and feel of the vessels.

Current status

About 100 traditional potters create Hariyali Handi ware, selling roughly 2,000 units annually within India. Their products are marketed by various NGOs and other institutional channels. Their clay non-stick pans are often sold on the first day itself every year at the Sattvik Traditional food and nutrition festival by HBN and SRISTI.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Modified Boiler Based Mawa Making Machine

Mr. Subhash Ola
Rajasthan

Problem Addressed

Mawa is traditionally made by boiling milk over firewood until it reaches a semi solid stage. It is an important ingredient for making sweets. Subhash innovated a more efficient method of making Mawa by using steam to boil the milk in place of direct flame heating.

Technology

In this machine, the wood is burned in the boiler and steam produced is distributed to kadais fitted with a steam jacket. After heating the milk, exhaust steam is collected at the bottom and condensed in an open tank. This improved design helps cut down the consumption of firewood, water and electricity for making Mawa. It saves both water and energy by reusing the spent steam through a closed loop system.

Societal Impact

This cost effective machine allows smaller cohort of dairy farmers or small scale enterprises to process their product and fetch a better price in the market as compared to raw milk.

Current status

He has been getting good response from the buyers and with customised design as per requirements, the product is likely to get to more Buys. The design of the boiler has been adapted for multiple industries and is not restricted to the dairy sector alone.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Automatic Feeding Machine

Nabajit Bharali
Dhemaji, Assam

Problem Addressed

Individuals with motor impairments, loss of hand function or quadriplegia struggle with feeding themselves. This basic need is inadequately addressed by existing assistive devices.

Technology

The automatic feeding machine detects a face within about a six-inch range via sensors. A gear motor guides a spoon to scoop up the food placed on a plate. An activated sensor will carry it to the mouth of the user, and stop when they move out of range. A controller circuit regulates speed for smooth operation.

Societal Impact

This innovation is remarkable, being fully automatic, requiring no switch or assistance. It works on either current or battery. Compared to counterparts, it is more portable, frugal and user-friendly.

Current status

The innovator is seeking support to refine the design and scale up. Based on feedback about the prototype, he made it foldable and used one motor instead of two. This has reduced the cost of production. He was recognized by the Honey Bee Network and NIF for innovating an electric chair bike for disabled persons, and an automatic reeling and spinning machine.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Walnut Peeling Machine

Zaheed Rafiq Ahanger
Anantnag, Jammu and Kashmir

Problem Addressed

Walnuts are dehulled manually by striking the hard shells with a bat. This messy and time-taking process can hurt the hands.

Technology

The machine comprises a spiral roll fitted inside a cylinder. A motor of 0.5 - 1 HP rotates the cylinder clockwise. Walnuts are loaded through a hopper at the top, and cleaned nuts fall to the bottom while shells are expelled separately. The machine can dehull about 100 walnuts in one minute.

Societal Impact

This innovation discharges dry shell waste that composts fast, while other dehulling machines require water and generate slurry. The walnut season lasts for just 40-60 days. This machine allows walnut farmers to hasten their harvesting.

Current status

The innovator has so far sold three machines. He continues to improve it; currently, about five percent of walnut kernels break along with the hull. He is waiting for the next season to conduct further trials. He has made many more innovative solutions for automating house functionalities and also in agriculture.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Suneel S1 Walnut Variety

Suneel Singh
Kishtwar, Jammu and Kashmir

Technology

The innovator has developed a variety of high yielding walnut which is pest and disease resistant. The Suneel (S1) walnut was developed from a single plant by grafting a branch of the mother walnut plant onto more than 10,000 plants, producing uniform sized walnuts. Each cluster bears about 15 - 20 green walnut fruits, and each plant yields roughly thrice the normal, 120 - 300 kg of walnuts. He does not use pesticides, mainly employing organic methods. He has found that bud grafting leads to higher productivity, with a 98% success rate.

Societal Impact

Wild hard-shelled walnuts come in irregular sizes, affecting their market grading. The Suneel (S1) walnuts are of uniform size and good quality, fetching farmers Rs. 400 per kg hulled, and Rs. 1,000 per kg for kernels.

Current status

The innovator is registered with the National Horticultural Board, and may register it under PPV&FRA. He has sold plants to farmers in Kashmir, Himachal Pradesh, Uttarakhand, and the Northeast. He uses social media for marketing.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Improved Hydro Screw Turbine Generator

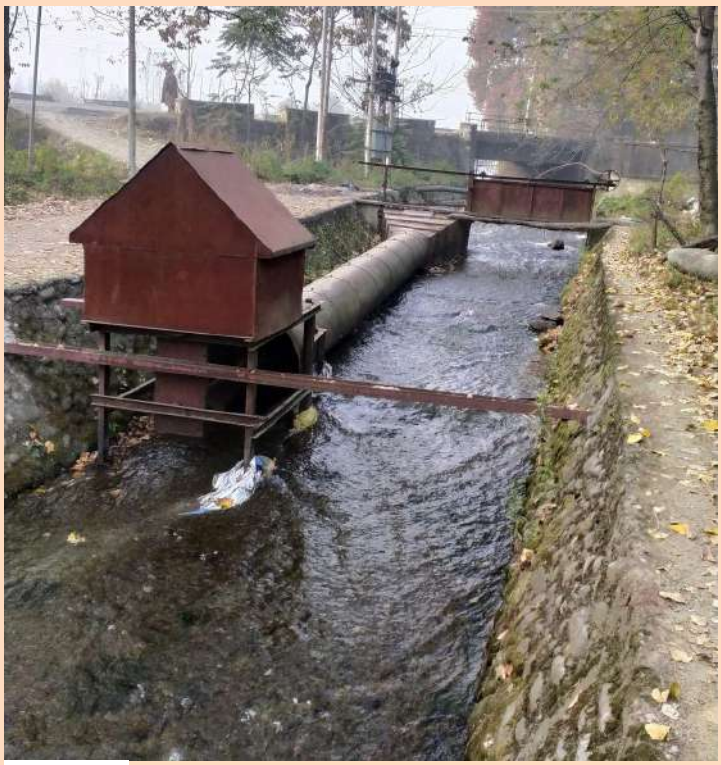
Khursheed Ahmad Malik
Anantnag, Jammu and Kashmir

Problem Addressed

The innovator observed the inadequacy of reliable electricity infrastructure in the Kashmir Valley, despite abundant flowing water. Dams are expensive to build and maintain, and can lead to displacement, unequal resource access, and ecological harm.

Technology

The innovation is an ultra-portable floating turbine-based hydroelectricity nano generator. It automatically adjusts frequency, voltage, and load output based on water flow and level. It requires no infrastructure, only flowing water sources. It operates when water velocity is at least two metres per second, using two turbines to create a Venturi effect for acceleration. The turbine capacities range from one kW to 500 kW.



Societal Impact

The technology could boost economic activities and generate employment by offering efficient and sustainable power generation. Installation costs are low, and have low maintenance. Himalayan states and areas with ample flowing streams can benefit a lot from it.

Current status

The innovator has registered a startup Valley Hydrotech through which he proposes to begin manufacturing. One generator has been installed at Anantnag, giving 4.5 kW output. GIAN has mobilised technical support, and will aid him with marketing.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Easy-Go Walnut Washer

Naik Qayoom
Anantnag, Jammu and Kashmir

Problem Addressed

Washing walnuts is labour-intensive and time-consuming. Within 15 minutes, ten kg of walnuts can be washed manually but still the same remains unclean. Few farmers tried acid wash to bring a shine to the shells, but this adversely affected the taste of the nuts.

Technology

The Easy-Go Walnut Washer uses a one HP single-phase motor running at 900 RPM, connected to a pulley belt system. This drives wire-threaded brushes along a shaft that cleans 40 kg of walnuts per five to seven-minute wash cycle. It can deep clean 480 kg per hour with 95% efficiency.

Societal Impact

This accessible and inexpensive washer minimises water usage to just 20 L per cycle. It reduces exposure to harmful chemicals used in traditional walnut processing.

Current status

He modified the machine to tilt and release walnuts stuck in the outlet hatch. In this first year, the innovator has sold ten machines on a trial basis, and is collecting user feedback. He was felicitated at Expo Jammu with the Best Startup Award.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Advanced Portable Bukhari

Towseef Ahmad and Rafiq Ahanger
Kishtiwar, Jammu and Kashmir

Problem Addressed

Traditional bukharis (heating systems) may cause lung infections, breathing problems, and carbon monoxide poisoning. Their cost and maintenance prove challenging, with charcoal or fuelwood being burnt inefficiently.

Technology

Firewood is placed on a preheating tray to dry for cleaner burning, and ignited through a door above. The heat generated is distributed evenly across the room. Around the rim of a copper water tank are vertical rods containing a heat-retaining indigenous clay. The room is heated evenly, from 0 to 20 C within five minutes. Flue gases warm up the water to be used for various purposes. The innovators have also modified it to be used as a stovetop.

Societal Impact

The Advanced Portable Bukhari remains warm for a longer time using less fuel. This three-in-one model is capable of burning charcoal, wood, and waste oil, the latter being almost smokeless.

Current status

They were awarded by the NIF for their previous innovative bukhari, which has been improved in this version. They established Rafiq Innovations Pvt Ltd. for manufacturing and marketing their innovations.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Herbal Medication for Wound Healing

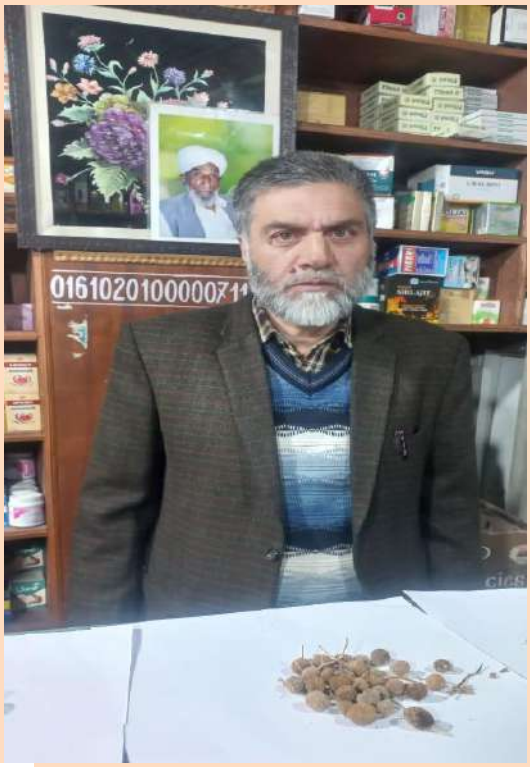
Haken Naseer Ahmad
Jammu and Kashmir

Problem Addressed

Traditional medicinal knowledge becomes the only option in remote locations due to unavailability of modern medicine. Modern treatments against chronic wounds such as diabetic ulcers, venous ulcers, pressure ulcers, and arterial ulcers may not be always very effective.

Technology

The innovator has formulated a unique concoction of certain herbs. This has shown better wound healing properties than framycetin sulphate-based standard ointments. It is highly effective on chronic wounds, and heals normal wounds quickly and uniformly.



Societal Impact

The innovator claims that many persons have received treatment for chronic wounds using the herbal formulation. He practises from his home and also at an Unani hospital in Kulgam. He charges only for medicines and waives off his consultation fees so more people avail of his treatments.

Current status

A review of patent and non-patent literature indicates that the formulation is unique. Validation tests conducted at Anand Pharmacy College, have shown significant wound healing activity. More research is being undertaken as required by statutory regulators.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Zyenika Adaptive Clothing Private Limited

Soumita Basu, Amita Roychowdhury Basu
Kolkata, West Bengal

Problem Addressed

Many people with disabilities and chronic illnesses find dressing to be physically painful, time consuming and privacy sacrificing. Be it a frozen shoulder, slip disc, fractures or cancer, surgery, arthritis, people may miss out on elegant and appropriate clothes in their most vulnerable moments. Without appropriate clothes, they lose their independence and confidence.

Technology

Zyenika a startup set up by Soumita Basu and Amita Roychowdhury innovatively designs stylish and elegant clothes so that dressing is easy, comfortable, quick, and painless, increases independent dressing and upholding privacy, for everyone including people with chronic or temporary disabilities and the elderly. Design (re)thinking takes centre stage, using already available material to deliver different openings and shapes which are more adaptive.

Societal Impact

There are more than 435 mn people in India who need such adaptive clothes temporarily or permanently. Inclusive and adaptive fashion gives them more dignity, confidence and allows them to engage in professional and public spaces.

Current status

Zyenika retails through online channels, including its website and its brand Care Weaves works with institutions like hospitals, rehabilitation centres, senior citizen care organisations, and other B2B partners. Zyenika is looking ahead to forging partnerships abroad as manufacturers and design consultants.

https://zyenika.com/

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Herbal Medicines

Abhikesar Khatiwara
Gyalshing, Sikkim

Problem Addressed

The innovator, a traditional herbal healer, observed that synthetic additives in modern medicines may cause side effects. Lack of local health infrastructure forces people to travel long distances for allopathic treatments that are costly and sometimes ineffective.

Technology

He uses minimal equipment to innovate remedies at home. Sil Timbur Tel (Mountain Pepper Oil), is derived from Litsea citrata (Lauraceae) and other plants. It helps manage joint and body pain, fever and blood sugar. His powdered blend of hora (Terminalia chebula Retz.), bora (Terminalia belerica (Gaertn.) Roxb.), black salt, jawnow, ginger, and bokay timbur (Zanthoxylum alatum Roxb.) eases gastric troubles.

Societal Impact

His remedies for chronic piles and diabetes have been more effective than standard medicines. The innovator has also developed herbal remedies for blood pressure, dysentery, pneumonia, migraines, and various common ailments. He was invited by the Saudi Arabian government to share his expertise in herbal remedies and agriculture for a year.

Current status

He has added his own formulations to the 108 collected by his father. In collaboration with GIAN, he assists a few SHGs as a food technologist. Their products were featured at the Tikjuk Traditional Food and Arts Festival 2023.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Mini Maize Grinder and Grain Mixer

Panthong
Kiphire, Nagaland

Problem Addressed

Many small and marginal farmers cannot afford even basic machinery to ease drudgery. Machines for milling and grinding grains are bulky and with high fuel requirements.

Technology

The grains are powdered by a powerful grinder or mixer. The maize meal which is sieved. The mixer can also process rice, buckwheat and various millets, and has a small tub to collect processed flour. These mini machines are powered by a one HP motor and compatible with a normal 220 V socket. Both machines process around 50 kg of grain in 15 minutes.

Societal Impact

Many people have stopped using the community mill, instead preferring these portable, easy-to-use, and safe alternatives. Approximately 200 people have benefitted.

Current status

The innovator has sold 22 grinders and 18 mixers. GIAN is providing design and technical support, and helping him seed funds to manufacture more machines.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Pineapple Peeling Machine and Shredding cum Peeling Machine

Imkongsunep
Mokokchung, Nagaland

Problem Addressed

In Nagaland, families manually process horticultural produce for home consumption or small-scale businesses. However, the dearth of efficient processing equipment may hinder the development of these enterprises.

Technology

The pineapple peeling machine features a lathe-like rotating rod with the pineapple secured on it while a sharp, adjustable blade peels it. His previous innovation, the tapioca shredder has multiple blades to shred peeled tubers fed through a hopper. It has a side-mounted peeler for apples, pears and other fruits. Both machines are powered by a 0.5 HP motor.

Societal Impact

After word spread via social media, the community often visits him to use the machines. There is high potential for such affordable and compact innovations to boost the horti-product industry of Northeast India.

Current status

He was awarded at FINE by NIF the Rashtrapati Bhawan, and also received recognition from the Nagaland Horticultural Development Board. A pastor by profession, he would like to leave commercialization to others.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Tractor Harvester with Washer

Yanglem Brajamani Singh
Bishnupur, Manipur

Problem Addressed

The innovator, native to Keinou village, along with other farmers found it costly to hire labour to harvest taro. It takes many workers several days to harvest the crop using spades.

Technology

The tractor-mounted PTO-driven harvester hacks the soil with a steel blade that digs out taro corms. The corms are propelled behind the tractor and cleaned by a cylindrical washing attachment. The machine covers one hectare in ten hours.

Societal Impact

Week-long work requiring five labourers can now be done in a day by three. It reduces expenses, and enables farmers to market their produce in time. He has communicated with farmers district-wide about the potential benefits of the innovation.

Current status

He aims to improve the machine prior to commercialization, with assistance from the NIF. Currently, he is seeking support to source inexpensive parts for an innovative hydraulic tractor-powered harvester.

Mob: 9615534087

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Organic Manure to Rejuvenate Mining-spoiled Land

Smt Kyrsiew Ryngkhlem
East Jaintia Hills, Meghalaya

Problem Addressed

Coal mining activities around fertile farmlands in the East Jaintia Hills have resulted in barren landscapes. Traditional livelihoods have been eroded, accompanied by environmental degradation and adverse health outcomes.

Technology

The innovator created organic manure by drying and grinding garden grass, and mixing it in a pit with cow dung and swine manure for thirty days. She added weeds, areca nut husk, and other biodegradable waste and dried the mixture. She used limestone to reduce soil acidity before using the manure.

Societal Impact

The manure improved the water retention and overall fertility of the soil. The fields of the innovator grew vegetables abundantly within three years. In the last couple of years, almost 500 farmers across 300 hectares have reported good results using the manure.

Current status

She increased manure production with support from the Meghalaya Basin Development Authority and World Bank under the MCLLMP project. She has produced almost two tonnes of organic manure, and sold 1.79 tonnes. She imparts training to VNRMC and VCF members on land rehabilitation.

Mob: Wankit Swer of MBMA office (9579275285)

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Plastic to Fuel Pyrolysis Machine

Shri Just Synrem
East Khasi Hills, Meghalaya

Problem Addressed

The innovator hails from a region with plentiful natural resources, but scarce and expensive electricity and fuel. Farmers therefore struggle to use agrimachinery that could boost productivity.

Technology

The innovation converts plastic waste into fuel through pyrolysis, offering an eco-friendly disposal option and an alternative fuel source. The portable models process 0.5-1 kg plastics, while stationary machines can handle 7-10 kg. White polythene yields 600-700 ml fuel per kg, plastic containers 500-600 ml, and water bottles 300-400 ml.

Societal Impact

The innovator has used the fuel in his jeep, and in place of petrol in engines, generators, grass cutters and motorbikes. There is an emerging market, with demand from various individuals and states for pollution-controlling innovations.

Current status

One machine has been installed in Ziro Arunachal, and other orders are being fulfilled. He is an incubatee under the community-led landscape management project undertaken by the Basin Development Authority.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Beehives Made of Mud

Smt. Lamuni N. Sangma
North Garo Hills, Meghalaya

Problem Addressed

In traditional wooden beehives, absconding rates (the frequency with which a colony abandons the hive) are high. Their honey yields tend to be inconsistent.

Technology

The innovator has developed a unique clay beehive that maintains a consistent internal temperature through all seasons, lowering absconding rates. The mud hives enhance honey production, and prevent damage to combs during harvesting.

Societal Impact

Clay hives are easily built, and make beekeeping more profitable due to enhanced honey yields. The innovation enables more people to establish apiaries, contributing to the preservation of honey bees. Demand surveys and meetings with village headmen have confirmed that these hives are highly appreciated by the community.

Current status

The innovator has created 30 mud beehives, and shared her method for constructing these innovative hives with other beekeepers. Additionally, incubation under MCLLMP has helped her construct shades, design portable beehives, and conduct honey testing.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

G-Villas Pasand-Improved Guava Variety

Ram Vilas Maurya
Lucknow, Uttar Pradesh

Technology

The G-Vilas Pasand variety, developed through selective cultivation, is unique as it bears fruit throughout the year. It is a dwarf variety and bears larger fruits weighing 300 – 400 grams on average, going up to 900 grams. These guavas are sweet, juicy, with creamy white flesh and softer seeds. They can be kept for a longer duration of about 6 days. Fruit bearing starts within a year, and after five years, a single tree gives 50 – 60 kg of fruit annually.

Societal Impact

The innovator estimates that selling G-Vilas Pasand earns farmers about ten times compared to other varieties, especially as off-season income. He has sold and gifted seeds to over one lakh farmers in Uttar Pradesh, Maharashtra and Andhra Pradesh.

Current status

He estimates that about two lakh trees of this variety have been planted. The variety was registered by NIF under PPV&FRA in 2021, though he developed it in the 1970s.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Low-cost & Zero Energy Cold Storage

Binolin Syiemlieh representing Nongstoin Social Service Society

West Khasi Hills, Meghalaya

Problem Addressed

Farmers in the West Khasi Hills face challenges in warehousing, storage, and logistics. Many cannot access affordable and energy-efficient storage solutions for fruits and vegetables.

Technology

This project involves constructing small-scale, zero-energy storage units near fields of farmers using readily sourced materials like burned bricks, river sand, bamboo poles, CGI sheets, iron nails, cement, and pebbles. These units are each capable of storing and preserving up to a ton of produce for one to four weeks.

Societal Impact

The facilities maintain the freshness and cleanliness of the produce and reduce post-harvest losses. They are managed by the Village Executive Committee (VEC) under the guidance of the headman, allowing all villagers to equitably access them.

Current status

The Nongstoin Social Service Society (NSSS), a community organization behind the innovation, plans to form a district-level group of 200 individuals. With assistance from the Meghalaya Basin Development Authority, they will promote and implement these cold storage facilities beyond the Mawthadraishan Block.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Low-cost Power Tiller Machine and Thresher

Shri Hejew Klien
Ri-Bhoi, Meghalaya

Problem Addressed

Expensive agricultural machinery and the burden of fuel expenses limits small and marginal farmers to labour-intensive and sometimes inefficient farming methods.

Technology

The innovator has repurposed scrap to fabricate a thresher that efficiently separates corn kernels from grain heads. He has similarly created a power tiller, incorporating bamboo and salvaged parts. His initial machines were made of components sourced from a discarded TVS motorcycle, and he continues to utilize refurbished parts in his machines.

Societal Impact

His cost-effective innovations drastically reduce the burden on manual labour. With the thresher, two people can accomplish the work in a shorter time frame done previously by seven in a week. The low-cost power tiller effectively replaces water buffaloes traditionally used in rice cultivation.

Current status

The innovator had initially sold five each of the power tiller and threshing machines. On receiving incubation support under CLLMP, he has upgraded the machines and found a wider market. He recently designed a new power tiller model, and plans to commercialise it with the support of the state Basin Development Authority.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Chetak Cotton Stripper

Mansukhbhai Patel
Ahmedabad, Gujarat

Problem Addressed

Immense effort is needed to strip the tightly-attached lint from the shell of some cotton varieties like Kalyan-V 797 and G-13, grown in Gujarat and some dryland areas. This task is performed mainly by women and children.

Technology

Cotton shells are fed through a suction mechanism. They are run through a series of rollers and removed by abrasion. Lint is collected through an outlet. Shells and waste are stored in a tray. Eight people operate a "jumbo" model, raising output to 1,600 kg/hour compared to 25 kg/hour done manually by one worker.

Societal Impact

This machine has eliminated child labour from this lack and lowered the school dropout rate among children of cotton farmers. It processes higher quality, cleaner cotton, fetching Rs. 6,000 per tonne. The cost is reduced from Re. 1 per kg to Re. 1 per 20 kg.

Current status

1,500 units of the machine have been sold. Recent models are used to pre-clean hybrid cotton. The innovator has patents in India and USA. He was honoured with a Lifetime Achievement award by NIF in 2023 for his innovations and supporting smaller innovators. The machine has now been integrated with ginning factory. Fewer can supply unpreserved cotton stalls & one factory.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Crimeria Apple Variety

Amir Abas Ganie
Kulgam, Jammu and Kashmir

Technology

The innovator developed the Crimeria apple variety by grafting a branch from a Crimson apple tree onto a Bulgaria apple tree. Crimeria apples are larger and bear more fruit than Crimson. Their taste and colour are superior to Bulgaria. Crimeria apple trees bear fruit within one to three years of planting. A single tree can yield about 200 kg of apples after five years. The trees begin flowering by April, and produce fruits by August.

Societal Impact

Farmers earn well from the in-demand Crimeria apples that sell at Rs. 80-200 per kg. The innovator claims that this variety is not disease-prone and reports minimal use of pesticides. The dark red juicy apples are valued for their attractive appearance, and used decoratively in some homes.

Current status

The innovator has guided many farmers about grafting, within the district. He is yet to register it under PPV&FRA. He aims to export it outside Kashmir, and GIAN support his in developing a larger market.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Channel Making Machine

Bilal Ahmad Ahanger
Anantnag, Jammu and Kashmir

Problem Addressed

The traditional way of molding designs on iron sheets for roofing typically requires channel beam machines. They are labor-intensive and require significant investment.

Technology

The innovator has developed an efficient, low-cost machine for creating channels in iron sheets. It uses iron rollers with circularly molded channel spans that bend iron sheets at specific points to form channels. It is powered by a 220V single phase motor with one HP capacity, and can simultaneously create two channels on 30 metres of sheet in a minute.

Societal Impact

This innovation is significantly less labor-intensive, needing only three operators who need not have specific skills. It is portable, adjustable, affordable and ideal for even small-scale fabrication units.

Current status

A working model of the machine has been successfully created and two units have been sold with support from the local GIAN team. The innovator is well-recognized for his creative engineering solutions, and many people seek his assistance.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Automatic Street Lights Control Systems

Raju Mupparapu
Mehboobanagar, Telangana

Problem Addressed

Streetlights left on during daylight hours consume energy. The innovator estimates four hours of electricity wastage daily in rural areas with lights switched on between 5 pm to 9 am.

Technology

The non-stick substance used in Hariyali Handi comes from lalic insects that inhabit Pohim trees. It is made by boiling raw lac twice, brewing a homogenous solution. When applied to hot earthenware, it seeps into the porous clay and hardens into a uniform coating.

Societal Impact

The innovation extends the life of streetlamps and reduces the burden on electricity personnel. A six-month trial in ten villages found that the device reduces electricity bills by approximately 25-30%.

Current status

Over 500 villages in Telangana have adopted the innovation, installed through his enterprise, Raja Innovatives. He gained recognition from Palle Srujana and Telangana State Innovation Cell. He is receiving incubation support from NIF. His other innovations include a foot-operated sanitising device, corn husk pens, and a solar powered mobile charger. The idea may not be totally new but its design and implementation efficiency has made it very popular.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Mechanical Turn On/Off of Valve System

M. Gopal Singh
Hyderabad, Telangana

Problem Addressed

Water is wasted when manual valve controls cannot prevent overflow in irrigation networks and household water systems. Valve control systems usually require a power source and are expensive.

Technology

The innovation can automate a scheduled switching on/off of any valve by a mechanical timer circuit. A structure housing the timer, drive wheel, multiple plates, shaft box, and an additional box with spring and puller elements is affixed beneath the pipe. The valve timer can be used in gas pipelines as well, for which a no-spark mechanism ensures safety.

Societal Impact

This effective and low-cost device saves water and electricity, reduces labour of farmers. With higher irrigation efficiency, it improves crop yields.

Current status

The innovator has applied for a patent. Shortlisted by the Office of the Principal Scientific Adviser to the Government of India for the AGNII Portal, the device has undergone successful testing by the Ministry of Micro, Small & Medium Enterprises. NIF has been supporting him.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Community based Products: Jammu & Kashmir

Ishrat Farooq, Jabeena Bano

Objectives:

a) To map and tap the local bio-resources, bio-conservation systems, local knowledge systems and innovations from and for grassroots in selected villages of Himalayan states of Sikkim and Nagaland and Union Territories of Jammu and Kashmir.

a.1) Mapping the resources and knowledge systems for turning some of them into products

a.2) On-farm validation and in situ value addition of local bio resource

a.3) Field/Market testing of the best locally made/sourced products through an ecommerce platform

b) To augment local agro biodiversity through farm trials of improved and traditional resilient varieties of the crops

c) To assess the local impact of different interventions done in the project and identify policy and institutional implications of these solutions and processes.

Products List:

SAFFRON OIL	WHITE RAJMA SMALL	LIGHT PINK RAJMA	BANYARD MILLET
APRICOT JAM	BAMBOO SHOT DRY	PINK RAJMA	GOBINDO BHOG RICE
SILIJIT	SUMAC TEA	DELLY PAST	BASMATI RICE
RESPERRY JAM	RAGI MILLET	MIX DAL SKIMM	JEERSA RICE
WHITE RAJMA BIG	FOXTILE MILLET	MILLET PRE MIX	BROWN RICE

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Community based Products: Sikkim

Chungku Bhutia,Karna Maya Limboo

Objectives:

a) To map and tap the local bio-resources, bio-conservation systems, local knowledge systems and innovations from and for grassroots in selected villages of Himalayan states of Sikkim and Nagaland and Union Territories of Jammu and Kashmir.

a.1) Mapping the resources and knowledge systems for turning some of them into products

a.2) On-farm validation and in situ value addition of local bio resource

a.3) Field/Market testing of the best locally made/sourced products through an ecommerce platform

b) To augment local agro biodiversity through farm trials of improved and traditional resilient varieties of the crops

c) To assess the local impact of different interventions done in the project and identify policy and institutional implications of these solutions and processes.

Products List:

Guava Jam	Buckwheat Pulses Chilla With Beetroot
Tomato Sauce	Millet Pulses Chilla With Beetroot
Sweet Chilli Sauce	Ginger Candy
Synthetic Jelly	Millet Drink
Dalle Chilli Oil	Organic Tea Mix
Nakima Pickle	

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Community based Products: Nagaland

Herela T

Objectives:

a) To map and tap the local bio-resources, bio-conservation systems, local knowledge systems and innovations from and for grassroots in selected villages of Himalayan states of Sikkim and Nagaland and Union Territories of Jammu and Kashmir.

a.1) Mapping the resources and knowledge systems for turning some of them into products

a.2) On-farm validation and in situ value addition of local bio resource

a.3) Field/Market testing of the best locally made/sourced products through an ecommerce platform

b) To augment local agro biodiversity through farm trials of improved and traditional resilient varieties of the crops

c) To assess the local impact of different interventions done in the project and identify policy and institutional implications of these solutions and processes.

Products List:

White Rajma	Bamboo Shoot Dry
Light Pink Rajma	Round Rajma
Pink Rajma	Naga Dal Green
Indian Olive Green Tea	Brown Rajma
Sumac Tea	Wild Apple Candy
Littal Millet	Wild Apple Jam

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Automatic Weft-Winding Machine

Prafulla Kumar Meher
Bargarh, Odisha

Problem Addressed

Bargarh district, Odisha is a hub for Sambalpuri handlooms. Traditionally, winding of cotton thread is done around two tree trunks or a wooden frame known as phani. This activity causes strain, and restricts the work of weavers

Technology

Weft-winding is conducted over a self-propelled machine drum. Herein two Purra beds (uniform thread distribution systems) are connected by a square pipe. They travel on either end of the drum, changing direction after completing half cycle. They may use a 0.25 HP electric motor or operate manually. The machine can wind 20 bundles of yarn hourly.

Societal Impact

The machine could benefit over 25,000 weavers of the Bhullia community. It enables production of 25-30 Sambalpuri saris within six to eight hours, earning them Rs. 2,000 daily, surpassing the manual output of two saris a day.

Current status

About 230 units of the machine have been sold countrywide. The innovator modifies the machine to weave patterns of varying complexities. The machine is foldable and durable.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Tractor Operated Groundnut Decorticator Cum grader

Kishan Lal Suthar
Rajasthan

Problem Addressed

Most groundnut farmers undertake the arduous task of manually separating seeds from their shell followed by cleaning, grading and sorting. This is because commercial machines are expensive.

Technology

The tractor PTO-powered innovation distinguishes itself by automating the entire process. Groundnut pods poured into a hopper are carried up by an "elevator system". Complete decortication happens in a large shaking sieve. The sieve holes sort the seeds by size and specific gravity into three categories. The machine can process eight to ten tons of groundnut pods hourly, consuming about four to five litres of fuel. Achieving 98% efficiency in decortication, and about 90% in cleaning the seeds.

Societal Impact

The machine saves time and effort while also solving many of the post-harvest challenges of groundnut cultivation. The farmers now save their own dry groundnut seeds, rather than buy semi dry ones from the market which are harder to cultivate and damage prone.

Current status

The innovator has sold about 700 machines, of which 150 are tractor-mounted. He and his four brothers are engaged in manufacturing and marketing them with the assistance of NIF.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Smart Motorcycle Helmet for Hearing-Impaired

Shaik Rajalipasha
Kothagudem, Telangana

Problem Addressed

Drivers with hearing-impairment are more prone to serious road accidents. The hearing-impaired innovator, suffered a fractured hand due to a crash. He also lost a hearing-impaired friend whose motorbike was hit from behind.

Technology

He has designed a smart helmet that senses the sound of a horn from behind. This triggers a red light at the front of the helmet, giving the wearer time to react. The helmet also indicates with light that the wearer is hearing-impaired.

Societal Impact

This assistive device enhances road safety, and helps persons with hearing-impairments feel confident while driving.

Current status

He designed the helmet with guidance from the Telangana State Innovation Cell (TSIC), and is currently seeking further incubation support to manufacture and market the helmets.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Multipurpose Cot for Bed Ridden Patients

Alladi Prabhakar
Jagtial, Telangana

Problem Addressed

Many elderly and bed-ridden people unable to visit a washroom rely on caregivers. They may struggle to communicate their personal needs in time, leading to discomfort and embarrassment.

Technology

The innovator has designed a multipurpose cot made of iron and fiber with safety grills on both sides. Even patients unable to move can independently adjust the sitting angle with the easy pushback system. The hand shower and wash basin can be used unaided. The built-in commode with a flush and P-Trap system are connected to either a drainage pipeline or chamber.

Societal Impact

The innovation enables elderly, paralytic, orthopaedic patients, and pregnant women to lead a more dignified and comfortable life. It may reduce the burden on family and caregivers.

Current status

He has sold over 5,000 Prabhat Versatile Beds within India, and was recently granted his second patent. Supported by the Telangana State Innovation Cell, he is seeking further assistance in marketing. He has over 30 innovations to his name.

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Automatic Machine to Make Taper from Cotton

Prakashbhai Rameshbhai Vala Mistry
Rajkot, Gujarat

Problem Addressed

Creating cotton taper, used in candles and other lighting, is painstaking. The innovator made a manual cotton tapering machine, but was unable to use it after losing a hand.

Technology

He fabricated a fully automatic cotton tapering machine functional for handicapped persons. It has six motors and a 12 mm iron frame. Four swivels of 25 mm each release four duvets together. A small roller reels cotton into the duvet. In 12 hours, 30,000 pieces of taper are created from three kg of duvet.

Societal Impact

The machine enables disabled people to create cotton taper which enhances their income. It has countrywide potential as taper is required for daily use items.

Current status

The innovator is setting up S.R. Automation, a manufacturing unit in Dasdara taluka. SRISTI is providing him incubation support. He aims to supply 25,000 kg of taper per month.

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Hosting Partner

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PEOPLE'S FESTIVAL OF INNOVATIONS

2023

Backhoe Loader in Tractor

Bhaskaran P.
Tamil Nadu

Problem Addressed

Small farmers cope with delays due to labour shortage, high rent for imported JCB machines, and other challenges in preparing farmlands for the pre-sowing stage.

Technology

The innovator has created a PTO-powered backhoe attachable to 10 HP tractors or higher. It can dig pits, create irrigation channels, and clear large farms of rocks, trees and debris. It consumes up to 1.5 L of diesel per hour for an acre of land.

Societal Impact

The machine is affordable, with low-cost maintenance as it is easy to dismantle and source spare parts. Farmers, using the innovation to replace JCBs, have halved their costs to Rs. 600 per hour.

Current status

He is in process of selling the machines, and will scale up once a patent is awarded. His innovation is named the BSE.

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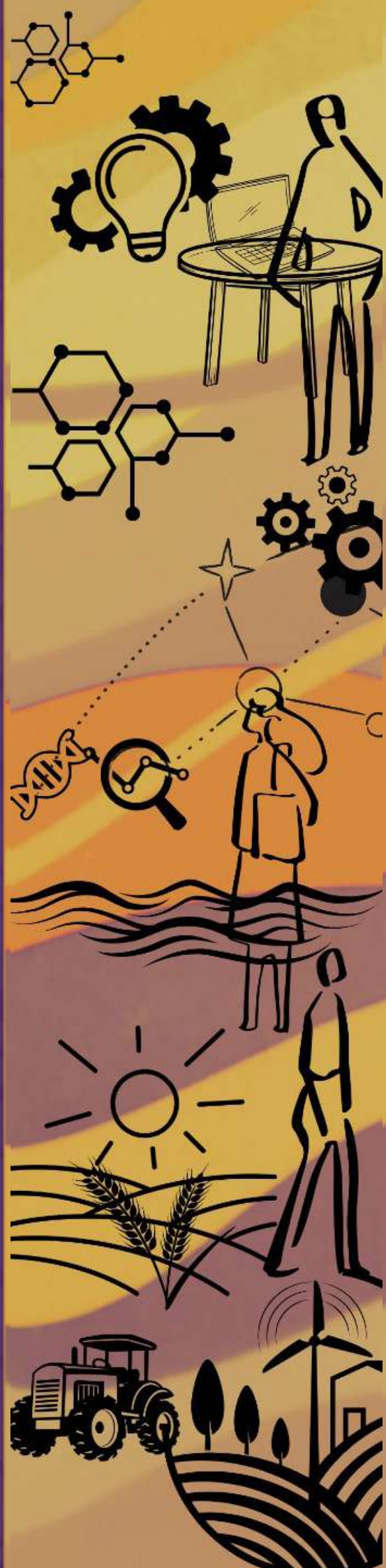
Deep-tech innovations



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INDIA INTERNATIONAL CENTRE IIC where ideas grow

Organizing Partners

C-CAMP Centre for Cellular and Molecular Platforms | gian Honey Bee Network

PEOPLE'S FESTIVAL OF INNOVATIONS 2023

AbTids: New Antimicrobials for AMR

AbGenics LifeSciences Pvt. Ltd.
Pune India

AbGenics
A Life in Science

Problem Addressed

- Antimicrobial Resistance. Fatalities to reach 10-million by 2050.
- Economic and social burden- Trillions of dollar in treatment.
- Morbidity and mortality similar to pandemics.
- Notorious ESKAPE pathogens and fungus *Candida auris* listed as 'critical' by both WHO and CDC difficult to control in hospitalized patients. Will escape to community sooner or later.
- Loss of efficacy- Due to AMR, multiple new small molecule antibiotics in clinic will lose efficacy within 5-years of their launch.
- Non-Specificity of antibiotics leading to destruction of natural microbiome, leading to various pathologies due to immune dysregulation & infection.

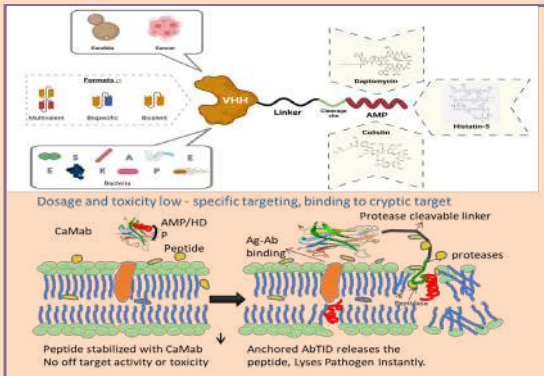
Technology

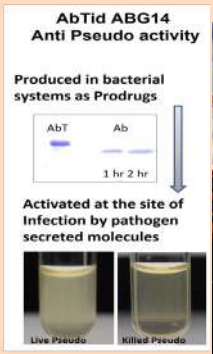
➢ Anticipating the superbug problem 10-years ago, AbGenics initiated research projects to develop a new class of antibody based molecules that by sheer design considerations will be one step ahead of the evolution of Superbugs.

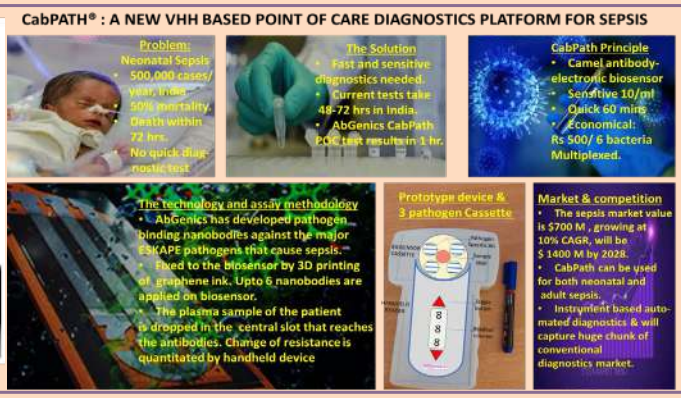
➢ Antibody fragment libraries from Camels (VHH) against the major pathogens have been generated using considerable efforts and investments from which superbug killing molecules have been isolated and developed into drugs.

➢ A new concept of antibody drug conjugates called AbTids® was tested that in trace amounts wipes out populations of drug resistant pathogens. This novel drug design concept can be used to control multiple superbugs in years to come.

➢ 5-molecules have been developed to control bacterial and fungal pathogens.







Societal Impact

▪ Indiscriminate antibiotic use resulting **in MDR bacteria**. Hospital bugs predominantly caused by three types of bacteria, Staphylococcus aureus (boils, septicaemia, skin infections), Pseudomonas aeruginosa (Urinary and respiratory tract infections) and Candida aureus (Systemic Infections) in immunocompromised patients.

▪ The AbTids have three important attributes that makes them very relevant .in the time of AMR 1. Evolvable : The modular components can be changed to develop New molecules fast in response to emerging resistance; 2. Resistant to resistance due to complex biological mode of action; 3. multiple modes of action including immune engagement.

Current Status

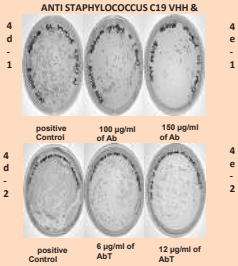


fig.4d- % killing by anti-*Staphylococcus* C19 VHH & ABG 16 AbTid® with *Staphylococcus aureus*, **d-1**- % killing at 100 & 150 µg/ml conc of anti-*Staphylococcus* C19 VHH , **d-2**- % killing at 6 & 12µg/ml conc of ABG16 AbTid.

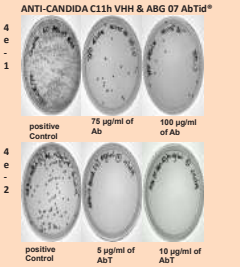


fig.4e- % killing by anti-*Candida* C11 VHH & ABG 07 AbTid® with *Candida aureus*, **e-1**- % killing at 75 & 100 µg/ml conc of anti-*Candida* C11 VHH , **e-2**- % killing at 5 & 10µg/ml conc of ABG07 AbTid.

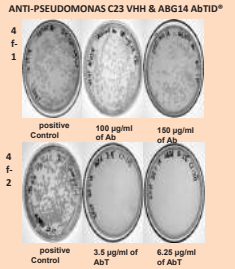


fig.4f- % killing by anti-*Pseudomonas* C23 VHH & ABG 14 AbTid® with *Pseudomonas aeruginosa*, **f-1**- % killing at 100 & 150 µg/ml conc of anti-*Pseudomonas* C23 VHH , **f-2**- % killing at 3.5 & 6.25µg/ml conc of ABG14 AbTid.

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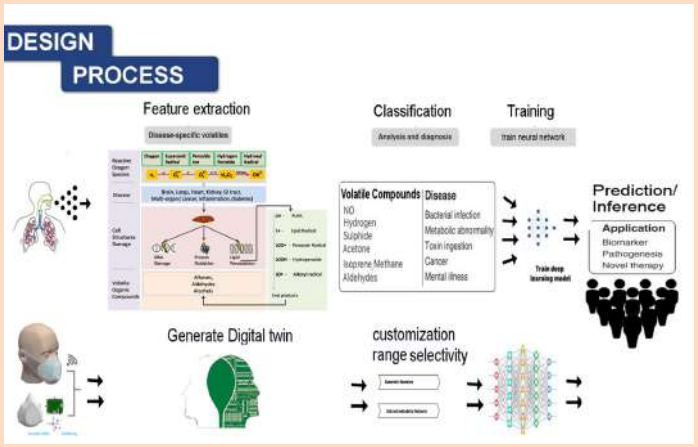
PEOPLE'S FESTIVAL OF INNOVATIONS 2023

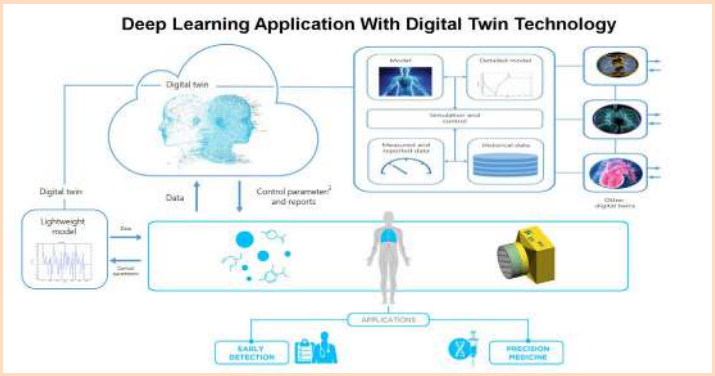
SVASYANTRA

NAVEEN KUMAR SURYA
Memandis

Problem Addressed

Technology





Societal Impact

With an increasing trend of shifting focus from treatment to prevention, early detection of ailments in the healthcare landscape and tailoring of medical interventions in individual patients and miniaturization of medical devices, From wearable biosensors to smartphones monitoring healthcare in home settings, the future of our technology is ever-expanding.

The development of our devices can benefit the primary healthcare system and place India on the course for attaining full universal health coverage

- user-friendly (simple to perform and needs minimum training)
- rapid (producing results within few minutes)

Current Status

www.memandis.com

naveensurya@memandis.com

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

MYBox+

Dry Luminescence Assay Analyser

Mylab Discovery solutions

Mylab Discovery Solutions

Problem Addressed

Problems identified:

a. Multiple tests need to be performed in multiple instruments.

b. Sophisticated and expensive instrumentation required.

c. Non portable and required set up and infrastructure.

d. Test procedures are laborious and require skilled professionals.

e. Individual test is expensive.

Problem addressed by MYBox+

a. Able to perform multiple quantitative and qualitative tests on a single platform such as cardiac markers, diabetic markers, infectious diseases, thyroid profile etc.

b. Minimum infrastructure and set up required.

c. Portable, can be used at low resource settings.

d. Sample required in small amount.

e. No-to-minimal sample preparation required.

f. Cost effective tests.

Technology

Based on Dry Luminescence Technology: Non-overlapping excitation and emission spectra prevents interference of non-specific luminescence particles enabling higher sensitivity and accuracy with good correlation to gold standard techniques.

Societal Impact

- Made in India hence easy accessibility of kits and device across India.
- Fast detection, Cost effective and portable technique.
- Easily accessible point of care device across India

Current Status

Available test parameters- HIV 1/2 Ab, HBsAg, HCV Ab, D-Dimer, CRP, β-hCG, TSH, T3, T4, fT4, HbA1c.

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Curcumin Nanoparticles for Health & Wellness Applications



Orish J Bioworks Pvt. Ltd.
AIC IIT Delhi

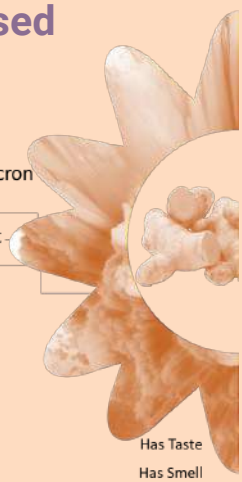
ORISHJ bioworks

Problem Addressed

Limitation

Natural Curcumin = 1 -20 micron

Poor bioavailability
Limited therapeutic effect
Body removes 75%



Has Taste
Has Smell

Technology

Innovation

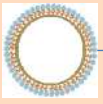
Nanocurcumin <= 200 nm

Surface Area
Absorption
Bioavailability
Therapeutic

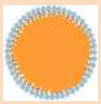
Nano Technology
- Process
- Product
- Application

No Taste
No Smell

INTELLECTUAL PROPERTY INDIA

Embed with natural curcumin



Natural Curcumin + PLGA Nanoparticles

PLGA embedded with natural curcumin

Carrier Particle Nanotization


Entrap with natural curcumin

Natural Curcumin + Liposomes

Liposome entrapped with natural curcumin

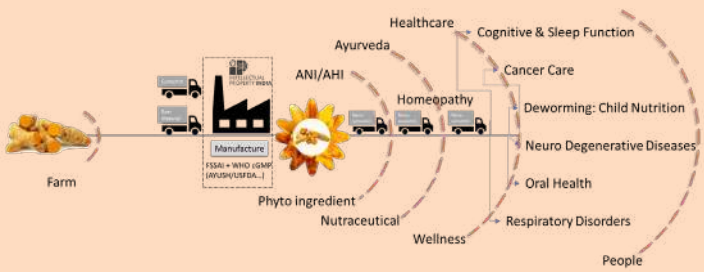
☑ **Actual Nanotization**

Physical processing by wet milling

Natural Curcumin

Nanocurcumin

Societal Impact



Current Status

Characterisation: Biological		Remarks
1	Bioavailability (BALB/c Mice; Intraperitoneal)	5X > Natural Curcumin
2	Pharmacokinetics (Albino Mice, Guinea Pig; Oral)	Better > Natural Curcumin
3	14 Days Acute Toxicity (Albino Mice, Guinea Pig; Oral)	Safe
4	90 Days Chronic Toxicity (Rat; Oral)	Safe
5	Reproductive Toxicity (Rat; Oral)	Safe
6	Blood Brain Barrier (Mice; Oral)	Crosses BBB
7	Neuron Survival (Mice; Oral)	^Survival ^Inflammation
8	MTT Assay, IL6 Expression (Glioblastoma Cell Line)	Better > 5 Brands
9	Wound Healing Gel Therapeutic Study (Dogs; Topical)	Better > Mupirocin

Anti Inflammatory
Anti Oxidant
Anti Microbial
Immunomodulator

Characterisation: Physicochemical		Remarks
1	HPLC	Chemically = Natural Curcumin
2	MALDI	Chemically = Natural Curcumin
3	TEM	Physically ≠ Natural Curcumin
4	SEM	Physically ≠ Natural Curcumin
4	FTIR	Physically ≠ Natural Curcumin
5	XRD	Physically ≠ Natural Curcumin
6	NMR	Physically ≠ Natural Curcumin

Anecdotal: Better Quality Life

#	Topic	Nos.
1	Cancer	+100
2	Children Deworming	56
3	Post Workout Recovery	1
4	Sleep Function	25

Publications: Encouraging Results

#	Topic	Nos.
1	Malaria	2
2	Tumour/ Cancer	1
3	Tuberculosis	2
4	Hypoxia/ Respiratory Distress	5
5	Oral Mucositis	1

https://www.linkedin.com/company/orish

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Last-Mile Cold Chain Solution for Biologics

Prerit Mittal
Project Lead

enhanced innovations

Problem Addressed

Last-mile delivery of biologics is the most vulnerable part of the cold chain supply

- Leads to USD 10 billion losses of medicinal biologics
- Causes 500,000 vaccine preventable infant deaths
- Refrigerants cause 2000x more environmental impact than CO_2

Technology

Solid-state cooling portable carrier for transportation of biologics equipped with:

- IoT & AI/ML
- Li-ion battery
- Solar charging module
- 2L storage scalable to 50 L

Societal Impact

- Inoculate 91 Indian Districts < 50% immunized children
- Reach 4 crore Indian infants and mothers
- Reduce 25 Gw per year on grid power consumption in 25,000 PHC
- Reduce Global Warming by eliminating use of refrigerants

Current Status

- Ongoing 10 Field Trials
- MVP Developed
- Currently Accepting Orders for Veterinary Services
- Awaiting CDSCO Approval

www.phloton.com

Prerit Mittal | +91 9560399499 | prerit@phloton.com

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

BioSampler: Expanding Diagnostic Accessibility to Remote Locations

VAIBHAV SHITOLE
Founder and CEO

iOTA DIAGNOSTIC PVT. LTD.

Problem Addressed

- Diagnosis is foremost crucial step in any healthcare management, which often involves the sampling of biological fluids for diseases diagnosis & health assessment.
- Present method of blood withdrawing is painful and uncomfortable for patients, and involving the withdrawal of a substantial volume of blood.
- Over 70% of rural India lacks access to high end diagnostics and healthcare services.

Technology

- A revolutionary device that enables diagnostic reach at remote locations without requirement of cold chain logistics
- **iOTA BioSampler** provide Collection, Storage and Transportation of Blood and other Biological fluids through **Proprietary Dry Matrix Technology** and **MicroSampling** for Diagnostic Use

- **User friendly** (Self sampling)
- **Precise blood sampling** (30µl, 50µl,100µl as per requirement)
- **Enable Quantifications of bio-analyte** such as vitamins, hormones, proteins and drugs, etc.

Process of Blood Sampling

Prick your finger

Sample Collection

Place in the Cartridge

Ship to the Lab

Societal Impact

- Diagnostic access to a wide segment of Indian populations and resources limited settings.
- Unique Device For Community Health Monitoring and Mass population Screenings.
- Eliminate Social stigma and public embarrassment associated with Infectious diseases diagnosis as enables Patient centric Diagnosis
- Substantial cost reduction of advanced tests due to self sampling and transportations without cold environment.

Current Status

- CDSCO Approved for Clinical Diagnosis and Non Clinical Applications
- Clinically Tested and Validated in NABL Accredited Laboratories
- Manufacturing under ISO 13485 Complied Facility

https://iotadiagnostic.com/

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

CerVIA – An AI-enabled tool for Cervical Cancer Screening

Ritesh Shubho Anupam

BlockApps AI Pvt. Ltd.

Problem Addressed

• India, along with other LMICs in Africa and SEA contribute the major share of Cervical Cancer (CaCx) deaths globally.

•The primary contributor to the burden of CaCx is lack of systematic screening at scale

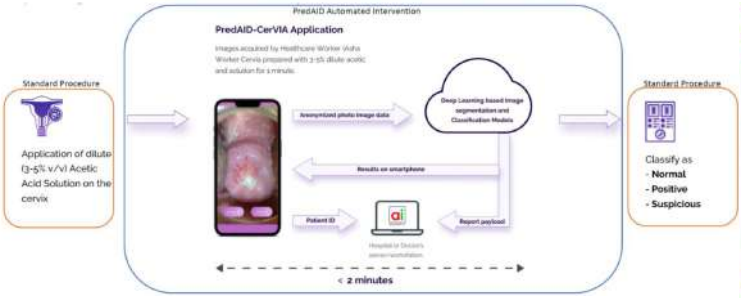
• Less than 1.8% of eligible women in India and 3% in developing and underdeveloped markets have regular access to CaCx screening.

Technology

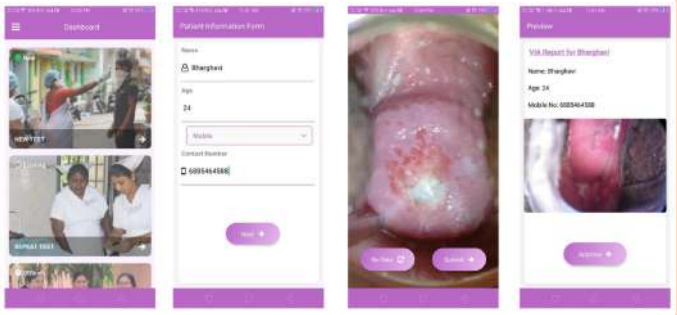
• A deep-learning computer vision approach to automating decision-making in Visual Inspection by Acetic Acid (VIA Test)

• Mobile phone camera as imaging device, with image analysis and classification done on the cloud.

Data Flow



App Screenshots



Societal Impact

• CerVIA offers the potential for lifelong cervical cancer screening accessible to all women, regardless of their location or socio-economic status.

• It will offer detailed long-term data for policymakers and governments to more precisely direct public health resources.

Current Status

• Preclinical Model Validation - **Completed**
• UI/UX Development - **Completed**
• Backend Development and Testing - **Completed** for Clinical Evaluation
• Clinical Evaluation - 2 studies **completed**
  - Mahatma Gandhi Institute of Medical Sciences, Wardha
    - Target Population - Rural women aged 20-65
    - Sample Size - 1000
    - Status - Data Acquisition (**Completed**), Data Analysis (**Ongoing**)
  - SRM Medical College Hospital and Research Center, Chennai
    - Target Population - Commercial Sex Workers
    - Sample Size - 200
    - Status - Data Acquisition (**Completed**), Data Analysis (**Ongoing**)

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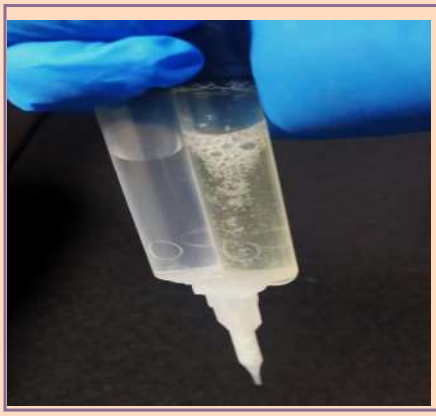
PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Highly Biocompatible and injectable hydrogel for prevention of post-surgical adhesions

NAME of the Innovator-Pijush Giri, Devendra Verma
Affiliation-ENVISAGE MEDTECH PRIVATE LIMITED

Post-operative adhesion of the tissue with the other tissue or organ because of the injury or cut made by the medical procedure to the patients. The adhesion not only cause body complication as well as increment therapeutic costs. ENVISAGE has built up a hydrogel to prevent adhesion. With time the surgical wounds heals and the hydrogel degrade reducing the possibilities of any post toxic effects. Presently multi days laparoscopic medical procedure is favored rather than the regular medical procedure strategy. The essential preferred standpoint of our product is that it is good with both laparoscopic just as ordinary medical procedure. ALBOGEL will be in liquid form which can without much of a stretch be infused through a syringe no more injuries and wounds to the patient. The liquid solution moves toward becoming gel simply after around 1-2 minutes which likewise that a specialist surgeon can motivate enough time to apply itin the patients body. The market of such product is less aggressive in the present time and also an item with better productivity and quality is constantly favored and acknowledged.

ALBOGEL consists of a protein and polyphenol. Both are biocompatible and degradable material. The hydrogel can work as an anti-adhesive barrier and can also seize the scar tissue formation as it has anti-inflammatory nature. With time the wound heals and the hydrogel degrades. The rate of degradation is compatible with the rate of wound healing. The residues of the degraded hydrogel can be used for the metabolic process by the body itself and hence cause no harm to the body.The product can be availed in the form of a liquid which when mixed with a powder or another iquid the other component, form a gel within 1-2 minutes and can be injected through a syringe. The final product setup will consist of two syringes containing two different liquid components or one syringe containing a liquid and a powder component separated by a barrier. When injected into the body, the two components mix and crosslink with each other to form a strong anti-adhesive gel. The gel stays stable at the site of surgery and works as a barrier between the tissues.



Cesarean section is very common nowadays, mainly in private sectors. According to a survey, 37.9 and 13.7 of the total deliveries are done by cesarean section in private and public sector health facilities respectively. Moreover, there are high chances that the upcoming births will be needing a cesarean section if the first one is done through it. Since here the risk is to a neonatal surgeon are more conscious about using some anti-adhesive barriers. While giving birth mothers already have to go through so much pain adhesion further increases the pain in case of second or later C section surgery. Many a time patients complain about abdominal pain after a month of abdominal surgery and the surgeon who well know the reason behind it but can do nothing due to the lack of an effective solution. Application of the anti-adhesion barrier not only ensures the reduction of the pain of the patients but also saves the reputation of surgeons. This help to build trust between patients and doctors.

Many a time patients complain about abdominal pain after a month of abdominal surgery and the surgeon who well know the reason behind it but can do nothing due to the lack of an effective solution. Application of the anti-adhesion barrier not only ensures the reduction of the pain of the patients but also saves the reputation of surgeons. This help to build trust between patients and doctors. Surgery is already a risky process. None of the surgical operations give you a 100 percent assurance of well-being. People try to avoid it as far as they can. The product can help to increase the chances of the success of a surgery 2nd surgery at the same site . Moreover, it saves time and effort of surgeons and also reduces the risk to the life of the patients.

1. The hydrogel is injectable, so it can be used for laparoscopic surgeries.
2. Hydrogel forms within short duration (1-2) minutes).
3. The gelation occurs without any toxic cross-linkers.
4. The hydrogel is developed in a simple and unique process.
5. The hydrogel is stable in aqueous condition up to 11 days, which is optimum for anti-adhesion applications.
6. Tissue adhesive strength of modified albumin-based hydrogel is 4.4 kPa.
7. Self healing properties of modified albumin-based hydrogel was within 4 hours.

https://www.envisagemedtech.com/

Email.id-mepijushgirifiem@gmail.com
Contact-8420558121

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Modified Volume-oriented Incentive Spirometer

Name of the Innovator: Dr. Pooja Shailendra Laxmi Gupta

Team (Engineers): 1. Nikhil Sanjay Nagvekar
2. Prathamesh Pradeep Kulkarni

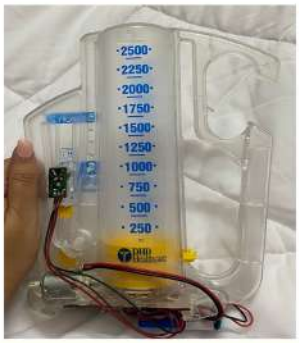
Spiro-Ease

Problem Addressed

As physiotherapists, we would like our community to benefit from the devices. The traditional volume-oriented Incentive spirometer was a visual feedback device which couldn't be used by the visually impaired population as well as the blind community.

Technology

The technology we have used to address the problems. so we have modified the visual feedback device into an auditory and kinesthetic feedback device for the visually impaired population and blind community.



Societal Impact

This device will help the visually impaired population as well as the blind community to get the advantages of this modified volume-oriented incentive spirometer, which is a widely used device post-surgery to prevent lung atelectasis, other lung conditions and fitness purposes.

Current Status

In the current status with regards to the device we have done a pilot study, as well a large group of studies is under process. In the pilot study, we found that the patients were comfortable and found it easier to perform the device in comparison to traditional device.

http://instagram.com/spiroease

Contact No.: +91 9167604188

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Inmito Healthtech Pvt. Ltd

A value driven regenerative medicine innovator

Inmito HEALTHTECH PVT LTD

Problem Addressed

- Utilizing 3D printing with PEEK polymer ensures the prevention of foreign body reactions through eventual absorption
- Bioabsorbable synthetic substitutes crafted to facilitate tissue regeneration, reducing the necessity for additional surgeries
- Biomimetic synthetic dural substitute designed to prevent cerebrospinal fluid leakage and infections

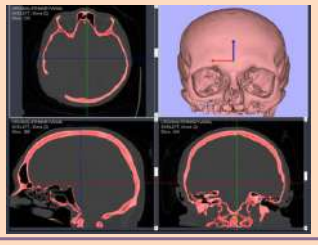
Technology

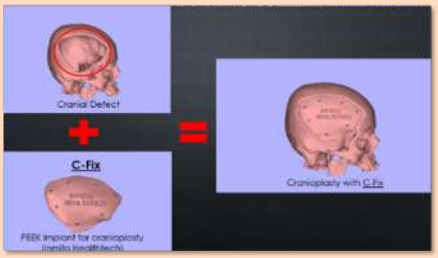
Additive Manufacturing

- Manufactured considering each patient's anatomy and intraoperative adaptation & ease of use

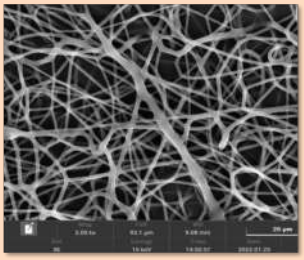
Electrospinning

- Crafting nanoscale fibers that emulate native tissue, providing an optimal environment for tissue regeneration

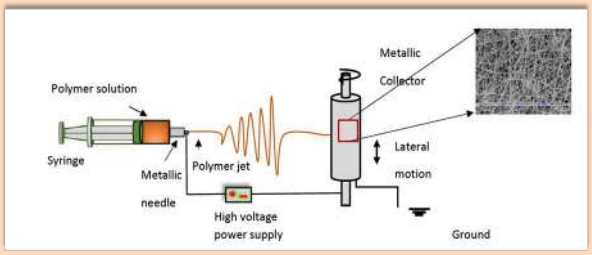




Customized Cranial Fixation Repair System



First Nanometric Bioscaffold



Next-generation Tissue Reinforcement Technology: Electrospinning

Societal Impact

- ✓ Impact creation through indigenous manufacturing
- ✓ In line with the "Make in India" initiative, aiming to globalize its 3D medical breakthroughs
- ✓ Affordable yet best in class healthcare for all

Current Status

- CDSCO Trial License Obtained for Bio-scaffold
- Certified Design Software for Tailored Patient-Specific Implants
- Prototype ready, currently at the TRL 6-7 stage, with the pending acquisition of a commercialization license from CDSCO India
- Successfully completed 15 c-fix implants

https://inmito.com/

EMAIL US: info@inmitotech.com
PHONE NUMBER: 0129-4048013

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Hip Pro+: Preventing and protecting elderly from falls and injuries

Kaushal Kothari
Ripple Healthcare Pvt Ltd

Ripple Healthcare

Problem Addressed

Hip fractures due to falls are a major public health concern for the elderly. Existing products are either prohibitively expensive or have poor acceptability. We are building an affordable, highly acceptable, and effective product to protect millions of patients from disability and death.

Over 12 LAKH elderly are treated in emergencies for fall-related hip fractures in India annually. Hip-fractures lead TO IMMOBILITY AND PERMANENT DEPENDENCE, negatively impacting patients' Quality of Life.

Technology

A wearable SMART device with protective cushions covering hip bones. The cushion is inflated in less than 1 seconds from the time of detection of CHANGE IN POSTURE.

Hip Pro+ consists of a combination of electronic hardware, including gyroscopes and accelerometers, to identify posture based on a carefully developed algorithm having AI application. The system analyses movements up to 1,000 times per second. Once a postural change has been detected the cushions are inflated.

Societal Impact

- ❑ Hip Fracture patients
- ❑ History of fall patients
- ❑ Cognitively impaired patients
- ❑ Osteoporosis elderly
- ❑ Frail elderly
- ❑ Arthritis patients etc

Current Status

Startup Stage: MVP

Existing Customer # (paying & nonpaying): Have pre-orders.

PCT Application No.
B5105-00258
Indian Patent Application No. 202111037084

Kaushal@ripplehealthcare.in
+91-7203935224

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Volafresh™: a natural, clean and safe solution to extend post-harvest shelf life

Dr.Sanjai Saxena[1,2] | Dr. Piyush Verma[1,2] | Dr. Soni Harsh Srivastava[1] | Harsh Kumar[1] | Dr. Merry[1]

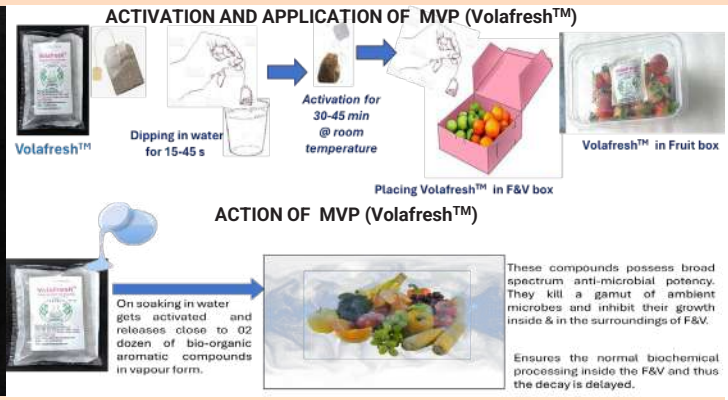
[1]Agpharm Bioinnovations LLP
[2]Thapar Institute (TIET), Patiala

Problem Addressed

- ~ 15% of post harvest losses occur in Fruits & Vegetables (F&V) between farm & plate; leading to revenue loss of ~37000 crores INR.
- Improper/inadequate storage and transportation system of post-harvest produce to small, marginal and medium (SMM) farmers who constitute ~86% of the Indian agrarian ecosystem (~96 million)
- Current interventions for extending the post-harvest shelf life unaffordable by SMM farmers
- Farmers suffer from heavy debt burden due to post harvest losses
- Food security of the country is impacted, FSI (Food Security Index)- 68/113 (2023)
- Hunger is a serious issue- over 140 million people sleep without a single meal in India- Global Hunger Index of India is 111/125 (2023)
- Impacts the environment by contributing to CO_2 and GHG emissions (>6%)

Technology

- Our product- Volafresh™ upon activation releases close to a 2 dozen of volatile bio-organic aromatic compounds which possess potential antimicrobial activity against a broad spectrum of spoilage and plant pathogenic microorganisms.
- During gaseous transfusion, they kill or eradicate the gamut of spoilage/plant pathogens on the surface as well as surroundings of the F&V.
- A modified decentralized environment is created by Volafresh™ which reduces the spoilage, eventually reducing stress on F&V, keeping it fresh and fit for consumption of longer duration.
- **ATTRIBUTES OF VOLAFRESH™:** **Sterile** | **Non-residual** | **ecofriendly** | **organic** | **Cost effective** (at large scale) | **DIY** (user-friendly intervention without capex requirement) | **Recyclable** (promoting circular economy)



Societal Impact

- Impacting farmers income- Expected rise by 30%
- Supply chain partners: reduction in losses (upto 50%) & revenue enhancement (~30%)
- Mitigating CO_2 and GHG emissions
- Reduction: input of synthetic chemicals and lesser water consumption.
- Saving arable land to the tune of 486592 acres (138547.04 bighas) (Case to case basis- reference tomatoes)
- Improving GDP (50% in case of tomatoes)
- Aligns with the G20 initiatives w.r.t Food Security, Sustainability & Zero hunger & UN SDGs 01 (No poverty); 02 (Zero Hunger); 12 (Responsible consumption and production); 13 (Climate action).

Current Status

Product (Volafresh™) | ● MVP (Minimum Viable Product) ready and Piloted (TRL6/7)
| ● Organoleptic and Toxicology completed
| ● Licensing/ Certification (in process)

Company: Piloted and Pre-revenue

We foresee Grants/ Investment for scaling up of the product and a marketing.

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WhatsApp: +91 9877729744

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

BiomLife® FOR LIFE
(Universal Transport Medium)

1. Mr. GAGAN HANJON
2. Mr. SHUBHAM SINGH

Ruhvenile® Biomedical OPC Pvt. Ltd.

Problem Addressed

1. Not anymore Specimen spoil (generally 80% spoiled without BiomLIfe) , Maintain specimen integrity during transportation, without need of cold chain..

2. One medium for diverse specimens..

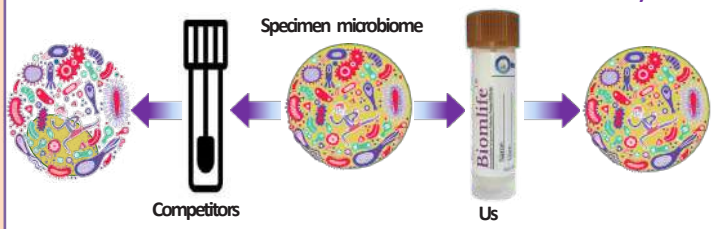
3. Depiction of the true microbiome and OMICs studies for advanced analysis..

4. Maintaining the viability of both aerobic, anaerobic and fastidious species together..

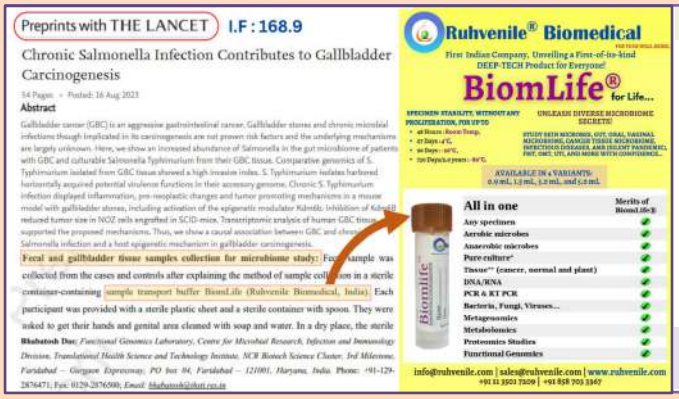
5. Generate reliable data for drawing conclusion..

Technology

Choose BiomLife® for the most accurate and reliable microbial analysis.



Competitors	Us
Needs Immediate Freezing	No Need For Immediate Freezing
No assurance of Viability	Assurance of Viability
Proliferation	No Proliferation
Different media for different sample	One tube for all microbes
Only focus on preserving DNA/RNA for sequencing	Ensure sample integrity needed for OMICS studies beyond just sequencing
	All preserved microbes remain viable and are re-culturable



NATIONAL AND INTERNATIONAL BIOMLIFE USERS

MANIPAL ACADEMY OF HIGHER EDUCATION | BLK-MAX Super Speciality Hospital | JOHNS HOPKINS UNIVERSITY | COSMOSID Unlocking The Microbiome | HESTER | ALL INDIA INSTITUTE OF AYURVEDA | GA Genetic Analysis | Shela | icmr | NIN | SEQBIOME | PELICAN HEALTH | NBRI | ASHOKA UNIVERSITY | AMILI | TRI

and many more ..

Understanding your microbiome can shape your life.
Connect with us to unlock diverse microbiome secrets!

Societal Impact

- Solving 80% specimen spoilage before analysis…BiomLife maintains 100% integrity of any specimen.
- Development of personalized medicines for Diabetes, NAFLD, and other diseases.
- Enable scientists to generate accurate cohort study data on microbiome role in human health and disease.
- Potential to Address Current and Future Pandemics, Including Silent AMR.
- Faster recovery and less expenditure on diseases.
- Revolutionize the healthcare system and promote improved public health.
- Reduce dependence on imported media, saving billions annually.

Current status

- Selling globally, without geographical limitations.
- BiomLife® generate data in THE LANCET (I.F 168.9)
- Trusted by esteemed prestigious national and international institutions, hospitals, and companies across four continents.
- Internationally recognized by Hello Tomorrow (Paris) and the governments of Belgium and the UK.
- Over 30,000 (Thirty Thousand) diverse specimens have been tested to date.

DEEP TECH hello tomorrow — Paris, France

Belgium

British Deputy High Commission Kolkata

NBEC 2022 winner

WEBSITE | LinkedIn

www.ruhvenile.com

Ruhvenile® Biomedical
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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

COLLOIDAL SILVER NANOPARTICLE

Dr. Fanindra Pati Pandey
Founder & Director

Problem Addressed

- Pesticides and fungicides, which contain detrimental chemicals and are linked to adverse effects, contribute to soil and water pollution.
- Generally, pesticides and fungicides show short-term effectiveness, as well as pose a financial burden on farmers.
- Some sanitary napkins and baby diapers may result in infections due to microbial activity and also exhibit inadequate odor control.

Technology

- Nanotechnology manipulates materials at the nanoscale (below 100 nanometers), where distinct properties arise from quantum effects and a higher surface area-to-volume ratio. It finds applications in medicine, electronics, materials science, and energy.
- Colloidal silver nanoparticles, ranging from 1 to 100 nanometers, suspended in liquid, particularly water, have unique properties.
- Colloidal silver nanoparticles have antimicrobial traits, being explored for applications like disinfection and wound healing.
- In medicine, researchers are studying their use in coatings for infection prevention, drug delivery, and diagnostic imaging agents.

Societal Impact

- Our cost-effective colloidal silver nanoparticles offer a safe dual-purpose solution for farmers independent of harmful substances. This eco-friendly alternative minimizes detrimental substances, aiding environmental health.
- Advancements in medical applications can lead to more accessible and cost-effective healthcare solutions.
- Incorporating colloidal silver nanoparticles in sanitary napkins and baby diapers enhances antimicrobial protection, promoting health, comfort, and environmental sustainability.

Current Status

The research and development phase has reached its conclusion, and we are poised to make our market debut. With preparations complete, we are ready to introduce our innovative solutions and products to meet the needs of our target audience and make a significant impact in the market.

Support by: BIRAC-BIG 21(BIRAC/CCAMP01879/BIG -21/22) and SISFS

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Instagram: https://instagram.com/scitechesyreasearchtechnology?igshid=OGQ5ZDc2ODk2ZA==

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Compost Tumbler Technology and Its Various applications


Mr. Koustubh G.Yadre(M.Sc Botany) Innovator
Mr. Mohammad Sheikh (Co-Innovator)
Dr. Kanchanganga Gandhe (Mentor)

MYCO Compost
From Nature...to Nature...

Problems Addressed


In India around 500 million MT agri wastes is generated, most of it go for burning without using its potential value.

Unavailability of quality organic manures.
Low Income in Conventional Manure Business.
Monocultre- Poor CFU- Low quality Compost

Technology

On field bio culture production

P-enriched compost

Compost Tumbler Technology

Mixed organic fertilizers

Sanjeevak Compressed vermi blocks

Compost Tumblers





Shredders



Compost Microbes and Sanjeevak compressed vermi blocks

Societal Impact



Sustainable, profitable, ecofriendly income source to common farmer.

Farm waste will be taken for process instead of burning. Creating good environmental conditions within village. Enriched composting products will double the income of farmer.

Current Status

Indoor Landscaping
Urban Gardening
Corporate offices, Airports
Organic waste Composting
Myco Compost
Plant Nurseries

Technology is in market since 2010.

https://www.facebook.com/profile.php?id=100057631142310
www.mycococmpost.in

Myco-Compost
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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

TriNANO's"Solid State" Nano Coating

Dr. Harsh Sethi
CEO & Founder

Problem Addressed

Theoretical Efficiency of solar panel, under ideal conditions, is limited to 21 - 22%. Actual under normal conditions is around 15 - 18%. Energy losses due to shadows, non-absorption, reflections occur. Regular maintenance & cleaning is needed for proper output. That is a regular/yearly cost and also sometimes causes damage to the panels.

Technology

TriNANO's (Patented) worlds first "Solid State' Nano coating (of about 0.4 micron thickness), made of Inorganic /oxide material, applied by Electro deposition method on solar panels, increases power/ Energy output & reduce maintenance and cleaning costs and frequency.

Societal Impact

Our Nano coatings make climate and social impact by reducing water consumption for cleaning of solar panels by 55%, decreasing the carbon emissions by 5.2%, increase the land availability by 7.6%, as our coating increases performance ratio and productivity of both new and existing solar panels.

Current Status

We have the Patent in India and registered for the same in PCT countries. We have also applied for National patent in USA. We are ISO 9001 Certified. We are incubated by SINE IIT Bombay and registered under "Start-up India" Program and "MSME" program of Govt. of India.

Commercial Paid Pilots are with Borosil, Saint Gobain, Waaree Energy, Chemitech, Blupine Energy, Adani Green and others for repeat orders/LOI like Alpex, Toyota, Tata Power, Ayana, Goldi Solar etc

https://tri-nano.co/

Mobile : +91-9136639335

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

AUTOSCOPE

Valetude Primus Healthcare

Problem Addressed

Microscope- based disease screening

Expert
Skilled Manpower is needed for screening

Human Error
Interpretation varies from person to person

Evidence
No means to validate the interpretation

Population
Annual population growth is increasing

Prevalence
Disease prevalence is increasing

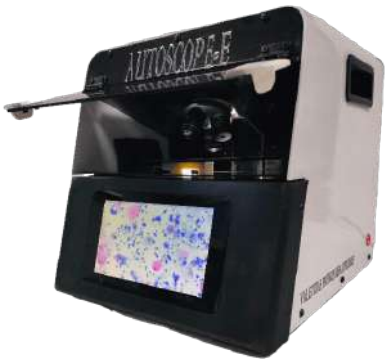
Screening
Deployability in rural areas for screening

Technology

Autoscope - affordable and field deployable automated motorized digital microscope tailored for whole slide imaging.

- FIELD DEPLOYABLE
- HIGH RESOLUTION IMAGING
- WHOLE SLIDE SCANNING

- AUTO FOCUS
- CLOUD UPLOAD
- ON BOARD COMPUTE



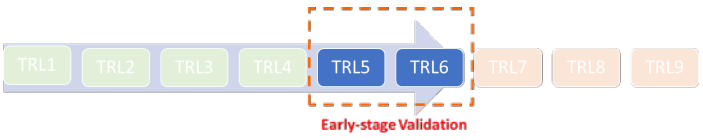
Societal Impact

Healthcare access
Enhances accurate diagnostics in rural settings

Early Disease detection
Crucial in preventing the spread of infectious diseases

Telemedicine advancements
Bridge the gap between urban and rural healthcare services.

Current status



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Thumbnail.png

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

NAVGRI : SMART MUSHROOM PROTECT

Problem Addressed

POST HARVEST LOSSES OF MUSHROOM ASSOCIATED TO

1. MUSHROOOM WHITENESS
2. MUSHROOM CAP OPENING
3. MUSHROOM SHELF LIFE
4. LONG DISTANCE SHIPPING

Technology

NAVGRI SMART MUSHROOM PROTECT IS A PATENTED TECHNOLOGY THAT USES PLANT BASED EXTRACT TO IMPROVE MYCELIA STRENGTH OF MUSHROOM LEADING TO IMPROVED SHELF LIFE, IMPROVED QUALITY OF MUSHROOM

Societal Impact

1. BETTER PRICE OF MUSHROOM FOR MUSHROOM FARMERS DUE TO IMPROVE QUALITY
2. REDUCTION IN POST HARVEST LOSSES OF MUSHROOM FARMS BY OVER 90%
3. IMPROVEMENT OF FARMERS INCOME BY OVER 30% USING THE TECHNOLOGY

Current status

TECHNOLOGY COMMERCIALIZED AND USED BY OVER 100s OF MUSHROOM FARMERS IN INDIA

www.navork.com

Contact details
8178385936

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

'Production of affordable and sustainable animal feed'

NAME of the Innovator/team

Affiliation: KIIT TBI

Akumtoshi Lkr

Principal Investigator

Jongpongrenla Jamir

Feed formulation & Nutritionist

Jongpongchiten

Minilivestock & Business Development Lead

Problem Addressed

- Municipal organic waste management
- Rising cost of animal feed production
- Sustainability of Feed supply chain.
- Income of Small holder farmers

Societal Impact

City waste management.

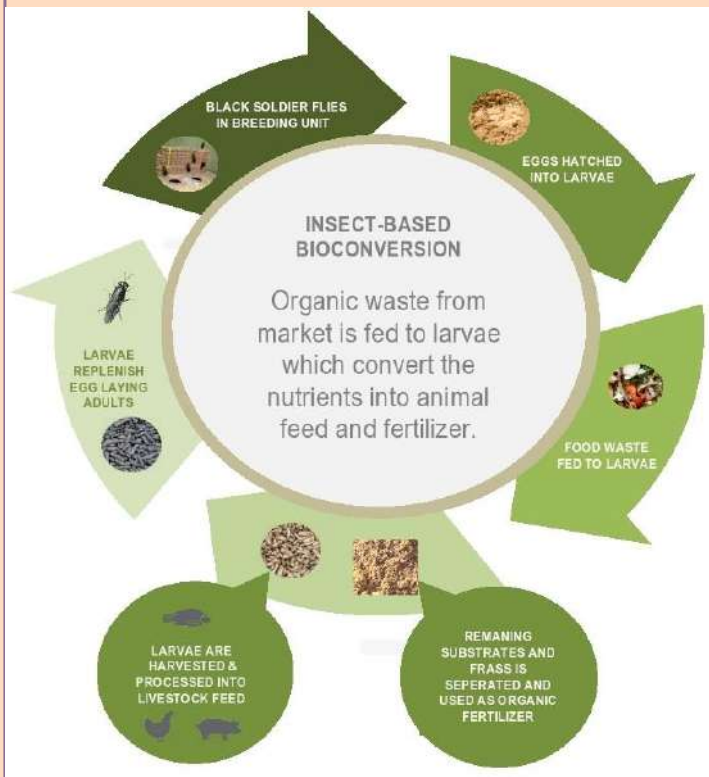
Shortens feed supply chain by making it regional and affordable.

Generate local jobs in agriculture, processing and production.

Boosting local bio-economy.

New system design for sustainable agriculture and businesses.

Technology



Current status

Breeding and production of BSF

Discussion with

Municipal council
on waste management

Customized Feed formulation and testing

Contact information

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Comparative Studies of Different Banana Pseudostem Fibers and its quality enhancement for Value Added Products

Dr. Atom Annupama Devi
Affiliation: BIRAC BIG-NE Grant

Problem Addressed

The inefficient disposal of banana pseudostems post-harvest causes environmental pollution, impacting soil and water bodies. This waste, despite being a valuable fiber source for textiles and paper, is largely discarded or burnt. Moreover, the ban on single-use plastics necessitates an alternative, highlighting the need to convert pseudostems into fibers to mitigate pollution from synthetic fibers derived from petrochemicals

Technology

The proposed project aims to convert banana pseudostem waste into quality fibers for various purposes. The banana fibers will be eco-friendly, light-weight, skin-friendly, fire-resistant and many more. As Manipur is rich in natural banana diversity, different quality fibers using different treatments will be produced which will have different applications

Societal Impact

The project offers eco-friendly fiber solutions, empowering rural communities with income opportunities, skill utilization, and sustainable practices, reducing pollution from discarded pseudostems while enhancing employment to rural women during extractions of fibers and preparation of bags.

Current status

- Pseudostem Extraction: Extracted from different genotypes of banana fibers for initial product development.
- Handbags prepared from extracted fibers.

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Production of degenerated varieties of Potato in Meghalaya through Apical Rooted Cutting ARC technology

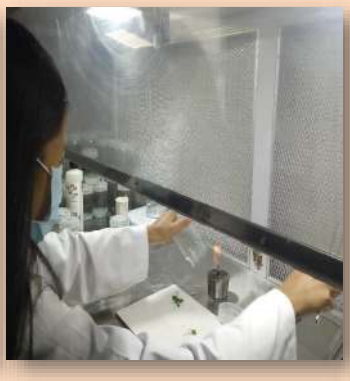
Daphilari Nongkhlaw
Innovator

Problem Addressed

- The un-availability of a good quality and heathy seed materials.
- Regenerating Potatoes for the farmers of Meghalaya who have been repeatedly saving and utilization, the local varieties that have become susceptible to diseases and pests.
- Providing easy access to low-cost planting materials to the farmers of the state.

Technology

Apical Rooted Cutting (ARC) Technology: is a way to boost clean affordable potato seed production by providing a cost-effective and speedy supply of clean starter material for the onward multiplication and bulking of early growing seeds. ARC are rooted cuttings produced in sterile conditions from a juvenile tissue culture plant and then planted to produce tubers. Production of ARC is carried out in two stages, both of which take around 4-5 months. The first stage is to raise mother plants in a Tissue Culture Lab and maintained in a juvenile state. For 2-3 months, the mother plants – each of which can produce 100+ cuttings over time – produce shoots that are transplanted as cuttings into plugs and left for up to 3-4 weeks to root. The second phase is to transplant the rooted cuttings into the polyhouse to produce tubers and cuttings that are then multiplied over two to three seasons to produce high-quality early growing seeds.



Societal Impact

- The planting material provided are healthy and disease free and low of cost.
- Apical rooted cutting Technology can provides a surplus amount of planting material for the farmers of Meghalaya.
- Provide employment opportunities.

Current status

- ✓ Initiation of four local varieties of Meghalaya- Phan saw, Phan Syntiew, Phan Shidieng, and Phan Imdieng
- ✓ Micropropagation and multiplication of the local potatoes through Tissue Culture
- ✓ Meeting farmers and giving them awareness about the technology

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

ANTIMICROBIAL FABRIC FROM BANANA FIBER

NENGNEITHEM HENGNA
Founder

MAJ TANAY MABEN
Co- Founder

Problem Addressed

Addressing sustainability concerns in textiles, our antimicrobial fabric derived from banana fiber offers an eco-friendly alternative to polymer-based garments. Unlike traditional polymers, banana fiber is biodegradable, minimizing environmental impact. Additionally, compared to water-intensive cotton cultivation requiring pesticides and fertilizers, banana plants thrive with minimal water and chemical inputs. This innovation promotes a more sustainable and environmentally conscious approach to textile production, reducing reliance on non-biodegradable materials and curbing the resource-intensive practices associated with conventional fabrics.

Technology

Utilizing advanced nanotechnology, we integrate antimicrobial agents into banana fiber during the textile manufacturing process. The antimicrobial properties, derived from natural compounds found in bananas, create a protective shield on the fabric. This technology inhibits the growth of bacteria and fungi, ensuring a hygienic and long-lasting solution for various applications, from clothing to medical textiles. The eco-friendly nature of banana fiber further aligns with sustainable practices, making it a promising innovation for enhancing hygiene in diverse industries.

Societal Impact

Antimicrobial fabric from banana fiber can revolutionize textile industries, reducing dependence on harmful chemicals. This sustainable solution promotes eco-friendly practices, mitigating environmental impact. Additionally, it addresses health concerns by inhibiting bacterial growth, enhancing hygiene in various applications. The project fosters economic growth through innovative, socially responsible practices, benefiting communities.

Current status

Currently, banana threads are successfully extracted using banana pseudostem and used in making bags, and accessories. And, the nanoparticles synthesized have shown their potential for environmental applications and antimicrobial properties. Thus, by incorporating nanotechnology with banana fibers, an antimicrobial fabric will be produced with potential applications in the textile and apparel industry. This would highlight the innovation's ability to expand into new market segments while also addressing sustainability concerns through the utilization of banana fiber.

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Bio-Printing Personalized Medicine

Sumant Bhutoria
CEO, Alfatek Systems

Problem Addressed

Personalized Medicine

"Therapy with the right drug at the right dose in the right patient."

Since every person has a unique variation of the human genome, there is a need for genome sequencing or genotyping to determine how an individual would uniquely respond to disease and medicines.

Pharmacy compounding is an area of research that refers to the customized production of drugs whose properties (dose level, ingredient selection, route of administration) are selected and crafted for individual patients. Our 3D Bio-printer technology focuses on this area of Personalized Medicine.

Technology

Alfatek Systems is an IIT-IIM alumni startup venture in **rapid prototyping technologies** for the last 7 years, with a focus on building customized 3D printing machines.

We have worked with industry and academia to translate our technology from lab scale 3D bio-printers used for initial API formulations of 3D printed tablets to industrial grade bio-printers that can be installed and integrated into the factory production flow of pharma industries.

Our bio-printers use the latest extrusion technologies ranging from pneumatic, syringe pump, endless piston, and inkjet, and work with API formulations of different chemistries and viscosities to bio-print the relevant drug patterns of 3D printed tablets.

ANGA – 2nd Gen lab-scale Bioprinters from ALFATEK

Translating lab research to industrial production with proprietary Alfatek Systems bio-printer technology

Pilot Production Trials of ALFATEK Industrial Bioprinter at Zim Labs, Nagpur

Societal Impact

The use of 3D bio-printers in personalized medicine will:

- Produce far better patient outcomes in terms of lower side-affects and irritations rising from over-dosage or under-dosage of APIs.
- Reduce the diagnosis and treatment period of patients, translating to decreased patient suffering, and better quality of life.
- Democratize and localize production of 3D printed tablets at the pharmacy level.

Current Status

Zim Labs, Nagpur is a mid-sized Indian pharma company and a pioneer in oral thin films with a presence in more than 50 countries.

Our 3D bio-printers have been installed at their pilot production facility for oral thin films . Work is underway to validate and certify the processes and steps. We are also trying to expand the use of bio-printers in production of advanced nutraceutical formulations.

Electro-spinning can weave very fine fibers and films. We are also working to incorporate electro-spinning with bio-printing to enable production of high value pharmaceutical products.

https://www.alfateksystems.com
https://www.linkedin.com/company/alfatek-systems
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C-CAMP GIAN

PEOPLE'S FESTIVAL OF INNOVATIONS 2023

A supply chain between the rural growers and urban consumers through digital commercialization on dry flowers technology; a value addition to the floriculture industry

K. Chokhone
Dianthe Private Limited

DIANTHE Flower of the Gods

Problem Addressed

- Absence of Innovation and awareness.
- Absence of market linkage and market imbalance.
- Lack of authenticity and scalability.
- Flooded with imported and artificially fed or chemically treated product which lead to discouragement for local growers

Technology

Currently majority of the produce are imported and artificially fed to chemically treated which lead to discouragement for the local growers. There's no large scale farmer in the state hence gap in supply chain. Dianthe Pvt. Limited aim to solve this problem by letting the farmer expand their produce and by providing the best quality flowers grown as per regional suitability to meet the demand

Societal Impact

- Through innovative design, production process , involving more farmers.
- Collaboration with local farmer's, training them.
- Creating products with waste, eco-friendly and sustainable packaging, biodegradable products.
- Substitutes costly imports and plastic imitants .

Current status

- Market-ready products available.
- Delivery locations include Manipur, Nagaland, Assam, Arunachal Pradesh, Karnataka, Delhi, Hyderabad, Telangana, Gujarat, Uttar Pradesh, Uttarakhand, West Bengal, Kerala, and Maharashtra.

+917085274011

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Production of a hair care formulation from Litsea cubeba and Tithonia diversifolia, plants native to Mizoram with potential activity against dandruff causing pathogens

Laldingngheti Bawitlung
Affiliation: BIRAC BIG-NE Grantee

Problem Addressed

- Common anti-dandruff treatments rely on synthetic components like Salicylic acid, Zinc Pyrithione, coal tar, Resorcinol, Selenium, or Ketoconazole.
- Despite their efficacy in combating dandruff, these synthetic ingredients might pose long-term adverse effects.
- There's a need to address the potential negative consequences associated with the extended use of these synthetic components in anti-dandruff formulations.

Technology

The project aims to harness the anti-dandruff properties of Litcea cubeba and Tithonia diversifolia, native plants of Mizoram. Extracting essential oil and compound extracts from these plants exhibited potent anti-fungal effects against Malassezia furfur and other pathogens. The resultant hair care formulation, proven safe and effective, cleanses hair shafts, restricts pathogen colonization, and disrupts pathogen structures. The focus now is on commercializing this technology by establishing a production unit with extraction and distillation capabilities

Societal Impact

- Utilizing native plants for an anti-dandruff hair care formulation promotes the conservation of Mizoram's biodiversity.
- Commercializing this technology could create employment opportunities, particularly through the establishment of production units involving extraction and distillation facilities.
- Offering a natural, safe alternative to synthetic anti-dandruff treatments aligns with a growing societal interest in eco-friendly and sustainable products

Current status

The formulation is currently in the initial stages of development and optimization for its anti-dandruff properties

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Insects the solution for feeds, fertilizer and Pharmaceutical Industry

NAME of theInnovator/team:-
Okram Premjit Singh
Affiliation:- Maiyon Agro LLP

Problem Addressed

- Insufficient raw material availability in the North East region.
- Shortage in the supply of biomedical-grade Chitosan.
- Scarcity of natural fertilizers.
- Escalation in the cost of protein used in feed production.

Technology

The proposed project is built on a sustainable worm Keratin as raw material for Chitin and Chitosan Products. Using worm increase productivity leaving a very small carbon footprint and providing an opportunity for Bio Medical, Sewage Water recycling, and Polymer industry in Landlocked reason of North East

Societal Impact

- Availability of protein for feed production.
- Availability of natural fertilizer for rural agriculture and horticulture crops.
- Availability of Chitin and Chitosan for pharmaceutical and cosmetic industry.

Current status

- Amino Acid and Nutrient profiling done for Alt.Protein.
- NPK and micro nutrient testing done for fertilizer
- Testing for chitin and chitosan production from insects done.
- Insect breeding protocol proven.

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MEIRA FOODS

MEIRA FOODS FOUNDER
Hanjabam Shubhra Devi

Problem Addressed

- WOMEN EMPOWERMENT THROUGH ECONOMIC OPPORTUNITIES
- MANIPUR FARMERS' WOES
- UNEMPLOYED EDUCATED YOUTHS
- UNDER DEVELOPED LOCAL ECONOMY
- UNEXPLORED AND UNDERUTILIZED LOCAL NATURAL RESOURCES
- UNREGULATED IMPORT MARKET GROWTH FROM NEIGHBOURING COUNTRY: POSING A THREAT TO HEALTH OF LOCAL PEOPLE!!
- ZERO WASTE PROCESSING UNIT

Technology

- A food processing unit run by women of Manipur utilizing the locally grown fruits and vegetables since the last 18 years making pickles and fruit candies (social company).
- Varieties of Fruit candies are manufactured using **drying technology**.
- **Canning Technology:** Used for canned pineapple products.
- Pickles are made using **preservation techniques** using Class I preservatives and Class II permitted preservatives.
- *Waste to Wealth projects* such as **fermentation** of fruit waste into high value products: Vinegar, Fruit Crush and Chutney.

Societal Impact

- **Employment Generation:** Significant allocation to wages (INR 24 Lakhs in the first year) indicates potential employment creation in the whole Northeast Region of India.
- **Infrastructure Development:** Catalyze the growth of tertiary businesses within the surrounding ecosystem.
- **Local sourcing:** Empowering local farmers (>10,000 farmers) and suppliers, fostering economic growth, sustainability, quality control, food security.
- **Eco-friendly:** Practices such as **100% recovery** of fruits from the farmers thereby no wastages of fruits.

Current status

- **MEIRA FOODS** today is empowering women i.e. 70 women employed directly, women SHGs, Relief Camps inmates are empowered by providing **economic opportunities through employment** and **skill development trainings**.
- Service partner to **Manipur Organic Mission Agency** under **MOVCD-NER** sponsored by **Ministry of Agriculture**.
- Provided **mentorship service** to various **KVK** in the state and extended food processing training to women entrepreneurs, University students (**RUSA Project, Industrial Interns**) and in partnership with NGOs in INDIA.

Website: http://www.meirafoods.com/

meirafoods01@gmail.com / shubhradevi@yahoo.com
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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

SCENTED SOYWAX CANDLES IN LONGPI BLACK POTTERY JARS

Rinchon Kashung & Aleks Vashum
KIIT TBI

Problem Addressed

Most candles are made from *paraffin*, a petroleum byproduct. When burned, paraffin wax releases volatile organic compounds into the air, the same chemicals found in diesel fuel emissions that are harmful to our health and environment. However, October Pumpkin uses *soy wax* that is vegetable based; making it natural, renewable, biodegradable and washable with soap and water. It also burns 50% slower and upto 50% longer than paraffin wax, making it *cost effective*.

99% of the candles in the Indian market faces the problem of candle-tunneling while burning. This is due to improper testing of the wax, wick and jar size; and also lack of knowledge on how candles should be burned. Our candles are properly tested to avoid these problems and we provide knowledge on how to burn them. Every household in India uses candles or scented candles, which makes proper burning an important function in providing value to end-users for money spent.

Technology

We are the only brand in India and globally who uses ***longpi black pottery jars***, crafted by Tangkhul community artisans from Manipur, as our candle case, and our vision for using longpi black jars is to create employment opportunities and sustainability, which will in turn support the artisans in our community so that the whole community can benefit financially. Longpi black pottery candle cases are made of serpentine stone powder and are reusable, microwave and oven safe, and cleans up well with soap and water. To get this custom-handcrafted jar, we work with more than 10 artisans and 5 brands of longpi village in Ukhrul District, Manipur. The unique feature of this craft is that it is made without using pottery wheels. They are a testimony of true craftsmanship, art, sustainability and patience. For October Pumpkin, it is a beautiful thing to uphold this tradition, and a great deal of satisfaction comes from creating quality products that give meaning to stories, and value to end users as well.

All of our scents are tested and uniquely crafted relating to different emotions. The main purpose of creating them is to help elevate user's space. Just as design and things inside a house are the physical component of home decor, scent is the emotional component of home decor and we believe that a well-scented home is a part of homemaking that captures the essence of memories and emotions; and create quality products with gettable price in mind.

Societal Impact

1) Sponsored a girl fellow at STEP Academy
2) Contributed for the procurement of ambulance in Ukhrul District, our hometown during COVID
3) Organised pop-up stalls free of cost at Nagaland House, New Delhi in the name of HOME & HEART, a collective of North-East Women Entrepreneurs living in New Delhi and their crafts, twice
4) Sponsored the State Level Kachai Lemon Festival in Kachai
5) Sponsored the TKLD (Tangkhul Katamnao Long Delhi), a student Union in New delhi for organising Freshers' Meet, with over 10,000 attendees.

My vision and mission is to create sustainable products while also giving back to society by creating employment opportunities so that the whole community can benefit financially.

Current status

Sold over 6,500 units to clients in India, Singapore and Africa.

1) **Instagram:** https://instagram.com/octoberpumpkinco?igshid=OGQ5ZDc2ODk2ZA==

Phone no.: 9582347509

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

PiCaSoid

Rojen Leimapokpam
Ravi Kumar

PiCaSoid
The Health Platform for Everyone

Problem Addressed

1. Time consuming registration process at hospital OPD counter (average wait time is 7-12 minutes).
2. Tele consultation challenges in remote places of India (less acceptance of new technology).
3. Communication barrier during interstate treatment (lack of accurate information).

Technology

A mobile app is developed to seamlessly connect patients, doctors, and healthcare centers, facilitating efficient communication and healthcare delivery. Additionally, an API is integrated into the healthcare center's system, allowing easy retrieval of demographic information at the OPD counter. This integrated system enhances coordination, streamlines patient management, and improves the overall efficiency of healthcare services.

Societal Impact

(1) Patient are experiencing hands free registration process at healthcare facilities, using our API.

(2) Our "Pharma Tele Hub" is connecting patient from remote places with doctors in cities.

(3) Our "Treatment Enquiry" feature is helping patient in planning their treatment and are able to save their money.

Current status

- Revenue stage: The company is currently generating revenue.
- Funding: It has received seed funding.
- Geographic presence: It operates in two states.

www.picasoid.co.in

+91 7005337550/ 7085053813

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Cordyceps militaris Mycelium Mat Tea

Dr. Thiyam General

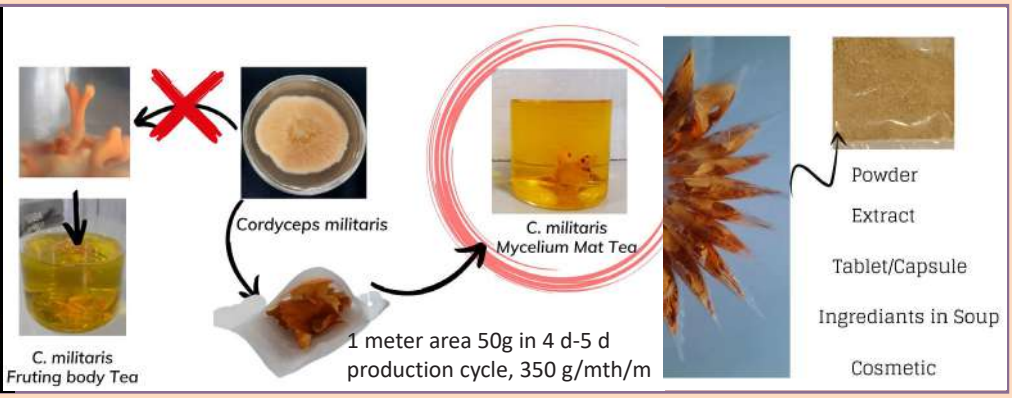
Generation Net Nutrition Pvt. Ltd.

Problem Addressed

- ❑ **The Unavailability of Affordable *C. militaris* Medicinal Mushrooms.**
- ❑ **Lack of alternative protein to feed the growing population.**
- ❑ **Existing *C. militaris* fruiting body requires longer cultivation period (40 – 60 days).**
- ❑ **Existing price range from Rs 0.6 -1 Lakh/Kg**

Technology

- ❖ **Axenic** *C. militaris* culture
- ❖ **Submerged Fermentation**
- ❖ **Induction** of mycelium to from **Mat**
- ❖ Production cycle **4 to 5** days
- ❖ Drying *C. militaris* **mat 60 ℃** for 3 **hrs**
- ❖ **Cordycepin** content **1.96 mg/g**
- ❖ **Adenosine** content **0.54 mg/g**
- ❖ Affordable price (30 Rs/g)



Societal Impact

Provide the health benefit of *Cordyceps militaris*

- **health supplements,**
- **Sports drink**
- **military personnel in high altitude,**

Healthy mushroom as alternative protein

Current status

A prototype is developed

Dr. Thiyam General
8449494640

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

VIPILIC DOLOR

Aged Garlic based topical oil to relief patients suffering from Arthritis inflammation and allied pain

Tholua Pratisthan Private Limited Assam

Problem Addressed

Patients afflicted with -

- Arthritis Inflammation
- Spondylosis
- Frozen Shoulder
- Muscle Strain
- Lumbago
- Cervicalgia
- Allied Pain, etc

undergoes drug therapy that include non opioid analgesics such as paracetamol, NSAIDs, topical analgesics and intra-articular steroid injections etc. Such treatments including NSAIDs are reported to often have serious adverse effects.

Technology

Presenting a novel way of treating Arthritis Inflammation and allied pain by developing selective COX 2 inhibitor [VIPILIC DOLOR OIL], to overcome adverse events related to the use of NSAIDs.

Societal Impact

1. Success of the product in the market will increase of few medicinal herbs that are available in North East India enabling income opportunities for the farmers.

2.The quality of life will improve for the patients suffering from Arthritis Inflammation and allied pain.

Current status

Research ideas developed, the hypothesis formulated and protocols of developed idea proved on initial level by In-vitro studies i.e. biochemical studies etc

www.tholua.com

Contact: +91 9999830305 / info@tholua.com

/tholualndia /tholua #/tholua

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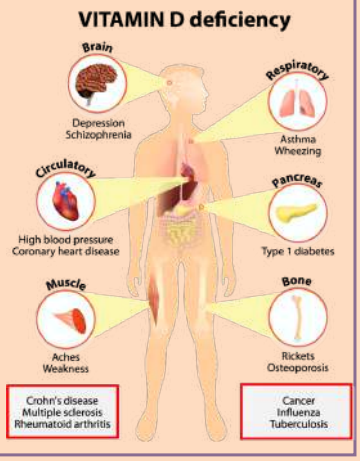
PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Natural and Vegan Sources of Vitamin D

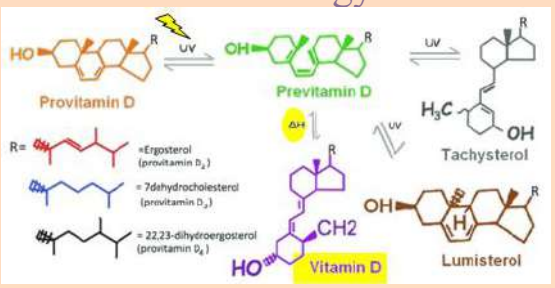
Dr Priyangshu M Sarma (PhD)
Innotech Agripostikam Pvt Ltd

Problem Addressed

- **Vitamin D deficiency a pandemic problem**
- **Over 80% of population are Vitamin D deficient**
- **Vitamin D and its linMushrooms natural source for kage with farmer clusters**



Technology



Patented technology* enhance Vitamin D in mushrooms to 3000-4000 IU

Simple incorporation in diet and ideal for bio-fortification of Vit D

Societal Impact

- **Associated with over 500 Mushrooms farmers and impacted income and productivity**
- **Provide spawns, training and Market Linkage**

Current status

Products available in NE, Delhi NCR and Mumbai

Current sales over 200 units/day

Current focus on Vitamin D enhanced & biofortified products

www.woodberryin.com
www.instagram.com/woodberrynatural
www.facebook.com/woodberrynatural

priyangshu.sarma@innotechin.com
+91 9811665349

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Enzymatic Blends for Cellulosic 2G Ethanol Production

Kangkon Saikia
MSc., PhD in Biotechnology

Shabiha N. Hazarika
MSc., PhD in Microbial Biotechnology

Kaustav Gayon
B.Tech, M. Tech (IIT Kharagpur) in Agricultural Engineering

Imtiaz Ali
MCA,
Business Development

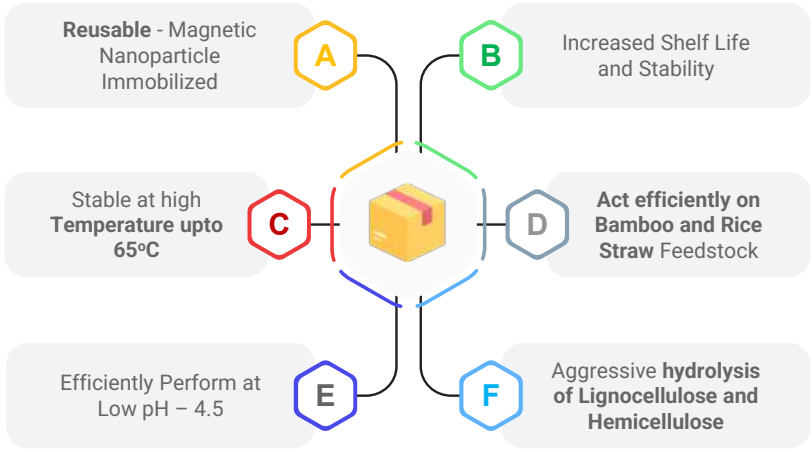
PRODUCT NAME

Zymocel®

zymolent BIOSCIENCES

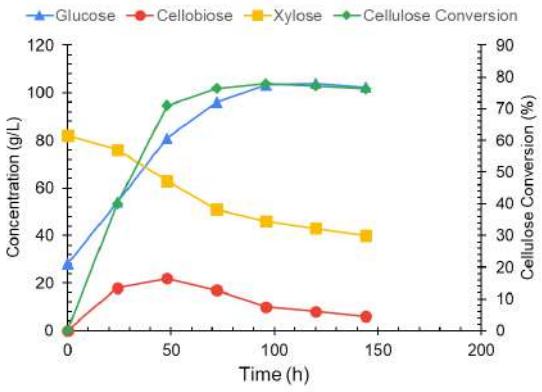
Problem Addressed

- **Rice Straw (Agricultural waste) Utilization** – India produces about 350 million tons of agricultural waste and is a major source of environmental pollution.
- **Customized enzymatic solution for Hard wood lignocellulose conversion.**
- **Limited Shelf-life of cellulosic enzymes**
- **Performance at high temperatures** (upto 60°C) **and low pH** (upto 4.5)
- **Import Substitution** and production by ATMA-NIRVAR Bharat Approach



Zymocel® F1
Enzymatic Blend for Conversion of Bamboo Biomass to Fermentable Sugars

Zymocel® F2
Enzymatic Blend for Conversion of Rice Straw Pulp to Fermentable Sugars



Final cellulase enzyme activity upto **180 – 240 FPU/mL** and over **80% Cellulose conversion to glucose** within 48 hours.

Societal Impact

- **Produced using Rice Straw (Agricultural waste) as raw material** – Making unutilized rice straw as secondary source of income to farmers.
- Recycle of biproducts to a low-cost environment friendly bioformulation

Current status

- **Proof of Concept Developed** – Collaborating with Assam Biorefinery Private Limited for trials and testing
- **Bootstrapping and Optimizing** processes for pilot scale and scaling up

Zymolent Biosciences Private Limited, Satrapara, Mirza, Guwahati – 781125, Assam, India.
Email: info@zymolent.com, +91 8399839981

www.zymolent.com find us on social media @zymolent, #zymolent

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Novel oral small molecule inhibitor of Wnt / β-catenin pathway for cancer immunotherapy

Aurigene Oncology
Conquering Cancer

Saravanan Thiyagarajan, Payel Das, Girish Daginakatte, Kiran Aithal B, Manjunath Krishnappa, Ramana Rao, Ranadeep Bokalial, Nirbhay K Tiwari, Simran Mujawar, Padmanabhan M, Charamanna KB, Gutta Padmanabha Naidu, Mohamad Fairus, Pratheev Alagappan, Sivapriya Marappan, Kishore Narayanan, Divyesh Mandavia, Sivaprasadu Ganta, Thomas Anthony, Kavitha Nellore, Shekar Chelur, Sanjeev Giri, Susanta Samajdar, Akhil Kumar, Murali Ramachandra

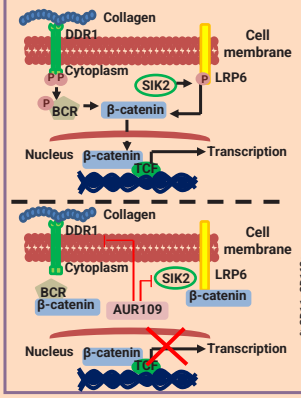
Problem Addressed

- Although immune checkpoint inhibitors (ICI) are clinically successful in eliciting immune responses against tumor cells and improving survival, not all cancer types respond to such ICIs and patients develop resistance over time.
- Wnt/β-catenin signaling is one such pathway associated with resistance development in patients, and clinical development of inhibitors directly modulating this pathway has proven to be difficult.
- Thus, to overcome resistance and improve efficacy of ICIs, an orally bioavailable clinical stage inhibitor of Wnt/β-catenin pathway has been developed by Aurigene, through inhibition of upstream kinases, DDR1 and SIK2, overexpressed in multiple cancer types, thus presenting a first-in class opportunity for clinical development in relevant indications.

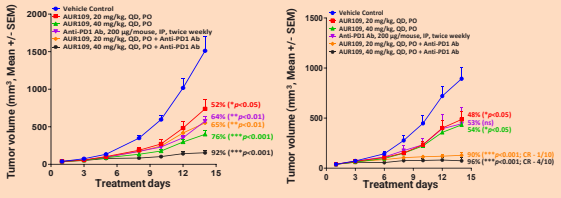
Technology

- AUR109 is a potent oral inhibitor of DDR1 and SIK2, and in turn modulates Wnt/β-catenin signaling as observed in an *in vitro* reporter assay. As a result, AUR109 regulates tumor-immune cell interactions, modulates immune cells including NK cells, MDSCs, CTLs, and regulatory T cells to elicit effective tumor-targeting immune responses.
- AUR109 shows profound anti-tumor activity as a single agent and in combination with ICIs in several syngeneic pre-clinical cancer models. Furthermore, it displays good additive/synergistic effects *in vitro* with approved drugs in ovarian, triple negative breast and gastric cancer cell lines.
- AUR109 also exhibits potent anti-fibrosis activity in an idiopathic pulmonary fibrosis (IPF) model in pre-clinical studies as expected due to the role of Wnt/β-catenin pathway in fibrosis.

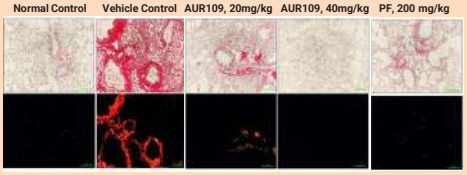
AUR109 modulates Wnt/β-catenin signaling through DDR1 and SIK2



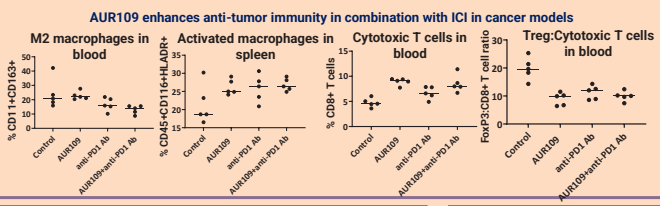
AUR109 shows anti-tumor efficacy alone and with ICI combination in cancer models



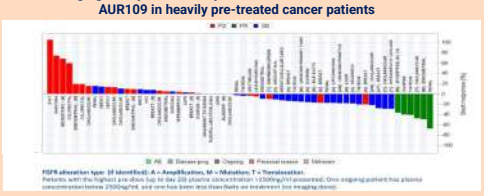
AUR109 exhibits potent anti-fibrosis activity in IPF model



AUR109 enhances anti-tumor immunity in combination with ICI in cancer models



Encouraging safety and efficacy observed in clinical trial-Phase I with AUR109 in heavily pre-treated cancer patients



Societal Impact

- Unlike traditional chemotherapy which targets both cancer and healthy cells, AUR109 specifically targets de-regulated Wnt/β-catenin pathway in cancer cells and addresses the unmet medical needs in cancers like ovarian, triple-negative breast, gastric, colon and kidney.
- Additionally, it shows potential as a therapeutic agent in idiopathic pulmonary fibrosis, a condition with limited treatment options.
- Through precision medicine, AUR109 aims to deliver significant patient benefits while minimizing toxicities.

Current Status

- Clinical Phase I trial of AUR109 in heavily pretreated cancer patients has shown encouraging safety and efficacy.
- US FDA has now granted approval for a Clinical Phase II study in colorectal, ovarian and kidney cancers.
- In the planned studies, AUR109 will be assessed for the inhibition of β-catenin pathway and efficacy as a single agent and in combination with approved therapeutic agents.

References

- https://aurigene-com.b-cdn.net//wp-content/uploads/2023/09/Aurigenes-AUR109_DDR1-SIK2-Wnt-Catenin-inhibitor-for-PFI2023-v2.pdf
- https://www.aurigene.com/pipeline/#proprietary-pipeline
- https://aurigene-com.b-cdn.net/wp-content/uploads/2023/05/20230418_AUR109_AACR2023_4030.pdf

Contact:
saravanan_t@aurigene.com
Phone: +91-8071025444

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Bamboo Bio-Composite Boats

Ravi J.Deka
Founder

AKVOTRANSIRO TECH PVT LTD
Supported by: INBAR, Fiire(Goa), FAO
NECTAR, IITG-TIH,
ASTEC(Assam), NEC-NEEDP

Problem Addressed

Country Boats are the most common watercraft in India.
They are leaky, unstable and made with archaic techniques.
Water transport is predominant in rural areas.
Riverboat accidents claim scores of lives every year.
A disproportionate number of victims are women and children.
Every rainy season, during floods, there are shortages of boats.
River/Water tourism potential is completely underutilized.
Most boat owners can't afford modern vessels.
FRP uses carcinogenic solvents; the boats aren't recyclable.
The wood used by boatmakers is often unethically sourced.

Technology

Modern composite sandwich Boats, 85% from Bamboo.
Using 6, 9 and 12 mm Bamboo Mat Board as sandwich core.
Laminated with aero-space grade Epoxy Resin.
Skinned with multi-axial Fibreglass cloth.
UV-resistant Synthetic Varnish and PU Paint.
With compressive and tensile Strength above 100 MPa.
5 times stronger 7-6 times more sustainable than Hard Wood.
With the lowest carbon footprint of any boatmaking process.
10-15 Years Lifespan and Biodegradable.
40%-60% Lesser weight than Fiberglass or Wooden Boats.

Societal Impact

Ultra-low-draft boats for flood relief operations.
Affordable and sustainably built boats for fishermen.
Robust, leakproof, safe alternative to Country Boats.
Unrivalled safety in River crossing.
Low skill-set requirements, can be easily taught.
Advantages of FRP, but minus the environmental impact.

Current Status

Pilot Production started with support from NECTAR.
MOU signed with IIT Guwahati - TIH for testing.
Trials & Testing of 18 PAX River Trimaran.
Building 11m Catamaran with FAO's Tech, Assitance.
Created 2 Boat designs for Inland Fishery.
Build 6 different design POC boats.

www.akvotransiro.co.in

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Mobilab

mobilab™
By Primary Healthtech
Mobile Based Portable Lab

Problem Addressed

- 74% of all deaths globally, equivalent to 41 million people die every year due to NCDs.
- 17 million people die from a NCD before age 70.
- 77% deaths due to NCDs occur in low and middle - income countries.

(World Health Organization)

Technology

MobilabTM is a point-of-care testing device that assesses 25 parameters related to kidney, liver, heart, pancreas, blood, and more. Equipped with IoT technology, it offers real-time error detection, user-friendly guidance, and generates digital reports with patient electronic health records for easy sharing via different medium.

ISO 9001:2015 13485:2016 | EMI/EMC | MFG/IVD/2023/000083 | Drugs License D/OL/KMP/22934 & D/OL/KMP/22935 | GeM | MSME

20x Reduced | 100% Unlimited | 21+ Indian | 50x Light Weight | 50x Low Powered

Societal Impact

- **10000+** patient sample tested
- **4 Health Camps** conducted at various locations
- **20%** disease early diagnosed and referred
- **7%** life threatening organ abnormalities identified

Current status

- **50+** devices deployed
- Clinical validations obtained from 4 major NABL accredited and govt. hospitals
- More than **20k** sample trails done.

QR code to Website

Contact details :
info@primaryhealthtech.com
Call on - 0361 291 2327

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Cashmir Biotech



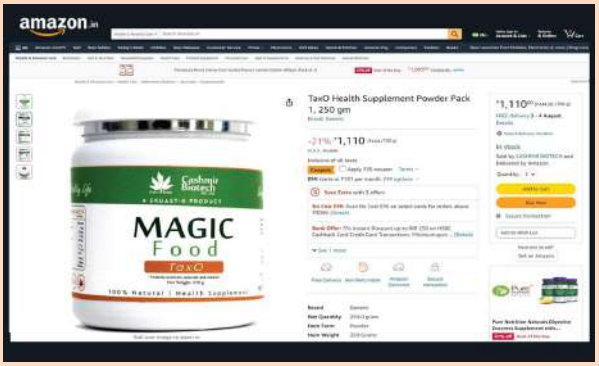
Dr. Khalid Z. Masoodi, Aqib Hurrah Azmaan Shafi
SKUAST-Kashmir

Problem Addressed

- Prostate cancer is the 2nd leading cause of cancer related deaths and primary diagnosed cancer in men.
- No defined Therapy against prostate cancer
- Drugs cease to function after treatment in most of the cases.
- Foods devised are cost-effective while the drugs available are cost-intensive and not affordable by the majority classes of society.

Technology

- Discovered a new anti-prostate cancer molecule TaxO. from an under-utilized plant
- TaxO kills prostate cancer cells
- Designed Anti-cancer Functional Food (MAGIC FOOD)
- TaxO Targets Androgen receptor a Key Gene in Prostate cancer progression



Societal Impact

- Magic Food is cheap and non toxic with Zero Side effects
- The herbs used in Magic food are grown by farmers in far flung areas.
- It's a source of Livelihood for those farmers.
- 7 doses of Magic foods Help relieve symptos of PCa, BPH and LUTS

Current Status

- Magic food tested – in-vivo and in-vitro and found effective against PCa cells and Xenografts
- Central FSSAI Approval obtained for Magic Food - 11023999000027
- Patent Application No. 202211001675 Dated: 12/01/2022 (Indian Patent Office)
- Clinically proven to reduce symptoms associated with PCa BPH and LUTS in >70% patients

www.cashmirbiotech.com
cashmirbiotech@gmail.com
9797439262

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

COON'S TAIL MEDIA

Sameena Lone & Dr. Khursheed Hussain

Kashmeer OrganoGreens

SKUAST-Kashmir

Problem Addressed

Despite the introduction of high yielding varieties and improved cultural practices, the per unit area production of potato is low due to different biotic and abiotic stresses including viruses which cause heavy losses to the crop and prove a limiting factor in its successful cultivation for which seeds serve as a main source and vectors of virus transmission. To meet the requirement of the food as well as to supply the farmers with good quality planting material of potato, the only option left is the production of quality planting material through biotechnological intervention i.e., micropropagation. But the high cost and inorganic nature of MS Ready media becomes a major constraint Organic Potato Cultivation. And nothing will be much better than converting the aquatic weed wastes of DAL LAKE of Kashmir into a useful a novel media which will support the production of organic breeders planting material of potato.

Technology

Coon's Tail Media - New economical tissue culture media for potato sprouts based on the aquatic dal weed (*Ceratophyllum demersum*)". The present media is an innovation and is under patenting process submitted by SKUAST-Kashmir under **Patent No: 202011006729 Dt: 2020/02/17.** Introducing this technology could help protect people from getting seriously sick due to eating potatoes with pesticides. This technology might reduce the harmful chemicals in our food, preventing diseases that come from pesticides. And by doing so, it would not only take care of the health of the public but also of the farmers who work hard to grow our food. Through our proprietary technology, we've also achieved a 30% reduction in production costs, positioning us for rapid scalability and increased profitability.

Societal Impact

1. **Employment Opportunities:** The project may create job opportunities, particularly in the collection, processing, and production of organic media, benefiting local communities.
2. **Community Engagement:** Engaging local communities in weed collection and project activities can foster a sense of ownership and community involvement in environmental conservation efforts.
3. **Improved Aesthetics:** Reduction in weed proliferation in Dal Lake can enhance the aesthetic appeal of the area, potentially attracting more tourists and benefiting local businesses.
4. **Health and Well-being:** Improved environmental conditions can have positive effects on the health and well-being of residents and visitors by reducing exposure to pollutants.

Current Status

The present innovation is under commercialization process.

https://hellokashmeerorgan.wixsite.com/kashmeerorganogreens
https://www.facebook.com/KashmeerOrganogreens?mibextid=ZbWKwL

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+91-9797904071

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

GR8 SPORTS INDIA PRIVATE LIMITED

FAWZUL KABIIR
CEO, GR8 Sports India Private Limited

Problem Addressed

- First and Only Company in the world to take a Kashmir willow Cricket bat to the International Cricket. A Task that was impossible for almost 100 years for different Sports Goods manufacturers of world.
- We are an ICC (International Cricket Council) approved Brand
- Our Bat his the Biggest Six of the ICC T20 World Cup in Australia Last Year 2022

Technology

- 12 Years of Research in the International Market thereby developed an artificial Intelligence Based technology Called CMC (Computer Monitored Compression) that gives our Kashmir Willow bat a precise compression thereby giving it the perfect ping and stroke.
- Innovative manufacturing Processes that makes the Kashmir Willow wood strong enough and can compete at the international front with flying stars.

Societal Impact

- ✓ That income That is being produced by the sale of Every Single Cricket Bat that we produce out of Kashmir willow cricket Bat gets distributed among the nationals and hence we contribute to the economy of the nation.
- ✓ Craftsmen from Meerut, Stickers from Delhi, Rubber Grips from Jalandhar, Handles from Andaman & Nicobar Islands, Wood From the Govt. of J&K, Lamination from Chennai, fibre from Kolkata, Covers from Kerala

Current Status

- Already played 3 world cups (Hat-trick) And giving the Cricketing world an Alternative at the cheapest price and best in Quality.
- An International Professional level Cricket Bat that used to cost the world around 50,000 to 1.5 lakh, we provide them the same quality cricket bat at 10,000 Indian Rupees only.

Facebook / Twitter : @gr8sportsindia
website: https://gr8sports.org
Instagram : @gr8sports.biz

Kabiir@gr8sports.org
9820162624

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INDIA INTERNATIONAL CENTRE IIC where ideas grow

Organizing Partners

C-CAMP Gian

PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Quick DNA Extraction Kit

Prof. M. Ashraf Bhat & Dr. Mudasir Ahmad Mir

Division of Plant Biotechnology,

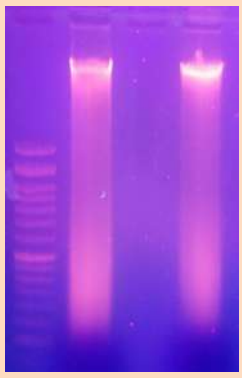
SKUAST-Kashmir, Shalimar, J&K, 190025

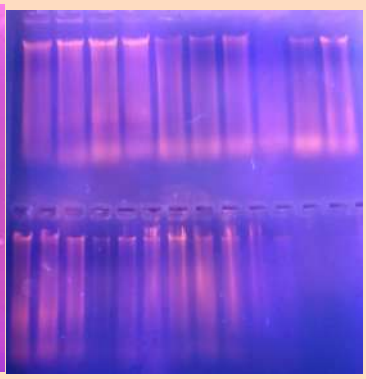
Problem Addressed

DNA extraction from plants & other living sources is usually a multistep, time consuming and costlier process with high health risk involved due to indiscriminate use of various toxic chemicals like beta-mercaptoethanol.

Technology

The current invention is unique, versatile, cheap, sensitive, eco-friendly and economically viable kit method for efficient & quick DNA extraction (15-20 minutes assay time) from complex pigment rich plant tissues as well as tissues/cells from other organisms. The invention uses clean-up step for pigment rich tissues using novel dipping consortium solution (5-7 minutes) followed by maceration using sucrose-hypersaline solution (8-10 minutes) and final precipitation step for high quality DNA (2-3 minutes).





Societal Impact

The proposed kit will have huge market worldwide both in academia (Schools, Colleges & Universities) & research because of its uniqueness, easiness, low cost, technical feasibility, rapidity, quality & economic viability.

Current Status

TRL-3

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PEOPLE'S FESTIVAL OF INNOVATIONS 2023

Development of modified pruning tools with the use of Artificial Intelligence to replace laborious and defective manual tools

Dr. Rafiya Mushtaq
Senior Project Associate, SKUAST-K

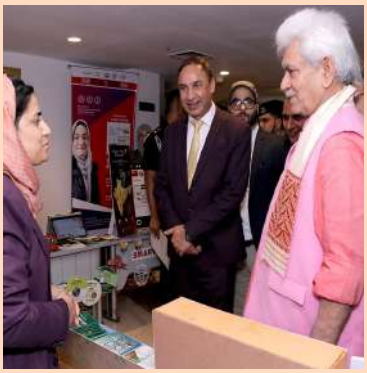
Techno Orchard

Problem Addressed

Techno Orchard aims on *Integrating AI based technology for easing orchard cultural operations.* Our vision is to provide cost-effective solution for small and marginal farmers through a mechanized sustainable approach for various cultural practices to increase productivity potential of apple crop and save economic returns of farmers.

Technology

Pruning relates to cutting of unwanted branches from a tree and giving a desired tree structure for harvesting maximum production. This activity however, is currently being operated only through the use of manual tools which cause poor and defective pruning. In this context, our invention presents a technology driven multifunctional pruning secateur with novel mechanism for cutting large branches and electromechanical power driven to replace hand pressure. This tool will cut the dependence of farmers on human labour and can operate themselves, will save their time and increase their economic returns.



Societal Impact

With this innovation, the first automated pruning tool with high efficiency and novel mechanism to replace manual secateurs are developed. This innovation will lead to time saving, and labour saving and will help in timely and efficient pruning of apple plantation through use of one single sustainable farmer friendly tool to replace manual tools, saws and large ladders etc.

Current Status

- At TRL 5
  - Secured two startup grants

www.technoorchard.com

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Pheromone based management of Insect pests
Pherobank Technologies Pvt. Ltd

Dr. Barkat Hussain
BIRAC, DBT, GOI, SKIIE – SKUAST-K,
IIT – Kanpur, SKILL INDIA

PHEROBANK TECHNOLOGIES(PTJ)
Smells are surer than sounds 4 pest Solutions

Problem Addressed

- Pheromones are the chemical communication in insects (mating, food, Alarm, Aggregation etc.
- It is unspoken language gifted by nature to various organisms to transmit various biological interactions.
- Pheromone mediated management is powerful technology and brought into practical application for the management of insect pests in agriculture, horticulture, forestry and also to house flies.
- Safe to natural enemies, bees and other non-target organisms and green too.

Technology

- Our Technology got the BIG Innovation Grant from BIRAC, DBT , GoI
- We are first in India to provide bi-sexual lures for number of pests
- Our company has been felcitated by DST, DBT, NAHEP,NIT and many organisations with strong feed back
- Our products are totally organic and easy to use
- Our products are compatible with other technologies and benign to environment
- No conflicting golas with biological control
- Our patented technology, demonstration and feedback of our products are making rounds on the societal media

Our Products Include
Customized Delta Traps | Customized Sticky Traps | Lures for various Insect Pests | Low-cost Fruit Fly Traps | Sleeve Traps | Bait Traps as Lure & Kill Strategy | Bisexual & Unisexual Lures | Creative Trap for Houseflies

Societal Impact

- ✓ Waterless Technology
- ✓ No pesticide pollution, non-carcinogenic, no health hazards
- ✓ Livelihood security, organic technology, organic management
- ✓ Lure & Kill strategy, insect detection, insect monitoring, mass trapping, masting disruption
- ✓ Agriculture input, bio-security, survey & surveillance
- ✓ Environmentally safe technology, Safe to natural enemies and honey bees

Current Status

- Supplied to Department of Horticulture for the management of threatening insect pests
- KVK'S and All India Coordinated Projects
- Department of Agriculture
- Quarantine establishment areas
- Central institute of Temperate Horticulture
- Entered in the market with positive feedback
- Solution to insect vectors

https://www.facebook.com/Pherobank/

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EXODS-Anti-Cancer Drug Delivery Platform

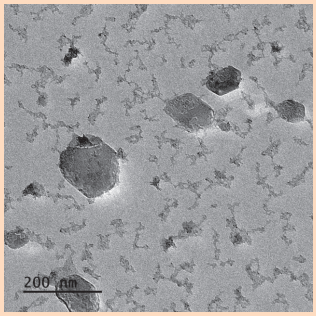
TEAM EXSURE, Exsure Pvt Ltd

Problem Addressed

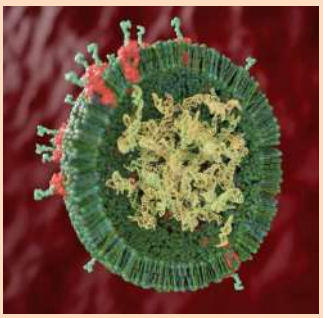
The median cost of developing a single cancer drug is expected to be ~$648.0 million. But none of these drugs are targeted at the root cause of cancer i.e. cancer stem cells. Although these prohibitively costly drugs effectively target cancer cells, the residual cancer stem cell population (~2% of the total tumor mass) has the potency to regenerate the entire tumor mass leading to tumor relapse. Moreover, these drugs start degrading once injected into the system, consequently, a higher drug concentration is used to treat the patient leading to drug-induced toxicity. Therefore an effective solution will have to protect the drug from degradation and should target the drug to both cancer cells and cancer stem cells, thereby removing the tumor from 'its root'. To tackle these challenges we have developed ExoDS

Technology

ExoDS is a guided exosome-based drug-delivery vehicle desined to specifically target and eliminate cancer cells and also cancer stem cells which are responsible for tumor relapse and metastasis. These immune cell derived exosomes are bioengineered to express ligands recognizing cognate receptors on cancer cells and cancer stem cell. Once they recognize the cognate receptor these drug-loaded exosomes will enter the tumor cells and deliver the drug cargo inside the cells, effectively killing them. These bio-engineered exosomes also protects the drug from degradation thereby reducing the concentration of drug used for treatment and also reducing drug-induced toxicity.



Electron Microscopic images of EXODS



3D representative image of EXODS

Societal Impact

We discovered that, with the rising exposure to environmental carcinogens the number of drug-resistant cancer stem cells increased manifold, but the existing drugs failed to target these cells. Therefore we created ExoDS to eliminate tumors from its roots. ExoDS will reduce chemotoxicity, relapse and also save millions of dollars spent on the development of a new anti-cancer stem cell drug. Our vision is to make cancer therapy accessible and affordable and give all patients a fair chance to fight cancer.

Current Status

EXODS has been patented. We have now initiated our pre-clinical studies in murine model. We have also collaborated with various cancer hospitals to test EXODS ex-vivo on tumor tissue samples.

Website: https://exsure.in/
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Computational Gastronomy API Dashboard

GANESH BAGLER

FoodBytes Technologies Private Limited
Complex Systems Laboratory, IIIT-Delhi

Problem Addressed

Providing **scalable, automated access to curated data** of recipes, flavor profiles, nutritional profiles, health associations, and carbon footprints through the **application programming interface (API)**

Technology

- ❑ **Application Programming Interface**
- ✓ **RecipeDB** (26 regional & 74 countries)
- ✓ **FlavorDB** (Flavors of 936 ingredients)
- ✓ **Recipe Nutritional Profiles**
- ✓ **DietRx** (Food-Disease Associations)
- ✓ **SustainableFoodDB** (Carbon Footprints)

Societal Impact

Computational Gastronomy API Dashboard provides access to meticulously collected, structured compilations of computational gastronomy data repositories through an application programming interface. It enables building food-, flavor-, nutrition-, and wellness-centered businesses by using this **software-as-a-solution (SaaS)**.

Current Status

Computational Gastronomy API Dashboard is made available as a proof-of-concept and implemented as in android and web applications such as **software-as-a-solution (SaaS)**. **[TRL-7]**

Applications Implemented: RecipeDB, FlavorDB, WhatDIsh, Ratatouille, Recipedia, What is in Your Fridge etc.

https://cosylab.iiitd.edu.in/

https://www.foodbytes.co.in/

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GOLDEN FEATHERS

Mr. Radhesh Agrahari

Golden Feathers

Problem Addressed

Radhesh Agrahari has revolutionized textiles and paper with the invention of 6th natural fibre, made from up-cycled Butchery Chicken Waste. Golden Feathers [Mudita & Radhesh Pvt.Ltd.] is a social entrepreneurial company who is working to manage solid waste which is polluting our environment adversely.

Did you know that the food industry, including cafes, restaurants, and meat shops, generates a significant amount of waste? Unfortunately, much of this waste ends up in landfills, causing environmental harm. One particular issue is the disposal of chicken waste, which often finds its way into rivers, leading to water pollution and health hazards, especially in desert regions. In the Delhi NCR and U.P regions alone, a staggering 300,000,000,000,000 kg (three lakh Crore ton) of chicken butchery waste is produced annually. It's worth noting that each kilogram of feathers can deplete 13.37 units of carbon footprint.

Technology

The organization collects butchery chicken waste (BCW) from local slaughter houses to use as a raw material. To ensure hygiene and quality, we employ 27 natural sanitization processes to sanitize the waste. By extracting chicken feathers and converting them into pulp and yarn, we produce Handloom Cloth and Handmade Paper. By up cycling 57,000 kg of chicken feathers annually, the organization reduces its carbon footprint by 7762,762,090kg.

In last 3 years our organization has recycled more than 500 Tons of butchery chicken waste (BCW) into Handloom Cloth and Handmade Paper.


Chicken butchery waste


Waste sanitization


Waste Segregation


The feather


Extracting Yarn [wet spinning]


Cone binding


Handloom weaving


The Malai wool


The Feather Paper

Societal Impact

The organization generated livelihood opportunities and has impacted lives around 200+ Tribal women paying 20 times more than average. At Golden Feathers, we have up skilled 375+ Semi skilled/Unskilled workers and empowered more than 2000+ tribal women through Handloom activities. Our chicken feather woollen fibre, renowned for its exceptional quality, surpasses other natural and manmade fibres in terms of warmth, softness, and durability. At Golden Feathers, we cater to these demands by crafting a range of running cloth, quilts, shawls, jackets, stoles, and mufflers; all created well craftily.

Current Status

Currently working towards building a Handmade Feather Craft Paper Industry.

Recently got recognized and won :

- Featured in Top 8 G20 Young Entrepreneurs' Alliance Summit 2023, India.
- Won TATA SOCIAL ENTERPRISE 2023-24 in association with IIM Calcutta.
- Featured in Business World Article.
- Featured in Global InCH Journal.

https://www.goldenfeather.co.in/

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HUMBLE BEE- Building a Golden Revolution in India

Monika Shukla, Vaibhav Trimukhe, Varun Kashyap

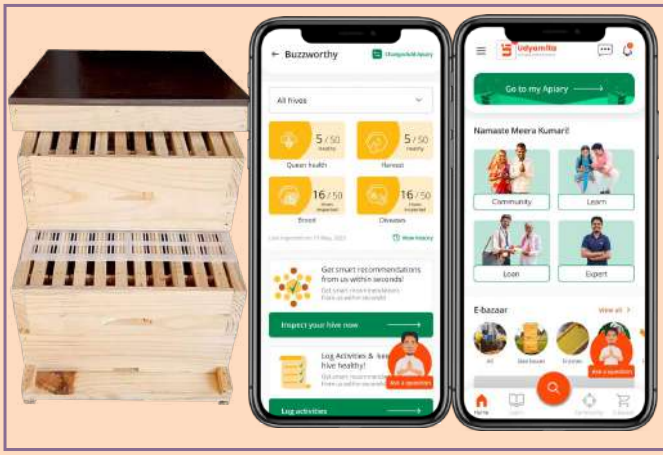
humble bee™

Problem Addressed

- **BEEKEEPERS Lack Scientific Capacity:** Fragmented Beekeepers, Lack of scientific techniques. Scarce Training. Missing Support Structures.
- **Accessibility Gap for** precision-engineered bee-boxes, equipment and bee colonies
- **Migratory Nightmare (during lean flora seasons):** No knowledge of where, when, & how to migrate colonies.
- **Poor price realization for honey:** Middlemen, Production of other hive products is negligible.

Technology

- **BEEKIND App:** For capacity building, scientific beekeeping practices, disease diagnosis, hive inspection, peer and expert connect.
- **AI-chatbot:** In vernacular language for instant help and support
- **High-quality beekeeping supplies:** Precision-engineered beeboxes, hive tools and equipment
- **Fair prices of honey and hive products:** Under **HUMBLE BEE**™ brand



Societal Impact

- Improved incomes of beekeepers
- More livelihoods (youth and women) generated
- Better bee-managed crop pollination leading to better yields->Increase in agricultural GDP
- Reduced use of pesticides
- Increased biodiversity
- Improved food security => Climate resilience

Current Status

- A community of 300+ beekeepers across 10 states
- Incubated at ICAR-CIRCOT, Land Accelerator South Asia 2023, Low Carbon Earth Accelerator
- Pilot project in Tumkur with ICAR-IIHR
- Participated in APIMONDIA 2023 in Chile, got a global exposure and insights into the ecosystem

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IOM GUTSENS

Iom Bioworks

Problem Addressed

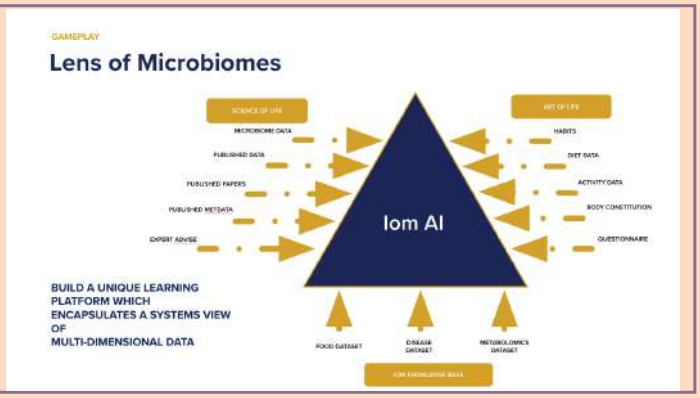
Nearly 60% of the Indian population struggles with one or all forms of anxiety, stress, sleeping challenges, and low energy levels. Iom's flagship product is on solving for Anxiety, Stress and Energy through better knowledge of the gut-brain axis. In ordinary circumstances, these challenges are chronic and yet not characterized as illnesses. Iom believes that even those discomforts that make one not as well as they would like to, need to be addressed. We also understand that these conditions are simply accepted as a part of life or solved by sporadic, un-scientific, and generic off-the-counter solves. However, they prevent one from achieving their best during the day and actually result in a loss in productivity at work and reduced sense of well-being personally. Even employee productivity and attendance at work are negatively influenced by almost 40%. Indian burnout averages(as per the McKinsey report) as higher than global averages on all counts including depression, stress, anxiety, high intent to leave, and fatigue.

Technology

Iom's core technology is a combination of one of the largest data sets of microbes, diseases, nutrition, metabolites, related metadata and the algorithms to derive connections to focussed symptoms and related health solutions. The core technology entails custom modelling tools and ML algorithms utilising diverse meta-genomic, metabolomic, microbe-food, and microbe-disease datasets. By combining Genome scale metabolic modelling and microbe-disease associations, Iom optimises gut health while maximising well-being.

Client-specific gut meta-genomic data drives personalised solutions that consider gut biochemistry and overall health. In order to derive connections and deliver precise recommendations, Iom employs extensive food-metabolite and food-microbe datasets. Using in-silico simulation and modelling, we predict the microbiome's response & its impact on host to dietary changes to various degrees of changes.

The Iom S(T)OOL Box (Kit)



Societal Impact

In a society grappling with the challenges of modern life, the impact of microbiome management on sleep, energy levels, and stress is more than a health solution—it's a potential game-changer. Delving into precision dietary practices tailored to individual needs can lead to substantial improvements in these critical aspects of well-being.

The ripple effect of individual transformations extends beyond personal health. It influences workplace productivity, societal dynamics, and the overall quality of life in India. Microbiome management is not just a health journey; it's a societal movement towards a more resilient, balanced, and thriving community-of humans and bacteria. By embracing the potential of microbiome insights and adapting dietary practices, individuals contribute to a collective shift—a transformation that has far-reaching implications for the well-being and performance of our nation.

Current Status

Iom GutSens is in its early stages of Going to Market. We are seeing remarkable results in impact. Nearly 70% of our userbase has seen a moderate to good improvement within 4-6 weeks of using Iom GutSens while 16% have seen a huge improvement in all 3 areas.

We have launched two more services currently in the Pilot Stage- Iom Gut Heal for alleviating symptoms of Irritable Bowel Syndrome, in association with 2 Indian Hospital Chains. Our third service Iom Gut360 is a wide multiple domain know-your-microbiome report that covers the microbiome impact on 25 conditions including heart health, metabolic health, vitamin synthesis, emotional health and more.

www.iombio.com
https://www.linkedin.com/company/iom-bioworks/
https://www.instagram.com/iom_bioworks/?igshid=YmMyMTA2M2Y%3D

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