





Report of

BIG Conclave 2018

Organized by

Biotechnology Industry Research and Assistance Council (BIRAC)

&

Venture Center

Co-Hosts





Friday - Saturday | 27 - 28 July 2018

Report prepared by

Kirtee Wani, PhD Assistant Manager – Grants Program

Mugdha Lele, PhD Manager – Social Innovations







Background to the Conclave:

Biotechnology Industry Research Assistance Council (BIRAC) is a not-for-profit Section 8, Schedule B, Public Sector Enterprise, set up by Department of Biotechnology (DBT), Government of India as an Interface Agency to strengthen and empower the emerging Biotech enterprise to undertake strategic research and innovation, addressing nationally relevant product development needs. For more info, visit BIRAC's website (http://www.birac.nic.in/).

BIRAC's Biotech Ignition Grant (BIG) is a pioneering early stage grant funding program supporting innovative ideas right from concept to proof-of-concept (POC) to POC validation stage.

The 2018 edition of BIG Conclave was hosted by Venture Center, Pune on 27th and 28th July 2018. Venture Center is one of six BIG Partners who manage the BIG programme on behalf of BIRAC. Venture Center is India's leading inventive enterprises incubator hosted by CSIR-National Chemical Laboratory, Pune and mentored by the NCL Innovations team. It won the National Award for TBIs in 2015 from the President of India. More recently, Venture Center has received the AABI (Asian) Incubator of the Year award from 2018. For more info, visit Venture Center's website (www.venturecenter.co.in). The Venture Center is also home to the BIRAC Regional Bio-Innovation Centre (BRBC: http://www.brbc.venturecenter.co.in/).

Major takeaways from the sessions:

R-Clinic and M-Clinic were held simultaneously as pre-conclave sessions for interested candidates on prior registration. M-Clinic was conducted as one on one mentoring of candidates covering multiple topics including raising money, pitching, design for manufacturing etc. There were total 15 slots held in 5 parallel sessions by 5 mentors; Srikant Sastri, Mrutunjay Suar, Rema Subramanian, Avinash Shejale and Deepanwita Chattopadhyay. R-Clinic was conducted as a talk by two regulatory experts, Shyamni Sasidharan and Prasad Kulkarni.

The inaugural function started with Dr. V. Premnath welcoming the gathering on behalf of Venture Center and BIRAC as co-organizers of the event. This was followed by Dr. Manish Diwan, Head, SPED, BIRAC giving a brief report on implementation of the BIG program sharing the detailed statistics. Since Dr. Mohd Aslam, MD – BIRAC, could not attend the conclave, he addressed the gathering via a videographic clip.







BIG partners shared their role and experience in BIG management and showed their readiness to handle increasing volumes of applications and thus improve the impact of the program.

Dr. Renu Swarup, Secretary, DBT, GoI while delivering her inaugural address said that "BIRAC is looking to set up a regulatory facilitation centre that will be the platform to enable biotech startups scale more rapidly. Biotech innovation and entrepreneurship need to reach tier 2 and tier 3 cities. Better institutional mechanisms are needed for stronger academia industry partnership." Following are the pointers from the inaugural address:

- (1) Innovations need to be scientifically sound, scalable and sustainable.
- (2) Incubators need to step out of their comfort zone and reach out to Tier 2 and Tier 3 cities
- (3) Government is open to feedback from everyone in the ecosystem and BIG started as an experiment based on feedback that was received from this ecosystem.
- (4) Intense academia industry interaction is needed for translating academic research into industry or entrepreneurial ventures.

The inaugural session concluded with inducting the new grantees and graduation of successful BIG grantees.

This was followed by inauguration of Startup showcase by Dr Renu Swarup, walk through the showcase and meeting the innovators in the showcase. This merged into the mentor mixer, where mentors from technical, clinical, regulatory, business, industry and investor communities interacted with the inventors and entrepreneurs.

The post-lunch session started with Srikant Sastri, co-founder of Crayon Data who is a seasoned entrepreneur and bridge-builder. He was engaged as a moderator in a panel discussion with experienced entrepreneurs on "Entrepreneurship: Journeys and Perspectives". These entrepreneurs talked about their strategy when the going gets tough, and how they cope with the loneliness of being an entrepreneur. Sunil Bhaskaran, MD, Indus Biotech shared his perspective on how collaborations help in the growth of a start up. Dr. Chandrasekharan Nair, Founder, Bigtec Labs shared his experience on what happens when IT professionals get together to work on medical device innovation. He recounted that how a chance meeting changed his plans forever and put Bigtec labs on the path to success. Dr. Deepa Bhajekar talked about how she got started with very little money in hand, and touched upon her difficult journey as a woman entrepreneur. All the entrepreneurs shared very inspiring journeys on how the support of family is very important in this journey, and how your startup should disrupt the market, not your family. Thus financial planning is important to ensure the security of your family.







In a session on "Tools for your Entrepreneurial Journey", Prof. B Ravi, Institute Chair Professor, IIT Bombay, shared his "Practical insights in medical device innovation." Dr. Satya Dash, Director Impact Lab at PATH, while talking about "All hands on the deck – scaling medtech startups – learning through case studies" mentioned that "if you want to scale up, you need partnerships to bridge the gap in late stage health innovation, and push prototypes to have the maximum impact they can have." Srikant Sastri shared "The art and science of telling your business story effectively" wherein he gave 12 pointers Do's and Don'ts while pitching your idea.

The second day of Conclave was dedicated for peer to peer learning.

The first session on this day was based on the stage of the company hence having three tracks namely 1) landing an investment, 2) getting regulatory approvals and 3) setting up a manufacturing facility and getting to profitability. In each track, 2-3 senior BIG grantees shared their insights and the session was moderated by BIG partners. The talks were in the form of one-minute rapid introductions, opening remarks by Moderator, opening comments and insights of lead entrepreneurs followed by open Q&A led by Moderator. Second session was categorized into three tracks according to relevant area namely 1) medical devices, 2) diagnostics and biopharma and 3) agri and industrial biotech. The format of this session was similar to first session.

A feedback was taken for the clinics in the Conclave, which got an average score of 6.3 out of 7, which ranged from very good to excellent. Also the overall feedback of the event was very positive and encouraging (details in annexure 6 and 7).







Annexure 1: Conclave Outline

27-28 July 2018 (Friday- Saturday)

Schedule

DAY 1: BIG conclave							
Time (hrs)	Duration (Min)	то	Venue				
0830-0900	30	Registration for M-Clinic an (Breakfast for Clinic participa onwards at Innovation Café,	Venture Center Reception (Innovation Café, Venture Center)				
0900-1115	135	Track 1: Pre-conclave BRBC MClinic (Multiple topics including raising money, pitching, design for manufacturing etc) Total slots: 15 No of rooms: 5 Mentors: 5 Mentors: Srikant Sastri Mrutunjay Suar Rema Subramanian Avinash Shejale Premnath V (RMR) Deepanwita Chattopadhyay (BR) Attendance by invitation only	Track 2: Pre-conclave BRBC RClinic (Regulatory Clinic) Total slots: 15 No of rooms: 1 Mentors: 2 Mentors: Shyamni Sasidharan Prasad Kulkarni Moderator: Navnath Kadam Attendance by invitation only	Venture Center			
1030-1130	60	Registration for BIG Conclav	NCL Hall of Residence				
1030-1130	60	Networking Tea and Snacks	NCL Hall of Residence				
1130-1230	60	Welcome and induction sesWelcome to the BIG fam	NCL Hall of Residence				







		 Venture Center Event overview/plan and administrative announcements: Edna Joseph, Venture Center The BIG Report: Dr Manish Diwan, Head, SPED, BIRAC Video graphic address by Dr Mohd. Aslam, MD, BIRAC (Brief comments) Deepanwita Chattopadhyay, Taslimarif Saiyed, Mrutyunjay Suar Induction of latest BIG Awardees (by BIG Partners and BIRAC Team) 	
1230-1330	60	 Session 1: Inaugural session Welcome comments by Dr V Premnath Lighting the lamp (Inaugural address) Dr Renu Swarup, Secretary, DBT, Gol Graduation of BIG grantees Startup showcase inauguration by Dr Renu Swarup and walk through; Meet innovators. 	NCL Hall of Residence
1330-1430	60	Lunch	NCL Hall of Residence
1430-1600	90	 Session 2: Showcase and Mentor Mixer Introduction to Mentor Mixer format (by Dr Priya Nagaraj) BIG Innovator showcase BRBC Mentor Mixer Networking tea (concurrent to the Showcase) 	NCL Hall of Residence
1600-1730	90	 Session 3: Entrepreneurship: Journeys and Perspectives (Chair and Moderator: Srikant Sastri) Sunil Bhaskaran, MD Indus Biotech Chandrasekharan Nair, Founder, Bigtec Labs Deepa Bhajekar, MD, D Technology (Format: Intro- 5 min; 20 min for each speaker; Q&A led by Srikant Sastri – 25 min) 	NCL Hall of Residence
1730-1745	15	Tea break	NCL Hall of Residence
1745-2000	135	 Session 4: Tools for your Entrepreneurial Journey B Ravi: Practical insights in medical device innovation (30 min) Satya Dash: All hands on the deck – scaling medtech 	NCL Hall of Residence







		startups – le Srikant Sastr business sto Concluding of Manisha Pre min) Drum up an	•				
2000 onwards		Dinner			Residence		
DAY 2: Peer to F	Peer Learning						
Time (hrs)	Duration (Min)		TOPIC		Venue		
0830-0930	60	Breakfast	Breakfast Innovat Venture				
0930-1100	90	from one entreptormat: One-min Opening Opening entrepre Q&A led	on A: Peer-to-Peer Learning Session: It one entrepreneur to another at: One-minute rapid introductions Opening remarks of Moderator Opening comments and insights of I entrepreneurs Q&A led by Moderator Open Q&A k 1: Track 2: Getting regulatory Open Q&A k 1: Irack 2: Getting regulatory Setting up a manufacturing facility marif facility (Moderator: manufacturing facility ed) (Moderator: M Suar or Premnath V) khkar lind audhari Aditya Ingalhalikar One-minute rapid introductions Moderator Opening remarks of Moderator Opening comments and insights of I entrepreneurs (Moderator) Opening remarks of Moderator Opening rem		Venture Center		







			participants		
1100-1130	30	Tea Break			Venture Center
1130-1300	90	startup peer grou (Moderation by E Format: One-minu Opening r	BIRAC and Venture Ce te rapid introduction temarks of Moderator comments and insight neurs by Moderator	nter Teams) s	Venture Center
1300-1400	60	Lunch			Venture Center







Annexure 2: List of Participants

Sr. No.	Complete Name
1	Vivek Vinayak Ranade
2	Mayur Mohan Sanas
3	Prasad Rote
4	Harshad Padmanabh Patil
5	Nilay Lakhkar
6	Renuka Diwan
7	Kavita Ray
8	Rohan Aggarwal
9	Dr. Preeti Nigam Joshi
10	Devlina Das
11	TARUN KUMAR SHARMA
12	Malay Dikshit
13	prasad date
14	Anand Parikh
15	wasia rizwani
16	Lavkesh Kewal Bansal
17	Sivamallikarjuna Reddy
18	Rohit Hiwale
19	Amandeep Panwar
20	Dr Shaon Ray Chaudhuri
21	Rachna Dave
22	Dr. Devlina Das
23	Swati Shukla
24	Dr Supriyo Sen
25	Habib Ali
26	Sreehari KG
27	Dr Vandita Kakkar
28	Dr. Arun Shastry
29	DINESH AGGARWAL
30	HRISHIKESH MUNGI
31	M.V.Sasidhar
32	Saiprasad Poyarekar
33	Dr. Vijay Panchanadikar
34	Adarsha K
35	Milind K Choudhari
36	Varsha Shridhar
37	Manda Venkata Sasidhar
38	Amol Chaudhari







39	Susmita Ghosh
40	usman khan
41	Amit
42	Dr Vanita Prasad
43	Dr. Prasad Bhagat
44	Mohamed Yahya Khan
45	Hameeda Bee
46	Hameeda Bee
47	Jilma Peruvangat
48	Hari Raghuram Desu
49	Shubhangini Sharma
50	Sat Kumar
51	Shibichakravarthy Kannan
52	Dr. Gopi Kadiyala
53	Pooja Kadambi
54	Rashmi Shukla
55	Dr.Arumugam Muruganandam
56	Brijesh BV
57	Nikhil Chandwadkar
58	Manan Vipulbhai Patel
59	Mahesh Verma
60	Sudhanand Prasad
61	Kashinath Komirishetty
62	Monish Deshmukh
63	Yaashodaa K. Padhye
64	Raunaq Pradhan
65	Pramod Bhurji
66	Annie Richharia
67	Shubham Singh
68	Rohit Das
69	Sutapa Mitra
70	Mangesh Khadase
71	Pratik Bhalerao
72	Vishal Patil
73	Divyakshi Kaushik
74	Dr. Rajendra Kharul
75	Ajinkya Vikas Dhariya
76	Randhir S Gajraj
77	Aishwarya Nair
78	Ravindra Patel
79	Sai Gole







80	Sunil Kumar Chaubey
81	Aditya Suru
82	Sachin Dubey
83	Sunil Nadkarni
84	Tanuj gigrad
85	Vaishali M.Kulkarni
86	Atul Kherde
87	Srikanth Boga
88	Dr. Shraddha Kelkar
89	Venkat Panchagnula
90	Vaibhav kalokhe
91	Piyush Joshi
92	Raman Parkesh
93	Amit Choudary
94	Dr. Rashbehari Tunga & Dr. Binita S Tunga
95	Sonali Ashok Mhatre
96	Prasad Tukaram Samgiskar
97	Rucha Arun Jog
98	Neha Farkiya Dalal
99	Prajakta Pradeep Marathe
100	Saurabh Loharch
101	Vishal Mahale
102	Ratika Golellu, Madhuri Gupta
103	Komal Belwade
104	Aniruddha Atre
105	MAHAMMAD GULEBAHAR SHEIKH
106	Adithya VS
107	Jayant Khandare
108	Mahesh HB
109	Mohammed Mudassir Ahmed
110	Rohit Rathi
111	Avisek Barla
112	R Lakshmi
113	Devashish Lingam
114	Priya Karhade
115	Priya Karhade
116	Juhi Desai
117	Dr. Chinmay Khare
118	Vishwa Hemala Rathod
119	vishal kataria
120	Dr. Ajay Vijay Suryavanshi



Sunil Bhaskaran





Annexure 3: Speakers, Panelists and Mentors (in alphabetical order of last names)

Speaker/Mentor **Biosketch** Dr Mohd. Aslam, Advisor (Scientist G) in the Department of Biotechnology (DBT), is most likely to charge as the Managing Director, Biotechnology Industry Research Assistance Council (BIRAC). He will be filing the gap that will be left out after Dr Renu Swarup starts working as DBT Secretary. Dr Aslam is currently involved in planning, coordination and monitoring of various R&D programmes in plant biotechnology and allied areas. He is handling major programmes of DBT such as Centres of Excellence in Biotechnology, Translational Research in Products and Processed from Medicinal & Aromatic Plants and Technology Mohd. Aslam Development in Silk. Dr Aslam is the Member Secretary of the Technical Advisory Committee of Centres of Excellence in Biotechnology and DBT's Expert Groups on Translational Research in Products and Processed from Medicinal & Aromatic Plants and Technology Development in Silk. He is also working as the nodal officer in DBT for three autonomous institutions – National Institute of Immunology (NII), New Delhi; Institute of Bioresources and Sustainable Development (IBSD), Imphal, Manipur; and International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi and also for Biotech Industry Research Assistance Council (BIRAC), New Delhi. Maneesh Bhandari is a Chief Executive Officer- Villagineer Technologies. He has an MBA in Social Entrepreneurship from the Stern School of Business, New York University, and a B.Tech in Electronics Engineering from India Institute of Technology, Kharagpur. Maneesh Bhandari is an experienced business executive with Global (US/India) leadership experience and a proven track record in scaling businesses. In addition to mentoring rural social enterprises in India, Maneesh volunteers a portion Maneesh Bhandari of his time with various entrepreneurship support organizations such as TIE, India Angel Network, IIM-Ahmedabad CIIE, Villgro and IIT Kharagpur. Prior to Villagineer, Maneesh's experience includes being Founder, CEO & Executive Chairman of SENA Systems, a recognized global leader in Identity & Access Management solutions, now part of a publicly listed firm; setting up RuralBPOs in India; working 7 years at various divisions of Citigroup globally; on the board of various startups in India. Sunil Bhaskaran is the managing director of Indus Biotech Pvt ltd He is an engineer from IIT Madras. He has worked with Hindustan Lever Itd in various senior managerial positions after joining as a management trainee in 1977. He has 169 granted patents for composition of matter, method of making, and in commercial applications. He works on

prospecting for molecules from food chain raw materials that can be

developed for the management of chronic diseases.









Deepanwita Chattopadhyay

Deepanwita Chattopadhyay is a Chairman & CEO, IKP Knowledge Park. She is a postgraduate in Electronics Engineering from the Department of Radio Physics & Electronics, Calcutta University. After brief stints at the Centre for Applied Research in Electronics, IIT, Delhi and the Electrical and Electronics Engineering Department, BITS, Pilani, she joined the telecom advisory practice of ICICI Bank Ltd. in 1994. As a telecom consultant she advised both governent agencies and the private sector on telecom regulation & policy, convergence issues, market forecasts and entry strategies. Her experience with knowledge driven sectors and interest in networking and knowledge management led her to head IKP Knowledge Park, the first professionally managed wet lab Research Park in India. As Chief Executive Officer of IKP Knowledge Park Deepanwita Chattopadhyay is responsible for creating an innovation and knowledge hub in India and the region. Her current interests are in setting a process for nurturing innovative companies and developing a sustainable innovation cluster.



Milind Chaudhari

He has obtained his Masters in Biotechnology from GHRIIT, Nagpur and PhD Microbiology from CNB, Agharkar Research Institute, Pune. He is a microbiologist at heart and works in the area of technology development. He has previously developed technologies like UTIRAP; a rapid UTI detection kit and DNARAP; a one-step DNA isolation method. He has several papers and patents to his credit in the area of nanotechnology and microbiology. He is the recipient of prestigious Biotechnology Ignition Grant award and Small Business Innovation research initiative grant from Biotechnology Industry Research Assistance Council (BIRAC). Owing to success of the startup he has been provided assistance from National science and technology entrepreneurship development board (NSTEDB) Govt. of India. Dr. Milind Choudhari has also won the Healthcare accelerator competition organized by CIIE, IIM-A and is a cohort of CIIE. Milind is also a NIDHI Prayas Grantee.



Aravind Chinchure

Dr. Aravind Chinchure is a renowned academician, a corporate strategist and an innovation leader. He is an expert in the formulation of corporate and governmental policies that influence innovation and research. He holds a PhD in Physics, and has an experience spanning 25 years in R&D, innovation, intellectual property, startup venture investment, policy, social development and teaching.



Satyaprakash Dash

Dr Satyaprakash Dash is Director Impact Lab at PATH India with the mandate to propel innovations in public health emerging from India to the next level. Formerly as Head Strategy Partnerships & Entrepreneurship Development at BIRAC (the nodal Indian biotech innovation agency) & as the 'Co-ordinator' of Make in India Cell in BIRAC-his portfolio included overall strategy formulation & implementation for







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	BIRAC, early stage funding, biotech incubators, and business development & communication. He is also a Consultant (pro-bono) to KBITS, GoK advising on Biotech Policy 3.0. Previously he was a Senior Consultant at IIM Bangalore & COO of nodal biotech industry association- ABLE. He holds triple masters from University of Leicester (UK), Cambridge (UK) and Sambalpur (India) and a PhD from University of East Anglia, UK. His interests are in S&T policy design, implementation and outcomes, business of science, early stage funding, entrepreneurship, and catalysing for positive serendipity across innovation communities.
Manish Diwan	Dr. Manish Diwan is a Head - Strategy Partnership & Entrepreneurship Development at BIRAC, Department of Biotechnology, Government of India. At BIRAC Dr. Diwan is responsible for all the Partnerships and Entrepreneurship Development activities including Bio-Incubators, BIG Scheme and Equity Investment Fund, in addition to all other activities of the Group.
Renuka Diwan	Dr. Renuka Diwan is a Founder – BioPrime AgriSolutions. She has done her PhD in Plant Biotechnology, with a particular emphasis on bioactive molecules. Her postdoctoral work was in the field of genetic engineering, where she worked on alternative vectors for gene transfer in collaboration with Cambia, Aurtalia. She has over 10 research publications in peer reviewed journals and a technology patent. She is also a visiting faculty at the National Institute of Virology and Institute of Bioinformatics and Biotechnology. Renuka has an experience of over 14 years in working with bioactive molecules, their structure-activity relationship and production. At BioPrime, she is involved in lead discovery, screening and validation. Her work at BioPrime has been instrumental in developing the patented "SNIPR platform"(Small nanomolecule induced physiological response) on which the Prime Organics is based. She also looks after business development at BioPrime.
Sunita de Souza	Dr. Sunita is a biologist with 23 years of small molecule drug discovery and research experience in AstraZeneca R&D, India. She has a doctorate in molecular biology from the Tata Institute of Fundamental Research and then a post-doctoral fellowship at the University of Washington, Seattle, USA. Over her career she held many positions of responsibility, the last being Associate Director and Manager of AstraZeneca's External Collaborations in the Neglected Diseases Area. In this role, she managed over 100 external collaborations for AstraZeneca, executing two deals with an Indian pharmaceutical company and 5 with WIPO Re:Search users. Prior to this she managed a portfolio of drug discovery projects in
	the middle phase of drug discovery, delivering two project transitions to the final, lead optimization stage. While heading the biochemistry







section of the unit, she developed a collaborative and transparent work culture and introduced data storage systems that improved efficiency and quality. For many years she was part of the Bangalore unit's research management team, formulating strategy and shaping the research portfolio for the unit. She led a team that delivered innovative assays for the discovery of new antibiotics, resulting in 5 patent applications. In 2014 she did a Project Management Professional certification.



Sambuddha Ghosh

Dr. Sambuddha Ghosh Founding Director of AbGenics Life Sciences & ABEL Biosolutions. He is a doctorate in Virology, with a wide experience in the areas of vaccine production, quality control as well as developmental and translational research. He has contributed in senior management positions of various multinational organizations and vaccine operations for more than 15 years, and has spearheaded many projects through the evolving global markets. He has executed due diligence assessments regarding CMC and supply issues pertaining to vaccines & biopharmaceutical licensing transactions, including postmerger integration and restructuring of research, manufacturing and process development functions. At Venky's, he also initiated and accomplished clinical trials of recombinant bio-therapeutic human biologics molecules. He also served a short tenure as the industrial representative on the Indo-American knowledge initiative on Animal Biotechnology and significantly contributed in introducing the concepts of modern intellectual property management in the background of changing economy, as well as gaining access to new technologies and develop methods for new products/technology process transfers.



Rupesh Ghyar

Rupesh holds a doctorate degree from IIT Bombay. His PhD thesis focused on Systematic Approach for Functional and Surgical Suitability Evaluation of Mega Endo-prostheses, which involves standardization of FEA coupled with experimental evaluation. He has a Masters degree was in Bioengineering, from University of Strathclyde (UK) and Bachelor's degree, in Mechanical Engineering, COEP ,Pune.He has worked for six years as a Senior Research Associate in OrthoCAD Network Research Cell at IIT Bombay. Earlier, he was a business development manager for OSIM India, an orthopaedic implant manufacturer.



Niranjan Khambete

Dr. Khambete has been actively contributing to the Medical Device R&D needs of the country for last two decades. He worked as a team leader to successfully complete the indigenous technology development and commercialization of Concentric Needle Electrodes. In recent years, Dr. Khambete has also focused his efforts towards spreading awareness about the Clinical Engineering Profession and promoting safe use of medical equipment in hospitals. He has been closely involved in development of academic and training curriculum of the Three-Institute Joint M. Tech. Clinical Engineering programme with IIT Madras and CMC







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	Vellore, the first of its kind, and continues to work as the Joint Coordinator of this programme. As Secretary of Biomedical Engineering
	Society of India, he plans to lead efforts to develop a National Certification Programme for Clinical Engineers
Sandeep Kadam	Sandeep is Consultant Pediatrician and Neonatalogist at KEM Hospital and Research Center, Pune. His areas of interest include neonatal ventilation, nutrition and infection.
	Dr. Nilay Lakhkar is Founder and CEO of SynThera Biomedical, India's first and only bioactive glass company, focused on R&D, manufacture and commercialization of proprietary bioactive glass products for the healthcare sector. SynThera is currently gearing up to launch its flagship products SynOst® and PoroSyn®, which are synthetic bone graft substitutes used in orthopaedic and dental surgeries to combat bone loss caused by injuries or diseases. Prior to incorporating SynThera in 2015, he completed MSc and PhD degrees in Biomaterials and Tissue Engineering from University College London, UK, followed by a postdoc
Nilay Lakhkar	stint at the Institute of Biomaterials, Helmholtz Zentrum Geesthacht, Germany. He brings 10 years of experience in development of bone repair technologies, with 15 academic papers and patents to his name.
Arumugam Muruganandam	Dr. Arumugam Muruganandam is a Protein Biochemist and cell biologist with 25+ years experience in academic (USA and Canada), government (Canada) and corporate (USA and India) research environments, with proven track record of successfully leading and managing development of biotherapeutics for treating or diagnosing different diseases. Managing Director and Chief Scientific Officer of Affigenix Biosolutions Private Limited. Affigenix has received BIG and SBIRI. To his credit he has filed > 20 patents and published more than 20 papers in refereed journals. He is a Global Bioanalysis Consortium (GBC) Member in two of the large molecule harmonization teams focusing on ligand binding (PK) assays.
Sunil Nadkarni	Dr. Sunil Nadkarni's expereince and interests lie the surgical management of degenerative ailments, tumors and infections of the spine. His areas of expertise include neurological decompression with reconstruction and the correction of adult and pediatric spine deformities. Dr. Nadkarni is a pioneer in establishing cervical surgery as a safe and effective procedure in Pune. He was also a pioneer in introducing endoscopic spine surgery in India. Dr Nadkarni trained as a Fellow spine surgeon at the Royal North Shore Hospital in Sydney. Later, he moved to the UK to complete his Masters in Orthopedics from

Liverpool and worked as a consultant at Guy's and St Thomas' Hospitals







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	in London. Dr. Nadkarni has performed over 2,500 spinal surgeries of varied complexity. He is actively involved in the training of spine surgery techniques internationally. He has been associated with Ratna Memorial Hospital, BKL Walawalkar Hospital, Dervan, Hardikar Hospital and Deenanath Mangeshkar Hospital.
Chandrasekhar Nair	Dr. Chandrasekhar Nair is a co-founder of bigtec, an idea to product company in sensing technologies. His interests are in the development of rapid, low cost, high quality MEMS based diagnostic products. He holds a number of Indian and International patents.
Sanjay Nene	Dr.Sanjay Nene is a Scientist, at NCL, heading the Biochemical Engineering Unit since 1985. From 1983-1985 Technical Consultant for Millipore Intertech Inc. Worked as the sole technical representative for Millipore Corporation in India for identifying applications in the area of Biotechnology, Pharmaceuticals and Chemical Industry. From 1981-1983, worked as a Research Associate, Hindustan Antibiotics Ltd. Pimpri, Pune in their fermentation Pilot Plant. Worked on scale up and development of antibiotic products. He is author/Co-author of ~ 30 papers in international refereed journals in biotechnology, food and membrane science. Cited as inventor in 4 US patents and 5 Indian patents. He has received B.D. Tilak Fellowship, UDCT, Mumbai. He has received best Technology, Award by NCL Foundation in 1993, 2013; Director's commendation for lactic acid technology, 2008
Ramesh Paranjpe	Dr. Ramesh Paranjape was Director at National AIDS Research Institute, Pune. He received his Ph.D in Microbiology from University of Madras and was the recipient of National Science Talent Search Scholar (1969-1975) award. He did his Post-Doctoral Fellowship at the Laboratory of Parasitic Diseases, NIH and WHO Fellowship at Case Western Reserve University, Cleveland, Ohio, USA. Immunology of HIV infection is his main area of interest and established the presence of strong, poly-clonal cross-clade cytotoxic T lymphocyte response in the early sero-converters. He has more than 50 scientific publications in peer reviewed national and international journals and has contributed to WHO (South East Asia) laboratory guidelines.
B. Ravi	Prof. B. Ravi, is Institute Chair Professor, IIT Bombay. Ravi heads E-Foundry and BETiC- Biomedical Engineering and Technology incubation Centre at IIT Bombay. He is also a Fellow of Indian National Academy of Engineers, Honorary Adjunct Professor at National Institute of Advanced Studies, Bangalore, and governing or advisory council member of several institutes. He is an alumnus of IISc (Masters and PhD). Over the last 25 years, he guided the development of several innovative technologies and products in metal casting and medical fields, leading to 250 technical







papers, 30 patents and software copyrights, and four start-up companies. His team has won several prestigious innovation awards. His philosophy of 'Golden Spiral' connecting education, research, development and application shows how to effectively translate research into reality.



D. Srinivasa Reddy

Dr. D. Srinivasa Reddy is a Scientist at Organic Chemistry Division, CSIR-National Chemical Laboratory, Pune. He has done Ph.D. from University of Hyderabad, 2000 (Advisor: Professor Goverdhan Mehta) followed by post-doctoral with Prof. Sergey A. Kozmin (University of Chicago, USA) and Prof. Jeffrey Aubé (University of Kansas, USA). He has a 7 years of drug discovery experience in pharmaceutical industry (Dr. Reddy's & TATA Advinus), A molecule discovered by his team at industry is currently in human clinical trials (Licogliflozin, Phase-II). His current research interests at CSIR-NCL (~7 years) are total synthesis of biologically active natural products & Medicinal chemistry towards identification lead molecules. He has received many awards and recognitions including CDRI Award 2013 for Excellence in drug discovery research, CRSI Bronze Medal in chemical science -2015, NASI-Reliance Industries Platinum Jubilee Award for application oriented innovations -2015, Shanti Swarup Bhatnagar Prize for the year 2015 in chemical sciences, Elected fellow of Telangana and Maharashtra Academies of Sciences 2016, Nominated member of the scientific body of Indian Pharmacopoeia, Govt. of India, OPPI Scientist Award contributions in pharmaceutical sciences, Sun Pharma Research Award in the field of pharmaceutical Sciences, Elected fellow of the National Academy of Sciences, India (NASI) 2017. He has authored of more than 90 publications and an inventor in ~35 patents and he is an editor of Bioorganic & Medicinal Chemistry Letters (BMCL), an Elsevier journal.



Taslimarif Saiyed

Dr. Saiyed's initial training has been in neurosciences, where he received his PhD from Max-Planck Institute for Brain Research, Germany and followed it up by postdoctoral training at University of California San Francisco (UCSF). At the same time, he also underwent training in management for Biotech and Innovation from QB3 at UCSC, UC Berkeley and UC Davis. In the bay area, he also served as a Management Consultant with QB3 New Biotech Venture Consulting and in an individual capacity, he also consulted for many biotech firms in the US. Dr. Saiyed is also an Adjunct Faculty at Amrita Institute - School of Biotechnology and working on Neurodegeneration. He also heads the Discovery to Innovation Accelerator program at C-CAMP. He is actively involved in promoting innovation in lifescience / healthcare by supporting translation of discoveries to application, entrepreneurship and technology development.

Shyamni Sasidharan is a Executive Quality Assurance at Molbio









Shyamni Sasidharan

Diagnostics Pvt. Ltd., Goa – India. She is highly efficient, methodical and multi talented Electronics and Biomedical Engineer with 5 years of experience in In-Vitro Diagnostics Medical Device manufacturing company. She possesses comprehensive knowledge of Quality Management Systems, Risk Management, GDP, cGMP, current requirements of national/international standards /regulations and CE marketing of IVD Medical devices.



Srikant Sastri

Srikant Sastri is a seasoned entrepreneur and bridge-builder. He provides strategic leadership as the co-founder of Crayon Data, the ambitious Singapore-headquartered start-up, which aims to build a global business around a Big Data platform and products. This is his third start-up. As a successful entrepreneur, Srikant had founded India and Southeast Asia's largest CRM & Digital agency, Solutions – Digitas, in 1995. The business achieved scale (2000 employees) and market leadership before being acquired by the Publicis Groupe. In his most-recent role as VivaKi India Chairperson, Srikant led an ambitious M&A strategy to help the Publicis Groupe establish digital leadership in India, through three cutting-edge acquisitions. Respected as a leading marketing & CRM practitioner, Srikant started his career at Unilever and McCann - Erickson, and was recently inducted into the DMAi 'Hall of Fame'. He has been on the jury at Cannes Advertising Festival. At Crayon Data, Srikant loves being in the midst of crazy ideas, energetic people, and ambiguity. Srikant works closely with, and nurtures several tech start-ups, and is an active angel investor. He earned an Engineering degree from IIT, Kanpur and a Post-Graduate qualification in Management from IIM, Calcutta.



Chaitanya Saxena

Dr. Chaitanya Saxena is a Chief Executive Officer- Shantani Proteome Analytics. He earned a Ph.D. from The Ohio State University, Columbus, OH, USA. With 10+ years of experience in utilizing biophysical techniques to solve the relevant problems in life sciences, Chaitanya is a seasoned professional and bring successful experience of developing technologies for drug-target deconvolution and drug-target interaction measurements in intact biological systems from his tenure at Eli Lilly & Company. Along with technical expertise Chaitanya also brings a solid experience of conceptualizing, developing and managing start-up and nascent organizations. Earlier he served as the Board of Director for 'Kshitiz Inc.' from 2004-2007. He also directly handled project management efforts of several internationally reputed non-profit organizations. These transferable managerial skills are playing a key role in shaping Shantani.

Dr. Kadhiravan Shanmuganathan is currently working in the Polymer Science and Engineering Division of CSIR-National Chemical Laboratory, Pune, India. His research research has primarily focused on bio-inspired stimuli responsive nanocomposites for medical implants, electrospinning polymer nanofibres, biopolymer composites and bio-derived materials.









Kadhiravan Shanmuganathan

His formal education and professional experience includes a B.Tech in Textile Technology from Anna University (Chennai), a M.S from University of Massachusetts Dartmouth (USA) (working with Dr. Prabir Patra), a Ph.D in Macromolecular Science and Engineering from Case Western Reserve University (USA) (working with Profs. Christoph Weder, Stuart Rowan and Dustin Tyler) and post-doctoral research at The University of Texas at Austin, USA (with Prof. Christopher Ellison). He has authored several publications and patents and the significance of his work has been recognized by several awards from various scientific communities including Material Research Society (USA), and American Chemical Society.



Avinash Shejale

Dr. Avinash Shejale is a Director, Lifesciences at Ainvent Capital, Mumbai. He is currently heading the Lifesceinces section at Ainvent Capital. The firm currently is focusing on mergers and acquisitions, private equity, venture finanncing in pharmaceutical biotechnology, medical devices, healthcare and food/agri-biotechnology. Earlier he was heading the Lifesciences doman at Pioneer Investcorp and heading the pharma & lifesciences division at SBI Capital Markets Ltd. He holds an M.B.B.S from Grant Medical College, Mumbai and an M.B.A in Finance and Marketing from Jamanlal Bajaj Institue of Management Studies.



Mrutyunjay Suar

Dr. Mrutyunjay Suar is the founder School of Biotechnology, KIIT University, Bhubaneswar, Odisha, India and CEO, KIIT Technology Business Incubator (Supported by DST, Govt. of India). He completed his Ph.D. from University of Delhi, 2003. He has published more than 50 research paper in various repute journals and has 2 patents.



Rema Subramanian

Rema Subramanian is a Co-Founder, Managing Partner. Rema cofounded Ankur with a vision to use her multi decade CXO and entrepreneurial experience to bring the tools to young startups to become game changers. She has worked across education and IT/ITES taking young companies from scratch to midsize ventures. She is a cost accountant from ICFAI and when she has spare time she likes to travel and try her hand at growing plants.

Ankur Capital is an India focused early stage fund. We invest in startup businesses in agritech, health and education. We are looking at ventures which are at an intersection of technology and solutions, which have a wide market with low income communities. We provide financial and intensive hands on support to create sustainable and scalable ventures. The angel fund will build an eco-system of businesses providing innovative solutions for underserved communities in India.

Dr. Renu Swarup is the Secretary, Department of Biotechnology Ministry of Science & Technology, Government of India and Chairperson,









Renu Swarup

Biotechnology Industry Research Assistance Council ,A Govt. of India Enterprise. Dr Renu Swarup has taken over charge as Secretary, Department of Biotechnology (DBT). She has served in Department of Biotechnology for nearly 29 years and was holding the position of Senior Advisor/Scientist 'H' till she was appointed a Secretary to Government of India on 10th April, 2018. She also holds position of Chairperson, Biotechnology Industry Research Assistance Council (BIRAC), a Public Sector Company incorporated by the Government to nurture and promote innovation research in the Biotech Enterprise with special focus on Start-ups and SMEs.



Sandeep Prakash Tamane

Dr Sandeep Tamane is a Consultant Physician & Geriatrician, Deenanath Mangeshkar Hospital & Research Centre, Pune. He has worked in United Kingdom from 1997- 2003, gaining Experience in Internal Medicine and Geriatric Medicine. He is a Chairman, Pune Chapter of Geriatric Society of India (from 27th September 2017); Vice Chairman, Pune Chapter of Geriatric Society of India (2015-2017); Fellow, Geriatric Society of India; Regular Speaker/Faculty for the Annual & mid-term National conferences of Geriatric Society of India; Speaker/Faculty for the "9th Congress of European Union Geriatric Medicine Society (EUGMS)", held in Venice (Italy) in October 2013 and Speaker/Faculty on Geriatric Medicine for many other National Conferences including Annual National Conference of Association of Physicians of India (APICON) & Maharashtra Chapter of A.P.I (MAPCON).

He has contributed many articles & Case reports related to Geriatric Medicine in Various Medical Journals. His areas Of Special Professional Interest include Preventive Geriatrics & Diabetes in Later Life. Special Mention:- Organising Secretary for GSICON 2018, to be held in Pune from 26th - 28th October 2018.



Dileep Wani

Dr Dileep Wani is a Professor & Head, Dept. of Immunohaematology & Blood Transfusion, and a member of Board of Studies, B. M. Tech. Syllabus Committee, Scientific Advisory Committee, and Board of Studies Para-Clinical Subjects (Medical) of Bharati Vidyapeeth Medical College, Pune. He is also associated with National Assessor for Blood Banks — Quality Council of India, Govt. of India







Annexure 4: About the Organizers

Organizers



Biotechnology Industry Research & Assistance Council is a new industry-academia interface and implements its mandate through a wide range of impact initiatives, be it providing access to risk capital through targeted funding, technology transfer, IP management and handholding schemes that help bring innovation excellence to the biotech firms and make them globally competitive. For more information about BIRAC: www.birac.nic.in



Entrepreneurship Development Center (Venture Center) — a CSIR initiative — is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering. For more information, visit http://www.venturecenter.co.in/







Annexure 5: About the Sponsors

Sponsors



Gold Sponsor: Operon Strategist

Operon Strategist established in 2011 for providing services to the Medical device industries. We handle regulatory aspects for design and development of Medical devices/Combination devices as per requirements of the ISO 13485 and 21 CFR part 820. Consulting services worldwide for Layout designing of the facility to obtaining the system certifications, licensing and regulatory approvals like CE marking and the USFDA. The list of major services are as follows:

- Regulatory aspects of product design and development.
- Manufacturing Facility Layout Designing.
- Guidance for Manufacturing Facility Installations.
- Equipment & Utilities Validations.
- Documentation to meet cGMP, ISO certifications, DRUG Licensing.
- Training
- System Implementation
- Consultancy services for USFDA 510(k), CE marking, ISO 9001, ISO 13485.

Their turnkey regulatory services, ensures the handlings at all stages of the product development and facility development to achieve the regulatory compliances. More info at http://www.operonstrategist.in/



Silver sponsor: Perkin Elmer

PerkinElmer, Inc. is a global leader committed to innovating for a healthier world. Our dedicated team of about 11,000 employees worldwide is passionate about providing customers with an unmatched experience as they help solve critical issues especially impacting the diagnostics and discovery and analytical solutions markets. Our innovative detection, imaging, informatics, and service capabilities, combined with deep market knowledge and expertise, help customers gain earlier and more accurate insights to improve lives and the world around us. The Company reported revenue of approximately \$2.3 billion in 2017, serves customers in more than 150 countries, and is a component of the S&P 500 Index. More information: http://www.perkinelmer.com/







Annexure 5: Some snapshots from the Conclave 2018



Welcome to BIG Conclave 2018



Welcome by Dr. V Premnath



Dr. Renu Swarup



Anchoring by Edna Joseph



Inauguration by Dr. Renu Swarup



Dr. Manish Diwan









Dr. Deepanwita Chattopadhyay



Dr. Taslimarif Sayyad



Dr. Mrutyunjay Suar



Induction of New BIG Grantees



Graduation of VC Grantees



Graduation of IKP Grantees









Graduation of KIIT Grantees



Graduation of CCAMP Grantees



Inauguration of Technology Showcase



Technology Showcase











Dr. Chandrashekhar Nair



Dr. Sunil Bhaskaran



The Audience



Prof. B Ravi



Dr. Satyaprakash Dash









Srikant Sastri



Taal Inc



Peer to Peer Learning



Peer to Peer Learning



Interactive QA Session



Peer to Peer Learning







Annexure 6: Evaluation of mentoring sessions

	(27 July 2018) M clinic					
		E [,]	valuation Results			
Category	Avg(Min-					
	Max)Count					
Section 1 - Event				Rating Scale		
administration/faci	lities			Nating State		
Overall event	6 3/5 7\11	1	Dad	2	Well below average	
satisfaction	6.3(5,7)11	1 Bad				
Queries Answered	6.4(5,7)11	3	Below average	4	Average	
Quality of	C 4/F 7\11	_	Cood		Vom Cood	
Discussion	6.4(5,7)11	5	Good	6	Very Good	
Content of	C C/F 7\11	7	Free lle mt			
discussion	6.6(5,7)11	7	Excellent			
Networking	F 9/4 7\11					
Opportunities	5.8(4,7)11					
Quality of	C 7/F 7\11					
facility(venue etc)	6.7(5,7)11					

Section 2- Did the M clinic help resolve your queries/concerns?

The Clinic was helpful, the mentor suggested us a way based on our position in the stage of development.

Indeed, I recieved many good suggestions from Dr. Avinash Shejale, I would request to NCL VC to connect with Dr. Avinash to get his help.

Yes (3)

Definitely gave insight into certain aspects of our value Proposition. Some concerns were not answered due to time restriction. Would definitely want to continue the conversation offline with Dr.Avinash Shejale.

gave the a very different perspective of where I need to focus my energy.very high quality discussion.

Yes, I Got Some very painted & quality feedback. Suggestion on how data needs to be presented suggestion an triggers to raise value & Next steps to be done.

Yes,It provided a good guidance & a vision how to look for the company,Individually & product wise.

Yes, we had an exhaustive discussion on the target market & Source of fund.

It did help me quite a lot.mentors had pointed out valid aspect in my project. Also, I have deen provided with some networking with relevant entities in the same area.

Business font-yes, On manufacturing aspect still need to get connect to right person.

Section 2- Going further, which areaswould you like specific advice/help on?

We need specific advice in Agri-based mentors.

Refining business plan for non-medical & medical application of the tech platform.

Regulatory, Commercialisation Stratergy.







Would definitely like to have a follow-up conversation with the mentors.

Inputs on Regulatory approvals.

Financial Management / Planning regulations / Registrations.

Sales, Marketing

Fund raising

We would need advice on funding sources interested in the product & Advice/mentoring on the targeted approach to Customer.

Fund raising, Validation, scale up opportunities.

There should be at least 1 hr time to discuss with mentors, more mentors expected.

Need inputs about manufacturing of our product regulation, partnership with security ETP/STP related companies, Industry to partner in this technology.

(27 July 2018) R clinic

Evaluation Results

Category	Avg(Min- Max)Count					
Section 1 - Event administration/facilities			Rating Scale			
Overall event satisfaction	6.2(5,7)17	1	Bad	2	Well below average	
Queries Answered	6.1(5,7)17	3	Below average	4	Average	
Quality of Discussion	6.4(4,7)17	5	Good	6	Very Good	
Content of discussion	6.0(3,7)17	7	Excellent			
Networking Opportunities	5.7(2,7)16					
Quality of facility(venue etc)	6.7(5,7)17					

Section 2- Did the M clinic help resolve your queries/concerns?

Yes (9)

Yes to an extent, more time should have been provided for Q & A.

Yes to some extend. The session were more on medical devices & Drugs & less shard on food, feed arena?

Somewhat (2)

Good structure consign into an licensing & regulation for manufacturing setup.

Section 2- Going further, which areaswould you like specific advice/help on?

Medical Devices-Regulatory Support for Intra-Venous devices and Biologicals - New product manufacturing & regulatory requirements.

Regulatory requirements for IVD's specifically rapid test kits. How many phases of clinical validations are required for IVD's? Do we submit the clinical validation data to DCGI? Is manufacturing license obtained on this basis?

I would like to have more insight into Patenting, Licensing of drugs & how we can speed up the process. Also, more information on investment options for our product.

Template of the forms used in IVD applications will be of Help.







Does 'Green Fodder' need a manufacturing license & Approval etc? Do various algae based Green fodder products need fees for any type of clinical testing? Algae Coat based green fodder is food or a feed supplement?

Bring Govt officials who are informed regulatory process. This would help the participants to clear the queries.

Discussion on few Real Case Studies.

A Workshop where an example case study Eg: Take a medical device & run it through the step by step process from classification upto approval. Simulation of the entire approval process will be great. Even a Mock audit interview can be demonstrated. The forms will be filled out as proof of the Workshop.

Loan License Seems to be the option for us. Would need detailed guidance regarding the same.

We could have collected queries over email for discussion as there is lot of content in the regulatory landscape.

Keep some time for discussion after the presentation, send the presentation to the audience for further study. Please share speaker e-mail id so after discussion we can share queries due to shortage of time to take everyone's queries.







Annexure 7: Overall Event Feedback

- Overall, it was a good event to get connected with #GreatMinds
- Excellent
- It was a very helpful conclave. The organizers had made sure that it is useful for us and the forms for connection in the future were a great idea too. The BRBC mixer was very helpful too.
- There was no ventilation in Poster presentation venue and fans were also not working.
- It was great learning and networking at the BIG Conclave. Thanks for arranging it so well.
- Excellent Mentoring!! Got a lot of clarity
- Food served as lunch and dinner was below average quality.
- My overall experience was good except day one venue.
- It was a great experience to attend BIG CONCLAVE 2018. Really appreciate the efforts of the organizers. Thanks to BIG, BIRAC and Venture Centre.
- I notice there isn't a "Not applicable" option for the sessions above, despite some sessions being open only to certain people (eg the M and R clinics). Secondly, a request for the peer to peer sessions to be kept on the same day as the main event and move the optional clinics to the second day, so that people can attend all the crucial sessions on the first day itself. Especially for those of us with young kids, it may be difficult to spend more than one day out of town. Thirdly, food was great! As a person from southern India, am not familiar with Marathi cuisine and this was a wonderful introduction.
