# UK-India Joint Workshop on

# Affordable medical diagnostics and devices: From ideation to commercialization

**Venue: Venture Center, NCL Innovation Park, Pune, India**

**Date: Friday, 13 Feb 2015**

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| **Objectives** | • To present case studies in medical technology development from UK and India. Share learnings and insights, and explore synergies and collaborations.<br>• To understand various aspects of technology commercialization for medical technologies (including funding) and highlight emerging opportunities.<br>• Explore potential industry-academia/research/medical fraternity partnerships in technology development and advancement in areas related to diagnostics and diagnostic devices between UK and Indian counterparts |
| **Organized by** | • UK Science and Innovation Network<br>• Bioincubator at Venture Center (Bioincubator at Venture Center is supported by BIRAC, Government of India)<br>• Association of British Scholars, Pune |
| **Supported by** | • British High Commission<br>• Social Innovation Immersion Program @ Venture Center, Biotechnology Industry Research and Assistance Council (BIRAC) under SPARSH Scheme<br>• Mentoring Program of Biotech Ignition Grant partner (Venture Center) |
| **For whom** | • Researchers with interest in technology translation, inventors and technology developers<br>• Medical researchers, medical professionals and clinicians<br>• Entrepreneurs/ startups with interest, industry professionals<br>• Impact/ social innovation investors with interest in venture financing<br>• NGOs and social enterprises interested in deploying medical technologies for the masses |
| **When** | Friday, 13th February 2015<br>0830-1800 hrs |
| **Where** | Training Room, Venture Center,<br>100 NCL Innovation Park, Dr. Homi Bhabha Road, Pune-411008 |
| **Contact** | Ms. Lipika Biswas \| Phone: +91-20-25865877 \| Email: eventsdesk@venturecenter.co.in |
| **Terms & Cost** | WORKSHOP<br>• Participation by invitation only. 40 seats only. Express interest over email to contact person.<br>• First preference to experienced professionals. Students shall be allowed to participate if seats are available. Organizers reserve the right to select participants so as to maximize learning and networking opportunities for the group. |

## Introduction and background

Affordable healthcare is a large global need in both the developing and developed world. In the developing world, affordability is a key factor determining whether healthcare solutions are able to reach the masses. In the developed world, the continuously ballooning healthcare costs are a large threat to the sustainability of the healthcare system.

UK has been a leader in developing and innovating healthcare solutions as well as deploying them for public use. India has demonstrated some outstanding examples in delivering affordable health care to the masses. This workshop aims to catalyze joint programs aimed at technology development, innovation and deployment of affordable healthcare solutions for the people

at large.

This workshop will emphasize devices and diagnostics. The workshop shall cover technology development, protection of ideas, securing regulatory approvals and certifications, and commercialization.

The workshop aims to bring together a select group of UK and Indian counterparts with shared or complementary interests to discuss the emerging needs, opportunities, challenges and chart a path forward.

## Workshop Schedule

| Time (hrs) | Topic | Speakers |
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| 0830-0915 | Registration and Breakfast | |
| 0915-1000 | • Welcome to Venture Center and associated programs<br>• Introduction to BioIncubator<br>• Introduction to SIN<br>• Introduction to the workshop.<br>• Workshop inauguration (lighting of the lamp)<br>• Welcome by Director, NCL | V Premnath<br>Pradnya Aradhye<br>Sheryl Anchan<br>Mugdha Lele<br>Sourav Pal & other guests<br>Sourav Pal |
| 1000-1100<br>(60 min) | Session I: Affordable devices and diagnostics – UK trends<br><br>Panel Discussion: UK landscape relating to medical technology innovations<br>• Opening comments by each panelist<br>• Followed by discussion<br>• Followed by Q&A | Chair: Sourav Pal<br><br>Sue Dunkerton (Business and Innovation trends)<br>Mario Giardini (Biomed electronics/IT/mobile)<br>Richard Black (Tissue engg)<br>Till Bachmann (Molecular diagnostics)<br>Himangi Bhardwaj (UK governments initiatives in Healthcare technologies) |
| 1100-1130 | Networking Tea | |
| 1130-1200 | Tour of Venture Center | |
| 1200-1300<br>(60 min) | Session 2: Affordable devices and diagnostics – Emerging needs in India<br><br>Panel Discussion: Medical technology needs and priorities in India<br>• Opening comments by each panelist<br>• Followed by discussion<br>• Followed by Q&A | Chair: Sue Dunkerton<br>Co-Chair: Dr. Ramesh Paranjpe<br><br>Nikhil Phadke (Diagnostics)<br>Prasad Rajhans (Medical doctor, ICU specialist, DMHRC)<br>Niranjan Khambete (Clinical engineering)<br>Venkat Panchagnula (Bioseparations/diagnotics)<br>MV Hegde (Biochemical diagnostics) |
| 1300-1400 | Lunch Break | |
| 1400-1530<br>(90 min) | Session 3: Stories of tech developments and commercializations in diagnostics and devices<br><br>• UK stories (Short talks – 45 min)<br>  ○ Talk 1: Rapid diagnostics for infectious diseases<br>  ○ Talk 2: Bio-inspired biomedical technologies<br>  ○ Talk 3: Rapid manufacturing of tissue scaffolds<br><br>• India stories (Opening comments followed by discussion by panel of innovators/ entrepreneurs – 45 min ) | Chair: V Premnath<br><br>Till Bachmann<br>Themis Prodromakis<br>Richard Black<br><br>Aniruddha Atre<br>Nishant Kumar<br>Sachin Dubey<br>Dhiman Sarkar<br>Mandar Gadre<br>Jayant Khandare |
| 1515-1600 | Networking Tea | |

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| 1600-1730<br>(90 min) | Session 4: Collaborative technology development and taking ideas to market – Experiences and opportunities<br>• Affordable devices and diagnostics: Need and Opportunities (Short talk – 30 min)<br>• Emerging funding opportunities (Short talks – 20 min)<br><br>• Experiences and issues in setting up collaborations; Issues in technology transfer and spinning off ventures (Opening comments followed by panel discussion – 40 min) | Chair: Mike Stewart<br><br>Helen Lee (over Skype)<br><br>Satya Dash (over Skype)<br>Sue Dunkerton<br>Vishy Chibrolu<br>Taslimarif Saiyed<br><br>G Prabhakaran<br>Magesh Nandagopal<br>Mario Giardini<br>Nitin Tewari<br>V Premnath |
| 1730-1800 | Closure and high tea | |

| Speakers and Panelists from UK (in alphabetical order of last names) | |
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|  <br>Till Bachmann | Till is a Reader in Personalised Medicine in Infectious Diseases in the Division of Pathway Medicine, University of Edinburgh. His scientific interests focus on Point of Care Testing and rapid molecular diagnostics of infectious diseases; antibiotic resistance targeting stratified medicines as well as bacterial response to in vivo therapy targeting novel biomarkers for diagnostics and drug development. Till has published extensively, is a named inventor on various patent applications, and he has led a number of large interdisciplinary diagnostic projects (e.g. ITI Techmedia Chronic Wound Care / Biosensing Platform Programme). Till is Scientific Programme Director for Mölnlycke Health Care Scotland, is a founding member of the European Diagnostics Cluster Association, member of the Scientific Advisory Board of the Biomedical Diagnostics Institute, Dublin, and member of various advisory panels for major funding bodies including the UK Technology Strategy Board and the EU Innovative Medicine Initiative (IMI). |
|  <br>Richard Black | Richard Black is Editor-in-Chief, Medical Engineering & Physics, one of three leading scientific journals published by the Department of Biomedical Engineering, University of Strathclyde. He is a biomedical engineer with over 25 years' experience in the field, having gained his Ph.D at the University of Liverpool where he was lecturer in Medical Device Design. He is currently Academic Director of the UK Engineering and Physical Sciences Research Council (EPSRC) Centre for Doctoral Training in Medical Devices and Healthcare Technologies. A Chartered Scientist and Engineer, Dr Black is a Fellow of the Institution of Mechanical Engineers and the Institute of Physics and Engineering in Medicine. |
|  <br>Sue Dunkerton | Sue Dunkerton, OBE, is Director at the Knowledge Transfer Network, UK. Sue graduated in materials science from University of Manchester, UK, and started her career in materials processing across a range of industry sectors. She has work predominantly in contract research and development and business development, moving into the medical sector in the late 90's. Since 2002 Sue has worked to support UK businesses and academia to collaborate and innovate in the medical and broader healthcare sector. Current priorities include materials and manufacturing, medical technologies, assisted living. |
|  <br>Mario Giardini | Mario is Lecturer in Digital Health, Department of Biomedical Engineering, University of Strathclyde. He has a background in electronic engineering and computer science, and has been working for the last 20 years on biomedical instrumentation and technology, as Research Scientist at the Italian National Institute for Physics of Matter and as Director of R&D for a European microscope manufacturer. He is currently involved in developing technologies, devices and instruments for global healthcare, for field and point-of-care medicine and for medical robotics. His mobile phone based solutions for retinal imaging are currently under field trial in several countries, and products derived from his designs and research are currently distributed worldwide. |
|  <br>Helen Lee | Helen Lee is Director of Research at, Department of Haematology, School of Clinical Medicine's Diagnostics Development Unit (DDU). Helen received her Ph.D from Cornell University and MSc from Oxford University, with post-doctoral training at Churchill Hospital in Oxford, the University of Geneva and St Louis Hospital in Paris. She has developed monoclonal blood typing reagents, the first widely used liquid blood typing reagents in Paris. Also developed the first monoclonal antibody based assays for hepatitis B surface antigen, which was subsequently licensed to the Pasteur Institute as the MONLISA HBsAg assay and is still on the market today. After a long stint in the industry, she joined University of Cambridge to focus on the development of technology and diagnostic assay for resource-poor settings. To commercialize the technologies developed at Cambridge, she founded Diagnostics for the Real World Ltd (DRW), in 2002.Currently, under her guidance as Research Director of DDU, the products and technologies developed by DDU scientists received the Medical Futures Innovation Award (UK) for its innovative sample collection device and more recently, the 2007 Tech Museum Innovation Award (US) for innovation in the Health Category, in recognition of the Signal Amplification technology, which greatly improves the sensitivity of rapid test for the detection of infectious diseases. The unit has filed |

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| | 12 families of patent applications, with 20 granted or allowed national patents, detailing inventions that improve the performance of rapid diagnostic tests. |
|  <br>Themis Prodromakis | Themis is a Reader in Nanoelectronic, EPSRC Fellow affiliated with the Nanoelectronics and Nanotechnology Research Group of ECS at the University of Southampton. He is also a Visiting Professor at the Centre for Quantum Information and Interdisciplinary Science and Honorary Fellow within Imperial College London UK. He previously held a Corrigan Fellowship in Nanoscale Technology and Science, fundedCentre for Bio-inspired Technology at Imperial College and a Lindemann Trust Visiting Fellowship in EECS UC Berkeley. His background is in Electronic Devices and micro/nano-electronics processing techniques, with his research being focused on bio-inspired devices for biomedical applications. |
|  <br>Mike Stewart | Mike is Professor of Neuroscience, Department of Life, Health and Chemical Sciences, Open University, UK.<br>Mike's research is concerned with investigating neurodegeneration in the mammalian CNS. Mike is the author of over 170 peer reviewed publications and holds grants from both the UK and EU. He is a member of the Executive Committee of the Federation of European Neuroscience (FENS) as Treasurer and is also member of the EDAB (European Dana Alliance for the Brain).He is Director of the Open University Affiliated Research Centre (ARC) Degree programme which has 24 research institutes worldwide including Sub-Saharan Africa and SE. |

| **Speakers and Panelists from India (in alphabetical order of last names)** | |
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|  <br>Aniruddha Atre | Aniruddha is Co-Founder and Director, Jeevtronics Pvt. LTD & Co-Founder BOPEEI PVT LTD. He is an experienced social entrepreneur and an industry professional with over 15 years of experience across global automotive industry, renewable energy and computer aided design and analysis. After over a decade at Ford Motor Company in the US, he decided to pursue his dreams in social entrepreneurship and co-founded BOPEEI in 2009. He was involved in the invention of the world's fastest charging Pedal Powered Generator as well as Solar powered lamps that don't need battery changes for upto 10 years. Aniruddha Atre also co-founded Jeevtronics in 2013, which is developing World's first Defibrillator with a built-in Power source, which does not need battery replacements and can be used in rural un-electrified area hospitals. For this product, Jeevtronics won the BIG grant from BIRAC and the Proof-of-concept work is currently underway. |
|  <br>Himangi Bharadwaj | Himangi is Senior Health Adviser for the cross-Her Majesty's Government (HMG) team in India, based out of the High Commission in Delhi. Her overall mandate is to contribute to a stronger, wider, and deeper, mutually beneficial UK-India health partnership. She is the converging point for the cross-HMG teams working on health in India, including Department for International Development, UK Trade and Investment, Science and Innovation Network, UK India Business Council, and Research Councils UK, among others. She also plays a central role in working with UK-based stakeholders such as the Department of Health, Healthcare UK, NICE, the Royal Colleges, Medical Research Council, and other professional regulators, etc. to bridge them with appropriate Indian counterparts for mutual benefit through the bilateral partnership. Having trained in medicine, Himangi completed her postgraduate training in public health, with specialization in health policy, economics, and finance, from TISS, Mumbai. |
|  <br>Vishy Chebrol | Vishy is Ph.D from Case Western Reserve University and MBA from IIM, Lucknow. He is currently working with InvAscent, which provides private equity growth capital to companies in the Indian pharma, healthcare, and medtech industries. He is closely involved in assisting portfolio companies execute their business plans. |
|  <br>Satya Dash | Satya is Head, Strategy and Entrepreneurship Development at BIRAC Department of Biotechnology, Government of India. His interests lie in the interface of government, public agencies, industry and the third sector. His work is focused on national and global science and bio-science policy, strategies for 'business of science', design, understanding and navigating non-linear and complex systems, influencing and impacting political will. He has authored the blueprint of the Indian Biotechnology 2025 Roadmap at the behest of Department of Biotechnology, Government of India which was published in 2012. He has provided strategic inputs to organisations that impact S&T globally and nationally. He has helped shape and design programmes that bridge the gaps in biotech funding cycle such as establishment of BIRAC's Biotech Ignition Grant (BIG) and biotech social innovation programme, SPARSH, to name a few. BIG and SPARSH have been catalyzing the emergence of biotech startups in India. |
|  <br>Sachin Dubey | Sachin is a technology enthusiast and is dedicated to develop healthcare solutions for masses. He is co-founder and CEO of Module Innovations. He led his team to win 2nd prize at ABLE- BEST 2012, in top 8 out of 6000 in EUREKA-2014 and in top 6 at the LIVE B-Plan 2014 organized by Karnataka govt. He holds a Bachelors and Masters degree in Nanotechnology, from the Centre for Converging technologies, University of Rajasthan, Jaipur. |

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|  <br>Mandar Gadre | Mandar is a Partner at Nayam Innovations, which is developing novel medical implants. Previously, he worked with View Inc. (California, USA) playing a key role in developing and scaling up the electrochromic smart-glass technology from pilot line to the high-volume factory. He holds a B.Tech. (IIT Bombay) and a Ph.D. (Arizona State University, USA) in Materials Science. His doctoral work spanned two research areas: the use of ultra-porous aerogels as scaffolds for 3-D cell culture; and development of mixed oxide thin films for optoelectronic applications. |
|  <br>M V Hegde | Hegde is Scientific Advisor at Interactive Research School for Health Affairs, Bharati Vidyapeeth University, Medical College Campus, Pune. He has taught biochemistry at Post-graduate level in Pune University for nearly 35 years. Broadly, his areas of research include enzymology, molecular biology, genetic engineering, plant biochemistry and genetic conditions like thalassemia. |
|  <br>Niranjan Khambete | Niranjan is Clinical Engineer at Deenanath Mangeshkar Hospital and Research Center, Pune. He has a background in clinical engineering and works in areas of healthcare technology management, bio-impedance techniques and its applications, safety of medical equipment and medical devices. He is instrumentation engineer from College of Engineering Pune, M.Tech (Biomedical Engineering) from IIT-B and Ph.D from University of Sheffield, UK. |
|  <br>Jayant Khandare | Jayant received his Ph.D. in Chem. Eng. from NCL, Pune and was postdoctoral research fellow at Chemical Eng. Dept., and Children's Hospital, Wayne State University, Detroit, and a Research Associate at Rutgers, State University of New Jersey, USA. His research interests are at the interface of macromolecular chemistry, targeted drug delivery, 3D cancer cell scaffolds, and 3D surfaces. His research based start-up, Actorius Innovations and Research is involved in designing multi-components for cancer diagnostics. He is also a founder of Right to Research Foundation, a non- profit researcher's entity in Pune. |
|  <br>Nishant Kumar | Nishant is founder and CEO of Embryyo Technologies. Embryyo is a medical devices and healthcare solutions company with products and solutions designed for advancing healthcare with affordable technologies and breakthrough research. |
|  <br>Magesh Nandgopal | Magesh is Scientist, NCL Innovations. His areas of interest include new product development in chemical/material sciences, assessment, valuation, portfolio management and marketing. He is Ph.D (Polymer Science) & MBA (Finance & Operations) from University of Connecticut. |
|  <br>Sourav Pal | Sourav Pal is Director of CSIR-NCL. He completed integrated masters degree in Chemistry from IIT-Kanpur, Ph.D. from Calcutta University and post-doctoral fellowship at the University of Florida, Gainesville, USA. His research spans over diverse areas of theoretical, methodological and conceptual developmental chemistry, many-body theory of molecular electronic structure and properties using coupled-cluster methods, chemical reactivity and density functional theory response, catalytic and hydrogen storage materials using beta zeolites as catalytic systems and doped magnesium hydrides and metal-decorated metal-organic frameworks as solid state materials for hydrogen storage. He has been recognised by several prestigious awards and honors for his contribution to science and technology including the prestigious Shanti Swarup Bhatnagar Award in Chemical Sciences, amongst several others. |
|  <br>Venkat Panchagnalu | Venkat, founder of Barefeet Analytics, Pune is currently a Senior Scientist and Assistant Professor at the CSIR-National Chemical Laboratory, Pune. He also holds the Ramalingaswamy Fellowship from the Department of Biotechnology, and is the Founding Scientific Director of Center for Applications of Mass Spectrometry, Pune. He has a Ph.D. from the University of Connecticut, USA (2005) and worked at PerkinElmer Life and Analytical Sciences (Boston), and CSIRO, Melbourne (Australia). His research interests are in the broad areas of analytical chemistry, mass spectrometry, metabolomics and surface chemistry. |
|  <br>Ramesh Paranjpe | 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. |

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|  Nikhil Phadke | Nikhil has over 15 years experience in the fields of Molecular Biology, Proteomics and Molecular Diagnostics. He was a core team member at Handylab, a highly successful microfluidics based molecular diagnostics startup in Ann Arbor, Michigan, USA. He founded GenePathDx with a view to bring state-of-the-art in vitro diagnostic tools to Indian medical community. He has several publications in international peer-reviewed journals and also has a number of granted US patents and submitted patent applications. He has Ph.D from University of Michigan. |
|  G. Prabhakaran | Prabhakaran is Head (Business Development Division) National Chemical Laboratory, Pune<br>He has done MMS (Marketing) and MBA (Marketing & Finance). He analyzes and assesses techno-commercial business information and market intelligence in order to identify potential business partners. He also interacts with prospective customers with the purpose of developing business partnerships or customers and identifies new business opportunities for NCL's knowledge base. |
|  Prasad Rajhans | Prasad is Chief Intensivist at Deenanath Mangeshkar Hospital, Pune and has been awarded FICCM by Indian College of Critical Care Medicine. He has been trained in UK for 4 years in Critical Care & Emergency Medicine. He is also consultant in Emergency Medicine at Symbiosis International University and Medical Director of the Pune Chapter of International Trauma Life Support, USA. |
|  Taslimarif Saiyed | Taslim is Director and COO at the Centre for Cellular and Molecular Platforms (C-CAMP), a Dept. of Biotechnology, Govt. of India initiative, in Bangalore, India. He did his Ph.D in Neuroscience from Max-Planck Institute for Brain Research, Germany followed by postdoctoral training at University of California San Francisco (UCSF). He also underwent training in management for Biotech and Innovation from QB3 at UCSF, UC Berkeley and UC Davis. He is actively involved for promoting innovation in life science through supporting translation of discoveries to application, entrepreneurship and technology development. |
|  Dhiman Sarkar | Dhiman Sarkar is Senior Principal Scientist at CSIR-National Chemical Laboratory, Pune. He is currently working on a diagnostic method for Mycobacterium tuberculosis. His research areas include molecular mechanism of pathogenesis of Mycobacterium Tuberculosis, drug discovery, target identification and validation, development of new protocols for High Throughput screening, enzymology, molecular Biology, proteomics and protein biochemistry |
|  Nitin Tewari | Nitin is a Scientist at IP Group and NCL Innovations. Her areas of expertise include patent drafting & prosecution, IP portfolio planning, management and value addition. She is Ph.D (Biomed Research), WoS-C fellow of DST and a Patent Agent. |

| **Invited participants** | |
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|  Sharmila Bapat | Sharmila is a Senior Scientist at National Center for Cell Sciences, Pune. Her research focuses on ovarian cancer biology with work on cancer stem cell identification and characterization and elucidation of tumour heterogeneity. |
|  Aurnab Ghosh | Aurnab did his undergraduate studies at Presidency College, Calcutta, India followed by a Masters from the University of Leicester, UK. He received his Ph.D from The Beatson Institute for Cancer Research, UK on a CRC fellowship. Following post- doctoral research at the HMS Dept. of Cell Biology, Harvard University, USA he joined the faculty of Indian Institute of Science Education and Research (IISER), Pune, India. |
|  Suhita Nadkarni | Suhita obtained her B.Sc and M.Sc. (Physics) from University of Mumbai and Ph.D in Physics from Ohio University. Her postdoctoral work was at the Center for Theoretical Biological Physics, University of California, San Diego and Computational Neuroscience Laboratory at the Salk Institute, La Jolla. She is currently at IISER, Pune as Assistant Professor and is a Wellcome Trust-DBT Intermediate Fellow. Her research work focuses on understanding the contribution of the molecular pathways involved in synaptic transmission to higher level function, trying to devise realistic biophysical computational models of these sophisticated neural components that allow for *In-Silico* experiments and make testable predictions. |
|  Anuya Nisal | Anuya is a scientist in the Polymer Science and Engineering Division at NCL, Pune. She is a materials engineer by training and her interests include development of novel polymer blends and composites, their structure-property-processing relationships and micro-analytical characterization techniques. Currently her work focuses on characterizing the microstructure of silk fibroin, developing various processing protocols and chemically modifying silk to tune the bioactivity. |

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|  <br>BLV Prasad | Prasad is Principal Scientist in Materials Chemistry division, NCL, Pune. His area of research is particularly related to nano-particles and its applications. |
|  <br>Pranay Goel | Pranay studied Engineering Physics at IIT Bombay and holds a Ph.D in Physics and Astronomy from the University of Pittsburgh. After postdoctoral work at Ohio State University and the US National Institutes of Health, he is currently assistant professor of Mathematics and Biology at IISER, Pune. His research interests are in mathematical biology, especially type II diabetes. Together with collaborators at Pune University and students, his lab investigates oxidative stress in diabetognesis. He is keenly interested in personalized medicine and predictive analytics in healthcare. |
| Ian Walker | Vivakti Ltd is a UK based Healthcare company dedicated to the identification, development and implementation of high quality products and services at significantly reduced cost. Their aim is to help UK and Mainland Europe's healthcare systems deliver on their aims to deliver innovation in healthcare without increasing budgets, through the application of new technologies, processes and software. |
|  <br>Madhur Rao | Madhur Rao received his medical qualification from Mangalore and post-graduation in Tropical Medicine from the London School of Hygiene and Tropical Medicine and MBA from University of Gloucestershire. He has worked in Kenya managing the paediatric unit of The Aga Khan Hospital, a large referral hospital in Kisumu. He has also worked as Director of Medical Affairs for a Medical Information Systems company in UK, Business Development Manager in health insurance for Bupa, financial services for Vitality Health and Life. Currently, he is in Pune working with UK based innovative companies looking to move into the Indian market. |
|  <br>Nandgopal Kakde | Nandgopal Kakde is currently working with Novartis India Limited, leading the Manufacturing Science & Technology Group for the APAC region. He has over 23 years of experience in manufacturing, including 5 years in API research and 18 years in the manufacturing of formulations. Broadly his background encompasses API research, pharmaceutical production, R&D and technology transfers, recruitment and start-up of operations and cross functional responsibilities, product transfers and extensive global experience working in several countries with third parties and external customers. |
|  <br>Victoria Gerrard | Victoria is a co-founder of Opportunity Lab, an interdisciplinary lab at the Singapore University of Technology and Design which seeks to understand and enhance the way people design for social change. She is working Floris to develop PartE: a community which supports people to examine, share and ultimately reshape their experiences of working together for social change. Victoria is currently supporting the PartE community to identify structures which support safe, respectful and creative negotiation between people with multiple values. Her first degree is biomedical engineering and the use of inclusive approaches to designing healthcare products and services remains a great interest in her work. |
|  <br>Clara Aranda-Jan | Clara is a doctoral research at the University of Cambridge. Her research aims to understanding stakeholders' perceptions of value and needs of medical devices in low-resource settings. From a sociological perspective, participatory design methods are used to map a holistic network of interactions, between people and objects, surrounding medical devices within the healthcare system and, in this way, describe the contextual factors in which medical devices are used in low-resource settings. |
|  <br>Gautam Morey | Gautam is Founder of Sofomo Embedded Solutions Pvt Ltd. He works with embedded systems solutions in diverse fields like medical devices, telecommunications, digital media, consumer devices and industrial applications. He likes to help people see through a technical angle, the real world impact that their imaginary idea can have and how they can go about getting it to life. |

| **Organizing team** | |
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|  <br>Sheryl Anchan | Sheryl Anchan works with the Science and Innovation Network as an Advisor and is based in the British Deputy High Commission in Mumbai. She supports the network's work on life sciences. Sheryl has a significant experience in working with a range of stakeholders across government, academia, research and development institutions and industry in India and the UK. She is well-placed to facilitate linkages and build stronger ties between scientific communities in India and the UK within the life sciences sector. She has played an important role in raising the profile of the network and its activities through various media including the website and the monthly Science and Innovation India newsletter. |
|  <br>Pradnya Aradhye | Pradnya is currently Associate, Bioincubator, Venture Center. She has done her M.Tech in Biological Sciences and Bioengineering from IIT Kanpur. Currently she is handling all Bioincubator activites at Venture Center. She is responsible for creating a pipeline of potential and signing-up incubates for the Bioincubator. Contribute to building scientific support systems and resources for VC incubates including specific expertise. Discussions with scientists to understand their competencies. |

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|  <br>DSS Chaitanya | Chaitanya is BIRAC Social Innovator under the Social innovations Immersion Program at Venture Center. He has completed his Masters in optometry and vision sciences from University of Hyderabad. He has clinical exposure in hospital settings and an understanding of challenges faced by practitioners in effective eye care delivery. His areas of interest include optics, public health, Telemedicine, low cost portable technology development for effective health care delivery with emphasis on eye care. |
|  <br>Sarang Kulkarni | Sarang is currently BIRAC Social Innovator under the Social innovations Immersion Program at Venture Center. An electrical engineer by training, Sarang wants to put his education to use for developing low-cost sensors, biomedical monitors and other technologies that can be used widely in India. He is particularly interested in low-power electronics and his current long term interest is in developing sensors that give an insight into the workings of the human body in response to various stimuli. |
|  <br>Mugdha Lele | Mugdha is currently working as Program Manager for Social Innovation Immersion Program at Venture Center. She is Ph.D in Health Sciences from University of Pune. Her areas of interests include epidemiological profiling and molecular diagnostics for diseases of public health importance. |
|  <br>Manisha Premnath | Manisha is General Manager at Venture Center. She is Ph.D in Biotechnology from University of Pune and Post doc from University of Cambridge. Her areas of interest are Biotechnology, Microbiology, Molecular & cell biology, Biotech commercialization, Planning and setting up tech dev programs and labs and Program management. |
|  <br>Amrita Sukrity | Amrita is a Materials Engineering graduate and wants to establish a manufacturing ecosystem for commercialization of low cost medical devices. Prior to being BIRAC Social Innovator<br>under the Social innovations Immersion Program at Venture Center, she has worked with Bosch in purchase team where her role required development and procurement of ferrous and non-ferrous materials. Her main interest lies in bio-mimic technologies and current interests include developing diagnostic devices for low resource settings. |
|  <br>Premnath Venugopalan | Premnath is Founding Director of Venture Center and Head, NCL Innovations. He holds a B.Tech from the Indian Institute of Technology - Bombay and a Ph.D. from the Massachusetts Institute of Technology, USA. He has also been a Chevening Technology Enterprise Fellow with the Centre for Scientific Enterprises, London Business School and Cambridge University, UK. He brings with him considerable experience in technology development and commercialization, working with start-up companies (in Cambridge-UK and India) and engaging with large corporations on research and consulting projects as project leader. He is also a member of the Board of Executive Committee of the Association of British Scholars. |

## About the Organizers

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| | **About UK Science and Innovation Network**<br>Science and innovation play an important role in promoting prosperity and growth through the Science and Innovation Network (SIN). SIN teams develop country specific action plans and work to the following global objectives: Influence science and innovation policies of governments, industry and academia to benefit the UK; Improve UK policy based on international experience and emerging opportunities and challenges; Stimulate strategic science collaborations to benefit the UK and deliver wider policy goals; Harness international technology partnerships and investment to grow UK innovation capability. For more information about UK Science and Innovation Network: https://www.gov.uk/government/world/organisations/uk-science-and-innovation-network |
| | **About Bioincubator at Venture Center**<br>The BioIncubator at Venture Center aims to nucleate and nurture technology and knowledge-based enterprises leveraging knowledge in the areas of biotechnology (biopharma, agrobiotech, industrial biotech, clean technology), biomedical engineering/ devices/ diagnostics, biomass value addition/ renewable fuels/chemicals/materials, bioinformatics, bio/medical services and related disciplines. Created with support from DBT-BIRAC under the Bioincubator Support Scheme. For more information, visit www.bioincubator.venturecenter.co.in |
| | **About the Association of British Scholars, Pune**<br>The Association of British Scholars (ABS) in India is a national forum to facilitate the networking of Indians who have studied or trained in the UK. ABS India aims to strengthen the Indo-UK relationship by harnessing the resources, expertise and potential of every ABS chapter through networking, sharing information and hosting social, cultural and intellectual activities. ABS is today one of the India's largest alumni networks. The Pune chapter which began over 20 years has to its credit an impressive list of alumni which became a single forum for all UK related information. More information at: http://www.abspune.org/ |

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| UK SCIENCE & INNOVATION | VENTURE CENTER | BioIncubator at Venture Center Supported by BIRAC |

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| British High Commission | **British High Commission**<br>We are responsible for managing all aspects of the relationship between the United Kingdom and India. We work to enhance the India-UK relationship so that is stronger, wider, and deeper - generating more jobs, more growth and more security for our two nations. The UK-India relationship is founded on a broad range of mutual interests. We work closely together on issues as diverse as education and research, energy security and climate change, security and defence, international relations. We share the core values of democracy, pluralism and tolerance. For more information, please visit us on: https://www.gov.uk/government/world/india |
| birac Ignite Innovate Incubate | **BIG Program of BIRAC**<br>The Biotechnology Ignition Grant (BIG) scheme of BIRAC is for supporting demonstrating and validating Proof-of-Concept of novel ideas with significant commercialization potential. Biotechnology Industry Research & Assistance Council (BIRAC) is a new industryacademia 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 |
| Social Innovation Immersion Programme | **Social Innovation Immersion Programme** (SIIP) is a programme of Biotech Industry Research Assistance Council (BIRAC), Government of India under its SPARSH (Social Innovation Programme for Products: Affordable & Relevant to Societal Health) scheme. SIIP is a fellowship scheme under SPARSH which intends to create a pool of social innovators in the biotech/biomed and related disciplines, who can identify specific needs and gaps in healthcare of different communities which can then be bridged and serviced through innovative product development and services. The initial focus shall be on Maternal and Child Health. Under the SIIP programme, BIRAC has identified a few centers nation-wide for implementation of the programme. Venture Center in Pune is one of those centers. For more information, please visit: http://venturecenter.co.in/siip/ |