Contact: Media Team
E: media@iitalumnicouncil.org
T: +1 650 9008833
M: +91 93155 21237
www.iitalumnicouncil.org
Twitter: @iitcouncil

PRESS RELEASE

After the announcement of MegaLab, IIT Alumni Council announces MegaTx - an initiative to create end-to-end indigenous BioTherapeutics ecosystem targeting safe and effective treatments for Covid 19.

- The primary funding vehicle for MegaLab and MegaTx is the Rs 21,000 crore MegaFund.

- MegaTx to design systems for mass collection and testing of blood donated by recovered C19 patients. MegaTx to use existing industry capacity for large-scale manufacturing of intravenous immunoglobins from verified donor plasma.

- MegaTx to alongside identify and characterize the antibodies for the treatment of C19 and to manufacture monoclonal antibodies (MAB) in adequate quantities using recombinant mammalian cell lines to stably express them. This scale of biotherapeutic manufacturing has not been attempted before in India.

New Delhi, Jul 6, 2020: IIT Alumni Council announces the MegaTx initiative to identify, optimise and indigenously manufacture biotherapeutics for the treatment of C19. The Council has proposed a two stage process. The expeditious pathway will be using antibodies harvested from human plasma collected through blood donation camps that seek donors who have recovered from C19. The subsequent stage involves identification and characterisation of identified neutralising antibodies for mass production using recombinant DNA technology: i.e. to manufacture and purify the antibodies from stable, high expressing recombinant cell lines.

The convalescent plasma therapy proposed at the NSCI Dome is the first step towards identifying and characterizing of antibodies for the prevention and treatment of C19. The plan is to identify and characterize the antibodies for the treatment of C19 and to manufacture the same in adequate quantity using recombinant mammalian cell lines to stably express them.

" The C19 Task Force of IIT Alumni Council had accepted the challenge to develop indigenous biotherapeutics in India to help save lives of those adversely affected by C19. We started off initially with the Platinae Open Source Stack which catalysed successful clinical trials on plasma therapy. We are now taking a giant step and the MegaTx initiative will address the challenge of indigenously producing the required BioTherapeutics cost effectively and administering them safely . This scale of biotherapeutic manufacturing has not been attempted in India." said Ravi Sharma, President and Chief Volunteer of the IIT Alumni Council.

"In order to meet the immediate need to save lives of critical patients, we are proposing to harvest antibodies from blood donated by recovered C19 patients. Each donor can contribute around 25 ml weekly or one unit of blood roughly every three months safely. The task at hand thus is to create the infrastructure to process around 50,000 litres of blood every month to extract relevant immunoglobins for intravenous administration.

Convalescent plasma therapy is primarily suited for small patient populations; not something that is easily scalable for mass deployment. Therefore, investment in highly productive recombinant production systems is a must" added Dr Arindam Bose, a IIT Alumnus, Chairperson of Therapeutics Group of the C19 Task Force and a well-known expert in the area of BioTherapeutics product development and manufacturing. His biodata is appended to this press release.

"I have spent a significant part of my career helping build manufacturing plants for the production of blood plasma derived products. There is a need to use plasma derived immunoglobins in the short term by using existing industry capacity and to rapidly move to monoclonal antibodies (MAB) by either hiring or setting up biotechnology plants for the mass manufacture of the identified and characterised antibodies. Since India does not permit paid donors or commercial trade in blood products, it is very challenging to create a sustainable ecosystem based on human harvesting of antibodies alone," added Ashish Chitnis, an IIT Alumnus and Project Lead for a leading global company in the plasma derivatives business. His biodata is appended to this press release.

"NSCI Dome, a facility used hitherto for rock shows and music concerts was transformed within a space of 5 days into the first jumbo facility outside of a hospital environment used to treat Covid patients . With the help of IIT Alumni Council we used technology to overcome shortage of healthcare professionals needed to treat the increasing number of patients in Worli which was one of India's first red zones. We have innovated right from the start , used AI , modularized remotely controlled ICU's and collected valuable data in doing so . We have treated over 1700 people inclusive of cancer patients , pregnant women , those above 60 yrs. and with co-morbidities with an impressive recovery rate of 74% at the dome . We have so far discharged over 1450 people with an extremely low mortality rate (<.001%). I am extremely excited that we shall soon start convalescent plasma therapy at NSCI Dome to fine tune the Mega TX

treatment protocol" Said Dr Muffazal Lakdawala, Chairman of the Doctors Group of the IIT Alumni Council and In-charge of the NSCI Dome Covid Facility in Mumbai. His biodata is appended to this press release.

About IIT Alumni Council

IIT Alumni Council is the largest global body of alumni, students and faculty across all the twenty-three IITs and partnering Technical Institutes of Excellence Network (TieNet). The IIT Alumni Council aspires to catalyse India's technological renaissance. Through its initiatives , IIT Alumni Council intends to act as a network and as a bridge between various providers of knowledge, wealth, information, wisdom, ideas, expertise and entrepreneurship to promote technological solutions to problems facing India under its 100 global city initiative.

The C19 Task Force was set up in February 2020 by the Global Board of the IIT Alumni Council to supplement and compliment the efforts of the central and state governments in the fight against C19.The Council has rallied the considerable resources of the global IIT alumni ecosystem to catalyse technological and financial interventions for the C19 battle. For more information on IIT Alumni Council, please visit: www.iitalumnicouncil.org

A distinguished Alumnus of IIT Roorkee, former Corporate leader and now full time Philanthropist - Ravi Sharma plays an active role in global revitalisation and unification of IIT alumni across countries, across IITs and across age groups. He is the President and Chief Volunteer of the IIT Alumni Council and also leads the Institute Outreach & Branding initiatives. The main deliverables of the Council are facilitating alumni networking, fortifying Brand IIT and Brand India, catalysing alumni participation in nation building and accelerating technological developments in key areas of our economy including start-ups, manufacturing and digital transformation. The Council has six operating missions - Alumni Networking (PanIIT Alumni) , Mentorship (PanIIT Institute), Social Venture funding (PanIIT Fund), CSR Platform (PanIIT Foundation), a Thinktank (PanIIT Forum) a Biomolecule Mega Incubator (PanIIT Incubator). The IIT Alumni Council is now actively engaged in solving the corona crisis and has formed the C19 Task Force which has the participation of over 20,000 alumni and includes Mumbai University and ICT Mumbai as institutional partners. C19 Task Force initiatives include the 10 million tests per month MegaLab, the 50K liters harvested blood per month MegaTx and Rs 21,000 crore MegaFund.

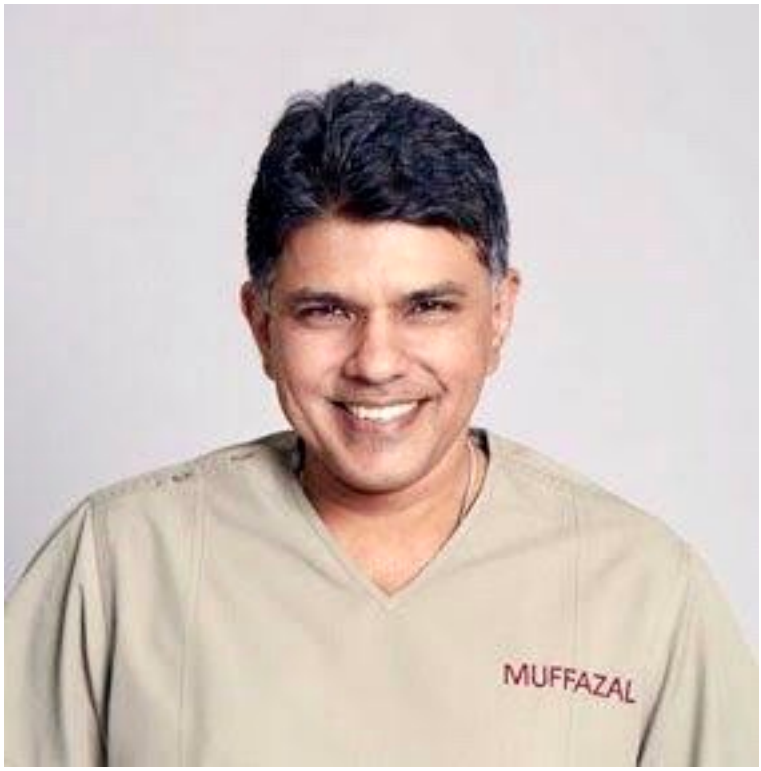
Dr. Arindam Bose retired from Pfizer Worldwide Research & Development in 2016 after 34 years in leadership roles in bioprocess development and clinical manufacturing. Dr. Bose's final position at Pfizer was Vice-President, Biotherapeutics Pharmaceutical Sciences with responsibility for external sourcing, competitive intelligence and external influencing as well as for executing the technical development plan for Pfizer's entry into biosimilars. He is widely recognized as a Key Thought Leader in the biopharmaceutical industry. Dr. Bose was elected to the US National Academy of Engineering for innovations in biologics manufacturing. Dr. Bose currently provides consulting services in bioprocessing to several start-up biotechnology companies including a part-time process development management role at Akero Therapeutics. He received a Ph.D. in chemical engineering from Purdue University, a M.S. from the University of Michigan, Ann Arbor and a B. Tech from the Indian Institute of Technology, Kanpur.

Dr Arindam Bose has been a key mentor and coach to the engineered biomolecule initiative of the IIT Alumni Council. He has advised the Council on a host of issues of both a technical and techno-economic nature. He has helped conceptualise and plan the Rs 500 crore Engineered Bio Molecule Mega Incubator (EBMI) which will include a phygital incubator, 100K square feet pilot plant facilities,, a 10 acre residential training campus, a BSL3 Laboratory equipped research centre and a 100 acre biologics manufacturing cluster for biologics exports in the NCR Biologics ecosphere which includes AIIMS, CSIR IGIB, EBMI training campus, EBMI SEZ, THSTI, ICMR, AIIA, Bibcol, DBT, DST and TDB. The BioTherapeutics Task Force of the IIT Alumni Council has close to 100 PhD volunteers , most of who are alumni of the IITs, ICT and MU.

Ashish Chitnis has a BTech in Chemical Engineering from the Indian Institute of Technology, Bombay and graduated in 1987. He did a MS in Chemical Engineering from the University of Mississippi and has a MBA from the Texas A&M University. He has been involved in senior technical roles in the pharma industry since inception and has worked with industry leaders such as Glaxo Smithkline and Pfizer. He has led engineering and construction projects, managed technical support services and supervised staff to set up global scale projects.

He has spent a significant part of his career helping to build manufacturing plants for the production of blood plasma derived products. He has been an active volunteer in the Therapeutics group of the IIT Alumni Council and was the first to help us understand and appreciate the impact of regulatory issues on convalescent plasma therapy. These issues are primarily related to the ban on commercial purchase of blood from donors and the consequent ban on products derived from donor blood.

He also helped the group understand the need for “virus sanitisation” of the blood using processes other than chromatography and fractionation which were used by Indian industry. It is based on his recommendation that the MegaLab architecture was modified to carry out concurrent testing for viruses in donor blood using RTPCR. Also, modifications were made to the Genetic testing protocol to enable a framework for creating an antibody library and characterising the antibodies to examine if one could clone part of the antibody in a cell line to get the full benefit of the antibody at a fraction of the cost. This approach has lately been commercialised by some bleeding edge companies in the sector.



Muffazal Lakdawala is an eminent Indian surgeon and founder of Digestive Health Institute by Dr Muffi, Mumbai, which is the first Indian Centre for Excellence in Bariatric Surgery. He is the chairman of Institute of Minimal Invasive Surgical Sciences & Research Centre, Saifee Hospital, Mumbai and the president of IFSO- Asia Pacific chapter. He serves as the Doctor to the Vice President of India and his clients include a wide cross section of political and other leaders.

He was awarded the first international centre of excellence designation by the US based SRC (Surgical Review Corporation) Mumbai. Dr Lakdawala underwent training in Bariatric Surgery with Raul Rosenthal, Cleveland Clinic, United States, 2006. He was also trained at the Unit of Gastro Surgery, with Piet Pattyn from the University of Ghent Hospital, Belgium, 2005 and also underwent Training in Advanced Laparoscopic Colorectal Surgery with Prof. Seon Hahn Kim, Seoul, 2004.

He is one of the only Indian surgeon to have demonstrated live surgery in almost every Asian country. Till date he has performed the largest number of single incision sleeve gastrectomy surgeries in the world. He is the first surgeon to conduct laparoscopic gastric bypass in India.

Lakdawala has performed sleeve gastrectomy surgery on one of the youngest Indian patient who is a 17-year-old boy. He has performed Bariatric Surgery on the heaviest man in Asia of 285 kg in Tianjen, China. Since its inception, he has been the Chairman of the Doctors Group of the C19 Task Force.