INTERNATIONAL SCIENCE FILM FESTIVAL OF INDIA

6-8 NOVEMBER, 2019
SATYAJIT RAY FILM AND TELEVISION INSTITUTE, KOLKATA

FESTIVAL BOOK
Contents

MISSION STATEMENT 7
DIRECTOR’S MESSAGES 8
FOREWORD 13
SPECIAL INVITEES 15
JURY MEMBERS 39
NOMINATION JURY MEMBERS 47
LEAD SPEAKERS 55
THE TEAM OF ISFFI 2019 81

SPECIAL SCREENING
NON-COMPETITIVE CATEGORY
• Science and Technology of Yoga and Meditation (SATYAM) 85
• Mission Mangal 86
• Parmanu: The Story of Pokhran 87
• Where The Elephant Sleeps 88
• Gyamo – Queen of The Mountains 89
• Indian Scientific Expedition to South Pole 90
• ASHA (Accredited Social Health Activist) ASRITA 91
• Pooranchandra and The Tikkakaran Express, Orissa 92
• Deadly Neighbours 93
• Filariasis Free India… A Hope (Asha) 94
• The Story of Transmission of Lymphatic Filariasis 95
• Beyond Baby Blue 101
• Budapest: The Central European Hub of Innovation 102
• Bugs 103
• Chau (Menstruation) 104
• A Dissociative Dream (ADD) 105
• Einstein’s Quantum Riddle 106
• Element 112, The Marinov Affair 107
• First Satellite 108
• Go Go Giwas 109
• Homeland of Wine 110
• Homo Georgicus – The Homeland of The Earliest Hominins Outside Africa 111
• Importing Garbage for Energy is Good Business for Sweden 112
• Inside Einstein’s Mind 113
• Niède 114
• One Point Seven: The Reluctant Urbaniser 115
• Plogging – How Fitness Can Save The Climate 116
• Quin – Better Diabetes Management 117
• Renovagen – Instantly Deploy Solar Power Anywhere 118
• Skipping Rocks Lab: Edible, Biodegradable Food Packaging 119

FOREIGN FILMS
• 9 Minutes Before Space 97
• A Tiny Spark 98
• Atacamex Explorando Lo Desconocido 808 99
• Atapuerca: The Mystery of Human Evolution 100
• Beyond Baby Blue 101
• Smart Cities – For a Sustainable Future 120
• Sweden, Leading the World in Innovation 121
• The Face of a Stranger-Série Découverte 122
• The Fake Galileo Moon 123
• The Fly Room 124
• Timber Towers 125
• Voices For Health: Our Environment, Our Health 126
• Water Woes 127
• When You Look Away 128

CATEGORt A FILMS MADE BY INDEPENDENT FILMMAKERS
• 9+1= 1 131
• A Rational Design of Protein Assembly 132
• Affordable and Point-of-Need Testing Diagnostic Systems for Healthcare 133
• An Instant Detection of Pesticides in Fruits and Vegetables 134
• BANCH  A – The Rising Village 135
• Bat Woman (The Night Warriors II) 136
• Cellular Insights – A Relentless Quest 137
• Diabetic Foot: Kadam 138
• Divyanayan 139
• Ethanol : The Alternative Fuel 140
• Gober 141
• Hope, To Kill The Killer 142
• Indian Heritage in Digital Space 143
• Kal Se Sikho 144
• Lead, Kindly Light 145
• Mega Science Projects 146
• Naa Kaahu Se Dosti, Naa Kaahu Se Bair 147
• Nai Subah 148
• Nanhi Jaan... 149

• National Biopharma Mission 150
• Searching... The Next Road 151
• Start Up – Fostering Innovation, Start Up and Entrepreneurship Ecosystem 152
• Super Food Moringa 153
• Swchchata Ka Aawishkar (The Invention of Cleanliness) 154
• The Climate Challenge 155
• The Dead Don’t Talk 156
• The Last Naked-Eye Astronomer 157
• The Promise of Polydimethylsiloxane (PDMS): A Film on Polymer 158
• Valley of The Goats 159
• Wanted Bride 160
• Wave of Transformation 161
• We Need You Here! 162

CATEGORt B FILM MADE BY COLLEGE & SCHOOL STUDENTS
• A Walk With Future 165
• AAI/Affectionate Artificial Intelligence 166
• An Initiative 167
• An Innovative Drawer 168
• Bahulak 169
• Chhipi – The Cap 170
• Ener-G? 171
• Friendly Invader 172
• Janata Solar ATM 173
• Meena – Story of Green Cancer 174
• Oxygen 175
• Party Check 176
• Rouge Water 177
• Saviours of Water 178
• Science Behind Miracles 179
• Space Dream 180
• Sunflower 181
• Symbiosis 182
• The Blue Light 183
• The Future of Food 184
• The Gift of Life 185
• The Taste of Life 186
• The Wasted Man 187
• Young Innovations 188
• Filmmaker’s Perspective to Make Scientific Knowledge More Accessible, Absorbable and Interesting for a Wider General Audience 204
• Science in Space and A Space For Science in Layman Life 205
• Mythology as A Starting Point for Explaining Modern Cosmology 206
• The Making and Unmaking of Science Films 207
• Storytelling in Science Films 208
• Science Journalism in The Smart Phone Era 209
• Single Use Plastic and Green Solution: A Scientoonic Approach 210
• Challenges Before Science Communication 211
• Augmenting Writing Skills for Articulating Research (AWSAR) For Presenting Creativity in Science Story Telling 212
• The Growing Threats of Climate Change: Scientists Collaborate with Filmmakers to Address Concerns 213
• Reality Ahead of Schedule – How Science Fiction and Science Fact Can Inspire Action? 214
• Science and Viral Videos 215
• A Deep Dive into the Science Behind The Menstrual Taboos in West Bengal, India 216
• Living With AI: Can Collective Human Intelligence Help Create An Artificial Intelligence Wiser Than Itself? 217
• Digital Eye to Comprehend Scientific Concepts 218
• Challenges In Science Communication: Science Communicator’s Perspective 219

PACKAGING SCIENCE FOR PUBLIC INTEREST ABSTRACTS OF SYMPOSIUM ON SCIENCE COMMUNICATION

• Frugally Innovative Filmmaking 191
• Bridging the Rural Divide Through Scientific Lens 192
• Science and Entertainment 193
• Science Fiction for Visual Media 194
• Counterintuitive Ideas from Physics: A Storehouse for Science Video Snippets 195
• Design Thinking for Documentary Filmmakers: An Integrated Framework for Communicating Science Visually 196
• Science Communication: Today and Tomorrow 197
• Science Communication: Challenges and Opportunities 198
• Empowering Citizens in Digital India: Opportunities and Challenges Before Science Communicators 199
• Developing Awareness among Rural People in Utilising Parali (Crop Residue) to Reduce Air Pollution: A Case Study 200
• Films on Farm Science 201
• Conducting a Course on Science Communication 202
• Intent and Content of Science Filmmaking 203
Mission Statement

Science festivals are vibrant expression of the cultural importance of science and technology of a nation. It gives scientists, inventors and researchers a chance to interact closely with students and citizens from all walks of life. Science festivals offer many different forms of engagement such as, lectures, dialogues, panel discussions and debates; through handson demonstrations, shows, exhibitions, and workshops; in form of science-related theatre, cafes, music, and stand-up comedy. The goal of the science festivals is to engage citizens with science in ways that are inspirational and empowering. Science festivals are the inspiring celebrations of the fascinating world of science and technology.

India International Science Festival (IISF) launched in 2015 is a celebration to promote Science and Technology and demonstrate how science could lead India towards a developed nation within a short span of time. The aim is to engage public with science and celebrate the joy of science and show the ways how science, technology, engineering and mathematics (STEM) provide us with the solutions to improve our lives. Ministry of Science and Technology and Ministry of Earth Sciences in association with Vijnana Bharati (VIBHA), has created a unique platform of India International Science Festival which intends to inspire curiosity and make learning more rewarding.

The goal of the Science festivity is to help youth, develop 21st century skills, with a focus on scientific knowledge, creativity, critical thinking, problem-solving, and teamwork. One long-term objective is to encourage students to study and work in scientific fields. The focus on the myriad faces behind some of the fascinating discoveries will inject scientific attitude in the masses and will give us the power to create new possibilities. Once we get young people interested in acquiring new knowledge, asking questions, and starting the quest for the answers, we will accomplish our goal. IISF is a science outreach marathon not a science sprint. We hope, this effort will fuel India’s drive toward becoming Vishwa Guru.
Greetings and welcome to the 5th edition of the International Science Film Festival of India (ISFFI) 2019. It is an integral part of India International Science Festival (IISF) with the aim to recognize the effort and contribution of film-makers and motivate them to develop this unique profession of science communication with innovative quality content and to engage the public with science and celebrate the joy of science.

IISF, every year has become bigger than its predecessor and IISF 2019 is no exception. This year, with more than 28 events, IISF 2019 is expected to have more than 12,000 registered visitors. We, at Vigyan Prasar, have been bestowed upon the responsibility as the nodal agency to organize it. The theme for this year’s IISF is RISEN – Research, Innovation & Science Empowering the Nation.

I thank the embassies and foreign organizations of all the countries for sharing their best resources to ensure the success of ISFFI. I am confident that with the world-class science films being screened at the festival, audiences will get the messages of science with the most effective way. This year more than 200 competitive entries from Indian filmmakers were received and 56 films were nominated for screening. Screening of feature films - Mission Mangal and Parmanu: The Story of Pokhran along with interaction with veteran filmmakers Mr R. Balki and Mr Abhishek Sharma are scheduled. It will entail the journey about how Bollywood has entered in feature films showcasing science and technology. In line with science films, it is relevant that our science & technology-related media industry is also activated to shoulder the responsibility of science communication, popularisation, and extension.

Vigyan Prasar’s partnership with SRFTI, Kolkata one of the premier film institutes of the country, has to go a long way to create the best resource of audio-visual media in science, technology, health, and environment and thus, we look forward to many more participations.

Dr Nakul Parashar, Director, Vigyan Prasar

Director’s Message
Post-ISFFI/IISF, we plan to compile notes and publish a compendium so that actionable items could be enlisted, and carve a path for what to discuss and act upon in next year’s ISFFI/IISF.

Come, participate in this celebration of science films and make it memorable with your dignified presence. Wishing you all a very happy ISFFI 2019.

**DR NAKUL PARASHAR**

With a doctorate in Applied Physics and masters in Computer Science & Physics, Dr Nakul Parashar has successfully set up three start-ups and taken them to plausible profitability. He has worked in Academia, Government & Corporate, Information Science, KPO, Legal Information sectors. He has run diverse-domain service set-ups with lowest-possible costs infrastructure to produce highly plausible EBITDA. He has been a University-level researcher & teacher, business development leader, operations risk manager and SME for content management for various domains like Legal, STM and General content. He has hands-on experience of working in various geographies like North America, EMEA and Asia-Pacific.

Currently designated as Director, Vigyan Prasar, Dr Parashar has been entrusted with the responsibility of propagating science & technology communication, popularization and extension across the nation and beyond. In his past assignments, he has worked as an Assistant Editor to *Vigyan Pragati*, a popular science monthly published by CSIR, and later as an Associate Editor of *Computers Today* from India Today Group. He has authored a number of award-winning books in the science-popularization domain and numerous articles. He continues to follow his passion by bringing new thoughts, processes and workflows relevant to Science & Technology Communication Strategies.

Having travelled extensively across the globe, Dr Parashar brings to the fore best practices in science communication that could assist him in applying them at his current place of work. Leveraging the power of latest communication techniques, he intends to apply them to existing S&T communication channels thereby expanding the outreach and achieve a meaningful outcome.
Director’s Message

Dr Debamitra Mitra, Director, SRFTI, Kolkata

Science and Kolkata are inseparable partners. Wherever you look wherever you go, you find science and technology centers of excellence. Kolkata has been proud of producing world’s best scientific talents. It has produced some of the best science communicators, films makers and story tellers. For Doordarshan, Kolkata was the richest soil for Science films and Television programmes - Quest, Turning Point and many more are examples of it.

I am delighted that IISF 2019 has chosen SRFTI to host one of its flagship events – The ISFFI (International Science Film Festival of India) with a galaxy of eminent science communicators, films-makers and television artists from all over the places on the globe who shall hog the limelight of this event. With much of semi academic sessions, I am told that the pre-event jury has come across more than 200 entries for this event. Indeed, highly applausible!

We at SRFTI have embarked upon science film making through various technological advancements and in this regard our association with Vigyan Prasar, I believe would go alongwith.

Our forays into science communication through film and television have taken off to great heights. We plan to work closely with Vigyan Prasar on a number of projects. The upcoming Tripura based National Science Film Festival of India is another event where world would witness SRFTI – Vigyan Prasar collaborations. Indeed, miles to go!

Wishing all of you a very happy ISFFI 2019.
DR DEBAMITRA MITRA
Dr Mitra is currently the Director of Satyajit Ray Film and Television Institute, under the Ministry of Information and Broadcasting, Government of India. Having M.Phil and PhD from Jadavpur University and University of Calcutta respectively, Dr Mitra has 26 years experience in teaching and research in the fields of Social Sciences and Media Studies and academic administration. Dr. Mitra has been teaching and pursuing research in subjects like Sociology, International Relations, Media Studies, Management Studies, Gender Studies and Environmental Studies. She headed the Times of India Group (East India) in Features and has wide experience in audio-visual media. She has built up an Institute in Kolkata affiliated to Maulana Abul Kalam Azad University of Technology, formerly known as West Bengal University of Technology (WBUT), West Bengal, an UGC affiliated State University which runs 3 years Undergraduate and 2 years Postgraduate degree courses in Management and Media Studies and Film-making. Dr Mitra has 4 authored books, 15 Edited books and more than 70 Research papers published in both National and International Journals in her kitty.
In recent times, there has been a realisation that the progress of a nation is driven in large measure by developments in science and technology, and that these developments need to be shared with the nation’s citizens to foster inclusive development. There have therefore, been concerted efforts to put in place mechanisms and processes that enable communication and popularisation of scientific developments among the masses. The India International Science Festival (IISF), launched in 2015, is the most recent among such initiatives.

With the aim of engaging citizens from all walks of life, IISF is fast becoming a big platform for researchers, scientists and professionals to interact with students, non-scientific audiences and people from different fields to inspire, educate and empower them. The fifth IISF-2019 is being organised during 5-8 November 2019 in Kolkata by the Ministry of Science and Technology and Ministry of Earth Sciences in association with Vijnana Bharati. As part of IISF 2019, an International Science Film Festival of India (ISFFI) is being organised during 6-8 November 2019 at Kolkata. Science film is an effective tool for science communication to foster and create an excitement of science amongst people at large; it also helps inculcate a scientific temper among audience thereby shaping the analytical thinking, a prerequisite for the inclusive development of the nation.
SPECIAL	INVITEES
Mr R. Balakrishnan, popularly known as R. Balki, is an Indian filmmaker, screenwriter and former Group Chairman of the advertising agency Lowe Lintas (India). He is best known for directing Cheeni Kum (2007), Paa (2009) and Pad Man (2018).

He started his career with Mudra at the age of 23. His passion had always been filmmaking; after college, he even applied to the Madras Film Institute to do a course in direction. However, he did not like the panel that interviewed him, so he walked out. After this, he got into the Masters in Computer Application (MCA) course in a college directly opposite the film institute. He always liked computers, so he thought that he could do well in this course. After studying there for three years, he was thrown out in the last year because of lack of attendance. According to him, this was mainly because he played a lot of cricket and watched a lot of movies.

He saw an ad in the papers for Mudra and he remembered seeing it after Buniyaad. The ad asked people to send in 100 words describing who they were. His idol was Ramesh Sippy when he started his career; he wished to emulate him in advertising and got to meet Sippy only much later.

Balki’s ideas have included “Daag Achche Hain” for ‘Surf Excel’, “Jaago re” ads for ‘Tata Tea’ and the “walk when you talk” Idea Cellular advertising campaign. He has written and directed Cheeni Kum (2007), which starred Amitabh Bachchan and Tabu.

Ilaiyaraaja, the noted Indian composer, is his favorite composer. Balki once commented, “My biggest inspiration has been Ilaiyaraaja’s music; it was his music that got me interested in cinema in the first place.”
BUDDHADEB DASGUPTA
Mr Buddhadeb Dasgupta is a poet and prominent contemporary Bengali filmmaker, most known for films like Bagh Bahadur, Tahader Katha, Charachar and Uttara. Five of his films have won the National Film Award for Best Feature Film, Bagh Bahadur (1989), Charachar (1993), Lal Darja (1997), Mondo Meyer Upakhyan (2002) and Kaalpurush (2008), while Dooratwa (1978) and Tahader Katha (1993) have won the National Film Award for Best Feature Film in Bengali. As a director, he has won National Film Award for Best Direction twice, for Uttara (2000) and Swapner Din (2005). Over the years he has published several works of poetry including Govir Araley, Coffin Kimba Suitcase, Himjog, Chhaata Kahini, Roboter Gaan, Sreshtha Kabita, and Bhomboler Ascharya Kahini O Ananya Kabita.

Mr Dasgupta started his career as a lecturer of Economics, at the Shyamsundar College of the University of Burdwan followed by City College, Calcutta. In 1976, when disenchanted by the gap he perceived between the economic theory he taught and the socio-political reality, he took to film making. Meanwhile, his membership with the Calcutta Film Society, where he first started going in his senior high school along with his uncle, exposed him to the works of directors like Charlie Chaplin, Ingmar Bergman, Akira Kurosawa, Vittorio De Sica, Roberto Rossellini and Michelangelo Antonioni. This, in turn, inspired him take film making as a mode of expression. He started his film career with a 10-minute documentary in 1968, The Continent of Love; eventually he made his first full-length feature film, Dooratwa (Distance) in 1978.

His lyricism has been extended to cinema as well. During the early stages of his film career, Dasgupta made films inspired by Satyajit Ray’s realistic films and later moved on to other forms. Some of his most acclaimed films are Bagh Bahadur, Tahader Katha, Charachar and Uttara.
Mr Kaushik Ganguly is an Indian director, screenwriter and actor in Bengali cinema. He is known for his works that explore sexuality, like Ushnatar Janye (2003), which deals with a lesbian relationship, and Arekta Premer Golpo (2010), which examines transgender identity. His other films explore various social issues. In 1987, Mr Ganguly began working as a screenwriter for Tollywood films. In 1995, he moved to ETV Bangla to direct telefilms like Ushnatar Janye, Ulka and Aatithi. These telefilms incorporated elements like lesbianism and sex determination that had not been depicted in Bengali television productions before.

In 2004 Mr Ganguly directed his first feature film Waarish starring Debashree Roy and Sabyasachi Chakrabarty. It was a commercial failure, but he continued in cinema with Shunyo E Buke (2005) starring Kaushik Sen, Tota Roy Chowdhury and Churni Ganguly. It tells the story of an artist’s unrealistic expectations regarding his wife’s personal appearance. It was screened at London’s Tongues on Fire Film Festival in February 2004 and at Osian’s Cinefan Festival of Asian and Arab Cinema. In 2009 he released the low-budget comedy Brake Fail inspired by Hrishikesh Mukherjee films. His next film Jackpot starring Koel Mallick and Hiran did very well at the box office. He cast director Rituparno Ghosh as the lead in his 2010 film Arekti Premer Golpo about a gay documentary filmmaker and a transgender Jatra actor. It won awards at the I-View Film Festival and the International Film Festival of India. In 2011 his latest film Rang Milanti released to positive reviews. Mr Ganguly’s next film Laptop starring Rahul Bose, Ananya Chatterjee, Rajesh Sharma, Saswata Chatterjee, Churni Ganguly and Gaurav Chakrabarty was selected for screening at the 42nd International Film Festival of India.

Mr Ganguly’s Shabdo (2013) won the 60th National Film Awards for Best Feature Film in Bengali. He won the best director award at the 44th International Film Festival of India (IFFI) in November 2013 for Apur Panchali. At the 64th National Film Awards 2017, Kaushik Ganguly’s Bishorjan bagged the Best Bengali Film award.
**PARTHA S GHOSE**

Partha S Ghose, former Professor at the S.N. Bose National Centre for Basic Sciences in Calcutta, Fellow of the National Academy of Sciences, India, and the West Bengal Academy of Science & Technology, is an Indian physicist, author, anchorperson, philosopher, musician. He is a currently a member of the Board of Trustees of the Academy of Fine Arts, Kolkata, and a former Chairman of the Satyajit Ray Film & Television Institute, Kolkata. In a career spanning nearly five decades, Dr Ghose has emerged as a worthy representative of a tradition of scholarship established by his revered teachers and mentors, Satyendranath Bose and the Nobel Laureate Abdus Salam. Another abiding influence on him has been the philosophy and creative genius of Rabindranath Tagore whose opus he explores with analytical rigour and deep passion.

Partha Ghose is widely regarded as one of India’s best known popularizers of modern science. He was an anchorperson in the popular TV shows Quest and Eureka. His popular science book *Riddles in Your Tea Cup* (co-authored with Dipankar Home) has been hailed as ‘a book that really should be in every science department’. It has been translated into several Indian languages, Italian, Japanese and Turkish. He received the National Award for the Best Science and Technology coverage in the Mass Media of the National Council for Science and Technology Communication (NCSTC) for the period 1986–1990. He was also awarded the prestigious Indira Gandhi Prize for the popularization of science by the Indian National Science Academy.

He has directed many plays and appeared in many media programmes and films including the National Award-winning film ‘The Quantum Indians’, which is about the great Indian scientists Satyendranath Bose, C. V. Raman and Meghnad Saha.
BIKASH SINHA
Bikash Sinha was born in 1945, he is a first class Science Graduate from the University of Calcutta. He obtained his TRIPPOS from the Cambridge University in Natural Science in 1967 and obtained his Ph.D. from London University in 1970 and D.Sc. in 1981. Dr. Sinha had lived in England almost 12 years, teaching and researching in Rutherford High Energy Physics Laboratory and Kings College, London.

Internationally known, he has travelled extensively and known to most of the peers of Physics for Europe, USA, former USSR and Japan. Dr. Sinha joined Bhabha Atomic Research Centre in 1976 after coming back from England and was appointed Director of Variable Energy Cyclotron Centre in 1987. The Radiation Medicine Centre in Kolkata is a part of the Cyclotron Centre, established by Bikash Sinha. Dr. Sinha held the concurrent charge as Director, Saha Institute of Nuclear Physics, Kolkata, from November 1992 to June 2009. Dr. Sinha has been conferred Padma Shri Award by the Government of India in 2001 for his significant contribution in Science & Technology.

Fellow of the 3rd World Academy of Sciences, Italy, 2002 and Indian Academy of Sciences, Bangalore, 2004, Dr. Bikash Sinha was the Vice-chancellor of West Bengal University of Technology from February 2003 to 18th December 2003. Hon’ble Prime Minister of India has nominated Dr. Sinha as a Member of the Scientific Advisory Committee to the Prime Minister from January 27, 2005 and from December 2009 to 2013. Ministry of Human Resource Development appointed Dr. Sinha as the Chairman of the Governing Council of National Institute of Technology (NIT), Durgapur from June 2005 to December 2014. Recipient of numerous award and honours, noteworthy award are The Humboldt Research Award by the Alexander von Humboldt Foundation, Germany, in November 2005. Prof. Sinha has been conferred the prestigious Padma Bhusan Award by the Government of India in 2010 for his significant contribution in Science & Technology.
Mr Abhishek Sharma is an Indian film director and writer known for his works in Hindi cinema. He has directed comedy films like Tere Bin Laden (2010), its sequel Tere Bin Laden: Dead or Alive (2016) and The Shaukeens (2014). His last film was Parmanu: The Story of Pokhran (2018), based on the nuclear tests named Pokhran-II.

As of August 2018, Sharma is shooting the film adaptation of Anuja Chauhan’s novel The Zoya Factor, with Sonam Kapoor and Dulquer Salmaan.
AJAY KANCHAN
A versatile professional with 38 years of experience in active journalism, corporate communication, development sector and the United Nations, Ajay Kanchan has worked as Editor with the British Information Services, Head of Advocacy and Communication with Oxfam, UK, managed HIV/AIDS communication for UNICEF and UNAIDS. The turning point in his life, however, came when maverick filmmaker Mahesh Bhatt spotted a storyteller in him, and encouraged him to go behind the camera. Their very first venture “The Calamity That Was”, an eye opening film on Super Cyclone in Orissa that exposed the callousness in dealing with disasters in India. It was followed up by some hard hitting films like “Bearing the Brunt” on the impact of mining and its role in recurring droughts in Rajasthan, particularly the plight of women and children when male folk migrate to urban areas in search of employment; “Beginning of Life” about insurgency in Nagaland, “Kya Hum Ghulam Hi Rahenge?”, about the situation of Muslims in India; “Make No Mistake, It Spares Nobody” about the impact of HIV/AIDS on women and children, “It’s My Life” about stigma and discrimination meted out to people living with HIV and ‘Torchbearer’ about philanthropy and contribution of Ajmals for protecting the lives of thousands of poor women and children in Assam.

His “Innovative Communication Project on HIV/AIDS” involving children from over 200 schools in Delhi, Mumbai and Nagaland ranked one of the three “Most Innovative Communication Projects in the World” by the UN Conference on Children and Media in Rio in 2004, and led to the National AIDS Control Organization (NACO) honouring him with “Most Innovative Communication Professional” award. Before that, his thrust on disaster preparedness, mitigation and the need for psycho-social interventions in the aftermath of disasters led Indian Medical Association (IMA) honouring him with “Bharat Social Ratna Award”.
DR SUNIL BABU SHRESTHA

He is a Vice-Chancellor and an academician of Nepal Academy of Science and Technology (NAST). Dr Shrestha has served the nation two times (2009, 2015-2018) as a member of National Planning Commission, Government of Nepal. He has gained more than 25 years experiences, working in different organizations (private, government and non-government) in various professional and administrative capacities.

Dr Shrestha had bachelor degree in Civil Engineering and Master of Science in Urban Planning from Institute of Engineering, Tribhuvan University, Nepal. He earned Doctor of Engineering in Environmental Development Engineering in 2004 from Osaka Sangyo University (OSU), Japan. He was trained from Institute for Housing and Urban Development Studies (IHS), Weitz Center for Development Studies, Israel, The Institute for Public-Private Partnerships (IP3), USA, Asian Institute of Technology (AIT), Thailand.

He had honoured with many medals and awards in Science and Technology field. He has authored a book called A Sustainable City Planning Methodology for 21st Century (concept of food green city) and had number of articles published.
Ms Brigitte Uttar Kornetzky is an animal right activist who resides in Switzerland. Her multi-faceted personality with an extensive background in juridical science, philosophy, photography, art, art history, and music led her use expertise in film making for working towards the betterment of society. She went on to produce and direct human rights films in Africa and have received recognition from high leveled authorities in political and religious communities for spreading the message of peace and peaceful coexistence.

Subsequently, she moved her focus towards animal rights, specifically elephants in India. Since 2011, Brigitte has made various films depicting the plight of elephants in India. Her award winning film ‘Where the Elephant Sleeps’ is an eye opener for what the suffering giants have to endure. Currently, she is working HE Conflict-HE Coexistence documentary in India, and interacts with youth from colleges and universities about elephant protection and related conservational issues next to realizing projects for the elephant’s welfare. Amongst other projects, the foot treatment project started by her NGO has helped alleviate problems of numerous elephants.

She is also Ambassador for Captive Elephants, FIAPO, India, and founder and president of the charity organization Elefanten in Not. She works as an independent filmmaker in the field of biodiversity and elephant conservation in India and is author of different magazines on wildlife protection and elephant issues.
RAMA MARINOV-COHEN

Born and raised in Jerusalem, and lived mainly in Israel as well as some years in the USA, UK and Germany, mainly due to her father’s work as a nuclear physicist. She holds a BA in philosophy and musicology from the Hebrew University, and MBA from Brunel University, UK.

She has studied computer sciences and has been working in the IT industry in Israel for over 30 years, focusing on e-learning and courseware development. Alongside, working in the high-tech industry, she tried to combine additional areas of interest, as filmmaking and writing.

After her father passed away, she felt compelled to speak out his extraordinary scientific story. At that time documentary filmmaking was totally out of her scope, but she felt that media holds the most powerful and accurate artistic means to bring his inspiring story to life.
CHRIS GODWIN

Chris Godwin developed his unique approach to behaviour change films during his time as Creative Director at White Boat TV. His work in this field has led to proven behaviour and system change across a number of institutions. This is in addition to winning a clutch of prestigious awards including six GOLD EVCOMS since, 2012.

He brings a rich background in production to all his work, having spent 10 years at the BBC, where he worked on a diverse range of programmes from Newsround to the BAFTA nominated series of Short Change. He also has a deep understanding of the power of content to amplify a brand through his time working for global advertising agencies HAVAS and McCann World group.
PIERRE-OLIVIER FRANÇOIS

Pierre-Olivier François was born 1971 in Nancy, France. He studied political science and journalism in Paris, Berlin and Bordeaux. He then started a career as journalist and reporter for the evening news and other TV magazines of ARTE, French-German cultural public TV. He made numerous reports in Europe and around the world, following international and national politics, economics, and culture. Since 2013, he also co-produces a weekly geo-political program “le Dessous de Cartes” (ARTE).

Since 2000, he has started a second career as documentary filmmaker for various European and international channels. Altogether, he has directed almost 20 documentaries focusing on how internet changed journalism naming few of them as “a barrel full of dreams”, “Alzheimer’s - the race against the clock”, “farewell comrade”, “Once upon a French fry”, “Have fun in Pyongyang” and so on. It took five years to complete “the fake moon of Galileo” (ARTE, PBS, NHK), a science thriller about ancient rare books, real and fake ones.
LI-YU FU
Prof. Fu is Bachelor of Science in Chemistry from National Normal University, Taiwan, Master of Science in Applied History from Carnegie Mellon University, USA and Ed D in Curriculum & Instruction (Science Education) from West Virginia University, USA

She is a science educator turned producer, who has produced two series of science animations including “GoGoGiwas” and “Flying Squirrel”. The two series of science animations have won best animation film of Golden Bell Prize of the year 2013 and 2016, and many other international and domestic prizes. Her animation team is currently working on the 3rd season of the series of GoGoGiwas.

Prof. Fu has been the organizer of more than 150 activities including popular science activities, science education workshops, science animation camps, and others. She has also been the winner of Outstanding Teaching Award of National Tsing Hua University of the year 2001 and 2014.

She is the first researcher working on the Indigenous science education in tribal villages in Taiwan. Her research is focused on Indigenous science education, popular science education, digital science learning, and science animation making. Her research projects mainly are related to using mobile-ICT to develop digital materials and activities for young learners’ science learning based on Indigenous knowledge. In 2009, she initiated the Indigenous Science Fair on the Cloud which is entering its 11th year. She is a trustee of the Association of Science Education in Taiwan. She has been a commissioner of the Committee for Indigenous Education Policy, Ministry of Education in Taiwan.
VICK WANG

Born in Taichung, Taiwan in 1967, Vick Wang is an animation director, CG artist, and an Assistant Professor at the Communications Design Department of Shih Chien University.

Wang has been involved in original animation production for years and was the co-founder and former CEO of SOFA Studio, the CEO of Engine Studios. His work include 3D CGI animation shorts “NOBO” were selected by 2003 SIGGRAPH Art Gallery and animated TV series “MuMuHug” has been recognized by more than 20 animation awards, include SICAF 2009 and Annecy 2010 for the official competition film.

He has also received two Golden Bell Awards as director and producer for animated series “Flying Squirrel Tribe” and “GoGoGiwas”. His recent work include 360 degree animated projection art entitled “Panorama of inner journey” was shown in National Taiwan Art Museum, animation film “LAQI” has been selected by Taipei Film Festival 2015, and he has also been invited to exhibit his animation art work “A Tour of the Imperial Garden” at National Palace Museum.
A G A VAN DE LAAR
Andreas was born in Amsterdam, Netherlands and currently living in Delhi, India. Coming from a culturally orientated family, he loves travelling and exploring new parts of the world. Being very passionate about arts and science, he spends most of his time travelling, meeting new people and working on projects like music videos, commercials, photography and film.

He has been making videos since the age of 19; he wanted to study film and was accepted at the European Film College in Ebeltoft, Denmark, where he studied filmmaking for a year getting lectures by some of my great heroes like Thomas Vinterberg and Jan Harlan. After this wonderful experience, he started internship at Wefilm and worked on various prize winning commercials and films in the Netherlands for different production houses from 2012 to 2015. He also wrote history by creating a group photo-portrait of all Dutch Hip-Hop artists in 2013.

Currently, he is working on his first feature documentary ‘Made in India’, exploring Jugaad and frugal innovation in India.
ALEXIS GAMBIS
Alexis Gambis is a French-Venezuelan biologist-turned-filmmaker and a TED 2019 fellow. His films combine documentary and fiction, oftentimes embracing animal perspectives. He has written and directed over a dozen shorts that have played at festivals worldwide. His first feature film The Fly Room which has screened in over 50 cities, is based on the true story of the birth of modern genetics and was produced with support from the Spike Lee Production Fund and Hollywood Foreign Press Association. He is in post-production on his second feature Son of Monarchs, which delves into issues of immigration, migration and animal-human hybrids.

His work aims at transforming the way science is communicated to the public through film and visual arts. He received his Ph D in Molecular Biology at The Rockefeller University and a Masters in Fine Arts from NYU Tisch School of the Arts. He has been featured in The New York Times, Forbes, Nature, Cell, TED, and WNYC. At New York University, he teaches in both the Biology and Film departments.

His courses combine scientific research and storytelling often featuring animals as actors and blurring the lines between fact and fiction. He is also the founder of the Imagine Science Films, an annual science film festival now celebrating its 12th anniversary. He also recently launched LABOCINE, a science film platform, research video database and magazine coined by reviewers as the “Science New Wave.”
KARTIK SHARMA BURIA

Kartik is a science filmmaker trained at the University College London (UCL). His work as a researcher and filmmaker have documented innovative public health projects in the area of sciences, environment, mental health, nutrition, health service delivery, stigma in India, Thailand and the United Kingdom.

His previous documentaries and films have screened at Indian and International film festivals like the Sheffield Documentary Film Festival, Sheffield (UK), The Public Health Film Festival, Oxford (UK), Best of India Short Film Festival and Santa Monica (US).

As a filmmaker his mission is committed to raising awareness on Indian scientific, social and health issues with an entertaining and international perspective. He has founded the Public Health Arts & Us (PAHUS) organisation in New Delhi which has partnered with Public Health Foundation of India (PHFI), Tata Institute of Social Sciences (TISS), Public Health Film Society housed at TORCH centre of Humanities, University of Oxford, UK and University College London (UCL) for organising popular mass media events and festivals as a platform for raising awareness on research projects.

At present, he is working on his first fiction feature film on celebrating mental health issues as a society for release in 2021 and is co-leading organisation of a Public Health Film Festival in India with the Public Health Film Society, Oxford in collaboration with British Council in 2020.
SAKSHI SINGH
Dr Sakshi Singh is a doctor and an actor. She was born in India and migrated to Australia with her family at a young age. She has studied Biomedicine and later MBBS from the University of Melbourne. She continued her studies and training at the Royal Melbourne Hospital (RMH) and went on to complete her internship from RMH as well.

She has a keen interest in mental health and began her training in psychiatry as a Royal College trainee. She is currently also studying Masters of psychiatry from the University of Melbourne. She works in Australia as a psychiatry registrar.

Outside of her medical career, Sakshi has a keen interest in the arts and cinema, and has been working in films in Australia and India. She has completed three films in Australia as the lead actress. Her latest film titled “Long Distance” has screened at film festivals globally including Palm Springs International Film Festival and Melbourne International Film Festival.

Dr Sakshi was titled the Miss India Australia in 2018 and came first runner up at the worldwide pageant in USA.

She aims to raise awareness about mental health through her training in psychiatry and combining that with her experience in acting and film making.
GAUTAM PANDEY
A National Award winner, Gautam Pandey is one of India’s accomplished wildlife filmmakers. Gautam has studied film in Canada and has won several national and international awards for his films. He has also conducted film workshops and has recently trained the Border Security Force of India in the basics of filmmaking and cinematography. Beyond awards, Gautam Pandey lives with a passion for the wild. Born into a family of nature-enthusiasts, his passion for filmmaking started at an early age and he is now focused in using film as a medium to bring about awareness about wildlife and document unique animal behavior in the wild.

Gautam has been experimenting with technology to push the boundaries and find ways to reach difficult locations to document rare animal behavior. He has spent 2 years filming in The Great Himalayan National park to document the rare and elusive western tragopan which had never been filmed before. He has also produced and directed several episodes of the TV series Earth Matters.

Over the last 5 years, Gautam has traveled, trekked and dived to extreme locations and made films on important issues such as mangroves of India, high altitude wetlands, and has recently completed 2 films as co-director and presenter for Animal Planet- Gyamo, Queen of the Mountains and Looking for Sultan. Both films have been awarded internationally and recognized for their conservation message.

Currently, he is working on a 360 VR experience project in Ladakh and in production of a film on the Bears of India and is trying to once again combine the genres of Natural History and Conservation films.
RAJESH BADAL

Mr Rajesh Badal is working in the field of journalism since last 42 years. He has also worked in Print medium. He was chief sub editor in Nav Bharat Times for five years and Assistant Editor of Nai Dunia, a Largest Circulated News Paper of central India. Besides this, he has also served with All India Radio as announcer, News reader, Drama Artist and as guest in panel discussions on current affairs.

He has also served his expertise for seven years with the TV Channel of India’s Upper House of Parliament Rajya Sabha as founder Executive Director and for the first time experimented making special features on unsung heroes from all walks of life may it poet Shayars, writers, Editors, Journalist’s.

He was correspondent of Vigyan Pragati, a CSIR publication and established more than 50 science clubs in remote areas of Bundelkhand between 1977 to1981. He wrote many articles on various science topics, aired science talks on All India Radio and made TV shows and Special TV reports on scientific subjects.

Mr Badal was a member of the team, which launched first hindi channel Aajtak. The first travelogue of India experiment during election Chunav Ke Hamrahi covering from Arunachal Pradesh to Rameshwaram.

He has also worked as an first anchor of Bhopal Doordarshan. In the History of Indian Television, He touched upon the invisible India exploring and researching the rich culture and Heritage and various art forms.
Mr Sanjeev Kumar Varshney is a Scientific Officer with Government of India, working with Ministry / Department of Science & Technology, Government of India since 1990. Presently he is working as Adviser & Head, International Bilateral Division of the Department and is responsible for facilitating bilateral scientific cooperation of India with partner countries.

He has worked as Counsellor (S&T) with Embassy of India in Moscow to facilitate bilateral scientific cooperation between India and Russia during April 2008 - June 2011. He has been contributing to promotion of international scientific cooperation as well as scientific – industrial cooperation. Mr Varshney is actively involved in financial planning of the group.

He is Indian Co-Chair, Governing Body, Indo-German Science & Technology Centre, Member in Board of Directors, Global Innovation & Technology Alliance & he is member, Governing Councils: (1) Indo-US Endowment Fund, (2) International Advanced Research Centre of Powder Metallurgy, (3) US India Education Foundation.

He is Life Fellow of Geological Society of India, Bangalore; Nepal Geological Society, Kathmandu and member of International Association of Sedimentologists, Oxford. He also has numerous certifications to his credit. Mr Varshney also taught at Kurukshetra University in 1990.
RAMESH KHADKA
Ramesh Khadka is a filmmaker and a journalist from Nepal. He has been making documentaries for the past twenty years. He has directed over a hundred short documentaries and his work has been selected and awarded in several film festivals. He has been advocating rural life and seeking change through the documentary film.

He has a deep interest in themes of development society. His political documentary The Last Monarch is the longest run documentary in Nepali theatre and his films Kadamandu, Delhi Dreams, Lives of Jawang, Lamas in Dilemma, Chhau (Mensturation), Living with Culture, Live of Jumla, Mother of 25 are the few films which has been screened in a number of international film festival.
JURY MEMBERS
Apurba Kishore Bir has graduated in cinematography from FTII, Pune, 1969. Since then, he resumed the professional career in advertising short and documentary films. He has received best cinematography award for the documentary film “Maa Ooru” from IDPA. He was awarded Padmashree by the President of India in 2013 and received Jaidev Award from Govt of Odisha.

He has received CLIO award from America and Cannes National award from France for the short social service films Born Equal and No Smoking, respectively. He has produced and directed the short film based on the song Purab Se Suraj Uga for National Literacy Mission campaign and received IAAFA and RAPPA award.

Many of his films like Aranyak, Adi Mimansa, Shesha Drushti, Nandan, Baaja, Hamaribeti has been invited and screened at international platform and received 3 National Awards for Best Cinematography for Films 27 don, Daasi, Adi Mimansa. His film Lavanya Preeti received International Jury’s Critics award and Best Child Actor award at Udaipur International Film Festival. It received Best Asian Film award at Osaka Film & TV festival. He also received Best Documentary Film award at Fuji Film Festival, 2012 for the documentary “Urban Ox”.

APURBA KISHORE BIR
Jury Chair, Indian Competitive Categories, ISFFI 2019
Dr. Iftekhar Ahmed is a known media educationist and professional in India. His field of specialization is TV. He started his long and distinguished career from Delhi Doordarshan Kendra (DDK) in Jan., 1982 as a production person. His interest in media education led him to join the famous Film & TV Institute of India (FTII), Pune, as a faculty member in 1987. From 1996 onwards, he has worked on the positions of Dean (Television) & Director of FTII. Besides teaching TV, he has introduced & conducted various innovative projects, new P.G. courses, & produced and Directed TV programmes & teaching resources.

He has worked as Director of prestigious AJK Mass Communication Research Centre (AJKMCRC), Jamia Millia Islamia, New Delhi for over 9 years (2004-2009 & 2015-2019) where he looked after the Ph.D. programme, 7 P.G. courses, an educational TV Channel (Swayam Prabha), an Electronic Multimedia Research Centre, J.B. Media Resource Centre and Radio Jamia. He has also worked as Director of Electronic Media Production Centre (EMPC), IGNOU, Delhi and managed 2 TV Channels of Gyan Darshan, 37 F.M. Radio Stations called Gyan Vani & the Production House of EMPC during 2014-15.

He has assisted various universities and institutions in preparing their vision documents, designing the syllabi of media courses & developing the infrastructure for research & academic programmes. He has also worked as a jury member of various film and video festivals. He has organized national & international film and video festivals at FTII & AJKMCRC. He has represented AJKMCRC and FTII at various national & international fora in India & abroad. He has actively contributed to media profession and higher education as a member of a no. of Advisory Boards, Executive Councils & Academic Councils, Selection Committees and Board of Studies of various institutions and universities.
Mr Himanshu Malhotra is a Producer, Director, Journalist, Camera person who specializes in work which seeks to create awareness on issues of animal rights, wildlife and environment. He is the Trustee of SKM Wildlife Conservation Foundation. He is a qualified filmmaker with a post graduate degree from the prestigious Mass Communication Research Centre, Jamia Millia Islamia, New Delhi. He started his career as a young photo journalist and moved on to become a TV news person and documentary filmmaker. He has received the Prithvi Ratna at the CMS Vatavaran Film Festival 2015.

Mr Malhotra has been involved in many campaigns for Animal rights and against wildlife crime. Using both news clips and photographs he has spearheaded the movement to create awareness for wildlife and animal welfare. His recent work on marine trade has created considerable awareness against shell and coral trade in the coastal areas. He was also a Consultant Editor for ‘ex situ updates’ a quarterly magazine for the Central zoo Authority, Govt. of India. Wildlife Warden, Delhi and co-opted member of the Animal Welfare Board of India. He is a member of the Expert group on Designs for Central Zoo Authority, member Advisory Committee of National Zoological Park, Delhi. He is member of the Governing Council of Wildlife Institute of India, Dehradun.

He has been a jury member for many photography competitions, film festivals like Vatavaran, TV news Awards and Indian Documentary Producers Association. He has also given lectures on wildlife filmmaking and the role of the Media at Wildlife Institute of India. He is registered with the Ministry of Information & Broadcasting as a Software generation unit and his company Multi Media is an accredited news agency/stringer with Doordarshan News. He has been asked by Doordarshan to do specialized coverage on environment, wildlife and animals.
KUL BHUSHAN
Jury Member, Indian Competitive Categories, ISFFI 2019

Kul Bhushan is an expert with 40 years of experience and a very well known figure in the media fraternity.

He is currently an esteemed visiting faculty/professor to various renowned institutions and colleges of Mass media, while prior to that he retired from Doordarshan as Senior Director, Lko and Bhopal. He is very self made man with starting his career from an engineer, cinematographer to chief cameraman and climbed the ladder of success with senior director. He is a post graduate diploma Holder in Journalism from Bhartiya Vidya Bhavan and led India Television team to China and Sri Lanka for various documentaries and news coverage’s. He got his training from AIDB Malaysia for Color Television and International News Exchange. He also headed the Indraprastha Indoor Stadium and the opening ceremony of ASIAD, 1982. He was also a member of various State Government Panel for Reviewing Feature films for Tax Relief. He was also associated with BBC programme of AIDS awareness and made several programmes for the same.

Needless to say he has plethora of training and technical qualities and qualifications with majority of achievements and accolades in his 40 years of stint at various trainings and Media workshops. He has attended workshops and got his training from Film and Television Institute, Pune. He is also the winner under his directorship of 9 DD awards adding another feather to his cap. He is founder Director of Doordarshan Training Institute, Lko which imparts training to its employees for Film and Television Production. Presently he is associated with Vigyan prasar Kendras for selecting Films. Further to that, he is teaching Post graduate and Under Graduate students of various Universities and colleges in Film and television Production.
SANTOSH KUMAR PANDEY  
Jury Member, Indian Competitive Categories, ISFFI 2019

Versatile media professional and a team builder with over 20 years of industry experience, with well over a decade long leadership experience in television programming, news and channel management, Santosh Pandey is a passionate programmer with an ability to ideate, create, execute and sell the concepts.

Launched, shaped, and led 4 pioneer regional satellite channels in the Hindi heartland; Etv UP, Etv Bihar, Etv MP and Etv Rajasthan. Headed Mahuaa Television Network and its’ bouquet of 3 leading infotainment channels, as an Editor-In-Chief.

Mr Pandey has contributed as a freelance consultant on Channel content and design to couple of infotainment and life style channels. He has headed the television-production and direction wing of Ramoji Academy of Film And Television, Hyderabad.

His expertise not only includes conceptualizing and handling the complete creative and delivery process of producing screen content across diverse genres but also fixing the content line-up and the overall look and feel aspects of broadcast business, manage round the clock satellite channel, create marketing communication strategies, design and execute brand building ground events, build up teams, create goals and forecast roadmaps.
Kollegala Sharma is a science communicator with a focus on Indian languages, specially Kannada. With more than 40 years of experience in science writing, he has contributed more than 2000 articles in Kannada and about 250 in English. With a special interest in Translation of Science and Technology Texts, he has translated several science books to Kannada. Experimenting with different media and type of audience in science communication has been his passion. He has wrote a dozen of science fiction short stories, translated STEM books, and has been training writers and translators through workshops organized by various organizations.

Mr Sharma has delivered 60 plus lectures on science communication, reliable S&T sources, use of IT in science education, How to be an innovators and so on for school children. He has also written 125 radio dramas for All India Radio and Community Radios.

Recently, he has ventured into podcasting, producing for the last two years a weekly podcast of 30 minutes duration on recent research developments across the world, with a special focus on Indian research. The podcast, distributed through WhatsApp, has developed its own clientele and has received attention of international media such as Nature. In addition, to give a fillip to science communication in Kannada, he organized a One day symposium on Science Writing and Journalism and a two-day state level conference on Science Communication, Popularization and Extension in Kannada: Road Ahead.
SUNANDA RAO ERDEM  
Jury Member, Indian Competitive Categories, ISFFI 2019

Sunanda Rao Erdem’s experience in journalism and communications spans more than two decades. She was the editor in the South Asia Department of Deutsche Welle, Germany’s international public broadcasting station till 2009 after which she returned to Delhi. She holds advanced degrees in journalism and Opera from Germany.

She has worked as the Diplomatic Editor of NaiDunia, India’s leading Hindi language daily. Her reporting on international and strategic affairs has been published in renowned publications worldwide.

Following her career in journalism, Sunanda switched to the field of communications and worked with a German communications consultancy wherein her focus was on corporate communications and public advocacy. She has been active in the field of international relations, strategy and culture and writes regularly for various publications on such themes.

She currently runs her own communications consultancy and is also the representative of Deutsche Welle in India. Besides this, she is on the Board of the Neemrana Music Foundation which promotes culture and music in India and supports creative talent.
NOMINATION
JURY
MEMBERS
SHAMBHU NATH SINGH
Chair, Nomination Jury, Indian Competitive Categories, ISFFI 2019

Prof. Shambhu Nath Singh has had two decades of experience in the field of journalism and more than a decade long experience as a media academic.

As a media professional he has worked in positions like Political Editor, Associate Editor, Executive Editor, Assistant Editor, etc., and regular columnist in well- known newspapers such as the Hindustan, the Nav Bharat Times, the Jansatta, the Dainik Bhaskar etc., besides being editor and regular contributor to many journals and magazines.

In the field of academics, Prof. Singh has held senior positions such as Vice-Chancellor, Director, Professor, Senior Professor and Visiting Professor. A winner of Sahityakar Award (2002-2003) and Harmony Award (1997) for noteworthy contribution in the field of Hindi Journalism. Prof. Singh has also represented India in prestigious ‘International Leadership Visitor Programme in the United States in 2007’ and addressed a prestigious gathering of senior journalists at International Press Centre, New York.

A Doctorate from JNU, he has also served as a Vice-Chancellor of Patna University, Bihar, India from August, 2011 to August, 2013. He has also been the Visitor’s nominee for a few Universities and the Chancellor’s nominee for another few. He has served as Member of Selection Committees for senior faculty positions in various other universities/academic institutions. Also he has been Member of Curriculum Design Committees, Finance Committees etc., of Central / State Universities.

He has a more than thousand articles to his credit in national dailies, magazines and journals. Prof. Singh has been Key resource person for many workshops and chaired many seminars on media, media literacy and communication conducted by organisations such as UNICEF, UNESCO, UGC, Discovery Channel, etc.
CHANDRAKANT P SINGH
Member, Nomination Jury, Indian Competitive Categories, ISFFI 2019

Dr Chandrakant, an Economics graduate, he did his masters in Hindi Literature & Media Management, M Phil in Sociology of Literature, and PhD in the domain of Journalism. He is a professor in Journalism and Mass Communication, GGSIP University, Delhi and has rendered an experience of 28 years in the field of academic and administration.

He has been associated with Navbharat Times (Patna), Fairfax Business Media (Singapore), Discovery Channel (Delhi), Jagran Institute of Management and Mass Communication (Noida), Manav Rachna International University (Faridabad), and IIMC (JNU Campus). His interest lies in Media economics, Digital media, Indian literature, Culture & History, Indian mind, K2-C3 model. He has number of publications at national and international platform.

Under his leadership, the School of Mass Communication bagged DNA-Stars of the Industry Awards for Innovation and Educational Leadership consecutively for two years: 2014 & 2015. He has been invited to the prestigious Asia-Pacific Education Leadership Forum-2015 (Bali) that was attended by thought leaders from over 40 countries. Recently, Dr Singh was conferred with the '100 Most Dedicated Professors' Citation at the World Education Congress (2019).

He has also worked as script writer and story director for over 100 documentaries for Kashmir File (DD-CNN International) and Turning Point (Doordarshan).
Dr Pati having 27 years of experience in the field of Communication, Brand Management and Corporate communication, Consumer insight and Media Planning is serving as Dean and Director, India Today Media Institute, India Today Group, Noida from 2016 onwards.

He has started his career with UNICEF and contributed in developing media strategy for CDD-Watson programme on Public Health and Sanitation. He was a National Fellow in communication and awarded with prestigious National Fellowship from Government of India for his Doctoral work on Tribal and Media from Ministry of Tribal Welfare, Govt. of India.

His PhD was awarded by Berhampur University, Orissa. After serving corporate and industry experience, He started his academic career in Amity School of Communication to EMPI’s Ajit Haksar Institute of Advertising, Communication & marketing Management.

Dr Pati served as a Dean, Academics in IMS Noida before taking up the current assignment in India Today Group as a Dean & Director. He has conducted Research Projects, Monograms, Special projects for various corporate, Govt and International organizations in the field of Communication, Media and Development communication and training programmes for corporate executives, Faculty and NGO sectors in the areas of Consumer Insight, Sales, Image and Identity Management, Brand, Visual Merchandising, Advocacy, Team Building, Qualitative Research, Fund Raising, etc.

He has a passion for writing regular columns in Newspapers, Journals etc on contemporary and social issues, communication and Media related matters including Consumer awareness, Health communication, etc. He has conducted several training sessions on Social Marketing areas to train the trainers.
SUMAN SANJAY AGGARWAL
Member, Nomination Jury, Indian Competitive Categories, ISFFI 2019

Suman Sanjay Aggarwal is an environment science graduate with Post Graduation in Journalism and Mass Communication. She has a vast experience of audio visual media spanning more than 30 years in All India Radio and Doordarshan. She is also a reputed stage anchor for past 30 years.

She is working as a senior producer and has planned, produced, scripted and presented more than 3,000 programmes and promos for both AIR & Doordarshan. Her work involves conceptualization, planning, scripting and presentation of various programmes, interviewing personalities, recording, dubbing, mixing and editing on a multi-track digital platform all over the country.

She has produced audio magazines entitled Sahitya Bharati, Sanskriti Bharati and features on various subjects based on contribution of women sportspersons, lives of great literary personalities etc which were broadcast from more than 300 stations of All India Radio. She has been a producer of Women’s, Children’s and Youth programmes.

As Project in-charge, she is also credited with her initiatives for making and releasing ‘Gender Sensitive Programming Guidelines’ for Doordarshan and conducting orientation workshops for the staff on all major kendras of Doordarshan across the length and breadth of the country.

In Doordarshan she has produced music and dance programmes including National Programmes of Dance, cultural magazines, live programmes etc. She has started her professional career in 1986 as an anchor in Doordarshan. Later, even after joining AIR she continued anchoring Kavi Goshthi and Ghazal programme – ‘Gule Naghma’ for artistes like Ustad Ahmad Hussain Mohd. Hussain, Pandit Mani Prasad, ChandanDas, Neelam Sahni, Ghanshyam Vaswani, Shobhana Rao etc. for Doordarshan. She also anchored a series made for DD Archives ‘Naad Lehari’
SUSMITA BALA
Member, Nomination Jury, Indian Competitive Categories, ISFFI 2019

Equipped with a unique blend of fine arts and performing arts Dr Susmita Bala has a foothold in all compartments of media including theatre, print, radio, television and films. She is an accomplished media teacher and trainer with rich experience in media industry and academics for more than three decades. At present, she is serving Delhi Metropolitan Education (DME), Noida, as Head of DME Media School.

She started her career as journalist in Dainik Jagran newspaper in 1986, and turned to media teaching at Agrasen Girls (PG) College, Varanasi in 1990. She has taught in colleges of GGS IP University. As visiting faculty, she has been teaching at Bhartiya Vidya Bhavan, YMCA Media Centre and India Today Media Institute (ITMI). Dr Susmita has visited Chinese universities as part of delegation of Indian academicians. She has presented papers in United States in the conference organised by International Association of Media and Communication Research (IAMCR).

In 2019, she presented a paper in Manipal International Media Research Conference in Dubai organized by MAHE Dubai and Queen Mary University London. She also presented a paper in Madrid Conference organized by IAMCR and made a presentation on innovation in journalism education under IGNITE in World Journalism Education Congress – WJEC in Paris.

She has authored and co-authored 2 books; edited and written chapters in 3 books. She has been a member of jury of Akashvani Awards organized by AIR for many years. She has also been executive producer of a full-length students’ film apart from supervising number of documentary and short fiction film projects of students.
MOBIN AHMED KHAN
Member, Nomination Jury, Indian Competitive Categories, ISFFI 2019

Mobin Ahmed Khan is working in external services division of All India Radio as programme executive. He joined AIR, Ahmedabad in 1996 and later on transferred to AIR, Lucknow. After having B Sc (Mathematics) Degree, he completed his Masters & M Phil in Journalism from School of Languages, Gujarart University, Ahmedabad.

Since 1996, he has been part of radio coverages. He has done interviews of eminent scientists/academicians/professionals/sports personalities and various scientific institutes of Delhi. He has also given his services as mentor for community radio and IIT Kanpur. While serving in Ahmedabad he had interviewed Verghese Kurien “Father of the White Revolution in India”. During initial years of his service with AIR, he had done extensive radio coverage of natural calamities in Gujarat which imbibed him with social aspect & responsibilities of a broadcaster towards society.

Mr Khan started and anchored one hour live phone-in health programme “Hello Zindagi” based on interaction of listeners & anchor with renowned doctors in Urdu Service of AIR, which is still beneficial for Hindi/Urdu knowing listeners in South Asia as well as Middle East countries. He also participated in science broadcasting workshop conducted by Vigyan Prasar at IIMC, Delhi. In 2018, he was member of Nomination Jury for 4th India International Science Festival (IISF) & Jury for 14th edition of International Exhibition for Young Inventors.

As a sports broadcaster he has covered two international sporting events at Colombo, Sri Lanka and Ghuanzhou, China. At present, he is the producer of “Vigyan Patrika” programme of External services Division, AIR.
Dr Rashmi Sharma is a graduate from Sri Venkateswara College in Biochemistry, University of Delhi, Masters in Biotechnology from University of Roorkee and Doctorate in Agriculture Science from University of Tsukuba, Japan. She has been awarded Japan Society for Promotion of Science (JSPS) Post-Doctoral fellowship from 2002-2004 to work at National Institute of Agro-biological Sciences, Tsukuba, Japan. She joined Department of Science and Technology (DST), Government of India in 2012 and has been implementing Science and Technology (S&T) projects pertaining to social relevance.

She has also made major contributions in conceptualizing, designing and implementation of Augmenting Writing Skills through Articulating Research (AWSAR); ‘Pt Deen Dayal Upadhyay Vigyan Gram Sankul Pariyojana’ for holistic development of village clusters in Uttarakhand. She has also initiated collaboration with American Chemical Society (ACS) to train early career researchers to improve the quality of publications from India and rejuvenated a scheme for Young Scientists and Technologists (SYST) for nurturing innovative minds towards S&T interventions to address societal challenges.

In addition, she manages Technological Intervention for Addressing Societal Needs (TIASN) program and has evolved location-specific initiatives for Arid and Semi-Arid Regions (ASAR) and Cold Desert Regions (CODER) besides Sustainable Agriculture for Rural Transformation through Holistic Initiatives (SARTHI) in Shivalik Himalayas for up-liftment and enhancement of quality of life of people through local resources.

Dr Sharma is involved in gender-specific initiatives of DST such as Kiran. She was part of Women Entrepreneurship Quest (WEQ) 2017. She was honoured as ‘SHERO’ by Biostandups in January 2018 and was also awarded ‘Amity Outstanding Women Award’ on National Science Day 28 February 2019.
LEAD SPEAKERS
ABHIJIT DASGUPTA

Abhijit Dasgupta has been associated with news since the early 60’s and with television from the early 70’s. He is an alumnus of FTII, Pune. He was also trained at the BBC London, AIBD Malaysia, NDR Germany, ABC (Australia).

He took voluntary retirement from Doordarshan as a Station Director. He was the Bureau Chief of WTN (Worldwide Television News) and Production-in-charge of ESPN. Abhijit was the production head of NDTV & Aajtak for their Election telecasts. Abhijit was the youngest war correspondent to cover the Bangladesh Freedom war. Abhijit is the National coordinator for India and a past Board Member of INPUT (INternational PUblic Television). INPUT is the largest TV organization of the world. He has received Two National and twenty-eight International Awards for Best Documentary films.

Abhijit was invited by UNESCO to give a lecture in Sao Paulo on visual communications.

Abhijit is the Secretary of the Kolkata Sukriti Foundation, a registered not for profit NGO that uses TV as a tool to reach its target with Socially Purposeful issues. He is also the trustee of Tanusree Dasgupta breast cancer trust, a registered NGO that fully supports BPL women suffering from breast cancer. Abhijit is Dean (Electronic & Digital Media) of the SRFTI.
AKANKSHA SHUKLA
Dr Akanksha Shukla has over a decade-long experience in teaching and research. She is a gold medalist from the University of Lucknow and an alumina of the prestigious Indian Institute of Mass Communication, New Delhi and the Andhra University, Visakhapatnum. She has been associated with University of Lucknow, Jiwaji University, Gwalior and the North East Hill University at Shillong as faculty. Having authored three books on mass communication and journalism, she specializes in the area of opinion building and political communication in which she won the acclaimed Post Doctoral Fellowship by the Indian Council of Social Science Research, New Delhi.

She has also been a Post Doctoral Fellow of the UGC in 2016. She has been associated with theatre and worked for ‘Darpan’ since she was a child artist. She started her career with All India Radio as a FM Rainbow anchor. She has published over 29 research papers in various journals of international repute and has supervised more than two dozen internships and summer projects.

Dr shukla is on the editorial board of the Journal of Rural Development and Voice of Intellectual Man. Presently, she is allied as an Associate Professor and head in the Centre for Development Documentation and Communication with the National Institute of Rural Development and Panchayati Raj, an organisation of MoRD, Gol, Hyderabad, Telangana.
AMBRISH SAXENA
Dr Ambrish Saxena is an accomplished media professional, researcher, author, anchor and political analyst. He has worked at different media platforms ranging from theatre, puppetry, print, radio, television and films. At present, he is working with Delhi Metropolitan Education (DME) as Dean of DME Media School and Director of DME Studios and Production.

She has played a vital role in active journalism having association with groups like The Pioneer, Amrit Bazar Patrika and news magazine Parakh during 1980-90s. He has been anchoring the highly rated programme of AIR FM Gold Market Mantra for almost two decades and has been associated with films of Film Division [Chakravyuh by Muzahir Rahim] and NFDC [Tulsidas by Atma Ram].

Dr Saxena has academic association with more than 20 universities and prominent institutes like IIMC and ITMI. He has 29 books to his credit and 40 research papers presented in national and international seminars/conferences. He has worked in research projects of the Ministry of Information and Broadcasting and World Health Organization (WHO).

She has extensive international exposure as part of his academic endeavours. In 2019, he has made a presentation on innovation in journalism education as the sole representative of Asia in World Journalism Education Congress (WJEC) in Paris in 2019.
ARVIND DUBEY
Dr Arvind Dubey obtained his degree of MBBS, DCH and MD in Pediatrics from King George's Medical University, Lucknow, INDIA. He has worked for three as Senior Research Officer in Indian Council of Medical Research, New Delhi and as Assistant Professor of pediatrics in Era’s Lucknow Medical College, Lucknow. He is presently working as Professor and Head, Department of pediatrics in Hind Institute of Medical Sciences, Ataria, Sitapur, Uttar Pradesh.

He has participated as writer in 17 radio science serials which were broadcasted in 19 Indian languages from 117 radio stations simultaneously (Made by NCSTC, Vigyan Prasar and All India Radio), participated in many science writing and science journalism workshops as radio specialist and was invited several times to deliver lectures in Radio producer training workshops.

Two of his radio programmes adjudged best in two international competitions in Iran and Malaysia. Along with many social plays, he has also written about 56 science plays, half a dozen documentaries and seven radio talks for All India Radio. For television he has written about four dozen science programmes, 18 quickies, one teleplay, two tele-films and four tele-serials. He has served as associate editor in two online science fiction magazines.

He had contributed 59 articles for google, one of these was awarded first prize in an online international competition organized by google. He has contributed more than 100 popular science articles in Hindi and English in various science magazines.

He has written three popular books in English two in Hindi (one of these was awarded by UP government), one picture book for NCERT, New Delhi and three chapters in a book on Science fiction writing. He has received a coveted award by Hindi Sansthan, Lucknow for his contribution to science writing for children. He is a well known Science Fiction Writer recently received an award for his SF writing.
ASHOKE VISWANATHAN
Ashoke Viswanathan is a Bengali Indian filmmaker and theatre personality, based in Kolkata, India. He is currently Professor and Head of Department of Producing For Film and TV specialisation and Dean (Film Wing) at Satyajit Ray Film and Television Institute and an occasional lecturer at Jadavpur University.

He has made award winning features and also documentaries, such as 2014s “The Lighthouse, The Ocean and The Sea”, an exploration of the intellectual relationships among Rabindranath Tagore, Romain Rolland and Kalidas Nag. Two of Viswanathan’s films have won national awards: his debut film “Shunya Theke Shuru” and “Kichu Sanglap Kichu Prolap.”

He has also directed commercial films like “Sesh Sanghat” starring mainstream actors like Jaya Prada and Jackie Shroff and “Gumshuda”, in Hindi, Malayalam and Tamil (“Vaira Kolaigal”), a whodunit based on Sherlock Holmes, targeted at a mass audience.

He has served as the Chairperson of the Jury for non-feature films for the National Film Awards. Three of his feature films and two of his short features have been included in the INDIAN PANORAMA sections of IFFI ’94, 1999, 2001, 2002 and 2005. His films have been shown at the Commonwealth Film Festival, Manchester, the Pyongyang International Film Festival, the Dhaka International Film Festival, and the Ipswich Film Festival, among others.

Viswanathan has represented India at the Cambridge Seminar on contemporary British writing, held at Downing College, Cambridge (1997).
BHUPATI CHAKRABARTI
Dr Bhupati Chakrabarti was awarded PhD in 1983 by the University of Calcutta for his work in experimental condensed matter physics done at the Indian Association for the Cultivation of Science, Kolkata. He was a National Science Talent Scholar (NSTS). He taught physics for nearly 32 years first in Chakdaha College, Nadia and then in City College, Kolkata and served both the colleges as the HOD, Physics. He is actively involved in writing on the areas of physics education, history of science and popular science.

He has published more than 250 articles and papers and associated with the training and selection of the Indian students who represent the country in International and Asian Physics Olympiads.

Dr Chakrabarti was the part of Indian delegation in International Physics Olympiad and in Asian Physics Olympiad. From 2013 to 2018 Dr Chakrabarti was the General Secretary of Indian Association of Physics Teachers (IAPT) an all-India body of physics teachers that works for the betterment of physics.
CHANDI RAJ DAHAL
Mr Chandi Raj Dahal is an Assistant Professor of Media Studies at the Department of Languages and Mass Communication, Kathmandu University School of Arts, Nepal. He has directed some shorts films; both fiction and non-fiction, including Daughter of Gurkhas: Nepalese dreams and aspirations in Hong Kong, a documentary produced in Hong Kong for the fulfillment of Master of Journalism.

Upon completion of the degree from The University of Hong Kong in 2014, he started teaching courses related to visual media production to students of Media Studies at Kathmandu University. His research interest includes interdisciplinary subjects ranging from storytelling and visual media to conflict, peace and development with media and communication at the core.
CHANDRA MOHAN NAUTIYAL
Dr Nautiyal, a consultant to Indian National Science Academy, New Delhi had superannuated from BSIP, Lucknow as Head, radiocarbon lab, is among those few who are scientists & science communicators both. With excellent academic career with many scholarships, masters from UoR (now IIT-Roorkee) in Physics, did PhD & post-doc from ISRO’s PRL, Ahmedabad. He was also at Max Planck Institutes at Mainz and Heidelberg on INSA-DFG Fellowship.

He has 115 research contributions, 60 scientific contributions, 800 popular and professional science lectures, 200 radio and TV programmes including many documentaries as writer/researcher and commentator. He has been coordinator and expert for 3 editions of IISF and member, Jury in Science Film Festivals and many science programmes.

He has received INSA Young Scientist-medal, US$ 1600 from the Meteoritical Society, USA, best poster prizes from ISMAS & Palaeobotanical Society. Honours’ from CSIR-CIMAP for science popularisation, CSIR-NBRI for research and science popularisation ‘Vigyan Vachaspati’ and ‘Shatabdee Samman’ from Vigyan Parishad, Prayag, and highest consultancy medal from BSIP. He has also been awarded with best blog prize from ‘Friends of Nuclear Energy’, paper of the month award from BSIP, ‘Vigyan Ratna’ (Meerut), ‘Vigyan Uday Samman’ (Dehradun), ‘Vigyan Jyoti’ (Barabanki), ‘UP Vigyan Sancharak’ (Allahabad).

He has received Prabhashree Samman from Honorable Governor-UP and Brahman Gaurav Samman from Pragatisheel Brahman Utthan Samiti, Lucknow. He was honoured by Vidya Bharati from Chief Minister of Himachal Pradesh, received ‘Bharatiya Bhasha Pratishtapan Samman’, ‘Hindi Bhasha Vibhushan Samman’ from ‘Shree Nathdwara Sahitya Mandal’.
DENZIL JOHN GODIN
Professor and M.L.A. Dr Denzil John Godin has been closely associated with youth, environment and social work since his youth days. Despite his profession as a teacher of Botany in the Lucknow Christian College, he has been actively involved in a myriad of activities from local to International levels motivating and encouraging people. He has presented or published more than 50 papers at various national and international conferences.

He has been giving talks/ lectures on various aspects of scientific communication, education, use of scientific technology and various topics related to environmental awareness, self-motivation and personality development at various levels across India, especially targeting youth, parents and teachers.

He has been awarded National Award for Science Popularisation in India (ISWA SAMMAN) by National Council for Science and Technology Communication, Department of Science & Technology (DST), Government of India, New Delhi. Recently, chaired sessions and contributed as an expert at India International Science Festival with honorable Minister of Science and Technology Dr Harsh Vardhan, Ministry of Science and Technology & Environment and Forests, New Delhi.
G S UNNIKRISHNAN NAIR

Mr G S Unnikrishnan Nair is a Joint Director of Agriculture heading Farm Information Bureau, Govt of Kerala as Principal Information Officer. A graduate in Agriculture from Banaras Hindu University, G S Unnikrishnan also did P G in Journalism and Mass Communication.

He has been contributing popular-science articles in leading newspapers, magazines and producing science films for the past 3 decades. He has won 9 National awards and 11 State awards for science communication which includes National Science Communication Award 2008 and 2016, Neo-Literature Award of National Literacy Mission 2002, Award Bronze Beaver Award in the National Science film festival-2014, 2015 and 2018, NCERT CIET Film Festival best film Award during 2016 and 2018, Indian Medical Association Electronic media Award 2011, Kerala State Biodiversity Media Award 2018, State Science Literature Award 2008, State Farm journalist award 2008, Kerala State Children’s literature award 2005, 2015 and 2018. His Documentaries has been screened in International and National Film Festivals all over the globe.
JALAL UD DIN BABA
Jalal Ud Din Baba is a Guerrilla Science Filmmaker/Green Activist/Communicator/Writer to galvanize the public support and actionable preparation to end poverty, protect planet earth and to ensure that all the people enjoy peace and prosperity, live healthy and happy life within the political world called nations.

He tried every other aspect of activism be that interacting directly with the people, writing in newspapers, magazines and debating in television studios, but always felt it wasn’t enough. Green filmmaking is one such initiative, which provokes. And the medium has brought results, which please me to a great extent. His compassion and concern for human empowerment is evident in his films.

“Saving The Saviour”, his film on conservation of Wular, had the recognition from the highest office in the country when Prime Minister Shri Narendra Modi talked about Billa’s Wular Lake film in his Mann Ki Baat. Dr Jalal has been extensively invited, interviewed as an expert for discussions, debates & presentation; Climate Change Astitva, Log Sabha TV, Aaj Severe (DD National) New Delhi, (IISFFI-2018) Vigyan Prasar, Lucknow.

He runs a e-college College for Environment and Sustainable Development (CESD) for short term green awareness, knowledge, certification, workshops, green filmmaking orientation, photography, re-orientation workshops for journalists, media persons for green reportage. He publishes his own nature magazine WATER (Zindagi) ‘The Living Side of Life’, spread through the social media.

Dr Jalal has won more than 22 National and International awards. Proudly, he is an empanelled science communicator and resource person with Vigyan Prasar, Department of Science and Technology. He serves as an invited guest faculty and trainer at media departments, schools, colleges and universities, conducting science and green filmmaking workshops, lectures, hands on training and screenings across the country.
LOVITA J R MORANG

Lovita J R Morang is a professional filmmaker, artiste, writer and poet. She has been graduated from Girls’ Handique College, Guwahati University and has done short-term course on film appreciation from FTII, Pune. She is Karmaveer Chakra awardee by Icongo supported by United Nations. She has received Green Oscar entrant, Dada Saheb Phalke award and International Science Film Festival for her film “Discovery of Rhododendron Forest-where highest Rhododendron grows, Eastern Himalayas”. She has 30 books-anthologies of poetries and short stories and has represented her works on international and national film/literary festivals. Her book “Discovery of Rhododendron Forest of Eastern Himalayas” is a well researched book launched by Excellency Governor of Assam and Nagaland Shri P B Acharya, Shri V Shanmugunathan and Ambassador Nirupama Roy. She has made more than 20 documentaries, travelogues, tele-films based on science, environment, socio-cultural-religious and anthropological issues.

She has acted in a number of movies, TV serials and casted as a princess in a docu-drama on massacre of royal dynasty of Nepal. She has also enacted as protagonist for Sundance Award Winner Sandhiya Sundaram’s short celluloid Cinema-DOREMIFA, and “Echo-Rongkuchak” National Award for Student and Best film in Vienna Film Festival by dominique produced by FTII, Pune and Satyajit Ray Film Institute, Kolkatta.

Ms Lovita has represented as a speaker (i) on the Sports Scenario and Technology India at Olympic Meet, Spain in Bangalore; (ii) Grassroots Comic Society, Canada under Sir Roulf, in Guwahati; (iii) Delhi Poetry Festival, 2014; (iv) Kumaon Literary Festival 2016; (v) 3rd International Science film fest, Chennai, 2017; (vi) 8th National Science Film festival, Guwahati 2018; (vii) 4th International Science Film festival, Lucknow 2018 and (viii) 9th National Science film fest, Mohali, Chandigarh 2019.
MIRZA JAVED BEG

Mirza Javed Beg, Scientist ‘G’ and Project Director (Logistics) has been elected as Vice Chair of Council of Managers of National Antarctic Program (COMNAP). A veteran Antarctician, member of the First Indian Scientific Expedition to South Pole, he also participated in number of Indian Scientific expedition to Antarctica.

A geologist by profession started his career with Geological Survey of India (GSI) in 1987 and worked in various capacity including initiation of enterprise portal for GSI. He joined NCAOR in 2007 as programme Director for Antarctic Logistics. He has been managing the operation for the Indian Antarctic programme and was project incharge of construction of Bharati Station at Antarctica. To his accolade he is recipient of National Mineral Award, Ministry of Mines (Government of India) for the year 2004, Recipient of NFP fellowship (Netherlands Fellowship Programme) for 2000-01, Leader of the 2nd Special Task Force to Larsemann Hills in 2004-05 etc. to name a few.
MANAS PRATIM DAS

Manas Pratim Das did his M Sc in Physics from Jadavpur University and his PhD in History of Science and Technology from the same institution. He is a Programme Executive at All India Radio and is now posted at Siliguri. He is a Fellow of the West Bengal Academy of Science & Technology.

He is a prolific author and contributes regularly to regional and national periodicals. He has also edited several books on popular science and the art of science communication.

He has won several national awards for his radio productions. For twenty uninterrupted years (1999-2018) he presented a live, phone-in programme titled ‘Bigyan Rasiker Darbare’ (In the Court of a Science Connoisseur) on FM Rainbow (107 MHz) of AIR Kolkata. This has no parallel in the whole of South Asia.

Dr Das is known around the country as a vibrant science communicator. He has been honoured with the National Award for Outstanding Contribution to Science Communication by the Department of Science & Technology, Government of India. He has also been a recipient of the Satyendra Puroskar for his popular science book on nanotechnology from the Department of Science & Technology, Government of West Bengal.

Dr Das is also an independent researcher in the discipline of History of Science and has been invited by the Asiatic Society, Bangiya Sahitya Parishad as well as renowned educational institutions to deliver lectures on the same.
MATIUR RAHMAN

Mr Matiur Rahman is an independent full-time science filmmaker and managing director of television programme company based at New Delhi. He has scripted and directed more than 337 broadcast science television programmes over the last 33 years of his script-to-screen TV software production career.

With M Sc in Zoology and M A in mass communication from Jamia Millia Islamia, New Delhi followed by an advanced training in educational television management from The European Institute for Media, University of Manchester, United Kingdom. He has also served as the director of audio visual research centre, IIT Roorkee for 2 years and has been a member of the Board of Management, Jamia Millia Islamia, New Delhi.

He has independently initiated several TV programme series to promote scientific temper by launching self-financed television series on the themes of grassroots technological innovations, bright minds of science in India, architecture and science, a few of which have already been telecast nationally as well as internationally.

He is also the founder and president of the national society for promotion of technological innovation and scientific temper styled as START (Search for Truth and Return to Science).

He is a recipient of several awards including the ‘National Electronic Media Award’ from national innovation foundation, ‘Best Entry’ award at the global video challenge of the ministry of external affairs and ‘Incredible India’, Bhaktha Kabirdas Puraskaram from ‘World Hindu Heritage Foundation’, ‘Bronze Beaver, Silver Beaver and Special Jury Awards’ from Vigyan Prasar, Educational Media Festival for Commonwealth Asia’ award from Commonwealth Educational Media Centre for Asia, Commonwealth of Learning, Vancouver, Canada.
NANDAN KUDHYADI

Nandan Kudhyadi has more than sixty-five documentaries to his credit on varied subjects. Several of them have won top national awards, and have been screened at various international film festivals like Cinema du Reel, Tokyo, Brussels, Vancouver, Pusan, Hawaii, Karlovy Vary and others.

His much talked about film RASAYATRA has won the Golden Lotus National Award for the Best Non-feature Film of the year 1995, for its sensitive and imaginative transposition of music, into a dignified cinematic expression and also won the Jury’s Special Mention at the Brussels festival. It was chosen for the NHK Asian Film Festival at Tokyo, as also for the INDOMANIA Festival at Paris.

Nandan Kudhyadi graduated from Faculty of Fine Arts, MS University of Baroda before specializing in film direction & screenplay writing at the famous Film & Television Institute of India at Pune. He has worked with celebrated international filmmakers like Michelangelo Antonioni and Krzysztof Zanussi, apart from Mani Kaul and Ketan Mehta. His cinema has the excitement and energy of a new generation of filmmakers, who are tackling contemporary issues with new perspectives and a keen insight into Indian culture and society. As Director of ISB & M School of Media, he conceptualized and established the Post Graduate Program in Media Management.

He was the Senior Professor of Film Direction at Whistling Woods International promoted by the Bollywood icon, Subhash Ghai. Until a few years ago he was a member of the Academic Council of the Film & Television Institute of India, Pune, and now a senior visiting faculty.
PALLAVA BAGLA

Pallava Bagla is a charismatic science communicator respected for his deep understanding of Indian S&T system. He has won many national and international awards for his work. Explaining complexities of science in a simple language is his forte. His pioneering work showcasing India’s missions to Mars and Moon has been applauded. Writing for over two decades for the prestigious American Weekly Science, his stories have highlighted India to the world.

He was won 3 national awards for his science writing and in 2010 he was awarded the ‘David Perlman Award for Excellence in Science Journalism’ considered the Oscar of science journalism and given by the American Geophysical Union, Washington DC, for his landmark writings which exposed the Himalayan glacier blunder by the UN’s Intergovernmental Panel on Climate Change (IPCC).

He runs a daily photo blog on Twitter, Facebook and Instagram titled ‘Enjoy Nature’ and used to pen a weekly column of S&T for the Press Trust of India (PTI) and has authored several books. He is photographer for the world’s top photo agency Getty Images. His YouTube Channel ‘New Frontiers: in Science and Development’ is very popular.

Author of several books, he also served as ‘Shri Raman Pai chair Visiting Professor in Science Communication’ at the National Institute of Advanced Studies, Bengaluru which resulted in the book ‘Bridging the Communication Gap in Science and Technology: Lessons from India’ edited by Pallava Bagla and V. V. Binoy and published by Springer in 2017. He has also served as president of the International Science Writers Association and was a member of the executive board of the World Federation of Science Journalists.
PRADIP MALHOTRA

Dr Pradip Malhotra was born, brought up, educated and stayed for the most part of his life in West Bengal. He studied at Santiniketan, Visva Bharati in school and his medical education was from Medical College, Calcutta. He worked in Central Health Service for more than 30 years and retired as Senior Regional Director, Kolkata, MoH & FW, Govt of India. He worked as State Advisor, Department of Health & Family Welfare from July 2012 till December 2014.

Presently, he is a member of National Coordination Committee of Polar Science Programme (NCPP), Ministry of Earth Sciences, Trustee of “Life Saving Society of India” and an executive committee member of “Bhowanipur Baikali Association”. Dr Malhotra has also been associated with Motor Sports in Eastern India from 1998 onwards.

Dr Pradip Malhotra was Station Doctor of Maitri, Scientific Research Station in Antarctica, during 22nd Indian Antarctic Expedition in 2003-04. During this period he led a team of Doctors to perform Appendicectomy Operation at Maitri on 5th July 2003, during peak Polar Winters. He was the Leader & Station Commander of Maitri during 28th ISEA. He was a member of 1st Indian Scientific Expedition to South Pole by Government of India in October-December 2010. He is the only doctor from India, who has performed an Appendicectomy operation in Antarctica, has been Leader of an Antarctic Expedition and who has been to South Pole.
Dr Pradeep Kumar Srivastava is former Dy Director (Senior Principal Scientist) in the Medicinal and Process Chemistry Division of CSIR-Central Drug Research Institute, Lucknow, India. He did M Sc in Organic Chemistry and PhD work from Kanpur University, U P. He has got an experience of more than 36 years of R&D work in the area of drug research. He is also the visiting Professor in the M.Sc. Mass Communication in Science and Technology, Lucknow University.

He is the first person in the world to start a novel concept called “SCIENTOONS” a new class of cartoons, which are based on science, hence, known as the father of SCIENTOONICS. He has delivered more than 1298 invited lectures in various countries of the world. He received “The outstanding young person of the world” award given by junior chamber international (USA). He is the recipient of “National Award for Science Writing” by Indian Science Writers Association (ISWA), New Delhi.

At Asia level, he got silver medal for the best lecture in the Asian conference held at National University of Singapore, Singapore. American Chemical Society (ACS), USA has selected him as ACS chemistry ambassador in the international year of chemistry. His book “Scientoonic Tel Tale of Genome and DNA” co-authored with Dr Lalji Singh and Dr M W Pandit gained immense popularity.
RASIK RAVINDRA
Dr Rasik Ravindra, currently the Secretary General of 36th International Geological Congress, held the position of Director, National Centre for Polar and Ocean Research, Goa between 2006 and 2012, after putting 35 years of active service with Geological Survey of India. He has led the Ninth Indian Expedition to Antarctica in 1989, the first expedition to Arctic in 2008 and the First South Pole Expedition in 2010.

He was leader of the Task Force constituted by Government of India for selection of the site for India’s third research Station in Antarctica and the Task Force for Environmental upkeep of Maitri Station in Antarctica. He holds the credit of overseeing establishment of Bharati, Himadari and Himansh-India’s three Polar research stations in Antarctica, Arctic and Himalaya, respectively.

He has held the positions of Deputy Director General of Geological Survey of India, Chair Panikkar Professor at MoES, Member of the UN Commission on Limits of Continental Shelf; Chair, Asian Forum on Polar Sciences; Chair of the DST Committee on Dynamics of Himalayan Glaciers; Vice Chair of SCAR and COMNAP among others. He has been nominated to participate in the meeting of the Experts for, IPCC meeting to be held in September, 2019 in Monaco.

He has been awarded the National Mineral Award, National Award in Polar and Cryosphere, SCAR Medal for International Coordination, Life Time award by Palaeontological Society of India among others.
SABINA KIDWAI
Dr Sabina Kidwai is an associate professor at A J K mass communication research centre, Jamia Millia islamia, New Delhi. She has completed her PhD from the MMAJ Academy of International studies at Jamia Millia Islamia. Her specialized area of work is film and digital editing. She has done considerable research work and co-authored two publications, “Illusion of Power” and “Crossing the sacred Line”, on the subject of Women and Political Participation. She has done a study on the “Images of Muslim women” for WISCOMP.

She has done research work for organizations like Central Zoo Authority and the Centre for Media Studies. She has received the UGC Minor grant for a research project on television news ‘Profiling the enemy’ (2012-2014). “Images of Muslims in the Indian media: A study of the post 9/11 scenario”. She has presented papers at various National and International level conferences.

Dr Kidwai has been a resource person and coordinator for many workshops across the country. She is also currently running a short course as a part of the CBCS programme on “Environment and Wildlife Films” at the AJKMCRC.

She has worked as an editor for a large number of independent documentaries and has directed a documentary on the issues of identity “Shadows of Freedom” for the Public Service Broadcasting Trust. She is the co director for a film “Diminishing Resources” made under the UK Environment Film Fellowship 2006. She was the Consultant Editor for the magazine “Ex-situ Updates” for the Central Zoo Authority and for the National Tiger Conservation Authority “STRIPES”.

SABYESACHI BHARTI
Mr Sabyesachi Bharti is working as Sr Manager, Programs in CMS VATAVARAN – Asia’s largest international film festival and forum on Environment and Wildlife. He is a double graduate in Political science and Sociology. He has over 19 years of experience in documentary filmmaking, festival curations, media advocacy & management, networking & coordination and community video production.

He has worked as festival jury for several film festivals and competition like 12th DD Annual Awards 2018, 11th DD Annual Awards 2017 and International Jury member for the 2008 Greater Philadelphia Student Film Festival. He was also selected as the Chairperson of Jury for Swatchh Bharat category of ‘Prakriti International Documentary Film Festival 2017-18.

He was involved in the content creation for various organizations like the Ministry of tribal affairs (GOI), Central Council for Research in Unani Medicine, WAPCOS-Water and Power Consultancy Services, Culture Unplugged Studios (CUS), The Leprosy Mission Trust India(TLMTI).

He has been associated with various online and offline social campaigns and workshops. He had organized and run “the HEAL India campaign” for The Leprosy Mission Trust India, which involved 60000 school children across North India and online campaigns for Culture Unplugged Studios, which received Webby 2012 Official Honourees for Activism, which is equivalent of Oscars for the web.
SUBHA DAS MOLLICK
Ms Subha Das Mollick is a teacher, writer, documentary filmmaker who switched her career from teaching Physics to teaching media more than 23 years back. She has been responsible for setting up the twin departments of Mass Communication & Videography and Film Studies in St Xavier's College, Kolkata.

Presently, she is a visiting faculty with Aliah University and Maulana Abul Kalam Azad University of Technology. She has also been the principal instructor for two MOOCs on SWAYAM platform.

She has made documentaries on several subjects, which have been aired on national television. Her recent independent documentary film Calcutta Sonata has been critically acclaimed and well received by the audience.

Promising Plastic Polymers, a documentary film on uses and abuses of plastics, has received the Bronze Beaver Award at the 9th National Science Film Festival organized by Vigyan Prasar.
SUNIL MEHRU

Dr. Sunil Mehru, media professional & ICT policy planner and designer has done his Honours, M.Phil. and Doctorate in Philosophy from J.N.V. University, Jodhpur (Rajasthan). Having experience of more than fifteen years in crafting professional Communication by experimenting and implementing innovative learning pedagogies to ensure optimum use of ICT in dissemination of education, Dr. Mehru is presently the Joint Director, Software in Consortium for Educational Communication (CEC), an Inter-university Centre of University Grants Commission (UGC), New Delhi. As a Joint Director he has been engaged in co-ordination with 21 media centres throughout the country for national telecast in India through Vyas Higher Education Channel. He has also served Educational Multimedia Research Centre (EMRC), Indian Institute of Technology (IIT) Roorkee as an Honorary Director for four years.

Dr. Mehru was honoured by the National Award for his documentary based on Folk Festival of Rajasthan. He has worked in 70 educational documentaries as a Media Researcher, Script Writer as well as Producer for National Telecast. He has been nominated as a jury member for UGC-CEC Video Festivals, Prakriti Film Festivals and Doordarshan Annual Awards. He organized two Prakriti Film Festivals as Festival Director in Calicut and Kolkata.

He organized several workshops/trainings in Mass Communication including Filmi Chashma, sponsored by Children's Film Society of India (CFSI). He chaired many sessions, presented research papers and attended International and National conferences/seminars in India and abroad. He has written a book on Secularism. He conducted various online worldwide e-courses especially on Mass Communication subjects like scriptwriting, editing, marketing communication and salesmanship as e-course coordinator.
UPENDRA AYODHYA

Dr Upendra Ayodhya is M Sc (Cytogenetics/Zoology), M Ed, M Tech (Mass Communication in Science & Tech), PG Diploma in Journalism & Mass Communication & PhD in Health Education, PGD Journalism - Indian Institute of Mass Communication (IIMC, JNU Campus; 1987-88 Batch Topper).

With more than 3 decades experience as a working journalist, Dr Upendra is one of the Seniormost journalists of India who belong to Science academia with PhD on the subject like “Early detection of Cancer & prevention of tobacco chewing”.

Dr Upendras’ professional career started when he worked in capacity of Bureau Chief, Dainik Jagran, Faizabad/Ayodhya (Oct1992- June 96). He worked with Jagran prakashan ltd, Hindustan Times ltd, Amar Ujalapraakshan. Before joining The Tribune Trust in 2013, Dr Upendra was working as Deputy Editor with profile of Country Head Editorial Coordination & HR, Dainik Jagran Group @Group HQ Noida.

Dr Upendra started his research carrier in 1988 from NCERT, NewDelhi, as JRF Nutrition Health Education & Environmental Sanitation project (NHEES) run under Department of Pre-Schooling & Elementary Education. He retired in 2019 from the post of Chief News Coordinator (CNC, Dy Editor Rank) in capacity of National Bureau Chief, Dainik Tribune, Chandigarh, India.

He bags credit of running one of the oldest Agriculture helpline in any Daily Newspaper of India, starting from Varanasi in 2003 upto 2018 in Capital city of Punjab/Haryana, Chandigarh.

Recently, he was invited in Chicago World Hindu Conference (WHC) 2018, on the eve of 125th Anniversary of Swami Vivekananda’s historic address to Parliament of the World’s Religions in Chicago.
THE TEAM
OF ISFFI 2019
NIMISH KAPOOR | CONVENER
Nimish Kapoor is working in Vigyan Prasar, Department of Science & Technology, Govt. of India as Scientist and Science Communicator from last 15 years and currently, as Scientist ‘E’ & Head of Science Films’ Division and India Science Wire. He is associated with the conceptualization, planning and execution of National and International Science Film Festivals of India, flagship events of Vigyan Prasar; Series of National Workshops on Science Film Making and Science Film Appreciation; Cinema in the Classrooms – Learning Science through Films, ICT based workshops for teachers and students; promotion of science news and features in Indian media through India Science Wire; skill development courses on Science Communication with Universities.

Associated as Member of decision-making bodies of various prestigious institutions including Doordarshan, CIET-NCERT, MHRD-Central Hindi Directorate, CMS Vatavaran Film Festival, UNICEF etc. Worked as television programmer with Zee Network, Eenadu Television of Ramoji Film City, Hyderabad, Doordarshan and All India Radio; part of launching team of ETV regional channels; produced & directed approx. 1000 hours television software in ETV Network. Recipient of national awards on science communication.

SOUGHATA BHATTACHARYYA | COORDINATOR
Sougata Bhattacharyya, writer and filmmaker, is a postgraduate in Film Studies from Jadavpur University. He did academic research on 100 years of Aurora Studio, supported by SARAI, CSDS, New Delhi. At present he is the Film Research Officer of Satyajit Ray Film and Television Institute, Kolkata. He wrote several research articles and also a story book titled ‘Sahanagarik’. He is the editor of one annual research journal ‘SRFTI Taake One’. His documentary ‘Trash’ (2013) won best film, NETPAC Jury award in 13 ISIFF, Dhaka and also won ‘Special Jury’ mention in 7th IDSFFK. His recent film ‘An Iconic Genius’s (2018) won best science film in 16IFF, Jaipur.
**SHOBHNA CHOU DHARY | COORDINATOR**

Dr Shobhna Choudhary is Senior Scientist, working as Editor of Indian Journal of Pure & Applied Physics, Indian Journal of Engineering & Materials Sciences, Indian Journal of Radio & Space Physics and Applied Innovative Research published by CSIR-National Institute of Science Communication And Information Resources (NISCAIR), New Delhi. She is working in the PME, Audio-Visual Media, Research & Development Division. She did her B. Sc. (Physics, Electronics, Mathematics, 2005) and M.Sc. (Physics) (Specialization: Electronics, 2007) from Jai Narain Vyas University, Jodhpur. She received her Ph. D. in Physics from Jai Narain Vyas University, Jodhpur in 2011. In the year 2018, she received the D. Sc. Degree.

After her Ph. D. she worked as Research Associate (CSIR) (2012–2013) in the Department of Physics, J.N.V. University, Jodhpur and Principal Investigator, SERB Fast Track Scheme for Young Scientists in Physical Sciences (2013–2016) in the Department of Physics, J.N.V. University, Jodhpur. She joined CSIR-NISCAIR on 1st June 2016 as Senior Scientist. Her areas of research are Condensed Matter Physics, Dielectric and Electrical properties of materials. She has published around 80 research papers in various International Journals.

**DEBASISH IYER | COORDINATOR**

Debasish Iyer, a well known Columnist, Political Commentator and Academician, come from a versatile background of Media, Communication and Socio-political activism. He is a Media Professional, E-courseware Developer, ICT Designer and Guest Lecturer in several Colleges in West Bengal. He worked with Print Media as a Journalist and Electronics media as a News Producer. He is now working with ‘Educational Multimedia Research Centre’ under St. Xavier’s College-Kolkata as a MOOC Producer and E-learning Coordinator. He often attends T.V debates & discussion on Socio-political and Academic issues. His major areas of interest are Higher Education Policies specially using ICT tools; web based learning, documentary film-making, acting and organizing workshops & events. Associated as convener with “Chitra Bharati Kolkata Short-film Festival-2019”.


ABHAY BHAMAIKAR | COORDINATOR
Abhay Bhamaikar holds Master of Engineering Degree in Information Technology from Padre Conceicao College of Engineering, Goa. He has worked as Assistant Professor in Department of Information Technology at Shree Rayeshwar Institute of Engineering and Information Technology, Shiroda – Goa for Seven Years.
Presently He is CEO & Founder at Vibrant Skill Sets Solutions - an enterprising Start Up in the field Skill Development. He is also the proprietor of Vibrant Hardware and Software Solutions.
He holds following responsibilities: President, Sushrut Science Academy; Joint Secretary, Vidnyan Parishad, Goa; Convener, Computer Division, The Institution of Engineers (India), Goa Centre, Immediate Past Chairman, Computer Society of India, Goa Chapter, Chairman & Managing Trustee, Rebuild India Trust, Goa and Member, District Development Coordination and Monitoring Committee (DISHA), Government of India. He has been conferred with following awards: Drona award by IBM at TGMC 08, Active Participation – Young Member Award (2009-10) Conferred by Computer Society of India at National Level and Innovative event award Conferred by Computer Society of India at National level. He is also the Organizing Secretary of 5th Science Film Festival of India (SCIFFI), Goa.

TANVI MEHROTRA | CONSULTANT
Tanvi Mehrotra, is the consultant for our event International science Film Festival of India who has assisted the team in making of this event. She has done her MSc. in Media Science from ILEAD and Bachelors of Accountancy from Calcutta University. During her course he has also done worked on various academic projects like documentary, ad films and campaigns. She has a work experience of about a year each in the Advertising and Event Management industry in Bangalore and Kolkata respectively. During her stint in Advertising agencies she has worked as Account executive and was a part of various ad film and campaigns for different brands. She also coordinated various sections of 7th National Science Film Festival, 2017 held in Kolkata.
SPECIAL SCREENING

Non-Competitive Category
Industrial development worldwide is taking a toll. Diabetes, hypertension, respiratory problems, heart disorders and explosion of new age viruses and ailments are on the rise. Modern medicine usually treat only human body, in contrast yoga, over 5,000 year old an ancient discipline is a holistic system for the integrated development of our physical, mental, as well as spiritual aspects. When antibiotics are failing as viruses and bacteria are proliferating development resistance to the best allopathic medicines... and the whole world is looking for safer alternative medias....the ancient science of yoga and meditation is providing all the answers.

To foster the curative potentialities and the effects of yoga and meditation on physical & mental health and on our cognitive functioning, the dept. of science & technology under the ministry of science & technology initiated various scientific researches under its new program - Science and Technology of Yoga & Meditation popularly known as SATYAM, under its Cognitive Science Research Initiative (CSRI). Worldwide researches on the therapeutic effects yoga and meditation have scientifically validated the fact that yoga can be used as an ancient tool along with modern medicine in healing ailments. The film focuses on the findings of various studies being conducted in various institutes, across India, on the curative potentialities of yoga and meditation.
After the failed launch of GSLV-F06 on 25 December 2010, due to a small mistake by Project Director Tara Shinde, Rakesh Dhawan, a fellow scientist working with her, takes the blame for her. As a result, he is relocated to work on Mangalyaan as punishment. The MoM (Mars Orbiter Mission) is thought of as an impossible mission by his coworkers due its aim of reaching Mars with its tight budget.

Tara, meanwhile, joins a new and better team. Rakesh then learns that MoM cannot take off on the PSLV since the available technology has a payload of only 1,500 kg and not enough fuel to fire the rocket to be carried to the distance. Eka Gandhi, who is the propulsion control expert, is introduced as a youngster that hates most Indian things and looks for the first chance to get away to NASA. On the other hand, there's the spacecraft autonomy designer Neha Siddiqui, who is struggling with rejection as a result of her intercommunal background. Also, there's the navigation expert Krittika Agarwal, who's a devoted wife that tends to her ex-serviceman husband Rishi Agarwal, who was severely wounded in action. Varsha Pillai, the satellite designer and payload expert, battles with her mother-in-law's taunts at home for not being able to bear a child.

The MoM satellite is finally launched on PSLV on 5 November 2013, and is named Mangalyaan (Sanskrit: Mars-Craft) and is successfully inserted into Earth’s orbit. Rakesh and his team celebrates the successful launch. After spending 298-day transit to Mars, MoM satellite is inserted into Mars orbit on 24 September 2014, making the country 4th in the world to do so and the first country to do it in the first attempt.
PARMANU: THE STORY OF POKHRAN

The film is based on the nuclear bomb test explosions conducted by the Indian Army at Pokhran in 1998.

The movie begins in 1995 with a text introduction, highlighting that India, a country with no nuclear weapons and no powerful allies left (such as the Soviet Union which was dissolved in 1992), was being pressured into signing one-sided treaties with the West.

The team proceeds to start with the nuclear test setup in Pokhran. The surge of activity alerts local spies of CIA and ISI living in Pokhran after which they bug Ashwath’s guest house to get the information on the nuclear test. After facing several challenges, the team is able to conduct a successful test, which establishes the country as a new superpower not to be taken lightly. However the United States places several economic restrictions on India.

In the epilogue, it is revealed that Dr. APJ Abdul Kalam, Dr. Anil Kakodkar, and Dr. R. Chidambaram were the real heroes behind this successful test and that the American intelligence community was embarrassed as there had been “a serious intelligence failure of the decade in detecting the preparations for the test.”
 Illustrated Sanskrit books from the Maharaja era replace English medicine in the struggle to save elephants in Elephant Village. Numerous fever daemons plague these elephants. Can the healer battle them successfully with the Ayurvedic medicine? The film director finds herself thrown into her own film when an elephant named Sita succumbs to her infected wound. With a telephone in one hand and a camera in the other, she finds a doctor banned by the elephant owners, and struggle for Sita’s euthanasia. Dozens of federal and Rajasthani officials descend on the usually quiet Elephant Village, and congregate around the festering elephant, who, in record time, despite the obstacles, becomes the first official euthanasia in Rajasthan, perhaps India’s history.

The powerful 99-minute film (shorter version: 39-minutes), which is directed by Brigitte Uttar Kornetzky, is about elephants who are forced to give tourists rides at Amer Fort in Jaipur. These elephants typically suffer from physical and mental distress. With captivating cinematography and an engaging story line, this film shows how India’s most beloved animal is abused in an illegal, but publicly accepted, fashion.

Ms.Kornetsky’s Elefanten In Not (Elephants in Need) foundation worked with Help in Suffering–Jaipur and the Wildlife Rescue and Rehabilitation Centre to better understand the sentiments in Rajasthan and facilitate the filming of the movie.
GYAMO – QUEEN OF THE MOUNTAINS

Gyamo - the female snow leopard and her 2 cubs haven’t been seen since the big male snow leopard appeared. The father-son wildlife filmmaker duo Mike and Gautam Pandey return to the same mountain to pick up their trail and find the cubs. Exploring this amazing landscape they discover there are many challenges that surround this endangered cat.

The territory of the Snow leopard goes beyond the borders of India across many countries and possibly cover over 2 million square kilometers of the himalayan ranges. But these borders are just for us. The snow leopard knows no boundaries and she moves for miles in search of prey, a mate and a home to protect her cubs.

A unique conservation model in partnership with the community that lives here they have transformed this once over grazed valley to a biodiversity hotspot. While filming this, the director found out that the snow leopard has been taken off the endangered list. This seems hurried and is worrying.

Scientists estimate that 4500-10,000 snow leopards remain in the wild but their exact numbers are still not known. Even before the cats can be understood, its landscape is changing under the impacts of development and tourism.
INDIAN SCIENTIFIC EXPEDITION TO SOUTH POLE

With the centennial anniversary of Amundsen’s South Pole expedition approaching, it was thought befitting to plan India’s first ever scientific traverse to the South Pole in the summer of 2010-11.

The experts recommended modified Arctic Trucks i.e. HILUX D-4 version of the Arctic Trucks which had proven track record of performance in traversing length and breadth of Antarctica and have accomplished successful journey to and fro South Pole in past. M/S Arctic Trucks, Iceland were approached to modify HILUX from mild suspension, wheels and tires to 6x6 conversions with 44” high floatation tires and load capacity of 2 tons, while maintaining the simplicity in maintenance and running of vehicles. It was decided to employ 4 numbers of Arctic trucks for 8 member team. The team also made arrangements for refueling at existing fuel depots at 830S and at the South Pole Fuel Depot so as to do away with need to pull an oil tanker along.

Scientific Agenda: Main objective of the expedition was to establish a safe route for Indian scientists to approach the Polar Plateau and beyond and collect scientific data on terrain en route. The limited scientific equipment that could be carried included: a dual frequency ground penetrating radar, shallow ice coring machine, Proton Precision Magnetometer, vehicle mounted weather station, hand held devices for measuring weather parameters; multi stage Impactor and Sun Photometer.
ASHA (ACCREDITED SOCIAL HEALTH ACTIVIST) ASRITA

Asrita is the hope of a small village called Alaudiya in Jharkhand, inhabited by primitive tribal groups (PTGs). She goes to every home in the village to make parents aware about the importance of vaccination for the good health of their children. Asrita is battling to change people’s negative mindset and fears about immunization and she faces many challenges to support this mission of complete immunization.

Asrita is an inspiring one. She is one amongst many ASHAs (Accredited Social Health Activist), India’s frontline health workers, who are an integral and critical link in the country’s health delivery system.

Everyday these ASHAs traverse through difficult terrains to get to hard-to-reach areas of the country and help in identifying, tracking children, and mobilizing the community to vaccinate the partially and unimmunised children. It is the efforts of many Asritas and their committed involvement that millions of children in the country are receiving life-saving vaccines for a brighter and healthier future.

Through EK Star Aisa Bhi, UNICEF and the Government of India salutes “India’s army of frontline health workers” – ASHAs, along with other community based workers, including ANMs and Panchayat leaders for their critical role in ensuring complete immunization. Cricketer Virender Sehwag encourages the public to join hands with us in making the Routine Immunization movement a grand success.
Wednesday is an extraordinary day for Pooranchandra – an auto driver in Odisha. Every Wednesday, at the crack of dawn he gets up to get ready and heads straight, not to the auto stand but to the health centre of his town. Here, he fills in a register, collects boxes of vaccines and supplies; loads them in his auto rickshaw, and sets off on his “mission” to deliver these vaccines at six different sub centres around the region.

It is because of Pooran and many others like him that children in these difficult-to-reach areas are getting vaccinated and as a result vaccine coverage in the state has increased significantly. Pooran is a part of the Routine Immunization (RI) campaign - “Mission Indradhanush” and his mission is to ensure complete immunization of children. Many Poorans in the state of Odisha have chosen to become a part of this mission and are registered under the Government’s Alternate Vaccine Delivery System (AVDS). Thanks to the invaluable efforts of Pooran and many like him, the dream of complete vaccination is getting closer.
DEADLY NEIGHBOURS

As they say we can choose our friends but not our neighbours! Inadvertently and very often totally innocuously, we end up creating a neighbourhood around us that turns out too deadly not just for our own survival but also to a large number of species that are native to our country. These deadly neighbours are called the Invasive Alien Species (IAS), who cumulatively inflict a damage of around $1.4 trillion every year! They represent a massive threat to bio-diversity and have the potential of totally altering our eco system. Is there anything that we can do to protect ourselves and our environment? What are the precautions that we as a civil society and our Government need to take? Why do some countries take this threat more seriously than others?

Already, a vast land of our country in India is in the grip of these Invasive Alien Species and there is so little that we can do in order to combat or control them. Not just human beings but our cattle and wildlife have also been paying a huge price and go through untold suffering almost on a day to day basis. Kudos to the National Bio-diversity Authority of India and the Ministry of Environment & Forest for bringing together one of the best-known filmmakers in India Mahesh Bhatt and renowned documentary filmmaker Ajay Kanchan for raising awareness on this vital issue of our time!
Filariaisis Free India...
A Hope (ASHA)

Lymphatic filariasis is a communicable disease caused by mosquitoes and is commonly known as elephantiasis. To eliminate the second largest disability causing disease in the world from India, the Government has designed 2 major strategies - Mass Drug Administration and Morbidity management for which ASHA’s play an important role. However, their task is not so simple as they face quite a few problems while administering drugs. The short film quickly answers most questions about the disease and why it needs action as there is no cure for it and prevention is the only alternative.

Since its production, the Hindi version has been shown across the Hindi speaking areas of India for training of ASHA’s. While the English one quickly explains the disease and actions required to counter it, to an international audience. In the words of producers, “the film has been widely used and appreciated by all stakeholders”. Even Asha’s now feel better equipped to deal with questions and inhibitions that come their way during interactions with communities. The film aims to spread awareness about the disease to ensure people are forthcoming in this fight against filariasis.
Animation film the story of transmission of Lymphatic Filariasis is a quick and easy explanation on how the mosquito spreads the disease. The idea was to create an easy to use tool that explains the disease, what causes it, what are the symptoms? And how it can be prevented? The animation along with the film on the disease has been used extensively by field workers involved in drug distribution for the same.

Prevention from Lymphatic filariasis is easy. Every year, Mass Drug Administration is organized by the Government to eliminate Lymphatic Filariasis in all endemic zones. With the help of ASHA workers, free anti filarial drugs are distributed that if timely consumed, communities can easily save themselves from this disease.
FOREIGN FILMS

Non-Competitive Category
9 MINUTES BEFORE SPACE

The viewer gets the opportunity together with the cosmonauts to live the last hours before the launch of the spacecraft, to feel what is happening with the crew at all stages of putting the ship into orbit and to understand how the cosmonauts feel at the very beginning of the journey in near-Earth space. After all, space is really only 9 minutes of flight. And these are the very minutes that change your life...
A Tiny Spark examines the effect of cerebrovascular illness and stroke on people’s lives and specifically looks at research into the blood clots that cause stroke. With a mixture of dramatic first person accounts and beautiful animation sequences highlighting the functions of the various parts of the brain, A Tiny Spark is a film about science’s ability to affect real change for human life.

A Tiny Spark focuses on stroke and cerebrovascular research being led by Neuroscientist, Dr Karen Doyle from CÚRAM and Galway Neuroscience Centre in NUI Galway, which involves analysis of removed blood clots to see what information they may yield. This is the first study of its kind in the world and is an international collaborative study between NUI Galway, hospital partners in Beaumont Hospital and throughout Europe, and the Mayo Clinic in the US. The research is carried out in partnership with Cerenovus.

This documentary highlights the groundbreaking research being carried out by Dr Doyle and her research team at NUI Galway. For the first time ever they are analysing thousands of stroke-causing blood clots collected from patients around the world. These little bundles of cells could carry a wealth of information, which could point to big improvements to people’s lives by improving stroke prevention and treatment. In the film we meet three incredibly brave stroke survivors who show us that it is sometimes the little things that people miss in life after a stroke, or the small victories during recovery that mean so much.
“Atacamex, Exploring the Unknown” is the story of a group of bold and daring scientists, undaunted by tough challenges, who achieve their dream of putting an unmanned vehicle in the deepest site of the Atacama Trench, at 8,081 mt water depth, thus placing Chile among the world’s great explorers of the deep ocean. This exciting knowledge adventure brings a strange and unknown world to the surface, revealing previously undescribed marine species inhabiting breathtaking depths.
ATAPUERCA: THE MYSTERY OF HUMAN EVOLUTION

After years of hard work, tenacity of a team of scientists is starting to unveil the secrets of a very little known period of our history. Due to the scarcity of remains fossils, human evolution during the last million years is still a great mystery. But 300,000 years ago a group of 33 human beings found the death in as yet unknown circumstances and were buried in the deepest cave in the Sierra of Atapuerca, in northern Spain. There, in a place called the Sima of Bones, the highest accumulation of human fossils was found. In addition, the oldest human fossilsof the European continent, with more than 780,000 years old, have been found in Atapuerca.
BEYOND BABY BLUE

A film that was commissioned by the charity Best Beginnings. It is used as part of a training programme, principally aimed at health visitors and is aimed at raising awareness of the different issues faced by mothers suffering from post-natal depression.
BUDAPEST: THE CENTRAL EUROPEAN HUB OF INNOVATION

Insects as food is a hot topic. Particularly over the last few years, since the UN recommended edible insects as a resource to combat world hunger, they have been heralded for their taste by cooks and gastronomes, for their low ecological impact by environmentalists and for their nutritional content by public health scientists. It would seem that insects are the new superfood that will fix our problems of global food security. In the past three years a team from Copenhagen-based Nordic Food Lab made up of chefs and researchers Josh Evans, Ben Reade and Roberto Flore have been travelling the world to hear what some of the two billion people who already eat insects have to say.
The Chau (menstruation) system is spread across mid and western Nepal. Women who are menstruating are forbidden to enter the house and are kept in huts called “Chaupadi.” These huts which are tiny and unhygienic, pose a great health threat for women. They are a target for intruders and poisonous animals. They are also not allowed to consume any milk products during this time.

A woman on average spends 8 to 10 years of her life in these tiny huts. This movie depicts Chau practice prevalent in Dhungachalna Village of Achham District of Far western Nepal. It represents traditions of many villages in Nepal, and the challenges women have been facing for generations. ‘Chaupadi’ won the first award at the Croatian Film Festival and second place at The Moscow International Film Festival few years ago. It has also been selected for screening at Netherlands, Taiwan, Serbia and Estonia.

This is an observational film about the one village of far western Nepal and reflects how bad practices impact the society.
A DISSOCIATIVE DREAM (ADD)

The film explores the celebration of the main female protagonist’s mental health condition: Dissociative Identity Disorder through her Dance. Where her Indian and Chinese dual identity becomes a mysterious trail for Kris and his friends.
EINSTEIN'S QUANTUM RIDDLE

Einstein called it “spooky action at a distance,” but today quantum entanglement is poised to revolutionize technology from computers to cryptography. Physicists have gradually become convinced that the phenomenon—two subatomic particles that mirror changes in each other instantaneously over any distance — is real. But a few doubts remain. NOVA follows a ground-breaking experiment in the Canary Islands to use quasars at opposite ends of the universe to once and for all settle remaining questions.
There are some people whose curiosity and quest for knowledge does not let them linger about idly and becomes the journey of their lives. This is the story of the courage and determination of a handful of scientists who pursued their research for over forty years in the face of widely accepted norms. Their research was led by the Israeli physicist, native of Jerusalem, former Palmachnik and kibbutz founder, Professor Amnon Marinov.

The film tells a story that made waves in the scientific community. In addition, it provides a rare opportunity to reveal a fragment of the conduct of a powerful community that is usually hidden from public sight.
FIRST SATELLITE

On October 4, 1957, the Russian word “Sputnik” burst into the world. In all languages the word “satellite” was added - “Russian miracle.” The documentary tells about the unknown pages in the history of the creation and launch of the first Earth ar satellite. Scientists, designers, and testers, those who created the Soviet satellite, will tell about their once-top-secret work. Who were these people who managed to realize their dreams and open the way to space?
GO GO GIWAS

Go Go Giwas is a series of animations for science learning produced and broadcasted since the year of 2014. Each episode is 11 minutes long, with a total of 13 episodes of HD quality 3D animation films for each season. The storyline presents a dialogue between indigenous knowledge of nature and Western science, and a dialogue between an Atayal girl named Giwas and science in the context of her cultural settings. The story depicts the struggles and experiences of the main character Giwas as she works toward her dream of becoming the leader of the tribe although traditionally no woman is allowed to be leader.

The Core values of the Go Go Giwas series is science learning. Story creates a dialogues between culture and science for the audiences to experience delight of science. Delight evokes interests of science. Then the interest internalizes science and culture to achieve educational aims and cultural inheritance and to foster multicultural literacy and science knowledge from different cultural perspectives.

Go Go Giwas I won the 51st Golden Bell Award for Best Animation in the year 2016. Go Go Giwas also won several relevant awards at home and abroad, including the United States Chicago International Children’s Film Festival demonstration film, nominated in South Korea Bucheon Animation Festival finalists etc.
The film “Georgia Homeland of Wine” is dedicated to the international scientific research that has made historical discovery and scientifically proved, that Georgia is the homeland of wine and first wine production started there 8000 years ago and has continued until modern times. The film also covers the exhibition “Georgia – Cradle of Winemaking” held in 2017 at the Wine Civilization Center “Cité du Vine”.

The film was based on 4-year scientific research of Georgian and foreign scientists. With the initiative of the association “Georgian Wine” and support of the Government of Georgia, this project has been implemented since 2014 by the National Wine Agency. Along with the Georgian scientists, the staff of Pennsylvania, Montpellier, Milan, Copenhagen, Toronto universities, Israel’s Weisman Institute and National Institute of Montpellier Agricultural Research (INRA) were involved in the international multidisciplinary project.

Scientific-documentary film was made with the support of LEPL National Wine Agency of the Ministry of Environment Protection and Agriculture of Georgia and National Intellectual Property Center “Sakpatenti”.

The author of the idea of the 40-minute film and producer of the direction is deputy chairman of the National Wine Agency Davit Tkemaladze, director - Alexander Gabunia, producer - Giorgi Giashvili. Filming took place in Georgia and the United States, as well as in Italy and France.
HOMO GEORGICUS – THE HOMELAND OF THE EARLIEST HOMININS OUTSIDE AFRICA

The short film about the work at the excavation site Dmanisi on the occasion of the exhibition “Skull 5” in the Senckenberg Nature Museum Frankfurt.

In 1991, Georgian scientist David Lordkipanidze found traces of early human occupation in the cave at Dmanisi in Georgia: a hamlet and an archaeological site about 90 kilometres (56 mi) southwest of the country’s capital, Tbilisi. Since then, five early hominin skulls have been discovered at the site. Skull 5, found in 2005, is the most complete specimen of them all. After further analysis, it was coupled with its mandible (D2600) found 5 years earlier. The final analysis of the discovery took many years and was only published in 2013.

The Dmanisi skull, also known as Skull 5 or D4500, one of five Homo erectus skulls discovered in Dmanisi is estimated to be about 1.8 million years old and is the most complete skull of a Pleistocene Homo species, and the first complete adult hominin skull of that degree of antiquity.
IMPORTING GARBAGE FOR ENERGY IS GOOD BUSINESS FOR SWEDEN

Synopsis: Everyone produces waste, and the Swedes are no different. It’s what they do with it that is unusual. Sweden recycles and sorts its waste so efficiently that less than 1 percent ends up in landfills. But perhaps even more interesting, and somewhat controversial, is that Sweden burns about as much household waste as it recycles, over 2 million tons, and converts this to energy.

But even with this amount of domestic waste, the country’s 32 waste-to energy (WTE) incineration plants can handle even more. And when Sweden runs out of its own garbage, it offers a service to the rest of garbage-bloated Europe: importing excess waste from other countries.
INSIDE EINSTEIN’S MIND

On November 25th, 1915, Einstein published his greatest work: general relativity. The theory transformed our understanding of nature’s laws and the entire history of the cosmos, reaching back to the origin of time itself. NOVA tells the inside story of Einstein’s masterpiece. The story begins with the intuitive thought experiments that set Einstein off on his quest and traces the revolution in cosmology that is still playing out in today’s labs and observatories.

Discover the simple but powerful ideas at the heart of relativity, illuminating the theory—and Einstein’s brilliance—as never before. From the first spark of an idea to the discovery of the expanding universe, the Big Bang, black holes, and dark energy, NOVA uncovers the inspired insights and brilliant breakthroughs of “the perfect theory.”
Niède is a feature-length documentary about the journey of the Brazilian archaeologist Niède Guidon, who revealed to the world the rock paintings of southern Piauí and determined fundamental changes in the history of man’s arrival in the American continent. Niède rewrote prehistory and a new history for the region.

With more than 40 years of her life dedicated to research and local preservation, the power of Niède mingles with the strength of men and women who have grown up with a dazzling nature. Stones, burrows, caatinga, animals, sun, rain, sky, stars. Everything is strong and everything has in it our ancestral memory.
India is facing the biggest migration wave in world history. With urban planning lagging behind the demand for housing, past solutions have to be reconsidered. In this episode we learn about the Indian housing and water crises and the people who are finding sustainable solutions for these problems.

Featuring in the video are Siddhartha Benninger (Urban Planner), Christopher Benninger (Architect), Hussain Indorewala (Urban Researcher & Activist), Amitabh Kant (CEO NITI-Aayog), Dr. Shaikh Ahammad (IITD), Kalyan Akkipeddi (Founder Proto-Village) and Aneeta Gokhale (Urban Planner).
PLOGGING – HOW FITNESS CAN SAVE THE CLIMATE

Plogging is exercise and caring for the environment all in one. Combining jogging with picking up litter is an activity that’s been picking up pace in Sweden.
Many the population suffer from diabetes and only 8% of people suffering with diabetes achieve average blood glucose results, keeping them from complications or an early death. A large challenge they face is the number of decisions having to be made at each given moment.

One major decision is the amount of insulin they need to take and how to adjust it according to what they want to eat. This doesn’t always adapt well to one’s daily life and can be a struggle to incorporate into normal working habits.

Quin have created a mobile app to help people manage their diabetes, as well as provide feedback which can add further clarity to the algorithm, helping it to improve. The app identifies the best option available to the user. The ISCF can help accelerate the project to a point where the machine learnings and algorithm are accurate enough.
RENOVAGEN – INSTANTLY DEPLOY SOLAR POWER ANYWHERE

Based in Milton-Keynes in the UK, Renovagen has developed a small, light, solar-powered system that can be easily deployed to bring power to disconnected communities. Backpacking to remote regions gave John Hingley the idea for his rollout solar panels, which can be set up to power relief operations and field hospitals by anyone in just a few minutes. It’s the sort of technology that will help achieve the aims of the Clean Growth Grand Challenge, as part of the Industrial Strategy Challenge Fund.

John had the idea to investigate scaling up the solar technology while retaining the lightweight, flexible and easy-to-use design. “I’m passionate about clean energy because I want to help address climate change and bring sustainable energy to locations where people currently don’t have access to electricity at all. People need this sort of power for potentially life-saving applications.”
SKIPPING ROCKS LAB: EDIBLE, BIODEGRADABLE FOOD PACKAGING

A London-based start-up is creating waste-free alternatives to plastic bottles and pioneering the idea of food packaging that only lasts as long as it needs to. A bottle of water is a short-life product that is quickly consumed yet sold in plastic packaging designed to last almost indefinitely.

Approximately 13 billion plastic bottles are used each year in the UK but only 7.5 billion are recycled.

Skipping Rocks Lab is developing compostable and, in some cases, edible packaging that’s appropriate to its use, which lasts days or weeks rather than hundreds of years.
SMART CITIES – FOR A SUSTAINABLE FUTURE

We live in a world of rapid change and endless possibilities. For the first time, more than half of humanity lives in cities, and the urban population continues to grow. This rapid urbanisation is exerting pressure on fresh water supplies, sewage, the living environment, and public health. The world’s cities occupy just 3 per cent of the Earth’s land, but account for 75 per cent of carbon emissions and 60–80 per cent of all energy consumption.

Clearly, solutions are needed for a smarter and more sustainable urban living. Agenda 2030 calls for bold action. Sweden’s environmental journey started in the 1960s. We have come far, but still has a long way to go. Today we are working on smart solutions in areas for a circular society, optimal energy use and much more. We want to share our story and hope you will share yours as well. Collaboration is a way to fast-track the journey towards a sustainable future.
SWEDEN, LEADING THE WORLD IN INNOVATION

Synopsis: Sweden, Leading the World in Innovation presents Swedish cutting-edge research. This short and informative film is perfect for use as an introduction or backdrop in conjunction with a seminar, a fair or some other event. They can also be embedded into websites or social media pages when promoting innovative Sweden.
After a 2011 hunting accident, a 65-year-old Quebec man named Maurice Desjardins thought he’d live forever with half a face. Then a confident young surgeon made an extraordinary offer: a facial transplant operation. But their odds were less than ideal. There was a 50 per cent chance the subject could die on the operating table. That didn’t bother the prospective patient, who desperately needed a facial transplant operation. Desjardins understood that the procedure would be long and incredibly risky.
In January 2014, the French filmmaker Pierre-Olivier François, came across an intriguing article in a trade magazine. The thriller story was about the almost perfect forgery of Galileo Galilei’s “Sidereus Nuncius”. It unraveled into one of the greatest forgery scandals in history. The book, translated as “The Starry Messenger”, was published in Venice in 1610. In 2005, it was celebrated worldwide as a scientific and art-historical discovery. Yet, in 2012 it was meticulously examined and uncovered by a young Oxford art scientist as the “best book forgery of all times”.

Pierre-Olivier François was astonished to find out that he personally knows two of the most important protagonists of the case: Horst Bredekamp, the great art historian who was deceived by the brilliant forger and Nick Wilding, a British researcher living in the United States who uncovered the forgery. These leads incited the idea for his film: “The Fake Galileo Moon” (WT). This crime thriller deals with science and scientists of yesterday and today, and ultimately the power of fascination.
THE FLY ROOM

During her first visit to an insect lab where her father is deciphering the fundamental laws of genetics, 10-year-old Betsey is initially reluctant to enter this fly world but eventually steps in deeply, receiving an unorthodox education. She is both perplexed and fascinated by how her father applies his genetic research to his games of seduction.

In the heat of his excitement, Calvin crosses the line leaving young Betsey traumatized by the time spent with him. Glimpses of Betsey at 21, mourning her father’s death, and in old age reveal how this complex relationship, both nourishing and damaging, informs her transition to adult life.
TIMBER TOWERS

Timber Towers investigates the cutting-edge techniques being employed to turn wood into a viable material for building skyscrapers. We hear first-hand the problems caused by traditional materials like concrete and steel and the opportunities provided by building with wood to reduce our carbon emissions.

Introduced by Professor Brian Cox, the film speaks to key players involved in developing the technology – from architects and engineers to materials scientists.
VOICES FOR HEALTH:
OUR ENVIRONMENT, OUR HEALTH

The Project film documentation explores the intervention of a traditional Indian artform, Patua Art and Women Puppeteering for raising awareness on environment health issues across 15 schools which was evaluated to have engaged directly with around 2800 school children in New Delhi.
WATER WOES

Water Woes is a story of one small village of one remote village of far western Nepal. Baghvidi-A small village in far western Nepal is reeling under severe drinking water crisis. They are using Budhi Ganga river that flows through the base of village. The inhabitants of this small village have been using river water for drinking purpose for years. Sarita Kunbar and Hansi Devi Auji is this video represent troubles facing all villagers due to water crisis.
WHEN YOU LOOK AWAY

The documentary examines the subject of consciousness in terms of quantum physics in close collaboration with scientists at the Niels Bohr Institute. The film’s narrative form gives the audience the opportunity to follow a process where the results are not presented beforehand, and it raises a series of basic scientific questions such as: What if basic causal relationships in the world do not work like we think they do?

Should we understand the relationship between our consciousness and the physical world in a whole new way? What is happening at the science frontier, where accepted truths and wild theories collide? Could a new way of understanding our human consciousness come from an entirely unexpected place?
COMPETITIVE CATEGORY A
Films Made by Independent Filmmakers
Carbon monoxide also known as silent killer, it is one of the deadliest combinations of gases that can kill people within minutes without even showing any physical symptoms. As per the data from various sources, most of the deaths happen when household fumes are generated either while cooking or in an attempt to warm houses in winters.

This film “9 + 1 = ” is story of a master who keeps nine paying guest in his house as his extra source of income. One day, he left for outstation with his preacher ‘GURU’ for some work. When he comes back he witnessed that all the paying guests were dead by inhaling poisonous carbon monoxide gas. The gas was formed of a makeshift coal tandoor they improvised to party in their master’s absence without even thinking of the repercussions they could face.
A RATIONAL DESIGN OF PROTEIN ASSEMBLY

Proteins are one of the main building blocks of our body. Understanding their diverse chemical properties may give some really important insights to human body. The upcoming field of protein engineering aims to use our knowledge of protein chemistry to construct protein structures that have functions. It has shown great potential in medicine and industry so far. Dr Britto Sandanaraj is one of the few researchers in India working in this field.

Recently, his group came up with a novel method to form protein superstructures which could have wide biomedical applications. They did this by taking advantage of a special chemical property called amphiphilicity. For this they had to form amphiphiles. They also showed how such structures can have applications in areas like vaccine development by replacing the virus content in traditional vaccines. Additionally, they have shown how the assembly and disassembly of the protein can be controlled within the body such that they can be used for drug delivery to cure diseases including cancer.
AFFORDABLE AND POINT-OF-NEED TESTING DIAGNOSTIC SYSTEMS FOR HEALTHCARE

The life-style related diseases burden of our country is increasing day by day. It is seven times more expensive to diagnose, treat or monitor a life-style related disease as compared to an infectious disease. In this manner it becomes more imperative to find affordable solutions to such diseases. In an emerging economy like India, disruptive and incremental innovations that are capable of lowering the cost of product/delivery are the need of the hour. Indigenously developed diagnostic systems are yet a small proportion in comparison to the majority of devices and kits used in the various labs across the country.

Our twenty five minute documentary “Affordable and point-of-need testing diagnostic systems for healthcare” explores and showcases the various innovations and research being done in healthcare, diagnostics and out of the box delivery systems in India. This documentary film showcases the best India has to offer in the field of affordable diagnostics and healthcare. The film also provides a comprehensive understanding of healthcare in urban as well as rural parts of the country.
AN INSTANT DETECTION OF PESTICIDES IN FRUITS AND VEGETABLES

The conventional methods of extraction and analysis (GC-MS) of pesticide require a time frame of one week, hence cannot be implemented for perishable items like fruits and vegetables. This film is about a device that provides instant detection of pesticides in fruits and vegetables. Scientists at Indian Institutes of Science Education and Research (IISER) Thiruvananthapuram have optimized a quick, inexpensive and efficient method (30 min) for the extraction of pesticides/insecticides residues from fruits and vegetable and its rapid analysis by Surface Enhancement Raman spectroscopic (SERS) device.

The high sensitivity of the 3D and sandwich plasmonic platforms in detection of pesticides present in green leafy vegetables (at ppm level) has also been demonstrated. The in-house data processing software is being developed using a combination of match-filtering techniques, maximum likelihood methods and wavelet analysis. This will aid in systematic identification of individual pesticides from mixtures and in the presence of matrix interferences. Our fast extraction procedures and SERS platform will drastically reduce the time for pesticide identification to just three hours.
“Bancha-The Rising Village” is a documentary about a small scheduled tribe village of Betul district of Madhya Pradesh “Bancha”. This small model village is now known for its big innovations. From the year 2016-17, Bancha started taking a turn for change when Indian Institute of Technology Mumbai (IIT-Mumbai) student’s innovation “Electric solar induction” were installed in the village with the help of Oil and Natural Gas Corporation (ONGC) and Bharatiya Shikshan Sansthan. Along with this they have adequate water management with the help of traditional village science called “Boribandhan”.

The film’s narrative unfolds the story through the inspiration of social worker Mohan Nagar. He explained to the villagers how rain water can be collected with the help of traditional methods. For this, the water coming from the hill or slope was collected by making a wall of sand sacks; the water was used for various purposes. The villagers gave the name to this experiment - BoriBandhan. Next step was installation of “Electric solar induction” in the village with the help of IIT Mumbai students and ONGC officials. The dedication and scientific understanding of the villagers have added colour to the picture of the village.
Bat Woman (The Night Warriors II)

Bats are different from other mammals! Because they are hand winged, hang upside down, see through their ears. Their activities are essentially restricted to be nocturnal. Bats are mammals instantly recognized yet poorly known. Yet they remain creatures of mystery and subjects of more prejudice with lots of misinformation than any other group of animals. Their incredible diversity and their ecosystem make bats an important component of vertebrate communities they also play key role in forest dynamics and regeneration.

In India bat conservationist is very less at the same time women in bat conservation is very rare, this film tells about the research work of Dr. Juliet Vanitharani who is working on bat conservation and researches, habitats of endanger forest bats and their roosting studies which found only in Kalakad Mundanthurai Tiger Reserve forest located in the South Western Ghats. This film also focuses on the techniques involved in bat capturing, use of bat detector, software to analysis the species information etc, which is useful for the young bat researcher. It also gives unique information about the endemic, endangered bat species of southern Western Ghats Latidens Salimalii which is a rare mega bat species.
CELLULAR INSIGHTS – A RELENTLESS QUEST

CELLULAR INSIGHTS – A Relentless Quest has been visualized through the eyes of the historic ‘Cork cell’, first observed by Robert Hooke through a microscope in 1665. Our animated ‘Presenter’ highlights the three decade long quest of the National Centre for Cell Science (NCCS) at Pune in unraveling the mysteries of the microscopic cellular world.

The narrative revolves around a young Ph.D. student exploring various NCCS research groups like Neuroscience; Biology of Cancer and Chronic Diseases; Macromolecular Structure and Cell Function; Microbial Ecology; Pathogenesis and Cellular Response; Stem Cells and Regeneration; Regulatory RNAs and Gene Expression; Genome Architecture and Regulation and such other before deciding on her niche area of investigation. This 30 minutes documentary puts into perspective the emergence of biotechnological developments in India, and NCCS’s pioneering research and innovations in the very many leading edge areas of molecular biology.
Diabetic foot is one of the most significant and devastating complications of diabetes, and is defined as a foot affected by ulceration that is associated with neuropathy and/or peripheral arterial disease of the lower limb in a patient with diabetes. The film narrates how one should focus on the management of health issue.

It can be done by increasing physicians' awareness and hence their ability to identify the “foot at risk,” along with proper foot care. And with the help of new technology the numbness of foot and circulation of blood can also be assessed and patient could be alert or suggested for the proper foot care. This might reduce diabetic foot ulceration and risk of amputation could be prevented.

The bones become weak in diabetes and may lead to Charcot foot. The bones are weakened enough to fracture, and with continued walking, the foot shape changes eventually. X-rays, MRI, PET scan aid in deciding the treatment immediately and give correct diagnosis, unless it is hard for infections to heal.
DIVYANAYAN

One of the latest developments in the field of science and technology is the development of a device by which visually impaired people will be able to read. Keeping this in mind there is one device developed by Central Scientific Instruments Organization (CSIO), Chandigarh it works like 'speaking eyes' and promises to unlock barricades that the visually impaired and blind are faced with.

The device with an associated step-scanning technique is language independent and applies to all scripts/languages written horizontally, including Arabic. The basic principle of the functioning is using multiple image-snaps with some overlap. The step-scanning technique achieves continuity by detecting and removing the overlap. It is a personal reading machine for visually impaired where any printed and digital document can be accessed in the form of speech output.

The device is handheld, standalone, portable and completely wireless. It is currently available in Hindi and English but is further compatible for other Indian and foreign languages. It is equipped with 32 GB internal storage, wireless communication feature.
Everyone realizes the role of fuels in powering production and economy. The surge in the global benchmark crude oil rates has pushed India’s crude oil import bill higher by a whopping 42 percent to 125 billion dollars (881,282 crore rupees) during 2018-2019. Everyone is thinking to switch to some alternative fuel, it could be ethanol. But do we have enough desired ethanol?

The documentary Ethanol: The Alternative Fuel introduces ethanol or ethyl alcohol as being molecules made of carbon, hydrogen and oxygen. The documentary highlights advantages of compactness, low capital investment and shows the processes in laboratories/plant explaining continuous processing from size reduction to fermentation; recycle/reuse of chemicals, enzymes and water. There is high recovery of sugars but little toxic formation leading to effective production of sugars useful for other products.

The plant was set up in 2012, and officially inaugurated in 2016 by Dr. Harsh Vardhan, Cabinet Minister, Science and Technology, Earth Sciences and Biotechnology. The plant, designed to operate with any feedstock from soft grasses to hard woods, can produce alcohol from any biomass with a capacity of producing 10 tons/day.
This short film reveals the importance of cow and cow dung in soil fertility and in surrounding environment. In this film we want to draw attention of the people towards organic practices by differentiating manure application and chemical fertilizer application in soil.

Eventually cow dung is high in organic material and rich in nutrients which contain nitrogen, phosphorous and potassium. The manure is basically made up of digested grass and grains and the process of decomposition of dung in the presence of earth worms is called vermi-compost.

Cow dung is being used as a rich fertilizer, insect repellent, increases porosity and retaining moisture in soil. Chemical fertilizer having hazards leads to damage plants and soil. The purpose behind the film is to make people aware about chemical free and good quality products which are also environmental friendly.
HOPE, TO KILL THE KILLER

Could Cancer, born inside the body, be killed inside of it?

Could our own Immune System be taught to identify and kill the Cancer Cells?

Could the treatment of Cancer be made more dynamic?

Cancer kills nearly 7,50,000 Indians each year. Its burden is rising in a frightening and disturbing way. Cervical Cancer alone kills one lakh Indian women each year.

Hope, to kill the killer is a documentary on path-breaking research that has led to a clinical trial for a novel approach in Cancer Treatment. At the helm of this research is the National Institute of Immunology (NII). This research born out of the desire to tackle Cancers that afflict Indians, led to the discovery of a unique Cancer Protein that could be the corner stone in Immunotherapy in coming years. The research at NII and the trial at Adyar Cancer Institute, both funded by the Department of Biotechnology, Government of India is a fascinating account of what goes inside scientific laboratories. How scientists, medical professionals and the patients themselves work in synergy to bring about a new treatment methodology. This is a story of Science that will impact each of us because it spells hope against Cancer.
India has a rich heritage spanning thousands of years. We have all heard or read of the opulent lifestyles of sultans, vicious battles, awe-inspiring architecture of castles, forts, temples and stupas, and the unparalleled beauty of the arts, crafts and legends of those ancient eras.

However, time and nature take their toll on these artifacts. If we don’t find a new way to preserve them, they may soon be gone forever. It’s not just the buildings we are talking about. It’s also paintings, murals, poetry, music and folklore that are at stake here. Fortunately, there are teams from across disciplines that are coming together to use the latest modern technology to preserve our most ancient artifacts. The Department of Information and Technology, and as a part of the Digital India initiative by the Indian government, started the Indian Heritage in Digital Space project.

Archeologists, scholars, historians, software developers and engineers are collaborating to recreate and restore the art and architecture from some of India’s most precious heritage sites using state-of-the-art technology. This short film gives you an insight into this incredible initiative as it attempts to transport the revered Hampi heritage site, near Bengaluru, into the digital world.
This film “Kal Se Sikho” is based on ancient water harvesting system. We know about 75 percent of the Earth’s surface is filled with water, but when it comes to drinking water, it is quite less than one percent. There is very less quantity of drinking water left on our earth and the remaining one is becoming polluted day by day. Today due to excessive exploitation of water by humans the water table is slipping down and we are set to face severe water crisis in future.

Many evidences of water management have been found during the excavation in the Indus Valley. Excavations and surveys conducted in this area have revealed that there was a well in every third house there. Excellent examples of water conservation are also found in the Mughal Sultanate in India. Ponds, lakes, wells etc. were ancient sources of water conservation. The rain water collected in it was not only sufficient for the year but the ground water level was also maintained. The available historical and archaeological evidence suggests that for centuries, small communities in many areas of the country had been making effective arrangements for water harvesting and its distribution.
According to a report of Indian Council of Medical Research, the scenario regarding cancer is indeed worrying. With the advancement of medical science the treatment of cancer has got the momentum. But there is no denial to the fact that cancer is a menace for the human civilization. The documentary 'LEAD, KINDLY LIGHT' deals with the problem of cancer in India. The film addresses the common belief and misconceptions regarding cancer, tells the historical aspect of cancer, key areas of cancer in India, causes of different cancers, different modes of cancer treatments, ways to prevent different types of cancer and so on. The film talks with the experts as well as the cancer survivors.

The film tells the story of Rahima Naskar, a housewife of a remote village of South 24 Parganas district, miles away from the metropolitan city of Kolkata, who diagnoses her own disease by listening to a radio talk, which ultimately establishes the importance of cancer awareness. The film also portrays the role of some non-governmental organizations (NGOs) in effectively tackling the problem of cancer. This is an effort to develop mass participation to fight the battle against cancer.
The quest to understand the Universe has often pushed scientists beyond their limits to decode particle phenomena. It requires a team of dedicated researchers and collating of millions of data through probability and paraphysical associations. It transcends all physical boundaries and brings together brains that work with one universal goal and to unravel the mysteries that define life.

Experiments at large scales helping to fuel the insatiable curiosity of mankind are defined as Mega Science Projects. As the projects are handled cross borders, it is important for India to highlight its role and showcase its achievements. The film does exactly that. Keeping in mind the Indian contribution in the projects we highlight the key points that define them.

The film encapsulates projects including CERN, TMT and the millennial discovery of Gravitational Waves and brings forth India’s role in making these projects a success.

All these Mega Science Projects are in fact boosting the Indian economy by bringing in the foreign investments and at the same time stimulating intellectual growth in our scientists. Working in tandem with the international scientists, we are opening windows to greater possibilities and doors to newer opportunities.
Naa Kaahu Se Dosti, Naa Kaahu Se Bair, is a fascinating account of the work being done in the laboratories of two Indian Scientists who are looking at alternatives to toxic chemical farming. While one is researching and developing a Vaccine for Plants to boost their health and Immunity, the other is using the bacteria and insects for biological control. What is common between the two scientists and their research is that it is being supported by the Department of Biotechnology in its endeavor to develop farmer-friendly technologies for agriculture.

This is a documentary for every Indian concerned about the increasing toxins in our food and food chain. It delves into the issue of Chemical Farming and its impact on farmers, soil and the very web of life. It presents the philosophy of the innate wisdom of nature being explored in modern state of the art laboratories.

The importance of farm-to-lab and lab-to-farm is presented here.
NAI SUBAH

‘Nai Subah’ is about Dimagi Bukhar or Acute Encephalitis Syndrome (AES) or Japanese encephalitis (JE) – an illness endemic in eastern Uttar Pradesh. The infection affects mainly poor rural children in annual epidemics/outbreaks in the monsoon season.

We present a short docu-dramathat aims to educate the public and village folk in a tell-tale gripping story line that conveys the message about the nature and cause of AES & JE, the symptoms, how it spreads? How it can be prevented? What the family should do if a child develops symptoms? It also tells steps being taken by state government for prevention, control and treatment. The film features stalwarts of AES/JE research - Dr Rashmi Kumar, Chandrakanta and Mahima Mittal, Professors of Pediatrics at Lucknow and Gorakhpur who themselves volunteered and deliberated in the film.

To this end, this film starts with farmers planting rice in rainy season when news of a child – Munna who has suddenly taken ill, reaches them. The child is rushed to hospital where he is admitted and later recovers. This sequence is followed by village folk posing questions to the physicians and their answers. Finally, it goes on to the government ‘Dastak’ program for prevention and control of AES / JE.
NANHI JAAN...

Every single plant is precious for us and saving them will secure our future too on this planet. We must teach our children about saving plants as we are existing and surviving because we have plants on earth. In absence of plants and trees there will be no oxygen and without oxygen life is impossible here.

So, we all have to save plants to save our life and to secure future of our upcoming generations. We should also think ways that how we can reuse and recycle plastic. We all know the hazards caused by plastic waste and we should curb this wastage. Waste management is a big challenge for all of us. As we have identified the problems so we must act accordingly to save our planet.
Biopharmaceuticals – a field that is gaining momentum worldwide. So what is it and how is it different from pharmaceutical? Biopharmaceuticals are medical drugs produced using biotechnology. In contrast, the drugs made by the pharmaceutical industry are made using synthetic chemicals. Coming into existence in the year 1976 with the development of the human insulin, the biopharmaceutical industry is relatively new. The biopharmaceutical industry in India is at an exciting cusp of greatness. It has already made its mark by developing low-cost life-saving drugs such as heart valve prosthesis, affordable insulin, rotavirus vaccine etc. However, though much has been done, much remains. It is in this scenario that the government of India launched the National Biopharma Mission Innovate in India. It is the first of its kind of initiative that fosters Industry-Academia collaboration to accelerate biopharmaceutical development.

Dengue has reached almost epidemic proportions in the country. The National Biopharma Mission is supporting the development of Dengue vaccine by Indian Immunologicals Limited. Another killer disease in India is breast cancer. According to studies, it is one of the leading forms of cancer among women in India. Serum Institute in Pune is developing a biosimilar of Herceptin to treat breast cancer. It is being supported by the National Biopharma Mission in this endeavor. The National Biopharma Mission is ready to transform the Indian health sector by making healthcare more accessible and affordable.
“Searching… the Next Road” is a film based on the future of navigation system and location intelligence. This film depicts the futuristic reality of navigation system. The story is revolving around Dr. Nishant Sinha who is a well-known face of location intelligence area. Dr. Sinha is a Ph.D. holder in Geo-coding and he also holds a B2 category patent in the field of location intelligence. After five years of hard work he and his team succeeded to register this patent.

This film tries to investigate his research journey and story behind his patent. It also touches the issues of location data analytics and current situation of location services. This film includes the problems and perception of people regarding navigation. The story falls under the category of innovation and the inventor. The treatment of the film is bit dramatic which brings entertainment and knowledge together. Moreover, it also tells a story of navigation and how we can extract most out of this invention.
STARTUP – FOSTERING INNOVATION, STARTUP AND ENTREPRENEURSHIP ECOSYSTEM

India Making Dreams Happen.

Young minds are always bursting with ideas. Today, those ideas have every chance to take wings, and became reality. All thanks to a new initiative by the Government of India called – Startup India.

Explained in simple words – if you have a brilliant idea, you will get all the support from creating a prototype to incubating it, and taking it all the way to a commercial realization. So next time you have brilliant idea work on how to make the product world class and as innovative as you can because how to make it a reality should be least of our concerns. Start up India will take care of that.
SUPER FOOD MORINGA

Mother Nature has blessed human beings with many wonderful plants. Unique among them is Moringa or Moringa oleifera. Moringa leaf is a treasure trove of many nutrients and nutrition value is many fold compared to the food items we consume. Many proven medicinal qualities are also there for this wonderful plant.

Moringa as a super food has high potential to be incorporated in such malnutrition eradication programs. The film explores the qualities of Moringa as a functional food, products made from Moringa like leaf powder, seed oil etc. Two case studies are also presented in the film; Moringa farming as a source of income for tsunami affected coastal communities of Tamil Nadu and Moringa becoming a highly lucrative crop with export potential. Nutritional and medicinal properties of this tree was recognized by Indians thousands of years ago is accepted by the world now.
SWACHCHATA KA AAWISHKAR
THE INVENTION OF CLEANLINESS

This is a film about youth, determination, passion, innovation and science. It is a story about a young 17 year innovator Mitesh, from a small village name Alindra near Nadiad in Gujarat. Adding to the dream of Swachh Bharat, this young scientist, with his skills and scientific knowhow has made a low cost sensor which will keep public toilets clean.

Generally in public toilets water is wasted during flushing. There is very less automated way to control the flow of water. The specialty of this sensor is it reduces the use of water in public toilets and it releases water in the proportion of the time a person is using it. Mitesh took six months to make this sensor. From the young age of 13, Mitesh’s innovative mind has been working on different scientific projects. Such army of young scientists, with their talent and skill are able to give a low cost solution to many of the existing problems of India. This story aims to inspire many young innovators from different corners to India to give their best potential and serve the Nation.
THE CLIMATE CHALLENGE

We are on the brink of Climate Crisis. There are empirical evidences of changing climate across the planet. The worst affected regions that are facing the brunt of climate change are the Cryospheric regions of the world (Arctic, Antarctic and the Himalayas) and also the Oceans. The Arctic Sea ice cover has declined over 30 percent in the recent years and the region is also noticing rapid thawing of permafrosts, while a report suggests that at least a third of the Himalayan glaciers are expected to melt by the end of this century. Our oceans are becoming warmer and also acidic. These changes are not region specific, it is now known that there is a tele-connection between the Arctic and Indian monsoon.

Scientists today are using the latest technology and braving some of the harshest conditions on this planet only to investigate these effects of changing climate. Conducting any scientific research activities in some of these regions are extremely difficult due to its harsh climatic conditions, undulating and inaccessible terrain, and the remoteness of field sites. The film takes you on a journey documenting these scientists conducting research in the Arctic, Himalayas and the Southern Ocean and then experiencing some life threatening situations, in order to get the scientific data.
THE DEAD DON’T TALK

Snakebite kills more than 50000 Indians each year. India is known to be the death by Snakebite capital of the world. Despite the alarming mortality and morbidity, India as a nation has remained largely indifferent to this issue.

The documentary goes on the trail of death and morbidity due to snakebite. The film makers visit families of snakebite victims, hospitals and doctors, villages and towns across four states to present the human face of the Snakebite burden.

Snakebite is both, preventable and treatable. But it’s a complex issue riddled with superstition, lack of awareness, infrastructure and medical support.

The documentary is for the purpose of advocacy. It presents the possible way out. It is meant to create a noise around the rural and much-neglected burden of Snakebite. It drives home the point that it is possible to live with snakes in a harmonious manner.

Comment from Julien Potet, Neglected Tropical Disease Advisor, MSF (Doctors Without Borders): “The Dead Don’t Talk”, documentary film on snakebites in India, is an excellent awareness and advocacy tool. It contains many testimonies by snakebite victims, caregivers and treatment providers. The film is a must-watch for all those who want to reduce the high burden of snakebite envenomings!”
The Siddhantic astronomers were the eyes of the world when there was no telescope. Aryabhata and Barahamihirawere the pioneer of Siddhantic tradition. Samanta Chandrasekhar, born in 1834 CE in a remote village of Odisha, Khandapada in Nayagada district, was engaged in his research on astronomy and mathematics in that tradition. His great innovation was Manayantra– an instrument to measure height and distance of any immovable body. In the row of such astronomers, he was the last naked-eye astronomer.
THE PROMISE OF POLYDIMETHYLSILOXANE (PDMS): A FILM ON POLYMER

This short film is on a graphene based composite material which is Polydimethylsiloxane (PDMS). Polydimethylsiloxane (PDMS) is a kind of polymer which has a host of excellent properties like flexibility, thermal stability, bio-compatibility, optical transparency, low cost and high dielectric constant.

Researchers have developed this transparent flexible composite material by embedding a reduced graphene oxide (RGO) into PDMS (Silicon based organic polymer), chemically known as Polydimethylsiloxane (PDMS) which can be use in many different electronic and bio medical devices and its non breakable.

This research is done a team of Hyderabad Central University under the guidance of by Dr. Raj Kishora Dash who is the Assistant professor at the University's School of Engineering Sciences and Technology.

This is a major breakthrough in the field of graphene based polymer composites. There are contemporary research works on various other polymer composites, but the achievement of PDMS-Composite has a different edge.
Valley of the Goats

Goats are truly poor man’s cows. At Attapady area in Kerala South India, goat rearing is the sole income for Irula tribes. Two breeds goats are reared here, the Attappadi Black goat and Malabari goat. Attapadi Black goat is a breed developed by the tribes. The breed is known for its sturdy nature and ability to withstand high temperature prevailing in Attapadi. These medium sized goats are black in color with adult body weight of 30 to 35 kg in buck and 28 to 30 kg in female. Attapadi Black goats are poor milk producers and hence these animals are reared only for meat purpose.

Both breeds are known for their sturdy nature and ability to withstand high temperature prevailing in Attapadi. Both are facing threat due to cross breeding. Young and old alike, all in the Irula hamlets are involved in goat rearing in one way or other. Goats are integral part of their customs and traditional medicinal practices. Alleviating the poverty of tribes of Attapadi, goats are really man’s guardian angels here. The documentary explores the goat rearing tradition of Attapady and status of two indigenous goat breeds.
**WANTED BRIDE**

The ‘Wanted Bride’ is a story weaven in two beautiful characters “Chotu” and ‘Moti’, respectively the male and female flower crab spider. It is a documentary about a neglected group of flower crab spider understanding whose behavior can tell us many mesmerizing scientific stories. Female spiders are larger in size and can be seen in our gardens on the flowers, waiting to grab and devour the pollinators prey. The males on the other hand are very small and short lived.

After the birth, the male and female baby spiderlings disperse through ballooning. For continuation of a species mating of opposite sex is essential in all life forms including human. How a male finds a female crab spider is very intriguing and interesting. As a matter of fact the male crab spider is deaf, dumb & shortsighted. It cannot find female easily. The only way to find a female is finding her drag line silk which contains the pheromones. The male discover the drag line silk to chase his mate. It is surprising to know that the insects and spiders appeared on the earth before flowering plants.
WAVE OF TRANSFORMATION

The film presents success story of science and technology interventions in north-east India for improving indigenous and traditional water mills called GHARAT and BEEKEEPING. To witness the transformation, a team undertook the journey in tribal village and documented the saga with human touch.

India is a land of astounding natural beauty. But, its charming north-east region is icing on the cake. North-East is known for its unique traditions and cultures as well. Tribal communities living here for centuries developed many technologies primarily to make their life comfortable and resourceful. Based on their real-life experiences and wisdom, some of these technologies are still in vogue.

Recently, some technologies have been refined by science and technology interventions for better and enhanced performance. This is an outstanding example of success of scientific interventions for people’s welfare at the same time conserving their traditions and culture.
WE NEED YOU HERE!

We need you here! is the journey of Kurien and Amul that led to the world’s first sprayer-dryer designed specifically for buffalo milk. It was an effort to make them stand together with grit and determination when India was just born. The innovation has ensured the availability of milk so that more people, especially children, have access to their daily nutrition in India.

The film focuses on historical research rather than on content creation. For the first time in one of our projects, we used Speech Synthesis Markup Language to produce voice over.
COMPETITIVE CATEGORY B

Film Made by College & School Students
A WALK WITH FUTURE

This is a story about two children one is knowledgeable and wise, he belongs to the 22nd century and another is an open minded and curious rag picker boy from present time. They met by chance and this leads to a conversation between them about the happenings in future as well as taking a thought of the present. Story begins in a dense forest where the Cleaner Boy (CB) cleaning while walking, he is dumping garbage in his black plastic bag. On his way, CB notices a boy in complete black attire with a bandana and a sunglass lying under a tree, he rushes towards him for help.

The Future Boy (FB) wakes up and takes a stroll into the forest to reach a nearby lakeside. Upon their walk, FB is filling CB’s soul with magical but realistic scientific fantasies in future; CB’s becomes more curious and listens to him with keen interest. This conversation finally leads to a valuable message where both the boys said they should take care of our present to have a better future. CB gets motivated and decides to become a professor and spread the message of cleanliness and make people aware about pollution and its ill effects.
A hundred years from now, human species has become incompetent to raise their offspring. An experimental program, AAI (Affectionate Artificial Intelligence- aai means mother in Marathi) has taken over the role of parenting. Using new technologies, extensive research about cultures, social dynamics, human psychology and utilizing every sensory feedback that can be obtained, a little girl is raised by her special mother- AAI.

Unlike other mothers, AAI takes care of her and gives her complete attention. AAI is sensible, understanding and a perfect mother. But is that good enough for the little girl? What does she expect from her mother and can Affectionate Artificial Intelligence (AAI) really substitute the role of a mother? The girl has some answers to these questions.
AN INITIATIVE

This short film is based on water conservation, which is one of the important things in our daily routine. In this film there is a student who is ready to go to school and then he fills water in his bottle till it flows like a fountain. He mummers that he’ll throw the hot water in the recess and will take chilled water from the water cooler.

When he realizes the amount of water he wasted he calculates the total amount of water wasted in a single day in every school of the country. This calculation comes out huge in terms of quantity. Lastly, he tells the way by which we can save water in simple ways.
AN INNOVATIVE DRAWER

This film is based on the topic ‘UV Sterilizer drawer’ which falls under the theme of innovation and science empowering nation. As we know, that currency notes and coins remain laden with various micro-organisms. Money is the biggest network of transferring diseases among people. An individual living in unhygienic conditions having unhygienic habits will contaminate the currency notes with bacteria and these notes will act as a vehicle delivering bacteria to contaminate the hands of the next user. Improper hand washing after using the toilet, counting paper notes using saliva, using hands during coughing and sneezing then exchanging money and placement or storage of paper notes on dirty surfaces and having food after handling notes leads to contamination.

Therefore we have made a drawer which consist a third type UV ray Tube which kills all the harmful pathogens of a note or a coin when kept in the drawer. We can also use this drawer to store food items to prevent it from getting contaminated, storing utensils and clothes to prevent them from pathogens. UV Sterilizer drawer could be used at homes, shops, offices and any places to keep our money so that it could kill the harmful pathogens present on the notes and protect us from communicable diseases.
BAHULAK

This documentary film talks about plastic pollution and the way our environment is being suffering from this. It is affecting human beings directly throughout the world. Prime Minister of India has also raised this problem and addressed it on 15 August 2019. Presently, plastic is affecting all forms of lives present on this planet. It has affected sea life in a very serious way. It has affected land animals too, they eat plastic as this become life threatening for them.
CHHIPI – THE CAP

When anyone tries to make us fool we say—don’t try to put a cap on me. Simultaneously a bottle is nothing without its cap. By this we can understand the importance of a cap. Thus a Cap can make us useful or useless by positioning differently. In this film I tried to give a small innovative idea to stop the reuse of plastic bottles for our own use for a healthier life.

Here, I narrate the event in a conversational form between a father and his daughter who is severely affected by throat infection. When her father tried to investigate the reason he came to know that it happened due to the water his daughter took from a water bottle, which had been bought from a local seller when they traveled by train few days before. And the story begins.

Most of the time when we travel by train or bus we buy water bottles. After using it we throw it out of the train. Most of the plastic bottles are dropped in crop fields and plastic bottles are non-biodegradable product they definitely affects our crops.

But if we keep the bottles inside the train then another problem arises. The local slum people come and collect the bottles and they put corporation water in it and sell it in the train again. People buy the bottles from them unknowingly, which causes throat and stomach infections. I raised this issue and try to find a way-out of this problem through my film.
ENER-G?

In our day-to-day life, from waking up to falling asleep, can we calculate the amount of electrical energy we use? We are so much dependent on electricity in every endeavor we do. With the growing economy of India the energy demand is also increasing, how it will be fulfilled? India is running renewable capacity expansion program on very large scale.

This film shows how India is fulfilling its energy consumption and what is the future of it? What we can do? How this dependency can be lower down?
FRIENDLY INVADER

This documentary is about how plastic has found its way to the very foundation of our modern world— from the packets in our hands to the motherboards of computers, it is everywhere. But for quite some time now, the legacy of plastic has been tainted with our knowledge of the threats it poses to our environment and we have subconsciously refused to act on it.

In India, the call for help by social reformers against plastic pollution hasn’t fallen upon deaf ears and scientists and eco-preneurs of the country are coming up with revolutionary innovations to fight for the cause; but due to a wide spectrum of problems ranging from the uncooperative habits of the common public to certain shortcomings of our policies, the scientific breakthroughs have not been as fruitful as they were envisioned to be.

Through the interviews of commoners and experts this documentary explores these problems to draw a bridge between the mentalities of the general public and the scientific communities of the world in an effort to make the most of the potential of our scientific and engineering minds that are invested in resolving the global crisis of plastic pollution.
Mankind has accelerated at a tremendous rate in the field of Science and Technology. This journey has yielded wonderful gadgets and machines that have made our lives comfortable and much more efficient. This film talks about solar ATM. The solar ATM is one of the futuristic technologies. At present it is quiet developed and would be more high-tech in future. It is cheaper, consistent and eco-friendly than the existing models. It is safer and user-friendly as well.

ATM or Automated teller Machine is one of such gifts science has given us. These machines play a crucial role in the lives of millions of people by providing a safe and hassle free solution to monetary transactions.

Unfortunately, a large number of people residing in remote parts of our country find it difficult to access these machines due to the complexity in their operation and lack of proper education. There are power cuts in the rural areas which intensify the problem.

Keeping this problem in mind, NB Institute for Rural Technology (NBIRT) scientists have developed an ATM which is easier in operation by the rural people and is powered exclusively by solar energy.
MEENA – STORY OF GREEN CANCER

This film “Meena – Story of Green Cancer” is based on a campaign against Parthenium greenery which is also called green cancer of the earth. Meena girls of UPS Aakrra Rasulpur are fighting against carrot grass Parthenium to save environment. Meena Girls are raising this vegetation from the roots. It is sprinkled with salt water and is buried in the ground so that it becomes completely destroyed.

Parthenium is prone to allergic and skin diseases etc. Pollen is enough to make a healthy person sick. This plant is also very harmful for animals. The animals come up close to it due to its greenery, but due to its smell, they refrain from eating. But sometimes due to lack of hunger and grass, the pets who eat it, their milk becomes bitter. Such milk is also harmful to human health. It has been observed that this plant does not allow any other plant to grow around it, due to which the plants that grow near it are destroyed. Today, the increasing amount of carbon dioxide is proving to be a boon for this vegetation to flourish. That’s why Meena girls campaigned for the destruction of this plant.
OXYGEN

This is an imagination based film. Many years ago when Earth had no colour she was pale and boring. She decided to do something to look more colourful. She searched for colours and applied onto her face, as she kept adding colours to her face it started giving rise to water, trees, mountains, birds and animals, lastly Humans.

Later on her beauty completely degraded as pollution increased and she had no choice but to buy an expensive colour, colour of life Oxygen, which has now become very rare.
PARTY CHECK

A parity check is the process that ensures accurate data transmission between nodes during communication. A parity bit is appended to the original data bits to create an even or odd bit number; the number of bits with value one. The source then transmits this data via a link, and bits are checked and verified at the destination.

Data is considered accurate if the number of bits (even or odd) matches the number transmitted from the source. In this short film this concept has been described in simple way by creating an analogy between concept and magic trick. Some day to day examples have been included to explain this interesting concept. This is another short science film by award-winning director Ananya jain. This film is being used by organisation CS Pathshla at various schools as part of their outreach computer literacy program.
The documentary film Rouge Water showcases the importance of water for human existence keeping in view the rapidly receding sources of natural and drinkable water. The film explains the mechanism of natural water and treated water sources available today. Major emphasis is given on the harmful effects of Reverse Osmosis Water commonly known as RO Water.

Film questions the myth of RO water being the best purified drinking water in our urban population and metro cities. The reality is quite disturbing that the minerals and other constituents of water are also eradicated along with impurities during the reverse osmosis process. These wasted minerals play a vital role in our human body. Technicalities like the constituents of water and experiments on TDS Values, electrolysis tests of water have been shown to portray realities which are still unknown to consumers.

New innovation by CSIR-ITRC, Lucknow (ONEER) has also been showcased to promote best drinkable pure water for the customers. Interviews of learned and applauded scientists have been taken to justify the quest of pure and drinkable water. One of the sole motives of the film is to spread awareness among the masses about the scarcity of water on our planet Earth. Wastage of water could be disastrous for our future generations.
SAVIOURS OF WATER

In all colleges, schools and other laboratories acids, alkalis and other toxic chemicals are being used regularly, further all the times these are being thrown into sink and from there it reaches to surface or underground water. If 1ml of laboratory grade acid is to be neutralized completely from water it will require 20000 L (twenty thousand liters), similarly the impact of other hazardous substances can be estimated. But neither authorities nor lab planner at college and school level are concerned about it.

Environmentalists have not thought in this direction. However it can be monitored and controlled by simple measures. This is what visualized at Post Graduation Department of chemistry, Government Dungar College, Bikaner. Students of this department have not only worked to design, preparation and implementation of Laboratory Waste Water neutralization plant but have also monitored its pH regularly for ten months. This is being shown in this movie.
SCIENCE BEHIND MIRACLES

The short film is based on science behind the tricks of tantric baba’s which they perform to create popularity or you can say fear in the mind of their followers. They play psychologically with the minds of audience or their followers and use science in these tricks. But unfortunately in a country like India where literacy rate is not good, people get influenced from these tricks of baba’s and having blind faith in their words. They are looking towards these fake baba’s for the solution of their every problems.

In this short film teacher explains to his students, science behind these tricks. Some tricks she herself demonstrates in the class and clears the doubts of his students. The teacher also explains the article 51-A (h) of the Indian constitution which states that it shall be the duty of every citizen of India to develop the scientific temper, humanism and the inquiry and reform. But this is never taken into account by any organization or individual as such. At last, the teacher succeeds to convince the students that there is only one answer that is science for every question regarding superstitions. Student or anybody should not go to any fake baba for the solutions of their problems. They should try to learn and understand science behind things.
SPACE DREAM

This short film is about the life of a student named Vaibhav, who has a dream to travel into the space and launch his space shuttle. But he lives in an environment where he is discouraged by his parents, teachers and friends for his unusual dream of launching his rocket in space.

One day Vaibhav got expelled from the mathematics class, after that he went outside the class. He was knocked down emotionally there he met a new teacher outside the class. He shares his dream with his new teacher who believes in his dream. And this teacher starts Vaibhav’s mentoring and counselling. They build a strong bond and Vaibhav gradually acquire his lost confidence. He starts working hard for consecutive two years on his dream of launching his space shuttle.

And finally he successfully launches his first space shuttle. The film ends with the launch of space shuttle. Vaibhav gets the offer to join NASA to fulfil his future dreams.

The purpose of the film is to inspire the social tripod (students, parents and teachers) to create an environment where coming generation feels absolutely safe and secure to raise their hands up and say “Yes I have a dream and I want to fulfil it”.

Language: HINDI
Duration: 00:05:11
Producer: AKSHAJ NAIK
Director: BACHAN SINGH
Email: bachansingh30@gmail.com
SUNFLOWER

This film is a small documentary on solar energy. It contains innovation or a small idea to get maximum output from solar energy. After a period of time solar energy generation reduces due to sun’s ray direction change from its solar plates. Finally, we show how to get maximum solar energy even when the Sun’s rays are opposite to its solar plates through this innovation and documentation.
SYMBIOSIS

The video presentation talks about “SYMBIOSIS” undertaken by a team of four students and a teacher facilitator. Symbiosis defines any close and long term biological interaction of organisms from different species. The film describes about symbiosis of mycorrhizal fungi and plant. An inquisitive girl young girl ‘Kasturi’ approaches her teacher ‘Meghana’, after watching an animation of symbiosis.

Animation showed dialogues between dehydrating plant and a fungus. The same was visualized on a slide under microscope in a section of root system ectomycorrhiza. Thus, she finds out interesting facts about this interaction and benefits each partner derives from such an association.

Such associations which were present since ages are brought to light due to advancement in technologies. This information is indeed beneficial for agriculture which will in turn affect economy of a nation like India where agriculture is an occupation for majority of the population.
Cell phones and other gadgets cause a lot of problems in our lives. Sleeping disorder is one major problem that is considered to be caused by excessive use of these gadgets that emit blue light. We are unaware of various ways that may be helpful to get rid of these problems. This film talks about different aspects of Blue light. Does blue light have any natural source? How it affects our health? Do we require a little of this blue light? Why only blue light damages our body? And what is the solution to it?
Indian agriculture is plagued with many problems like small and fragmented land holding, low availability of good quality seeds, excessive use of chemical fertilizers and pesticides resulting in poor soil quality and health, lack of irrigation facilities, high dependency on monsoon, low productivity, lack of appropriate measures for pest and disease control.

The limited resources and growing demand for food has forced our researchers to develop new technologies that can fulfill those demands with the efficient utilization of the available resources. This project/documentary is focused on one such technology- Genome editing.
“Organ donation is not a tragedy
But it can be a beautiful light
In the midst of one”

Living a happy healthy life is a boon for all.
Donating organ is no longer a taboo, it is blessing
as one lives a life even after death. Statistics says
six people die every minute due to unforeseen
accidents. These deaths are although heart wrenching but can give
life to others. The live organs can be transplanted to the medically
needy people and save lives. Isn’t that a grace of the ‘human god’!

The whole story is based on an incident involving two families. One
family has to face tragic death of their son and the other family
is dealing with life struggle of their son. After much convincing,
mother of the deceased son agrees to donate the needed organs
to the other.

The film is surely an eye opener and is guaranteed to shed light
on organ donation and why it is such a necessity highlighting the
thought that ‘I die but I live again.’
THE TASTE OF LIFE

The documentary focuses on the project supervised by Dr. Somnath Ghosal, Indian Institute of Technology Kharagpur (IIT-Kgp) to provide safe drinking water to the rural people (who have been suffering from different types of health issues due to consumption of contaminated water over the years) by using readily available products and open engineering techniques with innovative management model understandable to the commoners.

Though the filtration technique does have manifest simplicity, but it is highly efficient and cost-effective that can be customized in accordance with the varying needs and water quality. The filtration efficaciousness in terms of cost minimization and operational superiority could be achieved by innovative approach that amongst others includes providing special training concerning maintenance, management and adoption of the water purification units by villagers themselves.

The documentary explains the scientific as well the social model of the project. The documentary shows the current status of the water purification system in Porapara village near IIT-Kgp and tried to show the villagers view on it. The documentary concludes with Dr. Ghosal speaking about his future plans to make more water purification system like this over India and how it can impact many people lives.
THE WASTED MAN

The film revolves around a man who is heavily consuming packaged food. He is unaware of the consequences of the waste he is creating through chips packets, cold drinks and packaged water. Through this film we want to communicate the direct consequences of consumption of package food products. The film also shows the waste that these products lead to and its consequences.

By using edible plates the man has saved himself from the greater doom at the end of the movie. With this we want to ask people to be more vigilant of the products they consume. Also they should take a stand and look for alternatives and innovative solutions to packaging. We need to be more aware about the consumption of these products and how our choices can directly affect the environment. The government has banned single use plastic which is a welcome move. Through this we want to spread the message that people should evaluate and look for alternatives to plastic packaging.
In this age of digital revolution and technological and scientific advancement, Youths are being exponentially empowered in the field of science and technology. Through our film, “Young Innovations”, I, Sayan Mondal with the assistance of my film team made our effort to feature vice versa i.e. how science are being advanced through the research and innovations of today`s young minds.

“To develop a complete mind. Study the Science of Art. Study the Art of Science. Learn How to See. Realize that Everything connects to everything else.” ~ Leonardo-da-vinci

These golden words of this genius are deep down seriously adopted by some other geniuses of today`s era. Our paramount focus and primary concern of the film was not only to document their innovations or creations rather but also how they had come up with the innovative ideas like self balancing bi-cycle, pit hole detector, cost effective solar panels etc., what the obstacles they had undergone, their views regarding science, innovation, research and lastly what they think how science can empower a nation.
PACKAGING SCIENCE FOR PUBLIC INTEREST

Abstracts of Symposium on Science Communication
In order to make a documentary about frugal innovation and development in India, it is necessary to adapt to a new environment and new set of rules and challenges. A lot of my subjects in the series were located across the country and with so many locations, it would be hard to carry a lot of equipments. Because all of the people in the film make a big impact in their fields by doing more from less, I decided to be like them. Something, which will be more and more important in all fields, including a very wasteful industry like filmmaking, where sustainability will also become a big topic in the years to come. The subject matter, which can be strange to most people, was explained through someone like them and by taking people along on my journey in making the film and by sharing my findings on social media, they learned as I learned more about the topics of innovation in education, healthcare and urban development and governance. I brought the urgent questions in the film and packaged them altogether in one person, me, in order to show that science can be applicable in a very simple way. And that only by understanding problems and challenges, no matter in which field you are, you are able to solve problems and overcome challenges and by doing so you enable you to innovate in your own way no matter where you are.

**Keywords:** Science communication, Art of filmmaking, Frugal innovation
Inculcating scientific temper in the Indian community has been a persistent effort of the Government of India over the last several decades, dating back to Pandit Nehru’s first elaboration of his concept of scientific temper in his book ‘The Discovery of India’. According to the World Bank, collection of development indicators, compiled from officially recognised sources, 66.46% of the total population of India is rural, and by virtue of its majority character, the well-being of the Indian community depends on the adoption of scientific processes by its population. This paper is a summarised directory of films received by the National Institute of Rural Development and Panchayati Raj in 2018 for its third National Film Festival on Rural Development. It analyses the typology, thematic areas, and brief of individuals and organisations who have contributed to rural development arena using the lens to speak their story. Cinema, whether documentary or fiction, is now more accessible through mobile phones and YouTube, which are easily accessible even in the remotest villages.

The paper has three parts. Part one elaborates on the kind of cinematic productions in recent years and the consequent usability perceived by the practitioners of rural development. Part two contains an empirical study done in a remote village in Telangana where mobile phones usability is measured. The third part draws conclusions based on the above and predicts the ways to bring about development in the rural space by using scientific knowledge and tools of awareness, particularly through films.

**Keywords:** Cinematic production, Rural development, Scientific tool of awareness
Science and Entertainment

Ambrish Saxena & Susmita Bala
Delhi Metropolitan Education Media School, Noida 201 301, India
ambrish.vips@gmail.com

Science fiction films or sci-fi film is a genre of entertainment cinema and the feature films in this category use speculative, fictional science-based depictions of phenomena that are not fully accepted by mainstream science. There are different types of science fiction, most of which talk about human extinction, interacting with alien life form, human cloning and artificial intelligence. These films question and discuss the human psychology, social behaviour and existential philosophy. Sci-fi stories are used more to give us perspective of where we are right now and how the setting of these stories can be changed to make the social commentary more appealing visually and commercially viable.

While telling a sci-fi story, most of the films lose ground of science based facts and venture into the fantasy category. Mostly, hindi films are seen trapped in the gap finding it difficult to differentiate between the two. The topmost priority of today’s world is the sustenance of human species. Contagion (2011) set in a real world, shows how governments and scientists behave when a civilization wiping virus is on the loose. Rise of the planet of the Apes (2011) depicts how experiments in science labs augment intelligence of one species, while reducing the human population simultaneously. 2012 (2009) shows how global warming changes the weather of the whole world compelling the affected countries to come together in their bid to search ways to preserve the life forms. Referring to Hindi films, 2.0 (2018) sets up itself as a sci-fi but is carried away into supernatural. In Flying Jatt (2016), a common man is granted superpowers by nature to save the people against pollution while a super villain is created for obstruction. Dasavathaaram (2008) shows how a deadly virus is cooked up in a US lab threatening life on the planet. A study of science fiction films of Hollywood and India reveals that factual science is mostly missing though these films succeed in generating interest in science and help in creating an environment encouraging scientific research and innovation.

Keywords: Sci-fi films, Entertainment cinema, Research and innovation
Communicating science to laymen needs an expertise. There are two types of people who can accomplish this job. One may be the researcher or expert of the subject and another can be a science communicator. When it is done by the expert of the subject there is a risk of telling too much or too less, in a technical language full of scientific jargons or in a very simple language which is incapable of conveying the necessary facts. So it needs a combo of specialist and science communicator, which is rarely available. So the onus of communicating scientific facts to laymen mostly rests on science communicator. For him it is a two way process. He has to obtain full information about the subject he needs to communicate then trans-create it in such a way so that his target audience can understand it easily. For this he may need to interview an expert, read the journals, surf the internet. After obtaining the knowledge he will need to make the notes, select the information worth conveying to his target group, the language, the format, the style which will be appropriate for his target group, So that he can convey the desired information in a most acceptable way to them.

Keywords: Communicating science, Science communicator, Laymen, Science expert
Counterintuitive Ideas from Physics: A Storehouse for Science Video Snippets

Bhupati Chakrabarti
Formerly of Department of Physics, City College, Kolkata and Immediate Past General Secretary, Indian Association of Physics Teachers (IAPT), India
chakrabhu@gmail.com

A large number of counterintuitive observations are seen in our everyday life. Some of these of course are no more considered as counterintuitive as possibly one knows the scientific reasons and have found the scientific arguments in favour of these observations convincing. The floating of a large ship mainly made of iron and other metals compared to the sinking of a small iron nail in water is a typical example where the scientific explanation has possibly taken away its counterintuitive aspect. However, there are areas in various branches of science where this exists and these provide initial roadblocks when a teacher wants to guide a student’s thought process with scientific reasoning. From the educational point of view if suitable video snippets of short duration can be made to empower the students to take a deeper look at these situations and to provide the teachers with additional tools two very important things are likely to happen. First, the students get clearer idea about the situation and can dispel with the counterintuitive aspect of the observations. Second, the filmmakers can actually not only serve an educational purpose but a social commitment as well. In this presentation, these aspects will be dealt with taking help from some suitable examples.

Keywords: Counterintuitive ideas, Scientific aspects, Video snippets
Design Thinking for Documentary Filmmakers: An Integrated Framework for Communicating Science Visually

Chandi Raj Dahal
Department of Languages and Mass Communication, Kathmandu University School of Arts, Nepal
chandiraj.dahal@ku.edu.np

Design Thinking (DT) in the past was commonly applied into the field of technologies, innovation and entrepreneurship. Since, the time design thinking came into the concern of academia, literatures focused on defining design thinking as a stepwise process of innovating any product or solving business problems. Today, discussions on design thinking incorporate the social-cultural values that largely shape any innovation and entrepreneurship. This article, furthermore, explores the latest discussions on design thinking and its application into the field of science communication. First, it presents visual documentary as a tool for communicating science. Second, as documentary production techniques include several styles and formats for storytelling, design thinking will be proposed as an integrated framework for producing visual documentary to communicate science. Third, advancing through the existing literatures on designing thinking, this article proposes that application of DT into documentary filmmaking help producers be able to illustrate the complex ideas and issues into simplified message for the heterogenous audiences.

Keywords: Design thinking, Documentary filmmaking, Science communication
Science Communication: Today and Tomorrow

Chandra Mohan Nautiyal
Indian National Science Academy, New Delhi 110 002, India
cmnautiyal@yahoo.co.uk

From days of yore when likes of Prof Ruchi Ram Sahni rode bicycle to go around and deliver popular science talks to people, technology has changed a lot and has enabled the modern science communicator with many tools. J C Bose wrote science fiction, and even men of literature provided space to science in literary magazines in India. Magazines were published in Indian languages also, the oldest being Vigyan from Prayag since 1915. The entrance of doyens of science and technology like late Dr A P J Abdul Kalam, Prof Yash Pal and Prof D Balasubramanian on the scene indeed illuminated it. The monumental efforts of Dr. Narender K Sehgal and colleagues in bringing over 60 science communication organisations on the same stage, nurturing National Children’s Science Congress and Vigyan Prasar provided yeoman’s service to the cause. It was in the eighty’s and ninety’s that scientists, media and communicators got together and programmes like Manav ka Vikas, Turning Point, live telecast of total solar eclipses, Venus Transit and Vigyan Rail materialized. Never before had one seen media in such positive role as far as science is concerned. Emergence of Vigyan Prasar and the active role of NCSTC (DST) added sheen to the stage occupied by already active PID (now CSIR- NISCAIR). Another good feature has been realisation of the great scientific and technological feats in ancient India, be it Maths, Astronomy, Metallurgy or Chemistry or others. INSA, Vigyan Prasar, NISCAIR and others have brought out excellent publications along this line. Apart from educating people on science matters, preparing them for changing style of living with the technology, telling science engagingly, using many genres without compromising on accuracy, is today’s science communicators’ challenge. Not promoting science communication is a threat that the society may be soon full of managers and sales people who will not know what to sell because we shall not have creators of what is to be sold! To survive, society has to create opportunities for science communicator.

Keywords: Science communication, Media and communicators
India has a strong tradition of science and technology as well as has a remarkable history in the field of mathematics, astronomy, medicine and material science. In India, science is being aggressively twisted even legitimize such social mal-practices and superstitions especially in tribal and rural areas where literacy levels are low and superstition is deeply rooted in their life. Due to this reason, we may see the remarkable gap between the scientific knowledge and the common man and woman. Media is playing an important role to amplify this problem through tendency to propagate such practices by giving them an uncritical platform. To bridge the gap and popularize science and scientific approach among the mass, tribal and rural areas, we need to take few steps (i) we should glorify science and make it more entertaining to increase the scientific temperament among the people. It will help them to connect science with their work and change their psyche and way of life; (ii) Curricula should impart scientific temperament, rational outlook towards the various phenomenon’s and come to a conclusion based on evidence and experiments. So, we also need to do necessary changes in school curricula to make it more interesting, entertaining and experiment based; (iii) Digital media may become powerful tool to promote science communication among the general public and (iv) Now a days, OTT platforms are more popular and liked by the viewers. People are shifted from traditional media like TV and Radio to OTT. We may create contents describing scientific approach in a simple and entertaining way to make it popular. We have challenges but also have various opportunities to popularize science communication in India. The core objective of science communication is to communicate effectively in explaining life saving essential tips through Media interventions. Fortunately, the agenda for an appropriate research seeking is to apply the Research Parameters and fill the gaps in knowledge about how to communicate effectively on scientific innovations, focusing in particular on issues that are continuous in the public sphere.
Empowering Citizens in Digital India: Opportunities and Challenges Before Science Communicators

Denzil J Godin & Dennis M J Godin
Lucknow Christian College, Lucknow & Christ University, Bengaluru
godindl@gmail.com

The importance of digitalisation of scientific information and communication has been recognised worldwide as early as in April 2001, which resulted in the conference on electronic publishing organised by UNESCO and the International Council of Scientific Unions. The present scenario in rapidly developing India still blends the conventional with the modern and the simple with complex. Digitalisation has resulted in an explosive growth of awareness, knowledge, access to facilities, involvement in services and application - empowering and changing lives of Indian citizens as never before. For present day science communicators, the play field has changed and the game must be played keeping in mind the ever changing scenario. Communicators have to be fully aware of populations who still live in villages, their culture and sensitivities or where there may face challenges with regard to the level of education, facilities or opportunities to broadband which affect the ICT ecosystem. To communicate effectively, it is absolutely necessary to modify practices that were developed a decade ago and for one to understand how scientific temper in citizens can be kept alive and renewed. The challenge for all science communicators across India is to work to change the lives of all stakeholders in this ICT ecosystem. However, realizing the opportunity that broadband present requires that communicators themselves undergo a shift in their thinking, realising new opportunities and often going 'beyond' ICT or 'digitalisation'. Science communicators must constantly be updated, with a clear vision and commitment to improve their skills at reaching out and ushering in a new era of change. There is a growing need in India for effective Science communicators at all levels; from students at grassroots to the scientists in our highest institutions of research. The paper deals with the opportunities and challenges with regard to Science Communication in India with special emphasis on need for empowerment in a digitalised era.

Keywords: Scientific concepts, Digital communication, Communicators role
Developing Awareness Among Rural People in Utilising Parali (Crop Residue) to Reduce Air Pollution: A Case Study

Dilip Jha
All India Radio, New Delhi 110 001, India
dilipjha2607@gmail.com

In the present time, environment is the prime concern to every nation and fellow citizens of a country. No man made boundaries can be made for the environmental entities and natural phenomenon. This is the responsibility of every human being of this world to conserve the nature for the sustainability of our planet Earth as well as our generations to come. Thousands of hectares of farms are burnt after every harvest season in Punjab and Haryana. It is among the biggest contributors to pollution in Delhi and NCR. Air pollution and smog are playing fatal role in our daily lives. This is the right time to review our daily activities and do green deeds as we have to protect our single planet and its life supporting environment. Farmers usually use to burn Parali (crop residue left over after harvesting) because they don’t have any alternate and no further use of it and they have to prepare their farm for next crops. Burning of this Parali produces smoke and it enhances the air pollution. Here, science communication is important to deal with a probable way out to handle this challenge and management and utilization of Parali for the constructive works. But challenges to convince these people dependent on farming are big. First objective is to promote village level sensitization and rational approach. The gram panchayat (village institute) should provide a space in the village for Parali collection. All the farmers of that village should dump their crop residue there. Any outside selected agency should take the heap of the residue for further processing. Parali management to save our atmosphere and health is the major objective of the proposed study. Use of Parali for any alternative work in a constructive manner is the second objective. Relevant and real life problems solution challenge to tackle with novelty and innovative approach is third objective.

Keywords: Effective Parali utilization, Air pollution, Rural sensitization
Indian rural household 70% still depends primarily on agriculture for their livelihood, with 82 percent of farmers being small and marginal. Hence, awareness creation becomes an area of prime importance to enhance productivity with emphasis on eco-friendly practices. Television could serve as a suitable medium of dissemination of farm information and latest technical know-how. The paper examines the scope and constraints in communicating agriculture and allied sciences through documentaries and series programs. The key areas will be covered under three heads—understand the target group that a farm science documentary addresses (The heterogeneity of their farming community, the questioning mind of farmers, their beliefs and conceptions, knowledge demands, etc.), understand the media (reach of television and new media among farmers, visual language of communication, scope of agriculture and allied subjects in visual communication, effectiveness of national state and regional channels in addressing heterogeneous farming community, etc.), understand the subject (scientific aspects of farming, present trends of farming in the field as well as research, globally and locally, how farming and environment are interconnected, technologies and interventions that make farming more profitable and eco-friendly, the diversity of agriculture, farming as a way of life, livelihood, agro-business and hobby and understand how best to deliver farm sciences through documentaries (various styles of presentation and their impacts, mixing of science and human element to make a palatable product, avoiding bookish language and lengthy bites, being scientific at the same time down to earth, etc.).

Keywords: Allied sciences, Farmers science, Communicating agriculture
Conducting a Course on Science Communication

Prof. Iftekhar Ahmed
Jamia Millia Islamia, New Delhi 110 025, India
iftekharftii@yahoo.com

This presentation looks into the important issues related to running a course on science communication. It involves designing of a relevant syllabus, selection of good lecturers, developing a schedule/time table, required facilities/resources for running the course, monitoring the input, getting feedback from the students and the teachers, looking at the outcome and drawing a conclusion. The syllabus has to consider various important aspects, viz., socio-economic and political condition of the country or society, the people, the culture, technology, skills and aesthetics required communicating the scientific issues, and scope and duration of the course. The aim of the course is to develop a pool of talented and skilled professionals with ability to think critically. Last year, A J K MCR Jamia Millia Islamia and Vigyan Prasar had conducted a course on science communication at post graduate level at A J K MCRC. The syllabus was designed by Mr Nimish Kapoor of Vigyan Prasar and funding and required support had come from Dr Nakul Parashar, Director of Vigyan Prasar. The lecturers for the course were shortlisted at the national level for each of the topic in collaboration with Vigyan Prasar. The facilities and resources were provided by the A J K MCRC. The course was monitored by a faculty, Maryam Zehra, and the Director of A J K MCRC. Feedbacks from the students and teachers were taken time to time during the course. Both the students and teachers had given good valuable feedbacks. The students wanted a separate course coordinator and more guidance and interaction with the teachers. They also suggested to start a separate regular course in science communication and were concerned with their employment in the related field after they passed the course.

Keywords: Science communication, Opportunities
Intent and Content of Science Filmmaking

Jalal Ud Din Baba (Jalal Jeelani)
Guerrilla Science Filmmaker/Green Activist/Communicator/Writer
jalaljeelani16@gmail.com

Communicating science and innovations through films is the present day reality, need of the hour and solution to maximal problems mankind and nature is facing. As the digital camera's and mobile phones have become a lifer, mate and a gluey addiction to the highest level of engagement, using the same for socio-economic-educational reason and outcome, can be a pragmatic reformer, mentor and a gizmo which has become a lifeline in personal as well in professional conduct. Reason being its economical possession, ease to use and convenience. Science filmmaking is collaboration between science, scientist and filmmaker so it has to be a collective effort in terms of knowledge, facts and figures. Keeping all the sensibilities alive, desired intent & content, it’s an apt match; story telling, narrative about the groundwork that speaks volumes, legend and contentment. But in times now, doing and then dissemination is the mantra of activist and emancipation. A noblest cause one can pursue for passion and advancement as a redeemer. Thus, through visual medium, mobile filmmaking can be done in best possible manner and unruffled, it will be a commendable effort and evolutionary contentment. Hence, it’s an inspirational medium, self-guide and trainer; you can expand your effort towards the green activism and play your part concerning universal citizenship, sustainability and healthy earth. Oneness and togetherness is the rationale, which can save the environment from degradation and human pollution, be it from air, ground or under water. Lets join hands with energy, synergy and soulfully to mitigate the universal sufferings the global warming is bringing upon us.

Keywords: Science filmmaking, Challenges, Science communication
Filmmaker’s Perspective to Make Scientific Knowledge More Accessible, Absorbable and Interesting for a Wider General Audience

Kartik Sharma Buria, PAHUS Productions, UK
Chris Godwin, Inner Eye Productions, UK
kburia@gmail.com

This session discusses how scientific research and knowledge has a tendency to remain siloed in research journals and technical conferences. With information largely remaining out of reach of the larger public or secondly disseminated many a times in a banal and paternalistic way. Chris and Kartik share how they have harnessed the power of films in their critically acclaimed respective productions to inbuilt research and information messaging on health and scientific issues. In a more engaging and entertaining way while maintaining sensitivity of the issue discussed, to make scientific knowledge more accessible, absorbable and interesting for a wider general audience.

Keywords: Scientific knowledge, Power of films
Science in Space and a Space for Science in Layman Life

Lovita J R Morang
Guwahati, India
lovitajrmorang@gmail.com

Today’s scenario has enabled layman an easy access to technology. Science has gifted them, the basic luxury. Stories and films are a powerful medium used to influence, motivate mankind. Science is meant to serve and advance humanity. Nature is a miracle machine. Scientific discoveries and stories right from why bees, butterflies, coastlines, dying ice of Arctic and the Antarctic, rhododendron wildflowers of Eastern India turn into indicators of climate change, is waiting to be explored. Why Bhutan is the happiest country in the world? Why Bhutan is carbon neutral? Bhutan isn’t just carbon neutral- it’s carbon negative. Can we stop climate change by removing CO2 from the air. Science has helped us understand the resilience of salt marshes system. From my own experiment with the discovery of hundreds of taxas in the ecosystem of Rhododendron forest as the undisturbed ecosystem that exists. If one may focus on the north-eastern region, it is observed that the forests of the north east are primarily impacted by climate change. Rhododendron forest in eastern himalayas command a high socio-cultural reverence. The specialties of the wildflower rhododendrons are that it reveals the health of the earth as the lichens and mosses on tree trunks and branches are the indicator of the purest air. The book and the film on discovery of rhododendron forest has depicted the biggest rhododendron nutalli to smallest rhododendron santapui, to edible rhododendron arboreum to poisonous rhododendron campylocarpum, has help understand how these climate indicator wildflowers help check the health of the earth. The eastern himalayan zone supports 80% of oxygen. Therefore, a corrective action to save rhododendron forest is a must. Science is exploring the space, can we create a space for science in laymans’ life and help them to explore science.

Keywords: Rhododendron, Climate change indicator, Eastern himalayan zone
Mythology as A Starting Point for Explaining Modern Cosmology

Manas Pratim Das
All India Radio, Siliguri 734 001, India
i2manas@gmail.com

Storytelling is a key to effective communication. Science communication is no exception. Leading scientists with a flair for communication have unhesitatingly resorted to storytelling for communicating theories devised either by themselves or the community of scientists. The Adventures of Mr. Tompkins by George Gamow or The Return of the Vaman by Jayant Vishnu Narlikar stands out as eloquent reminders of the power of storytelling. In his introduction to Stephen Hawking’s book titled Brief Answers to the Big Questions, nobel laureate Kip Thorne reminds us of the loss of details when a scientific concept is translated into plain everyday language. In spite of this caution, there can be no alternative to choosing a story as a starting point for explaining modern cosmology. Mythology serves the purpose in a wonderful way. The representative layman who has grown up with mythology whispered into her/his ears from childhood would naturally find comfort when the communication starts with strands of such mythological fabric. The able storyteller or the science communicator can then easily differentiate fiction from facts, indulge in demystification and arrive at the key concepts of modern cosmology. The use of mythology usually acts as a steady binder for cutting edge concepts in science when those are being communicated to a layperson. The stories leave a series of easily negotiable steps of understanding in the minds of the audience that helps in retention and recall.

Keywords: Modern cosmology, Laymen science, Mythology
The Making and Unmaking of Science Films

Matiur Rahman
Sr. Science Filmmaker, New Delhi
matiurrahman@gmail.com

Challenges of interaction between subject expert and producer during the course of pre-production, production and post-production is probed from the production experience point of view of a science filmmaker. The payoff in the article is derived from the producer’s direct experience of engaging with academia as well as the technical crew from starting from ‘script-to-screen including the stages of conceptualizing a science film through shooting, creating animation and graphics, designing the sound track and editing up till making the broadcast mixed master either on a hard disc drive or printing the final mixed master on a videotape. The importance of relevant and intensive research and the art of ‘writing for ear’ to distinguish a radio programme from writing for film is stressed upon. Apart from looking at what ails the interaction between subject experts and producers while engaging in science film production, an attempt is also made to put a few aspects across about experts at presentation and evaluation committees. The present attempt also serves as an indicator of areas for collaborative action and appreciation from both the subject expert as well as the producer for a better media product.

Keywords: Science films, Script to screen challenges
Storytelling in Science Films

Nandan Kudhyadi
Senior science filmmaker, Pune, India
nandan.kudhyadi@gmail.com

Storytelling has been the most engaging form of communication from the time of our cave dwelling ancestors. And apart from the spoken word they also pictorialized the narrative with cave paintings depicting the drama. This strategy is the basis on which audio-visual communication in cinema takes place even today. Scientific theories, mathematical theorems and even innovative technologies can very well be presented to the lay audience in this form. The secret is not to make a didactic presentation of facts and figures but involve the audience with stories woven around the specific discoveries and innovations. The idea is to fire the imagination and generate curiosity for the audience to explore the subject in depth at their own level. Snippets from docu-drama films on CV Raman, Birbal Sahni, Srinivasa Ramanujan as also from Cellular Insights would illustrate the use of drama, animation, graphics and music to make for an engaging communication package.

Keywords: Docu-drama films, Audio-visual communication, Storytelling
Science Journalism in the Smartphone Era

Pallava Bagla
Photo Journalist and Science Communicator, India
pallavabagla@gmail.com

Today communicating science is both easier and also more challenging. Easier because Internet offers a low cost medium to reach the masses, but at the same time finding the most accurate information for consumers has become challenging as there are multiple sites offering often half-baked or even fake news. It requires skill to find the best source. Also with the advent of smartphones, taking and making videos and writing blogs has become easy on social media. Using the digital platforms to spread accurate science news is the way forward.

Keywords: Science journalism, smart era
Single Use Plastic and Green Solution: A Scientoonic Approach

Pradeep K Srivastava
CSIR-Central Drug Research Institute, Lucknow 226 031, India
pkscdri@rediffmail.com

Plastic pollution is the accumulation of plastic objects and particles in the earth’s environment that adversely affects wildlife, habitat and humans. Plastics are inexpensive and durable, and as a result levels of plastic production by humans are high. However, the chemical structure of most plastics renders them resistant to many natural processes of degradation and as a result they are slow to degrade. Together, these two factors have led to a high prominence of plastic pollution in the environment. Plastic pollution can afflict land, waterways and oceans. It is estimated that 1.1 to 8.8 million metric tons of plastic waste enters the ocean from coastal communities each year. As of 2018, about 380 million tons of plastic is produced worldwide each year. From the 1950s to 2018, an estimated 6.3 billion tons of plastic has been produced worldwide, of which an estimated 9% has been recycled and another 12% has been incinerated. Around 2800 crore plastic bottles are produced every year out of which 86% end up as garbage. Around 25 lakh ton of carbon dioxide is produced in the manufacturing of these plastic bottles. Disposable plastics are commonly used for plastic packaging and include items intended to be used only once before they are thrown away or recycled. Prime Minister Narendra Modi, who is leading efforts to scrap such plastics by 2022, announced a ban on as many as six items on October 2, 2019 on the the birth anniversary of Mahatma Gandhi. The ban will be comprehensive and will cover manufacturing, usage and import of such items like plastic bags, cups, plates, small bottles.” This paper using scientoons, a novel concept in science communication would like to explore and highlight traditions and ancient knowledge of India, which can provide solution to eco friendly products. This area gives film makers a new approach to make the common man aware about the ill and hazardous effects of single use plastics and what can be the indigenous eco friendly technology and green solution.

Keywords: Sciencetoonic approach, Plastic pollution, Science communication
Challenges Before Science Communication

Rajesh Badal
Sr. Journalist & Filmmaker, New Delhi

Science is now part of our day to day life. Everyone is using high-end gadgets, be it the latest mobile sets or the latest models of car. But the question is whether the health of science education and communication is ok in this country of 125 crore people? If people are using the high-end gadgets based on science even in villages, why there is a virtual famine of writers and journalists well versed in science?

The reasons behind this are (i) the media industry in India is the largest in the world. But sadly, the number of people with scientific knowledge working in these is negligible, (ii) there are many journalist-writers with a good scientific temper, but there exists no good science propagators - teachers to train them in the media education institutions, (iii) the investors don’t take the risk of investing in science channels and radio and (iv) even if new science radio and tv channels are not launched, the science content in the existing channels can be increased.

India still lags far behind in production of science films and documentaries. In the west and European countries, the literacy rate is far higher than India. That is why, films on science and other complex subjects are produced and admired there big budget science films not only earn enough to meet their cost, but also earn huge profits. The CSIR-NISCAIR and Vigyan Prasar in addition to the All India Radio and the Doordarshan are producing various science programmes, which are popular. Government or government institutions alone can’t discharge this responsibility. Private sector should also come forward to shoulder it. Science clubs must be set up in rural and urban areas and a network of science based community radio laid.
Augmenting Writing Skills for Articulating Research (AWSAR) for Presenting Creativity in Science Storytelling

Rashmi Sharma
Department of Science & Technology, Govt of India, New Delhi 110 016, India
r.sharma72@nic.in

All of us have a storyteller hidden within. Though some of us are excellent in narrating a story, particularly which we enjoy telling but most of us are at loss when our audience are not known. The success of storytelling is not just only in its content and flow, but also in the way it is expressed, and is able to bind its reader/listener right from beginning until end. It is even more challenging to weave a story around a scientific endeavour or laboratory discovery and connect it to common-man in a language that is easy to understand and comprehend as well. Science story telling is thus an art as well. Department of Science and Technology (DST), while realizing that a wide gap exists in the realm of Science (Technology) Communication, also felt that the young researchers pursuing their PhD and postdoctoral research could be inducted and encouraged to write about their own research in layman’s language to create an ecosystem of science communication in the country. Augmenting Writing Skills for Articulating Research (AWSAR) is such an initiative, which provides platform for presenting creativity in science story telling. This unique endeavour of DST, received more than 2500 stories during its first year of launch in 2018-19. The award winning stories are being compiled to make these accessible to all through various means and modes. These stories can be shared with schoolchildren to motivate them in taking up career in science besides inculcating scientific temperament among masses. A next step is converting these stories into audio-visual form to widen the acceptance and strengthen this unique initiative. The authors of these stories would be sensitized towards art and beauty of visual media and its effectiveness to enhance storytelling skills.

Keywords: Storytelling, Science communication
The Growing Threats of Climate Change: Scientists Collaborate with Filmmakers to Address Concerns

Sabina Kidwai
A J K mass communication research centre, Jamia Millia islamia, New Delhi 110 025, India

Science has often been associated with a complex understanding of the world and very often beyond the understanding of the layman. However, the natural world and science are completely entwined with the smallest natural phenomena having a scientific explanation to it. For this reason, there is always science in environment films and smallest theory gets presented as stories through environmental films. The visually mesmerising but simple presentation of facts makes environmental films appealing to the layman. The popularity of Discovery Channel National Geographic and Animal Planet reinforce this belief.

Climate change is one of most debated natural phenomena which is said to affect the lives of thousands on the planet. The proposed presentation using a range of films dealing with Climate change will explore the contributions made by environmental films in projecting scientific information and making people understand the increasing climate changes in our world. Most importantly many of these films look at scientific interventions especially in areas were environmental degradation has been exacerbated by manmade problems. In the last decades, stories of climate change have formed the basis of many environmental films. These films have projected the problems of climate vagrancies which have affected many towns, cities and natural habitats. Many theories projected by scientists have been given visual evidence and have played a crucial role in the making the laymen understand what is Climate change and how it is affecting our everyday life. Filmmakers move the story from the scientific lab to the world outside developing a greater understanding of the value of science in our lives.

Keywords: Climate change, Role of filmmakers
Reality Ahead of Schedule: How Science Fiction and Science Fact can Inspire Action?

Sabyesachi Bharti
CMS Vatavaran, New Delhi 110 017, India
sabyesachibharti@gmail.com

In his ‘two cultures and the scientific revolution’ (1959), Snow observed that modern civilization is split in two. The scientists go one way; the humanists another, and those who would travel with both (like Snow himself, a novel-writing scientist) could actually be rare and rather under-recognized. People writing science fiction over the years have inspired actual development of scientific thinking for the rest of the population. These include biochemist Isaac Asimov, the astronomers Fred Hoyle and Carl Sagan, the physicists Gregory Benford and David Brin, or the experimental psychologist Alice B Sheldon. Many others have no special competence in science at all, but they share with their scientist-colleagues a fascination, almost an obsession, with the powers of science. Mary Shelley’s Frankenstein, published 200 years ago this year, is often called the first modern work of science fiction. It’s also become a fixture of pop culture—so much so that even people who haven’t read it know (or think they know) the story. It’s a wildly inventive tale, one that flowed from an exceptional young woman’s imagination and, at the same time, reflected the anxieties over new ideas and new scientific knowledge that were about to transform the very fabric of life in the 19th century. A lot of Well’s ideas, like the idea of atomic fission put forward in his story -The World Set Free, was said to be more accurate than the forecasts of the scientists, most of whom, at this time, were adamantly denying the feasibility of wringing usable energy from atomic fission. In fact if one were to assess deeply, science fiction has impacted the real-world technologies, in more ways than one.

Keywords: Science fact, Science fiction, Entertainment
Science and Viral Videos

Santosh Kumar Pandey
Senior Producer, Etv Bharat, India
santosh.pandey@rediffmail.com

Science and technology are integral parts of society and we encounter them in our everyday lives. They directly affect human development and progress, and are linked with social change. It is therefore important to communicate new science and technological developments as well as promote an understanding of current facts to a wide audience. Public must know about the societal benefits that science delivers and its critical importance to every dimension of their well-being. Science communication is the art of making science accessible to non-experts. It is important for scientists to be able to connect to non-scientists, even to a layman. The difficult task is considering the complexity of scientific ideas and communication training related limitations of the scientists. Media are the main conduit for the dissemination of scientific information to the masses. But Science has not succeeded in attracting the interest of the conventional mass media in India. The digital environment has provided effective tools that are accessible and easy to use, and the Internet has precipitated a new paradigm of public communication that situates the user in the centre of the production process. The Internet has radically modified the relationship among the actors involved in the process of science communication. Scientists can now communicate directly with the general public without the intermediation of the mass media or the traditional limitations of time and space. No wonder, online and offline videos are now being seen as the most effective way to communicate to a large audience. Popularity of short videos can be gauged from the fact that they presently account for approximately 80% of all Internet global traffic. Even user generated frugal viral videos receive hundreds of millions of views on YouTube and other social media platforms. Word of mouth and sharing are the key in the massive spread of viral videos. There is a need to create short science videos that not only appeal to people, but are also interesting enough to make them want to share it with their networks.

Keywords: Science Communication, Internet traffic, Science videos
A Deep Dive into the Science Behind the Menstrual Taboos in West Bengal, India

Sharmistha Bhattacharya
Bichitra Pathshala, Kolkata 700 020, India
sharmistha.bh@gmail.com

There are about 44.5 million women in West Bengal, India of which more than 65 percent are of menstruating age (10-50). A large number of these women lack the scientific awareness of biological functions of their body, and depend on generations-old socio-religious and cultural taboos to deal with their natural physiological process of menstruation. The most vulnerable to social conditioning is the adolescent girls who are just beginning their menstrual journey. There is a significant correlation between the onset on menstruation and the school drop-out rates in the girl children in the age group of 10-15, leading to critical gaps in their educational goals. This makes effective scientific communication of menstrual hygiene to be of critical importance to ensure the health and empowerment of adolescent girls. The present study explores various menstrual taboos prevalent in West Bengal and investigates the probable scientific reasoning behind such traditions. Furthermore, the study proposes ways of integrating scientific good practice into lifestyle of menstruating girls. To this effect, multiple workshops were carried out with 850 school students at Bankura and 71 college students at Durgapur. Each workshop comprised of a) a survey to investigate social taboos and challenges faced by the participants during their menstrual cycle and to gauge the level of awareness of the participant regarding menstrual hygiene, b) scientific presentation on menstruation, c) screening of a short film to showcase how our society can support a menstruating girl and d) interactive session to provide the participants an opportunity to clarify doubts and misconceptions regarding menstruation. The findings lead to a classification of the various menstrual taboos into science and myths, and reveal that the term “menstruation” is a social taboo in itself. The results show the immediate need to normalize the social dialogue on menstruation, not only among women but all members of the society including men and children.

Keywords: Menstrual taboos, Science challenges, Scientific myths
Living with AI: Can Collective Human Intelligence Help Create an Artificial Intelligence Wiser than Itself?

Ms Subha Das Mollick
Bichitra Pathshala, Kolkata 700 020, India

Artificial intelligence connects our cyberspace to our real space. This intelligence is a formless, shapeless, all pervading, almost God like entity residing in our email communications, GPS system, social media pages and search engines and our sub conscious. The question is can this artificial intelligence get the better of us? And can it steer us away from the path of self destruction that human civilization is headlong hurtling into? Can AI rise above the human flaws of their creators and make the world a better place to live in? To find an answer, this paper examines the fate of AI in two seminal works of fiction – Mary Shelly’s Frankenstein and Stanley Kubrick’s 2001 A Space Odyssey. The first AI ever to be created by a human, had a grotesque, repulsive human form. It outlived its creator and vanished into the mist, as if saying “Sambhavami yuge yuge” – I shall return era after era. And sure, it does. HAL 9000, the AI in the spaceship Discovery One of 2001: A Space Odyssey, does not have a human form. It is like a one eyed monster that can not only think and speak like humans; it can read lips and understand the words being spoken. HAL is flawed by the flaws of its human creators. HAL has to be ‘killed’ so that human intelligence can survive.

AI draws its sustenance from the database available in cyber space. The database is the footprint left by human intelligence – millions of humans navigating cyberspace for various purposes. AI finds patterns in the diverse footprints and teaches itself to be better tuned to human behaviour. So, all of us who navigate cyberspace are collectively responsible for shaping and reshaping AI. Cyberspace is a space where collective human intelligence, aided by AI, can coalesce into a movement. Collective human intelligence can script an algorithm for collective survival.

Keywords: Artificial intelligence, Digital science, Cyberspace
Digital Eye to Comprehend Scientific Concepts

Sunil Mehru
CEC, New Delhi, India
drsunilmehru@gmail.com

The technology enabled learning, the new pedagogy and customized taxonomy has been used to popularise scientific concepts. Technology provides platforms for fine blend of content delivery with its various attributes for effective learning. The focus has been on tracing the development process of digital world and how science communication effectively can be placed to learning community. The emphasis has also been made on the communication skills and the delivery of the content. It elaborates the new innovations/methods and new ways of learning and packaging of knowledge. Technology is now ready to replicate the traditional teaching. Thus, suggesting rethinking for design and development of the new age content. The research has also elaborated various digital platforms which would be used to popularize science communication for larger interests and to serve the society at large.

Keywords: Science communication, Popularisation, Digital arena
People of India have such a developed dialogue system for mutual, personal, group and mass communication in the form of Devanagari script and Sanskrit language, whose logical value has met the test of computer-driven digital age possibilities of scientific communication in the country whose utility is infinitely unlimited and unimaginable. If there are possibilities of easy scientific mass communication then the challenges of communication malformation and distortions are equally complex and dangerous. The first example can also be taken of deformity in the form of unscientific and superstitions such as Tantra-Mantra witchcraft of Devanagari script, easy scientific Nad-Ninad scientific knowledge. Scientific concepts poses difficult challenge for science communicators to express complex theories and their direct physical nature with easy simple accessible language, script and gestures and concrete by expressing the scientific language and facts of the laboratory at the level of public interest and understanding in general. The possibilities of providing scientific basis to the daily routine of normal life are infinite. The first requirement for this is the development of the system of multilevel science communicators in such a simple and complex sequence which can sequentially represent the deep facts of science in the language of common public interest and common people, such as in the Himalayan glaciers at temperatures below zero to twenty degrees. By continuously blowing the frozen ice in the form of pure Ganga water in the plains of Ganga Yamuna, melting down the sun power.

Keywords: Science communication challenges, Scientific concepts