

SCIENCE

GALLERY



21.08.2020 - 30.08.2020

PHYTOPIA

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Image courtesy of Raku Inoue, multi-disciplinary artist based in Montreal, Canada.

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About PHYTOPIA



Dear Visitor,

On 21 August 2020, we opened our first fully online exhibition on plants, PHYTOPIA, to the public. Through this exhibition, we supported the International Year of Plant Health initiative observed by the United Nations General Assembly.

Apart from the source of air we breathe, and food we eat, plants animate our lives in various ways.

PHYTOPIA hosted fourteen interdisciplinary exhibits, ten talks and events, two films, and five workshops – all to explore the hidden world of plants. The exhibits were selected from an international open-call and were coupled with programming that brought together creative practitioners from across disciplines to engage with the visitors through talks, discussions, and hands-on workshops.

This document is for you to remember PHYTOPIA. Please share it among your circles and spread the word!

Warmly,

The Science Gallery Bengaluru Team

PHYTOPIA

10 DAYS | 54,750+ VIEWS



14
EXHIBITS

16
ARTISTS

10+
MINUTE AVERAGE VIEW TIME

9,570+
VISITORS



17
PROGRAMMES

36
EXPERTS

1800+
PARTICIPANTS

2500+
VIEWS



570+
PARTICIPANTS

74
MEDIATOR-LED SESSIONS

14
MEDIATORS

10
ARTIST-MEDIATOR MEETINGS



240+
HANDBOOK DOWNLOADS

2100+
READER ENGAGEMENTS

40+
WRITING SUBMISSIONS

95+
CONNECTED LINKS



The Exhibition

All our programmes and exhibits were categorised under six themes which represent plants beyond their utilitarian and aesthetic value. We invited our visitors to think about the ways in which plants are embedded within our language, histories, culture and imagination.

The exhibits and programmes at PHYTOPIA had a Read, Listen, and Watch section which had additional reading material, podcasts, and videos connected to the ideas explored in the exhibit. These connections encouraged the visitors embark upon their individual explorations and have been preserved in the PHYTOPIA archive.

Themes at PHYTOPIA



Change and disturbance are an integral part of life, but some agents -- both human and vegetal -- endure disruptions far better than others.



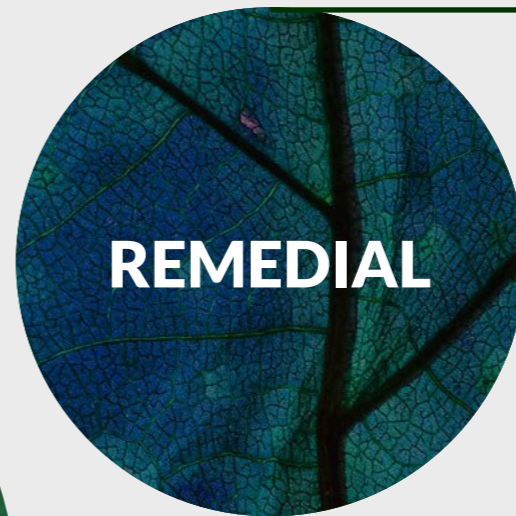
A homage to the visionaries at the root of pioneering discoveries about the plant world.



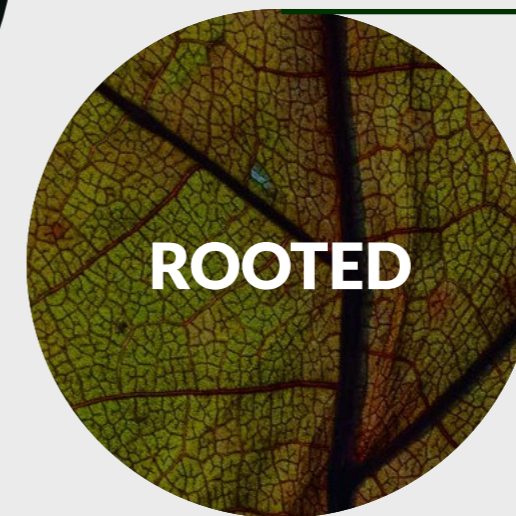
Artists and researchers manipulate the innate properties of plants through technology to expand the meaning of what is considered natural.



The cycle of life and death in plants influences our language, imagination and culture. How do we represent plant life and how has our perception evolved over time?

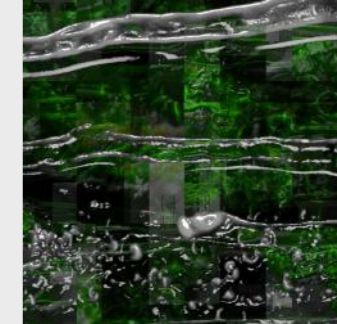


What can we learn from the dynamic behaviour of plants -- how they gather information about their surroundings and are attentive to changes in it?



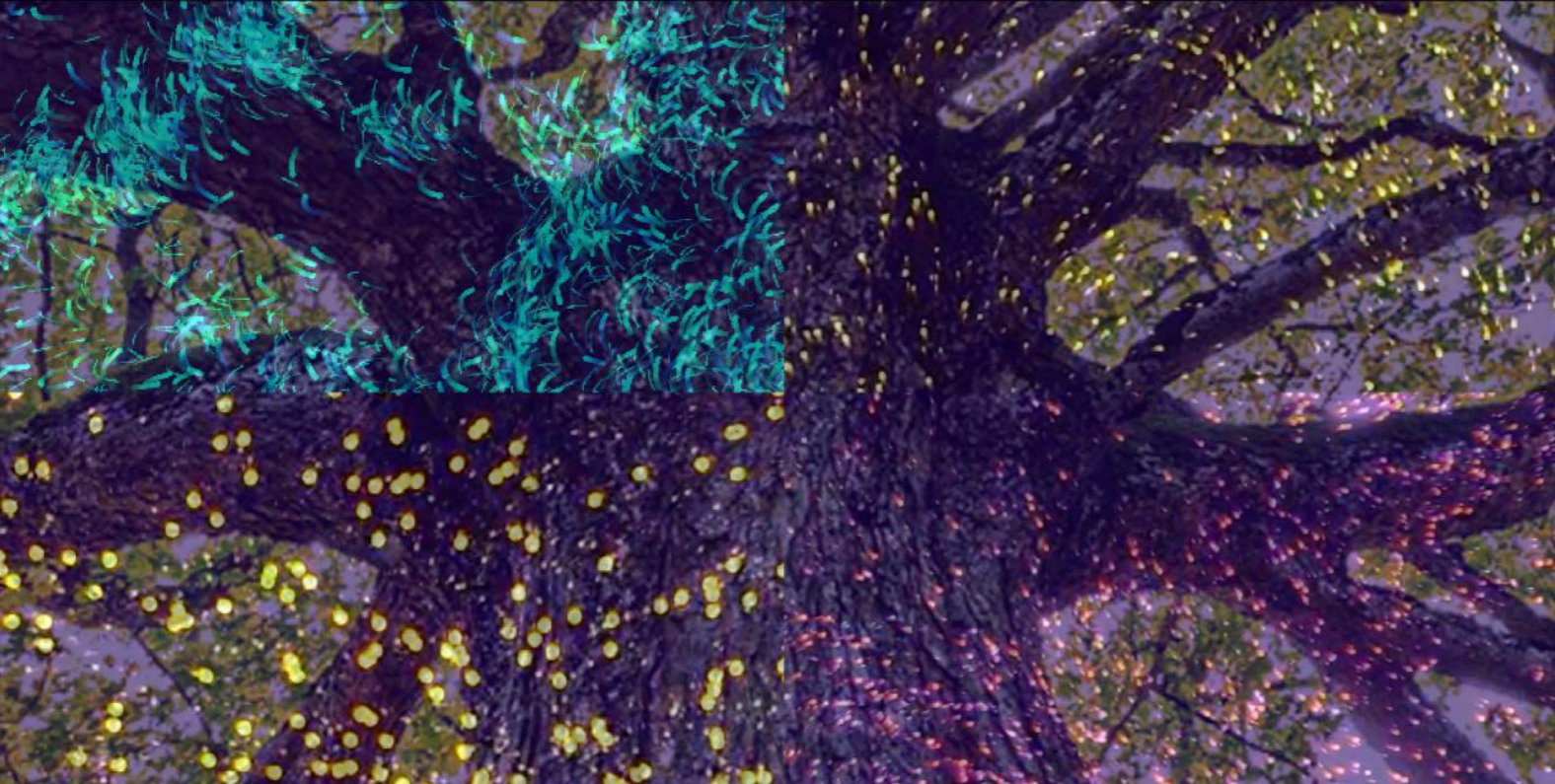
Plants are not just mere props or the green background to life, but the very force that enables it. We examine how food cultures -- which evolved through plant-human interactions -- have shaped societies for millennia.

RAW



4 EXHIBITS | 1 WORKSHOP

In Raw, we highlighted the work of artists and researchers, who manipulated the innate properties of plants through technology to expand the meaning of what is considered natural. From producing graphic prints with chloroplasts to re-creating the subtle movements of trees through eco-sensors, these works speculated on how scientific tools and methods can bridge the increasing distance between humans and plants.



“Watching Foresta Inclusive map real time data of its tree was fascinating; it seems not only very artistic but has incredible practical use in the agro industry.”

- Avanti, visitor



FORESTA INCLUSIVE

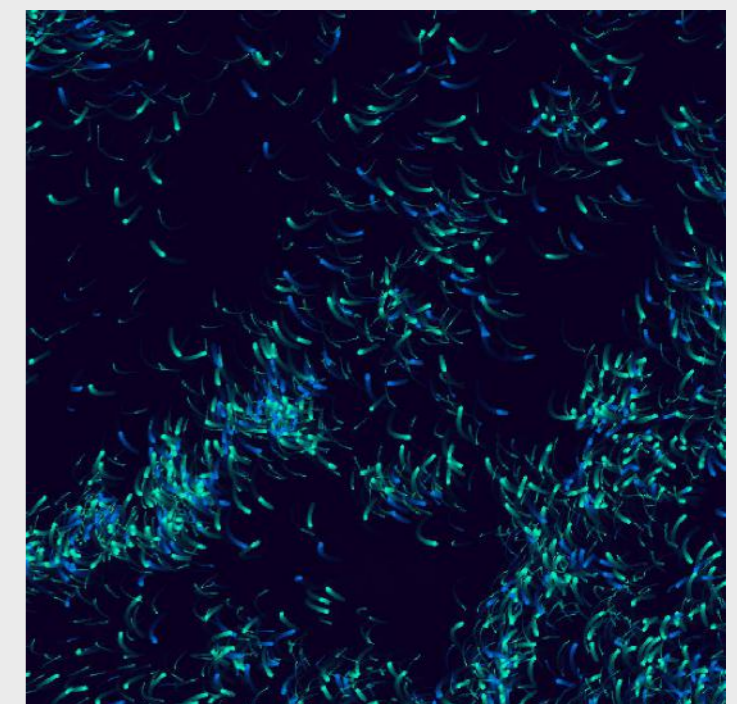
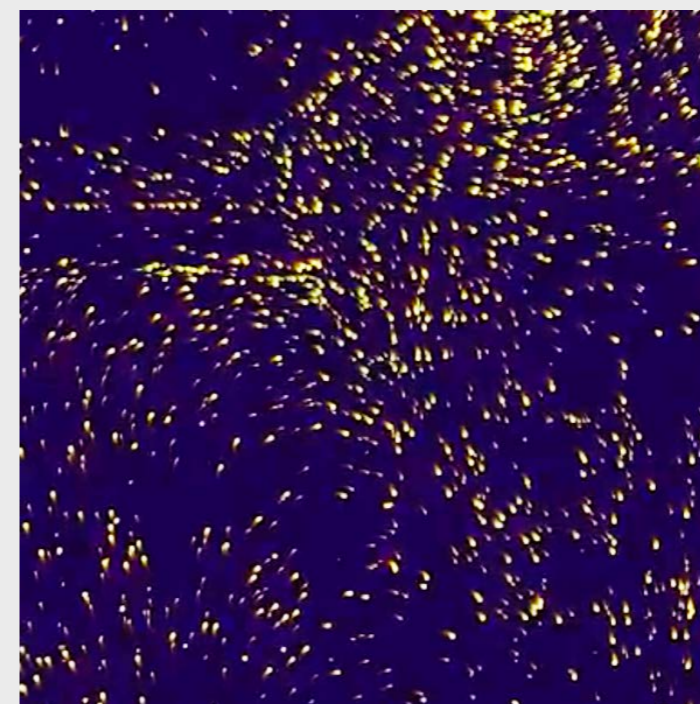
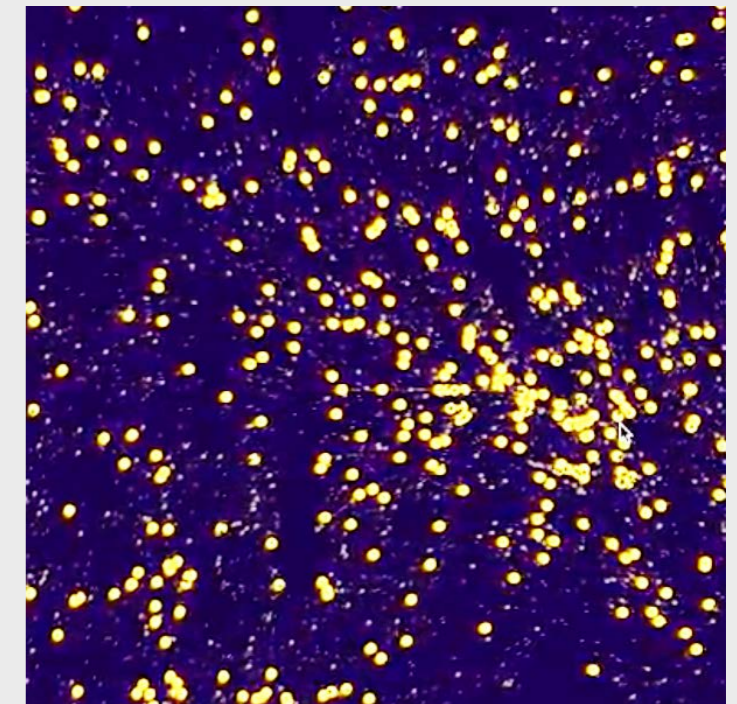
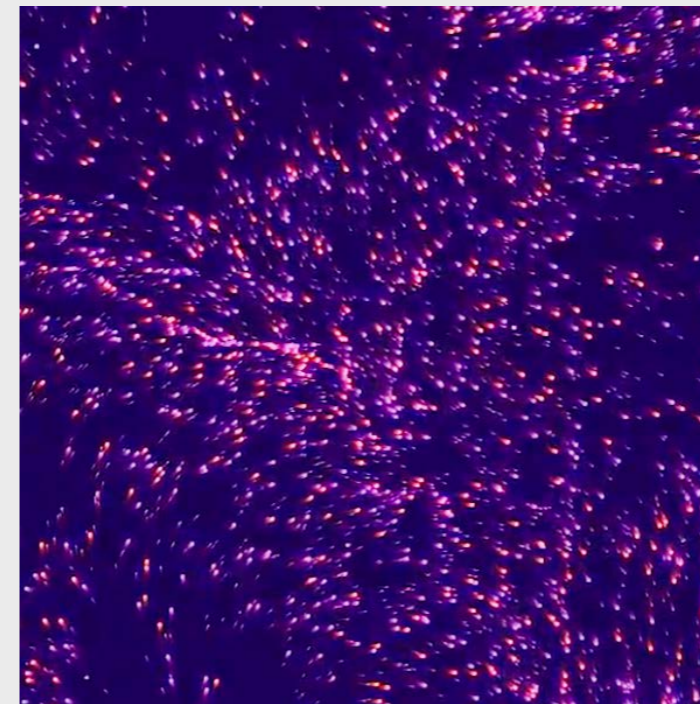
JANE TINGLEY | 1108 PAGEVIEWS

The movement of plants is often barely perceptible to the human eye, which leads many of us to assume that the plant world is fixed and inert. Thwarting such assumptions, Foresta Inclusive linked the ecosystem of a forest through a sculptural sensor hub, to an art installation within the exhibition space. It brought to life the slow and subtle movements of trees and surrounding ecology, in order to find ways to create a context for in-gallery human/forest interaction and collaboration.

ABOUT THE ARTIST

Jane Tingley is an artist, curator and Assistant Professor at York University (CA). She has participated in exhibitions and festivals in the Americas, the Middle East, Asia, and Europe - including translife - International Triennial of Media Art at the National Art Museum of China, Beijing, Gallerie Le Deco (JP), and Elektra Festival (CA). She received the Kenneth Finkelstein Prize in Sculpture and the first prize in the iINTERFACES - Interactive Art Competition in Portugal.

All images courtesy of Jane Tingley





SYMBIOSIS

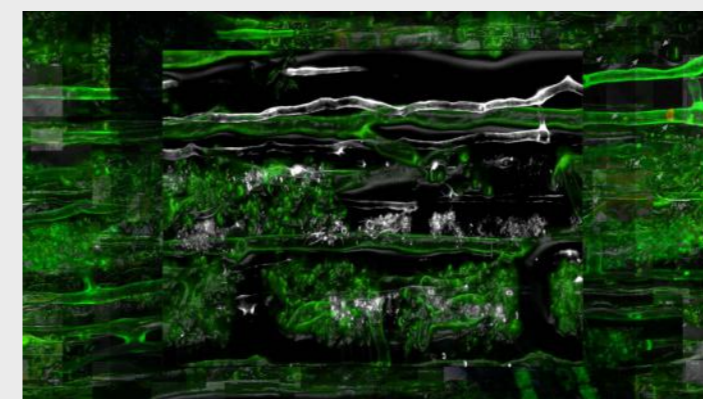
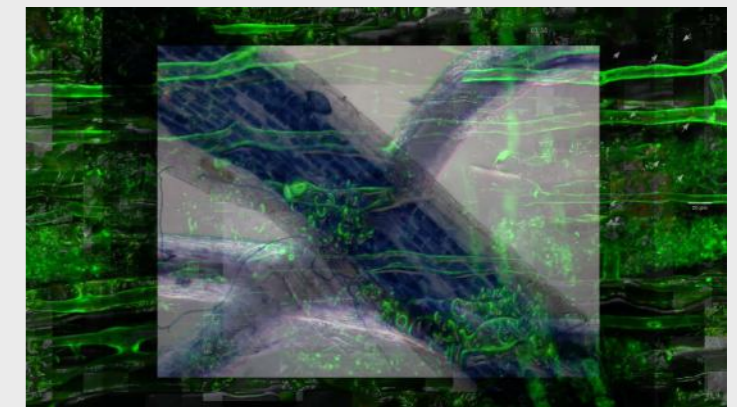
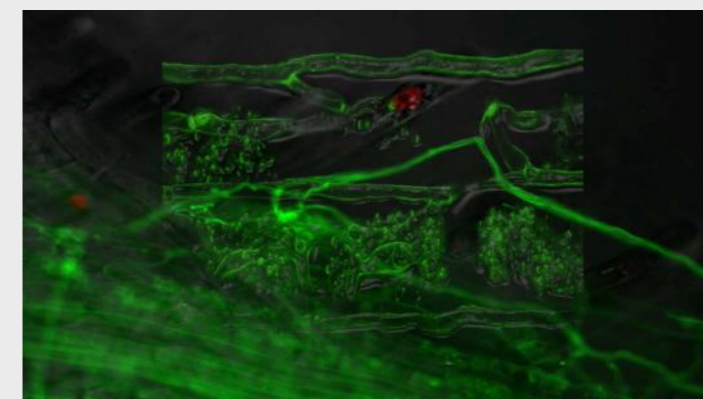
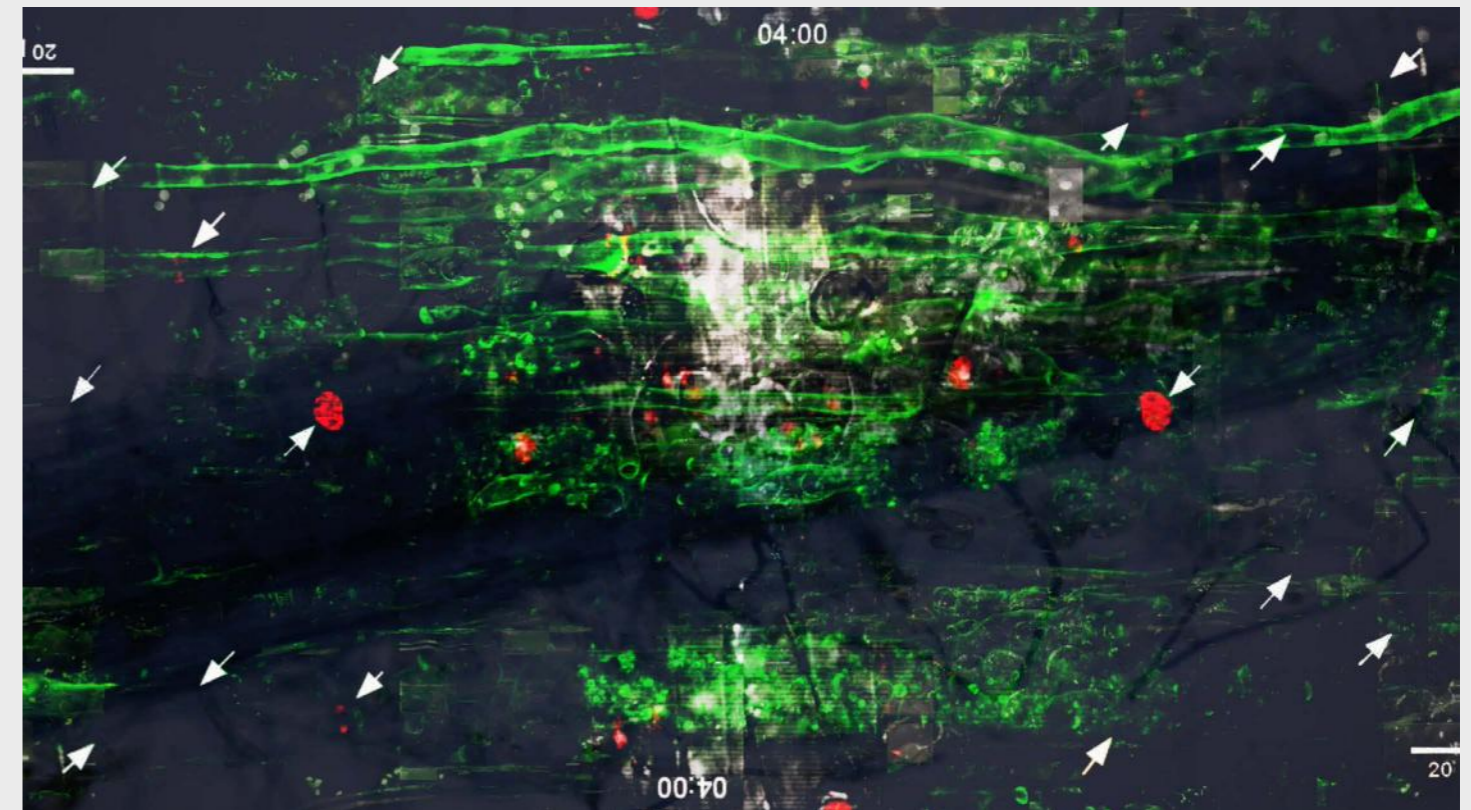
HENRY DRIVER | 842 PAGEVIEWS

Using scientific images obtained by researchers at John Innes Centre, Henry Driver visually re-imagined the symbiotic association between plants and fungi in Symbiosis. This video artwork explored and visualised the symbiotic relationship which crops can have with phosphate-delivering arbuscular mycorrhizal fungi. The artwork was created along with inputs from leading John Innes Centre (Norwich, UK) researchers Dr. Myriam Charpentier and Dr. Catherine Jacott. The video was created by combining Charpentier's and Jacott's research imagery and video footage, which is then manipulated, and overlaid with imagery created by the artist Henry Driver.

ABOUT THE ARTISTS

Henry Driver has shown across the world in cities such as Berlin, Copenhagen, Montreal, Toronto, Sydney, Melbourne, Seoul, Yokohama, and Taipei. Most recently he was selected by leading curators, as one of the top 15 young artists working in the UK for the Kleinwort Hambros Emerging Artist Prize 2019.

All images courtesy of Henry Driver



"I love the artwork Symbiosis and the way our mediator, Meghna explained it was fascinating. It was a new way of thinking about plants as alive and communicative."

- Laharee Mitra, visitor



PHOTOSYNTHEGRAPH

YOKO SHIMIZU | 1463 PAGEVIEWS

Photosynthesis is one of the most creative and important chemical reactions, which has sustained life on this planet for millions of years. From the depths of the sea to the highest mountain top, the evolution of photosynthesis has driven ecosystems to make the planet more hospitable. Inspired by nature's genius, Photosynthegraph used photosynthesis to make evocative artwork.

High resolution prints are created with plants by attaching films onto plant leaves allowing chloroplasts to create starch patterns. The leaves are then chemically treated to visualise the graphics created by the chloroplasts.

ABOUT THE ARTIST

Yoko Shimizu is a researcher and artist at the Ars Electronica Futurelab, with a background in biology and chemistry. Her career started as a creative director and consultant for technology companies in Japan. Later, she started her lab, receiving awards for biology-inspired installations, and has given exhibitions, talks, and performances worldwide. Yoko currently develops innovative technologies and installations that combine science and art, and works with companies, government entities, museums, and universities around the globe.

All images courtesy of Yoko Shimizu



"...It tells us interesting things about the science of photosynthesis. As an educator, I am looking forward to incorporating some of these ideas in my classrooms and teacher sessions."

- Mrinal, visitor





SUSTAINABLE DARK ROOM PROJECT

HANNAH FLETCHER | 29 AUGUST 2020 | 16 PARTICIPANTS

Photographic development is the chemical process by which a photographic film or paper is treated after exposure to create an image. If you've ever had the opportunity to enter or create a dark room in a studio, you would notice the pungent smells which arise from using various acids and halides to develop an image. But what if you could create these images using plant based developers? Hannah Fletcher of the London Alternative Photography Collective explored the possibilities of doing so in the Sustainable Dark Room Project.

ABOUT THE FACILITATOR

Hannah Fletcher is a London based artist, working with cameraless photographic processes, a facilitator and Co-director of London Alternative Photography Collective. Recently, she has initiated and is running The Sustainable Darkroom Project; an artist-run research, training and mutual learning programme to equip cultural practitioners with new skills and knowledge to develop a more environmentally friendly analogue photographic practice.

All images courtesy of Hannah Fletcher



“(It was interesting to) make the prints and also to listen to Hannah talk about what she does”

- Sarabhi Ravichandran, participant



A TALE OF INDIGO

ARVIND INDIGO MUSEUM | MEGHA TODI | 656 PAGEVIEWS

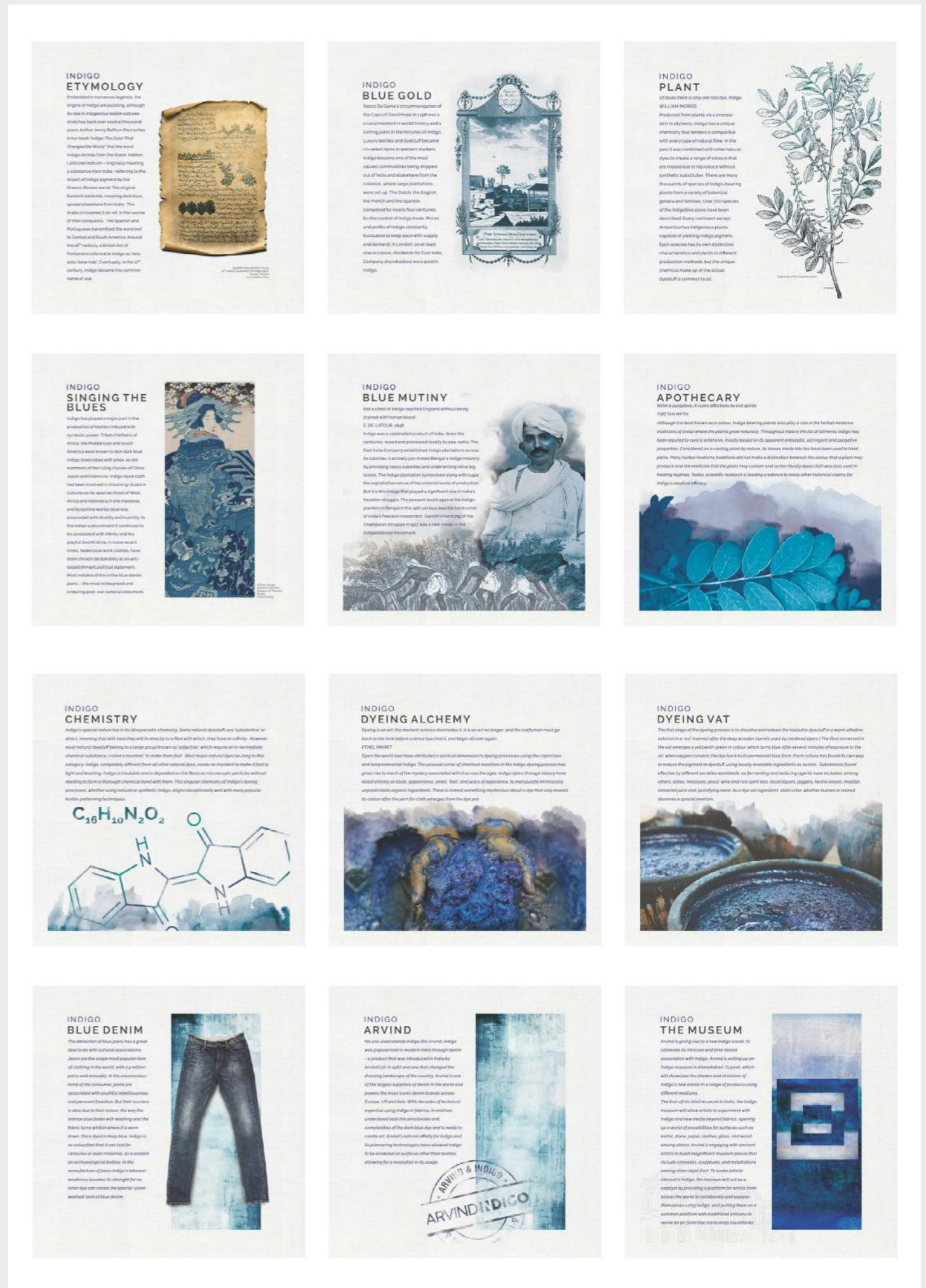
'Alchemy - Explorations in Indigo' is an exhibition on view at the Kasturbhai Lalbhai Museum at Ahmedabad which gives a glimpse into the boundless creativity of more than thirty artists and artisans who had experimented with the blue dye using their unique sensibilities, different substrates and new media. Conceptualized by Sanjay Lalbhai, the creative realization for the exhibition was done by Vipul Mahadevia while Anupa Mehta worked as the curatorial support for the project. The exhibition has opened a world of possibilities for working with Indigo on unexplored surfaces such as metal, stone, paper, leather, polyester fibre, glass, and wood, among others, deviating from the more familiar textile based work. The Tale of Indigo is a series of panels composed by Megha Todi for the exhibition.

ABOUT THE CONTRIBUTORS

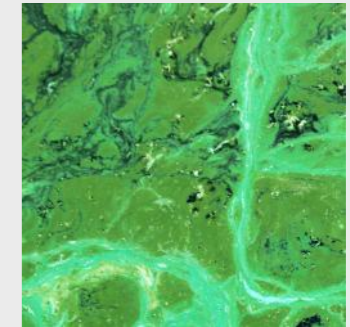
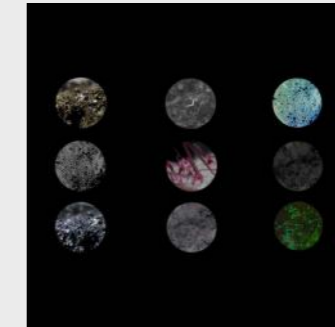
Born in 1988, in Dibrugarh, Assam, Megha Todi has been engaged with archival research for the past 7 years. She was a part of the team that launched the Gandhi Heritage Portal, an online repository for the works of Gandhi and his associates. Along with co-editors Dr. Tridip Suhrud and Kinnari Bhatt, she has edited the first series of "Letters to Gandhi" project, the first volume having been published in 2017. When not engrossed in archival papers, she is a tea sommelier and spends her time tasting and blending tea.

The Arvind Indigo Museum, envisioned to come up at Arvind's India headquarters on Naroda Road, Ahmedabad, seeks to expand the vocabulary around the indigo pigment through experimentations in varied processes and concepts. The museum will probably be conceptualized within the Arvind Factory premises which had once manufactured the first ever denim in India in 1987.

All images courtesy of Kasturbhai Lalbhai Museum



REMEDIAL



2 EXHIBITS | 1 WORKSHOP | 2 TALKS | 1 EVENT

Apart from navigating through underground labyrinths of soil, roots and rock in search of nutrients, plants must be aware of dangers -- the invasion of pathogens, the pollutants in water and onset of drought -- to activate their defenses. What can we learn from their dynamic behaviour?



RECREATING THE ROEE

PRADIP KRISHEN | 21 AUGUST 2020 | 1400 VIEWS

In this talk, Pradip Krishen walked us through different facets of his work in creating 'Kishan Bagh' as a place that invites visitors to get to know the desert intimately, its rocks and plants, but most specially, a native Thar shrubland called 'Roee'. The 'central ambition' of Kishan Bagh is to introduce the word 'Roee' into the vocabulary that people use when they think or talk about the Thar desert. That could be a first step towards visiting, photographing and hopefully, conserving this relict landscape.

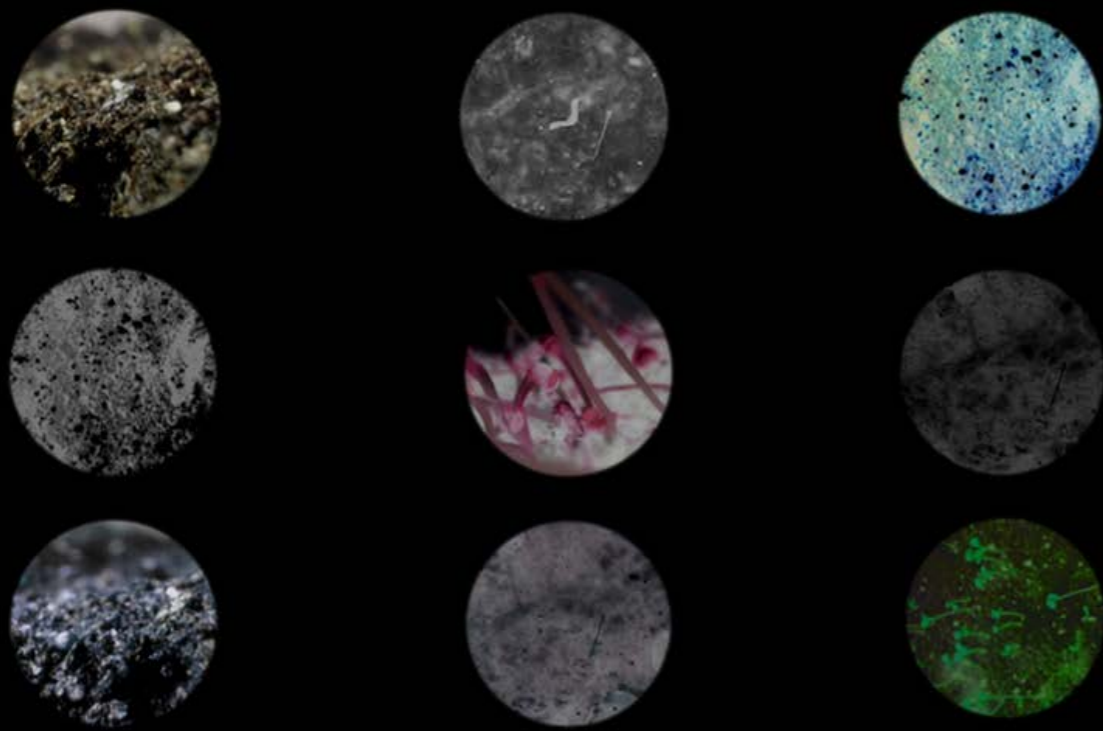
ABOUT THE FACILITATOR

Pradip Krishen writes about trees and plants and works as an ecological gardener in Western India and the desert where he has re-wilded spoiled landscapes with native vegetation. He is the author of *Trees of Delhi* (2006) and *Jungle Trees of Central India* (2015). He is working now on a journal-style book about Delhi's degraded Central Ridge forest. He made 3 films in the 20th century and regards that as a career he has moved away from. His films were: *Massey Sahib* (1986), *In Which Annie Gives it Those Ones* (1989) and *Electric Moon* (1991).



"Seeing the design of Kishan Bagh and understanding how aesthetics and ecology are intertwined was very inspiring to me."

- Liza, attendee



RE-MEDIA+ION 2

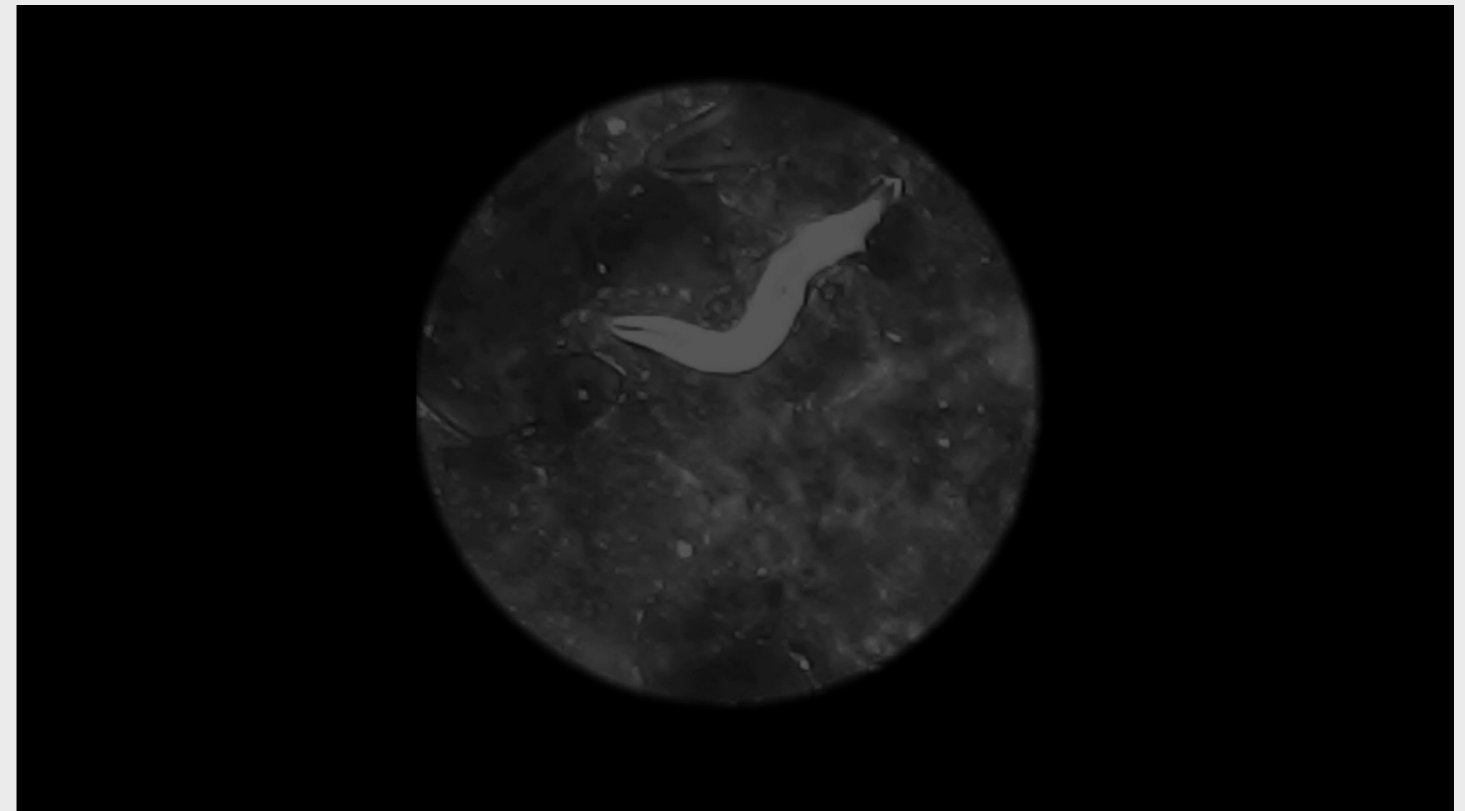
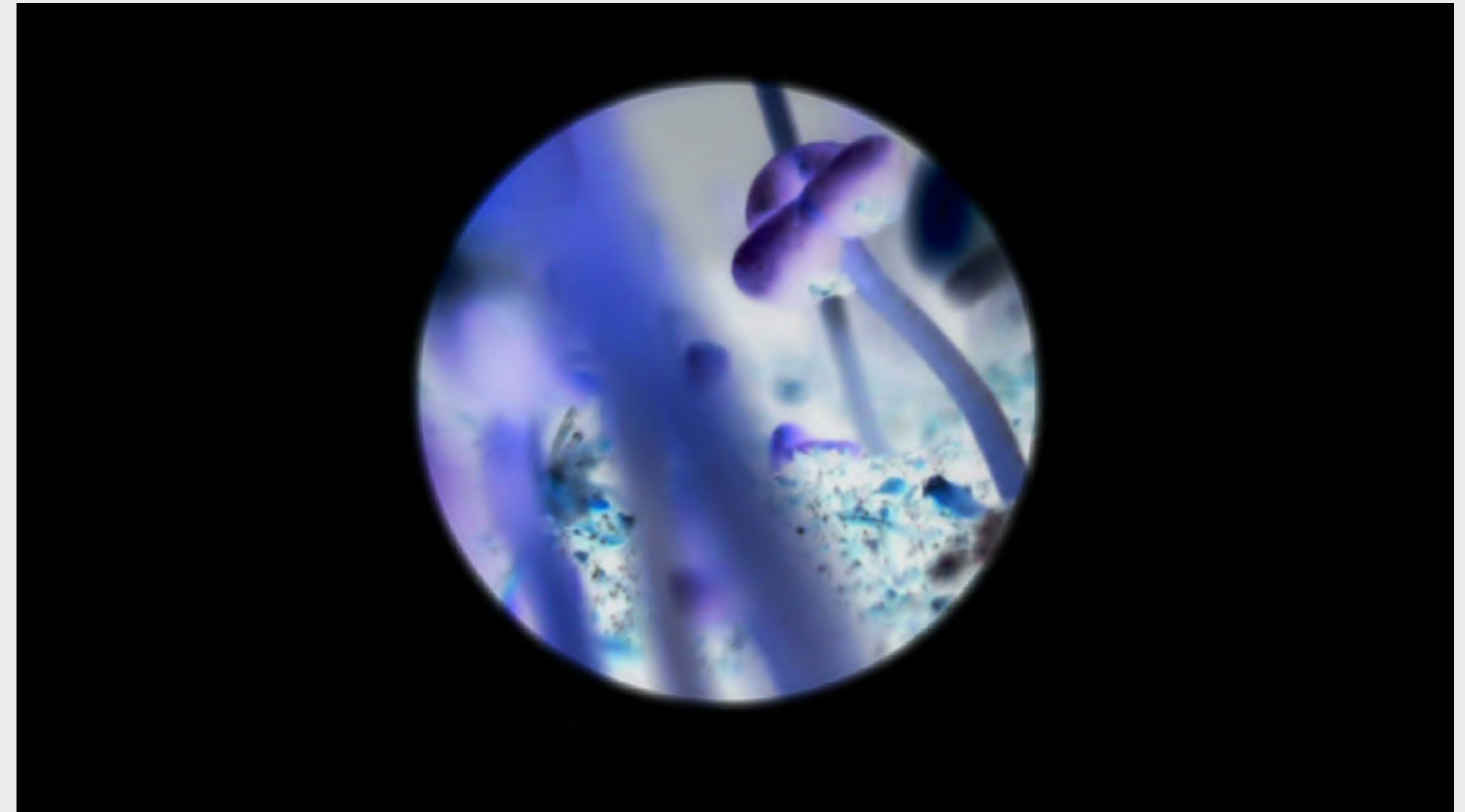
MARU GARCIA | 398 PAGEVIEWS

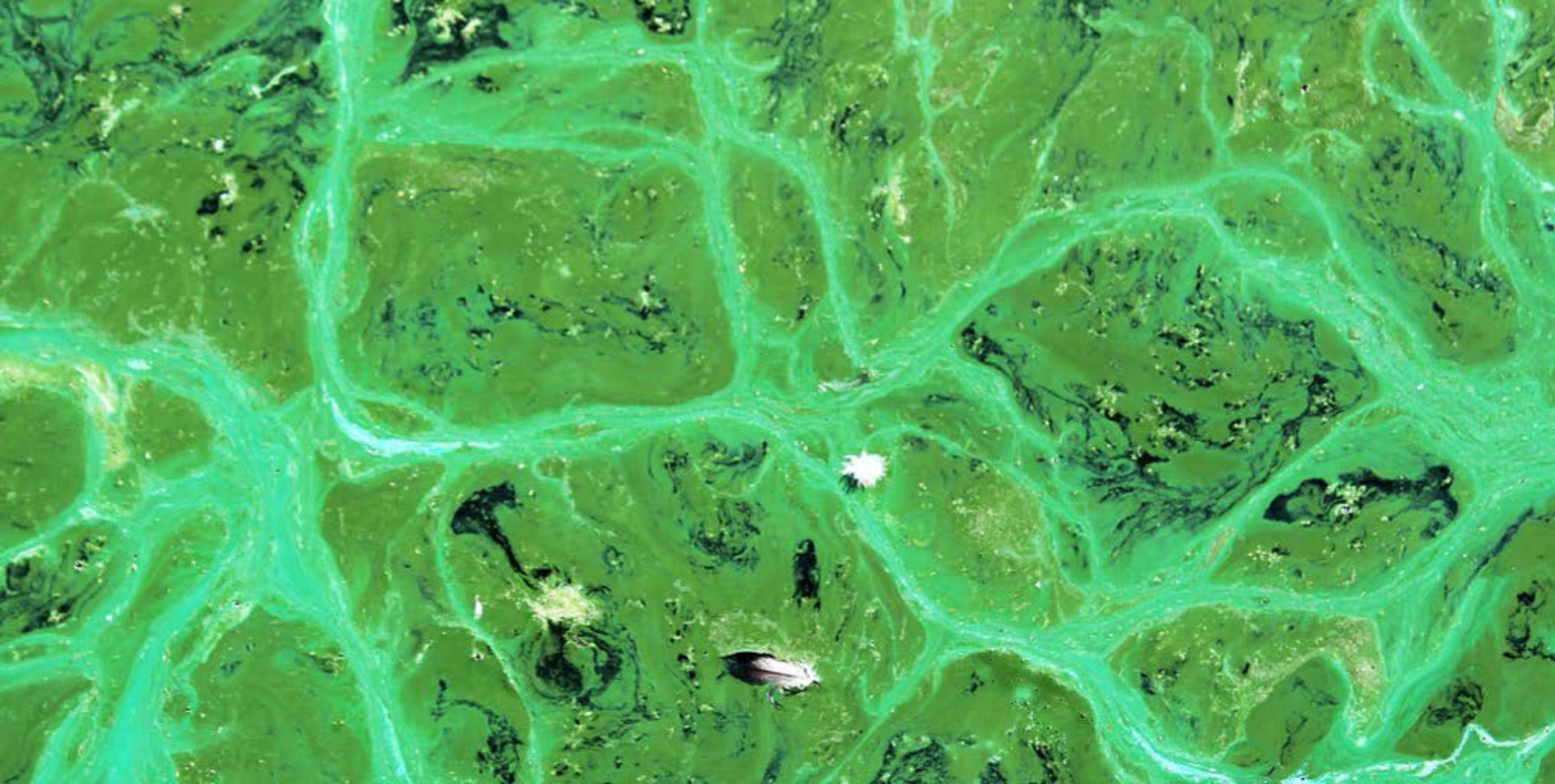
In RE-MEDIA+ion 2, Maru Garcia explored the impact of humans on soil and water ecosystems and speculates on how hybrid technologies can undo this harm. It explored the use of technology as an extension of our capacities, questioning its ability to connect or disconnect humans from the other organisms or their environment. RE-MEDIA+ion 2 was a combination of different concepts; “remediation” from the media theory proposed by Bolter and Grusin, the process of cleaning environmental damage in environmental engineering, and the chemical processes that happen at the molecular level with ion interchanges.

ABOUT THE ARTIST

Maru García is a transdisciplinary artist and researcher working across art, science and the environment. Her use of media includes research, installations, performance, sculpture, and video, usually with the presence of some kind of organic matter to help understand the biological processes occurring in complex systems. Since 2017, Maru has collaborated with the Art-Sci Center and Counterforce Lab at UCLA. She has participated in conferences, solo and group exhibitions in Mexico, the US, and Spain. She was an artist in residence in the National Center of Genetic Resources in Mexico and received awards from Los Angeles Sustainability Collaborative, Clifton Webb Scholarship for the Arts, and Fundación Jumex.

All images courtesy of Maru Garcia





SENTINELS OF THE LAKE

SUMITA BHATTACHARYYA | 22 AND 30 AUGUST 2020 | 17 PARTICIPANTS

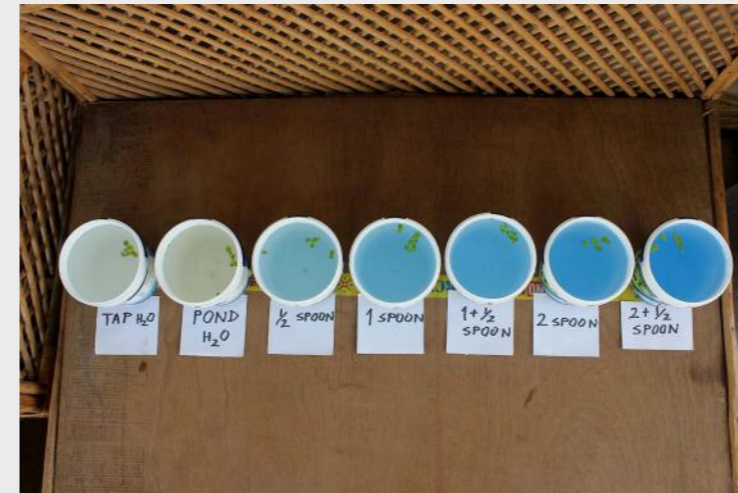
Aquatic plants are a sight to behold in water bodies as well as in indoor aquariums. But apart from adding aesthetic value to waterscapes, these organisms also play a vital role in balancing fragile ecosystems.

Sumita Bhattacharya helped participants perform experiments at home to understand how they can use aquatic plants to study the ecological status of local water bodies.

ABOUT THE FACILITATOR

Sumita Bhattacharya is a PhD student at ATREE since 2019, Sumita Bhattacharya is working on water pollution and monitoring of urban lakes in Bengaluru. She has done her under graduation from the University of Delhi in Botany and post graduation from the Forest Research Institute, Dehradun in Environment Management. Her interests lie in water pollution, monitoring water quality using bioindicators and citizen science engagement.

All images courtesy of Sumita Bhattacharya



“The information I got on Bangalore’s lakes was very interesting.”

- Maya Murthy, participant





WALKTHROUGH OF THE JOHN INNES CENTRE

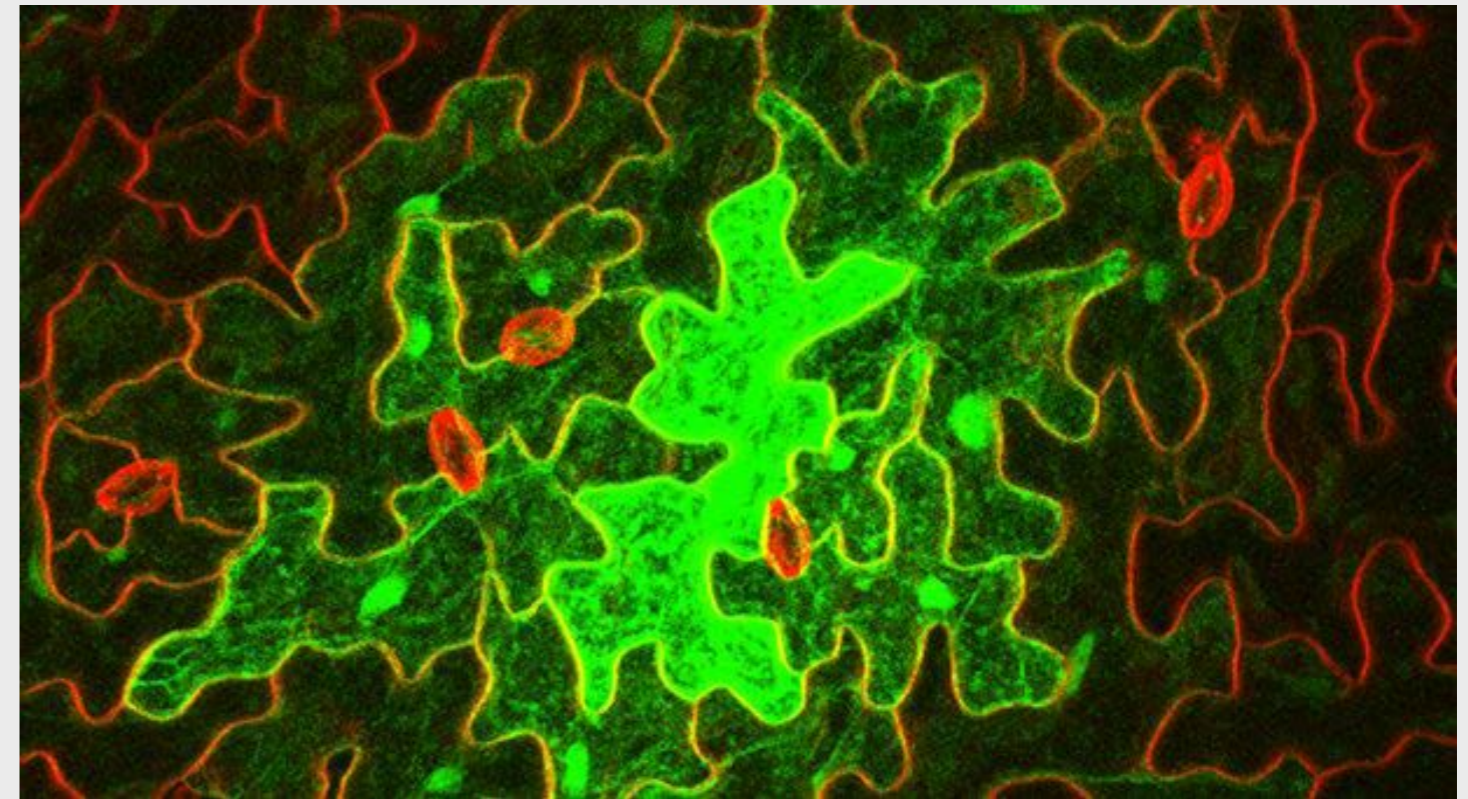
SEBASTIAN SAMWALD | 29 AUGUST 2020 | 48 PARTICIPANTS

Researcher Sebastian Samwald, took us through his lab to find out what it's like to study the science of plants. The event showed us the spaces and tools researchers like Basti use to learn about plants, from plant growth rooms through to microscopes.

ABOUT THE FACILITATOR

Basti is a PhD student at the John Innes Centre, an independent, international centre of excellence in plant science, genetics and microbiology in the UK. His research focuses on understanding the molecular workings inside plant cells. In his most recent work, he and other researchers determined the inner processes of how plant cells undergo self-isolation from other plant cells when they are faced with a pathogen.

All images courtesy of the John Innes Centre



"The event encouraged me to know more about every tiny little thing"

- Aditya Lal, participant



WHEAT RUST

JOHN INNES CENTRE | DIANE SAUNDERS | 399 PAGEVIEWS

Plant pathogens can destroy food crops and pose a serious threat to agriculture. The wheat rust pathogen, also known as the “polio of agriculture”, can attack any above-ground part of the plant. A common visible symptom of this disease is the appearance of small, round, yellow spores on different parts of the plant.

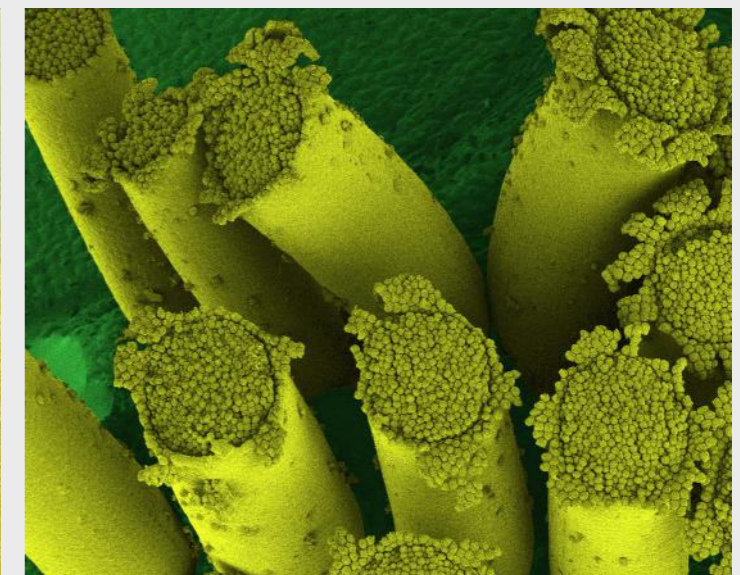
This exhibit explored the visual beauty of the pathogen at a microscopic scale through the images captured by Diane Saunders and her group at the John Innes Centre. Using the latest DNA sequencing technology, Diane and her team pioneered a surveillance technique called Mobile And Real-Time Plant Disease (MARPLE) diagnostics, which allows them to identify individual strains of wheat rust pathogens within 48 hours of collecting infected field samples.

ABOUT THE RESEARCHER

Diane Saunders’ research focuses on (re-)emerging plant pathogens that pose a significant threat to agriculture. Her research group uses an array of different approaches to study plant pathogens to improve our understanding of how pathogens cause disease.

Her research includes numerous projects studying the wheat yellow rust pathogen, *Puccinia striiformis* f.sp. *tritici* that recently re-emerged as a major constraint on UK agriculture. She is also currently leading a program to respond to the potential re-emergence of wheat stem rust in western Europe. Diane’s fundamental research has provided new knowledge on how pathogens successfully invade susceptible plant hosts and influence a host plant’s circuitry during infection.

All images courtesy of the John Innes Centre





INTERNATIONAL YEAR OF PLANT HEALTH 2020

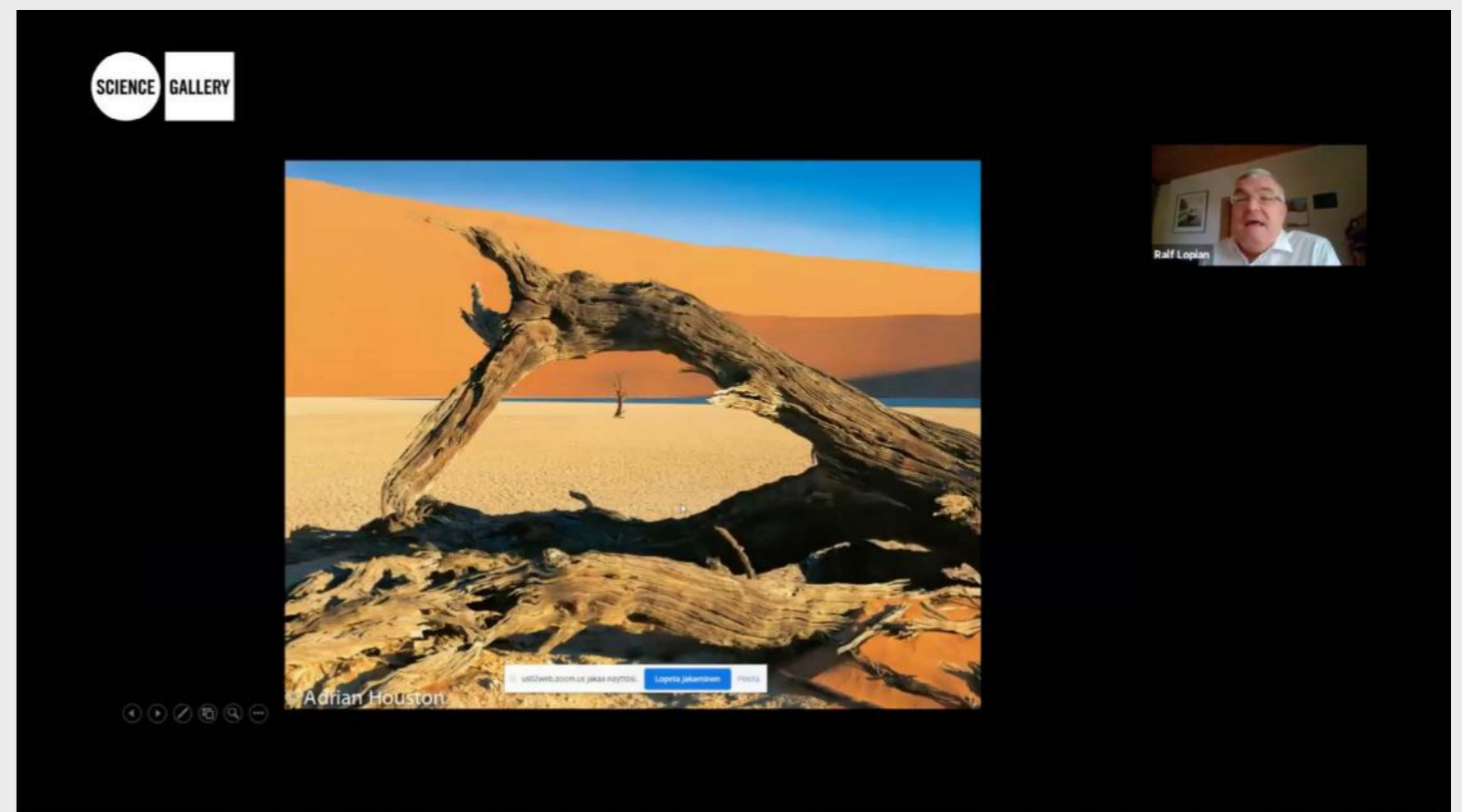
PHYTOPIA AND THE INTERNATIONAL YEAR OF PLANT HEALTH

RALF LOPIAN | 30 AUGUST 2020 | 131 PARTICIPANTS

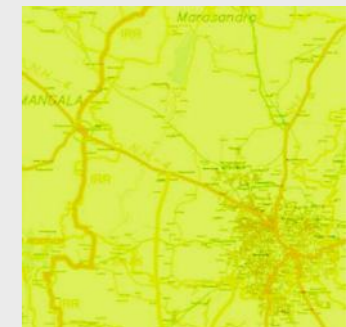
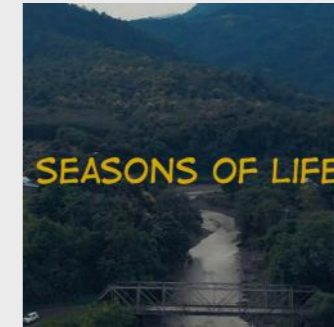
PHYTOPIA came to a close with a note by Ralf Lopian, the Chairperson for the Food and Agricultural Organisation's International Steering Committee for the International Year of Plant Health. He spoke about how protecting plant health can help end hunger, reduce poverty, protect the environment, and boost economic development.

ABOUT THE FACILITATOR

Ralf Lopian holds a degree in Agricultural Engineering. He has held various positions with the Plant Pathology Department at the University of Helsinki, the National Plant Protection Service of Finland and the Secretariats of the European and Mediterranean Plant Protection Organization and the International Plant Protection Convention. Mr Ralf Lopian joined the Ministry of Agriculture and Forestry of Finland in 1994 and was head of its Plant Protection Section until 2001. Since 2001 he has taken on the responsibilities for the coordination of international affairs of the Animal and Plant Health Unit of his ministry. In addition, he was the chairman of the Interim Commission on Phytosanitary Measures of the IPPC as well as its vice-chair for several election periods. Mr Ralf Lopian is also a member of the Council of EPPO as well as a long-serving Finnish representative to the WTO/SPS Committee.

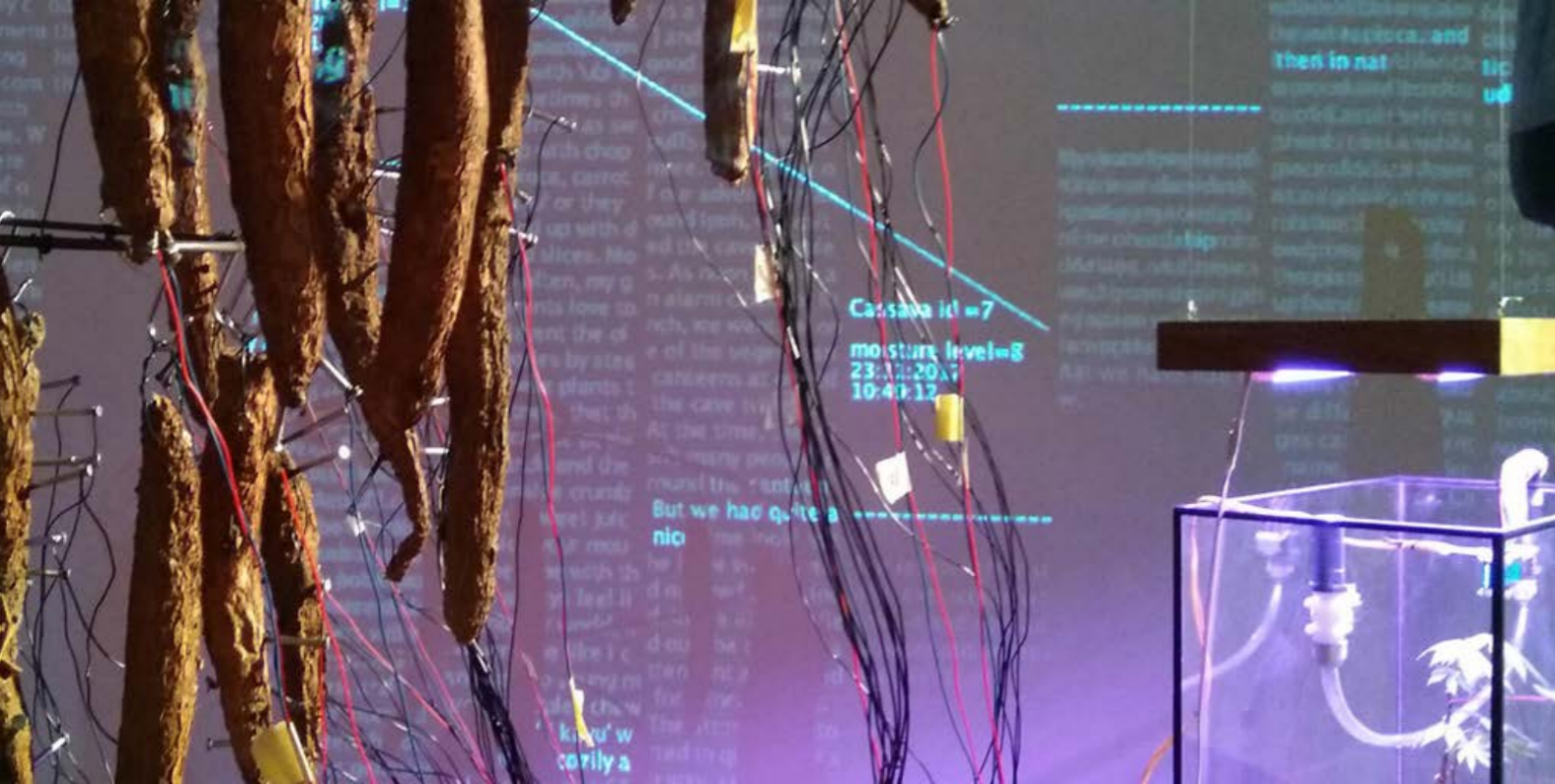


ROOTED



1 EXHIBIT | 1 WORKSHOP | 1 TALK | 2 FILMS

Plants are not just mere props or the green background to life, but the very force that enables it. We examined how food cultures -- which evolved through plant-human interactions -- have shaped societies for millenia. We invited artists, filmmakers, chefs and anthropologists to explore how we can document who we are, where we come from and where we are going through the lens of food.



OPERASI CASSAVA

LIM KOK YOONG | ROOPESH SITHARAN | 679 PAGEVIEWS

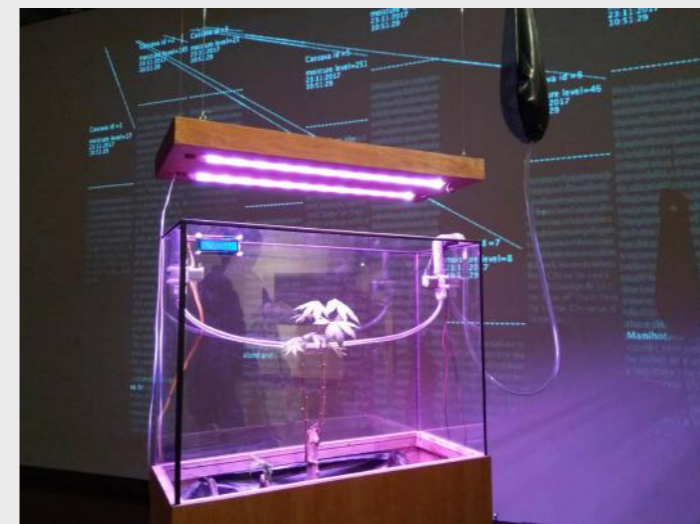
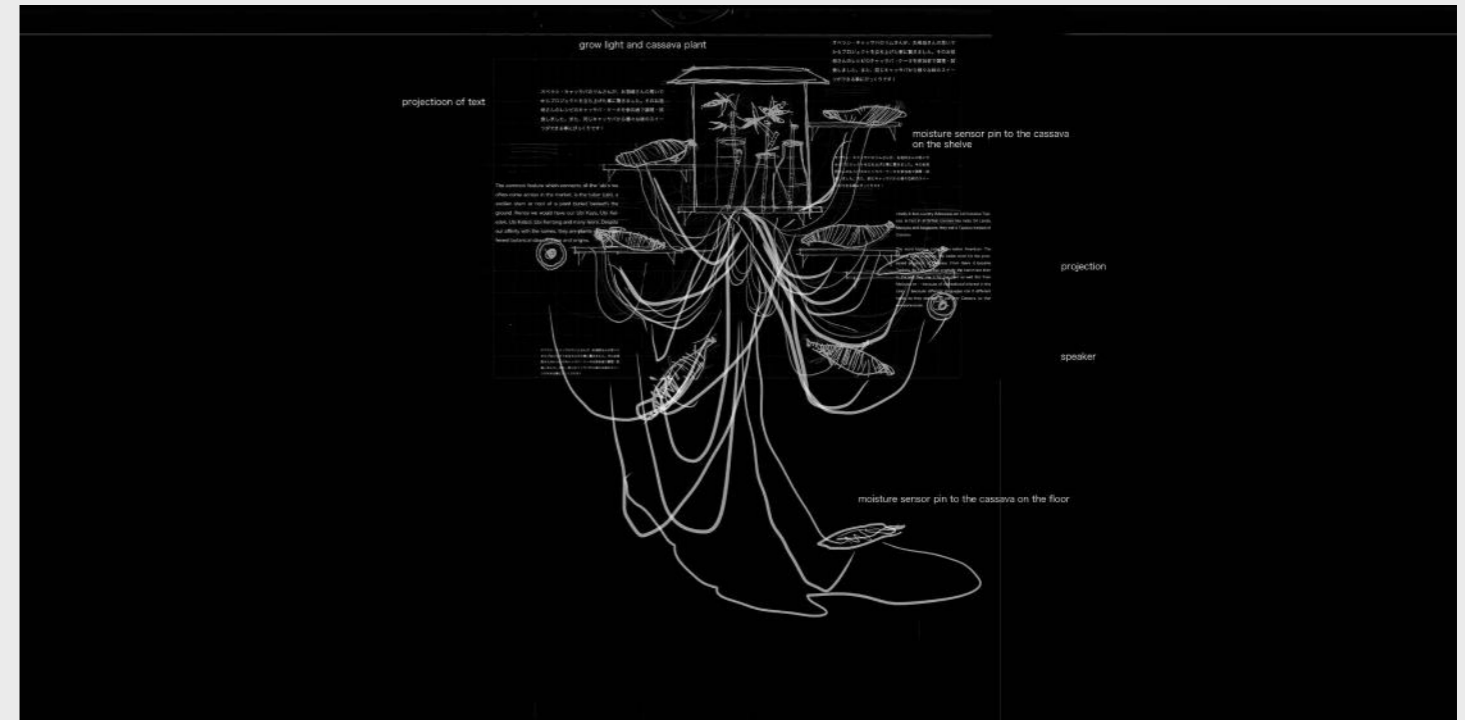
Operasi Cassava is a project that examines Malaysian cultural identity through the cassava plant. What started as an online participatory archive about this plant, soon morphed into a revelation about the complex communication capabilities between humans and plants. It offers a glimpse into Malaysian culture from the lived experiences of those who consumed the cassava plant as food, and offers up for contemplation, the myriad ways in which technology can bring non-human experiences to the forefront. The aim of Operasi Cassava is not only to reveal the complex communication capacities amongst living beings but also to secure a more vaunted place for plants within our collective consciousness.

ABOUT THE ARTISTS

Lim Kok Yoong is a Malaysia born media artist who works with new media and digital technology. He is also a senior lecturer in the Media Arts Department in the Faculty of Creative Multimedia, Multimedia University, Malaysia. His works investigating the mind, the media environments and material processes through theoretical and practice-based work, drew on his interest in the existentialist perception of human conditions.

Roopesh Sitharan is an educator, researcher, curator, and an artist. His area of specialization is Malaysian contemporary art, New Media cultures and curatorial practice. Currently he is associated with Multimedia University in Cyberjaya, Malaysia. Roopesh has been actively involved in several national and international projects and showcases such as APICTA, Gwangju Biennale, ISEA and his writings have been published in several local and international journals and magazines. He often examines the boundaries of meaning and value in the production and interpretation of new media art.

All images courtesy of Lim Kok Yoong and Roopesh Sitharan



“It was interesting to see the use of technology (IoT) and how it works on UV light to drive home a simple but important message in the Operasi Cassava exhibit..”

- Sanjay Dhawan, visitor

SEASONS OF LIFE

SEASONS OF LIFE

DOLLY KIKON | 38 VIEWS

Fermented bambooshoot is a delicacy as well as an everyday staple for many communities across Northeast India. It is an integral part of the food culture and links the region to its Southeast Asian and East Asian neighbours. In Nagaland and its neighbouring states like Manipur, Assam, Arunachal Pradesh, Tripura, Meghalaya, Sikkim, and Mizoram, bambooshoot is used in various forms: fresh, soaked in brine, and dried. As Pithunglo tells us, "Bambooshoot is like a spice to the Lotha Nagas."

Seasons of Life follows Tsumungi, Pithunglo, and Yanchano, as they labour to forage and ferment tender bambooshoot, a food item cherished across several Himalayan households in South Asia.

ABOUT THE FILMMAKER

Dolly Kikon is a Senior Lecturer in the Anthropology and Development Studies Program at the University of Melbourne. She received her PhD from the Department of Anthropology at Stanford University in 2013, and was a Post-Doctoral fellow at the Department of Social Anthropology at Stockholm University from 2013-2015. Prior to that she received her Bachelors in Law (LLB) from the Faculty of Law at University of Delhi in 2001 and practised in the Supreme Court of India and the Gauhati High Court in Assam. Her legal advocacy work and research continue to focus on land ownership and resource management in Northeast India, including extra constitutional regulations like the Armed Forces Special Powers Act (1958).

All images courtesy of Dolly Kikon

"Our ancestors foraged for Bambooshoot. They traded Bambooshoot and fed it to us too...This is how we were brought up"

A FILM BY
DOLLY KIKON



SEASONS OF LIFE

FORAGING AND FERMENTING BAMBOOSHOOT DURING CEASEFIRE

PRODUCED AND DIRECTED BY DOLLY KIKON
CINEMATOGRAPHY P. MENANGNICHET AND MHADEMO KIKON
EDITING HIRAK JYOTI PATHAK
SOUND TRIHANGKU LAHKAR
MUSIC REN MERRY



JOHAR WELCOME TO OUR WORLD

NILANJAN BHATTACHARYA | 53 VIEWS

Johar Welcome to Our World, explores the intricate relationship the adivasis of Jharkhand have with their forests. The film documents traditional recipes, the medicinal qualities of various herbs, weeds and fruits and the traditional knowledge of their sustainable management by the adivasis. The film also lays how mindless, aggressive development and the government's wrong-headed conservation policies have damaged the tribals' relationship with their land and pushed them ever deeper into food insecurity.

The film is an attempt to draw attention towards an overlooked but rich and environmentally sustainable food culture that is hugely significant for a country like India. It received the National Film Award for Best Narration (Writing) in 2010 and has been screened at Tribal Conclave, Jamshedpur, ZEF Bonn University, University of Göttingen, and AEIN, Luxembourg.

ABOUT THE FILMMAKER

Nilanjan Bhattacharya is an Indian filmmaker, Artist and Writer. He has produced and directed several acclaimed films and diverse media art works. Nilanjan received President's Award of India twice for his documentaries, Under This Sun (2005), and Johar Welcome To Our World (2010). Some of Nilanjan's other works: Rain in the Mirror, Ninety Degrees, Fishing Out of Time (mixed media installation), Quiet Flows the Stream (video installation). His works have been showcased at Mumbai International Film Festival, Goteborg International Film Festival, Experimenter Art Gallery, Calcutta, Wellcome Collection Gallery, London, European Kunsthalle, and Frankfurter Kunstverein.

All images courtesy of Nilanjan Bhattacharya





ON DOCUMENTING INDIGENOUS FOOD CULTURES

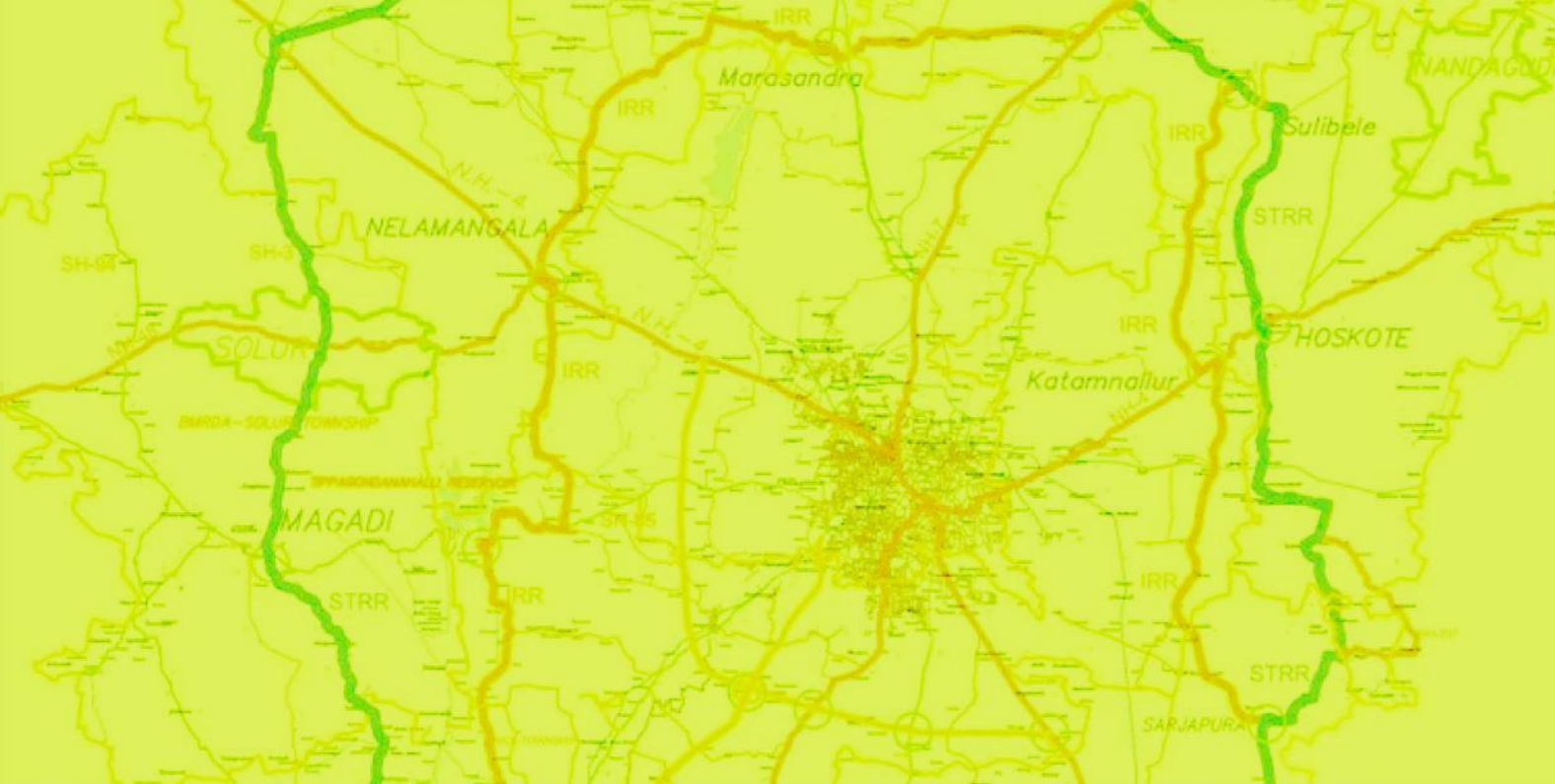
DOLLY KIKON | NILANJAN BHATTACHARYA | 22 AUGUST 2020 | 169 VIEWS

Anthropologist Dolly Kikon was in conversation with filmmaker Nilanjan Bhattacharya about their documentary films *Seasons of Life: Foraging and Fermenting Bamboo During Ceasefire* and *Johar: Welcome to Our World*. Both these documentaries illustrate indigenous food cultures and practices, which are often overlooked in the mainstream discourse about Indian cuisine and food habits.



“This talk encouraged me to think more about the food I eat every day and learn more about food practices other than my own.”

- Teerna Bhattacharyya, participant



WHO FEEDS BENGALURU?

EDIBLE ISSUES | 22 AND 23 AUGUST 2020 | 696 PARTICIPANTS

Spread over 2 days, Who Feeds Bengaluru (WFB) was an exploration into different forces that shape how the city of Bengaluru eats. It was a participatory research project fuelled by collective community thinking and doing, to get a clearer idea of the people who feed Bengaluru.

ABOUT THE FACILITATORS

Edible Issues is a food systems collective fostering thought and action on the Indian food system innovation, through public participatory events, research projects, meetups, and more.

“Who Feeds Bengaluru encouraged me to get more indigenous seeds for my balcony garden.”

- Kalika Bali, participant

“The talk by Tansha Vohra left me wanting to explore my neighbourhood more”

- Meghana Manjunath, participant



TALES FROM A SEEDKEEPER PRABHAKAR RAO | 22 AUGUST 2020

Dr. Prabhakar Rao spoke about the city’s indigenous seeds and edible plant biodiversity, why it’s now disappearing and what we can do to preserve our future.

Dr. Rao has been a seedkeeper for over 25 years, collecting indigenous native vegetable seeds that are on the brink of extinction. His travels have taken him to remote parts of the world where his interactions with the older generation of farmers has allowed him access to these forgotten varieties. Returning to India in 2011, he conducted extensive testing of over 500 such varieties in his farm in Bengaluru, for genetic stability and environmental suitability. He has now successfully stabilized around 140 rare indigenous vegetable varieties, collected from both within the country and abroad. From his farm Hariyalee Seeds, he now reaches out to other passionate Seed Keepers, Farmers and Urban Gardeners, and collectively works towards the preservation and propagation of these rare vegetable varieties that are on the brink of extinction.



THE OLERICULTURE THAT INFLUENCED RESTAURANT CULTURE NAMEET M | 22 AUGUST 2020

Nameet spoke about how idea of first agro began and how growing plants for flavour changed the way Bangalore’s chefs and restaurants were creating and serving food.

Nameet is the Co-Founder and Chief Production Head at First Agro. He is both a farmer as well a commercial pilot, a unique background which blends two distinct passions well. Nameet is a subject matter expert in Olericulture (science of vegetable growing), hydroponics and Integrated Pest & Disease Management who had pioneered the Zero Pesticide™ cultivation globally by using natural methods, a hands-on experience gained by working with commercial growers in British Columbia, Canada over many years.



A CITY OF PLANT-BASED IDENTITIES

SPURTI RAVI | 22 AUGUST 2020

Spurti shed light upon the history of the vegan movement in Bangalore, about the various terminologies (vegan, plant-based) and what creative products are being made from plants in Bangalore city to address nutritional and the environment.

Spurti grew up in Bangalore, India with a keen interest in food, flavours and where it came from as she spent her childhood days on farms and plantations. She often travelled across the country and globe in search of hidden gems when it came to local cuisine and it always remained a passion and hobby of sorts. As Chief of Research & Development, Spurti now leads product conception, development, commercialization and manufacturing for Goodmylk, a plant-based dairy alternatives start-up based out of Bangalore that is set to revolutionize this category for a very picky Indian consumer that absolutely loves their dairy products also wants to do better for the planet and the animals.



HOW TO GET YOUR HANDS DIRTY - VIRTUALLY

GITANJALI RAJAMANI | 22 AUGUST 2020

Technology is shaping the way we interact with food in many different ways. Gitanjali spoke about how Farmizen works and why is it important to be closer to the plants we eat?

Gitanjali Rajamani is the Co-Founder and Chief Operating Officer at Farmizen, which is an agri tech company focused on connecting farmers directly to consumers. She is also the Founder and CEO of GreenMyLife, an urban gardening and landscaping company. Prior to taking the plunge into entrepreneurship, she worked in the Clinical Research space for 12 years handling large scale Pharma operations. She has an MBA in International Management. She is an alum of the Goldman Sachs 10,000 Women program from the Indian School of Business (ISB, Hyderabad), 2016 batch and she was one of the two people globally to win the "Fortune and Goldman Sachs Global Women Leader" award for the year 2018.



URBAN FORAGING 101

TANSHA VOHRA | 22 AUGUST 2020

Foraging in a city is not just picking up random plants off the street. It's about having a close relationship with your surroundings and people and knowing what plants are growing around in the city, their scientific names and properties, (are they even edible?!), how to taste and cook them. It's also a great way to explore a city.

Tansha Vohra is currently trying to find solutions to the conundrum of being human in the urbanverse. She quit her full time job in the city to study and practice permaculture. She worked at a permaculture homestead in Goa for a year, and is now trying to grow her own food in her balcony. She is a writer, and she plays with her food before she eats it.



AGRO-CULTURAL ECOLOGIES THAT SHAPE THE FOOD SYSTEM OF AND AROUND BENGALURU

SHEETAL PATIL | 23 AUGUST 2020

Sheetal Patil is a researcher at Azim Premji University, Bangalore. Her contribution to interdisciplinary empirical research has been in

the areas of sustainability of smallholder agriculture in rural as well as peri-urban areas with specific focus on interlinkages between agroecology and social well-being.



FARMING IN THE CITY: LINKING URBAN AGRICULTURE TO PEOPLE’S WELLBEING AND URBAN SUSTAINABILITY

CHANDNI SINGH | 23 AUGUST 2020

Dr. Chandni Singh is a researcher and faculty member at the Indian Institute for Human Settlements, Bangalore. She works on the

interface of climate change adaptation and development with a focus on agrarian livelihoods and rural to urban migration.



LEARNING FROM DOING: EXPERIENCES OF URBAN AGRICULTURE IN BENGALURU

PRATHIGNA POONACHA | 23 AUGUST 2020

Prathigna Poonacha is a researcher and faculty member at the Indian Institute for Human Settlements, Bangalore. Her work focuses on understanding climate change impacts and responses in urban and

peri-urban geographies both from top-down and bottom up perspectives.

Prathigna conversed with a panel consisting of four invited practitioners, followed by a Q&A session. The panel included -

- Meenakshi - Home gardener
- Hariram - Balcony gardener
- Anamika Bist - Founder of community farming enterprise - Village Story
- Pooja Vasanth - Rooftop farming initiator at Indian Institute for Human Settlements



COOK-ALONG: THE FOOD, THE CITY, AND YOU

LORE | 23 AUGUST 2020

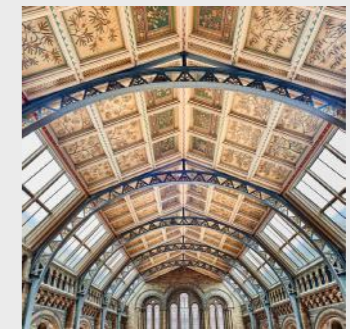
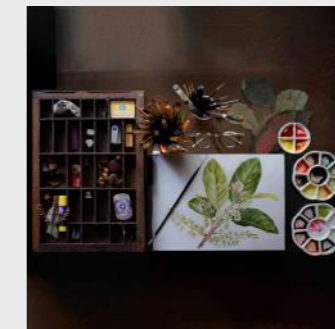
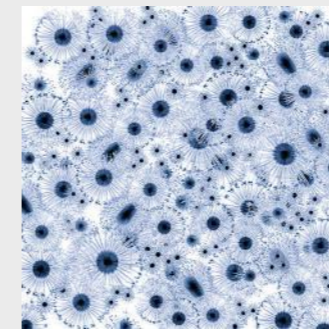
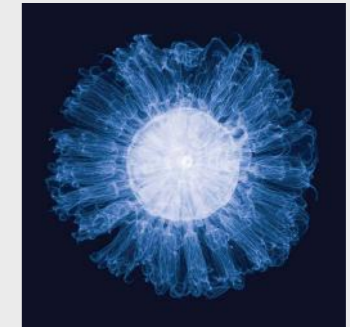
The cook-along workshop was a way for us to bring some of the seasonal produce in Bangalore, discuss it with the participants and also learn about the food, city, and you.

The cook-along was based on a seasonal calendar and took place virtually on a video call along with Chef Johnson, Chef Mythrayie & Chef Avinash from LORE, a collaborative of chefs celebrating folklore and storytelling through food. LORE also transcends from yester-years way of denoting Bengaluru - Bangalore. They took us through some of the produce and share some of their cooking techniques and recipes.

We believe that the food that makes up a city is more than just the recipes and its ingredients. It’s also the people who grow, sell, shop, cook and also those who share stories. Through this virtual cook-along, we wanted to bring everyone together, and invoke the spirit of commensality, something that we could all use in these tough times.

After the cook-along, we collected recipes and stories from the participants to put together a book which will be a compilation of different things that make the city and its food unique.

REGENERATIVE



3 EXHIBITS | 1 WORKSHOP | 2 TALKS

Germination, growth, blossoming, fruition and decay: the cycle of life and death in plants, has been used as a metaphor to denote the passage of time. Through paintings, songs and sculptures, we have represented plants for their various uses: in fields, gardens, kitchens and laboratories. How has the enduring presence of plants shaped our collective imagination?



ARBOREAL

ROHINI DEVASHER | 636 PAGEVIEWS

In Arboreal, we noticed how patterns of self organisation in nature can reveal how the world is filled with meek, mundane things that embody very complex mathematics. Fractal patterns are found in nature's roughness from clouds and coastlines to tree forms and cell structures. Rohini Devasher's artwork borrowed from nature in fascinating ways; both to mirror and expand it.

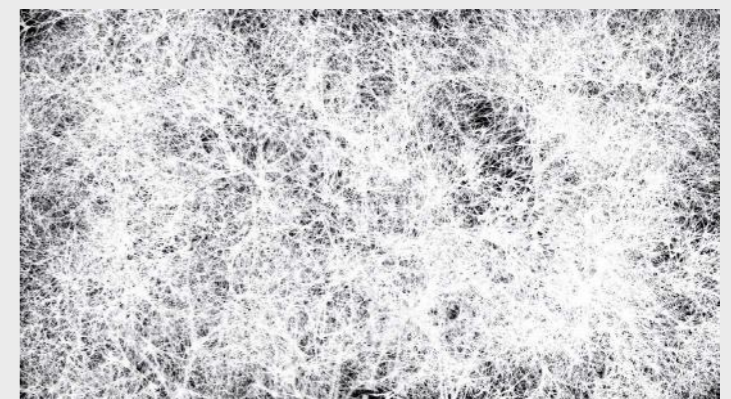
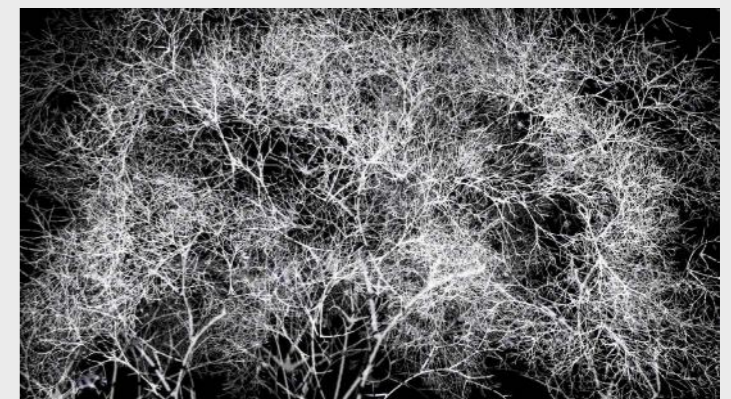
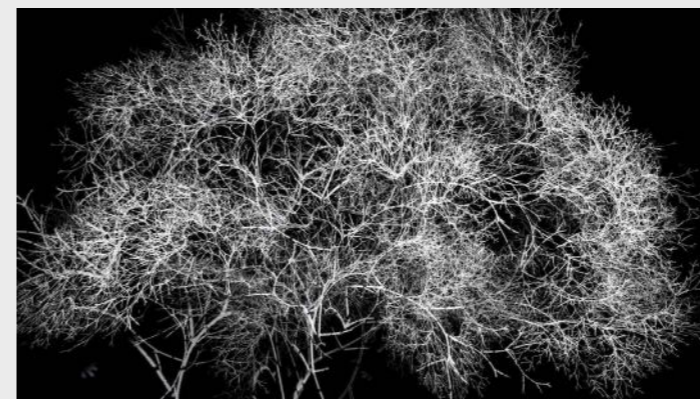
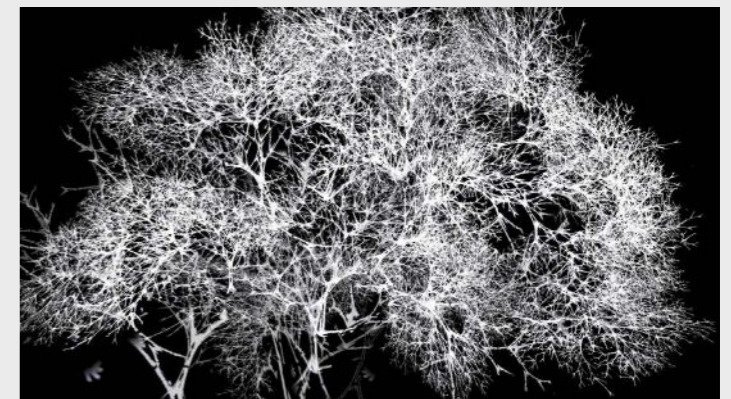
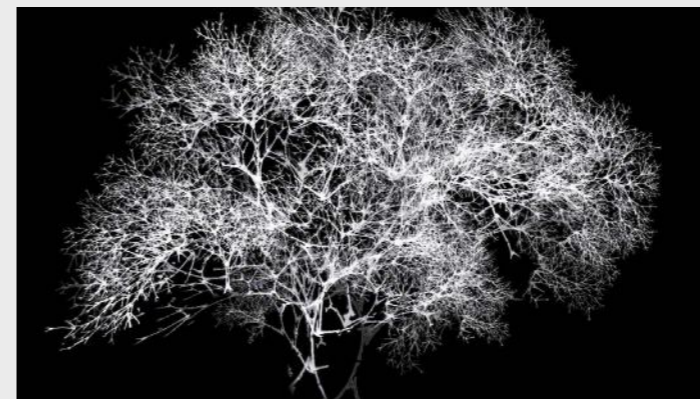
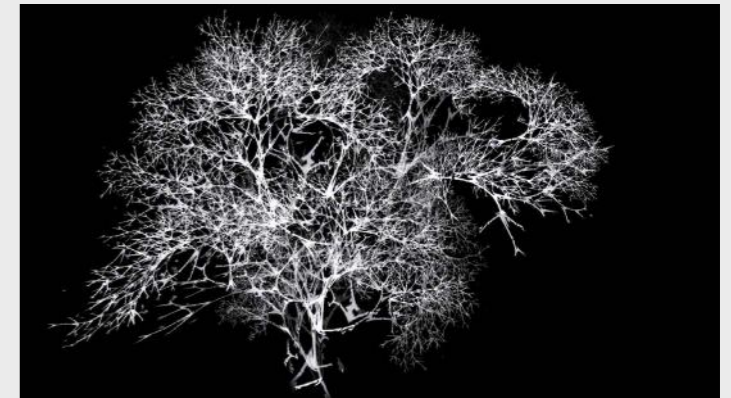
ABOUT THE ARTIST

Rohini Devasher is a painter and printmaker who works with a variety of media including sound, video, prints and large site-specific drawings. Her work has been shown at the Singapore Art and Science Museum, Kochi Muziris Biennale, Spencer Museum of Art, Usa, and Whitechapel Gallery, London, among others. She has had solo exhibitions at the Bhau Daji Lad City Museum in Mumbai (2016), Vis-a-Vis Experience Centre in New Delhi (2016), Project 88, Mumbai (2013, 2009).

All images courtesy of Rohini Devasher

"The exhibit 'Arboreal' was something completely different from what I had imagined it to be and our mediator walked us through the exhibit very skilfully."

- Sumithra Surendralal, visitor





JUNGLE GHADI

SANYUKTA SHARMA | 477 PAGEVIEWS

Heat is a series of ten optical slides that is a part of a larger ongoing project called Jungle Ghadi, in which Sanyukta Sharma designs a calendar of the environment around her.

The original slides were made with plant material sandwiched between transparent sheets. These can be projected, magnified with backlight, scanned for prints or digital screens. Jungle Ghadi has been an ongoing project since 2014 and has been shown at Khoj Gallery, Delhi, Conflicting Spaces in Howrah, West Bengal and Malmo, Sweden. It is a simple device that aims to inspire people to mark a seasonal time that is personal and local.

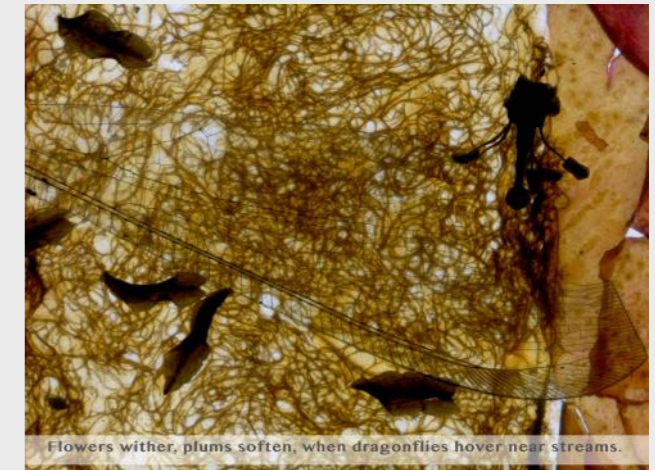
ABOUT THE ARTIST

Sanyukta Sharma is a graduate of Film and Television Institute of India, where she specialised in Film Direction. She is a filmmaker and audio-visual artist working out of Uttarakhand, Kolkata and Delhi.

All images courtesy of Sanyukta Sharma



Leaves shaken by summer storms lay in gentle streams.



Flowers wither, plums soften, when dragonflies hover near streams.



The last hinsar berry and dandelion seed fall together.



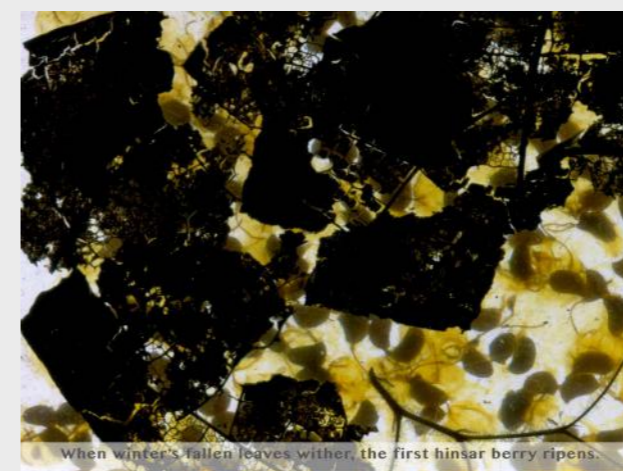
Seeds fall when pods are cracked by dry heat.



Once its no longer cold, dandelion flowers become furry seeds.

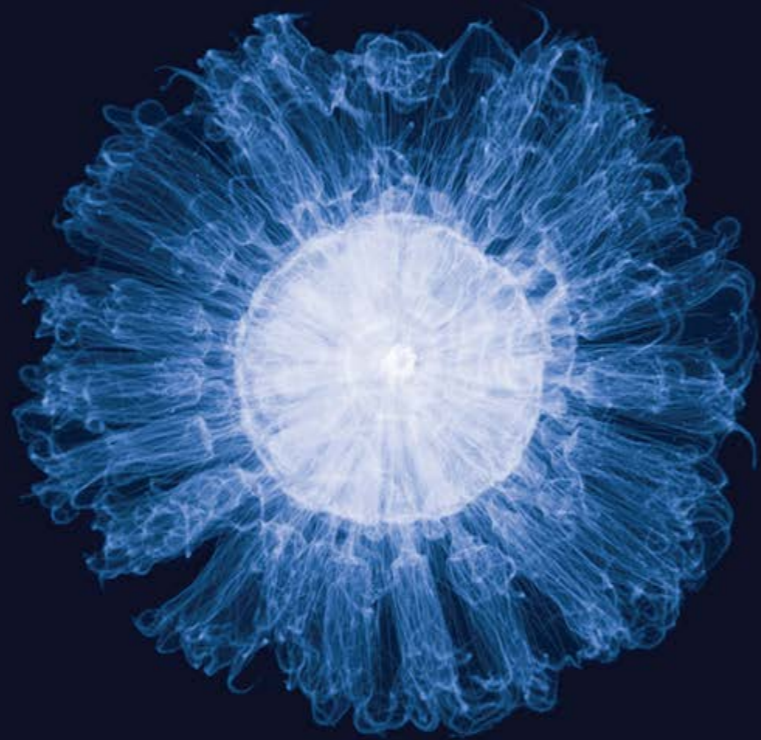


Cold spring morning, berries and wildflower pollen stain fingertips.



When winter's fallen leaves wither, the first hinsar berry ripens.

“All the exhibits helped expand my point of view in ways I’d never thought of before, especially Jungle Ghadi”
- Ankita Bose, visitor



ARCHIVING EDEN

DORNITH DOHERTY | 471 PAGEVIEWS

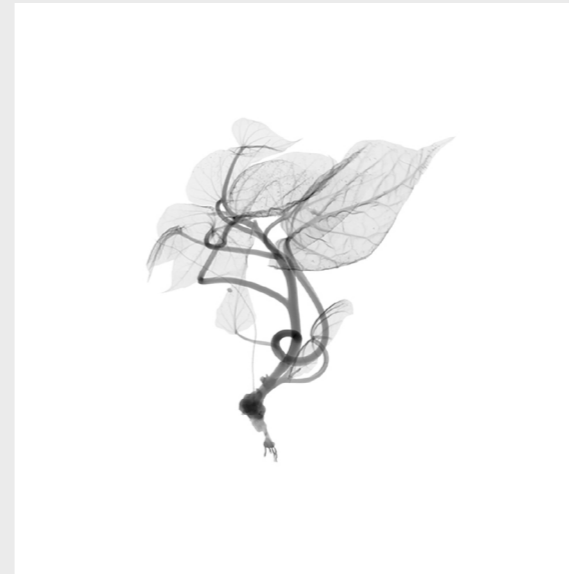
In Archiving Eden, Dornith Doherty explored how stockpiles of seeds can evoke a sense of beauty and simultaneously encourages us to think about the massive efforts undertaken by people to safeguard biodiversity.

The project is an ongoing collaboration with renowned biologists and the most comprehensive international seed banks in the world. Utilising the archives' on-site x-ray equipment that is routinely used for viability assessments of accessioned seeds, the artist documents and subsequently collages the seeds and tissue samples stored in these crucial collections.

ABOUT THE ARTIST

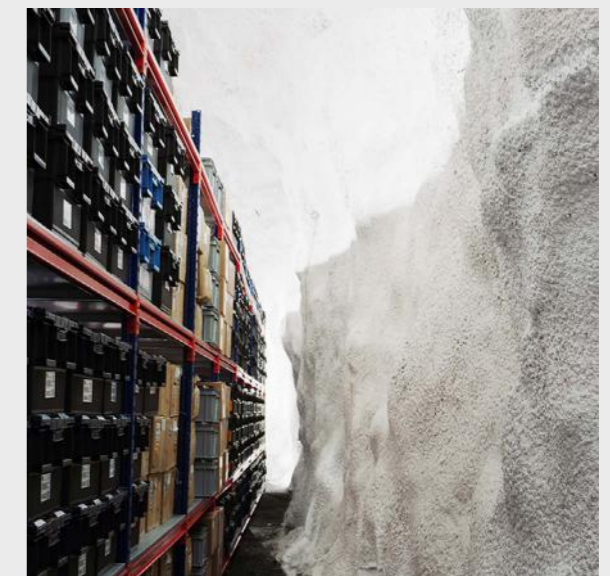
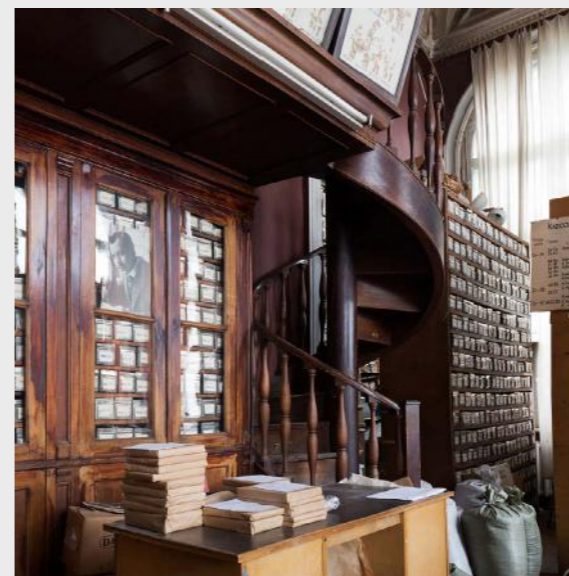
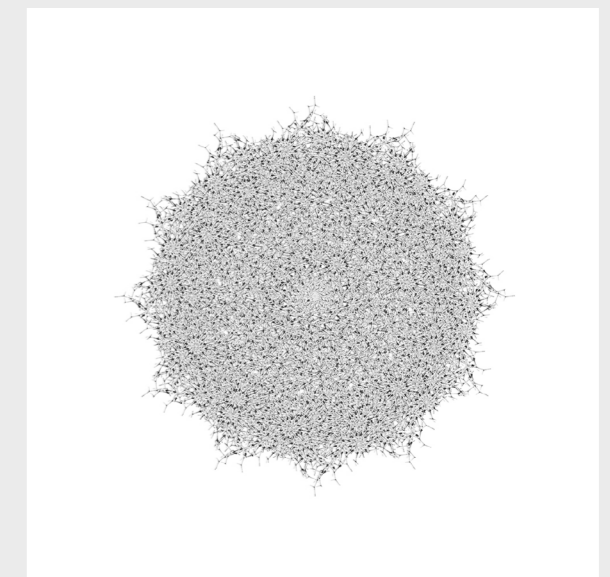
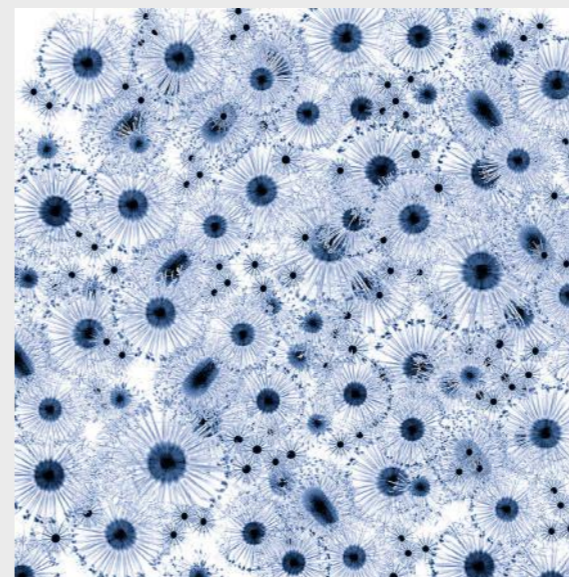
A 2012 Guggenheim Foundation Fellow, Dornith Doherty is an American artist working primarily with photography, video, and scientific imaging. Among her chief concerns is to actively visualize the philosophical, cultural, and ecological questions that are often left invisible when considering human entanglement in our rapidly changing environment.

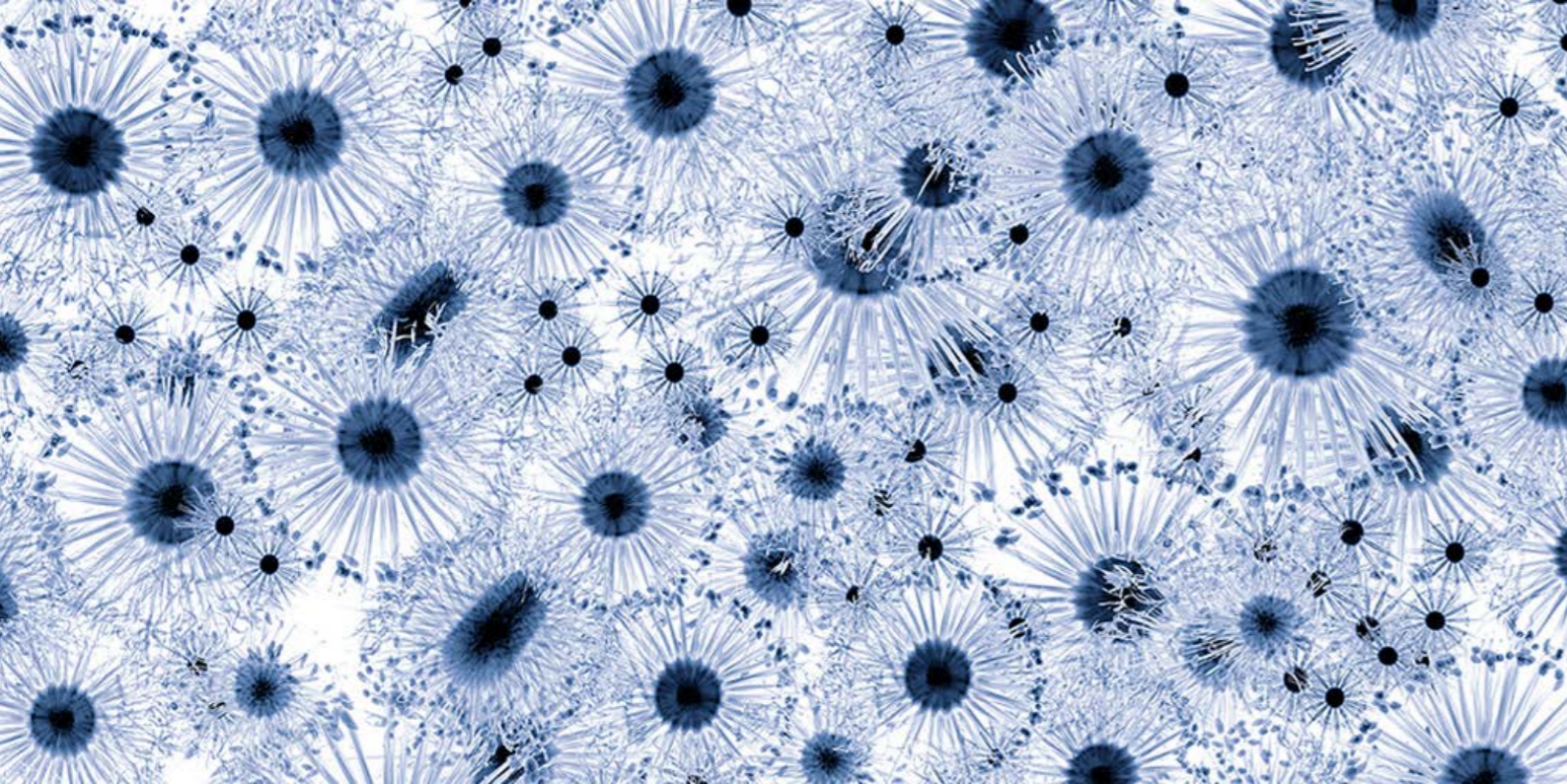
All images courtesy of Dornith Doherty



"It provoked questions about seed banks and ownership; who decides the future of nature."

- Rasagy Sharma, visitor





ON ARCHIVING EDEN

DORNITH DOHERTY | GIOVANNI ALOI | 23 AUGUST 2020 | 207 VIEWS

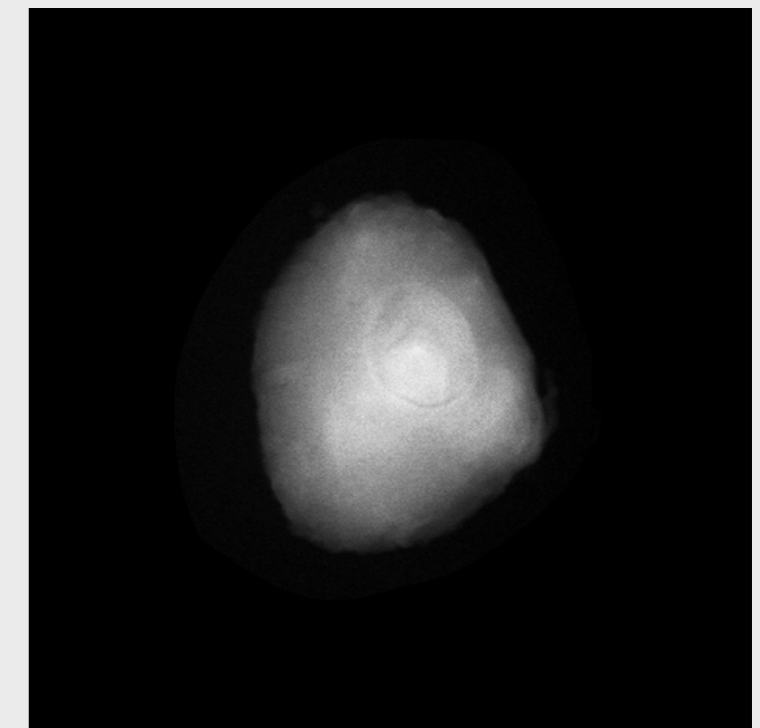
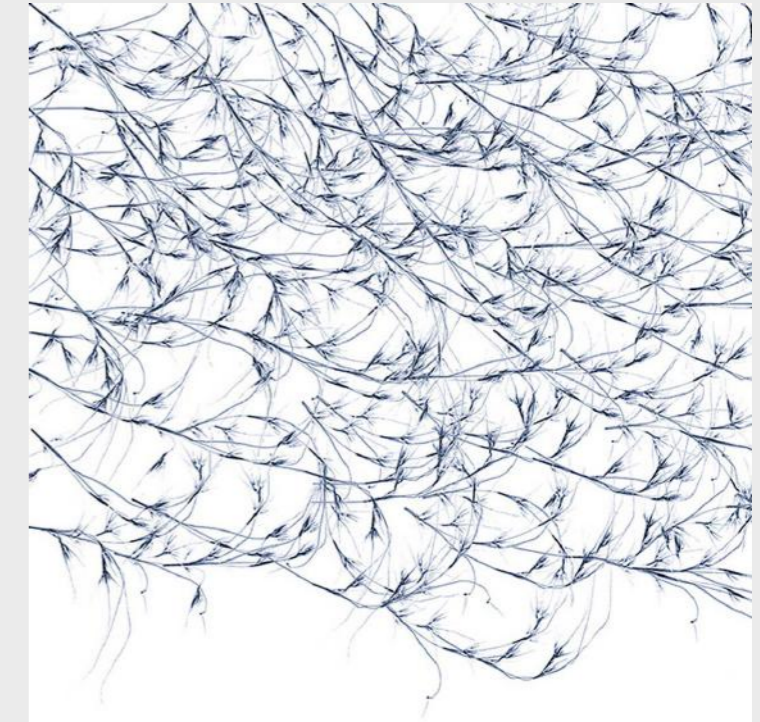
In this conversation with art historian Giovanni Aloi, who writes about nature in visual culture, Dornith discussed her artistic practice, the way seed banks are tied to economic systems, political histories, migration routes and the massive efforts undertaken by biologists and conservation agencies to protect biodiversity.

ABOUT THE SPEAKERS

A 2012 Guggenheim Foundation Fellow, Dornith Doherty is an artist whose work is concerned with our stewardship of the natural environment. Her photographic project Archiving Eden is an extensive, dual-faceted body of work. Collaborating with scientists and seed banks on five continents, she has traced in precise detail the elaborate systems of secure spaces and technological interventions required for botanical preservation. She reflects upon poetic questions about life and time through artworks created from x-rays captured from seeds, tissue samples, and cloned plants preserved in these collections.

Giovanni Aloi is an art historian in modern and contemporary art. He studied History of Art and Art Practice in Milan and then moved to London in 1997 to further his studies at Goldsmiths University, where he obtained a Postgraduate Diploma in Art History, a Master in Visual Cultures, and a Doctorate on the subject of natural history in contemporary art. Giovanni currently teaches at the School of the Art Institute of Chicago, Sotheby's Institute of Art New York and London, and Tate Galleries. He has curated art projects involving photography and the moving image and is a BBC TV and radio contributor. His first book titled *Art & Animals* was published in 2011 and since 2006 he has been the Editor in Chief of *Antennae*, the Journal of Nature in Visual Culture.

All images courtesy of Dornith Doherty





FOR THE LOVE OF PLANTS

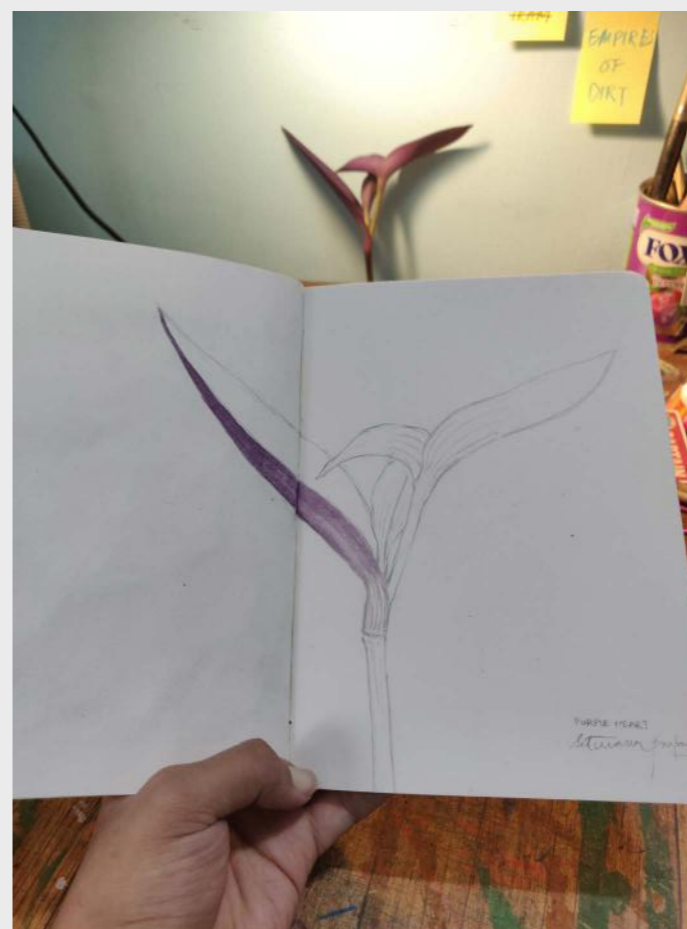
NIRUPA RAO | 30 AUGUST 2020 | 20 PARTICIPANTS

Botanical art combines both art and science in myriad ways. Botanical illustrators strive to record the life cycle, colour, shapes, structures and habitats of plants while also providing a pleasing image. It is a scientific tradition that dates back to centuries. Nirupa Rao is a botanical illustrator, who took us through the process of illustrating each unique detail of a plant.

ABOUT THE FACILITATOR

Nirupa Rao is a botanical illustrator from Bangalore. A National Geographic Explorer, Nirupa received a grant to create her book *Hidden Kingdom—Fantastical Plants of the Western Ghats*. She has also published *Pillars of Life—Magnificent Trees of the Western Ghats* in collaboration with naturalists Divya Mudappa and TR Shankar Raman of the Nature Conservation Foundation. She illustrated the cover of Amitav Ghosh's latest novel, *Gun Island*, and re-jacketed four prior novels for Penguin-Random House. She recently participated in a Plant Humanities program at Harvard University's Dumbarton Oaks Centre, and collaborated with the Centre for Wildlife Studies on Wild Shaale, an environmental education program for rural school-going children.

All images courtesy of Nirupa Rao and the participants





THE GILDED CANOPY

SANDRA KNAPP | 26 AUGUST 2020 | 52 PARTICIPANTS

The building housing the collections and exhibitions of the Natural History Museum in London is a collection itself. Highly decorated throughout with motifs and casts of animals and plants, it has been likened to a cathedral to natural history. Plants provide the decorative elements everywhere except the ceilings – where they are the stars of the show. The vaulted ceilings of the main hall are composed of panels illustrating a wide variety of plants from all over the world. Why these plants? Where did the images come from? What do they say about the world at the time the Museum in London was built? Sandra Knapp explored these questions during her talk for PHYTOPIA.

ABOUT THE SPEAKER

Sandy Knapp is a botanist who is a specialist on the taxonomy and evolution of the nightshade family, Solanaceae, and she has spent much time in the field collecting plants, mostly in South America. She works at the Natural History Museum, London, where she arrived in 1992 to manage the international project Flora Mesoamericana - a synoptic Spanish-language inventory of the approximately 18,000 species of plants of southern Mexico and the isthmus of Central America. She is the author of several popular books on the history of science and botanical exploration, including the award-winning *Potted Histories* (2004), and more than 200 peer-reviewed scientific papers. She is actively involved in promoting the role of taxonomy and the importance of science worldwide. Sandy is a trustee of several conservation and scientific organisations, and in May 2018 took office as President of the Linnean Society of London.

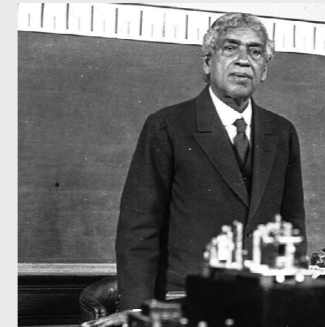
All images courtesy of the Natural History Museum, London



“I have been a volunteer at the Natural History Museum of London for 15 years and have never seen the images of the canopy before the session with Sandra Knapp.”

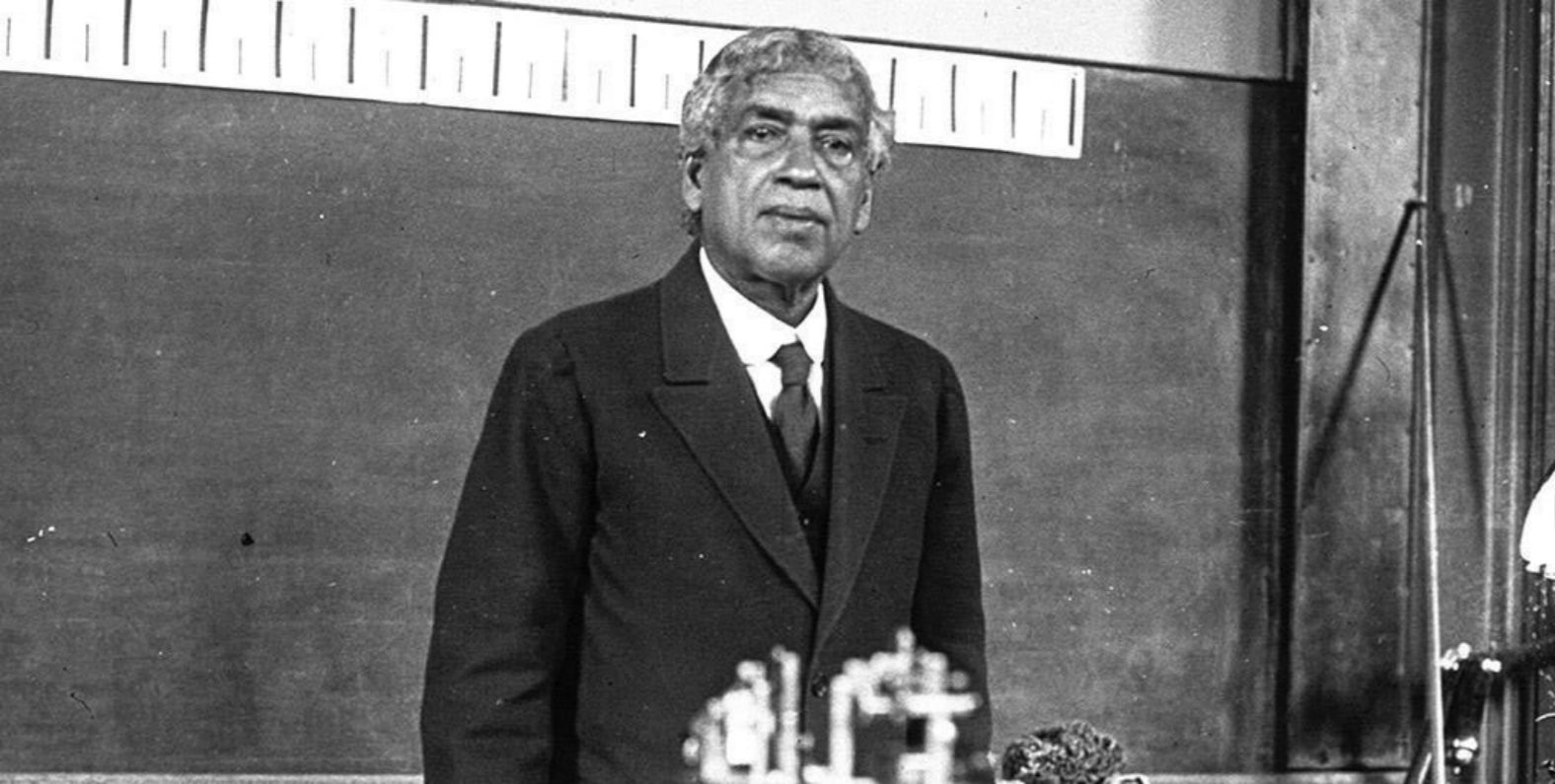
- Allison Hensman, participant

RADICAL



2 EXHIBITS | 3 TALKS

Plants are far from the silent and stationary organisms they are made out to be -- they are complex dynamic organisms, which have influenced science, history, and the economy in various ways. We pay tribute to the visionaries at the root of pioneering discoveries about the plant world.



CAN YOU HEAR HER SPEAK?

EMILIA TERRACCIANO | ROYAL SOCIETY ARCHIVES
EXHIBIT | 354 PAGEVIEWS
TALK | 28 AUGUST 2020 | 227 VIEWS

Jagdish Chandra Bose (1858 - 1937) is recognised for his contributions to wireless communication, and known as the first physicist to use semiconductor junctions to detect radio signals. His lesser known and equally fascinating work on the inner workings of plants, through experiments done on the *Mimosa Pudica*, changed the ways plants are studied. He was able to convey the 'throbs and surges' and 'tremors of excitation' of plants through a delicate recording instrument, the Crescograph. This exhibit also contained an essay by Emilia Terracciano about his pioneering work, which flew in the face of existing theories about plants as passive and stationary organisms. We presented photographs of the Crescograph, pages from Bose's notebooks, and paintings by Gaganendranath Tagore about Bose's research.

This talk by Emilia Terracciano focused on the *Mimosa Pudica*, the 'sensitive', 'touch-me-not' plant Bose repeatedly used in his studies. It included a discussion about artist Gaganendranath Tagore and the imaginative works he produced which depict Bose at work. We considered how these visionary images paint the limits of the plausible, the audible, and the artificial, placing Bose and his research into the world of plants at the threshold of the human.

ABOUT THE LECTURER

Emilia Terracciano is a writer and a lecturer in the history of art. Her research interests lie in modern and contemporary art with a focus on the global south. Currently she is working on a monograph about art, nature and futurities in the global south.

All images courtesy of Emilia Terracciano



"The most memorable part of the exhibition was getting to know about various scientists and artists in this field of botany and especially the contribution of J.C. Bose in mimosa plants.."

- Lakshmi Anand, visitor

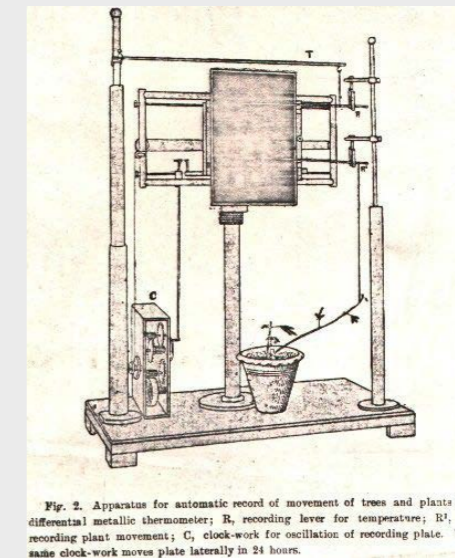
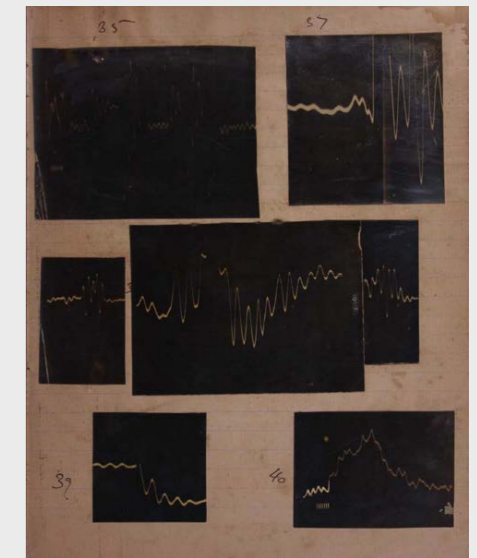


Fig. 2. Apparatus for automatic record of movement of trees and plants; T, differential metallic thermometer; R, recording lever for temperature; R1, for recording plant movement; C, clock-work for oscillation of recording plate. The same clock-work moves plate laterally in 24 hours.





“The stories Dr. Sawhney narrated about her father and all of the adventures that accompanied his struggle were very interesting to hear and appreciate”

- Rishan Ahmed, mediator



PANDURANG KHANKHOJE

SAVITRI SAWHNEY | 506 PAGEVIEWS

Pandurang Khankhoje (1886 - 1967) agronomist and a political revolutionary and co-founder of the Ghadar Party. In Mexico during the 1920s, he established the Escuelas Libres de Agricultura Mexico (1924-1928) - free agricultural colleges where he successfully experimented with varieties of corn. Khankhoje soon became an integral part of Mexico’s vibrant political, intellectual and artistic circle becoming good friends, among others, with the Mexican artists Frida Kahlo and Diego Rivera and the Italian photographer, Tina Modotti whose photographs are displayed here.

This exhibit contained essays by Khankhoje’s daughter Savitri Sawhney and gelatin silver prints by Tina Modotti of the agricultural experiments, and the Escuelas Libres de Agricultura Mexico.

ABOUT THE CONTRIBUTOR

Savitri Sawhney is a retired paediatrician and an active essayist, poet, and biographer. She was born in Guadalajara, Mexico, but is now based in New Delhi, India. She is the author of I Shall Never Ask for Pardon, the memoir of Pandurang Khankhoje who was a leader in the Indian freedom movement during his student days at the University of Oregon. He settled in Mexico after his activities during the First World War, the Ghadar revolution and the revolutionary efforts in Germany and Russia. His pioneer studies in hybrid maize, rust resistant wheat and high yielding varieties of soya and Mexican beans sowed the seeds that led to Mexico’s “Green Revolution.” His contribution is honoured in a mural by celebrated Mexican artist Diego Rivera.

All images courtesy of Savitri Sawhney





SOLVING THE PROBLEM OF HUNGER

GABRIELA SOTO LAVEAGA | 22 AUGUST 2020 | 176 VIEWS

In this talk Gabriela Soto Laveaga examined why it is important to study the histories of India and Mexico together to question why a solution such as the Green Revolution was not the adequate one for primarily agrarian nations. In particular, she looked at the life of Pandurang Khankhoje, an Indian native in Mexico, to further underline the importance of global histories that embrace both nations.

ABOUT THE SPEAKER

Gabriela Soto Laveaga is Professor of the History of Science and Antonio Madero Professor for the Study of Mexico at Harvard University. Her current research interests interrogate knowledge production and circulation between Mexico and India; medical professionals and social movements; and science and development projects in the twentieth century.

Her first book, *Jungle Laboratories: Mexican Peasants, National Projects and the Making of the Pill*, won the Robert K. Merton Best Book prize in Science, Knowledge, and Technology Studies from the American Sociological Association. Her second monograph, *Sanitizing Rebellion: Physician Strikes, Public Health and Repression in Twentieth Century Mexico*, examines the role of healthcare providers as both critical actors in the formation of modern states and as social agitators. Her latest book project seeks to re-narrate histories of twentieth century agriculture development aid from the point of view of India and Mexico.

She has held numerous grants, including those from the Ford, Mellon, Fulbright, DAAD, and Gerda Henkel Foundations. In 2019, she received the Everett Mendelsohn Excellence In Mentoring Award from Harvard University.

All images courtesy of Wikimedia Commons



“The talk made me think about how science should play a bigger role in deciding between the universal and localised solutions”

- Thanuja M, participant



ON GREEN IMPERIALISM

MAHESH RANGARAJAN | 30 AUGUST 2020 | 131 VIEWS

This talk by historian Mahesh Rangarajan explored scholar Richard Grove's legacy and the challenges of environmental history.

The demise of Richard Grove in June 2020 leaves both a void that will be hard to fill and legacy that will challenge scholars and thinkers on our environmental dilemmas in this still young century. His doctoral thesis from Cambridge revised and published under the intellectually original and provocative title *Green Imperialism* in 1995 opened new windows on our shared pasts. In later years, his work on El Niño set the stage for connected histories of climate change and human endeavour. His legacy as a scholar will reach out to many who were not privileged enough to study or work with him. His ideas will challenge, stimulate and push us to new horizons.

ABOUT THE SPEAKER

Mahesh Rangarajan teaches History and Environmental Studies at Ashoka University, Sonapat, Haryana, India. He studied at the universities of Delhi and Oxford. He was a Rhodes Scholar. He has taught at the universities of Cornell, Jadavpur and Delhi and headed the Nehru Memorial Museum and Library. *Fencing the Forest* (1996) was his first book and *Nature and Nation* (2015) the most recent. Co-edited works include *India's Environmental History* (2012), *Nature without Borders* (2014) and *At Nature's Edge* (2018).

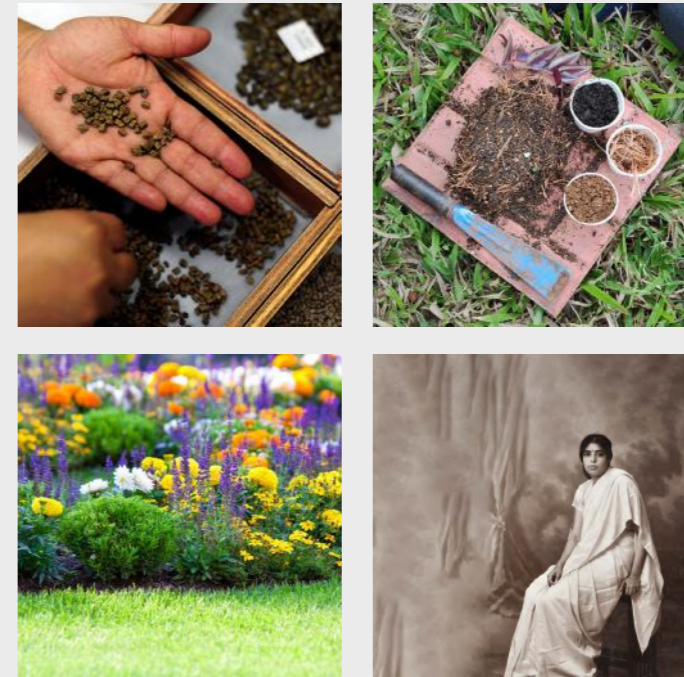
Cover image courtesy of the British Library



“I learnt how colonialism can be understood in terms of environment, ecology and forest too and not only in terms of politics and economics.”

- Debarpita Manjit, participant

RESILIENT



2 EXHIBITS | 1 WORKSHOP | 2 TALK

Change and disruption are an integral part of life, but some agents -- both vegetal and human endure disruptions far better than others. In this section, we examine how resilience thinking applies to nature (the capacity of ecosystems to endure disturbance), interpersonal relationships (a scientist's capacity to overcome obstacles of race and gender), and urban spaces (the capacity of wilderness to find its way through the concrete jungle).



INTERCULTURAL POLLINATION OF THE PRESENT

PAUL CHARTRAND | 536 PAGEVIEWS

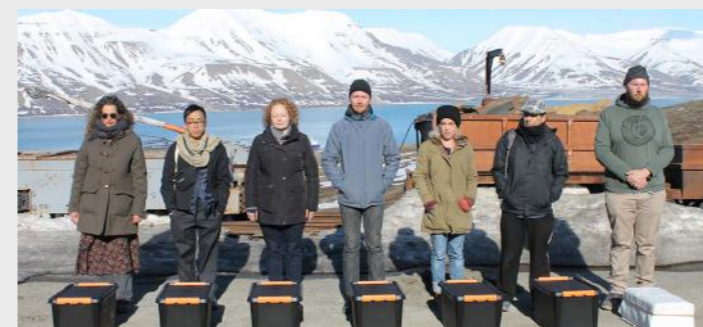
In InterCultural Pollination of the Present, Paul Chartrand showed how a small living time capsule/reliquary is composed of several layers that relate to the mutually effectual culinary activities of humans and bees.

A wooden container engraved with botanical illustrations carries a blown glass vessel. This vessel contains a variety of plant seeds from culinary herbs that are specifically chosen for their desirability to bees for pollination. The seeds are suspended in pure, unpasteurised honey; which acts as a preserving agent.

ABOUT THE ARTIST

Paul Chartrand is a Canadian artist working with constructed habitats built from found objects and integrated living components. He finds inspiration in the blurry definitions of culture and nature; intending for his work to foster dialogue regarding this problematic dichotomy. Paul completed his Master of Fine Arts (Western University 2017) for which he earned Ontario Graduate Scholarships and SSHRC funding. His exhibition history includes Xpace Cultural Centre (Toronto), Younger Than Beyonce Gallery (Toronto), Boarding House Gallery (Guelph), Artlab and Satellite Gallery (London), Idea Exchange (Cambridge), CAFKA Biennial (Kitchener), Art Mur (Montreal) Y+ Contemporary (Scarborough), Expression Orange Biennial (St. Hyacinthe) and others.

All images courtesy of Paul Chartrand and Wikimedia Commons





WILDERNESS AT HOME

KUSH SETHI | 29 AUGUST 2020 | 17 PARTICIPANTS

Ever since the lockdown was announced, many of us found ourselves disconnected from the natural world. Kushi Sethi, an ecological gardener and urban forager, helped us find ways to explore nature from the safety of our home.

Kush took the participants through his ancestral home in Delhi which is teeming with micro life in nooks and crevices. He also showed the participants how to build their own planters for their work-desks or gardens using plant cuttings.

ABOUT THE FACILITATOR

Kush Sethi is an ecological gardener and forager based out of Delhi. Formally trained in Chemistry, he transitioned into urban ecology while working as a researcher in the Delhi Ridge. After spending a few years in the field, he started training himself in gardening & basics of botany. Inspired by resilient forest ecosystems, his practice seeks to understand problems in manicured urban horticulture formats and finding wilder, self-sustainable approaches.

All images courtesy of Kush Sethi

“I learnt about how plants can grow in literally anything.”
- Syona, participant





ON GARDEN CULTURES

AMITA BAVISKAR | SURESH JAYARAM | 29 AUGUST 2020 | 90 VIEWS

For inhabitants of bustling cities like Delhi and Bengaluru, parks such as Lodhi Gardens and Lal Bagh offer a refuge from the sensory assault and stress of urban life. These urban commons are where we can take a deep breath, stroll along canopied pathways and colourful flowerbeds, hang out with family and friends. They are the green lungs that make cities liveable. But there is much more to urban parks than meets the eye. Each garden tells a story about empire and the nation, about movement and migration, about changing cultural styles. Each park holds a history of the thought and labour that went into its creation. Amita Baviskar and Suresh Jayaram explored urban gardens as a unique blend of nature and culture.

ABOUT THE SPEAKERS

Amita Baviskar is a sociologist and, since 2017, Professor at the Sociology Unit, Institute of Economic Growth, Delhi, India. She received the 2005 Malcolm Adiseshiah Award for Distinguished Contributions to Development Studies, the 2008 VKRV Rao Prize for Social Science Research and, in 2010, was awarded the Infosys Prize for Social Sciences – Sociology in recognition of her analysis of social and environmental movements in modern India. Baviskar studies the cultural politics of environment and development in rural and urban India.

Suresh Jayaram is a visual artist, trained as an art historian, arts administrator and curator from Bangalore. He is the Founder of 1.Shanhtiroad Studio an international artist's Residency. He is currently involved in art practise, urban mapping, archiving, curation and arts education. His keen interest in environmental and urban developmental issues influences his work. He taught Art History at Karnataka Chitrakala Parishat, the College of Fine Arts in Bangalore and later went on to become the Dean from 2005-2007. He obtained his BFA in painting from the College of Fine Arts, Karnataka Chitrakala Parishat 1990 and MFA from M.S. University, Baroda in 1992 in Art Criticism.



“The key take-away for me was the impact of politics on gardening, e. g. the current “floral industrial complex”

- Christiane Hartnack, participant



JANAKI AMMAL - A SCIENTIFIC LIFE

VINITA DAMODARAN | JOHN INNES CENTRE
EXHIBIT | 337 PAGEVIEWS
TALK | 25 AUGUST 2020 | 277 VIEWS

Janaki Ammal (1897- 1984) is remembered in India for her career at the Sugar Breeding Centre (Coimbatore), where she worked on creating sugarcane hybrids with higher sucrose content. She is best known for having co-authored the 'Chromosomal Atlas of Plants' with Cyril Dean Darlington at the John Innes Horticultural Institute, which has become an important source for cytological work on the economic plants of the world. On her return to India in 1948, she became the first director of the Central Botanical Laboratory of India (Lucknow).

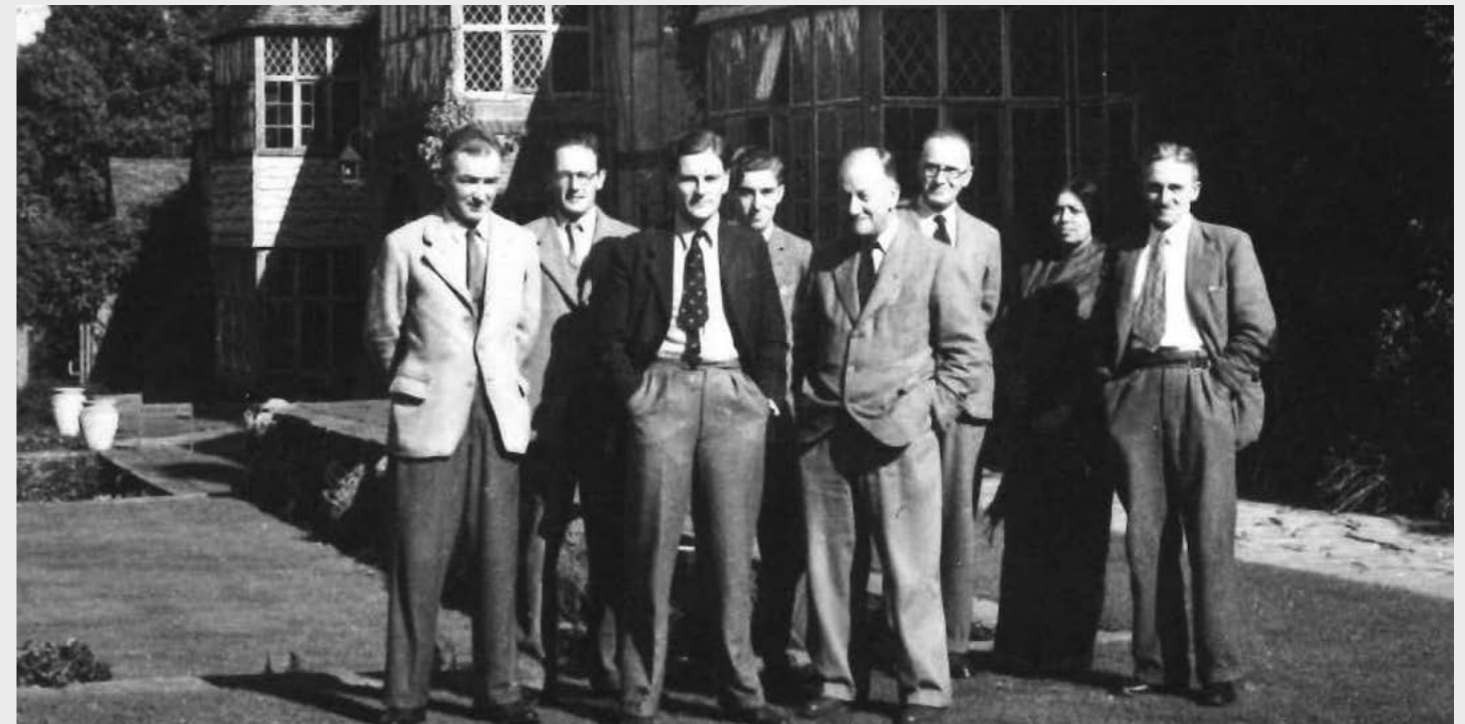
This exhibit contained an essay by Vinita Damodaran focusing on the life and scientific contributions of Janaki Ammal. We also displayed photographs courtesy Vinita Damodaran and the John Innes Centre Archives.

This talk by Vinita Damodaran addressed the gaps in the history of science in India by focusing on the life and scientific contribution of E.K. Janaki Ammal, eminent cytologist and botanist through her letters. It also traced the obstacles faced by a woman who wanted to make a mark in a traditionally male dominated field.

ABOUT THE WRITER

Vinita Damodaran is a historian of modern India, interested in sustainable development dialogues in the global South. Her work ranges from the social and political history of Bihar to the environmental history of South Asia, including using historical records to understand climate change in the Indian Ocean World.

All images courtesy of Vinita Damodaran, Wikimedia Commons, and the John Innes Centre



“Women scientists in India are not given enough credit for their work. I would like to read more about such inspiring women.”

- Poonam Sen, participant

Mediator-led Sessions

Mediators are integral to Science Gallery Bengaluru public engagement programme. Selected from our target audience of young adults, they are responsible for driving the experience on the exhibition floor. Given the COVID-19 pandemic, we are acutely aware that digital exhibitions cannot replicate the shared experiences, personal touch and deeper engagement that a physical exhibition allows.

To compensate for this, we organised digital mediation sessions which helped visitors explore the exhibition through the guidance of trained mediators. Mediators took the visitors through various exhibits, offering insightful conversations about how artists and researchers interpret the hidden depths of plant life. Visitors from around the world explored the exhibition, bringing their own unique insights and observations.

OUR MEDIATORS



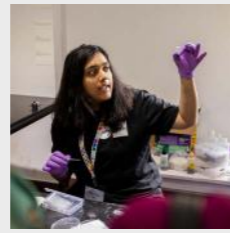
Aarushi Susheel



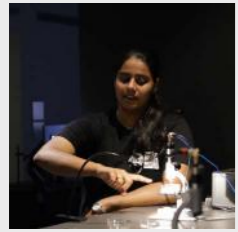
Meghana Binraj



Bevan Stanley



Misha Gupta



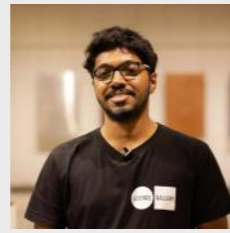
Bina R



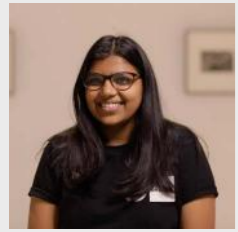
S Partheeban



Govind Pattila



Rishan Ahmed



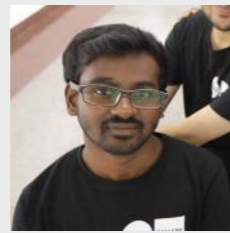
Janhavi Bodele



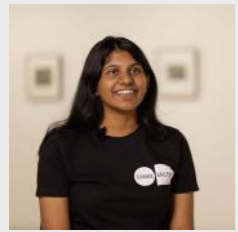
Sri Vrushank



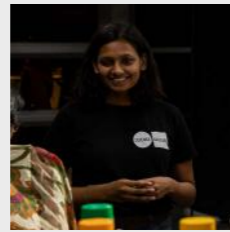
Jay Kulkarni



Vinay Anand



Manasvi CM



Yamini Srikanth

“(It was memorable) to connect with people and talk about plants, even though it was a virtual exhibition. To hear such diverse perspectives and interact with a global audience.”

- Kirtika, participant

THE TIMINGS

The hour-long mediator-led sessions took place from 21 August 2020 to 30 August 2020, for the duration of the exhibition, with a gap of 15 minutes between each session. All timings below are in IST.



8:45 AM to 1:30 PM
3:00 PM to 9:00 PM



8:45 AM to 1:30 PM
3:00 PM to 9:00 PM



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3:00 PM to 9:00 PM



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3:00 PM to 9:00 PM

Take it Further



The Take it Further Section encouraged the visitors to explore PHYTOPIA beyond the programmes and the exhibits. We curated podcast playlists which detailed the weird and wonderful mysteries of plant life. We put together an activity handbook filled with puzzles and DIY activities. We also displayed a selection of the best writing submissions made to PHYTOPIA from the prompts that we shared with our audience in a section titled 'In Your Words.' In the reading room, we displayed excerpts from books and magazine issues, which our collaborators, such as Marg and Antennae, shared with us.

THE PLAYLIST

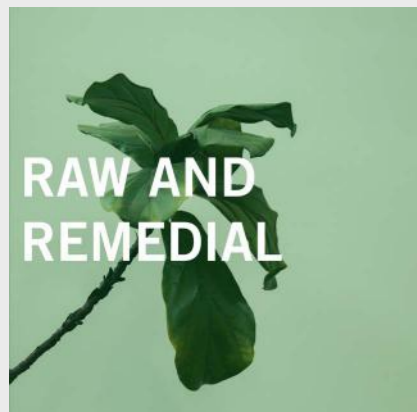
We put together three podcast podcasts about weird and wonderful mysteries of plant life. These playlists explored everything from food sovereignty and botanical art to cryogenic conservation and bionic plant sensors.



The Rooted and Resilient playlist provoked our listeners to think about the ways in which the ubiquitous presence of plants has shaped societies around the world: what stories can tree rings tell us about life on Earth? How can cryogenic preservation help us in the face of a natural calamity? How can we extract active ingredients from plants that 'bite'?



How can native plant conservation help alleviate poverty and hunger? How do seed banks work? What role did the French Revolution play in making botanical field guides more accessible to the public? Our playlist Radical and Regenerative attempted to find the answers to some of these questions.



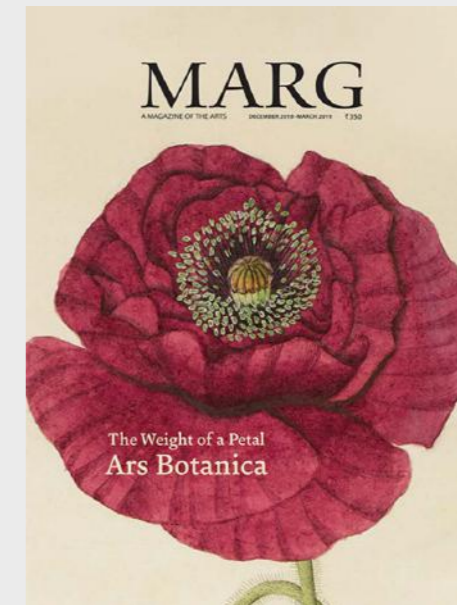
How does the relationship between fungi and plants sustain life on Earth? What would happen if we implanted high tech sensors in plants? How can gardening help us transcend the trappings of modern society? We set out to answer some of these questions in the Raw and Remedial playlist.

THE READING ROOM

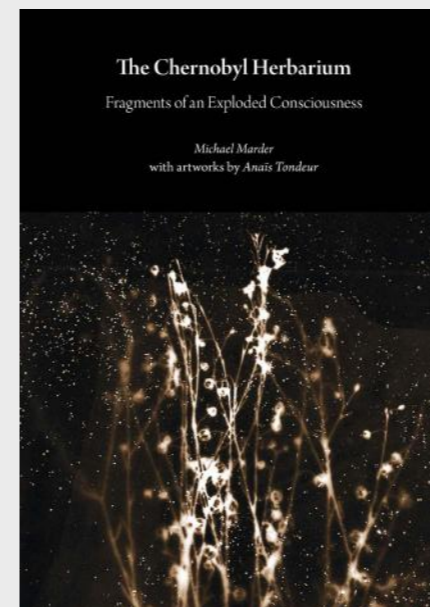
When we organise physical exhibitions, we collect reading materials from various sources and display them in a reading room. In our reading rooms, visitors can settle in comfortably in a cozy nook and flip through various texts, which elucidate themes explored in our exhibition. This year we attempted to recreate this experience in our digital reading room. It contains a selection of reading material including books, magazine issues and comics exploring everything botanical from poetic meditations and field guides, to environmental history and science fiction.



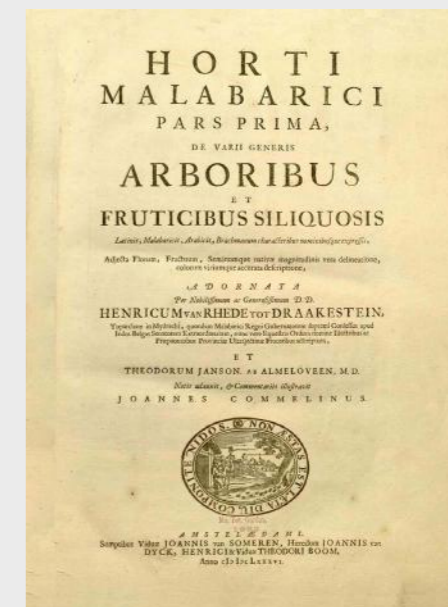
COLOURS OF NATURE
Published by Marg



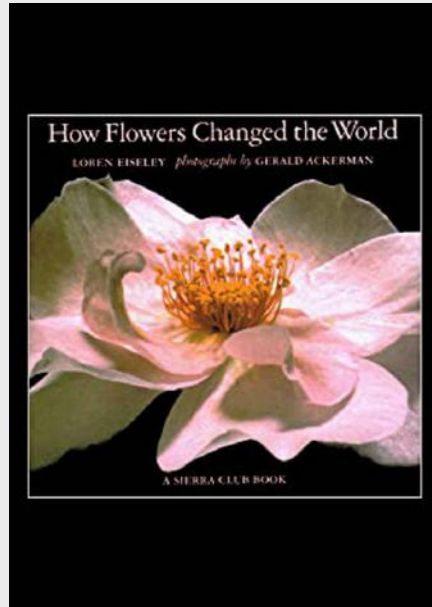
ARS BOTANICA
Published by Marg



THE CHERNOBYL HERBARIUM
By Michael Marder



HORTUS MALABARICUS



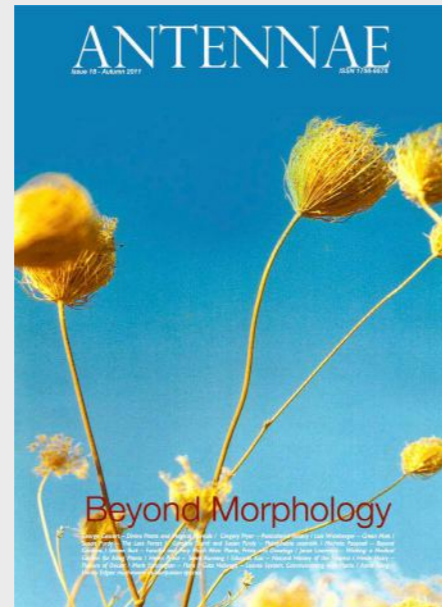
HOW FLOWERS CHANGED THE WORLD
By Loren Eiseley



SUCH TREASURE AND RICH MERCHANDISE
Courtesy of The Archive, National Centre for Biological Sciences

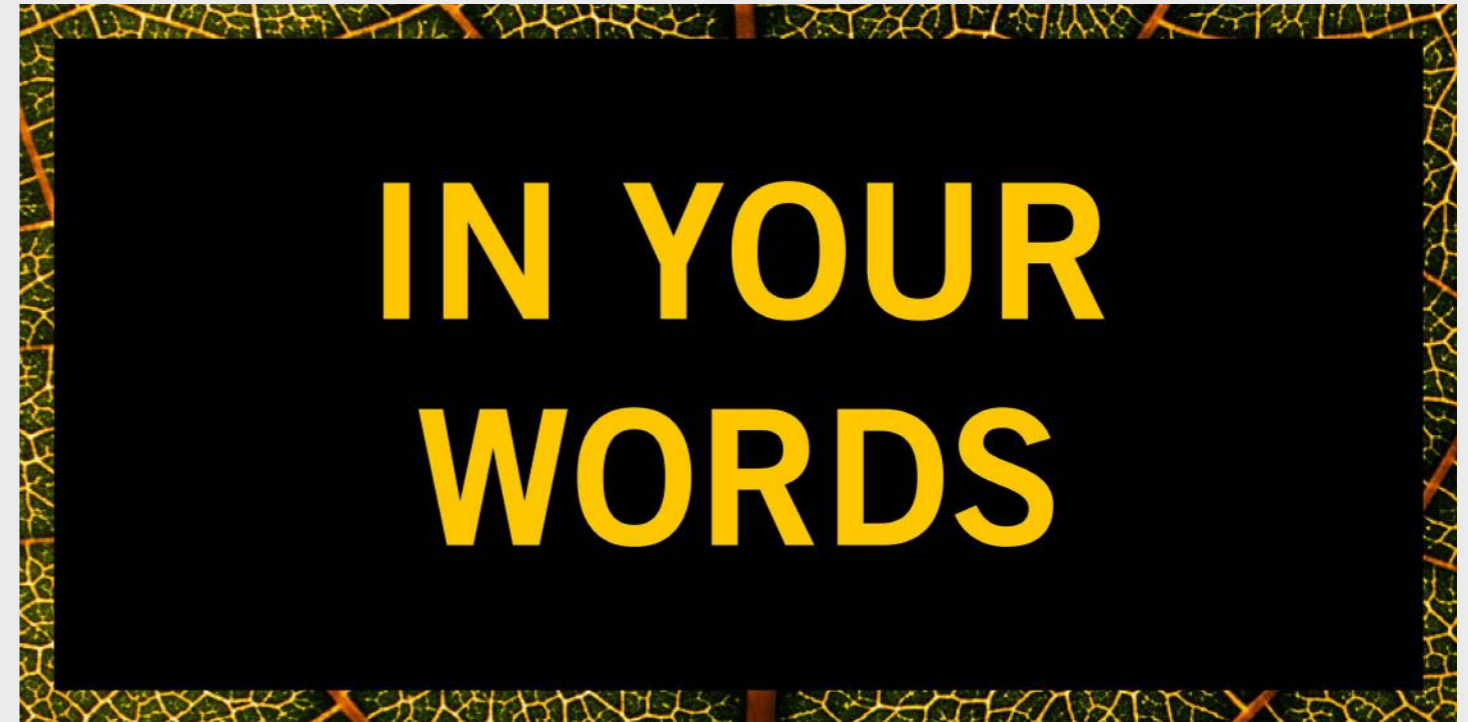


WHY LOOK AT PLANTS?
Published by Antennae



BEYOND MORPHOLOGY
Published by Antennae

THE WRITING PROMPTS



Plants are beautiful and bizarre organisms. Their ubiquitous presence has shaped our societies in innumerable ways: We eat, drink and breathe in the oxygen produced by plants. We write on them, read with them, wear them, sleep on them and live inside them.

Through our writing prompts exercise, we invited our audience to speculate about a world in which plants behave very differently from what we perceive them to be. We provoked them to think, imagine, describe and creatively respond to vegetal life. We received forty-four submissions from the world over, out of which a selected eleven were uploaded on the exhibition website.

THE PROMPTS

ALL THE PLANTS YOU HAVE TRIED TO GROW IN YOUR GARDEN, FAIL. SEEDLINGS DO NOT GROW, AND FULLY GROWN PLANTS PLACED IN THE SOIL DIE. YOU HAVE NOW DISCOVERED THE REASON WHY...

YOU ARE A PART OF A DOCUMENTARY CREW THAT IS SENT BACK IN TIME TO OBSERVE HOW BANGALORE TRANSFORMED FROM A GARDEN CITY TO A HIGH-TECH CITY...

RETURNING FROM A DISTANT PLANET WITH WATER, HUMANS BRING HOME SPECIMENS OF PLANTS THAT ARE UNABLE TO SURVIVE ON EARTH. YOU ARE ASKED TO HELP KEEP THEM ALIVE...

SCIENTISTS DISCOVER THAT TREES HAVE THE ABILITY TO COMMUNICATE WITH EACH OTHER BY RELEASING CHEMICAL COMPOUNDS. THE MILITARY WANTS TO HARNESS THIS ABILITY IN CASE OF A GLOBAL COMMUNICATIONS CATASTROPHE...

PLANTS HAVE EVOLVED AND DEVELOPED THE ABILITY TO MOVE FROM ONE PLACE TO ANOTHER. AS YOU BEGIN TO DOCUMENT THIS MOVEMENT, A PATTERN EMERGES...

HUMANITY IS AT WAR OVER FOOD SHORTAGES. THE GLOBAL FOOD SUPPLY IS CONTROLLED BY AGENCIES WHICH PRODUCE BIOENGINEERED SEEDS, AND CROPS ARE NO LONGER RESISTANT TO DISEASES RAVAGING FARMLANDS. YOU BELONG TO A SMALL COUNTRY WITH AN INVALUABLE SEEDBANK BUT LIMITED DEFENSE CAPABILITIES. YOU ARE CALLED IN TO PROTECT THE SEEDBANK...

A NEUROLOGICAL VIRUS IS SPREAD BY THE SPORES OF A PLANT THAT GROWS RAPIDLY, CAUSING PSYCHOSIS IN EVERYONE WHO BREATHES THEM...

YOU ARE AN ESTABLISHED NEUROSCIENTIST AND YOU KNOW A LOT ABOUT COLOURS AND COLOUR VISION. BUT, YOU HAVE NEVER PERCEIVED COLOUR. ONE DAY YOU SEE A RED ROSE...

SMALL SCALE FARMING HAS BECOME REDUNDANT WITH THE MASS CONSUMPTION OF A SOY BASED DRINK THAT CONTAINS ALL NECESSARY NUTRIENTS AND VITAMINS. IN A LIBRARY, YOU DISCOVER A BOOK OF RECIPES FOR FOOD PREPARED FROM PLANTS...

YOU WAKE UP ONE MORNING TO FIND THAT A PURPLE COLOURED WEED IS QUICKLY SPREADING ALL OVER THE GLOBE. IT HAS TAKEN OVER OTHER PLANTS AND EVEN SHROUDED ENTIRE HOUSES...

WRITE A POEM CONTAINING THE FOLLOWING WORDS -

SEED, KERNEL, UPROOT, BRANCH

WRITE A POEM WITH THESE VERSES AS A STARTING POINT -

SOMEONE DROPPED,
OR DROPPED BY ITSELF ON THE STREET,
THE FLOWER OF CAMELLIA

OTOSHITA KA, MASAOKA SHIKI

GIVE SOME TREE THE GIFT OF GREEN AGAIN,
LET ONE BIRD SING

WHEN THE AUTUMN CAME, FAIZ AHMED FAIZ

SELECTED SUBMISSIONS

A GEM AMONG WEEDS

By Divij Kinger

BASANTRAJ

By Parmeshwar Dewangan

THE FRAGRANCE OF FRIED ONIONS

By Purabi Deshpande

THE LETTER

By Carolina Almeida

BURIED

By Minnal Balaji

MURMURING PLANTS

By Shrigouri Patil

THE GIFT OF GREEN

By Sourabha Rao

THE SUMMER OF CAMELLIAS

By Priyanka Sacheti

WHEN AUTUMN CAME

By Fathima Abdullah

LOUCURA

By Ananya Rao Kedige

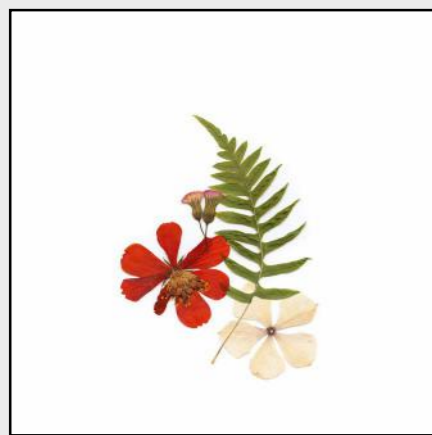
UNRAVELLING THE MYSTERY

By Shweata Hegde

THE HANDBOOK

The COVID-19 pandemic compelled us to re-imagine what public engagement could look like in an era of social distancing and isolation. While we were able to reimagine how our exhibits and programmes could be interpreted by an online audience, we also recognised how spaces like Science Gallery Bengaluru can facilitate an informing learning environment.

In our attempt to replicate the lessons that can only be learnt through touch, play and games, we put together an activity handbook filled with puzzles and DIY activities.



HERBARIA AND PRESSING FLOWERS

By learning how to press flowers and prepare herbarium sheets, we encouraged our audience to consider the scientific importance and cultural value of herbariums which have been preserved through the ages.



TERRARIA

A terrarium can be seen as a microcosm of the environment, because they work on a conservation bias; nothing goes and nothing comes out. By encouraging our visitors how to build their own terrarium, we hoped to show how ecosystems are maintained through a complex yet fragile interaction of living and nonliving components.



NATURAL PERFUMES

Since time immemorial, scents extracted from plants have been used in various ceremonies and celebrations, as ritual and medicinal substances. Through this activity, we shed light on the science behind the heady scents produced by plants.



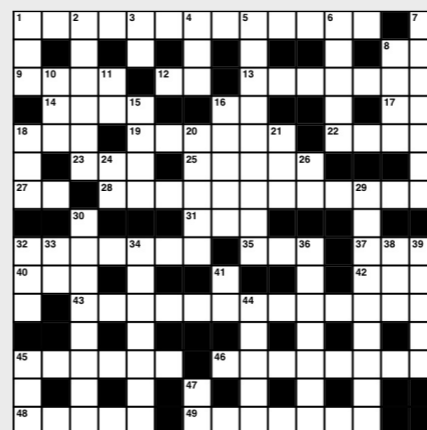
NATURAL DYES

Before the invention of synthetic dyes, plant based dyes such as indigo, saffron and madder were important trade goods in the economies of Asia, and Europe. But the showy colours of flowers also play an important role in pollination.



KITCHEN PHARMACY

Plants have active compounds which have been extracted in modern laboratories to make life-saving medicines. By asking our visitors to become kitchen detectives, we inspired them to learn more about the secret ingredients in everyday food that makes it so valuable.



CROSSWORD

For those of our visitors, who wanted to try their hands at something quick and fun, we put together a plant-themed crossword puzzle. We used references to video games, classic rock and comic books so that our visitors could gain a renewed appreciation for the many ways in which plants animate our lives.

FOUNDING PARTNER



ACADEMIC PARTNERS



CONTENT PARTNERS



PROGRAMME PARTNERS



OUTREACH PARTNER



ACADEMIC ADVISORS

Harini Nagendra
Shannon Olsson
Sita Reddy

CURATORIAL TEAM

Madhushree Kamak
Jahnvi Phalkey

ARTISTS

Arvind Indigo Museum
Diane Saunders
Henry Driver
Jane Tingley
Lim Kok Yoong
Maru Garcia
Megha Todi
Paul Chartrand
Rohini Devasher
Roopesh Sitharan
Royal Society Archives
Sanyukta Sharma
Savitri Sawhney
Yoko Shimizu

READING ROOM CONTRIBUTORS

Antennae Magazine
MARG Magazine
Meena Menon and Uzamma National
Centre for Biological Sciences

FACILITATORS, SPEAKERS, AND FILMMAKERS

Amita Baviskar
Dolly Kikon
Dornith Doherty
Emilia Terracciano
Gabriela Soto Laveaga
Giovanni Aloï
Hannah Fletcher
Joel Rodrigues
Kush Sethi
Mahesh Rangarajan
Nilanjan Bhattacharya
Nirupa Rao
Pradip Krishen
Ralf Lopian
Sandra Knapp
Sebastian Samwald
Sumita Bhattacharyya
Suresh Jayaram
Vinita Damodaran

SCIENCE GALLERY BENGALURU MEDIATORS

Aarushi Susheel
Bevan Stanely
Bina R
Govind Patilla
Jahnvi Bodele
Jay Kulkarni
Manasvi CM
Meghana Binraj
Misha Gupta
Rishan Ahmed
S Partheeban
SriVrushank
Vinay Anand
Yamini Srikanth

TRANSLATOR

Usha B.K.

Science Gallery Bengaluru Team



SCIENCE GALLERY BENGALURU

PHYTOPIA

WE HOPE YOU ENJOYED OUR FIRST DIGITAL POP-UP EXHIBITION, PHYTOPIA.
VISIT THE EXHIBITION ARCHIVE AT
www.bengaluru.sciencegallery.com/phytopia/archive

SHARE YOUR EXPERIENCE WITH US @SCIGALLERYBLR

