

(FCL G) FUTURE
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NTU CENTRE FOR
CONTEMPORARY
ART SINGAPORE

A

NTU CCA
IdeasFest 2023
FOOD
Eat. Secure. Sustain.

16 – 19 FEBRUARY 2023

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NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE

NTU CCA IDEASFEST 2023

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NTU CCA IdeasFest 2023 **FOOD Eat. Secure. Sustain.**

NTU CCA IdeasFest is a platform for the critical exchange of ideas and encourages “out-of-the box” thinking by linking artist and academic communities to grassroots initiatives and small-scale, nimble entrepreneurial enterprises. This year’s iteration of *NTU CCA IdeasFest 2023* is titled **FOOD Eat. Secure. Sustain.** in a call for art, architecture and design to rise to the demands of the state of ecology today. The forum is a collaboration between **NTU CCA Singapore** and **Future Cities Laboratory (FCL) Global, Singapore-ETH Centre (SEC)** and presents projects that investigate ways to restore food security throughout our stressed planetary system.

Since its pilot edition in 2016–17, *NTU CCA IdeasFest* has been a collective gathering centred in contemporary issues and ideas and the development of cross-disciplinary initiatives. By involving participants across art, architecture, design, urban planning and science alongside members of impacted communities, *NTU CCA IdeasFest* aims to identify and support potential solutions by bringing together knowledges from different fields.

Building upon NTU CCA Singapore’s long-term research theme “Climates. Habitats. Environments,” the third edition of *NTU CCA IdeasFest* contemplates urgent concerns including the instability of current food systems and proposes actionable steps for sustainable and equitable food production and consumption cycles. We begin by asking a wide range of questions around how harmful anthropocentric activity diminishes nature’s capacity to nourish life. Such challenges demand re-thinking modes of food production and consumption and highlight the need for listening to those impacted most severely. Connecting existing practices across the region,

Documentation of *Fieldtrip Microscopy*. Courtesy Saad Chinoy / Edible Makerspace

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NTU CCA IdeasFest 2023 proposes a deeper transregional understanding of the impacts of climate change in Singapore and Southeast Asia and intends to generate transferable blueprints for adapting to new environmental realities.

As the global population continues to urbanise, food and nutritional security have become key areas of concern, leading to implications in other spheres of life, especially in densely populated cities in Asia. Food security hinges on sustainable food subsystems, including farming, waste management, and supply infrastructures, which in turn interact with trade, energy, and health structures. While we are seeing traditional agricultural land on the city fringes giving way to urban sprawl or landscapes of large-scale monocultural farming, the imperative to rethink the entire food cycle has become more acute. *FOOD Eat. Secure. Sustain.* will focus on urban food as a lever for resilience, exploring cases where cities like Singapore have become centres for alternative food practices and experimentation, which are vital in creating solutions for urgent sustainability challenges

Over a period of four days, 15 international and Singapore-based architects, artists, researchers and community leaders will lead discussions on the following themes: *Food Ecosystems, Urban Food Alternatives, Non-Conventional Food Sources* and *Food Industries*. Everyone is encouraged to share and engage in cooperative projects—a conference at CREATE Tower or at workshops and exhibitions on view at NTU CCA Singapore in Gillman Barracks, and across Singapore.

Invited participants include **Irene Agrivina, Madhumitha Ardhanari, Carlos Banon, Britto Arts Trust's Mahbubur Rahman and Shimul Saha, Prof. William Chen, Joy Chee, Saad Chinoy, Alice Clarke, Dr. Franca Cole, Adrian Fuhrmann, Helen Lei Fan, Ground-Up Initiative, Vartika Goenka, Dr. Iris Haberkorn, Hoo Fan Chon, Hans Hortig, Paula Huerta, Karoline Kostka, Adeline Kueh, Alba Lombardia, Loo Yanshan, Yuhao Lu, Kaiyu Lu, Niraly Mangal, Dr. Keri Matwick, Dr. Kelsi Matwick, Muhammad Is'Maill Bin Azman, Isabella Meo, Alecia Neo, Valerie Pang / Good Food Institute (APAC), Jasper Phang Wee Keat, Byron Perez, Raine Melissa Riman, Firdaus Sani, Karen Shepherd, Helena Schmitt, Shaktheeshwari Silvaraju,**

Chloe Tan, Tan Yong Jen, Zi Gui Toh, Milica Topalovic, Zhang Qihui, Dr. Zhang Qianning, Bianca Wassmann, Dr. Christoph Waibel, Heng Chin Wee, Yanyun Yan, Dr. Huang Zhaolu, Dr. Shi Zhongming, Carole Zermatten and others.

The curators would like to take this opportunity to acknowledge and express gratitude towards all the people, organisations and government bodies that made *NTU CCA IdeasFest 2023 FOOD Eat. Secure. Sustain.* possible, namely Nanyang Technological University (NTU), Singapore's Economic Development Board (EDB), Future Cities Lab (FCL) Global, Singapore-ETH Centre (SEC), Campus for Research Excellence and Technological Enterprise (CREATE), and NTU CCA Singapore.

NTU CCA IdeasFest 2023 FOOD Eat. Sustain. Secure. is conceived and organised by **Prof. Ute Meta Bauer** (NTU School of Art, Design, and Media and Founding Director, NTU CCA Singapore), **Magdalena Magiera** (Curator and Research Associate, NTU CCA Singapore), **Laura Miotto** (Associate Professor, School of Art, Design and Media, NTU), **Prof. Dr. Thomas Schroepfer** (Co-Director, Future Cities Laboratory Global, Singapore-ETH Centre and Professor of Architecture and Sustainable Design, SUTD) and **Dr. Tanvi Maheshwari** (Associate Director, Research, Future Cities Laboratory Global).

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Free registration for Conference Days through
https://bit.ly/ntuccaideasfest2023_events

THURSDAY, 16 FEBRUARY 2023
5.15PM – 8.00PM

Venue:

CREATE Tower, 1 Create Way, 138602
Theatrette, Level 2

5.15pm

Registration and Coffee

5.45pm

Opening Addresses

by

Guest of Honor **Dr. Alvin Yeo** (Singapore), Senior Director, Joint Policy and Planning Division, Singapore Food Agency

Prof. Subodh Mhaisalkar (Singapore), Executive Director for Academic Research, National Research Foundation Singapore, President's Chair in Energy and Professor, School of Materials Science and Engineering, Nanyang Technological University (NTU)

Prof. Tim White (Australia/ Singapore), Vice President (International Engagement), President's Chair in Materials Science and Engineering, Professor, School of Materials Science and Engineering, Nanyang Technological University (NTU)

Prof. Sacha Menz (Switzerland), Director, Future Cities Lab Global (FCL-G) and Professor of Architecture and Building Process, ETH Zürich

Prof. Thomas Schroepfer (Germany/Singapore), Co-Director, Future Cities Lab Global (FCL-G), Singapore-ETH Centre (SEC) and Professor of Architecture and Sustainable Design, Singapore University of Technology and Design (SUTD)

Prof. Ute Meta Bauer (Germany/Singapore), Founding Director, NTU Centre for Contemporary Art Singapore (NTU CCA Singapore) and Professor, School of Art, Design and Media (ADM), NTU

6.30pm

CLOSING THE LOOP: The Role of Circular Economy in the Food Sector

Keynote Lecture by **Paula Huerta** (Spain/Indonesia), Circular Economy Consultant and Director, Bambook Studio and GUASL

Followed by a conversation with **Assoc. Prof. Laura Miotto** (Italy/Singapore), School of Art, Design and Media (ADM), Nanyang Technological University (NTU)

8.00pm

Reception

FRIDAY, 17 FEBRUARY 2023
8.30AM – 7.30PM

Venue:

CREATE Tower, 1 Create Way, 138602
Theatrette, Level 2

8.30am

Registration and Coffee

FOOD ECOSYSTEMS

9.00am

Welcome by Co-Curators

Prof. Ute Meta Bauer (Germany/Singapore), Founding Director, NTU CCA Singapore and Professor, NTU ADM

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Assoc. Prof. Laura Miotto (Italy/Singapore), NTU ADM

Prof. Thomas Schroepfer (Germany/Singapore), Co-Director, FCL-G, SEC

9.10am

Food Connects

Lecture by **Raine Melissa Riman** (Malaysia), Co-Curator, *E.A.T Borneo Conference*, media strategist and social media lead, *What About Kuching Festival*

9.40am

Hello! I am a Black Soldier Fly and I am Transforming the Global Food System

Flash Lecture by **Niraly Mangal** (India/Singapore), Doctoral Researcher, SEC

10.00am

Clinically Relevant Materials & Applications Inspired by Food Technologies

Flash Lecture by **Prof. Wiliam Chen** (Singapore), Michael Fam Endowed Professor and Director, Food Science and Technology, NTU

10.20am

Human Created Food Crisis

Flash Lecture by **Britto Arts Trust / Mahbubur Rahman** (Bangladesh), Artist, Co-Founder and Trustee, Britto Arts Trust

10.40am—Break

11.00am

Discussion with **Prof. William Chen** (Singapore), Michael Fam Endowed Professor and Director, Food Science and Technology, NTU, **Niraly Mangal** (India/Singapore), Doctoral Researcher, SEC, **Britto Arts Trust / Mahbubur Rahman** (Bangladesh), Artist, Co-Founder and Trustee, Britto Arts Trust, and **Raine Melissa Riman** (Malaysia), Co-Curator, *E.A.T Borneo Conference*, media strategist and social media lead, *What About Kuching Festival*

Moderated by **Prof. Ute Meta Bauer** (Germany/Singapore), Founding Director, NTU CCA Singapore and Professor, NTU ADM

12.00pm

Lunch Break

URBAN FOOD ALTERNATIVES

1.30pm

Architecture of Urban Agriculture for Building Sustainable Cities

Lecture by **Prof. Thomas Schroepfer** (Germany/Singapore), Co-Director, FCL-G, SEC, and **Carlos Banon** (Spain/ Singapore), Assoc. Professor, SUTD, Director and Co-Founder, AIRLAB Singapore

2.00pm

How Singapore is Addressing Global Food and Environmental Challenges Through Alternative Proteins

Flash Lecture by **Valerie Pang** (Singapore), Innovation Associate, The Good Food Institute (GFI) APAC

2.20pm

Healing Remedies & Roadside Beauties

Flash Lecture by **Adeline Kueh** (Singapore), Artist, Senior Lecturer, LASALLE College of the Arts

2.40pm

Consumer Acceptance of Alternative Proteins: Enduring and Emerging Issues

Flash Lecture by **Bianca Wassmann** (Germany/Philippines), Doctoral Researcher, SEC

3.00pm—Break

3.20pm

Discussion with **Carlos Banon** (Spain/ Singapore), Assoc. Professor, SUTD, Director and Co-Founder, AIRLAB Singapore, **Valerie Pang** (Singapore), Innovation Associate, GFI APAC, **Adeline Kueh** (Singapore), Artist, Senior Lecturer, LASALLE College of the Arts, and **Bianca Wassmann** (Germany/Philippines), Doctoral Researcher, SEC

Moderated by **Prof. Thomas Schroepfer** (Germany/Singapore), Co-Director, FCL-G, SEC

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4.20pm—Break

NON-CONVENTIONAL FOOD SOURCES

4.40pm

Quantifying the Environmental Impact of Our Food – How to Make More Sustainable Choices

Lecture by **Dr. Iris Haberkorn** (Germany/Singapore), Senior Researcher and Project Lead, SEC

5.10pm

Urban Food Production in a Circular Bioeconomy with Microalgae as Case Study

Flash Lecture by **Byron Perez** (Ecuador/Singapore), Doctoral Researcher, SEC

5.30pm

I Have Never Seen a Swimming Salmon in My Life

Flash Lecture by **Hoo Fan Chon** (Malaysia), Artist

5.50pm

Reporting on Singapore's Innovations of Cultivated Meat

Flash Lecture by **Dr. Keri Matwick** (USA/Singapore), Lecturer, School of Humanities NTU and **Dr. Kelsi Matwick** (USA/Singapore), Adj. Asst. Prof., University of Florida

6.10 pm—Break

6.30pm

Discussion with **Dr. Iris Haberkorn** (Germany/Singapore), Senior Researcher and Project Lead, SEC, **Byron Perez** (Ecuador/Singapore), Doctoral Researcher, SEC,

Hoo Fan Chon (Malaysia), Artist, **Dr. Keri Matwick**, Lecturer, NTU, and

Dr. Kelsi Matwick, (USA/Singapore), Adj. Asst. Prof., University of Florida

Moderated by **Dr. Tanvi Maheshwari** (India/Singapore), Assoc. Director (Research), FCL-G, SEC

SATURDAY, 18 FEBRUARY 2023

9.00AM – 1.00PM

Venue:

CREATE Tower, 1 Create Way, 138602
Theatrette, Level 2

9.00am

Registration and Coffee

FOOD INDUSTRIES

9.30am

Welcome by Co-Curators

Magdalena Magiera (Germany/Singapore), Curator and Research Associate, NTU CCA Singapore

Dr. Tanvi Maheshwari (India/Singapore), Assoc. Director (Research), FCL-G, SEC

9.40am

Sarawak Rice: From Traditional Significance to Modern Sustainability

Lecture by **Karen Shepherd** (Malaysia), writer, content creator, and Strategic Director, UCCN Kuching Creative City

10.40am

On Palms, Weevils, and Owls:

Tracing more-than-human labour in the oil palm territories of Johor, Malaysia

Flash Lecture by **Hans Hortig** (Austria/Singapore), Doctoral Researcher, FCL-G, SEC

11.00am

Collective Making and Domestic Hacking

Flash Lecture by **Irene Agrivina** (Indonesia), Artist, Co-Founder HONF and XXLAB

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11.20am

Microbial Fuel Cells: Mud, Microbes, and Midichlorians (of The Force)
Flash Lecture by **Saad Chinoy** (Singapore), Co-Founder SpudnikLab,
Storytellers' Kitchen, and EdibleMakerspace

11.40am—Break

12.00pm

Discussion with **Karen Shepherd** (Malaysia), writer, content creator,
Strategic Director, UCCN Kuching Creative City, **Hans Hortig** (Austria/Singapore),
Doctoral Researcher, FCL-G, SEC, **Irene Agrivina** (Indonesia), Artist, Co-Founder
HONF and XXLAB, and **Saad Chinoy** (Singapore), Co-Founder SpudnikLab,
Storytellers' Kitchen, EdibleMakerspace

Moderated by **Magdalena Magiera** (Germany/Singapore), Curator and
Research Associate NTU CCA Singapore

SATURDAY, 18 FEBRUARY 2023
4.00 – 6.00PM

Venue:

National Design Centre, 111 Middle Road, Singapore 188969
Auditorium

4.00pm

*Circularity and 3D-printing for Addressing Urban Agriculture for
Sustainable Future Cities*

Talk by **Carlos Banon**, Assoc. Professor, SUTD, Director and Co-Founder,
AIRLAB Singapore

5.00pm

Guided Exhibition Tour of *Circular Futures: Next Gen.* (following the talk)

SUNDAY, 19 FEBRUARY 2023
4.00 – 6.00PM

Venue:

National Design Centre, 111 Middle Road, Singapore 188969
Auditorium

4.00pm

The Potential for Digital Models in Urban Agriculture

Sharing Session by **Alba Lombardia** (Spain/Singapore), PhD Researcher, SUTD
with introductions by **Prof. Thomas Schroepfer** (Germany/Singapore),
Co-Director, FCL-G, SEC and Professor of Architecture and Sustainable Design, SUTD,
and **Carlos Banon**, Assoc. Professor, SUTD, Director and Co-Founder,
AIRLAB Singapore

5.00pm

Guided Exhibition Tour of *Circular Futures: Next Gen.* (following the talk)

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Tickets for workshops can be purchased or registered for at
https://bit.ly/ntuccaideasfest2023_events

SATURDAY, 18 FEBRUARY 2023

10.00am – 1.00pm

To Gathering: Food Flows

Alecia Neo (Singapore), Artist, **Ground-Up Initiative** (Singapore), and **Madhumitha Ardhanari** (Singapore), Principal Sustainability Strategist, Forum for the Future

Venue: Kampung Kampus, 91 Lorong Chencharu, Singapore 769201

2.30 – 5.30pm

Grow Your Own Microgreens with PVs

Dr. Christoph Waibel (Germany/Singapore), Module Coordinator, Powering the City, FCL-G, **Dr. Shi Zhongming** (China/Singapore), Principal Investigator, Building Integrated Agriculture, FCL-G, **Dr. Zhang Qianning** (China/Singapore), Principal Investigator, Building Integrated Agriculture, NUS, **Dr. Huang Zhaolu** (China/Singapore), Research Fellow, Building Integrated Agriculture, NUS

Venue: Future Cities Laboratory, Value Lab, Level 6, CREATE Tower, 1 Create Way, Singapore 138602

3.00 – 5.30pm

Novel Materials

Irene Agrivina (Indonesia), Artist, Co-Founder HONF and XXLAB, and **Saad Chinoy** (Singapore), Co-Founder, SpudnikLab, Storytellers' Kitchen, and EdibleMakerspace

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-04, Singapore 109452

4.00 – 6.00pm

An Afternoon with "Salmon" Tea Sandwich

Hoo Fan Chon (Malaysia), Artist

Venue: NTU CCA Singapore, Block 38 Malan Road, #01-06, Singapore 109441

SUNDAY, 19 FEBRUARY 2023

Tickets for Workshops can be purchased or registered for at
https://bit.ly/ntuccaideasfest2023_events

10.00am – 12.00pm

Stories & Food of Semakau

Firdaus Sani (Singapore), Founder, OranGLaut.sg and The Black Sampan
Venue: West Coast Park

10.00 – 11.30am

Elevating the Ordinary: Crafting a Creative Exploration of an Everyday Staple

Karen Shepherd (Malaysia), writer, content creator, and Strategic Director, UCCN Kuching Creative City, **Raine Melissa Riman** (Malaysia), Co-curator, *E.A.T Borneo Conference*, media strategist and social media lead, *What About Kuching Festival*, and **Dr. Franca Cole** (UK/Malaysia), Consultant in Conservation and Archaeology, Sarawak Museum, and Lecturer, NTU ADM

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-04, Singapore 109452

10.00am – 12.00pm

Healing Remedies & Roadside Beauties

Adeline Kueh (Singapore), Artist, Senior Lecturer, LASALLE College of the Arts
Venue: NTU CCA Singapore, Block 37 Malan Road, #01-02, Singapore 109452

10.00am – 12.30pm

Edible Wild

Joy Chee, Resident Bartender and Gardener, Native Bar
Venue: NTU CCA Singapore, Block 6 Lock Road, Research Office, Singapore 108934

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11.30am – 1.30pm

Human Created Food Crisis

Britto Arts Trust / Mahbubur Rahman (Bangladesh), Artist, Co-Founder, Britto Arts Trust and **Shimul Saha** (Bangladesh), Artist, both Trustees, Britto Arts Trust
Venue: Intermission Bar, The Projector, 6001 Beach Rd, #05-00
GOLDEN MILE TOWER, Singapore 199589

2.30 – 5.30pm

DIY Self-Watering Plant Robot!

Dr. Christoph Waibel (Germany/Singapore), Module Coordinator, Powering the City, FCL-G, **Dr. Shi Zhongming** (China/Singapore), Principal Investigator, Building Integrated Agriculture, FCL-G, **Dr. Zhang Qianning** (China/Singapore), Principal Investigator, Building Integrated Agriculture, NUS, **Dr. Huang Zhaolu** (China/Singapore), Research Fellow, Building Integrated Agriculture, NUS
Venue: NTU CCA Singapore, Block 6 Lock Road, Research Office, Singapore 108934

3.00 – 5.00pm

How Food Media Affect What We Eat

Dr. Keri Matwick (USA/Singapore), Lecturer, School of Humanities NTU, and **Dr. Kelsi Matwick** (USA/Singapore), Adj. Asst. Prof., University of Florida
Venue: NTU CCA Singapore, Block 37 Malan Road, #01-04, Singapore 109452

EXHIBITIONS

Venue:

NTU CCA Singapore, Block 37 & 38 Malan Road, Gillman Barracks, Singapore

Exhibition Hours

Thursday, 16 February – Sunday, 19 February 2023

From 12.00pm – 7.00pm

Free admission to all exhibitions

Hello! I am a Black Soldier Fly and I am Transforming the Global Food System

Primary Contributor: **Niraly Mangal**, Doctoral researcher, SEC

Other Contributors: **Adrian Fuhrmann**, PhD Researcher, SEC,

Vartika Goenka, Research Assistant, SEC, **Heng Chin Wee**, Research Assistant SEC,

Shaktheeshwari Silvaraju, PhD Student, SEC, **Chloe Tan**, Research Assistant, SEC,

Tan Yong Jen, Research Assistant, SEC, **Yanyun Yan**, Research Associate,

Zhang Qihui, PhD student

NTU CCA Singapore, Block 37 Malan Road, #01-03, Singapore 109452

Sustainable Food Systems with Microalgae-based Proteins

Dr. Iris Haberkorn, Senior Researcher and Project Lead, SEC,

Byron Perez, Doctoral Researcher, SEC, **Helena Schmitt**, Research Intern SEC,

Carole Zermatten, Student SEC

NTU CCA Singapore, Block 37 Malan Road, #01-03, Singapore 109452

Hoo Fan Chon, Artist

NTU CCA Singapore, Block 38 Malan Road, #01-06, Singapore 109441

The Journey of Food

Primary Contributors: **Yuhao Lu**, **Helen Lei Fan**, Research Assistants, FCL-G

Other Contributors: **Kaiyu Lu**, **Muhammad Is'Maill Bin Azman**, **Isabella Meo**,

Jasper Phang Wee Keat, **Zi Gui Toh**, **Loo Yanshan**, all Research Assistants, FCL-G

NTU CCA Singapore, Block 38 Malan Road, #01-05, Singapore 109441

Potential Agriterritories – Agrarian Questions and Agroecological Design

Architecture of Territory

Assoc. Prof. Milica Topalovic, Architecture and Territorial Planning, Department of

Architecture, ETH Zurich, **Alice Clarke**, teaching assistant, *Architecture of Territory*,

ETH Zurich, **Hans Hortig**, Doctoral Researcher, FCL-G, SEC, **Karoline Kostka**, Senior

Researcher, New Urban Agendas for Agrarian Territories, FCL-G, SEC, and **Students**

of the joint Master of Advanced Studies at the ETH Zürich and Swiss Federal

Institute of Technology Lausanne (ETH EPFL MAS UTD)

NTU CCA Singapore, Block 38 Malan Road, #01-07, Singapore 109441

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IRENE AGRIVINA

Artist, Co-Founder HONF and XXLAB

Flash Lecture

Collective Making and Domestic Hacking

Saturday, 18 February 2023

11.00am

Digital technology innovations tend to secure knowledge in the hands of a limited number of institutions and corporations, but Indonesian group Critical Making adheres to the principle of openness, organised through citizen initiation and run by grassroots-level collectives, to create physical objects much like how the open-source movement allows for innovations in software. Each individual has the right and access to knowledge and the process of creating with materials and technology.

In Indonesia, collectives play an important role as the driving force of the cultural sector and as catalysts for social and economic development. However, even though these collectives are open to any gender, female and nonbinary gender participation in open science and citizen science movements are still relatively small and imbalanced. Moreover, in the digital technology industry at large, true inclusion remains lacking, as



women, trans people, and children are “included” as mere users and consumers. This non-inclusive creation process creates inequality and stifles true innovation. *Domestic Hacking* intervenes by involving women, trans people, and children in making and hacking.

Irene Agrivina, *Unsplash*, 2022. Photo by Tim Oliver Metz. Courtesy the artist.

CARLOS BANON

Associate Professor, Singapore University of Technology and Design (SUTD),
Director and Co-Founder, AIRLAB Singapore

Circularity and 3D-printing for Addressing Urban Agriculture for Sustainable Future Cities

Saturday, 18 February 2023

4.00pm

Venue: Auditorium, National Design Centre, 111 Middle Road, Singapore 188969

The Dense and Green Cities Future Cities Lab Global (FCL-G) in collaboration with the Architecture Intelligence Research Lab (AIRLAB) @SUTD showcases the architecture of urban agriculture for building sustainable cities at the National Design Centre. The exhibition *Circular Futures: Next Gen.*, curated by Associate Professor Carlos Banon, is centred in the themes of architecture, agriculture, design and sustainability, and demonstrates how digital design and additive manufacturing (3D printing) is a powerful enabler of a circular economy. During his talk, Banon presents prototypes of floating and vertical farms that offer potential solutions to food security challenges, as well as decorative walls and furniture made from waste materials from “Circular Futures”.

The talk is followed by a guided tour of the exhibition.



FLOAT Lattice Garden System, 2021. Courtesy Carlos Banon / SUTD Air Lab.

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BRITTO ARTS TRUST / MAHBUBUR RAHMAN

Artist, Co-Founder and Trustee of Britto Arts Trust

Flash Lecture

Human Created Food Crisis

Friday, 17 February 2023

10.20am

A human-created food crisis is often thought of as a famine resulting from war—and is sometimes weaponised as a tool of war between nation-states. Within nation-states, domestic food policy features as a critical component of economic and human development, parallel to processes of urbanisation and industrialisation. However, this drive of “development” is often countered by devastating implications for social, cultural, ecological biodiversity. Moreover, due to globalisation, food crises are not contained by geopolitical borders, and now, in belated acknowledgement of our planetary reality, food crises permeate at every scale, from microbiome to atmosphere. Food politics are life politics. Food has always been a big concern in projects by Britto Arts Trust. *ZERO WASTE-FoodArt* (2019) was initiated during the Covid-19 pandemic, where artists and art collectives, within Bangladesh and abroad, could grow, make and share food within their communities—while reutilising waste to grow, make and share art.



Britto Arts Trust, *Rasod*, 2022, installation view (detail). Courtesy Britto Arts Trust / Tayeba Begum Lipi.

PROF. WILLIAM CHEN

Michael Fam Endowed Professor, Director Food Science and Technology, NTU Singapore

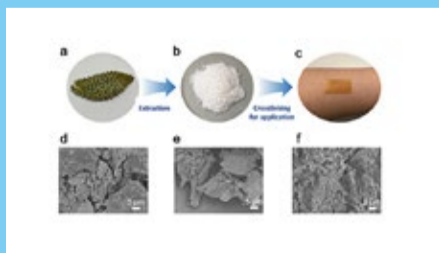
Flash Lecture

Clinically Relevant Materials & Applications Inspired by Food Technologies

Friday, 17 February 2023

10.00am

Food science and technology has a fundamental and considerable overlap with medicine, and many clinically important applications were born out of translational food science research. Globally, the food industry generates huge quantities of agro-waste and food processing by-products that retain significant biochemical potential for upcycling into important medical applications. This review explores some distinct clinical applications that are fabricable from food-based biopolymers and substances, often originating from food manufacturing side streams. These include antibacterial wound dressings and tissue scaffolding from biopolymers cellulose and chitosan as well as antimicrobial food phytochemicals for combating antibiotic-resistant nosocomial infections. Furthermore, fermentation is discussed as the epitome of a translational food technology that unlocks further therapeutic value from recalcitrant food-based substrates and enables sustainable large-scale production of high-value pharmaceuticals, including novel fermented food-derived bioactive peptides (BPs).



“Clinically Relevant Materials & Applications Inspired by Food Technologies” (lecture slide). Courtesy Prof. William Chen.

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SAAD CHINOY

Co-Founder, SpudnikLab, Storytellers' Kitchen, EdibleMakerspace

Flash Lecture

Microbial Fuel Cells: Mud, Microbes, and Midichlorians (of The Force)

Saturday, 18 February 2023

11.20am

Microbes power you. You have more bacterial cells than YOU cells that make you. Non-human cells outnumber human cells by (at least) 1.3 times! Does this mean we're more alien than we think? Microbes are alive, invisible, everywhere (especially inside you), and (luckily) can be used to power things!



Samples of vegan leather made from dehydrated SCOBY (Symbiotic Culture of Bacteria and Yeast).
Courtesy Saad Chinoy / Edible Makerspace.

HOO FAN CHON

Artist

Flash Lecture

I Have Never Seen a Swimming Salmon in My Life

Friday, 17 February 2023

5.30pm

Born into a fisherman's family that regularly hosted and attended seafood banquets, fish has always been a mainstay in Fan Chon's diet. In recent years, fish has also become a recurring motif in his practice. He understands food consumption as a constant negotiation between nature and culture inflected by social norms. During his flash lecture, Fan Chon will share about his latest research on how pigments turn tissues of various organisms, including salmon, into a pinkish-red hue. Besides its distinctive colour, its consumption bespeaks the Western lifestyle aspirations of a rising global middle class, prompting conversations on salmon as a class symbol in Southeast Asia, our need to alter/design the colour of food, and food consumption informed by cultural practice and class aspiration.



Hoo Fan Chon, *I have never seen a swimming salmon in my life*, 2022, mixed media installation. Courtesy the artist.

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DR. IRIS HABERKORN

Senior Researcher and Project Lead, Singapore- ETH Centre (SEC)

Lecture

Quantifying the Environmental Impact of our Food – How to Make More Sustainable Choices

Friday, 17 February 2023

4.40pm

Despite all good intentions and efforts of establishing sustainable food systems to support a steadily growing global population, traditional food production systems and their associated value chains are exceeding our planetary boundaries. This talk highlights how novel production technologies, integrated sustainability assessment and further data integration into national food systems through nutritional, environmental and social indicators could be a basis for a holistically developed, more sustainable food system. The focus for innovative system changes is emerging microalgae processing and production.



Dr. Iris Haberkorn (ETH Zürich) cultivating yellow microalgae, 2021. Photo: Prof. Alexander Mathys.

PAULA HUERTA

Circular Economy Consultant and Director Bambook Studio and GUASL

Keynote Address

CLOSING THE LOOP: The Role of Circular Economy in the Food Sector

Thursday, 16 February 2023

6.30pm

Our present global crises oblige us to accelerate the move towards a low-carbon future. This includes the transition from a linear economy, defined by the consumption of finite resources and the accumulation of waste, to a circular economy, which redefines growth by prioritising both people and the planet. In our current linear economy, the food sector and its bio-waste accounts for the largest single component of municipal waste landfills and is a significant source of greenhouse gases such as methane. As part of a circular economy, bio-waste can bring gains linked to multiple higher-value products, such as natural fertilisers for agriculture, energy production, and even protein feed for aquaculture or farming.

In this keynote address, Huerta presents the main impacts of a linear economy food system and the importance of introducing a well-functioning circular economy food system. She will focus on applying solutions from the natural world and how to implement a sustainable organic loop system.



Documentation of BSF Lombok. Courtesy Bambook Studio.

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HANS HORTIG

Doctoral Researcher, Future Cities Lab (FCL) Global, Singapore-ETH Centre (SEC)

Flash Lecture

On Palms, Weevils, and Owls: Tracing more-than-human Labour in the Oil Palm Territories of Johor, Malaysia

Saturday, 18 February 2023

10.40am

This lecture discusses plantation agriculture as a technology aimed at extracting natural resources and unpaid labour as well as installing regulatory authority. It is focused on palm oil plantation territories in the state of Johor in Malaysia, one of the core zones of palm oil production, refining, and export. Through the operationalisation of territory, the presentation brings the discourse on the Plantationocene into dialogue with critical urban studies. Palms, weevils, and owls are uncovered as surprising agents in the production process, highlighting the fact that more-than-human assemblages have been utilised to enable the expansion of Malaysian palm oil plantations and the socio-ecological transformation of territory. The entanglements of agro-industrial operationalisation of territory and more-than-human life on the plantations are traced temporally, showing the fragility of plantation ecologies on which the global palm oil commodity chains depend.

*Several physical objects from palm oil plantations are presented at Gillman Barracks in the exhibition *POTENTIAL AGRITERRITORIES*, Zurich and Singapore.



Plantation workers with barn owl and owl hut at the Palm Oil Experience Centre, Carey Island, Malaysia, 2019. Courtesy Hans Hortig.

ADELINE KUEH

Artist, Senior Lecturer, LASALLE College of the Arts

Flash Lecture

Healing Remedies & Roadside Beauties

Friday, 17 February 2023

2.20pm

The focus of this presentation is the artist's research interest and practice in food foraging, healing remedies, and socially embodied practices. The *Roadside Beauties* project, alongside a longstanding attentiveness to the interstitial spaces of care and the intertwining of personal and cultural histories, serves as an example. Kueh looks at the differing expressions and experimentations around nature, food, and healing, specifically in relation to folk and intergenerational food remedies.



Adeline Kueh, *Roadside Beauties* (detail), 2020. Courtesy the artist & STPI.

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ALBA LOMBARDIA

PhD Researcher, Singapore University of Technology and Design (SUTD)

With introductions by **Prof. Thomas Schroepfer** and **Carlos Banon**

The Potential for Digital Models in Urban Agriculture

Sunday, 19 February 2023

4.00pm

Venue: Auditorium, National Design Centre, 111 Middle Road, Singapore 188969

The Potential for Digital Models in Urban Agriculture focuses on the possibilities of scalability of urban agriculture in high-density cities and the potential of sunlight-informed architectural models for controlled environment agriculture. With brief introductions by Professor Thomas Schroepfer and Associate Professor Carlos Banon's *Urban Agriculture Architecture for Sustainable Future Cities*, the talk is followed by a guided tour of the exhibition *Circular Futures: Next Gen.*, curated by Associate Professor Carlos Banon.



Alba Lombardía, *Agriculture 4.0*, image created with Midjourney, 2023. Courtesy Alba Lombardía / SUTD Air Lab.

NIRALY MANGAL

Doctoral Researcher, Singapore-ETH Centre (SEC)

Flash Lecture

Hello! I am a Black Soldier Fly and I am Transforming the Global Food System

Friday, 17 February 2023

9.40am

What does a future-proof food system look like? How do we ensure a circular food system in our cities? To ensure a truly circular food system, food waste management holds the key to closing the loop. This talk presents a nature-based solution for urban food waste management using the Black soldier fly. Black soldier flies (BSF) represent an opportunity for realising a key principle of the circular economy by targeting organic waste for continuous circulation into novel forms of value. BSF are fast-growing insects that can transform food waste into sustainable high-protein feed ingredients for poultry and aquaculture diets. These high-tech, high-producing, space-efficient farms could become an integral part of Singapore's food system by helping to reduce and recycle food waste. They can be embedded into our dense urban environment to use land efficiently and synergise with the built environment of Singapore to also reap social benefits of urban agriculture. This talk elaborates on developing design, network and operational solutions for BSF integration in dense urban environments.



Black Soldier Fly larvae feeding on local food waste in Singapore.
Photo: Phira Unadirekkul. Courtesy Niraly Mangal.

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DR. KERI MATWICK & DR. KELSI MATWICK

Dr. Keri Matwick, Lecturer, School of Humanities, NTU
Dr. Kelsi Matwick, Adjunct Assistant Professor, University of Florida

Flash Lecture

Reporting on Singapore's Innovations of Cultivated Meat

Friday, 17 February 2023

5.50pm

From chicken made in a test tube to protein grown “out of thin air,” new ways of growing meat are emerging, and Singapore is leading the way. How do we talk about foods that are unfamiliar to us? This presentation examines how cultivated meats are made newsworthy through language and what values are conveyed. Focusing on *The Straits Times*, we examine articles published between 2019 and 2022 and identify news values and themes of positivity, impact, proximity, eliteness and superlativeness, which construct a sociocultural understanding of novel foods as positive, innovative and profitable. We discuss how this may motivate social and personal mobilisation of food choices by placing trust in the government and science technology.



Cultivated fish and fruit tartare by Avant Meals. Courtesy Good Food Institute.

VALERIE PANG

Innovation Associate, The Good Food Institute (GFI) APAC

Flash Lecture

How Singapore is Addressing Global Food and Environmental Challenges Through Alternative Proteins

Friday, 17 February 2023

2.00pm

Protein demand is surging around the world, including here in Asia. As a result, conventional meat production is projected to nearly double by 2050, leading to historic levels of natural resource depletion and climate disruption. Industrialised animal agriculture is already responsible for roughly 15% of all greenhouse gas emissions, and more than three quarters of all agricultural land is used to raise or feed livestock. In this talk, we outline how alternative proteins can satisfy this rising consumer demand in a more efficient and secure way and spotlight Singapore's initiatives for developing a future-proof global food supply.



Plant-based meat table spread by Love Handle. Courtesy Good Food Institute / APAC.

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BYRON PEREZ

Doctoral Researcher, Singapore-ETH Centre (SEC)

Flash Lecture

Urban Food Production in a Circular Bioeconomy with Microalgae as Case Study

Friday, 17 February 2023

5.10pm

Sustaining a growing population requires a shift in traditional linear production concepts towards closed loop supply chains. Novel raw material valorisation combined with technological innovation and a sustainable transformation of existing value-chains will be required to ensure global food security. This talk highlights the potential of cellular agriculture for sustainably transforming existing linear production concepts into creating circular systems with microalgae as a case study, highlighting current challenges and opportunities, as well as technological advances related to novel protein production and processing with a strong link to industrial implementation.



Microalgae cultivation in bubbling columns at ETH-Singapore Centre, 2023. Courtesy Byron Perez.

RAINE MELISSA RIMAN

Co-curator, E.A.T Borneo Conference, media strategist and social media lead,
What About Kuching Festival

Lecture

Food Connects

Friday, 17 February 2023

9.10am

E.A.T. Borneo's first homegrown conference, titled *Innovate. Elevate. Celebrate.*, was focused around FOOD and took place in October 2022, in Kuching, Malaysia's UNESCO "City of Gastronomy." The driving force behind this movement was the idea of sustainability and security, to address the fact that significantly more resources go into our global food system than come out of it. Food connects people. Food is political. Food is our past, present and future. Food is art, culture and a way of life. Meaningful dialogue and shared learning becomes a catalyst for growth and future collaborations with diverse people from the food system from across the world. E.A.T. serves as a platform to initiate and negotiate conversations, enable more creations, elevate connections and celebrate different producers and consumers in the food system. Conversation does matter, and we're all strangers at first. To address change, it needs conversation and negotiation between various people from diverse backgrounds. This year's conference theme, *Collaborate. Curate. Co-Create*, focuses on the many cultures from Southeast Asia.



Documentation of E.A.T: Taste of Borneo Conference, *Innovate, Elevate, Celebrate*, Sarawak, 2022. Courtesy E.A.T: Taste of Borneo.

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PROF. THOMAS SCHROEPFER **& CARLOS BANON**

Professor Thomas Schroepfer, Co-Director, Future Cities Lab (FCL) Global, Singapore-ETH Centre (SEC), Carlos Banon, Associate Professor, Singapore University of Technology and Design (SUTD), Director and Co-Founder, AIRLAB Singapore

Lecture

Architecture of urban agriculture for building sustainable cities

Friday, 17 February 2023

1.30pm

The fourth agriculture revolution is predominately situated in cities and encompasses the three pillars of sustainability—social, environmental, and economic. It is expected to bridge together people and the planet through eco-friendly food production systems in urban areas. Urban Agriculture is thus seen as a significant addition to the architectural vocabulary for future cities. This talk touches on the theme of architecture, agriculture, design and sustainability as we explore the potential of future technologies in the form of digital and additive manufacturing (3D printing) as a key enabler in integrating these concepts within sustainable urban agriculture. The talk explores the evolving field of urban agriculture architecture and presents the journey of the architectural evolving elements for planning a circular, sustainable, regenerative and productive future city.



FLOAT Lattice Garden System, 2021. Courtesy Carlos Bañon / SUTD Air Lab.

KAREN SHEPHERD

Writer, content creator, Strategic Director, UCCN Kuching Creative City

Lecture

Sarawak Rice: From Traditional Significance To Modern Sustainability

Saturday, 18 February 2023

9.40am

Rice is the most widely eaten staple across Asia, though it's often merely a vehicle for other, more exciting foods. In Sarawak's traditional indigenous culture, this grain has great ritual and cosmological significance. Set against a backdrop of extreme rainforest biodiversity and management dating back 50,000 years, it is one that has long puzzled anthropologists. Modern agricultural research confirms that Sarawak now has at least 100 heirloom varieties, many of them unique to this area, and most of them boasting a flavour, texture and aroma profile unmatched by commercially available alternatives. This lecture gives background to the importance of rice in



Rice varieties from Sarawak. Photo: Alan Lee Pik Jin. Courtesy UCCN Kuching City of Rice.

Sarawak's indigenous and gastronomic environment and address the approaches being taken by the UCCN Kuching team to make the story of rice into the story of Sarawak: its indigenous land tenure, its relationship with this land and its modern, sustainable landscape. It furthermore explores how the UNESCO designation has impacted this as part of a larger network focused on food security and food justice, sustainability and traditional knowledge systems.

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BIANCA WASSMANN

Doctoral Researcher, Singapore- ETH Centre (SEC)

Flash Lecture

Consumer Acceptance of Alternative Proteins: Enduring and Emerging Issues

Friday, 17 February 2023

2.40pm

Rising food prices, disease-inflicted livestock and a shortage of imported chicken meat are emerging issues of concern in Singapore. The world affects what we eat, and what we eat impacts the world. Are alternative proteins a possible answer? Would you consider them?

Our daily food choices have a huge impact on the environment. Production of meat has a much larger impact compared to the production of vegetable-based proteins. To create a food production and supply system that is more sustainable and environmentally friendly, food consumption behaviour needs to change. A reduction of meat intake is necessary. The introduction of alternative protein sources—for instance, those reliant on insects, cultured meat, or microalgae—could be a potential solution to replace meat. This presentation highlights the aspect of consumer acceptance and potential barriers for the creation of novel food products based on alternative proteins.



Phototrophic microalgae in flasks, ETH Zürich, 2019. Photo: Prof Alexander Mathys.

AN AFTERNOON WITH “SALMON” TEA SANDWICH

HOO FAN CHON

Workshop

Saturday, 18 February 2023

4.00 – 6.00pm

Venue: NTU CCA Singapore, Block 38 Malan Road, #01-06, Singapore 109441

Carotenoids are naturally-occurring pigments that turn the tissues of various organisms, including salmon, into a pinkish-red hue. While the pink pigmentation of wild salmon is due to a natural diet made of krill and shrimp, the flesh of farmed salmon is either grey or off-white. In order to achieve the vibrant hue that makes salmon appealing to consumers, farmed salmon are regularly fed synthetic carotenoids (astaxanthin) to emulate the colour of wild salmon. Besides its distinctive colour, salmon is also seen as a premium source of protein in Southeast Asia. Its consumption bespeaks the Western lifestyle aspirations of a rising global middle class. It can be found at higher-end supermarket fish counters and restaurant menus and is featured in luxury hotels' high-tea services as our food chains become increasingly globalised. It is a common food preparation practice to change or add colour to our food in Southeast Asia, especially in pickled fruit and desserts. This workshop will put the *How to turn your siakap into salmon* instruction video work into practice by inviting participants to make salmon tea sandwiches with pre-dyed siakap (barramundi) with a selection of natural and synthetic dyeing agents. It intends to prompt conversations on salmon as a class symbol in Southeast Asia, our need to alter/design the colour of food, and food consumption informed by cultural practice and class aspiration through an afternoon session of preparing and sampling “salmon” tea sandwiches together.



Hoo Fan Chon, *How to turn your siakap into salmon*, still from video, 2022. Courtesy the artist.

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EDIBLE WILD

JOY CHEE / NATIVE

Workshop

Sunday, 19 February 2023

10.00am – 12.30pm

Venue: NTU CCA Singapore, Block 6 Lock Road, Research Office, Singapore 108934

Edible Wild is a two-and-a-half-hour-long workshop aimed at bringing participants closer to nature. Despite the greenery that surrounds us in our concrete jungle, it is easy to overlook the plants that flank our sidewalks. As the world moves at an ever-increasing pace, we need the occasional reminder to slow down and reconnect with the earth—and one of the best ways to do so is to learn how to care for it. This workshop is a gentle introduction to the myriad of herbs, both common and uncommon, found growing around our garden city, as well as a chance to understand their history and uses. Participants learn simple plant identification techniques, pick up basic gardening skills to use at home and make simple herbal infusions. The overall goal is to renew a sense of wonder for our green companions while providing the skills to identify and care for them.



Herbs from Native's garden, 2022. Courtesy Native.

ELEVATING THE ORDINARY: CRAFTING A CREATIVE EXPLORATION OF AN EVERYDAY STAPLE

KAREN SHEPHERD, RAINE MELISSA RIMAN,
& DR. FRANCA COLE

Workshop

Sunday, 19 February 2023

10.00am – 12.00pm

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-04, Singapore 109452

This workshop picks up where the group's UCCN Kuching City of Gastronomy presentation left off, examining the team's creative approaches to constructing a narrative around Sarawak's heirloom rice as an important traditional crop, explaining why the Sarawak indigenous cultures cultivated this one grain, largely for its spiritual and social significance rather than food security, and how that has impacted Borneo's biodiversity.

The group invites workshop participants to share ways of crafting perceived value for an often-overlooked item. The highly interactive session aims to generate suggestions and sensory narratives for positioning Sarawak rice in a modern global context using storytelling, documentation and other creative media. Participants collectively consider how issues of food security, food justice, sustainability and traditional knowledge can be addressed in a commercial agricultural context, both to increase appreciation and to drive societal change.



Rice varieties from Sarawak. Photo: Alan Lee Pik Jin.
Courtesy UCCN Kuching City of Rice.

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GROW YOUR OWN GREENS WITH PVS

**DR. CHRISTOPH WAIBEL, DR. SHI ZHONGMING,
DR. ZHANG QIANNING, & DR. HUANG ZHAOLU**

Workshop

Saturday, 18 February 2023

2.30 – 5.30pm

Venue: Future Cities Laboratory, Value Lab, Level 6, CREATE Tower, 1 Create Way, Singapore 138602

This workshop introduces a novel Building-Integrated Agriculture (BIA) app that provides customised plant-growing suggestions, including vegetable type selection and a planting calendar, to grow your own greens at home! The app also provides a comparison of the environmental impact when growing vegetables at home against conventional methods. Activities include training on the beta version of the BIA app, a demonstration of the app's built database and a hands-on plant-growing session.

DIY SELF-WATERING PLANT ROBOT!

**DR. CHRISTOPH WAIBEL, DR. SHI ZHONGMING,
DR. ZHANG QIANNING, & DR. HUANG ZHAOLU**

Workshop

Sunday, 19 February 2023

2.30 – 5.30pm

Venue: NTU CCA Singapore, Block 6 Lock Road, Research Office, Singapore 108934

This DIY technical workshop results in an automatic self-watering plant robot to help greens grow at home. By using Arduino, an easy-to-learn microcontroller for custom-made robots, and by connecting a photovoltaic panel to a battery that powers a soil-moisture-controlled automatic water pump, home-grown crops won't dry out while owners are on holiday. The workshop consists of a brief introduction to the individual hardware components and how to connect all parts to achieve a functioning, solar-powered watering robot.

Working in pairs is recommended. **Please bring your own laptop.**



Tropical Technological Laboratory (T2) affiliated with the National University of Singapore. Photo: Zhang Qianning.

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HEALING REMEDIES & ROADSIDE BEAUTIES

ADELINE KUEH

Workshop

Sunday, 19 February 2023

2.30 – 4.30pm

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-02, Singapore 109452

What alternative narratives and creative strategies of healing practices, food histories, folk and community knowledge and its relation to land may be brought to the fore? Could there be a legacy through narratives around food and a way to resurface “lost knowledge” while bringing together various forms of cross-cultural wisdom? This workshop is part of Adeline Kueh’s larger body of work that examines the history of foraging, oral traditions and existing knowledge systems based on the artist’s cartographic research and reconsiders the human-nature relationship in light of climate change and the current pandemic. The workshop explores alternative knowledge-building of flora-fauna’s healing elements that can be responsive towards our immediate ecological concerns as well as applied by future generations.



Tradescantia spathulata, Ang Tak Hiah, Bear Lily, Bunga Kupu, Nanas kerang, Bunga Adam dan Hana, Muncin a Bunker, Nanyo in the Cradle, Ocean Plant



Scaphium affine, Komhang Semangjak, Malin Nui, Hong Tai Hai ("Fat Ocean")

Adeline Kueh, from *Indices for Cooling Remedies*, photographic series, 2021. Courtesy the artist.

HOW FOOD MEDIA AFFECT WHAT WE EAT

DR. KERI MATWICK & DR. KELSI MATWICK

Workshop

Sunday, 19 February 2023

3.00 – 5.00pm

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-04, Singapore 109452

Get smarter about your food choices in this workshop! Participants in this workshop reflect on food information in the media and identify what influences their food choices and attitudes. Food advertising is everywhere (e.g., billboards, magazines, TV, radio, social media ads), so it is important to think about what advertisements influence your choices the most and why.

In hands-on learning, you’ll identify your favourite advertising features, reflect on what appeals to you and why, and evaluate which sources of information influence you the most. Your next food choice may help you and Singapore reach greater food security.



Social Media Food Phenomenon. Courtesy Astock Publications.

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HUMAN CREATED FOOD CRISIS

MAHBUBUR RAHMAN & SHIMUL SAHA

Workshop

Sunday, 19 February 2023

11.30am – 1.30pm

Venue: Intermission Bar, The Projector, 6001 Beach Rd, #05-00 GOLDEN MILE TOWER, Singapore 199589

Let's gather around a table full of stories, memories and companionship! Present day food practices and habits are inherently influenced by cultural, racial and ethnic identities. By bringing people together, in a communal and artistic cooking experience over ubiquitous hotpots, this workshop intends to unpack the significance and legacies of certain ingredients and recipes.



Britto Arts Trust, *Rasod*, 2022, installation view. Courtesy Britto Arts Trust / Tayeba Begum Lipi.

NOVEL MATERIAL

IRENE AGRIVINA & SAAD CHINOY

Workshop

Saturday, 18 February 2023

3.00 – 5.30pm

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-04, Singapore 109452

This experimental approach to “de-anthropocentrize” design and care includes ways to “build a committed and eco-responsible ‘living together’ that includes the plant, animal and fungal kingdoms, up to the communities of bacteria in our biotopes.” Participants learn how to use biotechnology, such as fermentation, at home and show how fermentation can help reduce various problems related to health, the environment and sustainability.

The second part, *Living Material: Fermentation Culture*, is a hands-on social exploration of biomaterials highlighting by-products of both fermentation and tofu-making processes. Participants learn about kombucha—its production process as well as the material properties (texture, durability, colour, transparency, breathability, biodegradability and aesthetics) of the SCOBY, which can be turned into vegan leather in the kitchen at home.



Left: Irene Agrivina, *SOYA C(O)U(L)TURE*, 2019, installation (detail). Courtesy the artist.
Right: Vegan leather pouch made from dehydrated SCOBY (Symbiotic Culture of Bacteria and Yeast).
Courtesy Saad Chinoy / Edible Makerspace.

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STORIES & FOOD OF SEMAKAU

FIRDAUS SANI / ORANGLAUT.SG

Workshop
Sunday, 19 February 2023
10.00am – 12.00pm
Venue: West Coast Park

This workshop shares the impacts of relocation; from the southern islands to main-land Singapore and the aftermath that still threatens the livelihoods and traditions of active Orang Laut/Pulau community members. It explores food through Orang Laut/Pulau values and traditions that have shaped (and still shape) a more sustainable way of life.

With a visit to West Coast Park, where a small Orang Laut/Pulau community still thrives, this session questions Singapore's progress as a young nation, asking if there is space for indigenous cultures and traditions to stay alive here. The session highlights some ways young individuals in Singapore can contribute to salvaging a lesser-known tradition. It also speaks of heritage and culture through a shared meal. Firdaus shares a tangible aspect of his family's heritage—its cuisine that reflects a life on the island that is no longer accessible. The food is lovingly cooked by Pulau Semakau islanders who have learnt their ancestors' original cooking methods and recipes.



Left: Visit to the Orang Laut/Pulau community in West Coast Park (Singapore). Photo: Oranlaut.sg.
Right: Bubu traps at West Coast Park (Singapore), 2022. Photo: Magdalena Magiera.

TO GATHERING: FOOD FLOWS

ALECIA NEO, GROUND-UP INITIATIVE,
& MADHUMITHA ARDHANARI

Workshop
To Gathering: Food Flows
Saturday, 18 February 2023
10.00am – 1.00pm
Venue: Kampung Kampus, 91 Lorong Chencharu, Singapore 769201

What does it take to make food? How can we connect with our food stories, heritage and systems in creative ways? Composed around Ground-up Initiative, a low-carbon footprint campus, this experience offers a two-part journey, beginning with a guided tour where participants get their hands dirty through composting and harvesting, followed by a creative exercise exploring how we can deal with loss and bounty in the systems that sustain us—so that we can sustain them.

To Gathering is a series by Brack, a Singapore-based platform for socially engaged artists in Southeast Asia who are interested in dialogical exchanges across mediums, disciplines, and communities.



Communal cooking sessions at Ground-Up Initiative. Courtesy Ground-Up Initiative.

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HOO FAN CHON

Venue: NTU CCA Singapore, Block 38 Malan Road, #01-06, Singapore 109441
 Thursday, 16 February – Sunday, 19 February 2023
 12.00pm– 7.00pm

This Exhibition was part of *SEA AiR Studio Residencies for Southeast Asia Artists in the European Union Cycle 1*, a programme funded by the European Union.

Despite Hoo Fan Chon’s hope that the residency at Helsinki International Artist Programme would provide some respite from his obsession with fish-based iconography and symbolism, upon arriving in Helsinki the artist found himself immediately drawn to the salmon pink colour that commonly adorns buildings in Finland. This chromatic cue ignited his interest in issues of taste, class aesthetics, and fish culture triggering an erratic investigation about the cosmetic processing of farmed salmon, the environmental plight of this fish, and the social status of its consumption as a signifier of class and wealth. Inspired by amateur tutorials commonly found on YouTube, the video *How to turn your siakap into salmon* illustrates DIY techniques to colour fish. While the pink pigmentation of wild salmon is due to a natural diet made of krill and shrimp, the flesh of farmed salmon is off-white. In order to achieve the vibrant hue that makes salmon appealing to consumers, farmed salmon are regularly fed synthetic carotenoids, the health implications of which are still under scrutiny. In Southeast Asia, salmon is a luxury good and its consumption bespeaks the Western lifestyle aspirations of a rising global middle class.

The ironic speculation on how to “domesticate” a foreign species continues in *I have never seen a swimming salmon in my life*. Accompanied by a voiceover by Sir David Attenborough borrowed from an advocacy campaign to protect salmon, the installation features 3D animations of salmon cuts—fillet, loin and streak—swimming inside a fish tank, a staple fixture in Chinese seafood restaurants. The artist’s familiar-yet-distant relation to salmon culminates with *Finnish landscape painting series*, an installation featuring 13 paintings hung on a salmon pink wall. In this series, the artist introduced the motif of the proverbial “carp leaping over the dragon’s gate” and auspicious Chinese blessings into existing Finnish landscape paintings purchased in thrift shops around Helsinki. Both salmon and carps are known for their strength and jumping ability; in Chinese culture, the iconography of the leaping carp symbolises courage and perseverance leading to wealth and prestige.

Hoo Fan Chon, paintings from *Finnish landscape painting series*, 2022, oil and acrylic interventions on found paintings. Courtesy the artist.

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HELLO! I AM A BLACK SOLDIER FLY **AND I AM TRANSFORMING** **THE GLOBAL FOOD SYSTEM**

PRIMARY CONTRIBUTOR: NIRALY MANGAL
OTHER CONTRIBUTORS: ADRIAN FUHRMANN, VARTIKA GOENKA, HENG CHIN WEE, SHAKTHEESHWARI SILVARAJU, CHLOE TAN, TAN YONG JEN, YANYUN YAN, ZHANG QIHUI

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-03, Singapore 109452
Thursday, 16 February – Sunday, 19 February 2023
12.00pm– 7.00pm

The small island state of Singapore imports 90% of food from overseas and uses less than 1% of its land for agricultural use. Developing approaches to an alternative food system based on insects, seaweed, microalgae or cultured meat can contribute to securing a resilient food future for Singapore and contribute to its “30 by 30” policy. But how do we create a circular food system in our cities? Food waste management holds the key to closing the loop. This exhibition demonstrates a nature-based solution for urban food waste management using the black soldier fly, the superfly that is transforming the global food system. It showcases how black soldier fly facilities convert local food waste into high-quality animal feed and fertilizers, which can then be used by other forms of urban agriculture, such as vertical or indoor farming and aquaponics. On display is your food’s journey from consumption to waste processing, showing how the black soldier flies upcycle it into by-products that carry valuable nutrients back into the food chain. This process not only helps to use land efficiently but also to synergise the built environment of Singapore with the social benefits of urban agriculture.

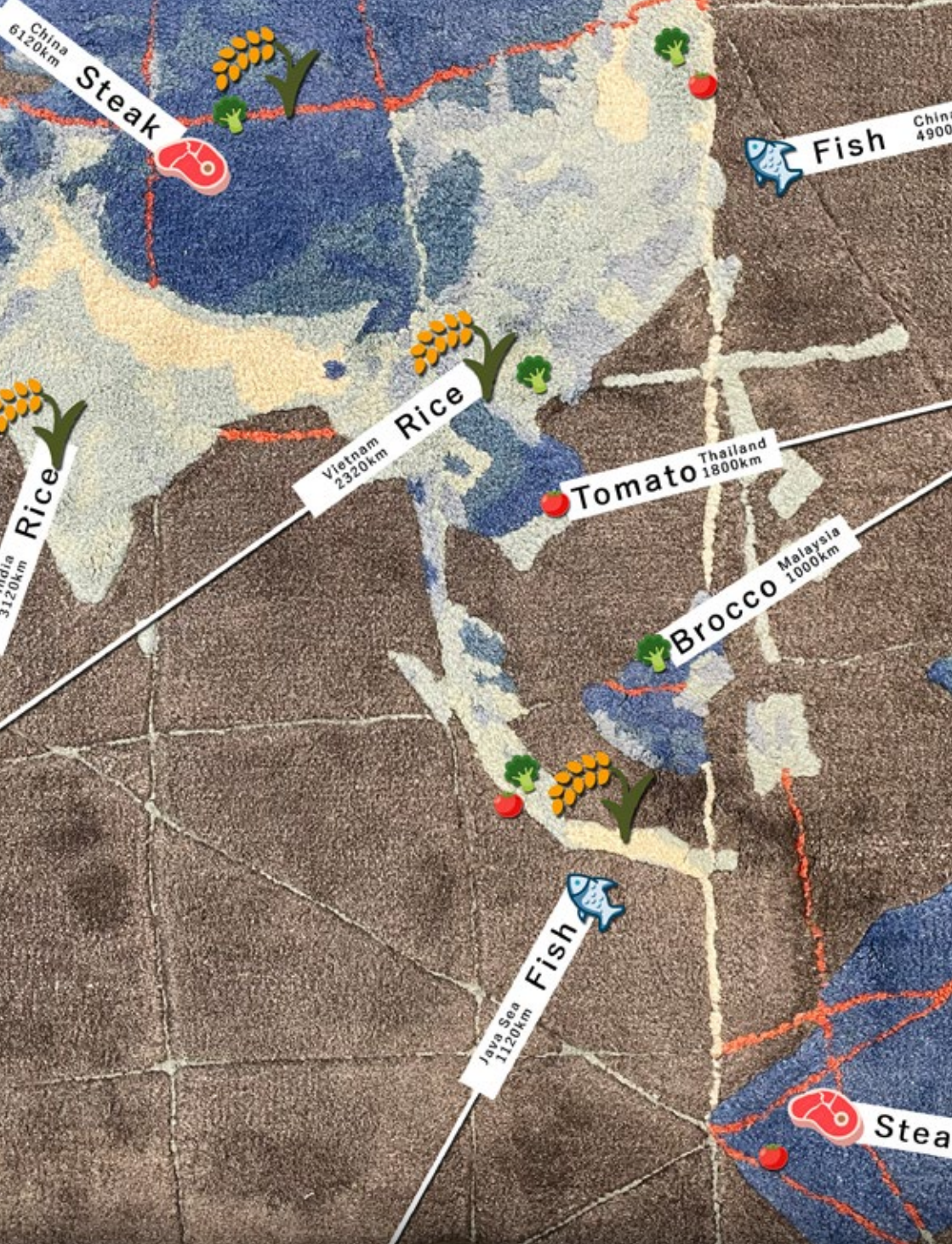
This research is a collaboration between researchers from the National University of Singapore, Nanyang Technological University, Singapore-ETH Centre and ETH Zurich. This research is supported by the National Research Foundation, Prime Minister’s Office, Singapore under its Campus for Research Excellence and Technological Enterprise (CREATE) programme.

Black Soldier Fly larvae feeding on local food waste in Singapore. Photo: Phira Unadirekkul. Courtesy Niraly Mangal.

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THE JOURNEY OF FOOD

PRIMARY CONTRIBUTORS: DR YUHAO LU, HELEN LEI FAN
OTHER CONTRIBUTORS: ZI GUI TOH, MUHAMMAD IS'MAILL BIN AZMAN, KAIYU LU, JASPER PHANG WEE KEAT, ISABELLA MEO LOO YANSHAN

Venue: NTU CCA Singapore, Block 38 Malan Road, #01-05, Singapore 109441
Thursday, 16 February – Sunday, 19 February 2023
12.00pm– 7.00pm

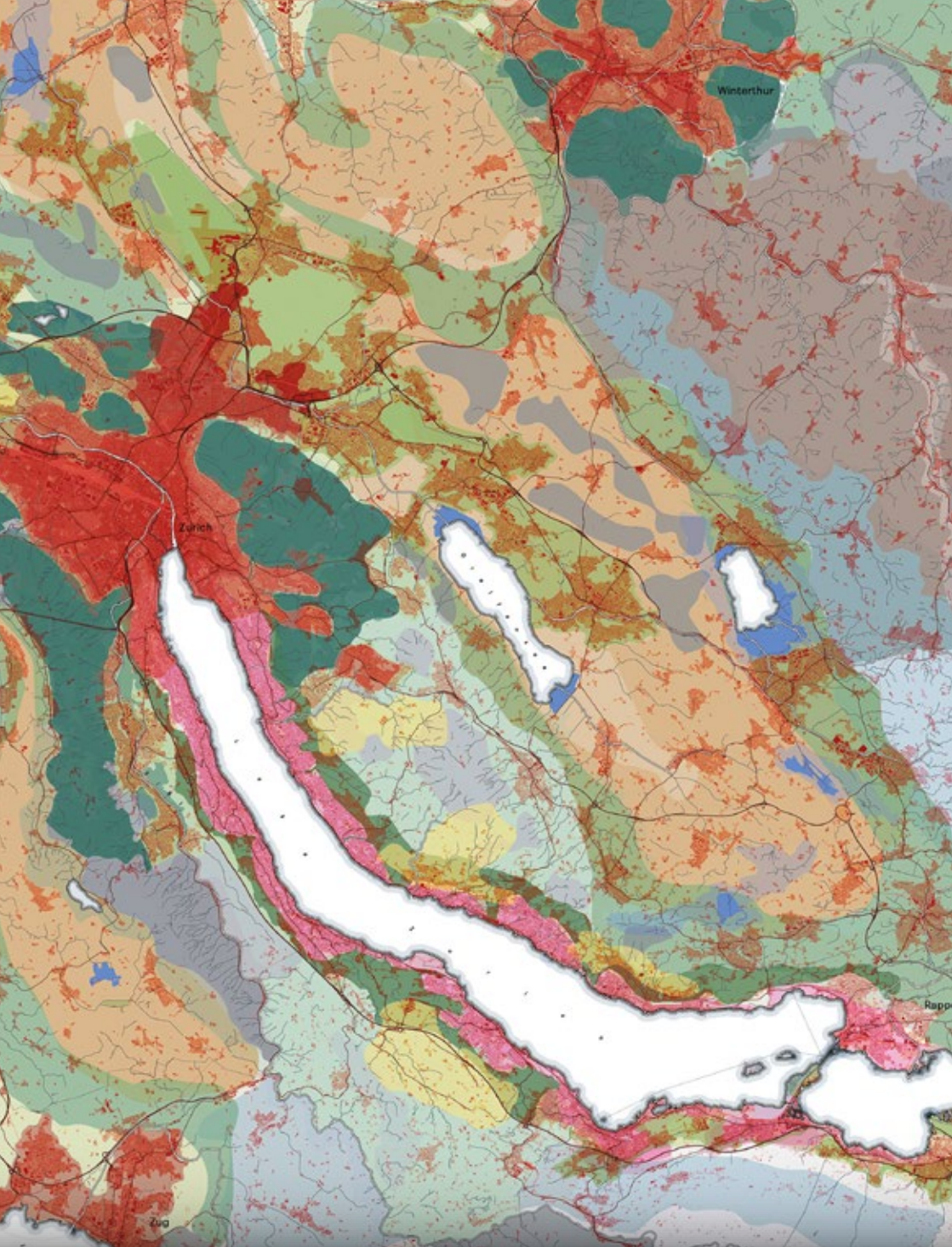
Considering urbanisation through the lens of food is important as cities grow, particularly in Asia, where cities are consuming fertile agricultural land at an unprecedented rate. Simultaneously, the industrialised agricultural practices developed to meet the rising food demands of urbanising populations are degrading and residualising the countryside. Mitigating the impact of climate change on Singapore's food security requires both short-term tactics and long-term strategies. This includes sustainable and smart production in source countries and locally in Singapore, as well as raising public awareness on food waste. Displayed is the journey of rice—one of Singapore's staple food sources, from its cultivation, processing, transportation and arrival in Singapore. As an island nation that highly depends on imports, Singapore relies heavily on the global food chain to source even its most basic food ingredients. This interactive exhibition shows, in a playful way, the pressing food-related challenges and hardship of conventional food cultivation.

Food Map of Singapore, 2022. Photo: Helen FAN Lei.

EXHIBITIONS

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POTENTIAL AGRITERRITORIES — AGRARIAN QUESTIONS AND AGROECOLOGICAL DESIGN

ARCHITECTURE OF TERRITORY
MILICA TOPALOVIC, KAROLINE KOSTKA, HANS HORTIG,
ALICE CLARKE AND STUDENTS OF ETH EPFL MAS UTD

Venue: NTU CCA Singapore, Block 38 Malan Road, #01-07, Singapore 109441
Thursday, 16 February – Sunday, 19 February 2023
12.00pm– 7.00pm

With nearly half of the total land area on the planet dedicated to agricultural production, the urbanisation and industrialisation of agrarian territories have emerged among the most urgent impacts affecting ecologies and ecosystems around the world. Their effects include increasing dependence on fertilisers, pesticides and fossil fuels; depletion of soil fertility, water and natural resources; consumption of land; forced migration, and other disadvantages for local populations. Through fieldwork in agrarian regions supporting Zurich and Singapore, *Potential Agriterritories* explores critical questions emerging under 21st-century planetary urbanisation. We asked ourselves, what would be the alternatives to global food regimes that shape regional agricultural landscapes and local food cultures? Can we de-commodify agricultural territories of the Global North, such as those we encounter around Zurich? Can we decolonise plantations of the Global South, such as palm oil plantations surrounding Singapore? Can we re-examine the ways in which plants and animals are used in industrial food systems? How can novel and pioneering practices—from regenerative to solidarity agriculture—move us towards more local and regional food systems? What potential agrarianisms from today, and rural experiences from the past, may help restore relationships of care and reciprocity with soil and biodiversity?

The exhibition showcases parts of an evolving research and design archive created by Architecture of Territory at ETH Zurich. The two large maps explore urbanisation processes and their effects on emerging agricultural territories and landscapes in the metropolitan regions of Zurich (2023) and the Singapore-Johor-Riau (2015). Placed in dialogue, those maps present foreign and familiar (agricultural) landscapes with the intent to provoke critical reflection on regional, sustainable food production amongst the ongoing agricultural intensification and urbanisation. The video footage shows agricultural practices in Singapore-Johor-Riau and around Zurich, including experimental and pioneering practices of permaculture, solidarity agriculture and biodynamic farming.

Karoline Kostka and Muriz Djurdjevic, *ARCHITECTURE OF TERRITORY. Landscape Typologies of Potential for the Agroecological Region Zurich*, 2023, digital print on canvas blacu (detail), Courtesy Karoline Kostka / Muriz Djurdjevic.

EXHIBITIONS

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SUSTAINABLE FOOD SYSTEMS WITH MICROALGAE-BASED PROTEINS

**DR. IRIS HABERKORN, BYRON PEREZ,
HELENA SCHMITT, & CAROLE ZERMATTEN**

Venue: NTU CCA Singapore, Block 37 Malan Road, #01-03, Singapore 109452
Thursday, 16 February – Sunday, 19 February 2023
12.00pm – 7.00pm

Despite decent intentions of establishing sustainable food systems to support a steadily growing global population, traditional food production systems and their associated value-chains are exceeding our planetary boundaries. Sustaining a growing and increasingly urbanised population will require the development of novel food production and processing concepts that focus on shifting traditional linear production concepts towards circular solutions. Singapore aims to increase its domestic, independent food supply and a population growing under highly urbanised constraints with the “30 by 30” initiative. However, arable land in Singapore is limited and traditional food production and processing methods alone cannot meet this goal. This exhibition highlights how a state-of-the-art urban single-cell protein production platform could support Singapore in reaching it using microalgae, embedded in the context of the United Nations’ Sustainable Development Goals—and explores what microalgae looks like, how it grows and is processed as well as potential taste experiences.

Liquid culture and powder of green and yellow microalgae, 2022. Photo: Yap Xiong.

EXHIBITIONS

BIOGRAPHIES

CREDITS



BIOGRAPHIES

Irene Agrivina (Indonesia) is an open systems advocate, technologist, artist and the founder of House of Natural Fibre (HONF), a centre of arts, science and technology, and XXLAB, an all female and nonbinary collective focusing on art, science, and free technology, a spin-off project from HONF, both of which are based in Yogyakarta, Indonesia. Irene works at the intersection of art, science, and technology and is engaged in collaborative, cross-disciplinary, and multimedia actions responding to social, cultural, and environmental challenges.

Carlos Banon (Spain/Singapore) is an Architect specialised in Digital Processes and Advanced Manufacturing methods. He is Director and Co-Founder of AIRLAB Singapore, Partner of Subarquitectura Architects, and Assistant Professor of Architecture and Sustainable Design at the Singapore University of Technology and Design. His research projects span from 3D Printing in the built environment (3DPA), Geometric Exploration for Sustainable Space Making (GESSM), Artificial Intelligence in structural design, and Affordable Housing. His work has been exhibited at the Venice Biennale of Architecture in 2018 and 2020, and has won several international awards including the Design of the Year Prize by the London Design Museum, the Mies Van der Rohe Prize nomination, the German Design Award 2020, and four SG Marks (Singapore Good Design), and selected as one of the Iconic designs by the German Design Council in 2020. His recent work *AirMesh* received the Singapore PD*A President Design Award, the highest distinction for designs and designers in Singapore.

Britto Arts Trust / Mahbubur Rahman (Bangladesh) was born in Dhaka and completed

his MFA at the Institute of Fine Art, University of Dhaka. He is Co-Founder and Trustee of Britto Arts Trust, the first non-profit artists' collective in Bangladesh, in 2002 (www.brittoartstrust.org). A pioneer of the cross-media approach in the country, his practice includes drawing, sculpture, installation, performance, and video. Mahbubur's work engages with questions of history, society, and the human condition to examine the impact of modernity on contemporary life in South Asia. Mahbubur has held a number of solo exhibitions and projects in Dhaka, Delhi, Mumbai, Chittagong, and Yogyakarta, as well as group shows and perennial exhibitions throughout Asia, Europe, and the US.

Britto Arts Trust / Shimul Saha (Bangladesh) is a contemporary visual artist, living and working in Dhaka. His research-based works look into matters of nature, social, psychological and political issues from his surrounding environment. Through his research-based process and experimentation with different materials, his body of work is primarily series-based. Besides his art practice, Shimul works as assistant curator at Chobimela and Dhaka Art Summit. He is also part of artist-run non-profit Britto Arts Trust, and teaches at Pathshala South Asian Media Institute. Most recently, Shimul has participated in documenta fifteen in Kassel, Germany as part of Britto Arts Trust, where they created a vivid interconnected landscape devoted to food politics, displacement and culture. Shimul has participated in several residencies in India, Nepal, Pakistan and Japan, and has exhibited at home and abroad.

Joy Chee (Singapore) has been the resident bartender/gardener (or bardener, if you will) at Native, a Singaporean restaurant-bar focused

A scanned image of red amaranth produced in the experiments conducted at T2 Lab. Photo: Huang Zhaolu

on working with local and regional craftsmen and communities. Drawn to them for their ethos of sustainability and commitment to highlighting native produce, she has been working on rewilding the gardens with local kampung herbs and supporting the garden-to-table concept. When she's not elbow-deep in compost, she can be found shaking up a cocktail or two at 52 Amoy Street.

Alice Clarke (Switzerland) is an architect and teaching assistant at Architecture of Territory, ETH Zurich D-ARCH. Alice gained extensive practical experience at Grafton Architects in Dublin, Ireland and completed the MAS Urban and Territory Design at ETH Zurich and EPFL which explored ecology and circular design at a territorial scale in 2022. In 2019 she co-founded the research and spatial design collective BothAndGroup to understand the behaviour of living systems, aiming to embed the logic of biospheric systems into their work.

Prof. William Chen (Singapore) is the Michael Fam Endowed Professor and Director of NTU Food Science and Technology. He is also involved in two Singapore government-funded food initiatives: as Director of Singapore Agri-food Innovation Lab (SAIL) and Scientific Director of Singapore Future Ready Food Safety Hub (FRESH). His technology innovations in zero food waste processing and Food Circular Economy have been extensively attracting global attention, and active partnerships with the food industry leading to consumer products. The recent 'Going Green' programme by CNN described him as a Game-Changing Leader in the green revolution. His views on food tech and food security have been covered regularly by major local and international media. He is also advisor/consultant to overseas universities, government agencies, food industry, and international organisations.

Saad Chinoy (Singapore) is a professional geek with a passion for technology for good, critical making, and OpenSource

methodology. He is Co-founder of Singapore-based Frugal Innovation startup, *SpudnikLab*, a *PotatoProductions* company that works to address the #digitalDivide through digital skills education and effective use of low-cost technologies. His *Storytellers' Kitchen* and *EdibleMakerspace* community initiatives bring together writers, illustrators, researchers, publishers, citizen scientists, and readers to demystify the complexity of smart-phone interactivity AR / VR / stop-motion animation through learning by doing. In the non-commercial context, Saad initiated [*SalvageGarden*] an assistive technology makerspace that engages a community of makers, engineers, caregivers, persons with disabilities, and care professionals towards the research and development of Assistive Tech devices and low-cost solutions. Saad also serves on the advisory boards of the *Global Innovation Gathering*, and *r0g_agency* for open culture and critical transformation. Saad is a self-confessed maker and coffee epicure.

Hoo Fan Chon (Malaysia) is a visual art practitioner based in Penang; he graduated with a BA in Photography at the University of Arts London – London College of Communication in 2010. He was the co-founder and a member of an art collective, Run Amok Gallery (2012-2017). In 2019, Fan Chon participated in the 3rd edition of the Makassar Biennale. The following year he co-curated "Bayangnya itu Timbul Tenggelam - Photographic Cultures in Malaysia" at the Ilham Gallery, Kuala Lumpur. His solo exhibitions include "Biro Kaji Visual George Town" (Penang, 2019) and "The World is Your Restaurant" (Kuala Lumpur, 2021). His practice explores taste and foodscapes as cultural and social constructs. His research-driven projects examine how value systems fluctuate as people move from one culture to another. Reframing mundane aspects of everyday life with irony and wry humour, his multimedia works address notions of cultural authenticity and they set in motion the frictions and the overlaps produced by the migration of cultural symbols between different sociocultural contexts.

Dr. Franca Cole (UK/Malaysia) is a conservator and archaeologist, as well as a material culture researcher and collections expert. Her BSc in Archaeological Conservation at UCL's Institute of Archaeology started a freelance career as an archaeological conservator in Greece, Turkey, Libya, Lebanon, Egypt, Norway, Peru, Chile, UAE, Malaysia, India, Qatar and Syria. Her MPhil and PhD studies at the University of Cambridge (2007-2011), used the Sarawak Museum Harrison Archives to investigate the role of indigenous ceramics in mortuary practices at Sarawak's Niah Caves. Franca was ERC Post-Doctoral fellow in trans-Saharan trade at University of Leicester before gaining a lectureship in Conservation Studies at UCL Qatar and returning to Sarawak Museum as Research Fellow in 2017. She is currently Consultant in Conservation and Archaeology to Sarawak Museum, and Lecturer in Collections, Care and Management; and Research Methods and Academic Skills for NTU ADM MA in Museum Studies and Curatorial Practice.

Helen Lei Fan (Singapore) is a PhD researcher at Future Cities Laboratory Global and the Department of Architecture at the National University of Singapore. She was trained as a landscape architect (MLA) and environmental engineer (B.Eng) with diverse experiences in design practices and community development. Her PhD focuses on the social aspect of landscape design, and how space creation can engage and empower human potentials. Her current projects take place in the dynamic urban-rural interfaces of Monsoon Asia, in the context of agriculture and urban food system strategies.

Adrian Fuhrmann is a Doctoral Researcher at SEC and ETH Zurich under Prof. Alexander Mathys, Dr. Moritz Gold and Asst. Prof. Nalini Puniamoorthy (NUS). His research works towards using heterogeneous food waste in an urban system like Singapore.

Vartika Goenka is a research assistant under Asst. Prof. Janice Lee, NTU. Her research focuses

on conducting Life Cycle Assessments to assess the environmental impacts of replacing traditional feeds for livestock and aquaculture, and fertiliser for agriculture, with the products obtained from the bioconversion of food waste using BSF to determine whether BSF products are in fact sustainable for future production.

Dr. Iris Haberkorn (Germany/Singapore) is a food scientist combining expertise in food science, biotechnology, and engineering, aiming to drive sustainable innovation in the agri-food sector with a focus on single-cell-based value-chains. She has a strong interest in questions relating to today's food system and how we can sustainably transform it, including the role of single-cell protein such as that from microalgae, and how technological innovations can support that process. Dr. Iris Haberkorn is based at the Singapore-ETH Centre (SEC) where she is leading a project on "Urban Microalgae-based Protein Production". Her research focuses on the up- and downstream processing of microalgae harnessing innovative biological and technological approaches, such as the establishment of a pulsed electric field (PEF)-based biorefinery for single-cell processing. Her overall goal is to improve efficiency, mitigate costs, and consequently leverage the application of microalgae on the market.

Paula Huerta (Spain/Indonesia) is a Licensed Architect specialised in Sustainable Design and Net Zero Architecture with a Masters Degree in Energy & Environmental Studies of the University of East London. She is also a LEED AP, BREEAM AP and GREEN MARK MANAGER. Paula has a strong background in conceptual design and extensive building experience. She has been working as a Sustainability Consultant Internationally for over 15 years, developing sustainable strategies and optimisation of building performance. With her company, Bambook Studio, based in Lombok, Indonesia, she designs NET ZERO sustainable architecture in the region. She is also an Ambassador for Circular Economy and

a Board Member of the Climate Action Alliance of the EU TECH Chamber with a clear mission to accelerate the UN SDGs and accelerate the transition towards a Low Carbon Future. Paula is also actively involved in Circular Food Systems and Food Security Challenges, helping develop a legal framework for Organic Waste Conversion through insect farming which will be crucial to achieve our goals. She is a Leader of the Advanced Leadership Foundation providing conferences and talks about Circular Economy and the role of Sustainable Architecture in the path towards a Low Carbon Future.

Hans Hortic (Austria/Singapore) is a Doctoral Researcher at Future Cities Lab Global, Singapore-ETH Centre and a landscape architect working between Singapore, Zurich and Berlin, focusing on Palm Oil Territories. He studied landscape architecture and open space planning at the Technical University Berlin, the ETH Zurich, and the School of Design, Mysore. Since 2013 he has taught at the Future Cities Laboratory in Singapore, the ETH Zurich and TU Berlin. Hans has contributed to the Rotterdam Biennale 2014, the Shenzhen Biennale for Architecture/Urbanism 2015, and SAM Basel 2019 and has published regularly.

Adeline Kueh (Singapore) makes installations and socially embodied works that reconsider the relationship we have with things and rituals around us. Using drawing as a conceptual tool, Adeline Kueh looks to cartographies, craft and oral tradition to map out the historical trajectories across time and space through her use of found objects and new productions. As a co-founder of the Critical Craft Collective (Singapore) and the pan-Borneo Serumpun Collective, the centrality of craft in contemporary practice as well as the politics of care are the core focus in her research practice. Presently a Senior Lecturer with the MA Fine Arts programme at LASALLE College of the Arts, Adeline has exhibited internationally. She was involved in the Word-of-Mouth exhibition in Venice Biennale (2019), the Passion Made

Possible Culture Shaper Tribe Films (Singapore Tourism Board, 2019) and Hermes Singapore (2016). In 2021, Adeline was part of Singapore Tyler Print Institute's Visiting Artists Programme (VAP) Residency.

Karoline Kostka (Germany/Singapore) is a senior researcher and landscape architect practising between Switzerland, Germany and Singapore. She graduated in 2013 from TU Berlin Institute for Landscape Architecture and Environmental Planning and is currently based at the Singapore-ETH Centre (SEC) with the FCL Global research project on New Urban Agendas for Agrarian Territories. Her work focuses on the interstice between territorial research and landscape reading, exploring ecological design approaches through mapping and critical cartography. From 2013-15 she worked with the Architecture of Territory team at the Future Cities Laboratory at SEC in Singapore on the Hinterland Project, exploring cross-border relations and dependencies regarding resource flow. Since 2015 she has taught research and design studios at ETH Zurich Switzerland. In 2017 she co-founded Maps and More – Kartografische Werkstatt and has exhibited her independent cartographic work in distinguished museums.

Dr. Yuhao Lu (China/Singapore) focuses on urban planning, spatial statistics, cartography, and data visualisation. He held a PhD from the IRSS lab at the University of British Columbia with a Ph.D. investigating urban vegetation and socio-economic changes in cities using time series of satellite images. Currently working at the Future Cities Laboratory Global, he is particularly interested in solving multi-scale and cross-disciplinary challenges using geospatial tools and time series (big) data.

Niraly Mangal (India/Singapore), is a Doctoral Researcher at Singapore-ETH Centre (SEC) and ETH Zurich. Her research work with Prof. Stephen Cairns at SEC focuses on investigating design, network, and operational solutions for

integrating food waste management and sustainable food production using Black Soldier Flies (BSFs) in high density urban environments like Singapore.

Dr. Keri Matwick (United States/Singapore), PhD, teaches at Nanyang Technological University. A linguist, Keri conducts research on the language of food. She has published academic articles, news articles, and a book on a range of topics, including cooking shows, culinary diplomacy, food radio, humour, and storytelling. She is currently working on an MOE grant-funded project to study the discourses of novel foods in the media.

Dr. Kelsi Matwick (United States/Singapore), PhD, teaches at the University of Florida. A food and language scholar, Kelsi explores how we communicate about food, through food, and around food. Cookbooks, cooking shows, food radio, food politics, and storytelling inspire her research and publications in academic journals, newspapers, and a book co-authored with her twin sister. Kelsi teaches a course on the future of food with topics including sustainability, food waste, and food production.

Valerie Pang (Singapore) is the Innovation Associate at GFI APAC. In her role, she acts as the first point of contact at GFI APAC for alternative protein startups, investors and accelerators. She conducts university outreach to start and support alternative protein student groups. She also does community building to connect the alternative protein ecosystem in Asia together.

Byron Perez (Ecuador/Singapore) is a doctoral researcher on the "Urban Microalgae-Based Protein Production" project at the SEC under the supervision of Prof. Alexander Mathys. Byron received his bachelor's degree in Food Engineering from the USFQ in Ecuador, his native country. He received the ESOP scholarship from the ETH Foundation to pursue his master's studies in Food Science with a

specialisation in Food Processing at the ETH Zurich in Switzerland. In August 2022, Byron joined the SEC to work on integrating pulsed electric field technology to increase the efficiency of microalgae production and downstream processing. Byron's interest is in optimising novel technologies for developing more nutritious, affordable, and sustainable food sources.

Dr. Zhang Qianning (China/Singapore) is co-founder and CEO of Power Facade Pte. Ltd. She was the Lab Technologist of the Tropical Technologies (T2) Laboratory. In the BIA project, she led the work on the NUS side. Trained as an architect, she specialises in sustainable building design, building evaluation, and human-oriented design. Her doctoral study focuses on Internet-of-Things technologies concerning human-oriented buildings and behavioral changes in architecture. She carried out the case studies and supervised the T2 lab's experiments.

Zhang Qihui (China) is a Doctoral Researcher from NUS under Asst. Prof. Nalini Puniamorthy. Her research topic is about phenotypic plasticity of black soldier flies on bioconversion. The plasticity of Black soldier flies in different life history stages were/will be tested and quantified. Dr Liu Mei Hui, Heng Chin Wee and Koh Rui En are a group of food scientists interested in turning insects into food. There are many ways to do this, and, on most days, these scientists examine how to best convert black soldier fly larvae into feed for chickens and fish and how best to use frass from the larvae as fertilizers to grow vegetables.

Raine Melissa Riman (Malaysia) is the Chief Marketing Officer (CMO) of ARC Creators, and a doctoral candidate in Media Anthropology at Swinburne University of Technology. She is the do-curator of the *E.A.T. Borneo Conference* and the media strategist for *What About Kuching Festival*. In 2019, she co-organised the first Borneo Coffee Symposium and co-founded the Sarawak Coffee Culture Network in Malaysia.

She was invited to speak at the British Library's 'Food Season' in 2021, where she spoke about the role of indigenous women in the coffee industry. She is now researching the media politics of food culture and planning the next "EAT:Fest 23" with partner and co-curator Ronald Lim, the Chief Technology Officer (CTO) of ARC.

Firdaus Sani (Singapore) is a fourth-generation Orang Laut descendant whose ancestry can be traced to the Orang Pulau of Singapore and the Riau Islands. In 2020, Firdaus started *oranglautsg*, a page dedicated to retelling stories of Pulau Semakau through photographs and personal anecdotes. Firdaus has a keen interest in conservation issues and hopes to take on more sustainable approaches and strives to bridge the gap between sustainability and indigenous traditions. He runs a social enterprise and marketing agency, *The Black Sampan*, since 2021 that supports local non-profit organisations and ground-up initiatives. Firdaus shared his learnings as a speaker on *TedxYouth@Singapore*, and made his first artistic showcase at Singapore's Writers Festival 2021, and subsequently in the 2022's edition. Firdaus and his family's narratives have been featured on BBC, CNA, *The Straits Times*, and more.

Helena Schmitt (Switzerland/Singapore) is a research intern at the Singapore-ETH Centre, working on the "Urban Microalgae-based Protein Production" project. Her research focuses on the extraction and concentration of protein won from microalgae with the ultimate goal of using this protein for creating plant-based meat alternatives. She has recently finished her Master at ETH Zurich in Microbiology and Immunology.

Karen Shepherd (Malaysia) is currently the Strategic Director for UCCN Kuching Creative City and the focal point for Kuching as a "City of Gastronomy" under UNESCO. A writer and content creator living and working full-time out of Sarawak, one of the two Borneo states of Malaysia, she was instrumental in crafting

the application for designation in the network, building on her varied experience constructing narrative across a range of media. She is an active player in the creative life of the city in various events and programmes, including as Content Director for the Rainforest World Music Festival. Through her own website, www.ceravasarak.com, which won Best Personal Website at the Malaysian Website Awards in 2019, she tells stories about Sarawak and its unique culture. Karen holds an LLB in Laws from King's College, University of London and a Master's in Communication and Culture from the London College of Fashion.

Shaktheeshwari Silvaraju is a Doctoral Researcher at NUS and Wilmar International under Asst. Prof. Nalini Puniamorthy (NUS) and Dr Sandra Kittelmann (Wilmar International). Her research focuses on investigating the performance of black soldier flies on nutritionally poor waste streams from edible oil extraction and characterising their gut microbiome.

Chloe Tan is a research assistant in Assoc. Prof. Roman Carrasco's lab. Her research aims to tease apart and identify the important factors relating to consumers' acceptance or rejection of novel food alternatives such as insect-based meat, cultured meat and cooking oils produced from insects and microbes.

Milica Topalovic (Serbia/Switzerland) is an Associate Professor of Architecture and Territorial Planning at the Department of Architecture, ETH Zurich. Her work is concerned with territories beyond-the city and transformation processes they are exposed to through the movement of capital, social restructuring, and environmental change. With researchers and students at the Architecture of Territory she undertook a range of territorial studies and design projects around the world, in remote regions, resource hinterlands, and countrysides, to decenter and ecologise architect's approaches to the city, the urban, and

urbanisation. In their recent research work and studios, Architecture of Territory have been looking at regions marked by unsustainable agriculture and energy production practices to envision transitions toward regenerative landscapes and territories organised around the principles of agroecology and energy commons.

Dr. Christoph Waibel (Germany/Singapore) is module coordinator and researcher for the "FCL Global: Powering the City" project and lead developer of the Hive tool, a Rhino Grasshopper plug-in for early-stage energy-integrated building design. His research focus lies in the development and integration of building simulation and hybrid surrogate models, multi-energy systems optimisation models, and black-box optimisation algorithms in the architectural and urban design process. Dr. Waibel has worked in industry as a programmer and 3D modeler, as project engineer and building simulation specialist, and in various architectural design firms.

Bianca Wassmann (Germany/Philippines) is a PhD researcher at the 'Urban Microalgae-Based Protein Production' project at Singapore-ETH Centre for which she conducts consumer studies to support the development of novel microalgae food products. Her research focuses on psychological aspects of sustainable eating behaviour. She is especially interested in consumers' acceptance of sustainable novel foods like plant-based meat substitutes, insects, microalgae, or *in-vitro* meat.

Yanyun Yan is a research associate in Assoc. Prof. Roman Carrasco's lab. Her research aims to promote an understanding of the relationship between humans and nature and propose sustainable development. Her work focuses on a national survey that aims to understand residents' perspectives on food waste upcycling and insect feed product purchasing. In addition, she is trying to find out the impact of the different environmental messages on students' choice of a sustainable diet and food waste

generation through a campus experiment. In her spare time, Yanyun is a nature lover, and you may run into her in natural spaces across Singapore during holidays.

Carole Zermatten (Switzerland/Singapore) is a Food Science student who joined Singapore-ETH-Center for her Master thesis. Her research focuses on microalgae cultivation to develop urban food production systems. Microalgae are unicellular organisms containing healthful proteins and omega-3 fatty acids which can be grown in bioreactors with little arable land and low carbon footprint. In her work, she explores and compares gentle permeabilisation techniques to open up the cells and extract their valuable components in order to fully benefit from microalgae nutritional potential.

Dr. Huang Zhaolu (China/Singapore) worked at the Tropical Technologies (T2) Laboratory. In the BIA project, she led the empirical experiments. She has experience in agriculture related studies, such as smart agriculture service and real crops planting studies. She has a background in environmental ecology, bioengineering, and agriculture application. She planted the vegetables and analyzing the status of the plants, including their growth and nutrients content so that the BIA could reach higher harvest with lower cost. She contributes to optimise the growing conditions and consider more about the sustainability.

Dr. Shi Zhongming's (China/Singapore) doctoral research was part of the research grant for FCL2's project, Multi-Scale Energy Systems for Low Carbon Cities (MuSES). His research was built upon the concept of energy-driven urban design at the district scale. His research relied on parametric urban design models in Grasshopper, coupled with the City Energy Analyst, an open-source energy simulation program developed by team members in Zurich and Singapore. In the BIA Project, he led the BIA-App development and computational works using the City Energy Analyst.

CURATORS

Ute Meta Bauer (Germany/ Singapore) is a curator and educator in the field of contemporary art. As full professor in the School of Art, Design and Media (ADM) at NTU she co-chairs the Master of Arts in Museum Studies and Curatorial Practices and is the Principal Investigator for “Cultural Loss and Climate Crisis”. Since 2013, she has been the Founding Director of NTU Centre for Contemporary Art Singapore and holds a courtesy appointment at NTU’s School of Humanities. Her recent curatorial projects include the Singapore Pavilion featuring artist Shubigi Rao at the 59th Venice Biennale and the 17th Istanbul Biennial (2022) that she co-curated with filmmaker Amar Kanwar and art historian David Teh. She served as the editor of *Climates. Habitats. Environments*, co-published by NTU CCA Singapore and The MIT Press (2022), as well as the co-editor of *SEA: Contemporary Art in Southeast Asia* together with Karin Oen and Boon Hui Tan (Weiss Publications, 2022).

Magdalena Magiera (Germany/Singapore) is currently Curator and Research Associate at NTU CCA Singapore. Her practice and expertise encompasses a wide range of disciplines, including exhibition-making and venue building; developing process-based research; organising lectures and conferences; and staging events and performances. She has worked with institutions throughout Europe, North America, and Asia, including biennales, museums, and artist-run spaces. She developed projects with Rockbund Art Museum, Shanghai; dOCUMENTA(13); KW Institute for Contemporary Art, Berlin; e-flux in Berlin, Mexico City, and New York City; and *frieze d/e*. She is currently Editor at *mono.kultur*, a Berlin-based interview magazine, which profiles leading figures in contemporary art and culture.

Dr. Tanvi Maheshwari (India/Singapore) is currently Associate Director for Research at Future Cities Laboratory Global, Singapore-ETH Centre. She is an urban designer and planner, trained at the School of Planning and Architecture in Delhi and University of California, Berkeley. She conducted her doctoral studies at ETH Zurich, where she studied the impact of technological disruptions in transportation, such as vehicle automation and mobility-as-a-service, on urban design and planning. She has over a decade of experience in developing planning support tools, futures thinking, scenario building, and exploring design thinking methods for collaborative and transdisciplinary research.

Laura Miotto (Italy/Singapore) is an award-winning exhibition designer and educator. With 20 years of experience in the design field, both as a creative director and an architectural designer, Miotto has worked on permanent and temporary exhibitions, focusing on heritage interpretation and sensorial design strategies, in the context of museums, thematic galleries, and public spaces. Her recent projects include the Borneo Cultures Museum in Malaysia (2022), *The Posthuman City. Climates. Habitats. Environments*. (2019–20) at the NTU Centre for Contemporary Art Singapore, *Guo Pei: Chinese Art and Couture* (2019) at Singapore’s Asian Civilisations Museum, and the Lee Kong Chian Natural History Museum in Singapore, completed in 2015.

Prof. Thomas Schroepfer (Germany/ Singapore) is a Full Professor of Architecture and Sustainable Design at the Singapore University of Technology and Design and Co-Director of the Singapore-ETH Centre Future Cities Laboratory Global. His research and design projects relate to advances in environmental sustainability, materials, structure and form, performance and energy, digital fabrication and building processes. He has published extensively on his work that has been exhibited at important international venues including the Venice Architecture

Biennale and the World Architecture Festival. His books have been translated into several languages and include *Dense and Green Cities: Architecture as Urban Ecosystem* (2020), *Dense and Green: Innovative Building Types for Sustainable Urban Architecture* (2016), and *Ecological Urban Architecture* (2012). He is the recipient of prestigious awards and recognitions including the President’s Design Award, Singapore’s highest honour accorded to designers and designs across all disciplines; the German Design Award; and the Asia Education Leadership Award.



Saad Chinoy, *LaserToast*, 2021, laser-cut edible materials. Courtesy Saad Chinoy / Edible Makerspace

BIOGRAPHIES

CREDITS

NTU CCA IdeasFest

Series Concept

Prof. Ute Meta Bauer, Founding Director, NTU CCA Singapore and Professor, School of Art, Design and Media, NTU

NTU CCA IdeasFest 2023
FOOD Eat. Secure. Sustain.

CURATORS

Prof. Ute Meta Bauer
Magdalena Magiera
Dr. Tanvi Maheshwari
Laura Miotto
Prof. Thomas Schroepfer

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Social Media

Nomadic Collective

Venue Partner

NTU Centre for Contemporary Art
Singapore, Studios, Gillman Barracks

Campus for Research Excellence and
Technological Enterprise (CREATE)

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Guide IdeasFest 2023

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ABOUT NTU CCA IDEASFEST

A platform to catalyse the critical exchange of ideas and encourage thinking outside the box. It is a bottom-up approach linking the artistic and the academic with community groups and grassroots initiatives. The pilot edition, *Cities for People* (2016–17), expanded on artistic interventions and engaged with contemporary issues such as air, water, food, environment, and social interaction in connection to artistic and cultural fields, academic research, and design applications. This second iteration *IdeasCity Singapore* (2020), guest curated by IdeasCity, New Museum NYC, explored the role of art and culture beyond the walls of the museum, and examined the urgency of solidarity structures in negating climate change and its impact on Southeast Asia and communities worldwide.

NTU CENTRE FOR CONTEMPORARY ART SINGAPORE

A national research centre of Nanyang Technological University Singapore, with a focus on Spaces of the Curatorial, NTU Centre for Contemporary Art Singapore (NTU CCA Singapore) addresses the urgencies of our time such as the climate crisis and its impact on communities. A leading international art institution, driven by dynamic thinking in its three-fold constellation: **RESEARCH AND ACADEMIC EDUCATION**; **RESIDENCIES PROGRAMME**; and **EXHIBITIONS**. It brings forth innovative, multi-disciplinary, holistic and experimental forms of emergent artistic and curatorial practices that intersect the present and histories of contemporary art embedded in social, geo-political, geo-cultural spheres with other fields of knowledge. NTU CCA Singapore's office and research centre is located at Gillman Barracks.

ABOUT NANYANG TECHNOLOGICAL UNIVERSITY, SINGAPORE

A research-intensive public university, NTU has 33,000 undergraduate and postgraduate students in the colleges of Engineering, Business, Science, and Humanities, Arts and Social Sciences, and its Graduate College. NTU's campus is frequently listed among the top 15 most beautiful university campuses in the world and has 57 Green Mark-certified (equivalent to LEED-certified) buildings. Besides its 200-ha lush green, residential campus in western Singapore, NTU has a second campus in the heart of Novena, Singapore's medical district.

ABOUT FUTURE CITIES LAB GLOBAL, SINGAPORE-ETH CENTRE

Future Cities Lab (FCL) Global helps to shape sustainable cities and settlement systems through science, by design, in place, over time. FCL brings transdisciplinary and distinctive European and Asian perspectives to this global mission with the support of ETH Zurich, National University of Singapore, Nanyang Technological University Singapore, Singapore University of Technology and Design and Singapore's National Research Foundation, under its CREATE programme.

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NTU CCA IdeasFest 2023
FOOD Eat. Secure. Sustain.

16–19 February 2023

Free admission unless
otherwise stated

IdeasFest Summit

CREATE Tower, 1 Create Way, 138602
Theatrette, Level 2

Exhibition and Workshops

NTU CCA Singapore,
Block 6 Lock Road and
Block 37 & 38 Malan Road, Gillman
Barracks, Singapore

Exhibition Hours

Thursday, 16 February – Sunday,
19 February 2023
From 12.00pm – 7.00pm



NTU CCA Singapore


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In partnership with:

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