PS 22-26 Pakenham Street Fremantle/Walyalup, Australia. 10th February 2022.
SymbioticA, School of Human Sciences
The University of Western Australia 35 Stirling Highway Crawley 6009 Western Australia
Phone: +61 8 6488 7116 sym@symbiotica.uwa.edu.au www.symbiotica.uwa.edu.au

10:20 Oron Catts welcome introduction, Dale Tilbrook acknowledgement of country.

10:30am-12:00pm Session 1

- **Svenja Kratz** (via Zoom) *Resisting Separation: Reflecting on the value of death and cross-species connection in future food systems*
- **Ionat Zurr** *The Automation of Care*
- **Tarsh Bates** Ferming or Farming? The microbiopolitics of future foods

30 min break

12:30pm-2:00pm Session 2

- **Heather Bray** *Talking about AgTech: Can we find common ground?*
- **Catie Gressier** '*Sunshine and Sex': Going Back to the Future on Heritage Breed Farms*
- **Bede Mickan** *Nutrient recovery from human waste: opportunities and challenges to feed a growing world under finite fertiliser resources*

15min break

2:15pm-3:15pm Session 3

- **Oron Catts** *Will Metabolic Rift Agriculture Save Us?*
- **pvi collective** (kelli mccluskey and steve bull) *"eaters" – a pub quiz about food*

45min break

4:00-5:30pm

SymbioticA's Automated Cultures Digestion (streaming live to The Seed Box's Community Garden Festival)

Introduction by Sue Reid (The Seed Box)
Panellists: Tarsh Bates, Dale Tilbrook, Ionat Zurr, Sarah Collins, Oron Catts to moderate

Contestable Food Systems Symposium Bios and Abstracts

Session 1

Resisting Separation: Reflecting on the value of death and cross-species connection in future food systems

Speaker: Svenja Kratz (via Zoom)

In this presentation, artist Svenja Kratz considers the ethical and ideological implications of separating organisms from broader environmental systems and proposing futures based on the continued mastery of nature and an extractive, anthropocentric ethics. Using her creative practice and interest in immortality as a starting point for discussion, she draws parallels between transhumanist visions of engineered immortality and food futures based on more efficient and increasingly environmentally decontextualised modes of technological production. She argues that both propositions are predicated on the view of humans as separate (or separable) from nature and uphold a reductionist and human centred approach with limited regard for the more-than-human communities that compose all living (and non-living) systems.

To counter this mechanistic view, key concepts from environmental humanities scholar Deborah Bird Rose's 'Multispecies Knots of Ethical Time' are introduced, highlighting death as a crucial factor in upholding cycles of life and intergenerational cross-species connections. Engagement with place and nonhuman communities also forms part of the discussion including the value of urban and community gardening as a potential site of building multispecies and environmental connection. Challenges are also acknowledged, including the disparity in access and the need for a complementary reflective ethics. The presentation concludes with a brief acknowledgement of the importance of speculative creative practice in activating dialogue regarding food futures alongside an invitation to critically review different food production paradigms and assess how their underlying ideologies align with personal values and beliefs.

Svenja Kratz is a Tasmanian-based artist interested in transdisciplinary creative practice, particularly the intersections between science and art. From 2008 – 2012, she worked in the area of cell and tissue culture at the Queensland University of Technology's (QUT) Institute of Health and Biomedical Innovation (IHBI). During this time, she produced three major bodies of work that mapped her engagement with contemporary biotechnologies: The Absence of Alice – a series of mixed media exhibitions originally inspired by the artist's engagement with the Saos-2 bone cancer cell line, The Immortalisation of Kira and Rama – a living bioart display incorporating foetal calf cells and The Human Skin Experience/Equivalent Project – a jewellery project involving tissue engineering practices.

Since 2013, she has worked with researchers and creative practitioners across music, design, architecture, electrical engineering, molecular biology and bio manufacturing and produced a range of works that explore the complexity of living systems and highlight the philosophical implications of engineered life. Svenja has completed artist residencies at Symbiotica, University of Western Australia (2010), the Art and Genomics Centre, Leiden University, The Netherlands (2013) and the University of Queensland (2015). Most recently, she received a 2021 ANAT Synapse Grant to undertake a residency across science and law at QUT and the University of Tasmania with the aim of establishing alternative offspring via cell and tissue culture technologies. Creative outcomes arising from these activities have been exhibited at a range of local, national and international venues including the Sydney Powerhouse Museum in 2013, Experimenta Recharge, 6th International

Biennial of Media Art touring Australia from 2015 – 2016, Contemporary Art Tasmania in 2016, The Science Gallery, London in 2019 and Rosny Barn Gallery, Tasmania in 2020. Svenja holds a PhD in Art and Biotechnology from QUT and works as a Senior Lecturer in Interdisciplinary Creative Practice at the University of Tasmania.

The Automation of Care

Speaker: Ionat Zurr

Probing the incubator, both literally and conceptually, this talk will explore past, present and contestable futures of automation of care. An incubator can be simply described as an isolated environment that controls heat, humidity, and, in some cases, other environmental conditions such as sterility, gas content, pH level, etc. It is a homeostatic, feedback based, dynamic, surrogate body that shields fragile life from the external environment. Historically, as will be illustrated, incubators took a centre stage (visually and aesthetically) in contextualising the life hosted as a (proto) cybernetic entity. However, in recent years, there is a shift to obscure the incubator surrogate vessels and render them neutral, thereby obscuring how, throughout history, what life is chosen or forced to be put in an incubator reflects on human wants and desires. In relation to the *Sunlight, Soil and Shit 3S (De)Cycle* exhibition, creating surrogates bodies for food production through the AgTech industry can be seen as the entanglement of life with its surrogate apparatus, echoing interests of human-centric control, which affect and effect the larger milieu.

Dr Ionat Zurr is the Chair of the Fine Arts Discipline at the School of Design UWA and SymbioticA's academic co-ordinator. Zurr is an Australian artist, researcher, curator and lecturer and has been a visiting tutor in Design Interactions for the Royal College of Art. Zurr, together with Oron Catts, founded the Tissue Culture & Art Project in 1996 and is a pioneer of making art with living, engineered tissue. Zurr instigated the Master of Science (Biological Arts), an interdisciplinary program involving both art and biology.

Ferming or Farming? The microbiopolitics of future foods

Speaker: Tarsh Bates

Humans have co-evolved with microbial fermentation. Imagine being the human who ate that first fuzz-covered grape and getting drunk from the alcohol produced by the fermentation of the sugars. Imagine being the first human who drank the first wine, the first beer, who ate the first sour dough, sauerkraut, kimchi, hákarl, yoghurt, cheese, century egg, tofu? Civilisations would not exist without microbial foods. Now, civilisation will cease to exist without microbial fermentation, the only sustainable future food. Ferming is the new farming, microbes are the new meat: no more agriculture, no more plant-based proteins, no more meat-based protein – all the protein and flavour will come from the synthetic engineering and precision fermentation of microbes. Ten times more efficient than photosynthesis, ferming revolutionises food production, freeing up land, eliminating pollution and carbon emissions from agriculture, and reducing food waste. Reprogrammed microbial production factories give lab-grown beef and fish those delicious meaty flavours and you are healthier due to through the efficient production of vitamins and provides individualised microbiome therapies. For entrepreneurs, and lovers of life on Earth, ferming presents almost limitless possibility.

Dr Tarsh Bates obtained her PhD at SymbioticA, The University of Western Australia, which explored the microbiopolitics of interspecies relationships and the human as a multispecies ecology. This and previous research has included living in a public art gallery for 3 months with eight other scientific model organisms, exploring the aesthetics of care and alterity and the labour of non-human organisms. She has worked variously as a pizza delivery driver, a fruit and vegetable stacker, a toilet paper packer, a researcher in compost science and waste management, a honeybee ejaculator, an art gallery invigilator, a raspberry picker, a lecturer/tutor in art/science, art history, gender & technology, and counter realism, an editor, a bookkeeper, a car detailer, and a life drawing model. She is particularly enamoured with Candida albicans.

Session 2

Talking about AgTech: Can we find common ground?

Speaker: Dr Heather Bray

According to several industry and government reports, new and emerging technologies have the potential to assist the agricultural sector to overcome several challenges and deliver future prosperity. Although this could be interpreted as a "technofix" discourse grounded in productivist views, the challenge of how to ensure sufficient, affordable, safe, nutritious, tasty food that is produced in sustainable, ethically, and culturally-appropriate ways now and into the future remains. In this presentation I will explore the different understandings of nature and technology within Australian agriculture in an attempt to find some common ground on which constructive conversations community and industry can take place.

Dr Heather Bray currently co-coordinates the Science Communication major within the Bachelor of Science, and the Masters of Science Communication at UWA. Her research explores community understandings of, and attitudes to, the role of science and technology in food production, in particular genetically-modified crops and food, and the use of animals. Her work aims to build trust between different stakeholders in the agri-food system.

'Sunshine and Sex': Going Back to the Future on Heritage Breed Farms

Speaker: Catie Gressier

Since the 1940s, in pursuit of profitability, the livestock industry has subjected farm animals to heavy selection pressure for productive traits. Performance gains have been extraordinary, as seen in hyper-prolific sows, double-muscled cattle, and broilers with dizzying growth and feed conversion rates. Yet, these gains have come at a substantial cost to animal welfare, the environment and genetic diversity. Heritage breed farmers offer an alternative to the productivist model, making holistic selection decisions within systems oriented around the biological basics, including the sunshine and sex shunned by industrial producers. This focus on the old breeds and farming methods serves as both an ode to the past, and a safeguard for an uncertain future, as these hardy, old breeds embody agrobiodiversity and can survive and thrive in diverse, often marginal, environmental conditions.

Catie Gressier is an Australian Research Council (DECRA) Fellow in the Anthropology and Sociology discipline group at the University of Western Australia. Catie's research examines environmental engagement in Australia and Botswana, with attention to foodways, interspecies relations, tourism, and health and illness. Her current focus is rare and heritage breed livestock farming across Australia. She is an Editorial Board Member of Anthropological Forum, a Director of the Rare Breeds Trust of Australia, and a former University of Melbourne MacArthur Fellow.

Nutrient recovery from human waste: opportunities and challenges to feed a growing world under finite fertiliser resources

Speaker: Bede S Mickan

The design and operation of conventional human derived Wastewater Treatment Plants is grounded in a philosophy of human excreta as 'waste' and requires treatment and removal from the built environment. However human excreta contains many essential macro (Nitrogen, Phosphorus) and micro nutrients essential for plant growth. There are also negative aspects of nutrients derived from human waste; contamination (e.g. PFAS, Mercury, Cadmium, lead etc.), low nutrient concentrations, and public perceptions. Modern food production systems have been driven continuous application of industrial, fossil fuel-sourced fertilisers. However, the mobilisation of significant amounts of plant-required nutrients for fertiliser production and has a high carbon footprint (e.g. Nitrogen), and some are a finite resource (e.g. Phosphorus). Transformed sewerage wastes into agronomic fertilisers are gaining much interest, for Nitrogen there is increased interest in precipitation of Urea, and for Phosphorus the formation of Struvite is seen as two potential solutions to lowering the carbon foot print of N, and also the recovery of P. Challenges are technological but also in the public perception of waste derived resources, especially if the products are of human origin.

Bede Mickan completed his MSc in 2011 and was fortunate enough to be awarded the Australian Post Graduate Award to continue studies for a PhD in soil microbial ecology. His PhD focus investigated simulated agricultural management practices on soil microbial processes in relation to rhizosphere Carbon and Nitrogen cycling under water stress. Bede finished his PhD in 2016 and went straight into the position of research and development manager for Richgro garden products, and has brought scientific understanding to commercialisation at a national level. During this time Bede was in the inaugural SproutX accelerator group where he successfully founded the start-up Food3. Since 2017, Bede readily took the opportunity to diversify his skills by collaborating with multiple researchers across Australia, investigating the broad themes of nutrient and value recovery from food waste - as evidenced in his more recent publications e.g. anaerobic digestion, microalgal cultivation, lactic acid fermentation. Bede has successfully been able to bridge the gap between academia and industry and takes great pride in being an industry based applied scientist.

Session 3

Will Metabolic Rift Agriculture Save Us?

Speaker: Oron Catts

In the name of sustainability, many new food production and agricultural ventures, such as vertical farming and cellular agriculture, propose systems that remove natural elements from the process of

production. The ideas of soilless farming techniques or animal products without animals are presented as having less (or no) impact on the environment. This talk will explore and unpack some of these claims, while highlighting the urgent need to culturally scrutinise Prometheanism with its extractive approaches that favour metabolic rift technologies over insertive methodologies of production. Metabolic rift technologies call for separation from nature following a similar mindset that leads tech companies to promote the Metaverse as a nature free site for human habitation, obscuring the environmental costs of such existence.

Oron Catts is the Co-Founder and Director of SymbioticA: The Centre of Excellence in Biological Arts, School of Human Sciences at the University of Western Australia (UWA) and was a Professor of Contestable Design at the Royal College for the Arts UK. Together with Ionat Zurr he founded the Tissue Culture & Art Project. From 2000–2001 he was a Research Fellow at the Tissue Engineering and Organ Fabrication Laboratory at Harvard Medical School.

“eaters” – a pub quiz about food

Speakers: pvi collective (kelli mccluskey & steve bull)

“‘eaters’ will be the ultimate arbiter of where and how food is grown and how the land is cared for ... We all have a stake in the future of food and farming.” - Gabrielle Chan, ‘Why you should give a fuck about farming.’ 2021

A performance work cunningly disguised as a pub quiz, pvi collective have developed a rowdy hour of ‘eatertainment’, where audiences team up to consider what challenges we face as eaters in Australia. From soil health to supply chains, Big-Ag to first Nations stewardship, seed sovereignty to carbon farming, “eaters” aims to place the concerns of farmers’ front and centre, as we consider how society will move from an extractive mentality to one that nurtures and respects our natural assets.

kelli mccluskey and steve bull share the process and intent behind the creation of a performance work that packs a punch, but let’s the audience grab a beer from the bar as well.

Founded in 1998 and based on Whadjuck Noongar Boodjar [Perth, Western Australia], pvi collective is a tactical media art group who create participatory artworks intent on the creative disruption of everyday life. They believe in the power of art as a tool for generating systemic change and are committed to examining and challenging the way that power and privilege impacts on modern society through our art making. pvi collective critically investigates contentious issues, plays hard and creatively intervenes.

pvi collective’s performances and interventions invite genuine engagement with audiences, aiming to activate them within each artwork; collectively grappling with the serious business of social change.

Automated Cultures Digestion Panel

Panellists: Tarsh Bates, Dale Tilbrook, Sarah Collins, Ionat Zurr

Moderator: Oron Catts

Introduced by Sue Reid (The Seed Box)

This panel will reflect on The Contestable Food Systems Symposium featuring discussion with Tarsh Bates, Sarah Collins, Dale Tilbrook and Ionat Zurr moderated by Oron Catts. This panel will be broadcast live via The Seedbox's Community Garden Festival website.

Dale Tilbrook

A Wardandi Bibbulmun woman whose traditional Aboriginal country is the Margaret River, Busselton area. Dale has been a Swan Valley local since 1998, when she opened the Maalinup Gallery with her brother Lyall, offering authentic Aboriginal art, gifts and souvenirs. The Experiences part of the business has steadily grown as customers seek more knowledge about Aboriginal culture and life.

Having spent many years gathering knowledge from her elders and other sources, Dale is often called on to talk about bush food, which she loves presenting and encouraging people to incorporate into their everyday cooking.

She is passionate about education and works extensively with students of all ages.

“Educating the world about Australian native edibles is an important part of my cultural journey. Being part of the local tourism community gives context. I represent the Swan Valley region at every chance; travelling as far as Turin, Italy with the Swan Valley and Eastern Region Slow Food Convivium to Terra Madre to cook at Australia on a Plate for 100 people, and present a Bushtucker Masterclass which was a wonderful opportunity,” said Dale. I was also part of the Swan Valley contingent which launched the Swan Valley Trails in Singapore in 2019. My trail is "Bushtucker and Beyond".

Dale's previous background is in buying, merchandising and marketing in department store groups in the UK and Australia. She also has experience in accommodation, functions and catering.

Sarah Collins

Sarah Collins joined the University of Western Australia in 2018, after holding research fellowships at Durham University and the University of New South Wales, a visitng fellowship at Harvard University, and a lecturing appointment at Monash University. She is the author of Lateness and Modernism: Untimely Ideas about Music, Literature and Politics in Interwar Britain (Cambridge UP, 2019), and The Aesthetic Life of Cyril Scott (Boydell, 2013); editor of Music and Victorian Liberalism: Composing the Liberal Subject (Cambridge UP, 2019); and co-editor, with Paul Watt and Michael Allis, of the Oxford Handbook of Music and Intellectual Culture in the Nineteenth Century (Oxford UP, forthcoming). Her research has been published in the Journal of the Royal Musical Association, Twentieth-Century Music, Music & Letters, Musical Quarterly and elsewhere. She has co-edited special issues of Nineteenth-Century Music Review, Musical Quarterly and the Australian Humanities Review. Sarah is also reviews editor of the Journal of the Royal Musical Association and the RMA Research Chronicle.

Sarah has been a peer reader for the Journal of the American Musicological Society, the Journal of Victorian Culture, Cambridge UP, Oxford UP, Ashgate and Boydell, and has served as President of the Victorian Chapter of the Musicological Society of Australia, and as secretary and treasurer respectively of the Queensland chapter.