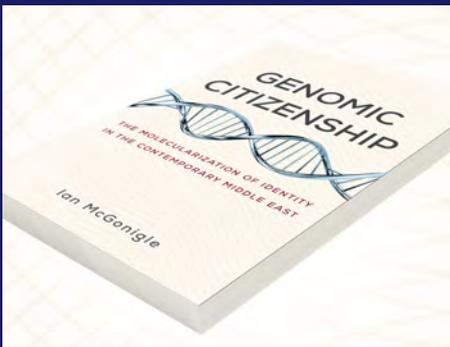


NISTH Newsletter

Issue 8: September 2021

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NISTH Fellow, Asst Prof Ian McGonigle



Assistant Professor Ian McGonigle, is a scholar of Anthropology and Science, Technology, and Society (STS). He is broadly interested in the relationships between science, technology and identity. His current research focuses on the relationships between human genome projects and ethnic identity. Ian came to NTU in 2018 with a Nanyang Assistant Professor start-up grant of SG \$1M to launch a science and society research group. In 2015, he was awarded a prestigious postdoctoral fellowship by the Israel Institute, where he had spent a year as a fellow at the Edmond J. Safra Center for Ethics at Tel Aviv University. He has also been an affiliate of Harvard's Program on Science, Technology, and Society, since 2013.

Ian has Ph.D.s in Biochemistry (Cambridge 2010) and Middle Eastern Studies and Anthropology (Harvard 2018). He also has a B.A. in Biochemistry from Trinity College Dublin (2007) and masters degrees in Cultural and Social Anthropology from the University of Chicago (2013) and Harvard University (2015).

He recently published a book on Genomic Citizenship. The book is based on ethnographic work in Israel and Qatar, two small Middle Eastern ethnations with significant biomedical resources. It explores the relationship between science and identity. Ian McGonigle, originally trained as a biochemist, draws on anthropological theory, STS, intellectual history, critical theory, Middle Eastern studies, cultural studies, and critical legal studies.

“Genomic Citizenship seeks to explain how and why genetics is growing as a genre for imagining ethnonational belonging in the Middle East.”

He connects biomedical research on ethnic populations to the political, economic, legal, and historical context of the state; to global trends in genetic medicine; and to the politics of identity in the context of global biomedical research. It makes for a good read.

The open access edition of this book was made possible by generous funding from Arcadia (a charitable fund of Lisbet Rausing and Peter Baldwin): <https://doi.org/10.7551/mitpress/14128.001.0001>

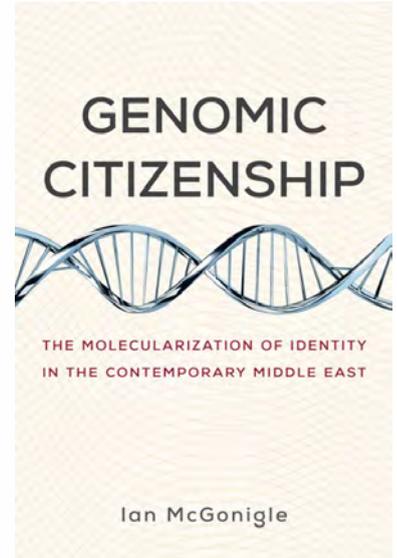


Genomic Citizenship: The molecularization of identity in the contemporary Middle East

At the Fellows In Focus event, held on 15 September 2021, the topic of discussion was Assoc Prof Ian McGonigle's new book, '*Genomic Citizenship - The molecularisation of identity in the Middle East*'.

Joining Ian on the panel were Assoc Director of NISTH, Assoc Prof Hallam Stevens and NISTH Postdoctoral Fellow, Dr Iuna Tsyrlneva.

The panel explored the interdisciplinarity of Ian's background and learnt how his prior work with mutant genes sparked an interest in purposeful mutations and how they affect the way different genetic codes are read and associated with identity. Ian also described the difference between research methods used in neuroscience and anthropological studies. While hard science tests hypothesis, the cultural studies have more loosely defined research questions that are structured during the research on the ground. Working on neurotransmitters, Middle East as an area of anthropological research interested Ian for heavily debated nature of Zionism and justification for the Israel state, and large amount of hereditary diseases that make Qatar's biobank an attractive place for research.



Ian provided his explanation of genomic citizenship, the core idea of his book, as an umbrella to encapsulate the ways how ethnical and national identities become content in genetical studies. He also addressed the question on what the consequences would be if nationalities start to be organized based on genomics and how it might be influenced by political cultures. Ian stressed on the pervasive biological categorization, in particular based on ancestry, that besides misutilization in political discourse can potentially have positive outcomes in terms of precision medicine and healthcare. However, precision healthcare based on genomics requires extensive studies as it largely depends on the population, and not only differences in phenotype, but also in diet, lifestyle etc. Ian also brought up a point of collecting biosamples and the ethics behind it that can often be restrictive with regards to evolving research methods. Besides, the type of ownership of genetic data can complicate the regulations. While genomics and biobanking are becoming key sites for imagining national and ethnic communities, there are many other factors that contribute to national identity. Ian brings an example of agricultural activities as an indirect approach to nationality. In particular, he described the ongoing project and documentary about traditional winemaking in Israel and its contribution to the national identity.

In conclusion, Ian reflected on the differences between approaches to genomics and biobanks in the Middle East and Singapore, the constituents of national identities and the topic sensitivity in the countries.

Watch the webinar at: <https://youtu.be/xj9DXqoBPOs> or

Listen to the podcast at: <https://www.buzzsprout.com/1438252/9209811>



Consider Novel Proteins for a More Sustainable World: Importance of Consumer Insights - Prof May O Lwin

Prof May O. Lwin is a NISTH Fellow, the President's Chair Professor of Communication Studies at the Wee Kim Wee School of Communication and Information (WKWSCI) and a Professor (Joint) with the Lee Kong Chian School of Medicine (LKC), NTU. Her expertise is in health and strategic communication. Her projects involve the development and assessment of health communication based on psychosocial theories to motivate health behaviors targeting specific populations.

With many Asian countries seeing rising demands for animal protein over the recent years, the search for sustainable proteins has become urgent in Asia. Western nations, particularly the United States, have traditionally contributed to meat demands which continue unabated. At the current pace, traditional protein production would not be able to satisfy the growing global demand for animal proteins. Meat production requires tremendous amounts of water and land and contributes heavily to greenhouse gas emissions, deforestation, and a developing public health problem of antibiotic resistance. Threats to the environment, as well as human health concerns are emerging crises that require a major shift in global approaches to alternative protein sources.

Over the past two decades, scientists, and researchers across the world have been testing novel protein sources. Of the new proteins that have emerged in the supermarkets, the majority fall into plant-based, cultured (i.e., cell-based), insect-based and marine algae-based categories (see Exhibit 1). Novel food products have emerged using these sources, with products attempting to mimic the sensorial experiences that animal protein consumers seek.

While the food industry is brimming with new novel protein sources, there is a major research gap in understanding consumer acceptance and its drivers. Case anecdotes from Asian markets point to novel proteins being slow in market penetration and being successful in replacing meat demands. A few studies have identified cultural and real-time behaviour facets, and risk perceptions of novel protein products that reach consumers.

Our interdisciplinary research team at Nanyang Technological University (NTU), which includes researchers from the Wee Kim Wee School of Communication and Information (WKWSCI), Food Science and Technology (FST) and Nanyang Business School (NBS), has been working on research projects to better understand consumption preferences that would allow product developers to better cater to specific consumer groups, ultimately boosting overall alternative protein acceptance. For alternative proteins to realise its potential impact, consumer acceptance and uptake is vital.



Exhibit 1: Current major categories of Alternative Proteins

The following are a number of key insights gleaned from our ongoing assessments of consumers' novel protein acceptance.

- Asian food markets appears to still be in an infancy stage where novel proteins are concerned, with consumers demonstrating a clear lack of awareness and knowledge of these food groups.
- Our investigation of the potential psychosocial drivers and barriers of alternative protein consumption shows significant levels of resistance to protein alternatives. Singapore consumers also exhibited meat attachments (i.e., a strong association to conventional meats). Our studies highlight the need to examine deep seated attitudes towards novel protein sources and that conventional market research information, which draws upon self-reported data, may not be sufficient to draw conclusive evidence regarding potential market barriers of new food products in specific markets.
- Another important consideration is that acceptance of novel proteins is dependent on many environmental factors such as retail settings, food category and food types.
- Our research projects compared data across countries (i.e., data collected simultaneously in Singapore and Australia), which allowed for cross-cultural comparisons and provided novel insights into cultural facets that are often overlooked in consumer studies. We uncovered that cultural facets in the food space undeniably play a key role in influencing the uptake of novel proteins.
- On an encouraging note, the public is providing optimistic feedback regarding their beliefs on alternative proteins that they would bring about benefits such as better nutrition and greater food quality. Such insights suggest a promising start to new alternative proteins as a feasible facet of global efforts to create a more sustainable earth.



Moving forward, our research team plans to create an inventory of longitudinal data, which would allow the industry to monitor and track consumer trends and movements over time, particularly in our region. We are keen on establishing connections and partnerships with industry members to study consumer responses to new alternative protein categories and prototypes. Research in alternative proteins, retail settings such as restaurants and supermarkets, product packaging and labelling are some of the specific areas that we welcome partnerships in.



Asia, with its large population already facing ecological and food supply challenges, needs to continue to take steps to develop and bring to consumers culturally relevant foods that are environmentally sustainable. Consumer research that provides evidence of how quality products can gain the trust and acceptances amongst our populations is critical in equipping future industry efforts.

UPCOMING EVENTS

NISTH ThinkOut: Genomics and the New Inequality

15 October 2021; 2:30 PM - 3:30 PM

The Panelists:



Joanne Ngeow
Associate Professor
Genomic Medicine, LKC



Ian McGonigle
Assistant Professor
Global Science, Technology, & Society

The Moderators:



Vanessa Evers
Director, NISTH



Hallam Stevens
Assoc Director, NISTH

Is the Holy Grail of modern medicine, Genomics? Genomics is the study of all of a person's genes (the genome), including interactions of those genes with each other and with the person's environment. While it has significantly altered the way researchers, scientists and clinicians develop diagnostics, therapeutic strategies and treatment options, it has also raised a the concern of inequality.

Lineage, race, ethnicity and socioeconomic status have always incited disparities in healthcare. With the increased application of technology in healthcare, is Genomics the new perpetrator? Just as AI bias in facial recognition highlights the unregulated autonomy exerted by new technologies, is the genetic clustering of populations to identify disease-linked biomarkers benefiting only the focus group represented in the databases? There is no doubt that the application of genomic testing has helped further precision and personalised treatment of patients. It has provided avenues to innovative approaches to achieve clinical efficacy. However has there been enough emphasis put on inclusive representation when databases are built? Join our panelists and moderators as they discuss the many implications of 'Genomics and the New Inequalities'.

For more information on the event, visit: <https://blogs.ntu.edu.sg/nisth/2021/09/28/genomics-and-new-inequalities/>

Deep Tech Summit

8 - 10 November 2021; 1:00PM - 4:10PM



The Deep Tech Summit is presented by SGInnovate (NISTH's Strategic Partner) in conjunction with the Singapore Week of Innovation of Innovation and Technology (SWITCH*). The Summit aims to advance knowledge on science and technology innovations, and discuss its impact on our future economy. The fourth edition of the Summit, this year, will convene a global community of Deep Tech startups, investors, corporate innovators, researchers, government partners and international organisations with interests in: AgriFood, Health and Biomedical Sciences, Advanced Manufacturing and Sustainability.

*SWITCH is organised by Enterprise Singapore (ESG), with SGInnovate and Singapore Economic Development Board (EDB) as Premier Partners and supported by the National Research Foundation (NRF). In its sixth edition, this hybrid festival will feature conferences, the SLINGSHOT Startup Pitching Finals, showcases, roundtables as well as global networking activities.

More details of the Summit and registration can be found at: <https://www.sginnovate.com/deeptechsummit>

PAST EVENTS - NISTH ThinkOut

Misinformation and Vaccine Attitudes - 11 August 2021



The NISTH ThinkOut on 'Misinformation and Vaccine Attitudes' was very informative and well attended. Prof David Lye, Director of the Infectious Disease Research and Training Office at Tan Tock Seng Hospital shared his views and insights into how vaccines were shortlisted and their efficacy. Prof Edson Tandoc, Director of the Center for Information Integrity and the Internet (IN-Cube) highlighted how science communication can be effective and focussed on how misinformation was and is being generated by some individuals and the media. Prof Vanessa Evers and Prof Hallam Stevens moderated the panel and kept it engaging.

Watch the webinar at: <https://youtu.be/RtCS7LARNvM> and listen to it at: <https://www.buzzsprout.com/1438252/9010153>

COVID-19: Emerging designs for Resilient homes, Offices, Cities - 22 September 2021



The pandemic has repurposed our physical living and working spaces. Our panellists Asst Prof Felicity Chan and Assoc Prof Georgios Christopoulos shared and discussed how new resilient designs are shaping our 'new normal' homes, offices and cities. The speakers emphasised key factors, such as, population density, workspace design and novel adjustments made due to the lockdowns. The event was well attended.

Watch the webinar at: <https://youtu.be/RxNbjLZOxL0> and listen to it at: <https://www.buzzsprout.com/1438252/9246186>

HAPPENINGS: *Get Involved!*



NISTH ThinkOut: Genomics and the New Inequalities **15 October 2021; 2:30PM - 3:30PM**

Is the Holy Grail of modern medicine, Genomics? While it has significantly altered the way researchers, scientists and clinicians develop diagnostics, therapeutic strategies and treatment options, it has also raised the concern of inequality. Our panelists Assoc Prof Joanne Ngeow and Asst Prof Ian McGonigle will discuss the many areas of concern in the application of Genomics in healthcare.

Register at: <https://blogs.ntu.edu.sg/nisth/2021/09/28/genomics-and-new-inequalities/>

Deep Tech Summit

8 - 10 November 2021; 1:00PM - 4:10PM

NISTH is the network partner for the upcoming Deep Tech Summit. Hosted by SGInnovate (NISTH's strategic partner) in conjunction with the Singapore Week of Innovation of Innovation and Technology (SWITCH), the Deep Tech Summit aims to advance knowledge on science and technology innovations, and discuss its impact on our future economy.

Register at: <https://www.sginnovate.com/deeptechsummit>



NISTH Fellows in Focus

The NISTH Fellows in Focus aims to showcase the research and expertise of each of the Social Impact Fellows. We work with each of the interested Fellows, and create a short video, newsletter article and related events to highlight their ongoing projects and publicise their achievements. This is open to all NISTH Fellows only. If you are interested, please email our events team at nisth-events@ntu.edu.sg, to find out more.

NISTH Weekly

Receive your NISTH Weekly every Monday! It showcases one interdisciplinary topic, the relevant fellows, their publications and any latest finding in the topic area. It also lists the latest happenings for the week - NISTH events, Events with NISTH Fellows and/or IAB, other relevant events and Open grant calls and challenges.

Email us to join the mailing list or to have your event listed!

Sign up to keep in the know!

