Dear NISTH fellows, colleagues, and friends,

Time does fly. It is the third month of the year of 2023. It is the fourth month of my leadership in this institute and I have never been more excited. In the past three months, many things have happened at NISTH and we have been exhilarated by the meetings, events, and collaborations. The most important one is of course the Young Global Leaders (YGL) Programme that went very well. I would like to thank my colleague Asst Prof. Andrew Prahl for being an excellent programme director of YGL Singapore. 35 participants from different countries came to NTU to learn about our research, projects, and laboratories. There were all very excited and impressed by what they saw in our campus, but also at the government facilities and infrastructures around the country. Potential collaborations with some participants
were grabbed through this meeting. We are planning to continue hosting the YGL Singapore Executive Education Programme next year.

Another event worth mentioning is the NISTH Distinguished Lecture presented by Dr. Anies R. Baswedan who is the Former Governor of the capital city of Jakarta, Indonesia. Dr. Baswedan delivered an incredible talk on urban leadership and digital resilience in which he shared his experience of leading the megacity during the pandemic crisis. It was full house attended by over 200 attendants, including students, faculty members, Chair of School of Social Sciences, and Dean of CoHASS who gave an opening remark. The lecture offered many insights into urban crisis management in the context of megacity. NISTH is planning to host one distinguished lecture every term. Feel free to email me if you have any suggestion of person to invite for this programme.

In the research area, I would like to report two grant schemes. One is the Co:labs and for this year we have awarded grants to three research projects. The other one is NISTH seed-grant scheme. Two proposals have been awarded each with an exciting topic. We are looking forward to the progress of these projects, which will become the main output of NISTH as a research institute. We expect the PIs to be able to continue their research by applying for external grants.

There are more activities, publications, and updates that you will find in this issue of our newsletter. But one thing I am truly happy to inform you. NISTH has finally got a signage. It is a really nice one and sure will help people to find our office more easily.

Best regards,
Assoc Prof Sulfikar Amir
Acting Director of NISTH

Upcoming Events

NISTH ThinkOut: Podcast Series

The NISTH ThinkOut discussions have always been thought provoking and interesting. The process of unpacking the causes and consequences of an issue lead to active learning and well-thought-out decision making. The NISTH ThinkOuts, provide a platform for active discussion on dual perspectives, by leading researchers from across disciplines, to explore global challenges outside the box.

We are now exploring a different format, to learn more and get an in-depth view of global issues by speaking one-on-one with industry experts, leading academics and citizen influencers to fully comprehend the matter, be aware of the ongoing research and be instrumental in engaging society to aid and assist in making constructive and sustainable change.
Global society is rapidly pivoting towards recognising and taking at face value the problem-solving skills, opinions, and expertise of its youth. In the 21st century, young people are recognised as bastions of commitment to societal causes, unconventional approaches to solving global problems, and collaboration. Incidentally, here, the youth share a similar mission to academics: To innovate collaboratively to solve the world’s most pressing issues. At NISTH, we thought that this raises a curious question: Who are the youth in academia, and what can we do to support their work? The answer that we arrived at is Early Career Researchers (ECRs).

This grant call therefore intends to empower the youth of academia. This is because ECRs are a vital portion of an increasingly literate and savvy youth movement. Young researchers boast a childlike curiosity about the world whetted with a keen sense of rational and critical thinking. Thanks to modern advents in education and technological opportunities that their predecessors never had, they are well-equipped with domain-specific knowledge and skillsets to accelerate shaping scientific breakthroughs, technological innovations, and policy recommendations. That, and modern emphases on interdisciplinarity and interconnectedness serve to call to the fore a priority for collaborative problem solving among a diverse group of academics. In NISTH’s programmes involving ECRs, we see that bringing ECRs with interdisciplinary research interests together can spark well-rounded all-encompassing conversations that collate research-backed opinions. This confluence of expertise gives rise to thought-provoking and unexpected development of solutions that enable questioning established science paradigms for their value in facing modern-day challenges.

The INTRO-ECR grant was launched in January 2023 and received 7 applications in its application window. Among the 7 applications, NISTH is proud to announce that 5 teams comprising interdisciplinary teams of ECRs have been awarded the inaugural INTRO-ECR grant. Featured within the awardees are interdisciplinary teams that aim to tackle a variety of research problems from innovating novel biotechnologies to health communication and addressing the gender gap in STEM academia. Moving forward, NISTH looks forward to working closely with these research teams to catalyse the positive impact promised by the outcomes of these research projects. While the teams forge ahead with their research, NISTH researchers Dr. Iuna Tsyrulneva and Mr. Marcus Teo will continue to support the fruition of these ECRs’ work, while also planning more enriching events for ECRs across the country.

The upmost quality at which these applications came serves as a testament to our justified faith and hope in the youth of academia. In this grant call, we see a group of dedicated, forward-thinking, and passionate rise to the call to impact positive societal change. The promise that these groups of ECRs and, in extension, the ECR community therefore cannot be underestimated. Indeed, a lot can be achieved when opportunities are met with both a fierce dedication to the amelioration of our communities and a relentless pursuit of knowledge. Here at NISTH, we look forward to keeping our readers up-to-date on the great work that ECRs are doing, and the wonderful outcomes that are sure to follow.

For more information on how NISTH supports ECRs in Singapore, please reach out to Dr. Iuna Tsyrulneva or Mr. Marcus Teo.
NISTH Reports

At NISTH, we work on the conceptualising of global societal challenges, that serves several purposes. First and foremost, it enhances understanding of the issue and contributing parameters, which helps inform more inclusive and effective solutions and interventions. In turn, it boosts communication with the stakeholders, policymakers, and the general public by clarifying a challenge and its scope. Conceptualising a societal challenge facilitates the identification of the root causes that can help identify potential interventions that address these underlying factors, rather than just focusing on the symptoms of the problem. By considering the interconnectedness of societal challenges, more holistic solutions can be developed to tackle multiple issues simultaneously.

To address the challenges that are faced by the universities, NISTH has developed 2 reports that conceptualise the resilience of universities worldwide during the COVID-19 (“NTU Report on Resilient Universities During the COVID-19 Pandemic: Differences Between East and West”) and the carbon footprint measurement by universities (“NTU Carbon Footprint Framework for Universities”). Both reports have been featured by the Association of Pacific Rim Universities.

The rapid advance of COVID-19 underlined the necessity for prompt, decisive action and consolidation in response to challenges faced by countries and institutes of higher education. For instance, laboratories and campuses were shut down; classes were cancelled, and examinations postponed; international student enrolment and staff hiring were frozen; scholarly conferences and exchanges were delayed, and remote working became mandatory in some places. Even so, many universities still strived to maintain a pre-pandemic level of education and research output. The differences among various national governments’ capacity to respond to emerging COVID-19 consequences unevenly affected the academic, financial, and social performances of different universities. NTU Report on Resilient Universities evaluates the resilience of universities worldwide during the COVID-19 pandemic. This report delivers insights into how universities could provide educational services, engage in international collaboration, maintain research productivity, and support their nations in responding to the COVID-19 crisis. National policies, fluctuations in external funding, international partnerships, technological infrastructure, research excellence, and other factors influenced each approach. The report offers an overview of prevailing trends, best adaptive practices, and conditions needed for a swift and sound response to COVID-19 by universities worldwide. It also provides in-depth case studies of eight universities: Nanyang Technological University, Tsinghua University, University of Sydney, Stanford University, Chinese University of Hong Kong, University of Rwanda, Tec Monterrey, ETH Zurich.

Universities, as cradles of knowledge and research aiming for societal impact, have been engaged in research on climate change, modelling and predicting as well as identifying ways to mitigate the consequences of climate change. As large organisations with correspondingly high amounts of students, staff, and infrastructure, universities have also become significant producers of greenhouse gas emissions. This calls for the need to standardise and operationalise the approach toward measuring and reducing CFP across all universities worldwide. The uniqueness of every university complicates the operationalisation and standardisation of measuring carbon emissions. University campuses consist of buildings and infrastructure with a variety of functions that support different specialities of research and education. Report on Carbon Footprint Framework for Universities offers a framework, which describes the concept of transparency in reporting CFP and includes a CFP score weighed against the university's total emissions, the number of students and employees, and transparency in reporting emission data. The report also identifies best practices adopted by universities to measure their CFP and explores the applicability of currently available CFP analysis methods and frameworks for universities worldwide. This report has been featured by the University World News on 4 March 2023.
In the age of technology, it is no secret that our health has become inseparably intertwined with the technology that surrounds us. Biomedical technology has seen an exponential rate of growth in the past decades, extending life expectancies, combating illnesses, and generally improving the quality of our lives. Indeed, the development of medical treatments and therapies through technological advancements have unequivocally ameliorated all aspects of healthcare. Treatment, however, is but one purpose of medical advancement. On the other hand, enhancement is an oft-neglected outcome from medical advancement. Where treatment refers to curing or otherwise solving illness, enhancement looks at the prospect of augmenting the human body towards greater ends to make the human body less susceptible to disease, or to increase athletic performance to overcome our natural boundaries. In this webinar, distinguished professors Julian Savulescu and Peter Droge, discussed the ethics of gene editing towards the purpose of human augmentation, touching on the plausibility and permissibility of gene editing to prepare future generations of humans for the challenges of the future. The session was moderated by Prof Lim Kah Leong, Professor and Vice Dean (Research) and President’s Chair in Translational Neuroscience at LKCM, NTU and Assoc Prof Sulfikar Amir, Assoc Prof of Sociology at the School of Social Sciences at NTU and the Acting Director of NISTH.

The webinar can be viewed here or listened to at our NISTH Podcasts.
Recently, NISTH partnered with the World Economic Forum to host a group of Young Global Leaders (YGLs) who gathered in Singapore for a weeklong education module. NISTH has been hosting the annual YGL programme on behalf of NTU since 2019. This year’s programme focused on “reglobalisation” as a positive force. In contrast to the pessimistic narratives of “deglobalisation” or “reshoring,” which have become popular in the post-COVID world, the programme encouraged discussions on reglobalisation through the lenses of sustainability and equity. Accordingly, the curriculum followed an approach that allowed attendees to develop new perspectives along with learning some of the novel and innovative ways both sustainability and equity are being addressed.

As part of the programme, the YGLs visited several key places in Singapore that are on the cutting edge of sustainability initiatives. They toured logistics hubs such as Tuas Port and Changi Airport, where they engaged in discussions about rebuilding supply chains. These visits also provided an opportunity for the YGLs to reflect and exchange ideas on how to create a better tomorrow. For example, at Tuas Port, they saw firsthand how sustainable practices are being incorporated into port operations, such as the use of electric cranes and solar panels. At Changi Airport, they learned about the airport’s efforts to reduce carbon emissions and improve energy efficiency through measures such as smart building management systems. The students also reconceptualised the notion of supply chains at Changi airport and learned to envision nodes in the human capital supply chain as places of intercultural exchange. Thus, the YGLs generated solutions to making these spaces more equitable and welcoming to people from diverse backgrounds.

In addition to these site visits, the YGLs also gather for talks from NTU faculty, such as Prof S Vishwanathan, who discussed supply chain resiliency and sustainability and Assoc Prof Edson Tandoc, who discussed information supply chains and the threat of fake news and/or misinformation to them. These discussions provided a platform for the YGLs to gain insights on how to pursue their goal of reglobalisation. It also allowed the attendees to learn from the expertise of NTU faculty and better predict what tomorrow will bring and the biggest threats and opportunities going forward.

But the YGLs did not just come to listen to visit Singapore icons and listen to lectures. They also visited research labs at NTU that are on the cutting edge of sustainability and supply chain initiatives. At Singapore Centre for Environmental Life Sciences Engineering (SCELSE), they learned about biofilms and living sea walls, which have the potential to protect shorelines and improve ecosystems. At the Centre for 3D Printing, they...
discussed 3D printing as a means to a more sustainable future. At the advanced materials lab and food science labs, they discovered unprecedented energy transmission and battery technologies which could revolutionise the energy industry. And, a visit to Singapore-CEA Alliance for Research in Circular Economy (SCARCE) at NTU also opened new doors for the attendees as they confront the issues of energy and recycling which are persistent challenges in cities around the world. These visits provided additional areas for discussion and debate among the YGLs, who witnessed the potential of such technology in their organisations and were challenged to brainstorm ways to implement similar technological leaps.

Overall, the YGLs together with NISTH and NTU enjoyed a productive week of conversation, networking, and perspective-changing during their visits to NTU and important sites in Singapore. They left with a better understanding of reglocalisation through the lenses of sustainability and equity, and a renewed commitment to creating a better tomorrow.
On 28 February 2023, NISTH organised a distinguished lecture entitled ‘Urban Leadership and Digital Resilience the Experience of Megacity Jakarta. The invited speaker, Dr Anies Baswedan is an Indonesian academic, activist, and politician who served as the Governor of Jakarta from 2017 to 2022. It was moderated by NISTH director, Assoc Prof Dr Sulfikar Amir.

Dr Anies Baswedan discussed his methods of leadership during Covid-19. He pointed out the importance of making the right decision during unpredictable crisis moments. To him, the ensuing repercussions from Covid-19 have motivated his team to make prompt decisions for the Indonesian people. In this regard, society comes together as a whole unit to solve the problem. Trust is key to that collective goal. He mentioned openness, honesty, and cooperation as the means to frame the path to pull people out of the crisis. Dr Anies practised strong and upright leadership. This principle approach to crisis management has been enhanced by the government’s transparency in sharing information with the public. Crucial in this part of crisis management is for the authority to build trust with the citizens. From up-to-date and accurate information to mobilising humanitarian resources, the government of the day steered actions, so citizens are well informed about important decisions (e.g.: masks, social distancing, border closures). These hard decisions were made to protect the country from succumbing deeper into the crisis.

For the Indonesian people, the cultural perspective on Covid-19 prevailed. It shaped the discourse about the crisis. For many Indonesians, the Hikma or lessons learned after a crisis encouraged more to start learning about the crisis in order to prepare them better for future challenges. Although people hope they do not have to face a similar challenge, advanced modernity and globalisation make the future unpredictable. Thus, if society faces a risk of such magnitude, they can turn to the key lessons learned from Covid-19. Generally, this is an integral part of modern leadership.

In short, the government, the expert communities, general public, need collaboration during periods (cosmopolitan moments) in which our vision about crisis or difficult times goes beyond geographical borders. The Covid-19 is a rare event where we witnessed almost all governments work together. The world’s communities help the less fortunate or the most vulnerable people in the society. Plus, there is no way that the public is going to listen to what the government is advising them without a certain level of trust in the state. The latter requires everyone to get engaged from the start of the crisis. For instance, for nations to break the circuit, requires everyone in the population to be actively involved in state-sponsored initiatives or community-based solutions to avert the crisis of Covid-19.

The lecture ended with a question-and-answer session between the speaker and participants. Indonesia’s case study and lessons during Covid-19 demonstrated the important aspects of leadership, administration, and citizens’ participation during a crisis.

The lecture can be viewed [HERE](#)