A WORLD IN TRANSITION

13TH GEOGRAPHY GRADUATE RESEARCH WORKSHOP

25 April 2025

AS2-0203 Earth Lab

NUS National University of Singapore | Department of Geography
Faculty of Arts & Social Sciences

GRADUATE RESEARCH SEMINAR
CLASS OF 2025

FOREWORD

TIM BUNNELL

Professor, Department of Geography

Welcome to the NUS Geography Graduate Research Workshop 2025!

This is the thirteenth iteration of the workshop that marks the culmination of the Department of Geography's Graduate Research Seminar (GRS) module each year. All graduate research students in the Department of Geography are required to complete the GRS during their first year of their candidature. The class includes both Master's and PhD students, some of whom only commenced their studies in January. This year's class comprises 15 graduate research students from a variety of academic and national backgrounds – from China, India, Italy, the Maldives, and the United States as well as from Singapore. Equally varied is the range of research topics members of the class are engaging with, as is evident from the abstracts included in this programme.

The Workshop, this year framed collectively in terms of A World in Transition showcases students' individual research projects. Within their fifteen-minute-long slot, each student will present some or all of the 'what?', 'why?' and 'how?' of their research, describing their respective projects, placing each in its academic context, outlining the significance of their planned work, and detailing how they aim to tackle the underpinning puzzles and problems. Some of the students may even be in a position to present preliminary findings of their research. Most, however, will focus on research that they propose to carry out during the remainder of their time in the Department. It is not easy to expose ideas to scrutiny when much remains unsure or unclear. As in previous years, however, the intention of the workshop is that students will learn from presenting their own research ideas, and from receiving constructive feedback.

For many of the students involved, the Workshop has been their first experience of organizing and hosting an academic event such as this. I am sure that they will have gained much from the experience. Thank you and well done!

I hope everyone in attendance enjoys the presentations. Please participate actively in the discussion, both during formal Q and A time and more informally – but just as importantly – during tea breaks and lunchtime.

SCHEDULE

0830 - 0900 Registration

0900 - 0910 Opening Address by **PROF. DAVID TAYLOR**, Head of Department of Geography

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CLUSTER 1 Climate Change and Resilience

0910 - 0935 **JUNGUO QU:** Unilateral Environmental Regulations and Green Technology Development in the Global South

0935 - 1000 **NIKITA CHOUDHARY:** Functional Trait Variation in Mangroves: Responses to Environmental Gradients in Singapore's Tidal Ecosystems

1000 - 1025 **TAN LI MING:** Climate Resilience and the Thresholds of Trees in Singapore

1025 - 1050 **ZHANG (ZOE) HEHAN:** Refining Eddy Covariance Partitioning Algorithms to Improve Ecosystem Carbon Analysis

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1100 - 1115 **TEA BREAK**

CLUSTER 2 Matters of Governance

1115 - 1140 **LIU HANG:** The Impact of Science and Technology Park on the Digital Transformation of Firms: A Mixed Method Study

1140 - 1205 **SHAUN CHIONG:** Urban Interventions and the Search for Creativity in Singapore's Public Spaces

1205 - 1230 **YUAN HE:** Meteorology Across Borders: Tracking the Tracking of Typhoons in Asia

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1240 - 1340 **LUNCH**

SCHEDULE

CLUSTER 3 Coastal Systems and Geomorphology

1340 - 1405 **ABDULLA HUSSAIN RASHEED:** Resolving Sediment Budgets and Volumetric Fluxes in Coral Reef Islands

1405 - 1430 **JIYADH THANVEER:** Glacier Retreat and Sediment Dynamics in High Mountain Asia: Implications for Geohazards and Fluvial Systems

1430 - 1455 **MATTEO BRAVO:** Holocene development of marine coastal ecosystems in West Papua, Indonesia

1455 - 1520 **ZHANG ZUMING:** Channel Incision in the Tonle Sap River: The Role of Upstream Dams

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1530 - 1545 **TEA BREAK**

CLUSTER 4 Mobilizing Identities

1545 - 1610 **JAMES LAO:** Instruments of Recognition: Timor-Leste and the Transformation of Reputation into Soft Power

1610 - 1635 **TERENCE TAN:** What It Means to Be Taiwanese: Spaces and Identities

1635 - 1700 **XIUYI LIN:** From a war-torn city to a modern metropolis: urban development, transformation, and necropolitics in post-genocide Kigali, Rwanda

1700 - 1725 **XIYAO FU:** Localizing Arabica and Mobilizing Indigeneity in Specialty Coffee Entrepreneurship of Northern Thailand

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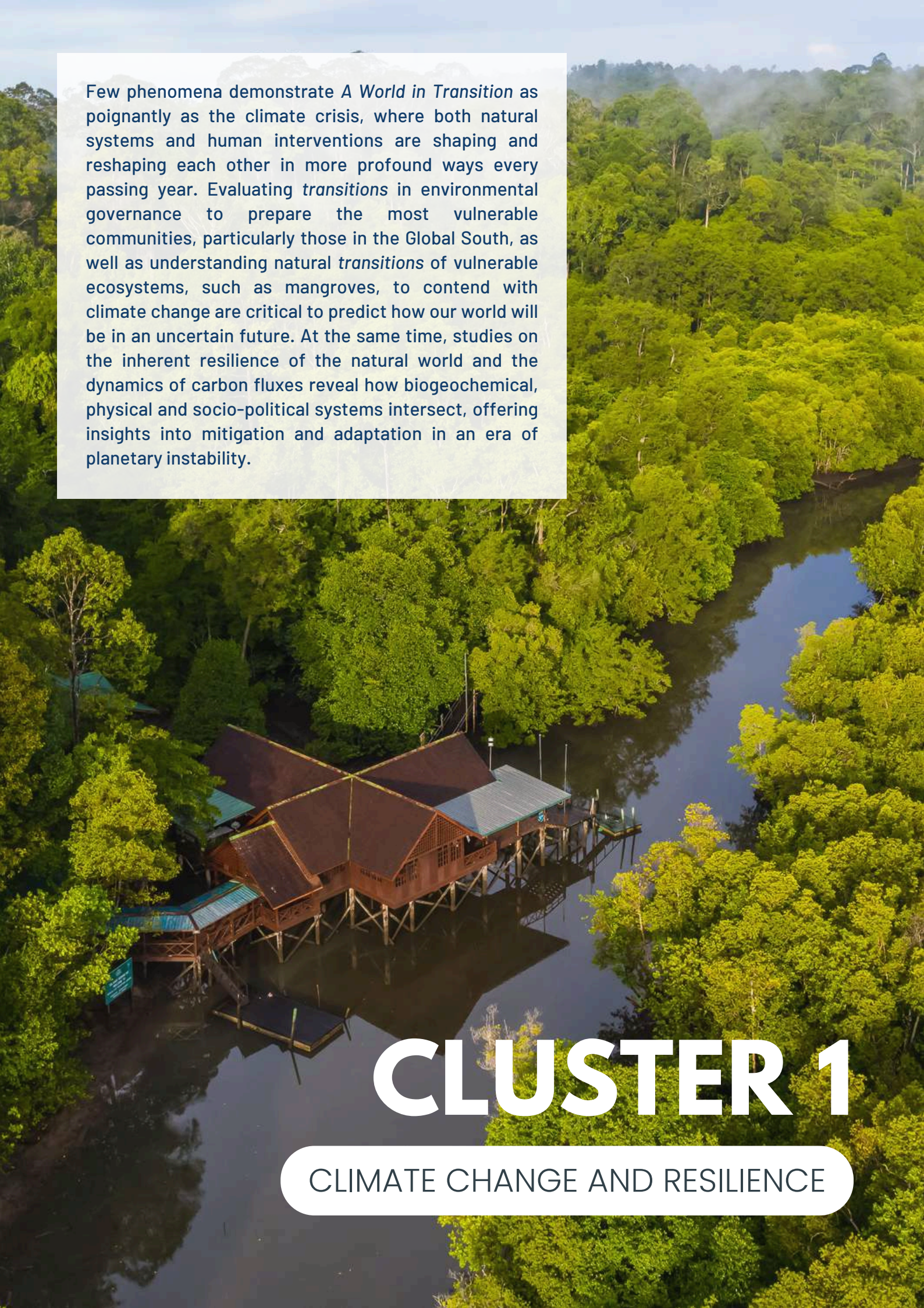
1735 - 1745 Closing Remarks by **PROF. TIM BUNNELL**, Convenor of Graduate Research Workshop



Few phenomena demonstrate *A World in Transition* as poignantly as the climate crisis, where both natural systems and human interventions are shaping and reshaping each other in more profound ways every passing year. Evaluating *transitions* in environmental governance to prepare the most vulnerable communities, particularly those in the Global South, as well as understanding natural *transitions* of vulnerable ecosystems, such as mangroves, to contend with climate change are critical to predict how our world will be in an uncertain future. At the same time, studies on the inherent resilience of the natural world and the dynamics of carbon fluxes reveal how biogeochemical, physical and socio-political systems intersect, offering insights into mitigation and adaptation in an era of planetary instability.

CLUSTER 1

CLIMATE CHANGE AND RESILIENCE

UNILATERAL ENVIRONMENTAL REGULATIONS AND GREEN TECHNOLOGY DEVELOPMENT IN THE GLOBAL SOUTH

Green technologies are crucial for driving climate change mitigation and adaptation. At the same time, environmental technologies are often highly value-added and have the potential to enhance the competitiveness of local firms. While green technology stocks and innovation activities are concentrated in Global North countries, Global South countries—where climate change has more severe socio-economic consequences and emission-intensive production is embedded in global production networks—face a more urgent need to access green technologies. Environmental regulations have been shown to play a significant role in fostering green technology development. However, Global South countries are often characterized by underdeveloped environmental regulatory frameworks and may lack sufficient domestic incentives to stimulate green technology innovation. A growing body of research highlights the role of foreign environmental regulations in driving domestic green technology development. While existing studies have identified potential mechanisms and provided limited empirical evidence on these inducement effects, research on cross-border regulatory impacts remains sparse. Moreover, the few existing studies often fail to capture the heterogeneity among low- and middle-income countries (LMICs) and low-income countries (LICs). As a result, current policy frameworks may not be adequately tailored to support green technology development in the Global South. The proposed research seeks to bridge this gap by examining the interactions between foreign and domestic environmental regulations in the Global South and their impact on green technology development.

JUNGUO QU

PhD Student

Before joining NUS, **Junguo Qu** worked at the United Nations Environment Programme (UNEP), specializing in developing financial mechanisms to support climate change mitigation projects across Africa and East Asia. Prior to that, he earned a Bachelor's degree from Waseda University and a Master's degree from Sciences Po, focusing on international trade and environmental economics. His PhD research examines the dynamics of international environmental regulatory frameworks and their impact on echnological innovation, financial mechanisms, and emission landscapes across nations.

FUNCTIONAL TRAIT VARIATION IN MANGROVES: RESPONSES TO ENVIRONMENTAL GRADIENTS IN SINGAPORE'S TIDAL ECOSYSTEMS

Mangrove ecosystems, such as those in Singapore, are shaped by environmental gradients like tidal inundation and light availability, which impose stressors including oxidative and salinity stress. Tidal inundation reduces oxygen availability, impairing metabolism and water-use efficiency, while salt stress lowers soil water potential and photosynthesis. Mangrove species display diverse functional traits to navigate these stressors, influencing their distribution and resilience. Although trait variation in response to light is well-studied in terrestrial forests, studies in mangroves often lack rigor in studying multiple commonly occurring species and fail to focus on the interactions between light availability and inundation. This thesis addresses this gap by examining key functional traits—such as leaf area, nutrient content and photosynthetic capacity—of mangrove species along these gradients in Singapore's dynamic tidal environment. By linking trait variation to environmental conditions, this study aims to deepen understanding of mangrove ecology, informing restoration strategies and climate adaptation efforts in Southeast Asia's coastal zones.

NIKITA CHOUDHARY

PhD Student

Nikita Choudhary is a PhD student at the Department of Geography, where her research examines tropical mangrove species distribution in Singapore through plant functional traits. Prior to this, she was a Research Assistant for two years at the New Forests and Trees Lab in Yale-NUS College, working on ecological projects, including blue-green infrastructure development and mangrove rehabilitation. Her interdisciplinary background in environmental biology and urban science drives her passion for understanding and advancing sustainable, climate-resilient urban ecosystems that harmonise nature and cities. Nikita holds a Master's degree in Urban Science, Policy, and Planning from SUTD, and a Bachelor's degree in Environmental Studies from NUS.

CLIMATE RESILIENCE AND THE THRESHOLDS OF TREES IN SINGAPORE

Green-up, the seasonal increase in leaf greenness, is a key phenological event that influences forest productivity, carbon sequestration, and ecosystem resilience. In Singapore's tropical rainforests, the environmental triggers and climate stressors driving green-up are not yet fully characterised, presenting an opportunity to deepen our understanding of tropical forest dynamics. This study investigates which tree species exhibit green-up and examines the influence of environmental factors such as temperature, rainfall, and humidity on this response. It further explores how trees cope with thermal stress, particularly during extreme events like heatwaves and dry conditions. A combination of proximal remote sensing (e.g., phenocams) and satellite remote sensing (e.g., vegetation indices such as NDVI and EVI) is used to track green-up patterns across different species and locations. Through quantitative analysis, this research models how future climate scenarios may affect tropical forest phenology, providing insights into the resilience of Singapore's forests in the face of climate change. These findings can inform climate-adaptive forest management strategies and conservation efforts to enhance the long-term sustainability of urban greenery.

TAN LI MING

PhD Student

Tan Li Ming is a PhD student whose research focuses on climate resilience and thresholds of trees in tropical environments. Her work integrates field-based measurements, remote sensing and machine learning to better understand how trees respond to climate stressors in rapidly urbanising landscapes. She holds a Master of Science in Applied GIS from the National University of Singapore. In addition to her doctoral research, she is an Associate Scientist at the Centre for Remote Imaging, Sensing and Processing (CRISP) contributing to projects in environmental monitoring and agricultural applications of remote sensing.

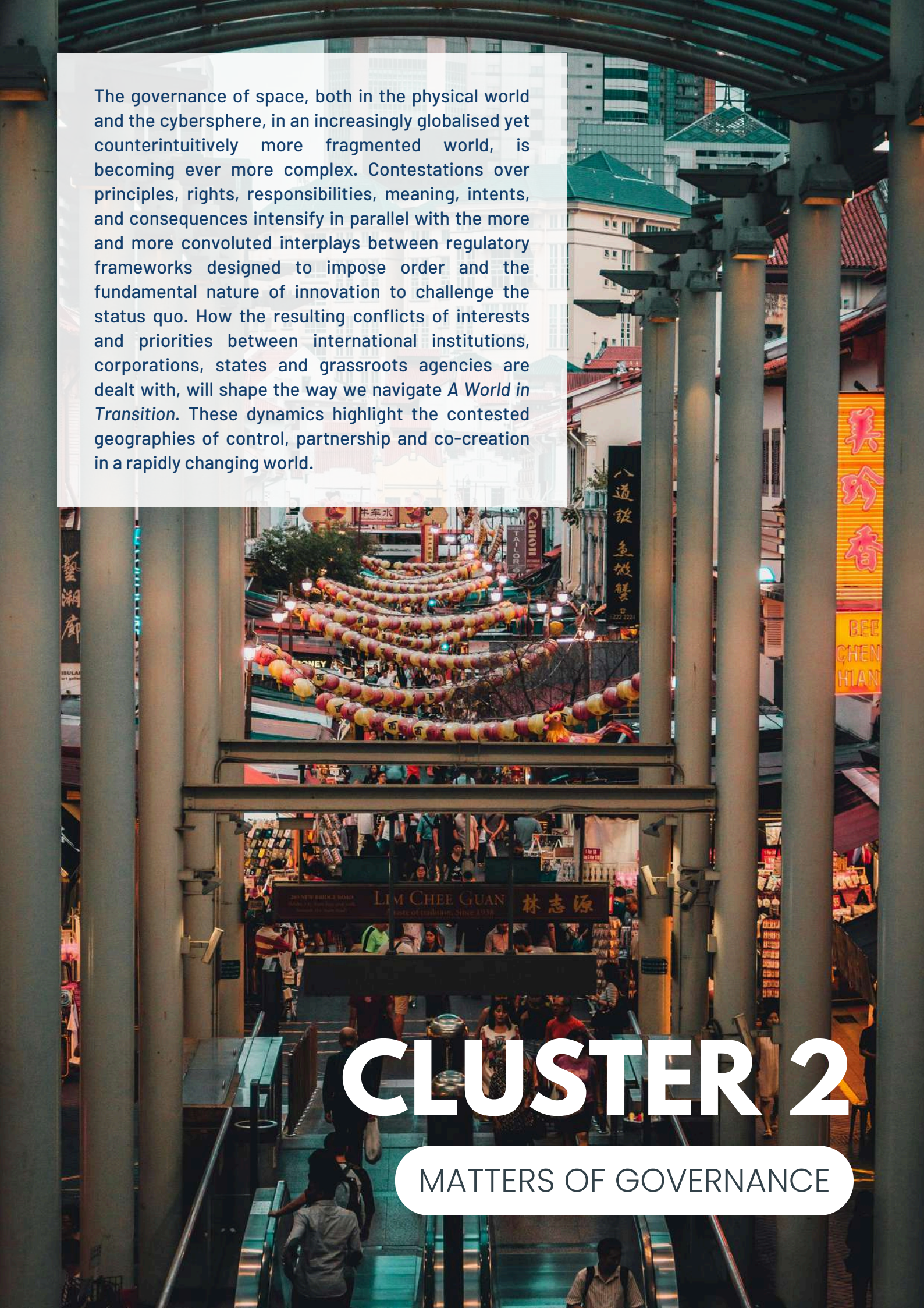
REFINING EDDY COVARIANCE PARTITIONING ALGORITHMS TO IMPROVE ECOSYSTEM CARBON ANALYSIS

The eddy covariance (EC) technique, which uses a tower equipped with a fast-response carbon dioxide (CO_2) gas analyzer, enables continuous, ecosystem-scale measurements of land–atmosphere CO_2 exchange, referred to as net ecosystem exchange (NEE). There are more than 1,400 EC sites worldwide, this network plays a crucial role in global carbon budget estimation. NEE represents the balance between carbon uptake through photosynthesis (gross primary production, GPP) and carbon release through total ecosystem respiration (Reco), expressed as NEE = Reco – GPP. Since GPP and Reco are not directly measurable, they must be estimated using partitioning algorithms that relate these fluxes to environmental and biophysical drivers. However, existing partitioning methods have known limitations in accuracy. This study aims to improve these algorithms by incorporating more precise data for key environmental variables that more accurately represent ecosystem physiological processes. These refinements are expected to improve the accuracy of Reco and GPP estimates and enable more robust assessments of ecosystem functional metrics, such as carbon use efficiency (CUE).

ZHANG (ZOE) HEHAN

PhD Student

Zhang (Zoe) Hehan is a PhD student in the Geography Department, researching carbon fluxes under the supervision of Dr. Xiangzhong (Remi) Luo. She completed her undergraduate degree in Environmental Science and her master's in Geography at the University of British Columbia, Canada. Her master's thesis, "Evaluating the Effects of Seedling Removal on Post-Fire Carbon Flux Dynamics in a Serotiny-Encroached Temperate Peatland," focused on understanding carbon flux responses to ecosystem disturbances. Her research interests include the observational study of land-atmosphere exchanges of greenhouse gases (GHGs), carbon modeling, and the impacts of ecosystem disturbances and restoration on carbon dynamics.



The governance of space, both in the physical world and the cybersphere, in an increasingly globalised yet counterintuitively more fragmented world, is becoming ever more complex. Contestations over principles, rights, responsibilities, meaning, intents, and consequences intensify in parallel with the more and more convoluted interplays between regulatory frameworks designed to impose order and the fundamental nature of innovation to challenge the status quo. How the resulting conflicts of interests and priorities between international institutions, corporations, states and grassroots agencies are dealt with, will shape the way we navigate *A World in Transition.* These dynamics highlight the contested geographies of control, partnership and co-creation in a rapidly changing world.

CLUSTER 2

MATTERS OF GOVERNANCE

THE IMPACT OF SCIENCE AND TECHNOLOGY PARK ON THE DIGITAL TRANSFORMATION OF FIRMS: A MIXED METHOD STUDY

This research explores how science and technology parks (STPs) promote firms' digital transformation, an area that remains underexplored. While STPs are designed to foster innovation, their actual impact on digital adoption remains debated, with some studies suggesting that firms within STPs do not necessarily perform better than those outside. This study examines how digital governance within STPs shapes firms' technological advancement and whether firms' absorptive capacity affects their ability to benefit from the STP environment. Using Chinese STPs as a case study, the research employs a mixed-methods approach, combining quantitative econometric analysis to measure causal impacts with qualitative interviews to understand firms' experiences. By uncovering the mechanisms through which STPs influence digital transformation, this study aims to provide practical insights for improving the governance and strategic development of STPs to better support technological innovation.

LIU HANG

PhD Student

Liu Hang is a PhD student in the Geography Department, researching the role of science and technology parks (STPs) in facilitating the digital transformation of firms under the supervision of Godfrey Yeung. He completed his BA in Economics at the University of Manchester and his MSc in Local Economic Development at the London School of Economics (LSE). His master's studies deepened his interest in economic geography, shaping his current research focus. His research interests include regional policy, regional innovation systems, global value chains (GVCs), and the role of digital technology in regional development.

URBAN INTERVENTIONS AND THE SEARCH FOR CREATIVITY IN SINGAPORE'S PUBLIC SPACES

In recent years, the Singaporean state has intensified its efforts to implement urban interventions and placemaking initiatives. Additionally, they have conducted workshops, published guidebooks, and provided grants to encourage citizens to develop their intervention projects. At first glance, Singapore's urban planning process appears to be democratised. However, I argue that many of these projects exhibit a similar, sanitised nature and scope, rarely pushing the boundaries of people's urban imagination regarding the possibilities of public spaces. Meanwhile, this occurs alongside occasional instances of urban subversion, where attempts are made—(il)legally—to "creatively" broaden the status quo of urban interventions. Thus, my research aims to engage with the "Creative City", endeavoring to critically interrogate the term "creativity" (with a small 'c'), exploring it within the context of these "creative" practices in Singapore. This is to shed light on whether there is a lack of "creativity" and, if so, why and how this may affect people's experiences and perceptions of public spaces. In doing so, my research seeks to contribute to the literature on urban governance by using the lens of creativity to examine the dominant role of the Singaporean state in influencing urban interventions, and how they may be negotiated and subverted.

SHAUN CHIONG

Master's Student

Shaun Chiong is a Master's by Research student in the Geography Department, currently working under the guidance of Professor TC Chang. He obtained his Bachelor's Degree (Hons) in Geography from the National University of Singapore. With a research interest in urban politics, Shaun is broadly interested in studying how different urban actors imagine, negotiate, and contest urban spaces. This interest has led him to conduct previous research in Singapore on the use of informal spaces for sports by South Asian migrant workers and Tactical Urbanism projects introduced by Business Improvement Districts. Additionally, he has co-developed an urban planning workshop for secondary and pre-tertiary students in collaboration with Singapore's Urban Redevelopment Authority.

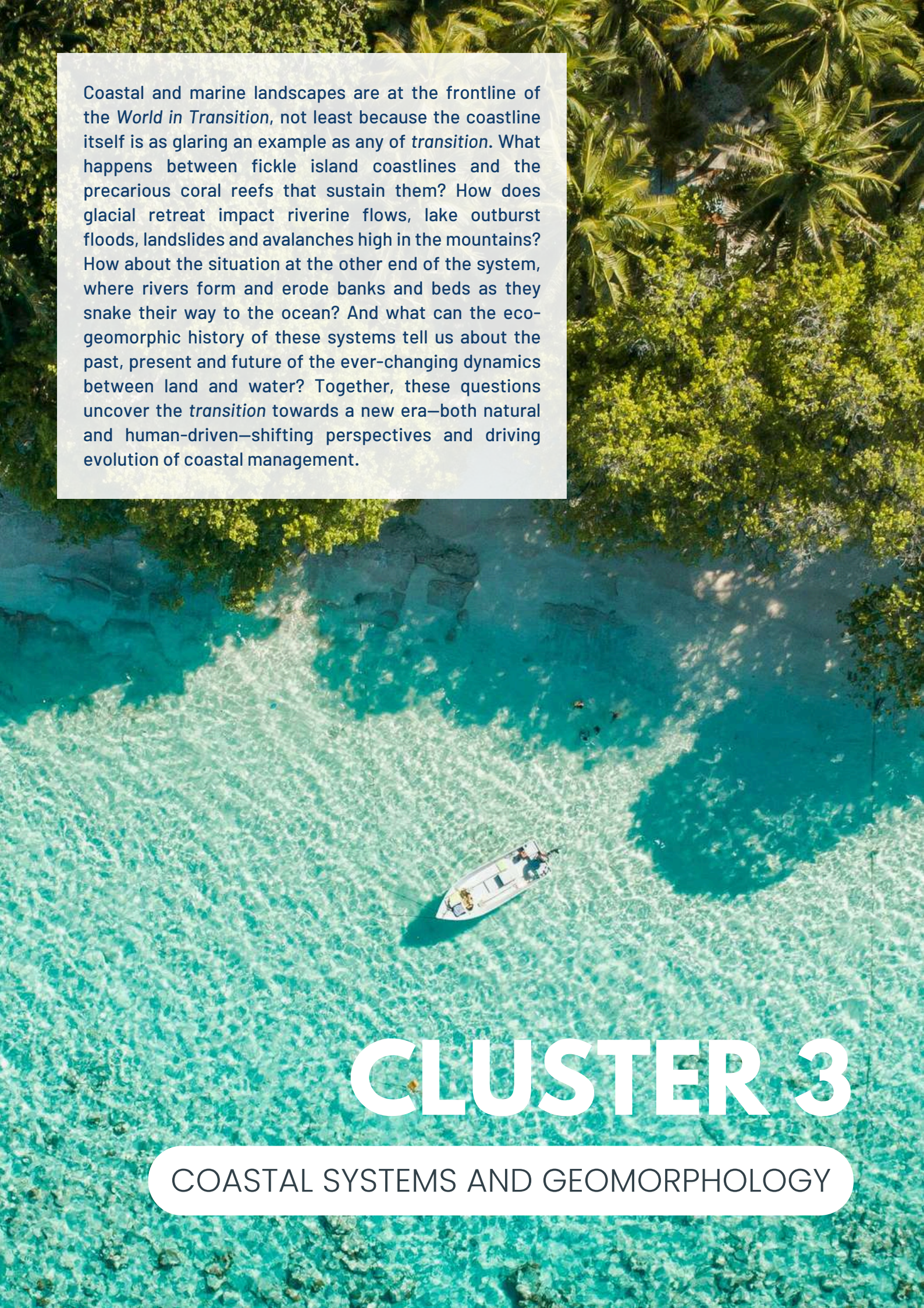
METEOROLOGY ACROSS BORDERS: TRACKING THE TRACKING OF TYPHOONS IN ASIA

Climate change is linked to increasing typhoon frequency and intensity. The consolidation of the project of a globally connected meteorology network gives the impression of a smoothly operating international information infrastructure. This belies the fact that meteorology is deeply political, grounded in the material technologies, infrastructures, and individuals operating within and shaped by national agencies and priorities. The research project explores the regional institutional networks of meteorological organizations that track typhoons in the East China Sea, and trace how planetary phenomena are inscribed in the frictions of intraregional collaboration. Initial inquiry will investigate the creation of the Asian typhoon naming system in 2000, and the decision in 1988 by the World Meteorological Organization (WMO) to have the Japan Meteorological Agency (JMA) lead typhoon tracking for those that originate from the Northwestern Pacific Ocean. These questions will be addressed through archival research of meeting minutes, annual reports, and bulletins. Further analytical avenues, which will incorporate ethnographic fieldwork at meteorological observatories and conferences, will iteratively inform the broader question of how meteorology is shaped by intraregional politics and boundaries.

YUAN HE

PhD Student

Yuan (Yvonne) He holds a BA in Economics from Columbia University. Upon graduating she worked as an analyst in a boutique investment firm specialising in energy assets based in NYC, which subsequently transitioned into a green ammonia project development company. She then obtained a Master in Urban Planning (MUP) from Harvard GSD, where she explored topics on political economy, development, and urban theory. Her master's thesis was on the state institutional dynamics of mandated wind turbine decommissioning for ecological reasons in China.



Coastal and marine landscapes are at the frontline of the *World in Transition*, not least because the coastline itself is as glaring an example as any of *transition*. What happens between fickle island coastlines and the precarious coral reefs that sustain them? How does glacial retreat impact riverine flows, lake outburst floods, landslides and avalanches high in the mountains? How about the situation at the other end of the system, where rivers form and erode banks and beds as they snake their way to the ocean? And what can the eco-geomorphic history of these systems tell us about the past, present and future of the ever-changing dynamics between land and water? Together, these questions uncover the *transition* towards a new era—both natural and human-driven—shifting perspectives and driving evolution of coastal management.

CLUSTER 3

COASTAL SYSTEMS AND GEOMORPHOLOGY

RESOLVING SEDIMENT BUDGETS AND VOLUMETRIC FLUXES IN CORAL REEF ISLANDS

Coral reef islands are highly vulnerable to climate change and sea-level rise. The complex sediment dynamics prevalent over the reef slopes, reef flats and lagoons are central to the resilience of coral reef islands, but these dynamics are still not well understood. This research aims to address the knowledge gap regarding sediment production, transport, loss, and deposition processes in island-reef systems, by conducting a high-resolution field data collection campaign using lidar or echosounding, acoustic Doppler velocimeters, sediment traps, and wave and tide loggers to quantify sediment fluxes and temporal scales of change. Process-based numerical modelling is also proposed to be carried out using the Delft3D Suite. The focus of this research is to understand sediment dynamics in coral reef islands in order to better predict how these islands will respond to environmental and anthropogenic factors. In doing so, it will enable the development of sustainable coastal management practices and adaptation strategies that could promote the co-existence of human and infrastructure development with natural resilience of coral reef island ecosystems.

ABDULLA HUSSAIN RASHEED

PhD Student

Abdulla Hussain Rasheed is a Maldivian civil and coastal engineer currently at NUS as a PhD student under the Tropical Environmental Change group of the Geography Department. He obtained a Bachelor's Degree in Civil Engineering (JNTUH, India) in 2014, following which he worked at Velana International Airport, Maldives, on the planning and implementation of airport infrastructure projects for 8 years. It was there that he gained an appreciation of coastal infrastructure and decided to specialise in coastal engineering with a Master's Degree in Water and Sustainable Development, at IHE Delft, Netherlands. His primary research interests are in coral reef island resilience and sustainable coastal infrastructure development.

GLACIER RETREAT AND SEDIMENT DYNAMICS IN HIGH MOUNTAIN ASIA: IMPLICATIONS FOR GEOHAZARDS AND FLUVIAL SYSTEMS

The High Mountain Asia (HMA), commonly referred to as the "Third Pole", is one of the most prominent areas of glacial retreat. Past and current studies indicate that the HMA has experienced a significant warming trend in recent decades. The region is also prone to natural disasters, including glacial lake outburst floods, catastrophic landslides, ice-rock avalanches, and debris flows. These events have become more frequent and severe due to environmental changes induced by climate warming. While existing studies have documented glacier retreat and the increasing occurrence of landslides in HMA, there is limited research on the long-term impacts of these surface processes on sediment dynamics and fluvial geomorphology. This study will provide new insights into the feedback mechanisms between glacier mass loss, associated hillslope processes, sediment dynamics, and fluvial geomorphology. This can be achieved by integrating remote sensing and ground-based observations with advanced machine learning and numerical modelling techniques. These findings will be crucial for enhancing hazard mitigation, support climate adaptation efforts, and strengthening early warning systems in this highly hazard-prone region.

JIYADH THANVEER

PhD Student

Jiyadh Thanveer is from India, specializing in geospatial sciences and natural hazard research. He holds a Master's in Applied Geology and a PG Diploma in Remote Sensing & GIS, which provide a strong foundation for exploring the dynamic interactions between climate change, geomorphology, and environmental hazards. Following his Master's, Jiyadh worked on a project funded by the Science and Engineering Research Board (SERB), India, during which he conducted extensive fieldwork at some of India's most significant disaster sites, including the Chamoli rock-ice avalanche and the recent Wayanad debris flow, India's largest landslide. These field experiences instilled in him a profound curiosity about the intricate feedback mechanisms between glacial retreat and sediment dynamics.

HOLOCENE DEVELOPMENT OF MARINE COASTAL ECOSYSTEMS IN WEST PAPUA, INDONESIA

Understanding the long-term development of coral and mangrove ecosystems is essential for reconstructing past coastal dynamics and their responses to environmental change. These ecosystems co-evolved throughout the Holocene, adapting to shifting conditions such as sea-level rise and sedimentation. To resolve the processes that shaped modern shorelines, this study investigates the formation, spatial distribution, and environmental drivers of coral reefs and mangroves in West Papua, Indonesia, during the last Holocene marine transgression. Using sediment and coral cores collected across a mangrove-to-coral ecological gradient, this research aims to reconstruct the history of the eco-geomorphic transitions that shaped ecosystem development in the region. Uranium-Thorium (U/Th) dating will be used to establish precise timelines of coral growth and reef accretion, while radiocarbon (^{14}C) dating of mangrove roots will serve as a proxy for mangrove establishment, sediment deposition rates, and terrestrial influence. By integrating these proxies, this study aims to advance our understanding of the ecological and geomorphic processes that shaped Holocene coastal systems and to provide new insights into their potential responses under future climate change.

MATTEO BRAVO

PhD Student

Matteo Bravo is a passionate marine biologist fascinated by coral reef conservation and restoration. His research explores how coral reefs and mangroves evolved and adapted in the past and how they may respond to future environmental changes. Beyond that, he is committed to engaging with indigenous communities, integrating traditional knowledge into conservation efforts — a journey that has taken him from his home in Italy to Colombia to Mexico to Guatemala, and now to Indonesia. He enjoys collaborating on projects that connect science, education, and policy to make marine conservation more effective and inclusive. Whether in the field or in the lab, Matteo is always looking for new ways to protect our oceans.

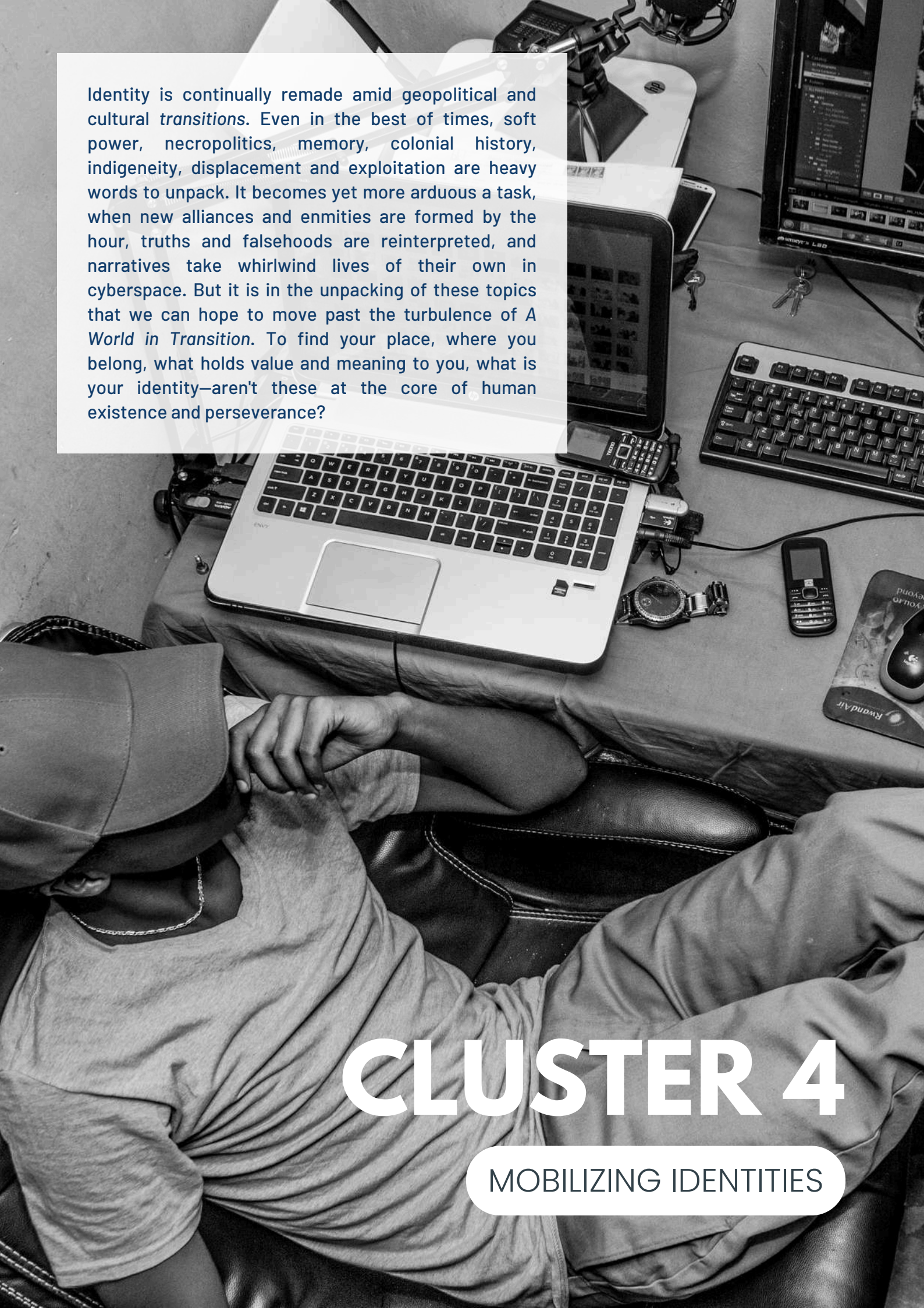
CHANNEL INCISION IN THE TONLE SAP RIVER: THE ROLE OF UPSTREAM DAMS

This study investigates the extent of riverbed incision in the Tonle Sap River, Cambodia, focusing on the influence of upstream dam construction within the Mekong River Basin. Despite extensive research on the Mekong system, specific morphological changes in the Tonle Sap River remain poorly understood, particularly regarding incision driven by sediment deficits from dams. To address this, a revised methodology integrates three data collection approaches: in-situ bathymetric surveys, secondary historical data, and remote sensing. In-situ measurements, using Acoustic Doppler Current Profiler (ADCP) or shipborne sonar depending on resources, establish a high-resolution baseline of current riverbed topography across representative reaches. Historical bathymetry, hydrology, and sediment load data from the Mekong River Commission and local universities provide a temporal perspective to track changes pre- and post-dam construction. Landsat-9 imagery, processed with neural network techniques, maps bathymetry over broader areas, calibrated by in-situ data and timed for dry-season clarity. This multifaceted approach aims to quantify incision, assess dam impacts, and inform sustainable river management, addressing a critical gap in Tonle Sap research.

ZHANG ZUMING

Master's Student

Zhang Zuming has a strong interest in understanding environmental problems from an interdisciplinary perspective, integrating fields such as geography, ecology, and economics. He completed his undergraduate studies at the National University of Singapore (NUS), majoring in Environmental Studies. Currently, he is a master's student in the Tropical Environmental Change research group, focusing on Southeast Asian fluvial geomorphology and the impacts of anthropogenic activities on river morphodynamics. With extensive fieldwork experience, he has conducted field studies in various countries, including Malaysia and Kenya. His research interests lie in combining field measurements with remote sensing techniques to analyze environmental changes effectively.



Identity is continually remade amid geopolitical and cultural *transitions*. Even in the best of times, soft power, necropolitics, memory, colonial history, indigeneity, displacement and exploitation are heavy words to unpack. It becomes yet more arduous a task, when new alliances and enmities are formed by the hour, truths and falsehoods are reinterpreted, and narratives take whirlwind lives of their own in cyberspace. But it is in the unpacking of these topics that we can hope to move past the turbulence of *A World in Transition*. To find your place, where you belong, what holds value and meaning to you, what is your identity—aren't these at the core of human existence and perseverance?

CLUSTER 4

MOBILIZING IDENTITIES

INSTRUMENTS OF RECOGNITION: TIMOR-LESTE AND THE TRANSFORMATION OF REPUTATION INTO SOFT POWER

This research seeks to address epistemological gaps in contemporary debates regarding soft power, which continues to be subject to contention and disagreement over its operationalization. It proposes the concept of reputational instrumentalization, referring to the transformation of reputational variables into strategic tools to inspire attraction from its audience. This research specifically focuses on instrumentalization through 'virtual enlargement', which encompasses strategies small states use to increase their importance to the international community. By transforming the typically limiting factor of smallness into assets of credibility and benevolence, small states may be better able to safeguard their agency relative to more well-resourced states. Timor-Leste will serve as the case study here; as a young Southeast Asian nation working towards ASEAN accession, it is undergoing a geopolitical evolution to elevate its international stature as it increases its participation in regional and global matters. By examining Timor-Leste's reputation as a time- and context-dependent assemblage constructed from variables that either cooperate with or hinder their goals of attraction, this paper identifies the instruments through which the country achieves favorable geopolitical outcomes despite limited financial and military resources. It also evaluates the effectiveness and sustainability of these instruments in the long-term.

JAMES MATTHEW KIN LAO

Master's Student

James Lao is a Singaporean Master's (Research) student who is under the Politics, Economies And Space (PEAS) research group of the NUS Department of Geography. Having completed his undergraduate years in the same department and in the University Scholars Programme, he has gained deep interests in urban and political geography which he attributes to both the professors who have guided him and to his deep love for adventure. His primary research focus is soft power, which is fascinating not just because of its interdisciplinarity and wide applicability to different kinds of contexts, but also because of its pertinence to the contemporary geopolitical paradigm. Currently, he is working with A/Prof. Woon Chih Yuan.

WHAT IT MEANS TO BE TAIWANESE: SPACES AND IDENTITIES

Since the post-martial law period of Taiwan, the Taiwanese government has selected sites, often with historical significance, to be preserved and utilised for cultural and creative purposes. These sites are clustered under the umbrella term "Creative and Cultural Parks" 《臺灣文化創意產業園區》. Blending both culture and creativity together, these sites serve not only as a remembrance and preservation of Taiwan's colonial history but also as hubs to bring current and future creative entrepreneurs together. This creates a paradox, where the representational aspects of the past and the non-representational aspects of the present intersect, creating a fertile ground to understand identity formation. The proposed research project, therefore, seeks to uncover and understand the relationship between these parks and the formation of identities amongst Taiwanese. Particularly, the study wants to determine the impact these parks have in informing and shaping identities formation amongst Taiwanese youths. Conversely, the study also hopes to examine the roles that Taiwanese youths play in changing the purpose and operation of these parks. By approaching the project through Foucauldian and feminist methodology, this research will employ non-representational theories to effectively answer the research question that is set out.

TERENCE TAN

Master's Student

Terence Tan is a Master's candidate in the Department of Geography, whose research lies predominant in social and cultural geographies. He also dabbles in legal geography and jurisprudence, given that the legal system intricately shapes spaces. He has a keen interest in examining identity politics amongst residents in both North- and South-East Asia. Previously, he was involved in three socio-cultural research projects, working with Dr Céline Coderey, Professor Chang Tou-Chuang and Professor Orlando Woods. He is currently working with Dr Dylan Brady, looking at Taiwanese youths' relationship with Taiwan's Creative and Cultural Parks, and how this relationship informs and moulds their national identity.

FROM A WAR-TORN CITY TO A MODERN METROPOLIS: URBAN DEVELOPMENT, TRANSFORMATION, AND NECROPOLITICS IN POST-GENOCIDE KIGALI, RWANDA

Kigali, the capital of Rwanda, has undergone a remarkable transformation from a city scarred by genocide to a model of urban development, often likened to Singapore. This research explores how Rwanda's national development agenda, underpinned by necropolitical narratives, reshapes the everyday lives of its residents. While the post-genocide government promotes an image of stability and progress through its Master Plan, this study critically examines the ways in which historical trauma remains embedded in governance, security, and urban planning. Focusing on the Mpazi neighborhood, the first site of a state-led urban upgrading project, this research investigates how residents navigate displacement, modernization, and state-driven narratives of urbanization. Using ethnographic methods, including participant observation and in-depth interviews, it analyzes the intersections of personal memory, political ideology, and spatial transformation. The findings highlight the tensions between Rwanda's developmental aspirations and the exclusionary consequences of rapid urbanization, revealing how political power extends into the most intimate aspects of daily life. By foregrounding the lived experiences of Kigali's residents, this study contributes to broader discussions on post-conflict reconstruction, state control, and the instrumentalization of historical trauma in nation-building processes.

XIUYI LIN

PhD Student

Xiuyi Lin (Chris) is a PhD student in the Politics, Economy, and Space (PEAS) research group within the Department of Geography at the National University of Singapore (NUS). She holds a Master's degree in Geography and a Bachelor's degree in Tourism Management and Linguistics. Prior to her doctoral studies, she participated in multiple tourism planning projects in Tibet, China, and conducted research on the impact of tourism on local communities in Dali, Yunnan, China. Currently, her research interests lie in the intersections of identity, power, and discourse. Specifically, her work examines the politics of urban reconstruction in post-genocide Rwanda and its implications for identity, everyday life, memory, and emotions.

LOCALIZING ARABICA AND MOBILIZING INDIGENEITY IN SPECIALTY COFFEE ENTREPRENEURSHIP

This research examines how ethnic minority entrepreneurs from Northern Thailand mobilize their indigenous identity and knowledge to participate in a global commodity network of specialty coffee, and how the Arabica plant is incorporated into their agroecology. A classic approach of "following the thing" has exposed the exploitative relations between producers and consumers separated by a long commodity chain. However, with the rise of specialty coffee and coffee tourism, the linear and geographically separated "chain" is increasingly replaced by multi-directional "circulations" and "translations" of people, things, and values. Bringing together the scholarship from political ecology, visceral geographies, and multispecies ethnography, I take an embodied and more-than-human approach to illuminate the agency and politics emerged from ethnic entrepreneurs' making of specialty coffee. Following the Akha coffee producers, I will conduct a multi-sited ethnography across their local landscapes, coffee networks, and digital spaces – tracing how the meanings and materialities of coffee are negotiated and contested across scales. I will supplement the ethnography with oral history and archival research to situate coffee in Akha's multi-generational livelihood change.

XIYAO FU

PhD Student

Xiyao Fu holds a master's degree in environmental anthropology from the Yale School of the Environment. Her master's thesis examines agrobiodiversity conservation, indigenous climate knowledge, and food-mediated identity in Yunnan. Prior to that, she grew up in Beijing and studied Environmental Studies at Yale-NUS College. For her PhD research, she is interested in indigenous knowledge and agency, tropical crop commodity chain, and the onto-epistemological politics of environmental change. She locates her work in the bioculturally diverse borderlands of Southwest China and Southeast Asia.

CREDITS

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