

**THE UNIVERSITY OF HONG KONG  
DEPARTMENT OF GEOGRAPHY**

Proposed Directed Project Topics (2020-2021)

No.	Supervisors	Proposed Dissertation Title	Brief Description
1.	Dr Mia M Bennett (Email: mbennett@hku.hk)	<p>(1) Nature tourism and ecotourism in the UK: Past, present, and future</p> <p>(2) TV and film tourism in the UK</p>	<p>(1) The UK has many natural amenities, from its national parks like Snowdonia in Wales to the Lake District in England and the Cairngorms in Scotland. Please research any aspect of nature tourism and ecotourism in the UK. Potential topics could include the history of walking through the British countryside (such as the famous walk from Lands End to John O’Groats), how the tourist industry and natural landscapes contribute to identity and nation-building processes in any of the UK’s four constituent countries (England, Northern Ireland, Scotland, and Wales), and the rise of movements such as “slow tourism”, “sustainable tourism”, and “ecotourism” in the UK today. Other suggestions within this theme are welcome.</p> <p>(2) Many popular television shows and movies have been filmed in the UK in recent years, including Game of Thrones (Northern Ireland), Harry Potter (London and Scotland), and Peaky Blinders (Birmingham). These cultural phenomena have induced new flows of tourists to locations that previously did not witness a significant amount of tourism, including Kings Cross Station in London, where Platform ¾ was actually permanently erected following the release of Harry Potter. In this directed project, please explore one or more locations that has been heavily impacted by TV and film tourism. Discuss the pros and cons of the emergence of a tourism industry, whether social, economic, cultural, or environmental.</p>
2.	Dr Wendy Y Chen (Email: wychen@hku.hk)	<p>(1) Societal preferences for river restoration in Hong Kong</p> <p>(2) Use pattern of urban green spaces during COVID pandemic</p>	<p>(1) Hong Kong’s rives have been significantly modified, degraded and polluted. Recently the SAR government is planning to restore these rivers so as to transform them into ecologically healthy and aesthetically beautiful blue spaces. To align social demands and preferences with restoration plan, this study will investigate public references for various river restoration attributes using a social survey.</p> <p>(2) Urban green spaces could significantly reduce visitors’ mental stress. This study aims to analyze how people use urban green spaces during the recent</p>

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			outbreak of COVID-19 pandemic, as well as driving forces and constraint factors.
3.	Dr Ben A Gerlofs (Email: bgerlofs@hku.hk)	<p>(1) Comparative Analysis of Urban Place-Making Strategies</p> <p>(2) Understanding Hong Kong's Changing Urban Fabric</p>	<p>(1) This project would source media (e.g., print, digital, photographic, video, social, etc.) for and conduct a systematic analysis of urban place-making strategies—how people and/or institutions seek to assign specific meanings and values to particular places—focusing on comparative frames. The frames in question could themselves be comparative (e.g., when residents or boosters compare one neighborhood or city to another), or the project could compare such frames from different cities or different eras using the same set of methods.</p> <p>(2) This project would use the tools of historical geography and cultural landscape analysis to examine longitudinal changes to one of Hong Kong's many neighborhoods or other sub-municipal territorial or cultural units (e.g., a longstanding market, recreational area, or traditional gathering place). Significant events or moments should guide the selection of an appropriate temporal frame for the study (e.g., official designation/recognition or other change in legal status, the establishment or prohibition of informal gatherings, or pronounced economic fluctuations). Qualitative and quantitative data could be drawn from a wide range of archival and other publicly available sources.</p>
4.	Dr Benjamin L Iaquinto (Email: iaquinto@hku.hk)	(1) Australia's climate has always fluctuated because of the El Niño–Southern Oscillation (ENSO), which leads to variations in sea surface temperature and wind. Describe ENSO and its impact on the Australian climate. What does the future hold for Australia's climate	(1) Climatic variability caused by ENSO has meant that Australia has long been a land 'of droughts and flooding rains'. However, climate change is making the Australian climate even more unpredictable. Overall, less water will be available where it is needed and the currently high levels of agricultural productivity will be threatened. This project will take a physical geography perspective to understand the impacts of climate change on Australia.

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		<p>given what is known about climate change and ENSO? What impact might this have on agricultural productivity in Australia?</p> <p>(2) Are sprawling cities more or less sustainable than compact cities? Use one or more Australian cities as case studies in your answer.</p>	<p>(2) Compact cities enable more efficient and cost-effective public transport systems while sprawling cities provide more spaces for community gardens and biodiversity. Australian cities are quite sprawling but recently many have experienced a boom in inner city apartment construction leading to more density. This project will engage with issues of urban sustainability and the ways it is shaped by the geography of cities.</p>
5.	Dr Peter K Koh (Email: peterkoh@hku.hk)	<p>(1) Fruit and Vegetable Accessibility of the Elderly Population in Hong Kong</p> <p>(2) Examining Multicultural Foodscape in Hong Kong</p>	<p>(1) Having a minimum daily consumption of 400 grams of fruit and vegetables (F&amp;V) is a key preventive health behavior. However, the elderly is often more vulnerable to inadequate F&amp;V intake due to weakened physical conditions, limited financial resources, and/or disadvantaged neighborhood food environment. The purpose of this directed project is to investigate the complexities of the F&amp;V accessibility among the elderly at a district level in Hong Kong.</p> <p>(2) Hong Kong is often called as a food paradise where one can have a wide range of international cuisines from affordable local <i>Cha Chaan Tengs</i> and <i>Dai Pai Dongs</i> to high-end <i>Michelin</i>-starred eateries. However behind the scene its foodscape is overrepresented by foreign dishes, especially western and Japanese foods. The purpose of this directed project is to examine the spatial patterns of different ethnic cuisine eateries in Hong Kong.</p>
6.	Dr Rafaele Laforteza (Email: raffa@hku.hk)	<p>(1) Drivers of change in forest landscapes: the role of society and sustainable management</p>	<p>(1) Forest landscapes reflect past and present management activities and, to some extent, the consequences of various natural and human disturbances, such as climatic change, fire suppression and intensive urbanisation. Discuss and review and discuss the main drivers of change in forest landscapes emphasising the role of society in maintaining or altering forest structures and processes through sustainable management.</p>

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		(2) How the ecosystem services concept could lead to sustainable urbanisation	(2) Ecosystems provide multiple services to society. However, understanding how ecosystem services (ESS) function in urban areas still remains a challenge for landscape planners and decision makers. Discuss and review the concept of ESS in urban areas by providing meaningful examples of ways to enhance their provision using green spaces and nature-based solutions (NBS) targeting sustainable urbanisation.
7.	Dr Nicky YF Lam (Email: <a href="mailto:yunlam@hku.hk">yunlam@hku.hk</a> )	<p>(1) Development of e-Learning and Fieldwork in Geography using the Community Weather Information Network (CoWIN)</p> <p>(2) Effect of Climate Change and Urban Heat Island on Engine Idling Policy</p>	<p>(1) The Community Weather Information Network (CoWIN) was established in 2007 for promoting weather and climate education. Under CoWIN, participating members (mainly primary and secondary schools) operate automatic weather stations (AWS) onsite to collect weather data and transmit them to a central database for assimilation and archiving. With more than 100 AWSs geographically covering every district of Hong Kong (50 stations operated for 5 years or longer), CoWIN offers a large set of weather data which are potentially useful in urban climate research. In this study, the student will explore the potential usage of this network for secondary school education. A set of educational materials (either online or offline) are expected to be developed or proposed in this directed project.</p> <p><i>For More Information:</i>  <a href="http://cowin.cse.cuhk.edu.hk/index.php">http://cowin.cse.cuhk.edu.hk/index.php</a></p> <p>(2) The Hong Kong Government has implemented a statutory ban against idling of motor vehicle engines in 2011. Various conditions, including very hot weather warning, were included in the exemption list to meet the expectation of citizen and maintain reasonable service requirements. As the local weather has gotten warmer in recent years</p>

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			<p>due to climate change and urban heat island effect, the effectiveness of this policy may become less. In this study, the student will investigate the trend of very hot weather (VHW) warning in recent year, moreover, develop a survey to understand the driver behaviours on engine idling under VHW condition, and how this may affect air pollution in Hong Kong.</p> <p><i>For More Information:</i>  <a href="https://www.epd.gov.hk/epd/english/environmentinhk/air/prob_solutions/idling_prohibition.html">https://www.epd.gov.hk/epd/english/environmentinhk/air/prob_solutions/idling_prohibition.html</a> </p>
8.	Prof PC Lai (Email: pclai@hku.hk)	<p>(1) Walkability of the HKU campus</p> <p>(2) Trend of elderly population distribution in Hong Kong, 2030-2050</p>	<p>(1) The topic involves an assessment of walkability and accessibility within the HKU campus by disabled students, such as wheelchair access. Selected locations and path quality will be measured using preset criteria. These locations and paths will be scored by their relative level of accessibility. Knowledge of survey by GIS measurement tools is needed.</p> <p>(2) With better healthcare services and longer life expectancy, the elderly population of Hong Kong expects to increase steadily in the coming 10-30 years. It is important to identify the likely living locations of the elderly in anticipation of the types of services and expected demand by the respective districts or communities. Background in economic geography and GIS operational knowledge would be of advantage.</p>
9.	Dr Yongsung Lee (Email: yongsung@hku.hk)	(1) The adoption of information and communication technologies during the COVID-19 pandemic	(1) The ongoing COVID-19 pandemic has disrupted most activities in society. Among the ways that the pandemic affects everyday life is the adoption of advanced information and communication technologies (ICT) (e.g., videoconference, e-learning, and online shopping). The pattern of such

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		(2) The changes in the spatial distribution of college-educated young adults in cities	<p>adoption appears to vary greatly by individual, neighborhood, and city, as well as across time. In this project, students will collect, review, and synthesize key findings of recent studies on the adoption of ICT solutions during the pandemic, and their implications to society with a focus on environmental sustainability and social equity. Students can choose a specific type of ICT solutions (e.g., work from home) and/or a specific country/region.</p> <p>(2) In large metropolitan areas in the United States and developed countries, the proportion of college-educated young adults in central cities has increased since the mid-1990s. After all, firms that hire college graduates are concentrated in central cities, and highly educated individuals prefer dense, mixed-use, and walkable neighborhoods (more so than preceding generations did in the past). Thus, houses in central cities have become expensive, and existing low-income households are getting priced out. In this context, what is unclear is possible changes in the preferences and choices of young adults, who may undergo life events (e.g., marriage and childrearing) and look for different neighborhood attributes (e.g., bars and night life vs. safe neighborhoods and spacious home at suburbs) as they age. In this project, student will examine any changes in the location choice of young adults, both spatially and longitudinally. This project will help us understand whether cities are responding to the unique demand of young adults, and whether/how cities support (or prevent) young adults to live (or from living) with less environmental impacts.</p>
10.	Dr JB Li (Email: jinbao@hku.hk)	(1) Yangtze river flow dynamics based on historical hydrometric records	(1) This project will employ historical hydrometric records to investigate long-term changes in seasonal and annual flow of the Yangtze River, identify major cycles and extreme events, and unravel the key climatic processes and

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		(2) Spatial-temporal changes in streamflow in Taiwan	<p>factors that underlie the Yangtze river flow dynamics.</p> <p>(2) This project aims to reveal spatial patterns and temporal changes in streamflow across Taiwan based on hydrometric records. The interested student should have taken GIS courses and be familiar with ArcGIS or other similar GIS software.</p>
11.	Prof George CS Lin (Email: gcsline@hku.hk)	<p>(1) A study of the redevelopment of “villages-in-the city” in Guangzhou, 2010-2020</p> <p>(2) A study of the redevelopment of “villages-in-the city” in Shenzhen, 2010-2020</p>	<p>(1) This proposed directed project intends to identify the pattern and processes of the redevelopment of “villages-in-the city” (城中村) in Guangzhou, focusing on two cases, namely Liede (猎德) and Yangji (杨箕) during the time period of 2010-2020. The objectives are to compare and contrast their experiences of redevelopment, investigate their cultural and political underpinnings, and critically evaluate their economic, geographical and social consequences.</p> <p>(2) This proposed directed project intends to identify the pattern and processes of the redevelopment of “villages-in-the city” (城中村) in Shenzhen during the time period of 2010-2020. The objectives are to compare and contrast its experiences of urban redevelopment, investigate cultural and political underpinnings, and critically evaluate economic, geographical and social consequences.</p>
12.	Prof Becky PY Loo (Head) (Email: bpyloo@hku.hk)	<p>(1) The Victoria Harbour in Hong Kong: Initiatives to Bring People Closer to the Waterfront</p> <p>(2) Changing landscapes of outlying islands in Hong Kong</p>	<p>(1) The student attempting this Directed Project may combine it with the Map Library internship through research on maps about the Victoria Harbour over time. The research part will focus on changes in walkability along the Harbourfront and in connectivity of the Harbourfront with its immediate hinterland. The student is expected to have background in GIS.</p> <p>(2) The student attempting this Directed Project may combine it with the Map Library internship through research on maps about outlying islands in Hong Kong over time. The research part will focus on changes in demographics,</p>

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			activities, and patterns of ferry patronage. The student is expected to have background in GIS and interest in transportation.
13.	Dr JX Qian (Email: jxqian@hku.hk)	<p>(1) Geographies of religion in a modernizing and urbanizing world</p> <p>(2) Cultural issues in urban and regional development</p>	<p>(1) This topic examines social and spatial practices of religions and religious organizations that have been constituted by the overarching forces of modernization and urbanization, and are thoroughly enmeshed in processes of urban and regional development, economic restructuring, land valorization and development, etc.</p> <p>(2) This topic investigates the intersection of culture and urban/regional development, namely how culture is redefined as an economic asset that can create economic value, expressed in neologisms such as culture-led urban development/regeneration, cultural industry and creative industry. It not only unpacks the “economization” of culture and its economic utility, but also the social and cultural consequences of such development approaches.</p>
14.	Dr LS Ran (Email: lsran@hku.hk)	<p>(1) Sustainability of water resources in Hong Kong</p> <p>(2) Assessing typhoon hazards and risk management in the Pearl River</p>	<p>(1) Hong Kong has been suffering from water shortages for a long period and it is widely assumed that such shortages will exist in the coming decades. Currently, more than 70% of the freshwater consumption in Hong Kong is diverted from the Mainland China via the Dongjiang-Shenzhen Water Supply System with the remaining largely from local catchments. This project aims to critically examine the sustainability of water supply in Hong Kong under the context of global climate change</p> <p>(2) The Pearl River Delta (PRD), including Guangdong (Guangzhou), Hong Kong and Macau, is extremely vulnerable to typhoon hazards. The project</p>



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		Delta	aims to investigate and analyze spatial and temporal changes of typhoon hazards in the PRD and investigate the differences in terms of disaster management between the three cities. Implications for future risk management will also be made.
15.	Dr Calvin P Tribby (Email: ctribby@hku.hk)	<p>(1) The context of increasing skin cancer incidence in Hong Kong: UV Index perceptions and behaviors</p> <p>(2) Bus, tram, or MTR: exploration of public transport mode choice on Hong Kong island</p>	<p>(1) The UV Index provides information on the intensity of solar radiation and associated sun protection measures for a day. This project will examine general awareness and knowledge of the UV Index in Hong Kong. Specifically this study will investigate whether the awareness and knowledge of the UV Index is associated with sun protection perceptions and behaviors.</p> <p>(2) This project will examine overlapping public transport modes in central Hong Kong Island. Understanding why some passengers choose certain modes, in addition to speed or price of trip, may give insight to public transport operators to better meet their riders' needs or attract new riders.</p>
16.	Dr Frank Van Der Wouden (Email: fvdw@hku.hk)	<p>(1) Within and between city social networks in Hong Kong and the Greater Bay Region</p> <p>(2) Visualizing and mapping data in</p>	<p>(1) Social networks represent social structures between sets of actors. These could be individuals, companies, regions or nations. The relationships and interactions between these agents give structure to networks that can be described and analyzed and provide interesting insights in economic and social behavior. Moreover, these social structures tend to have very specific and interesting geographical patterns that can help explain spatial phenomena like urban segregation, patterns of collaboration or regional inequality. Little is known on these networks within Hong Kong or how agents in Hong Kong interact with the Greater Bay Region. Students are encouraged and invited to conceptualize and study a spatial phenomenon of their own interest from a network perspective.</p>

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		Hong Kong	<p>(2) In recent years a number of large-scale datasets have become available that describe the knowledge and technology production in cities around the world. In this hands-on project students explore these data for Hong Kong and work towards producing high-end visualizations (i.e. graphs, charts and new innovative tools) and geographical maps to represent the data in an intuitive way such that the insights will help policymakers and corporate executives make decisions.</p> <p>Students are expected to have an interest in big-data analytics and have the ability to work in R or willing to learn.</p>

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Proposed Directed Project Topics (2020-2021)

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17.	Dr Steven HS Zhang (Email: zhanghs@hku.hk)	<p>(1) Impacts of urbanization on mangrove forests</p> <p>(2) Mangroves monitoring using remote sensing technologies</p>	<p>(1) Mangroves are a group of trees and shrubs that grow in the coastal intertidal zone. Mangrove ecosystem is one of the most productive ecosystems. Mangrove forests stabilize the coastline from damaging storms and floods. They maintain water quality and provide resources for humans. However, there has been an alarming decline in mangrove forests worldwide since the 1980s. Urbanization is found to be a major factor behind mangrove loss mainly due to the conversion of mangrove forests to urban construction. This topic aims to explore the impacts of urbanization on mangrove forests in Hong Kong in the past decades. Several research questions will be addressed in this study: 1) How much mangroves were affected by urbanization? 2) How does urban development affect the mangrove ecosystem? 3) Are the protected areas and conservation policies effective in protecting mangroves?</p> <p>(2) Mangrove is one of the most productive ecosystems in tropical and subtropical areas, playing an important role in carbon sequestration, coastal line protection, biodiversity conservation, etc. Due to human activities and climate changes, such as urbanization and sea level rise, approximate 35% of mangroves have been lost. Besides, the periodic tidal inundation challenges us to access mangroves for conservation. Remote sensing provides an effective tool to monitor mangroves at a broad scale in a contactless way, but not limited to multispectral, hyperspectral sensors, radar, and LiDAR mounted on satellite, aerial crafts, and unmanned aerial vehicles (UAVs). Using remote sensing, we can timely obtain the global mangrove distribution. The high resolution images including multispectral imagery with a submeter resolution and hyperspectral imagery with hundreds of bands make species discrimination possible, even individual plant detection. Radar can provide full-time and full-weather monitoring for mangrove, while LiDAR can provide accurate vertical information. With the development of remote sensing and the usage of various sensors or terminals, such as mobile phone and internet of things (IoT), big data of remote sensing are available. Furthermore, the machine learning and deep learning promote the applications of remote sensing big data in mangrove monitoring for better conservation.</p>

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Proposed Directed Project Topics (2020-2021)

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18.	Dr Hugo WL Mak (Email: hwlmak@hku.hk)	<p>(1) Connection between Urban Planning, Thermal Comfort and Air Quality</p> <p>(2) Insights from COVID-19 and learning from responses and policies of cities</p>	<p>(1) In this project, we will first study different physical forms of urban cities, in terms of urban morphology, building typology and configuration, as well as the changing land use pattern taking place in modern cities in recent decades. Then, we will identify the factors that influence urban thermal comfort, and explain how thermal comfort could be affected by different urban geometric configurations. Finally, we will combine these information with regional urban meteorological quantities and investigate their impacts on environmental air quality and climate conditions. The settings of different districts in Hong Kong will be explored throughout the project.</p> <p>(2) This project aims to connect the outspread of COVID-19 with several quantities that measure the quality of life, including health, wealth, recovery rate within individual country, as well as resilience and development of different societies. We will also focus on some spatial and demographic issues, for example: (1) whether different countries have similar age distributions of infected cases; (2) how responses and policies of individual cities affect the rate of outspread of COVID-19; and (3) whether national power and technology level of the country play important roles in reducing certain related health risks?</p>

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Proposed Directed Project Topics (2020-2021)

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19.	Dr YJ Li (Email: yjli2510@hku.hk)	<p>(1) Public perception and site selection of electric vehicle (EV) chargers in Shenzhen</p> <p>(2) Who are prosumers in Hong Kong's clean energy transition?</p>	<p>(1) Shenzhen is developing all scales and types of EV charging facilities to accommodate its ever-expanding EV fleet. Yet little is known about the role of public perception in locating these facilities in the city. This project aims to</p> <ol style="list-style-type: none"> <li>Identify the main categories of EV charging facilities;</li> <li>Investigate how the sites for these facilities are decide;</li> <li>Interrogate the public perception of EV chargers;</li> <li>Explore the relationship between public perception and the characteristics of EV charging facilities (e.g. scale, location, pricing, etc.).</li> </ol> <p>(2) With the rapid development and declining costs of small-scale energy generation technologies, individuals can play both as energy producers and consumers, or 'prosumer,' in the energy system. This change is expected not only to promote the development of renewable energies (RE) but also ensure an inclusive and just clean energy transition. In Hong Kong, the Government has earmarked \$2 billion to implement various RE projects at premises such as government buildings, venues and community facilities. The Government has also implemented facilitation measures including suitably relaxing the installation restrictions on the rooftops of New Territories Exempted Houses (commonly known as village houses), and launching Solar Harvest to install solar PV panels for eligible social organizations and actors.</p> <p>This project intends to investigate the participants in these rooftop solar PV projects. Questions to be answered include who are they? What are their social and economic characteristics? What drives their decisions? How do they benefit from the projects? On-site surveys and government documents inventories will be conducted for this project.</p>

31 August 2020