Strategic Topics Grant 2026/27
Research Domain and Three Key Subject Areas

Background

Care for the elderly is the first significant element mentioned in Hong Kong under the policy vision to build a caring and inclusive society. The Chief Executive in his 2024 Policy Address indicated that the Government attached great importance to caring for the elderly in need and has been constantly strengthening elderly services. There are also community discussions on the development of the silver economy to enhance their quality of life and generate business opportunities.

2. Indeed, the demography of Hong Kong is undergoing significant change. With improved health care and the lower fertility rate, the elderly population in Hong Kong is growing rapidly. The proportion of elderly has increased from 20.3% (or 1.50 million) in 2021 to 22.8% (or 1.72 million) in 2024. While the Hong Kong resident population is projected to generally maintain an upward trend, reaching 8.19 million by mid-2046, the proportion of elderly persons aged 65 and over is projected to increase to 36.0% by 2046. An ageing society would require multi-pronged solutions, such as application of technology (e.g. gerontechnology), holistic community planning and care services, comprehensive manpower planning, etc., to cope with the issues arising. These include the impact of elderly care on the healthcare system and the decreasing workforce, etc. The ageing population will also bring opportunities, for example, the rise of the silver economy.

Research Domain: Demographic Change – Ageing Society

3. Drawing reference from the Government's policy vision and the 2024 Policy Address, this research domain is considered an important challenge for Hong Kong. The domain covers a wide range of research issues from diverse disciplines, including for example mobility of elderly, revitalisation of elderly labour, and the silver economy. Research could be informed by fields such as humanities, healthcare, Chinese medicine, technological adaptation, social sciences, and advanced material development, as well as supporting initiatives linked to Greater Bay Area (GBA) development, etc. Useful and impactful research under both STEM and non-STEM disciplines may be carried out to contribute in technological, economic and social aspects. While not all the research outcomes could be readily commercialised or would have high social impact, the project teams should be encouraged to explore how their work

could facilitate downstream research with wider positive societal impacts and high relevance to the community in the short to medium term.

Key Subject Areas

4.   The research should focus on three key subject areas, (i) health and longevity in a caring community; (ii) smart technology and an ageing population; and (iii) silver society, economy and finance. In respect of health and longevity in a caring community, it is noted that the elderly are more prone to certain health problems than other age groups. Learning more about such problems and their causes can help the community and their carers to guard against them or detect them early. Pioneering therapeutics and drug / biologics research work or development of other interventions would help bring benefits to the growing silver population of Hong Kong. As regards research on use of smart technology and the silver economy in relation to the ageing population, such research endeavours should be able to leverage Hong Kong's strengths as an international financial and fund-raising centre, as well as our thriving innovation and technology (I&T) ecosystem.

Key Area 1 : Health and Longevity in a Caring Community

5.   Supported research in this key area may focus on improving the quality of life for the elderly including health in respect of education, prevention as well as treatment of illnesses more prevalent amongst the elderly. These illnesses could be physical, mental or psychological. The research output may cover preventive care, as well as medicine discovery and enhancement. On building a caring community, the research may cover promotion of physical activity, social interactions, and mental well-being, which help foster social inclusion, reducing isolation and loneliness and lead to better mental health outcomes and a stronger sense of community. Research in this key area may also cover adoption of advanced technology such as AI-enabled quick / novel diagnosis tools, gene engineering, gerontology, as well as telemedicine and remote diagnosis, prediction and prevention of elderly-prone diseases / health problems by using big data, adoption of 3D printing, etc. The use of evidence-based complementary and alternative medicine, Chinese medicine and acupuncture may also be studied. Collaborations with external stakeholders, especially those in the GBA, are encouraged.

6.   Examples of elderly-related research in this area include –

(a)   discovery and development of therapeutic approaches / new medicines / medical devices and procedures, including Chinese medicine and acupuncture: for hypertension, heart disease,

diabetes, arthritis, chronic kidney disease, Alzheimer's diseases and dementia, and depression. Use of big data and 3D printing is also encouraged.

(b) <u>elderly empowerment</u>: rehabilitation; palliative care; treatment in overcoming physical inactivity, oral health concerns, and behavioural health issues.

(c) <u>digital health for the elderly</u>: e.g. use of telehealth, smart technologies, and wearable devices, etc. to eliminate older patients' barriers to treatment and attainment of better health. Tools enabling data exchange and storage, data capture, sharing across the health ecosystem are also covered.

(d) <u>improving prediction for elderly-prone medical conditions</u>: including discovery of therapeutic targets or predictive biomarkers, bioinformatics, use of big data for model development for further use in surveillance etc., and identification of modifiable risk factors for elderly-prone diseases / issues.

(e) <u>promoting healthy living and well-being amongst the elderly</u>: healthy lifestyles, elderly communities, community belonging, mental / psychological health, happy ageing, nutritional studies, development of policy options, evidence-based complementary medicine and therapies, and advancing connectedness etc.

Key Area 2 : Smart Technology and an Ageing Population

7.　　　　Proposed research covers the development, promotion and adoption of technology to improve the quality of life of the elderly population in terms of life satisfaction, social support and networks as well as subjective well-being. Technology adoption among the elderly will improve their social connectivity, inter-personal interaction and self-sufficiency. Such advanced technology may include use of big data and AI, smart robotics, virtual reality (VR) and online platforms.

8.　　　　Examples of elderly-related research in the smart technology area include –

(a) <u>smart homes:</u> intelligent solutions supporting older people with reduced mobility or limited memory, e.g. remotely controlling appliances, automated reminders and devices, safety, risk prevention, and responses to emergencies. New solutions to enable

an age-friendly environment, more communication extension and service extension are included.

(b) <u>advanced elderly facilitating devices and aid appliances:</u> including supportive or elderly-friendly technology for mobility, vision, communication, self-learning, as well as work and leisure. Research in advancing robotic exoskeletons and mobility aids is included.

(c) <u>big data</u>: scoping studies, modelling and analyses to support decision-making in elderly-related portfolios such as social security, health management; big data analytics for improving practices and promoting behavioural change; as well as data mining in uncovering patterns that might function as precursors for age-related issues / challenges.

(d) <u>AI and machine learning</u>: AI-powered systems and robotics for elderly care and real time data analysis, development of relevant AI algorithms, assistive robots / robotic systems, personalised virtual companionship, etc.

Key Area 3 : Silver Society, Economy and Finance

9.　　　　Studies in this area will focus on the various aspects of the substantial market potential of the silver economy caused by the continuous rise of Hong Kong's ageing population. More products and services can be developed to meet the needs of the elderly and enhance their quality of life, as well as generating business opportunities. Elderly people's continued engagement in their communities involves many factors, including their economic circumstances as well as social opportunities facilitated by a range of interventions and agencies. In addition to incentivization of "silver consumption", such research may also cover how to safeguard the rights and interests of elderly consumers and promoting their financial well-being. Other economic aspects may include development of "silver productivity".

10.　　　　Examples of elderly-related research in this area include –

(a) <u>silver consumption and industry</u> – products and services or applications that mainly target the elderly market, or to help address issues and challenges prevalent amongst elderly, or promote their social inclusion. Research on safeguarding their consumer rights and interests such as quality assurance and certification are included.

(b) <u>silver finance</u> – financial instruments for retirement, silver financial and security arrangements, wealth creation and management (with attention to fund performance and fees), elderly poverty alleviation, innovation in financial policies and products for retirement planning and protection, as well as financial sustainability related to longevity.

(c) <u>silver productivity</u> – systems and technologies to enable the elderly to continue to act as valuable members of the workforce. Research work pertaining to retraining and re-employment of retirees as well as for facilitating and promoting elderly to continue their contributions to the community are included.

(d) <u>Macro / Micro economic modelling</u>.

(e) <u>silver social engagement</u> – services and opportunities to enable the elderly to remain active members of their communities and contributors to social cohesion and prosperity.