

INDEPENDENT ACADEMIC UNITS

Institute of Collaborative Innovation**INTRODUCTION**

Innovation has been constantly a sought-after goal of the University of Macau. Building on its education and research strengths, UM has established an academic unit, the Institute of Collaborative Innovation (ICI). Through cooperation in interdisciplinary research leading to consensus and wisdom, ICI plays a key role in advancing scientific discovery, training personnel, and developing economy, among other endeavours.

Drawing on the strength of nearly 600 affiliated faculty members of UM and working across a wide range of disciplines, the newly established academic unit will devise innovation-driven core development strategies, actively foster research cooperation and seek innovative ways for research and development in science and technology in order to effectively address urgent social problems, face opportunities and challenges, making contributions to Macao.

Mission

The Institute of Collaborative Innovation aims to create a fertile education and research environment for developing innovative technologies and serving society. To comply with the Macao SAR's Five-year Development Plan (2016-2020), ICI is committed to enhancing interdisciplinary research in the higher education institutions in Macao, the Mainland and overseas, cultivating innovative talents, and facilitating industry-university-research collaborations in order to bring about economic and social benefits.

CENTRE FOR INNOVATION**Mission**

The vision of the Centre, in line with the visions and missions of UM, is to provide assistance to staff and students in transforming their innovative ideas into reality. The Centre will provide a supportive platform for innovation and entrepreneurship so that members of UM can, with the support of the Centre, establish their businesses and collaborate with the local communities and government in order to bring progress and development to UM and the Macao society, which in turn will enable Macao to become an innovative society. It is the mission of the Centre to foster an innovative and progressive environment for research, promoting industrial development as well as forming novel personnel training mechanism. In addition, the Centre will be utilised to facilitate the transfer and commercialisation of UM's technological achievements, allowing UM to make greater contributions to knowledge creation and technological innovations.

CENTRE FOR DATA SCIENCE

Data can be collected from various sources, while the amount of available data from various industries is beyond what can be imagined ten years ago. There has been a significant increase in the scale and complexity of available and analysable data, and this concerns every aspect of society – e.g., healthcare, businesses, public security, scientific discovery and public policies – and leads to unprecedented demands for relevant personnel around the world, such as data engineers, data scientists, statisticians, and data analysts who are able to translate data into evidence-based solutions.

Data can assist in our discovery of regularities and our development of innovative solutions. However, our capacity in extracting value from the existing data is limited by the lack of expertise

and technology. Data processing requires specialised skills and tools, and inevitably leads to thorny issues such as privacy, security and ethics. Data science is an emerging and increasingly important discipline.

Mission

Centre for Data Science (CDS) is committed to training a new generation of data scientists, conducting various interdisciplinary research on data, promoting in-depth exploration of knowledge and establishing predicative mechanisms and models to guide the applications of data science in all levels of human life, with the aim of enhancing the development of new technology industries and contributing to the society. CDS will play a key role in conducting interdisciplinary research and promoting scientific and technological progress. It will actively explore innovative ways for cooperation and develop new technologies for data collection and analysis in order to provide solutions to the pressing problems in the related areas of the society

CENTRE FOR DESIGN

Design is a popular field nowadays because it is inextricably linked to almost every aspect of our daily life. Outstanding design is crucial to the success of many industries, ranging from computer engineering, technological development, spatial arrangement, business administration, educational model, publication, communication to tourism. This is of particular importance in the era of globalization and within a competitive international market. Furthermore, the creative minds and solutions are cultivated through the trainings offered in art and design, and therefore artistic design play an important role in the advancement of a society. With a wide range of academic disciplines and innovative science research centres in University of Macau, it provides promising conditions for the development of an interdisciplinary research centre and the cultivation of a new generation of design talents. Furthermore, as a public comprehensive university in Macao that emphasizes both teaching and research, enhancing students' literacy in arts and humanities is an integral part of our mission. In addition, art and design is significant to the development of cultural and creative industry, which has been considered as a key to realize an economic diversification in Macao. This approach also effectively follows the vision of the "Guangdong-Hong Kong-Macao Greater Bay Area" and "One-Belt-One-Road" concept and policy by the Central Government.

Mission

Centre for Design aims at establishing a platform for high-quality international exchange and collaborations. Through interdisciplinary research and cultivating art and design talents, it endeavors to promote innovations in the field of artistic design in Macao. While technologies and design are inseparably associated, it is our hope that the synthesis of new technologies, new media, and new design could be utilized to diversify Macao's economy, enhancing the development of the cultural and creative industry, and to ensure a sustainable competitive advantage for Macao towards a world-class tourism and leisure center.