

科學研究 SCIENTIFIC RESEARCH

Sustainable Mobility in the Era of Smart Cities: Exploiting Sun Powered Electricity

智慧城市中可持續的移動能量：太陽能電力的發展

Transportation is based on fossil products and produces enormous amounts of CO₂, PM_{2.5} and other pollutants. We live with this necessary hazard to keep the world as we know today running. The sector is being transformed by the advent of electric vehicles that have zero-emission.

運輸是基於化石產品才能運作的，而過程中會產生大量的CO₂、PM_{2.5}和其他污染物。生活在這種危險的威脅中，是為了讓我們能夠維持世界運轉。交通行業正在因電動汽車的出現而轉變。

Governments are finally taking action with China leading the pack globally. In China, new taxi vehicles must be electric. The government strongly encourages private citizen to purchase and operate only electric cars through strong incentives such as special plates and extended access to roads and highways.

政府們終於採取行動，中國在國際上領先。在中國，新的出租車必須是電動汽車。政府通過強有力的激勵措施（例如：特殊牌照和優先通行權）來鼓勵私人購買和運營電動汽車。

Batteries are the single technology limiting today's extensive adoption of electric vehicles. Current technology has not yet reached the safety and single-trip duration needed for extensive commercial and private deployments. Battery recycling is still in development and requires substantial amounts of time.

電池是限制目前電動汽車大力發展的單一技術瓶頸。目前技術尚未達到足夠安全耐用私人用途和商業用途的標準。主要問題是電池的充電支撐仍然不足，並且耗時。

China's Solar Emilia 4 is a 4-wheeled, solar-powered, autonomous, (hybrid-cool) battery Emilia 4 battery features an advanced BMS developed in collaboration with the Polytechnic Institute of University of Bologna designed to be able to support predictive analysis for safety, battery duration and management.

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Emilia 4 won the 2016 American Solar Challenge and completed 2000 miles across the United States and the world. It was the first solar car to win the race and claim a victory that is a 4-year process.

Emilia 4 was selected by the Italy Trade Agency and the University of Bologna to participate in the 1st China International Import Fair in Shanghai, China. With the collaboration of the University of Bologna and the Polytechnic Institute of University of Bologna designed to be able to support predictive analysis for safety, battery duration and management.

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人工智能

推出“中葡新聞學習網”手機應用程式

學院於2020年12月推出“中葡新聞學習網”手機應用程式，包括Android及iOS平台兩個版本，以《澳門日報》為新聞來源為用戶提供中葡雙語動態平行新聞，向葡語國家傳遞中國和澳門資訊，也向澳門、內地及其他國家葡語學習者，以及葡語系國家中文學習者提供學習資源和資訊，設有新聞檢索功能，支持對“粵港澳大灣區”、“一帶一路”等熱門話題進行標籤式檢索。該程式依託中葡雙語平行語料庫及世界領先的神經網絡機器翻譯技術，結合學院在中葡語言和翻譯教學等領域的經驗，實現科研成果的轉化應用。

研神經網絡分類系統 提升人工智能精準度

機器翻譯暨人工智能應用技術教育部工程研究中心的研究團隊探究串聯式神經網絡的結構及其對影像特徵的提取方法，開發以多個分類器接入神經網絡，以提取影像在各神經網絡層中的形態及特徵，並把分類器的結果通過研發出的標準化算法組合後，為最終預測作精確識別。此技術可有效應用於日常生活中識別及分類影像物件，並能顯著提升準確性和穩定性。該科研成果已於國際著名人工智能期刊*Neural Computing and Applications*中發表，相關研究獲澳門科學技術發展基金資助。

Artificial Intelligence

MPI Launches the “Chinese-Portuguese News Learning App”

MPI launched the “Chinese-Portuguese News Learning App” in December 2020, including different versions for Android and iOS platforms. The news source from the *Macao Daily News* will provide users with parallel news in both Chinese and Portuguese languages, deliver news and information of Mainland China and Macao to Portuguese-speaking countries, and at the same time provide learning resources and information for Portuguese language learners in Macao, Mainland China and other countries, as well as for Chinese language learners in Portuguese speaking countries. The App has a news retrieval function which supports tag-based retrieval of popular topics about the “Guangdong-Hong Kong-Macao Greater Bay Area” and the “Belt and Road”. The App relies on the Chinese-Portuguese bilingual parallel corpus and the world’s leading neural network machine translation technology, combined with the experience of the institute in the fields of Chinese-Portuguese language and translation teaching, thus realising the transformation and application of scientific research results.

MPI Develops a Concatenate-designed Neural Network System to Enhance the Classification Accuracy of AI

A research team from the Engineering Research Centre of Applied Technology on Machine Translation and Artificial Intelligence, Ministry of Education, investigated the concatenate-designed neural network model and its method of feature extraction from images, designed classifiers to collect features produced between network sets, and obtained results from the classifiers through the proposed normalisation method for better classification. The technology can be effectively applied to the tasks of recognition and classification and has significantly improved the accuracy and stability of the application, and an article has been published in the internationally renowned artificial intelligence journal *Neural Computing and Applications*. The research work was funded by the Science and Technology Development Fund, Macao.

車聯網網絡保安研究 提升智慧駕駛出行安全

應用科學高等學校研究團隊的車聯網網路安全研究項目成果，刊登於數學領域排名前7%的國際知名SCIE學術期刊《數學》上，研究題目為“以區塊鏈治理提升車聯網的網絡安全”，通過區塊鏈治理博弈系統模型（BGG）計算車聯網網絡免受攻擊的最佳策略，以提升聯網車輛的安全性，有助構建高度安全的車聯網。增強型區塊鏈的車聯網（EBIoV）是一種先進的安全物聯網網絡架構，屬非中央化網絡設計，以保護聯網車輛免受網絡攻擊，研究成果同時收錄於SCIE和Scopus資料庫。

加強產學研成果轉化及推廣應用

學院研發的“中葡葡中公文輔助翻譯系統”是一套基於業界領先的神經網路機器翻譯基礎的中葡公文輔助翻譯系統，旨在輔助翻譯員進行中文/葡文公文翻譯工作，提升翻譯準確度和行政效率。該系統準確度達世界領先水平，至今已廣泛應用於眾多政府部門及機構，持續加強科研成果轉化及推廣應用。另外，學院發揮機器翻譯和語音識別領域的優勢，完成有關語音識別技術的交接，實現同傳系統（LanguageBox 2.0）的本地化工作，研究建立語音採集系統和前端手機應用程式，以及語音語料管理系統等。

MPI Leads Research in Vehicular Network Security and Safe Intelligent Driving

A research team from the School of Applied Sciences achieved outstanding research results in the Internet of Vehicles (IoV) field on connected vehicle security. The achievement was published in the SCIE-indexed journal *Mathematics*, which is considered to be in the top 7% in the field of mathematics, and the title of the publication was “Enhanced IoV Security Network by Using Blockchain Governance Game”. The team proposed a design on Enhanced Blockchain IoV (EBIoV) by securing the vehicular network through the use of Blockchain Governance Game (BGG). Through blockchain technology, the BGG is a distributive stochastic model on preventing a network malfunction by attackers. At the same time, the paper was also recognised and collected in the SCIE and Scopus databases.

MPI Strengthens the Transformation, Promotion and Application of Industry-University-Research Achievements

The “Chinese-Portuguese/Portuguese-Chinese Official Document Translation System”, researched and developed by MPI, is a Chinese-Portuguese/Portuguese-Chinese official document auxiliary translation system based on the industry-leading neural network-based machine translation. It is intended to assist translators in the translation of Chinese/Portuguese official documents, and improve translation accuracy and administrative efficiency. The accuracy of the system has reached the world-leading level, and so far it has been widely used by many government agencies and organisations. The transformation, promotion and application of scientific research results have been continuously strengthened. Additionally, by leveraging its advantages in the fields of machine translation and voice recognition, MPI has completed the handover of relevant voice recognition technologies, realised the localisation of the simultaneous interpretation system (LanguageBox 2.0), and researched the establishment of a voice collection system and front-end mobile phone application, as well as a voice corpus management system.

中葡平台

出版首部中國葡語教學藍皮書

為促進澳門、粵港澳大灣區及中國內地葡語教學共同發展，同時為“一帶一路”建設提供更堅實的中葡雙語人才支撐，學院推出首部《中國高等院校葡萄牙語教學發展報告藍皮書（1960-2020）》，旨在對中國高校葡語教學的歷史、現狀、未來，以及澳門地區在其間做出的貢獻加以全面梳理和總結。作為首部中國葡語教學藍皮書，該書的出版對於進一步推動澳門地區及全國高等院校之葡語教學的發展意義非凡，亦彰顯了澳門作為“中國與葡語國家經貿合作服務平台”和中葡雙語人才培養基地的特殊地位和獨特優勢。

出版首套三語對照國際漢語教材

《國際漢語教程》初級篇上冊（包括主教材、綜合練習冊、教師用書三個部份），由北京商務印書館出版印行。作為澳門首套國際漢語教程、國內外首套中葡英三語對照的國際漢語教材，該書的問世對促進澳門地區國際漢語教育的發展、對面向葡語國家的國際漢語教育水平的提升，具有十分積極的意義。作為澳門特區高校第一也是唯一開設的國際漢語教育學士學位課程，該書為非漢語母語的學生量身打造一套具澳門特色、適合來澳留學生（尤其葡語國家留學生）使用的本科漢語教材，為促進教學質量發揮積極作用。

Cooperation Platform between China and Portuguese-speaking Countries

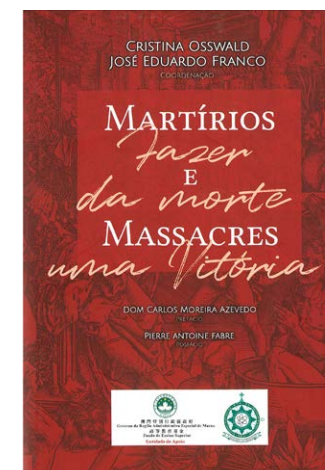
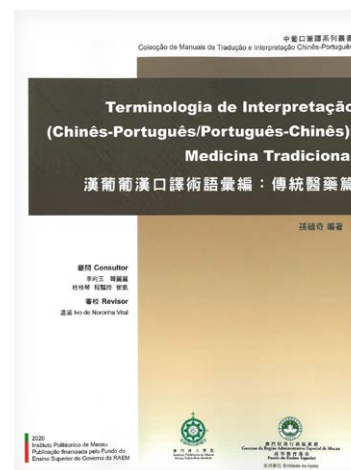
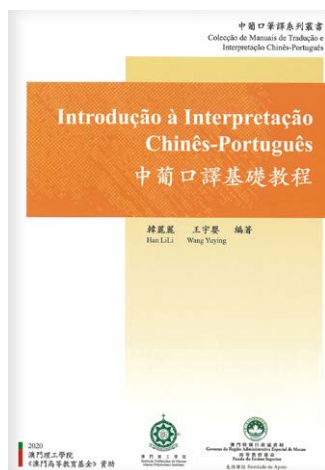
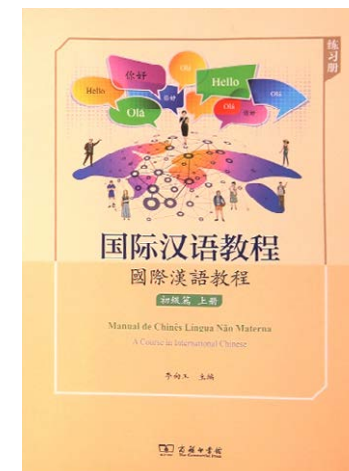
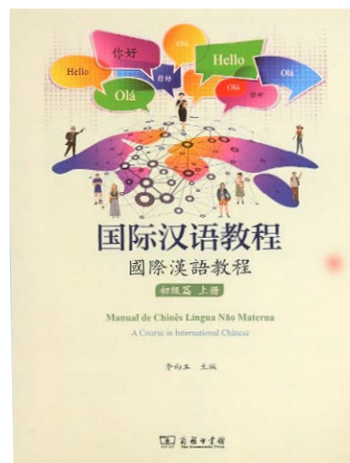
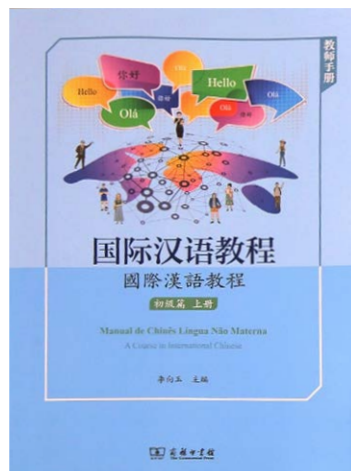
MPI Publishes the First Blue Book on Portuguese Language Teaching in China

In order to promote the common development of Portuguese language teaching in Macao, the Guangdong-Hong Kong-Macao Greater Bay Area and Mainland China, and at the same time provide more solid support for Chinese-Portuguese bilingual talent for the construction of the “Belt and Road”, MPI has launched the first *Livro Azul – Relatório sobre o Ensino do Português em Instituições de Ensino Superior da China (1960-2020)*, which aims to comprehensively arrange and summarise the history, status quo and future of Portuguese language teaching in Chinese higher education institutions and the contributions made by Macao. As the first “blue book” on Portuguese language teaching in China, the publication is of great significance to the further development of Portuguese language teaching in higher education institutions in Macao and across the country. It also demonstrates Macao’s special status and unique advantages as the “Service Platform for Economic and Trade Cooperation between China and Portuguese-speaking Countries” and the Bilingual Talent Training Base for Chinese and Portuguese-speaking Countries.

MPI Publishes the First Set of Materials in Three Languages for Teaching the Chinese Language to Foreigners

A Course in International Chinese, Elementary Level, Volume 1, has been published by the Beijing Commercial Press. It comprises a Student’s Book, an Exercise Book and a Teacher’s Book. As the first set of teaching materials on International Chinese developed in Macao, and the first of its kind to present its content in Chinese, Portuguese and English, the publication of the coursebook plays a positive role in the development of International Chinese Education in Macao and the enhancement of the quality of teaching Chinese to learners from Portuguese-speaking countries. MPI is the first and only higher education institution in Macao to launch the Bachelor of Arts in International Chinese Language Education undergraduate programme. As a set of teaching materials to suit the needs of these learners, especially those from Lusophone countries, the coursebook plays a positive role in promoting the quality of teaching.

中葡出版物 Chinese-Portuguese Publications



出版中葡教材 推動學科建設

為助力澳門打造成為中葡雙語人才培養基地，學院出版五項中葡口譯及筆譯教材，題材涉及翻譯理論與實踐、文學和中醫藥。五項出版物獲高等教育基金“澳門高等院校中葡人才培訓及教研合作專項”資助，包括：《中葡口譯基礎教程》、《翻譯批評七綴》、《漢葡葡漢口譯術語彙編：傳統醫藥篇》，以及*Literatura, Arte e Sociedade em Portugal: da Modernidade à Contemporaneidade*和*Martírios e Massacres: Fazer da Morte uma Vitória*，填補了中葡翻譯研究和中葡翻譯技巧領域書籍的空白，提供寶貴的教學資源。

推出葡語教材電子化線上平台

為進一步推進澳門中葡平台及中葡雙語人才培養基地建設，向粵港澳大灣區及“一帶一路”葡語國家推廣澳門葡語及相關領域科研成果，促進葡語教研電子資源共享，學院於2020年上線葡語教材《環球葡萄牙語》、學術期刊《葡萄牙語的東方之路》，廣受葡語學習者歡迎。為持續推動葡語教材電子化進程，學院於2021年7月推出葡語電子教材及中葡學術專著線上平台（<https://cpclp.ipm.edu.mo/>），線上平台共推出三十多本葡語教材及學術出版物，其中十五本提供電子書，供免費下載。

MPI Publishes Chinese-Portuguese Teaching Materials to Promote Disciplinary Development

To contribute to Macao's success in becoming the Bilingual Talent Training Base for Chinese and Portuguese-speaking Countries, MPI has published five Chinese-Portuguese interpretation and translation textbooks, covering topics such as translation theory and practice, literature and Chinese traditional medicine. The five publications (*Introdução à Interpretação Chinês-Português*; *Crítica de Tradução*; *Terminologia de Interpretação (Chinês-Português/Português-Chinês): Medicina Tradicional*; *Literatura, Arte e Sociedade em Portugal: da Modernidade à Contemporaneidade*; and *Martírios e Massacres: Fazer da Morte uma Vitória*) received the “Earmarked Funding for Chinese-Portuguese Talent Training and Teaching Research Cooperation in Macao Universities”, which was provided by the Higher Education Fund. These publications are valuable teaching materials which have just now filled the gaps in the fields of Chinese-Portuguese translation studies and Chinese-Portuguese translation skills.

MPI Launches E-platform for Portuguese Language Teaching Resources

In order to further advance Macao as the Cooperation Platform between China and Portuguese-speaking Countries and the Bilingual Talent Training Base for Chinese and Portuguese-speaking Countries, to promote Portuguese language and related scientific research results in Macao to the Guangdong-Hong Kong-Macao Greater Bay Area and the Portuguese-speaking countries of the “Belt and Road”, and to facilitate the sharing of electronic resources in Portuguese language teaching and research, MPI launched the Portuguese textbook *Global Portuguese* and the academic journal *Orientes do Português* online in 2020. These have been widely welcomed by Portuguese language learners. To continue to promote the digitalisation of Portuguese language teaching materials, MPI launched an online platform for Portuguese language e-textbooks and Chinese-Portuguese academic monographs (<https://cpclp.ipm.edu.mo/>) in July 2021. More than 30 Portuguese textbooks and academic publications have been launched on the e-platform, of which 15 e-books are available for free download.

博彩及旅遊

跨學科博彩研究成果獲出版發行

學院電腦學課程著作《博彩科技原理》，獲國際權威出版社麥格勞·希爾出版，成為澳門首部關於博彩科技領域的學術著作。博彩旅遊教學及研究中心的博彩法研究著作《澳門博彩法律制度》，獲國家級權威出版單位人民出版社再版發行，該書是中國內地和澳門地區首部對澳門博彩法進行系統研究和闡釋的著作。此外，為向政府和博彩企業的科學決策提供支持，博彩旅遊教學及研究中心2020年正式出版《世界博彩與旅遊研究》學術期刊，至今已出版三期並上載至網站，供海內外讀者研究參閱。

舉辦博彩範疇系列講座

為拓展學生的專業視野，博彩旅遊教學及研究中心舉辦“博彩與娛樂管理專題講座”和“博彩領導力系列講座”，邀請本地學者及業界專家主講，主題包括：娛樂場旅遊與服務體驗管理、大灣區基礎建設及區域旅遊發展、在歷史文化與娛樂博彩之間：澳門世界文化遺產的保護與利用、新時代下之綜合旅遊休閒企業人力資源管理及創新、澳門博彩數據與GDP的關係、綜合度假村管理：澳門實驗、娛樂場管理與市場推廣、娛樂場帳房：運作與監管等，以及“澳門博彩旅遊業之女性從業者：職業現狀與未來發展”研究成果分享會、“博彩旅遊發展創新思維”研討會。

Gaming and Tourism

MPI Publishes Interdisciplinary Gaming Research Results

The academic book written by MPI's Computing Programme titled *Principles of Gaming Technologies* was published by McGraw Hill, a world-renowned publisher, becoming the first academic book in the field of gaming technology in Macao. The gaming law research book titled *Macao Gaming Law*, written by a professor from the Centre for Gaming and Tourism Studies, was republished by the People's Publishing House, a national authoritative publishing company. This is the first book in Mainland China and Macao to systematically study and interpret Macao's gaming law. Additionally, in order to provide support for science-based decision-making across the government and gaming sectors, the Centre for Gaming and Tourism Studies officially published the academic journal *Global Gaming & Tourism Research* in 2020. So far, three issues have been published and uploaded to the website for readers at home and abroad.

MPI Organises a Series of Lectures on Gaming

In order to broaden students' professional horizons, the Centre for Gaming and Tourism Studies held the "Gaming and Entertainment Management Lectures" and the "Gaming Leadership Lecture Series". Local scholars and industry experts were invited to give lectures on topics including Casino Tourism and Service Experience Management; Greater Bay Area Infrastructure Development and Regional Tourism; Between History & Culture and Entertainment Gaming: Protection and Utilization of Macao's World Cultural Heritage; Human Resource Management and Innovation in Integrated Tourism and Leisure Operators in the New Era; The Relationship between Macao Gaming Data and GDP; Integrated Resort Management: Macao Experiment, Casino Management and Marketing; and Casino Cashier: Operation and Regulation. Moreover, the "Female Practitioners in Macao's Gaming and Tourism Industry: Career Status and Future Development" research results sharing session and the "Innovative Thinking on the Development of Gaming and Tourism" seminar were organised.

文化創意

推動校園及社區文創發展

學院以文化創意產業教學及研究中心作為帶動發展文創氛圍的平台，結合校園內外的相關文化創意產業資源，推動校園及社區文創發展。本學年，舉辦了“水彩交響樂”與“版畫萃集”聯展、“OPEN MIND”設計課程學生優秀作品展、“移帆轉向”視覺藝術學生現當代藝術實踐展、“SLASH”設計及視覺藝術畢業作品聯展等。此外，亦邀請文創業界代表或藝術家，分享業界經驗。2021年1月，舉辦文創沙龍和工作坊，走訪澳門文創社區，聽取業界及營運者的具體介紹，考察澳門文創產業營運情況，交流文創心得，探討文創發展新趨勢。



設計課程學生優秀作品展

Bachelor of Arts in Design
Excellent Students' Work
Exhibition

拓展大灣區藝術教育合作

為拓展大灣區藝術教育合作，學院與廣州美術學院聯合舉辦“兩校師生版畫聯展”，2020年12月在氹仔校區研發樓畫廊舉行開幕儀式，展出學院視覺藝術學士學位課程與廣州美術學院版畫系的師生作品約50件。作品涵蓋石版畫、木刻版畫、絲網版畫等製版形式，展現版畫藝術的獨特包容性，通過融合不同的個體元素，創作出別具風格的畫面效果。藉此師生作品聯展，加強大灣區高校之間的藝術與學術交流合作。

Cultural and Creative Industries

MPI Promotes Cultural and Creative Development on Campus and in Communities

With the Cultural and Creative Industries Teaching and Research Centre as a platform to drive the development of the cultural and creative atmosphere, MPI has leveraged relevant cultural and creative industry resources on and off campus to promote the development of cultural and creative industries on campus and in communities. In this academic year, MPI held the joint exhibition “Watercolor symphony exhibition” and “Collection of Engravings”; the “OPEN MIND” Bachelor of Arts in Design Excellent Students’ Work Exhibition; the “Joint Modern and Contemporary Art Exhibition of Year 3, Visual Art Programme”, with the theme of “Gybe”; and the “SLASH” Joint Graduation Exhibition by Design Programme & Visual Art Programme. Additionally, representatives or artists from the cultural and creative industries were invited to share their industry experience. In January 2021, a cultural & creative salon and workshop was held. The participants visited cultural and creative communities in Macao where they listened to specific introductions from industry practitioners and operators, learned about the operation of Macao’s cultural and creative industries, exchanged cultural and creative experience, and discussed the new trend of cultural and creative development.

MPI Expands Cooperation on Art Education in the Greater Bay Area

In order to expand art education cooperation in the Greater Bay Area, MPI and the Guangzhou Academy of Fine Arts jointly organised the “Printmaking Joint Exhibition of Teachers and Students”. The opening ceremony was held in the gallery of the Research & Development Building at Taipa Campus in December 2020. Approximately 50 works by teachers and students from the Bachelor of Arts in Visual Art programme of MPI and the Department of Printmaking of the Guangzhou Academy of Fine Arts were exhibited. The works covered lithographs, wood engravings, screen prints and other printmaking forms, showing the unique inclusiveness of printmaking art. Through the integration of different individual elements, distinctive picture effects were created. This joint exhibition of teachers’ and students’ works strengthened the artistic and academic exchanges and partnership among higher education institutions in the Greater Bay Area.

人文社科

出版綜合性人文社會科學學術理論刊物

《澳門理工學報》（人文社會科學版）是學院主辦的綜合性人文社會科學學術理論刊物，2019年榮膺“全國高校社科名刊”。在中國人民大學複印報刊資料轉載指數排名中，《澳門理工學報》已連續八年穩居全國高校學報前列。2020年度轉載率位列第14名、綜合指數第23名、轉載量第28名，目前全國各類高等院校主辦學報約有1,150種。與此同時，《澳門理工學報》還先後入選《複印報刊資料重要轉載來源期刊》2014年版、2017年版、2020年版，以及《複印報刊資料重要轉載來源機構（2018版）》。



中西文化研究所與《澳門日報》合作撰寫發表紀念專刊“中國共產黨與澳門”

Centre of Sino-Western Cultural Studies collaborated with the *Macao Daily News* to write and publish a special commemorative issue titled “The Communist Party of China and Macao”

中西文化研究

中西文化研究所本學年主要工作集中在教學、科研、培養博士研究生及服務社會等方面。教學方面已完成學院通識課及博士生課程的教授任務，並指導公共行政政策博士研究生參與省級研究課題兩項；科研方面承擔院級項目、發表中英文核心期刊論文、審定書稿、出版抗戰研究系列叢書之專題資料、專題著述及畫冊等；社會服務方面，研究所人員參與教育及青年發展局及學院國情教育培訓的課程任教。為慶祝中國共產黨成立一百週年，研究所與《澳門日報》合作，撰寫發表紀念專刊“中國共產黨與澳門”。

Humanities and Social Sciences

A Comprehensive Academic Journal of Theories in Humanities and Social Sciences

The *Journal of Macao Polytechnic Institute* (Humanities and Social Sciences Edition) is a comprehensive academic journal of theories in humanities and social sciences sponsored by MPI. In 2019, it was awarded the title of “National Reputed College Journal in Social Sciences”. According to the rankings of the index of academic articles in the “Replicated Journals” produced by Renmin University of China, for eight consecutive years the *Journal of Macao Polytechnic Institute* has been at the forefront of all higher education institution journals in China. In 2020, it achieved 14th place in reprint rate, 23rd place in comprehensive index, and 28th place in reprint count. At present, there are approximately 1,150 journals sponsored by higher education institutions of different types across the country. In the meantime, the *Journal of Macao Polytechnic Institute* was selected successively into the 2014, 2017 and 2020 versions of the *Important Source Journals for the Selected Materials*, and the *Important Source Institutions for the Selected Materials (Version 2018)*.

Sino-Western Cultural Studies

In this academic year, the Centre of Sino-Western Cultural Studies mainly focused on teaching, scientific research, doctoral candidate cultivation, and social services. In terms of teaching, the Centre completed the teaching tasks of MPI's general courses and doctoral courses, and guided doctoral candidates in public administration policy to participate in two provincial-level research projects. Regarding scientific research, the Centre undertook institute-level projects, published articles in core Chinese and English journals, examined and approved manuscripts, and published thematic materials, monographs and picture albums of anti-Japanese war research book series. As for social services, staff of the Centre took part as trainers in the national conditions education campaign of the Education and Youth Development Bureau and MPI. To celebrate the 100th anniversary of the founding of the Communist Party of China, the Centre collaborated with the *Macao Daily News* to write and publish a special commemorative issue titled “The Communist Party of China and Macao”.

語言文化研究

學院與北京語言大學、教育部語言文字應用研究所合作建立“澳門語言文化研究中心”，旨在整合三方學術資源，發揮各自優勢，開展對澳門地區語言發展戰略、語言文化的歷史及現狀、漢語教學等相關領域的研究，以提升澳門特別行政區語言文化建設的水平。2021年，中心人員赴浙江大學出席中國語言學會第20屆學術年會，並應邀到北京師範大學珠海校區主持學術講座。

社會經濟與公共政策研究

2020年11月，社會經濟與公共政策研究所承辦“公共行政改革的理論與實踐”線上學術研討會，從數位政府、組織變革、公務員制度，以及跨部門合作等四個專題進行研討。研究所亦承擔澳門特別行政區政府公務員整體架構研究、關於澳門發展定位的論述及發展脈絡、澳門建設“以中華文化為主流、多元文化共存的交流合作基地”等研究項目。

“一國兩制”研究

“一國兩制”研究中心主要以“一國兩制”理論實踐為觀察和研究對象，開展各項學術及出版活動。2020年11月，舉行《2021年財政年度施政報告》學術座談會，並舉辦“一國兩制”高端論壇2020，主題為“澳門特別行政區依法施政與社會治理的願景與展望”。2021年3月，協辦“協同奮進、共譜‘一國兩制’新篇章”——紀念澳門基本法頒佈28周年學術研討會。2020年12月，中心出版專業工具書《澳門基本法解讀》，本學年亦持續出版《“一國兩制”研究》學術期刊。

Research in Language and Culture

MPI, Beijing Language and Culture University, and the Institute of Applied Linguistics of the Ministry of Education jointly established the “Language and Culture Research Centre of Macao” with a view to integrating the academic resources of the three parties, giving full play to their respective advantages, and conducting research on the language development strategies, the history and status quo of language and culture, Chinese language teaching and other related fields in Macao, so as to improve the development of language and culture in the Macao SAR. In 2021, staff of the Centre attended the 20th Annual Academic Conference of the Chinese Linguistics Society in Zhejiang University, and were invited to preside over academic lectures at the Zhuhai campus of the Beijing Normal University.

Research in Social, Economic and Public Policy

In November 2020, the Social, Economic and Public Policy Research Centre hosted an online academic conference on “Theory and Practice of Reform on Public Administration”. The four topics of the conference were digital government, organisational change, civil service system and cross-sector cooperation. The Centre also undertook research projects including the Research on the Overall Structure of Civil Servants of the Macao Special Administrative Region Government, the Discussion on Macao’s Development Positioning and Its Development Process, and the Macao’s Building of “a Base for Exchange and Partnership with Chinese Culture as the Mainstream and the Coexistence of Multiple Cultures”.

Research in “One Country, Two Systems”

The “One Country, Two Systems” Research Centre mainly conducts research into the “One Country, Two Systems” theory, and carries out different academic and publishing activities on this basis. In November 2020, the Centre held an academic symposium on the *Policy Address for the Fiscal Year 2021*, and organised the “One Country, Two Systems” Advanced Forum 2020, with the theme of “Visions and Prospects for Law-based Governance and Social Governance in the Macao Special Administrative Region”. In March 2021, the Centre co-organised the “Working Together for a New Chapter of ‘One Country, Two Systems’” -- Academic Seminar to Commemorate the 28th Anniversary of the Promulgation of the Basic Law of Macao. In December 2020, the Centre published the professional reference book *Interpretation of the Basic Law of Macao*. It also continued to publish the *Journal of “One Country, Two Systems” Studies* in this academic year.

學術成果

學術論文

隨著學院積極推動科研及本院人員不懈的努力，學院的科研成果產出不斷提升。2020/2021學年，本院人員共發表學術期刊論文、會議論文及書章共224篇，其中被SCIE、SSCI、EI、Scopus等引文索引收錄共121篇，部分更發表於*Pharmaceutics*、*International Journal of Pharmaceutics*、*Scandinavian Journal of Medicine and Science in Sports*、*Mathematics*、*IEEE Internet of Things Journal*、*IEEE Transactions on Circuits and Systems for Video Technology*、*Frontiers in Physiology*、*Drug Discovery Today*、*Journal of Membrane Science*、*Aging-US*、*Computer Methods and Programs in Biomedicine*、*Journal of Business Ethics*、*The Modern Language Journal*、*Journal of Retailing and Consumer Services*、*International Journal of Environmental Research and Public Health*、*Family Process*等在學科內影響力因子排名前30%的期刊。

獲國際知名引文數據庫Scopus收錄的學術文章79篇，研究範圍涉及社會科學、計算機科學、環境科學、藥物學、工程學、藝術及人文、商業、管理和會計、地球和行星科學、數學、生物化學、遺傳學及分子生物學、材料科學、護理學、毒理學、藥劑學、經濟學、計量經濟學及金融學、衛生專業、化學、決策科學、物理及天文學、化學工程、能源學、神經科學和心理學等。

中文核心期刊的論文16篇，分別發表於《南方醫科大學學報》、《護理研究》、《中國循證醫學雜誌》、《護理研究》、《藥物評價研究》、《中國中藥雜誌》、《聲學技術》、《情報雜誌》、《北京航空航天大學學報》、《高教發展與評估》、《語文研究》、《星海音樂學院學報》和《國際漢學》等刊物上。

Academic Outputs

Academic Articles

With MPI's active promotion of scientific research and its faculty members' unremitting efforts, the scientific research outputs of MPI have been continuously improving. In Academic Year 2020/2021, MPI faculty members published a total of 224 academic journal articles, conference papers and book chapters, of which 121 were included in citation indexing databases such as SCIE, SSCI, EI, and Scopus. Some were published in journals including *Pharmaceutics*; *International Journal of Pharmaceutics*; *Scandinavian Journal of Medicine and Science in Sports*; *Mathematics*; *IEEE Internet of Things Journal*; *IEEE Transactions on Circuits and Systems for Video Technology*; *Frontiers in Physiology*; *Drug Discovery Today*; *Journal of Membrane Science*; *Aging-US*; *Computer Methods and Programs in Biomedicine*; *Journal of Business Ethics*; *The Modern Language Journal*; *Journal of Retailing and Consumer Services*; *International Journal of Environmental Research and Public Health*; and *Family Process*, as well as other top 30% journals ranked by impact factor as seen from a disciplinary perspective.

A total of 79 academic articles were indexed by Scopus, an internationally renowned indexing database, covering research areas including but not limited to social sciences, computer science, environmental science, pharmacy, engineering, arts and humanities, business, management and accounting, earth and planetary sciences, mathematics, biochemistry, genetics and molecular biology, materials science, nursing science, toxicology, pharmaceuticals, economics, econometrics and finance, health sciences, chemistry, decision sciences, physics and astronomy, chemical engineering, energy science, neuroscience, and psychology.

A total of 16 articles were published in core Chinese journals, including *Journal of Southern Medical University*; *Chinese Nursing Research*; *Chinese Journal of Evidence-based Medicine*; *Drug Evaluation Research*; *China Journal of Chinese Materia Medica*; *Technical Acoustics*; *Journal of Intelligence*; *Journal of Beijing University of Aeronautics and Astronautics*; *Higher Education Development and Evaluation*; *Linguistic Research*; *Journal of Xinghai Conservatory of Music*; and *International Sinology*.

出版物

本學年，學院出版的學術著作43項，範疇涵蓋“一國兩制”、葡語文學、高等教育、語言、文化、翻譯、歷史、設計、文創等與澳門息息相關的研究。

此外，學院定期出版學術刊物《澳門理工學報》（人文社會科學版）、《“一國兩制”研究》、《葡萄牙語的東方之路》和《世界博彩與旅遊研究》。教研人員著作由海內外出版機構McGraw Hill、南京大學出版社、廈門大學出版社、北京語言大學出版社等出版。

科研投放

本學年學院立項的科研項目共23項，涵蓋粵港澳大灣區建設、智慧城市、物聯網、智能計算、深度學習技術、資訊科技、博彩科技、博彩旅遊、機器翻譯、中葡翻譯、健康科學、運動生理、中西文化交流、歷史、藝術、中國文學、社會經濟等研究領域。抗疫期間，學院教研人員善用網路科技，積極參與高質量的國際研討會，發表的論文獲收錄於EI、Scopus等資料庫，議題領域廣泛，涵蓋教育、文學、資訊科技、公共行政等。

外界資助 / 委託研究項目

作為一所服務澳門社會的應用型高等院校，學院每年均獲政府部門或其他外界機構委託、資助或透過公開招標的方式進行項目研究。本學年獲政府部門及外界機構委託的研究項目2項及澳門高等教育基金資助研究項目2項。研究項目涵蓋政策研究、博彩旅遊、翻譯、健康科學等研究領域。

Books and Other Publications

In this academic year, MPI published 43 academic monographs, covering topics such as “One Country, Two Systems”, Portuguese literature, higher education, language, culture, translation, history, design, cultural and creative industries, and other themes closely related to Macao.

Additionally, MPI publishes academic journals periodically which include the *Journal of Macao Polytechnic Institute* (Humanities and Social Sciences Edition); the *Journal of “One Country, Two Systems” Studies*; the *Orientes do Português*; and the *Global Gaming & Tourism Research*. Works of MPI faculty members are published by McGraw Hill, Nanjing University Press, Xiamen University Press, Beijing Language and Culture University Press, and other domestic or overseas publishing agencies.

Research Input

In this academic year, the established scientific research projects of MPI, totalling 23, covered such research areas as construction of the Guangdong-Hong Kong-Macao Greater Bay Area; smart city; Internet of Things; intelligent computing; deep learning technologies; information technology; gaming technologies; gaming and tourism; machine translation; Chinese-Portuguese translation; health sciences; sports physiology; Chinese and Western cultural exchanges; history; art; Chinese literature; and society and economy. During the fight against the COVID-19 pandemic, MPI faculty members made good use of Internet technology and actively participated in high-quality international seminars. The published articles were included in databases such as EI and Scopus, covering a wide range of areas, including education, literature, information technology, and public administration.

External Funding / Commissions

As an application-oriented higher education institution serving the community of Macao, MPI is commissioned, funded or supported with open tenders by government agencies or other external organisations each year to conduct research. In this academic year, two research projects were commissioned by government agencies and external organisations, and two research projects were funded by the Higher Education Fund of Macao. The research projects covered policy research, gaming and tourism, translation, health sciences, and other research areas.