CHAPTER

04

UNIQUE DISCIPLINES: HOTEL AND TOURISM MANAGEMENT, FASHION AND TEXTILES, AND DESIGN

CHAPTER 4

UNIQUE DISCIPLINES: HOTEL AND TOURISM MANAGEMENT, FASHION AND TEXTILES, AND DESIGN

Fusing creativity with industrial innovation, PolyU has achieved a profound impact in many unique disciplines over the years. The globally acclaimed School of Hotel and Tourism Management has developed tourism management tools that guide policy development. The School of Fashion and Textiles has developed smart wearables to improve care for the elderly, and the School of Design has supported community rebuilding towards a more sustainable future. These achievements reflect PolyU's inclusive research, which delivers a meaningful impact across diverse communities.

4.1 HOTEL AND TOURISM MANAGEMENT

Global ranking

Founded in 1979, PolyU's School of Hotel and Tourism Management has grown into one of Asia's largest institutions in its field and consistently ranks among the world's leading hospitality and tourism schools. With a strong international team, the School is now a global centre of excellence in hospitality and tourism education and research. This exceptional achievement has been recognised in global ranking evaluations. **PolyU ranked first globally in Hospitality and Tourism Management in the ShanghaiRanking's Global Ranking of Academic Subjects 2025,[61] and ranked 11th in Hospitality and Leisure Management in the QS World University Rankings by Subject 2025.[62]** Among the approximately 100 faculty members in the School, 14 have achieved the Top 1% citation rate among their global peers in the Social Sciences category of the Essential Science Indicators (ESI).

Scholarly output and impact

Between 2020 and 2024, PolyU ranked second globally by publication volume in the field of hospitality and tourism. During this period, PolyU accounted for around 80% of all Hong Kong publications in this research area (Figure 47), demonstrating its leadership locally and internationally.

Beyond ranking second in publication volume in this field, PolyU led all institutions in the number of papers placed in the global Top 1% and Top 10%. In 2021, PolyU contributed to 8.5% of the world's Top 1% publications in the field of hospitality and tourism. Between 2020 and 2024, while the industry experienced a decline in research output, PolyU maintained a high number of publications in the Top 10%, further strengthening its global presence in high-quality research (Figure 48). With high recognition from peers, PolyU's publications in hospitality and tourism received the highest number of citations in the field during this period.

---

61 ShanghaiRanking's Global Ranking of Academic Subjects 2025, https://www.shanghairanking.com/institution/the-hong-kong-polytechnic-university
62 QS World University Rankings by Subject 2025: Hospitality & Leisure Management,
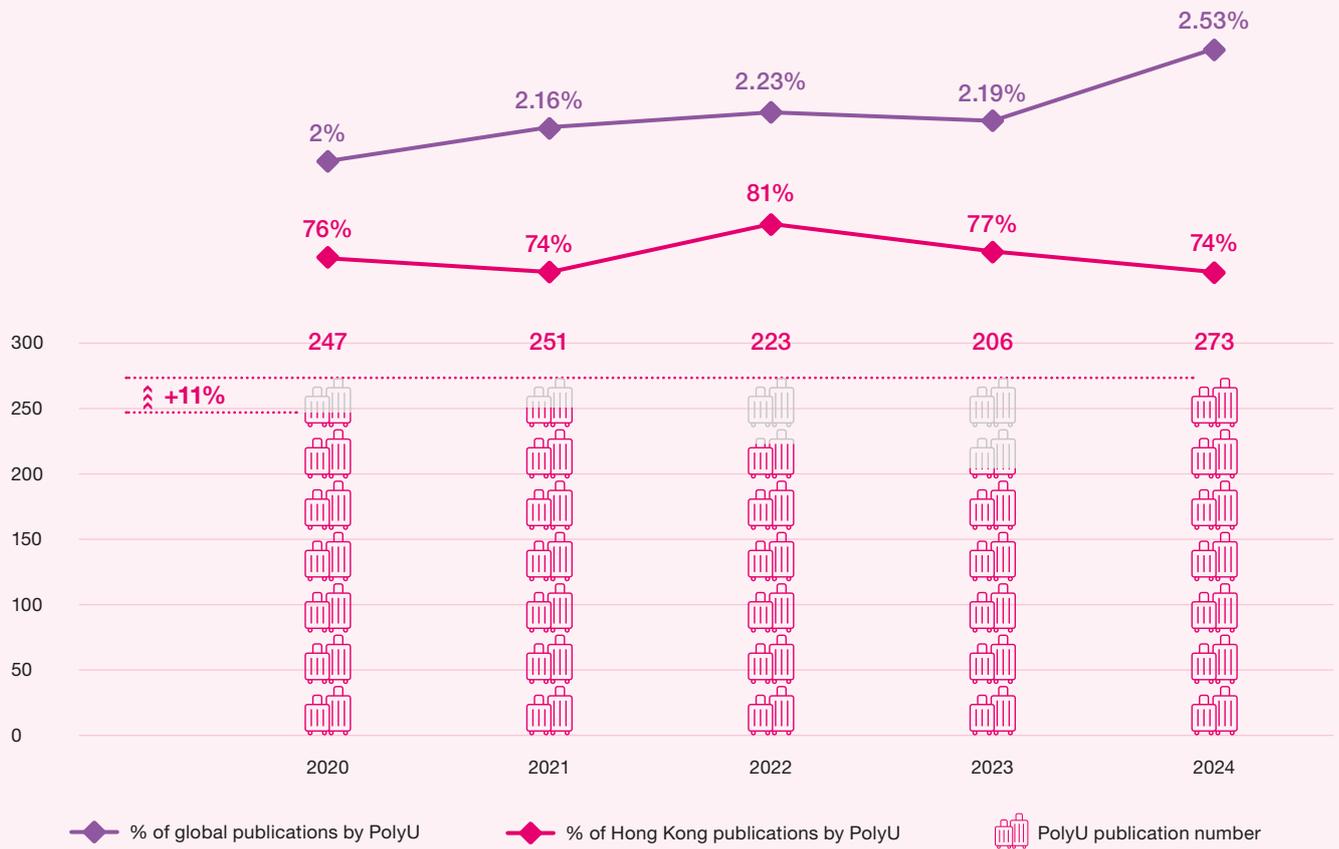   https://www.topuniversities.com/university-subject-rankings/hospitality-leisure-management

2%   **2.16%**   **2.23%**   **2.19%**   **2.53%**

76%   **74%**   **81%**   **77%**   **74%**

247   **251**   **223**   **206**   **273**

+11%

2020	2021	2022	2023	2024

◆ % of global publications by PolyU   ◆ % of Hong Kong publications by PolyU   PolyU publication number

Figure 47. PolyU publication trends in hospitality and tourism

5.44%   **5.57%**   **7.14%**   **6.81%**   **6.29%**

61   **57**   **65**   **54**   **62**

+2%

2020	2021	2022	2023	2024

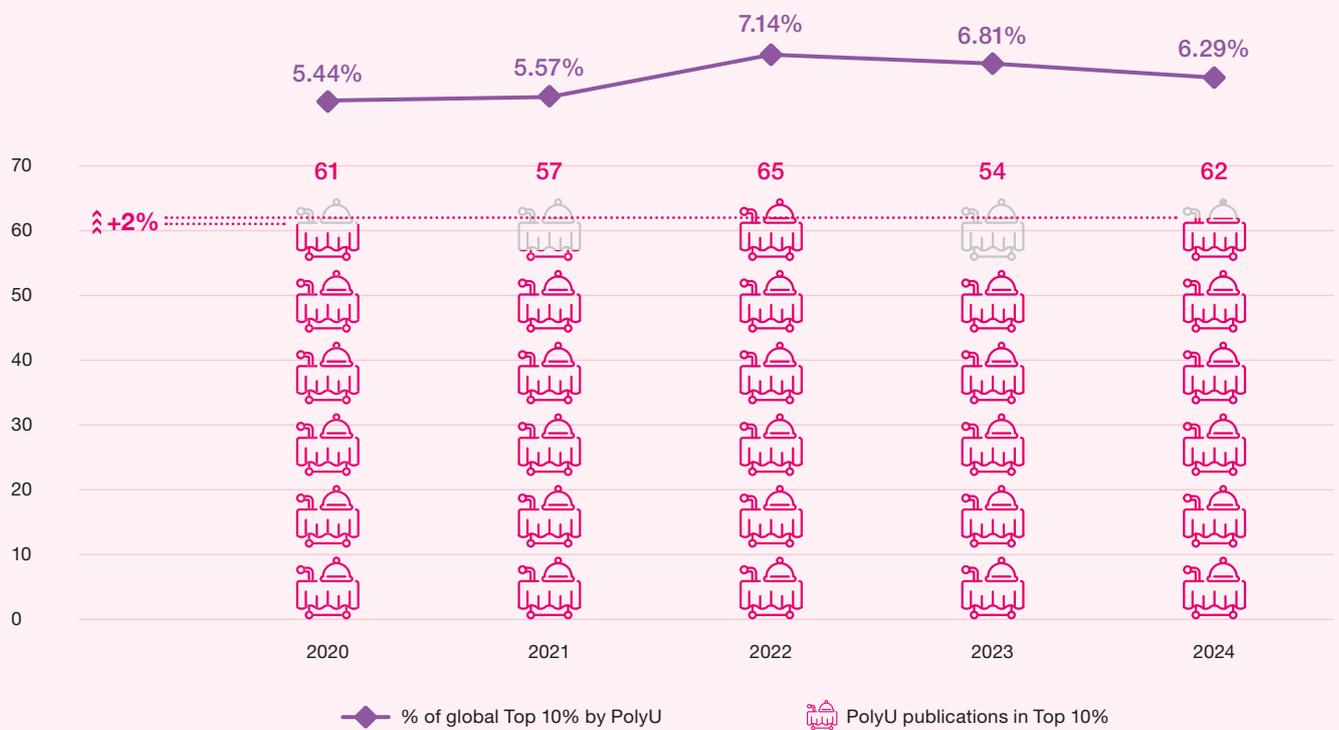◆ % of global Top 10% by PolyU   PolyU publications in Top 10%

Figure 48. PolyU Top 10% publications in hospitality and tourism

Societal impact

PolyU has established itself as a leading centre of excellence in hospitality and tourism through innovative teaching and real-world research. Hotel ICON, the world's first fully integrated teaching and research hotel, was built for the School of Hotel and Tourism Management in 2011. The Hotel enables PolyU to conduct in-depth research into the application of advanced concepts in hotel management, including the incorporation of sustainability innovations and digital transformations, for a more dynamic hospitality environment. The Hotel's focus on sustainable operations has also attracted multidisciplinary talent from PolyU, including professionals in the built environment and computer science, to advance practical solutions for smart tourism.

In addition to Hotel ICON, the School also hosts two research centres that lead innovative development: the Hospitality and Tourism Research Centre (HTRC) and the Research Centre for Digital Transformation of Tourism (RCDTT).

Researchers from HTRC have developed several initiatives that improve tourism policy planning and management. Among them, **Professor Cathy Hui-chun HSU**, Chair Professor in the School, who achieved the Top 1% citation globally in the Social Sciences category of the Essential Science Indicators, led the development of TOUROMETER, a dynamic social listening-based platform that measures residents' sentiment towards visitors and tourism development, and visitors' sentiment towards tourism destinations and businesses. This AI-empowered policy and strategy decision-support system can monitor public opinions in a timely and continuous manner. Balancing the interests of residents and tourists, TOUROMETER not only provides critical insights that inform tourism policymaking, but also actively engages the public in sustainable tourism development. TOUROMETER has been recognised by the United Nations World Tourism Organization as an asset to tourism policy planning and management by offering social dynamic intelligence to facilitate decision making, and has been adopted by an international hotel brand, the Chinese Mainland theme park group and a Middle Eastern governmental agency. The analytical methods developed outperform generic large language models and start-of-the-art generative AI tools in more accurately measuring public sentiment.

Leveraging Hong Kong's technological and geographical advantages, **Professor Hai-yan SONG**, Chair Professor and Associate Dean in the School, Director of RCDTT, leads the Centre's interdisciplinary research team with the aim of accelerating the integration of technology in tourism and co-developing feasible smart tourism solutions with industry partners. Recently, RCDTT launched a large language model-based Hong Kong Tourist Satisfaction Index (TSI), which can accurately evaluate Hong Kong's performance and competitiveness as an international tourist destination compared to other regions. The TSIs compiled by the research team will inform Hong Kong's strategic improvement and enhance its overall competitiveness.

Professor SONG also led an interdisciplinary team comprising members from the fields of tourism, economics and computer science, in the development of a digital platform that can enhance the accuracy of tourism demand forecasting. This development was in response to unpredictable events such as the COVID-19 pandemic, where the lack of real data meant traditional forecast models struggled to remain accurate. Using advanced techniques such as scenario forecasting, bagging, forecast combination methods and integration with high-frequency big data sources, the Automated and Self-Adaptive Tourism Demand Forecasting Platform for the Greater Bay Area significantly enhances the adaptability, robustness and accuracy of forecasts. More accurate prediction also informs better recovery planning.

4.2 FASHION AND TEXTILES

PolyU was the first institution in Hong Kong to offer post-secondary education in textiles in 1957. As technology becomes increasingly embedded in everyday life, wearable textiles offer a seamless way to integrate technology into what we wear, with diverse applications in fitness, healthcare, and safety. With nearly 70 years of history, the School of Fashion and Textiles leads the industry, building on its innovative breakthroughs and PolyU's interdisciplinary expertise.

Scholarly output and impact
Between 2020 and 2024, PolyU achieved a 32% increase in the number of publications in textile science, while the research area globally saw a 17% decrease in publications. This resulted in a 59% increase in PolyU's share of global publications in textile science. In 2024, over 90% of Hong Kong's publications in textiles were affiliated with PolyU, highlighting its dominance in the local research landscape (Figure 49).

PolyU's consistent research output in textile science is also reflected in the number of its Top 10% publications. Between 2020 and 2024, it gained a 171% increase in the share of global Top 10% publications in textile science, with up to 80% of Hong Kong's Top 10% publications in this field being affiliated with PolyU during this period (Figure 50).
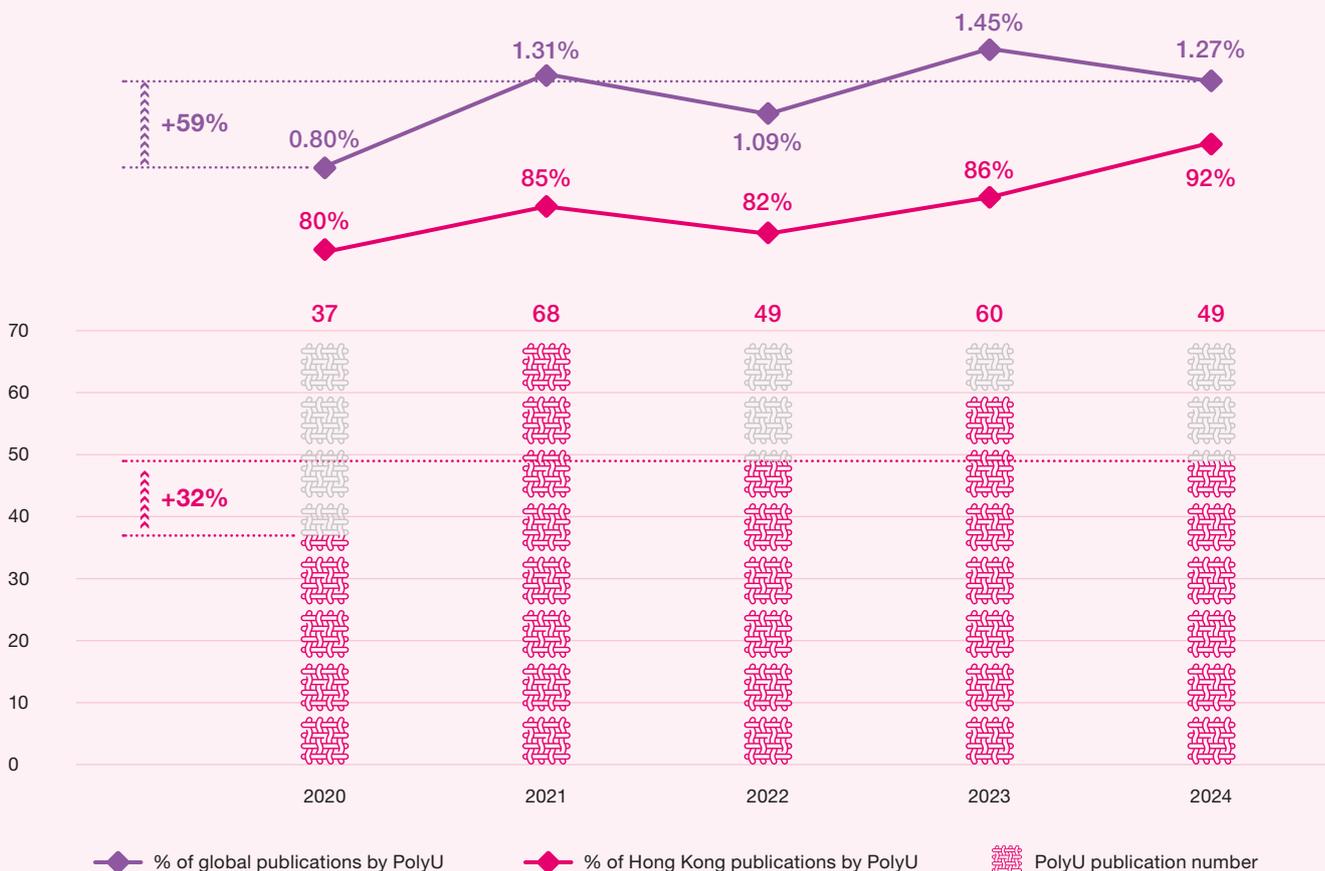

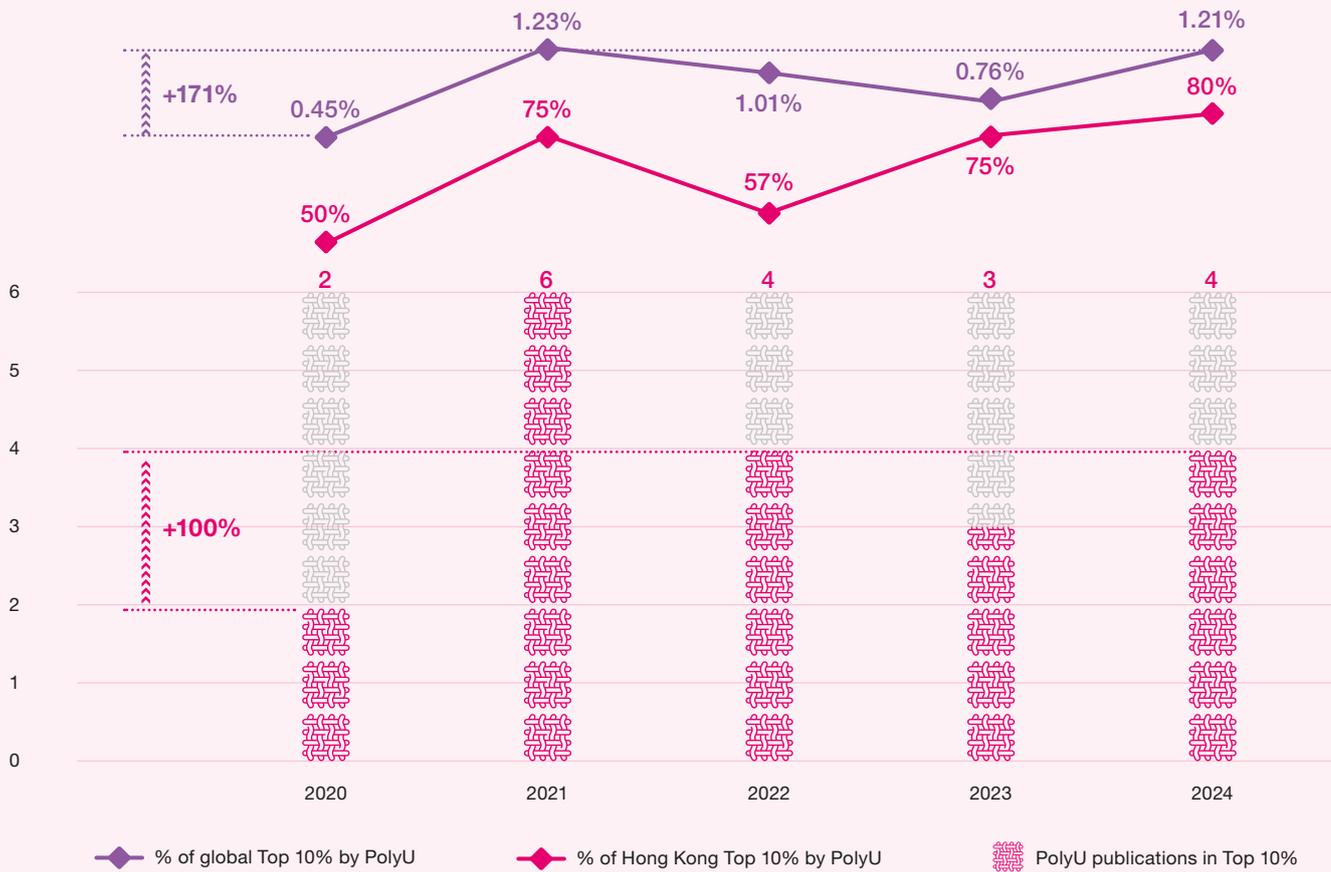*Figure 49. PolyU publication trends in textile science*

Figure 50. PolyU Top 10% publications in textile science

Societal impact

The Research Centre of Textiles for Future Fashion's (RCTFF) multidisciplinary integration with PolyU's expertise in engineering is at the core of its success in textile science. In the fitness sector, the RCTFF research team, led by **Professor Da-hua SHOU**, Associate Professor, has developed iActive™, an electrically activated sportswear that can be programmed to remove sweat to a dissipater located in the lower area of the sportswear. This enhances an athlete's performance by reducing discomfort caused by sweat accumulation.[63]

Between 2020 and 2024, PolyU was granted 22 patents in textile science. Among the many notable innovations, textile-based electrodes and sensing materials developed by **Professor Xiao-ming TAO**, Chair Professor of Textile Technology, and her team have generated a profound economic impact. Two start-ups were created based on this technology, and two other companies launched flagship products.

Leveraging PolyU's leading expertise in engineering, computing, materials science, textiles and occupational health and safety, Professor TAO, led the establishment of the Research Institute for Intelligent Wearable Systems (RI-IWEAR) in 2021. RI-IWEAR has become a leading research institution through its interdisciplinary research. In 2022, Professor TAO led work leading to a groundbreaking design of a novel intelligent wearable system that could help people with Parkinson's disease overcome Freezing of Gait, a leading cause of falls and disability in this population. The wearable system is powered by a novel pressure-sensing technology, which

---

63 Dr SHOU Dahua develops intelligent activewear for a dry and comfortable experience,
    https://www.polyu.edu.hk/sft/news-and-events/news/2024/0715-dr-shou-develops-intelligent-activewear-for-a-dry-and-comfortable-experience/

allows accurate and timely detection of gait initiation.[64] Her passion in applying intelligent wearables for rehabilitation has further led to the new development of COOLWEAR. The device is a first-of-its-kind wearable system with rapid contrast-temperature therapy for the recovery of elite athletes, which also has the potential to be used more widely in rehabilitation for conditions beyond those experienced by elite athletes. To recognise her research excellence, Professor TAO was elected a Fellow of the 2025 Hong Kong Academy of Engineering for her innovation and leadership in integrating engineering solutions in wearables.[65]

Professor Zi-jian ZHENG, Associate Director of RI-IWEAR, Chair Professor of Soft Materials and Devices of the Department of Applied Biology and Chemical Technology, is another prominent researcher whose research has revolutionised soft electronics for wearable and implantable electronic applications. One of his inventions, the "ICU-Grade Wireless Breathable Cardiac Electronic Skin", won the Semi-Grand Prize and Gold Medal at the 2024 Silicon Valley International Inventions Festival.[66] This invention will revolutionise cardiac monitoring for patients in intensive care by significantly reducing the risk of infections and improving comfort. To further advance soft electronics and its related energy storage, Professor ZHENG led the project "Pilot and Mass Production of Next-Generation Composite Current Collectors for Mobility and Energy Storage Batteries (New Materials and New Energy)", which was one of the first batch of awardees for the prestigious RAISe+ funding scheme in 2024.[67]

4.3 DESIGN

Global ranking
Initially established in the 1960s as a part-time evening course, the School of Design (PolyU Design) has nurtured and empowered thousands of design graduates over six decades. Recently, **PolyU Design ranked 22nd globally in Art and Design in the QS World University Rankings by Subject 2025**.[68]

Scholarly output and impact
Between 2020 and 2024, PolyU ranked third among APAC universities by publication volume in the research area of art, first in Asia. At the same time, PolyU publications achieved a Category Normalized Citation Impact of 1.77, which is 77% higher than the global average of 1, highlighting PolyU's combination of research output and quality (Figure 51).
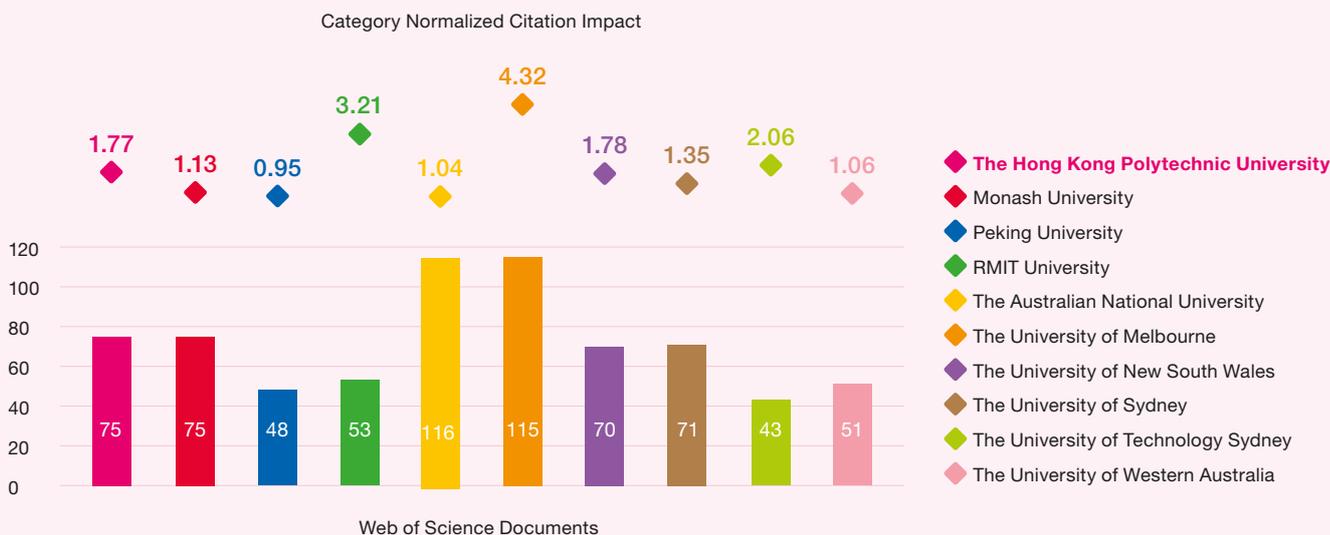

Figure 51. Number of art publications: Top 10 APAC institutions and their Category Normalized Citation Impact (2020 - 2024)

64 Novel Intelligent Wearable System improves mobility for Parkinson's Disease patients, https://www.polyu.edu.hk/publications/excelximpact/issue/202212/interdisciplinary-research/novel-intelligent-wearable-system-improves-mobility-for-parkinson-s-disease-patients?
65 Professor TAO Xiao-ming elected as 2025 HKAE Fellows, https://www.polyu.edu.hk/sft/news-and-events/news/2025/0121-hkae-fellows/
66 PolyU Science Scholars garnered five awards at Silicon Valley International Inventions Festival 2024, https://www.polyu.edu.hk/fs/news-and-events/polyu-science-in-the-news/2024/polyu-science-scholars-garnered-five-awards/
67 Professor Zijian ZHENG's project receives funding from RAISe+ Scheme, https://www.polyu.edu.hk/rise/news-and-events/news/2024/prof-zijian-zheng_raise/
68 QS World University Rankings by Subject 2025: Art and Design, https://www.topuniversities.com/university-subject-rankings/art-design?search=hong

Societal impact

Building on PolyU's expertise in STEM subjects, the Research Centre for Future (Caring) Mobility embodies the University's vision of integrating STEM with art and design for an innovative approach to addressing real-world challenges. Collaborating with leading industry partners, including Huawei and electric vehicle manufacturers, the Centre's interdisciplinary team, comprising researchers from computer science, rehabilitation sciences and design, is developing life-changing innovations, such as virtual reality support for elderly mobility management.

In 2023, the PolyU-NVIDIA Joint Research Centre was established as a collaborative academia-industry research platform. This collaboration allows PolyU's strong applied research skills to access NVIDIA's most advanced computing resources and world-leading AI technology in innovative designs. Recognising the University's decades-long academic excellence and strong commitment to innovation and interdisciplinarity, in 2025, PolyU became Hong Kong's first tertiary institution to receive funding from the prestigious China National Arts Fund 2025 in the Art Talents Training category. The funded Digital Art Curation Talents Training Programme will be launched by the PolyU Research Centre for Cultural and Art Technology (CAT), with support from the PolyU-NVIDIA Joint Research Centre. This initiative will nurture the next generation of talent in digital art curation and enhance Hong Kong's position as a global leader in blending Eastern and Western art.

To further increase its presence and impact in the Chinese Mainland, two key centres have been established in Beijing: the PolyU Creative Technology Centre (Beijing) and the PolyU Policy Research Centre for Innovation and Technology (PReCIT Beijing). These centres will focus on research collaboration in AI, the metaverse and industry-academic partnerships. PolyU Design also forged a new partnership with the Shanghai International College of Design and Innovation at Tongji University to address global challenges and drive social change through innovation.

PolyU Design has expanded its regional and global influence by undertaking numerous cross-disciplinary projects in engineering and architecture. "Insitu Project", a research platform founded by **Professor Peter HASDELL** is an example of such an interdisciplinary approach. "Insitu Project" has enabled innovative new methods for sustainable community development through the introduction of circular material economies utilising local resources, fostering community capacity building and local economies in several diverse communities. The methodologies developed by "Insitu Project" have been applied in the implementation of 12 village projects across eight provinces in the Chinese Mainland, Hong Kong, and Iraq, including the Miaoxia Community Projects (2015-18), House of Dreams (2018-20), and Habibi Community Centre (2021-22), resulting in the co-design and construction of 16 buildings since 2015.[69] In House of Dreams, an award-winning project that revitalised an abandoned cave settlement in Zhoushan Village in Henan Province, zero-mile materials in the form of local construction material waste were used to rebuild the settlement, mitigating the environmental impacts of construction on communities, and aligning with Sustainable Development Goal 11 – Sustainable Cities and Communities. Community participation significantly enhanced shared community benefits to restore and preserve the local culture.

PolyU has contributed to global development while also positively impacting the Hong Kong community. **Professor Michael Kin-wai SIU**, Chair Professor of Public Design, is the founder and leader of the first Public Design Lab and the Director of the Joint-Research Center for Inclusive Environment of PolyU and Harbin Institute of Technology. Having worked closely with the deprived and persons with special needs, Professor SIU advocates for designing public infrastructures with sustainability and inclusivity. His patented invention FlexiBOL® is a bollard system that can be modified easily to fit different landscapes within public spaces and street environments. FlexiBOL® has been widely adopted by the Highways Department of the Government of the HKSAR.

To address the housing demands in Hong Kong, **Professor Brian Yu-hin LEE**, Associate Professor and Assistant Dean, and **Dr Aria Chien-hui YANG**, former Research Assistant Professor, led a multidisciplinary team and developed the "Well-being Design Guide" for the Housing Bureau and the Hong Kong Housing Authority of the Government of the HKSAR. This Guide combines cross-disciplinary expertise in housing innovation and service innovation. The framework outlined eight key well-being factors that should be considered when developing public housing, including health and vitality, green living and sustainability, age-friendliness, intergenerational and inclusive living, family and community connection, urban integration, upward mobility as well as perception and image.[70] This Project will not only influence public housing policies but will also impact evaluation criteria for vendors bidding on public housing projects.

To combat the increasing mental health challenges experienced by Hong Kong residents, the research team

---

69 In-situ Project, https://research.polyu.edu.hk/en/activities/in-situ-project-external-organisation
70 PolyU interdisciplinary team's Well-being Design Guide for housing policy makers in Hong Kong, https://www.polyu.edu.hk/sd/news-and-events/news/2024/20241018-polyu-interdisciplinary-teams-well-being-design-guide-for-housing-policy/

led by **Professor Johan F. HOORN**, Interfaculty Full Professor of the School of Design and the Department of Computing, was awarded HKD 40.89 million from the RGC Theme-based Research Scheme for his project "Social Robots with Embedded Large Language Models Releasing Stress among the Hong Kong Population".[71] Professor HOORN holds two PhD degrees, one in General Literature and one in Computer Science. His research interests in emotion, creativity and artificial intelligence have brought PolyU Design and the Department of Computing together. Their social and communicative robot aims to alleviate the pressure on community mental health support. The research team will use localised, cultural and personal data to train the human-like social robot to act as a natural interaction partner, which can provide services to vulnerable local communities in need of mental health support. To enhance the robot's ethical practice, the research team will conduct field research and consultation with users to inform the robot about cultural considerations and taboos relevant to Cantonese culture.

Top scholars

Reflecting the impact of their work, staff from PolyU Design have won many awards for their innovative designs and contributions to advancing design education at PolyU. **Ms Rennie KAN**, the School's Senior Marketing Manager, received the Intrapreneurial Lifetime Achievement Award in 2023 from the Global Intrapreneurs Institute.[72] This marks the first time this award has been presented to a recipient from Hong Kong. The recognition reflects the importance of PolyU Design initiatives.

Further emphasising PolyU's impact and leadership in design, **Professor Stephen Jia WANG's** two inventions – EmoFriends, which monitors stress levels via touch, and the Transparent Knee Guard – won the 2025 iF Design Awards, one of the most prestigious international design awards. Winning these awards required the designs to be among the best out of almost 11,000 submissions from around 66 countries. In addition to the iF Design awards, EmoFriends also won the Gold Award in the Hong Kong Techathon+ 2025 and the Global Design Awards. The Transparent Knee Guard was awarded the MicroFund Top Performer, as well as the Good Design US and Global Design Awards.[73]

PolyU's distinctive disciplines integrate creativity with technological expertise, and this integration continues to influence global standards in these dynamic and culturally unique fields.

71 Two PolyU projects awarded RGC Theme-based Research Scheme Funding for sustainable impacts,
    https://www.polyu.edu.hk/en/media/media-releases/2024/0715_polyu-projects-awarded-rgc-theme-based-research-scheme-funding/
72 PolyU Staff Member Wins Global Intrapreneurial Award, Boosting Hong Kong's Innovation Profile,
    https://www.polyu.edu.hk/en/recent-focus/20240110_global-intrapreneur-award-by-rennie-kan/
73 PolyU Design Recognised with Multiple Honours in the Prestigious iF Design Award,
    https://www.polyu.edu.hk/sd/news-and-events/news/2025/20250410-polyu-design-recognised-with-multiple-honours-in-the-prestigious-if-design-award/