Hong Kong Museum of Medical Sciences Society
2020 Summer · No.27 2020年 夏季號

Medical Museum snapshot

香港醫學博物館 通訊

結合中醫與科技：三維擴增實境針灸銅人

古代針灸銅人，體現了其時代的金屬鑄造工藝，傳統穴位與經絡都鐫刻在銅人的表面作培訓教學之用，但以往形式缺乏互動。香港醫學博物館的最新展覽「中醫與科技結合 – 3D 針灸銅人」裡，將會結合中醫與科技，打造一個嶄新的 3D 針灸銅人，銳意給學生及公眾帶來富趣味的互動學習體驗。

我們採用現代科技，首先以電腦掃描與三維掃描真實人體，利用三維電腦技術一層接一層重組，最後通過三維金屬立體列印真實人體模型。在這個與真人高度相約的人體模型表面上，我們會用不同顏色的物料印上十四條人體經絡；同時電腦的模型上記錄超過兩百個穴位。這種做法與坊間使用的應用程式及線上資料是不同的，實在沒有實體很難讓同學掌握各部位的實況。因此我們使用了虛擬擴增實境互動程式，在三維銅人上不但可以尋找穴位，也能即時顯示相關疾病的資訊，讓中西醫科學生與公眾了解如何將針灸應用於常見疾病，及學習養生保健知識。

CHINESE MEDICINE THROUGH TECHNOLOGY: 3D COPPER ACUPUNCTURE AUGMENTED REALITY MODEL

The Hong Kong Museum of Medical Sciences aims at bringing about innovative and educational experiences to the visiting public and medical professionals. Several years back, the Museum led by Dr. E Yu planned setting up exhibitions on Chinese Medicine. One of the exhibitions is the 3D Copper Acupuncture Model (3D Acu-Man) exhibition in October 2020 supported by the Innovation and Technology Commission. This project should bring Traditional Chinese Medicine and modern computer technology to a new milestone.

Historically, the orthodox acupuncture statues used for studying/training acupuncture were produced by metal copper craftsmanship. The acupuncture points and meridians were hard coded on the metal surface. To modernize this traditional acupuncture study/training, a series of human body images was acquired with computerized tomography (CT) and 3D scanning techniques. Using modern computing techniques for 3D reconstruction, a 3D computer model of the human body will be featured in reality using 3D metal copper printing. Over this human size model, fourteen meridian lines will be printed with colored materials. More than 200 acupuncture points were marked on the computer model at this stage. Different from existing apps or web information that lack a physical model to grasp details with actual touch, Augmented-Reality interactive techniques are used for tracking the acupuncture points on the 3D Acu-Man model and for display of information on related illnesses. This design can assist students and visiting public to learn about the application of acupuncture in disease and in health.

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承蒙香港創新科技局的資助，我們與一眾專家共同籌劃「中醫與科技結合 – 3D針灸銅人」展覽，展覽及免費導賞團將於 2020 年 10 月推出，盼望結合傳統中醫與現代科技，為公眾帶來中醫新視野。

The goal of this project is to facilitate the Western scientific Medicine and students in Chinese Medicine to appreciate the effectiveness of acupuncture in disease treatment, and provide interactive learning experience to the public for their own health care. Through this project, a new look of Traditional Chinese Medicine will be brought forward to the public.

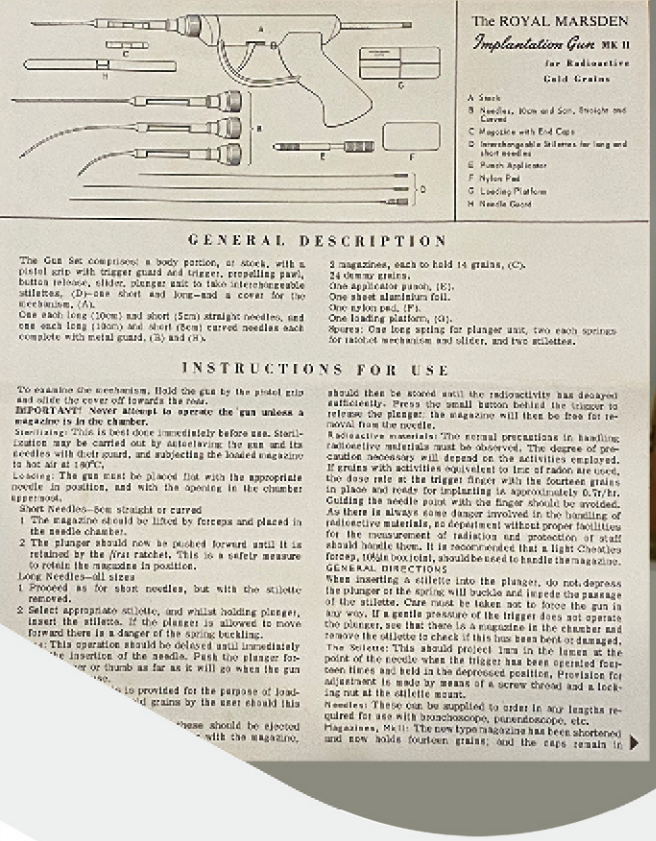
▲ 項目伊始得到來自專業學會與大學的專家支持，共同努力。
The project supported by a group of experts from the professional associations and universities.

Dr. Edwin CL Yu is one of the few specialist doctors practicing in both western and Chinese medicine at the same time in Hong Kong. He has been given honorary academic positions in three universities. Dr. Yu is a founding director and currently honorary president of the Hong Kong Association for Integration of Chinese-Western Medicine (HKAIM), and was a non-official member of the Chinese Medicine Development Committee of HKSAR. Dr. Yu is currently Chairman of the Hong Kong Medical Museum Foundation.

余秋良醫生是少數在香港同時執業西醫和中醫的專科醫生之一。 他曾獲香港三所大學授予榮譽學術職銜。 余醫生是香港中西醫結合醫學會的創會董事及榮譽會長，以及曾委任香港政府中醫中藥發展委員會的非官方委員。余醫生現正為香港醫學博物館基金主席。

Dr Carrison K.S. Tong obtained his PhD in Medical Imaging at the Royal Postgraduate Medical School, Imperial College, UK. He has published in the area of medical imaging, medical modelling, 3D Visualization, and 3D Printing, and has filed two patents: Stereoscopic Visualization Systems for Robotic and Laparoscopic Surgeries and Dual Channel Stereoscopic Video Streaming Technique. Dr. Tong's Information & Communication Technologies inventions have won 7 Hong Kong Information & Communication Technology Awards and several international awards.

唐嘉信博士在英國帝國大學皇家醫學研究院獲得醫學影像博士學位。他曾於醫學影像、醫學模擬、三維可視化和三維打印領域發表論文，擁有兩項專利：用於機器人和腹腔鏡手術的立體可視化系統以及雙通道立體視頻流技術。唐博士的通訊科技發明獲得七個香港資訊及通訊科技獎獎項和多個國際獎項。



以下內容根據程愷禮博士的資料撰寫
Based on information provided by Dr Kerrie MacPherson

金粒植入槍
GOLD GRAIN IMPLANTATION GUN

自從倫琴在 1895 年發現 X 射綫後，1899 年放射綫首次應用於癌症治療，這是以非手術方法治療癌症的一大突破。金粒植入槍是二十世紀中期短距放射治療的一項創新發明，用來對付難治或不能割除的癌病，如在前列腺、膀胱、子宮、盆腔、胃癌等；對治療香港常見的鼻咽癌尤為適用。治療的方法是把白金包裹放射性金粒植入到惡性腫瘤內。雖然體外放射治療仍是鼻咽癌的第一綫治療方法，但鼻咽癌所處的位置，令頑固和復發的癌病很難處理。

植入槍是由英國義診癌症醫院的研究員 Hodt、Sinclair 和 Smithers 於 1952 年所設計。1965 年經 Jones、Taylor 和 Stedeford 加以改良，以減低使用者手指、手和眼睛攝入輻射。與舊模型相比，新的植入槍比較輕巧，可以用高壓消毒，能更有效向預設點射進放射性金粒。本館所藏的正是這款經過改良的金粒植入槍，於 1966 年 5 月 3 日由倫敦醫療用品協會運抵瑪麗醫院。(序列號 260，專利號 744691)。瑪麗醫院於 1996 年把該槍贈送給香港醫學博物館。

Non-surgical cancer treatments have undergone a major shift since Röntgen discovered X-rays in 1895 and radiation was first used for cancer treatment in 1899.

The gold grain implantation gun was an innovation in brachytherapy (a form of radiation therapy that involves placing radioactive material inside one's body) in mid-20th Century for the treatment of difficult or inoperable cancers of the prostate, bladder, uterus, pelvis, stomach and, particularly relevant for Hong Kong, nasopharyngeal carcinomas (NPC). The treatment worked by implanting short sections or "grains" of radioactive gold encased in platinum into malignant neoplasms. Although external radiotherapy is the first line of defence, the sites of NPC make it exceedingly complex to target persistent and recurrent disease.

The implantation gun was designed by researchers, Hodt, Sinclair, and Smithers at the Cancer Hospital (Free) in England in 1952. It was modified in 1965 by Jones, Taylor, and Stedeford to ameliorate the risks of radiation exposure to the hands, fingers, and eyes of the operator. It was slimmer, could be autoclaved, and had a more efficient ejection of radioactive gold grains to the specified site compared with the older model. This modified and improved Gold Grain Implantation gun was delivered to Queen Mary Hospital from the Medical Supply Association (London) on 3 May 1966 (Serial No. 260, patent No. 744691). It was donated by the Hospital to the Hong Kong Museum of Medical Sciences in 1996.

新書出版 NEW BOOK RELEASE

默然捍衛

香港細菌學檢驗所之歷史與傳承（修訂版）

THE SILENT PROTECTOR

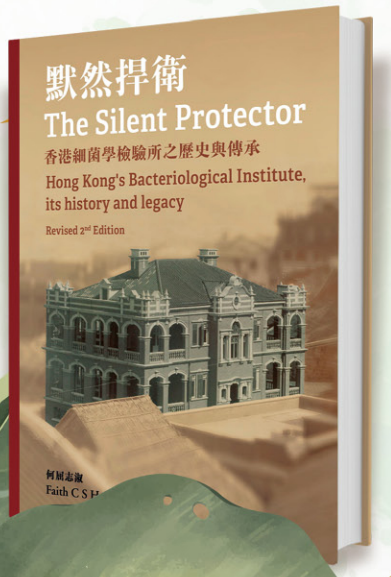
Hong Kong's Bacteriological Institute, its history and legacy (Revised 2nd Edition)

何屈志淑教授 Professor Faith CS Ho

香港醫學博物館位處堅巷的現址大樓，是香港少數受保護的法定古蹟之一，前身為1906 年啟用的細菌學檢驗所，後改稱為病理檢驗所。作為政府首間專門監控疫症和保護本地市民健康而設的實驗室， 細菌學檢驗所與同樣座落於港島太平山區的其他文物古蹟，歷史發展一脈相承。

本書闡述政府如何因鼠疫由 1894 年起持續在港爆發而成立細菌學檢驗所的經過，以及檢驗所於 1906 至 1973 年間在本地衛生防護方面的工作和貢獻，以檢視其於香港醫療衛生發展中所扮演的關鍵角色，藉此將寶貴的經驗傳承下去，亦盼其故事為熱愛香港歷史及醫療文化遺產的人士有所啟迪。

The building in Caine Lane that houses the Hong Kong Museum of Medical Sciences, one of Hong Kong's rare protected monuments, started its life in 1906 as the Bacteriological Institute, later to be renamed the Pathological Institute. It was the first building erected by the Government specifically for laboratory work to help control epidemics and to protect the health of Hong Kong citizens. Its history is much tied up with that of the Taipingshan heritage district where it is situated.



This book describes how the Institute was established in response to the plague outbreaks that troubled Hong Kong starting from 1894, what it achieved during its existence from 1906 to 1973, examines its pivotal role in the development of health and medicine in Hong Kong as a whole, and explores the legacy in leaves for posterity. The story will provide a source of inspiration for those who are interested in Hong Kong's history and its medical heritage.

預訂熱線 Reservation Hotline:

2549 5123

博物館資訊 Museum Information

開放時間

星期二至六　早上10時至下午5時
星期日及公眾假期　下午1時至5時

Opening Hours

Tuesday to Saturday　10 am to 5 pm
Sunday and Public Holidays　1 pm to 5 pm

入場門票

$20　成人
$10　小童、全日制學生、六十歲以上長者或殘疾人士
$50　家庭套票 (包括兩位成人及最多三位小童使用)

Admission Fee

$20　Adults
$10　Children, full-time students, senior citizens (aged 60 or above) and disabled persons
$50　Family Package (2 adults and maximum of 3 children)

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太平山 TPS Medical

TPS Medical Trail

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