

of these research interests, numerous collaborative efforts between our faculty and those in other departments or other academic and industrial sectors have developed. Our department is equipped with facilities such as refrigerated ultracentrifuge, fermentor, MACS separator, fluorescence microscope, phase-contrast inverted microscope, polymerase chain reaction thermal cycler, incubators, P2-level bacteriology laboratory and cell culture room to provide a good research atmosphere for students and faculties.

Prospect

Due to the fact that innovation of biotechnology is prompt and human are facing the challenging of new emerging infectious diseases, dissemination and promoting research of microbiology and immunology is crucial and imperative. Our forthcoming research will focus on the pathogenesis of microbes, new immunization technology, and application of probiotics in preventing and treating disease, hoping to uphold global health worldwide.

(Ching-Hua Su, Director/Professor)

寄生蟲學科

簡史及概況

1960年學科由董事吳振蘭博士首創。1966年學科研究室正式成立，1970年由鍾文政教授擔任第二任科主任至2004年退休轉任榮譽教授後，2004年由范家堃教授擔任第三任科主任，2005年2月學科遷移至醫學綜合大樓十樓現址。目前學科正式編制3位專任教師與1位技術人員，至2009年5月止，只有范家堃教授(具博士學位)和盧盡良講師2位專任教師。目前兼任教師有2位：鍾文政榮譽教授和廖建維講師(具博士學位)。2008年聘請美國熱帶醫學會主席Dr. Panosian為學科講座教授。本學科為目前台灣地區傳統寄生蟲型態學與組織學訓練最專精之重點學科，此外對於寄生蟲免疫學與分子生物學的診斷與研究，本學科的成就亦有目共睹。本學科目前積往國際化目標邁進，並成為台灣主要的寄生蟲與熱帶醫學研究重點學科。

教學目標

世界衛生組織(WHO)明定的六大熱帶醫學疾病當中，寄生蟲病即佔了五項(血絲蟲病、血吸蟲病、利什曼原蟲病、錐蟲病與瘧疾)。台灣處於亞熱帶地區，除有本土性的寄生蟲感染外，台灣民眾出國旅遊風氣盛行，其中又以寄生蟲病流行的東南亞熱帶國家等，為國人最常旅遊的地區，很有可能自旅遊地區感染各式各樣的寄生蟲而罹病；此外東南亞國家勞工的大量引進台灣地區，從事看護或勞力工作，若這些外籍勞工本身於當地國家便已感染寄生蟲，進入台灣時卻又沒被檢出，則有可能將當地的寄生蟲帶至國內，進而衝擊國內業經長期努力所做好的寄生蟲防疫系統，而可能威脅國人的健康；目前外籍配偶在台灣地區的人數也已突破數十萬人，這些外籍配偶經統計大部分來自於東南亞國家與中國大陸，無疑地這些在台灣地區的外籍配偶亦將可能是重要的寄生蟲感染源。最近台灣各大學積極朝向所謂「國際化」目標邁進，來台就讀的國際學生又以開發中國家的學生為主，如同外勞的狀況，仍會衝擊台灣已做好的寄生蟲防疫系統，而也同樣可能威脅國人的健康。目前在中國大陸的台商人數也已接近百萬人之譜，往返於兩岸地區的台商是否有可能感染了寄生蟲而不自知，除可能影響自身的健康外，是否也可能因此扮演傳播者的角色，實應加以重視。目前台灣各大學之各級醫學院或其附設醫院對如非洲、中南美洲與大洋洲的開發中邦交國進行多樣而頻繁的「國際醫療援外行動」，這些國家大部分處於熱帶地區與衛生條件較差的國家，有許多在台灣已不常見的寄生蟲病如蛔蟲症或鞭蟲症，更多的是台灣醫療人員非常陌生的特有寄生蟲病如單包條蟲症、盤尾絲狀蟲、住肉旋毛蟲、非洲眼蟲、血吸蟲、囊尾幼蟲症、非洲或美洲錐蟲、利什曼原蟲、瘧疾或犬蛔蟲症等，因大部分此類早期的寄生蟲感染的症狀是非常不明顯且呈現非特異性的臨床表現，常為醫療人員所忽略或誤診，故對參與「國際醫療援外行動」的各級醫療人員而言，對各種重要的寄生蟲感染症的認識與充實專業的診斷與治療能力亦是刻不容緩的事。SARS、禽流感或H1N1等疾病造成世界性的感染，威脅全球民眾生命健康與安全，而造成全球的恐慌即是鮮明的例子。現今全球暖化情形日益嚴峻，許多熱帶地區才有的疾病如利什曼原蟲病也漸漸入侵至一些歐洲國家。基於「疾病無國界」的理念與上述對台灣可造成衝擊的各類因子，教導醫學系、醫檢生技系、公衛系與護理系學生於寄生蟲學的各類流病、病理、診斷與治療的能力實是刻不容緩的事。

教學特色

「新興或再浮現之人畜共通寄生蟲病」對人體造成的健康危害甚劇，如一些入侵組織的寄生蟲如犬蛔蟲、棘顎口線蟲、住肉旋毛蟲、肺吸蟲、血吸蟲、豬肉條蟲、單包條蟲、盤尾絲狀蟲、非洲眼蟲、痢疾阿米巴、自由生活阿米巴、弓形蟲、非洲或美洲錐蟲、利什曼原蟲與瘧疾等，都有可能造成內臟各器官發炎、壞死與纖維化的可能，尤其更可侵犯眼睛與腦部而造成失明與死亡的憾事，此類寄生蟲的感染一般較難被診斷

出來，有賴免疫學或分子生物學技術的診斷，在台灣地區對於一些重要寄生蟲感染的診斷與治療的經驗，由於明顯缺乏人才，在診斷此類寄生蟲疾病上的能力顯然不足，更遑論此類寄生蟲感染可藉早期診斷而達到早期治療治愈的預防醫學目標。故有鑒於此，加強國內寄生蟲醫學知識與寄生蟲病疫情偵測能力仍是刻不容緩的事。故本學科寄生蟲學課程務使同學對於寄生蟲病於世界的流行及嚴重性有所認知外，並安排適當之實驗課程，為往後於臨床醫療、檢驗與護理及公共衛生防疫工作上能迅速正確做出適當的處置、診斷及治療。

師資

因寄生蟲學科師資較少，為了教學之需求，除延攬學有專精之國立大學教授與疾管局博士級專業師資參與進行大堂課教學外，學科專、兼任教師亦積極參與教學與研究能力提昇研討會，加速自我教學與研究能力之改進。2009年8月底止有2位專任教員，包括專任教授1名與專任講師1名；2位兼任教員包括教授1名，兼任講師1名與1名美國講座教授。此外尚有1名具醫檢師執照的寄生蟲學技術員。

研究特色

本學科可進行「實驗室基礎研究」、「臨床病症診斷」與「流行病學調查」的研究。本學科在范家堃教授多年的積極努力下已完整建構：「犬蛔蟲症肉芽腫性肝炎」、「犬蛔蟲症肉芽腫性肌炎」、「眼部犬蛔蟲症」與「神經性犬蛔蟲症」的動物病理實驗模型，可進行各類分子免疫病理的基礎研究。此外2009年7月至8月間范家堃教授帶領全體學科成員至南部非洲史瓦濟蘭王國進行寄生蟲病流行病學調查，擴展與第三世界的國際研究合作，增進學科的國際視野與研究能力。學科所有這些研究成果可參閱寄生蟲學科教師近3年重要研究成果一覽表：

<https://rdsys.tmu.edu.tw/sci/s3/default.asp>。

展望

本學科為目前台灣地區「傳統寄生蟲型態學與組織學」訓練最專精之重點學科，此外對於「寄生蟲症免疫學與分子生物學」的診斷與研究，本學科的成就亦有目共睹。本學科目前積往國際化目標邁進，2009年7-8月間整個學科至南部非洲「史瓦濟蘭王國」進行寄生蟲學研究，獲致良好成果，希冀學科能成為台灣與國際上重要的寄生蟲學與熱帶醫學研究重點單位。

(范家堃 主任/教授)

Department of Parasitology

History and Overview

In 1960, Dr. Wu CL, a past Trustee, Board of

Trustees, TMU, firstly set up the department; thereafter, the laboratory for parasitology research was then well established in 1966. Professor Chung WC became the 2nd director of department from 1970 onwards, following his retirement in 2004; Professor Fan CK became the 3rd director of department till now. During 2005, the department moved to the 10th floor in United Medical Building. At present, there are only 2 full-time faculties (one professor with PhD degree and one lecturer with bachelor degree), 2 part-time faculties (one honored professor and one lecturer with PhD degree), and one contractor. In 2008, the president of American Society for Tropical Medicine, Dr. Panosian C was invited to be the chair professor of the department. Our department has long been regarded as the most outstanding professional organization for traditional parasitic morphology and histology training; in addition, the academic achievements of molecular and immunological diagnosis and research on parasitosis also gain excellent reputation. The present goal of the department aims to become the most outstanding professional organization for parasitology and tropical medicine research in Taiwan thus fulfilling the globalization trends.

Goal of Education

World Health Organization indicated that among the six major tropical diseases, of which five diseases were ascribed to parasitosis (filariasis, schistosomiasis, leishmaniasis, trypanosomiasis, and malaria). Taiwan is situated in the subtropical districts, in addition to indigenous parasitic diseases, inhabitants like to travel all over the world; however the places where they visited usually are southeastern tropical countries and if they neglected the personal hygiene, they will often acquire the parasitic infections caused by consuming various infective forms of parasites through their eating behavior. In addition, a great number of labors imported from southeastern countries, if those people having infected with parasites before

they came to Taiwan, but those infected persons are not found by laboratory examination, the local parasites which they were infected from their countries will have profound impacts on defense system, which was well established, aimed to prevent people from parasitic infections in Taiwan thus may threaten people's health. Several hundred and thousand foreign spouses most of them came from southeastern countries and China that they may play an important role in transmission of parasites. Recently, for globalization goal, many Taiwan universities are actively engaged in recruiting international students to study in their individual schools; however many of them come from developing countries where parasitic infections are still prevalent, so this situation is very similar to laborers from southeastern countries, those students may also have some impacts on the established defense system for parasitic infections on Taiwan. Additionally, many Taiwanese businessmen in China may be infected with various parasites from China but they did not beware of this infection, so they also may act as an important role in transmitting the parasites into Taiwan which can not be overlooked. Now, various Taiwan hospitals provide medical services to developing countries with diplomatic relationship in Africa, Central-South America, and Oceania; however poor hygienic conditions exist in most of those countries, many parasitosis seldom seen in Taiwan such as Ascariasis or Trichuriasis, or more are unfamiliar to Taiwan doctors such as Hydatidosis, Onchocerciasis, Trichinosis, Loiasis, Schistosomiasis, Cysticercosis, African and American Trypanosomiasis, Leshmaniasis, Malaria, and Toxocariasis. It is urgent a need to educate medical workers to recognize and treat important parasitic infections professionally due to the clinical symptoms of most parasitosis are nonspecific or unapparent thus easily leading to misdiagnosis or neglect such infections. Obviously, many infectious diseases such as SARS, Bird flu, and H1N1 may threaten people's health and safety as to cause people's

anxiety; in addition, global warming effects are roaring, many tropical diseases such as leishmaniasis gradually invade some European countries. Based on diseases have no national boundaries and what we have mentioned above, it is urgent a need to teach and educate the students studied in various medical and paramedical departments to have ability in every aspect of epidemiological, pathological, diagnostic, and treatment knowledge as to further help them make excellent decisions in their professional career in the future.

Distinctive Feature of Education

New or re-emerging zoonotic parasitosis threatens human health greatly, some parasites such as *Toxocara canis*, *Gnathostoma spinigerum*, *Trichinella spiralis*, Pulmonary flukes, *Schistosoma* sp, *Taenia solium*, *Echinococcus granulosus*, *Onchocerca volvulus*, *Loa loa*, *Entamoeba histolytica*, free living amoeba, *Toxoplasma gondii*, American and Africa trypanosoma, *Leishmania* sp, and *Plasmodium* sp are capable of invading human tissues to cause severe inflammation, necrosis, and fibrosis in internal organs; particularly when they invade eyes and brains may lead to blindness and even fatal consequence. However, such parasitic infections are too difficult to be detected; therefore diagnosis is mainly dependent on immunological and molecular approaches. In Taiwan, owing to shortage of specialists in this field the ability to diagnose such infections is much desired, not mention to meet the goal of preventive medicine aiming to earlier been diagnosed earlier been treated. Based on those reasons mentioned above, it is urgent to enhance parasitological knowledge and surveillance ability in the nation. The Parasitological course provided by our department will discipline students to know the severity and epidemics regarding parasitic diseases in the world and in addition some experiment courses will be arranged adequately to further help them make excellent decisions

and rapid diagnosis in their professional career in the future.

Faculty

For the teaching purpose, our department invites professors worked in national universities and specialists worked in Bureau of Infectious Diseases Control, Taiwan to participate in our lecture courses due to too few staff; additionally, full- and part-time teachers are also engaged in participating in various workshops related to research and teaching-promotion ability to enhance individual's research and teaching potentials. Until the end of August, 2009, our department has 2 full-time staff including one professor and one lecturer, 2 part-time staff including one professor and one lecturer, and one chair professor of United States of America is recently recruited in our department. In addition, one technician with medical technologist license works in the department.

Distinctive Feature of Research

Basic medical research, clinical diagnosis, and epidemiological investigations may be undertaken in the department simultaneously. Professor Fan has established animal models of "toxocaral granulomatous hepatitis and myositis", "ocular toxocariasis", and "cerebral neurotoxocariasis" that may be applied in molecular and in immunopathological studies in various parasitic diseases. In addition, Professor Fan led all of the staff and graduate students to the Kingdom of Swaziland, Southern Africa to undertake field-based parasitological academic research during July-August, 2009, through international cooperative opportunities promotes the international perspective and academic research potential of the department. All of the academic achievements can be consulted from this website <https://rdsys.tmu.edu.tw/sci/s3/default.asp>.

Prospect

Our department is the most professional organization for disciplining traditional parasitic morphology and histology in Taiwan, and gains the outstanding achievements related to diagnosis and research of molecular and immunological studies in various parasitic diseases. Nowadays, our department aims reaching toward globalization and we gained excellent achievements in epidemiological studies in the Kingdom of Swaziland, Southern Africa during July-August, 2009. Wish the department become the most professional and important academic organization of Parasitology and Tropical Medicine research in Taiwan and even in the world in the coming future.

(Chia-Kwung Fan, Director/Professor)

公共衛生學科

簡史及概況

台北醫學院成立於民國四十九年，並於民國五十二年八月正式成立公共衛生學科，為醫學系八個基礎學科之一。公共衛生學科第一任主任為王耀東教授(52-58)，歷經洪清霖教授(58-72, 74-78)、葉錦瑩教授(73, 82-83)、許東榮教授(78-82)、邱文達教授(83-85)、韓柏樑教授(85-94)，邱弘毅教授(94-98)，民國九十八年八月由薛玉梅教授擔任公共衛生學科主任。

教學目標

培養醫學系學生具有臨床醫學資料整理、統計分析與結果判讀的能力。

訓練醫學系學生擁有流行病學研究方法與疾病調查的能力。

使醫學系學生瞭解如何經由各種環境暴露因素之控制及改善，達到健康促進的目的。

架構"基礎醫學"與"臨床醫學"間的連繫橋樑，養成醫學生未來臨床階段預防醫學應用的能力。

使醫學系學生對職業病及職業病之預防與控制有所了解，啟發對職業醫學之興趣。

使醫學生能真正體會預防重於治療的現代公共衛生精神，成為具有社會觀的醫者。

教學特色

醫學系學生過去必修公共衛生學相關課程共八學分，均由公共衛生學科專任教師主授，內容包括生物統計學二學分、環境醫學二學分、流行病學一學分、實際公共衛生學二學分以及預防醫學一學分等。目前醫學系學生必修公共衛生學相關課程共八學分，由公共衛