備之更新。

生理組教學特色

八十八學年度首先將問題導向之小組討論教學(Problem-Based Learning) 置入生理學授課迄今，對於啟發學生自我學習及增進其解決問題能力有相當顯著的成效。八十九學年度起，於各系統之基礎生理教學後，加入兩小時的課程由臨床醫師教授臨床相關的應用(Clinical Correlation)。八十九學年度起，生理學實驗電腦化。大幅提升實驗所能包含的範圍及學生的學習效率，再加上原有的動物生理實驗，使得改革後的生理實驗課程更趨完善，榮獲該年度本校教學創新獎。

九十七學年度起，於生理學教學中導入人文關懷，以本校附醫病人為教案置入於講演課教材中，並使學生能與病人及家屬有所互動，顯著提昇學生學習動機，榮獲該年度本校教學創新獎。
九十七學年度起，生理學科與解剖學科進行課程各器官系統之結構與功能課程之整合，將原有以學門為導向之課程改為以系統為骨幹的課程。

物理組教學特色

自九十六學年度起，生理學科將普通物理課程設計以醫用物理為導向，結合基礎物理在臨床之應用，如超音波、心電圖、X-ray、人工關節等，使學生能了解基礎物理學對於將來學習醫學專業知能的重要性。 自九十六學年度起，生理學科首創將普通物理學實驗課由學生自製 Crime-Scene Investigation (CSI) 教案做為應用各項物理實驗解決問題的創新課程設計，榮獲該年度本校教學創新獎。

生物組教學特色

自九十四學年度起，生物課程開始導入以小組討論方式由學生報告諾貝爾生物醫學獎的故事，啟發學生對生物醫學的興趣與自我學習的能力，扮演銜接生命科學與醫學專業學習重要樞紐。
自九十七學年度起，生物課程首創與台北市立動物園合作，讓學生參與照顧動物的活動，培養學生愛護生命，尊重生命的學習態度，榮獲該年度本校教學創新獎。

師資

生理學科為了教學研究之需求，除延攬各生理功能系統領域之教學研究師資外，並鼓勵教師積極參與教學能力提昇研討會，加速自我教學能力之改進。2009年8月底止有10位專任教員包括教授4名，專任副教授2名，專任助理教授3名，專任講師1名；6位兼任教員包括教授4名，兼任副教授1名，兼任助理教授1名。

研究特色

生理學科研究以細胞生理及神經科學為主軸，以臨床疾病之致病機轉及治療策略相關之基礎醫學研究為重點。細胞生理學主要以心血管疾病、呼吸系統及消化道疾病為研究重點；神經科學研究則以腦損傷及退化相關疾病為重點。生理學科已陸續延攬各領域的國內外研究師資，成立多方位研究團隊，曾執行國科會整合型計畫及國家型基因體計畫，並有良好成績。

展望

在醫學教育持續創造教學卓越: 生理學科以啟發醫學生具備人文素養及醫學專業能力為主要使命，不斷的因應醫學教育及學生世代的變遷，而持續投注心力於教學創新。未來將致力於將教學創新經驗推廣至國內其他醫學院校，奠定本校在國內生理學教育界之重要地位。

在醫學研究致力提昇研究水準國際化: 積極推展與國內主要研究機構及國外大學醫學中心之教學與研究合作，使本學科研究成果更加提昇，並獲得國際間的肯定。目前本學科教師多與中研院及國衛院進行學術合作，擬增加與外國大學合作計畫，增加科內教師的國際能見度，並積極爭取舉辦國際研討會。最終目標為使本學科及本校成為國際知名的細胞生理學及神經科學研究重鎮。

(李怡萱 主任/教授)

Department of Physiology

History and Overview

Department of Physiology, School of Medicine was founded since 1960 when Taipei Medical University (TMU) was first established. The Department was chaired by Prof. Tsong-Huan Kuo in 1960, Prof. Jing-Yi Wu in 1964, Prof. Cheng Chang in 1967, Prof. Hong-Rong Liu in 1970 and 1983, Prof. Chung-Jen Huang in 1980, Prof. Li-Hsueh Tsai in 1990, and Prof. Wen-Sen Lee in 1998. From 2005, Prof. Yi-Hsuan Lee is now served as the department chairman. In 1999, the Biology and Physics sections, which was belonged to the Department of General Sciences, were merged to the Physiology. Since then, the Physiology Department carried the mission of teaching General Biology, General Physics, and Medical Physiology at Taipei Medical University.

Goal of Education

Our goals of medical education for medical

students include logic thinking, problem solving, innovation, life-long learning, and professional expertise in medical physiology. We also design curricula to educate medical students to have empathy to patients, which serves as the philosophical basis to motivate students learning medical physiology as their essential knowledge to save people. We also educate medical students to have global view of the new frontiers in the research development of medical physiology for health care and clinical applications.

Distinctive Features of Education

The Physiology department has been playing a major role at TMU in the innovation of medical curriculum and teaching strategies in the past ten years. In 1999, we launched the revolution of curriculum aiming for the inspiring and modernizing medical teaching. The distinct features of each teaching section are as follows.

Innovative teaching in Medical Physiology

We implemented the Problem-Based Learning (PBL) in the Physiology lecture and lab courses since 1999. The course has successfully educated students to develop logic thinking and problem solving skill. The Physiology PBL course developed by our department has served as the model for other basic science departments of the School of Medicine throughout the revolution of the medical education.

We implemented clinical correlations following the lecture of each organ system since 2000. These lectures are delivered by clinicians of the TMU affiliated hospital to provide students important insight on how to apply basic science knowledge to the understanding of diseases. We remodeled the Physiology student lab course by replacing some of the traditional animal experiments with the computer software-based human physiology lab. The new setup allows students to measure various physiological parameters similar to the clinical examinations, such as EMG, ECG, EEG, lung volumes, etc. The lab course with combination of human physiology, animal experiment, and virtual physiology lab provides multiple and enriched approaches of hand-on learning to the medical students. We received the Innovative Teaching Award for this lab teaching remodeling project in 2001.

We implemented humanity in the Neurophysiology teaching since 2008. The curriculum was designed to let students be a supportive group of a neurotrauma patient, and the patient to be a teacher for students to learn how to apply neurophysiology and neuroanatomy in the understanding of neurological disorders. This course design has received the innovative teaching award in 2008 for integrating humanity into basic science learning for medical students.

We are now integrating Physiology and Anatomy into organ system-based curriculum. The remodeled course will allow medical students to gain basic science knowledge from the view of integration.

Innovative teaching in General Physics

The General physics course is specially designed for the 1st year medical students to understand the importance of physics in medical science, such as X-ray as an application of radiation physics, ECG for bioelectricity, artificial joint design for biomechanics, etc.

The General Physics Lab course is specially design to train the problem solving skill. We created a student-made "Crime-Scene Investigation (CSI)" case presentation every year to motivate students to resolve "Who is the suspect?" from the clues that need to be examined by using instruments in the physics lab. This course design received innovative teaching award in 2007.

Innovative teaching in General Biology

The General Biology lecture and lab courses are designed to hold small group discussion on Nobel Prizes in Medical Physiology. The 1st year medical students are inspired by the innovative thinking of the Nobel Prize laureate, thereby motivated to pursue biomedical research in their career.

We have recently established collaboration with the Taipei City Zoo to allow the 1st year medical students to serve as 1-day volunteers in the Zoo to care various kinds of animals. This innovative teaching design is implemented in the General Biology lab course to educate students how to cultivate right attitude toward all lives. This coursed design has thus received innovative teaching award in 2008.

Faculty

The Department of Physiology has recruited five new faculty members major in neuroscience, cardiovascular physiology, respiratory physiology, and biomechanics to meet the needs of teaching medical as well as paramedical students. We also encourage faculty members to participate workshops and symposia on medical education to improve teaching skill. On August 30, 2009, the Department of Physiology has 10 full-time faculty, including 4 professors, 2 associate professors, 3 assistant professors, and 1 instructors; 7 part-time faculty, including 4 professors, 1 associate professors, 1 assistant professors.

Distinctive Features of Research

The main research interests of the Physiology Department are cell physiology and neuroscience. Research topics of all faculty members are aiming to unravel molecular and cellular mechanisms of pathophysiology as well as therapeutic approaches for diseases in various organ systems, including cardiovascular disease, cancer progression, airway hypersensitivity, traumatic brain injury, and stroke, etc. The Department members have been conducting numerous government-funded research grants, including two program projects sponsored by National Science Council and National Genomic Medicine Program with productive research publication.

Prospect

Teaching Excellence in Medical Education: The Department of Physiology carries the mission to educate medical students to become a medical doctor with sense and sensibility, human caring, and professional knowledge as well as attitude to pursue their career in clinical medicine. We have kept devoting effort to modify the teaching strategy to accommodate the changes of medical education system as well as the new generation of medical students. The ultimate goal is to establish a more cohesive transition from basic science to clinical science curricula, and promote the innovative teaching strategy to other university to establish major credential of our department in the physiology education in Taiwan.

Promote Research Excellence: Most of the department faculty members are currently collaborating with major research institute such as academia sinica and national health research institute (NHRI). We are now establishing international collaboration with major medical center overseas as well as participating in the organization of international symposium to promote the international credential of our department in the biomedical research. The ultimate goal is to establish our department and University as the internationally renown institute in cell physiology and neuroscience research.
(Yi-Hsuan Lee, Director/Professor)

藥理學科

簡史及概況

藥理學科負責學校各系藥理學、藥理學實驗等基礎教學，同時於 2002 年成立藥理學研究所，目前已合併至醫學科學研究所(2008 年)。藥理學科為配合國家生技與藥物發展之導向，包括中草藥、合成物、生技基因產物等，進行先導藥物作用之探討；並與