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

臨床單位合作，研究藥物或基因性之治療及相關病理之機制。以期培訓藥物篩選研發與藥效評估分析之藥理人才，與加強藥理教學與研究，強化藥理師資之培訓。

教學與研究特色

在教學方面: 藥理學授課主要以簡報檔為主，藉由與臨床或其他基礎課程以橫向與縱向整合方式探討藥物之 (1)作用機轉，(2)適應症，(3)副作用， (4)臨床禁忌，(5) 藥物與藥物之相互作用，(6)治療劑量及(7)臨床使用上應注意事項。並邀請臨床醫師講授臨床相關課程，期許能讓學生熟悉基礎藥理學之相關知識，俾能使畢業生在日後執行醫療相關工作時，能對處方做出最嚴謹的判斷與處理。同時藉由電腦教學方式的建立(遠距教學)，逐步讓課程 e 化。讓學生可藉由網路進行藥理學之學習而不受空間與時間之限制。

在研究方面：配合本校重點研究方向，進行腦中風、心血管與血栓凝血系統相關作用藥物之研發或機轉探討。並與本校臨床各學科合作進行相關藥理、毒理學之研究。或與本校生藥與藥學所合作進行中藥天然物或合成成分之藥物開發與作用機轉之研究，以期提高研究計畫之數量及論文發表之質與量。

師資

姓名及職稱	最高學歷	研究專長
許準榕主任	台大醫學院 藥理學博士	心血管分子藥理學、腦中風、血栓與凝血、訊息傳遞、分子生物學
陳增福名譽教授	台大醫學院 藥理學博士	藥理學、神經骨骼肌藥理學
柯文昌名譽教授	東京醫科大學 醫學博士	藥理學、心絞痛、氣喘新藥之開發
林松洲教授	日本國立東京大學 藥理學博士	肝炎藥理學、肝炎病理學、自然療法、食物與癌症
蔡妍菊教授	日本國立東京大學 藥學博士	細胞生物學、抗癌藥物研發、生物化學、藥理學
蕭哲志副教授	台大醫學院 藥理學博士	自由基損傷學、血液血栓藥理學、抗發炎藥理學、心血管藥理學
周敦穗副教授	台北醫學大學理學博士	自由基、藥理學
許銘仁助理教授	台大醫學院 藥理學博士	分子藥理、訊息傳遞、細胞凋亡
曾素惠講師	國防醫學院 生化研究所碩士	環境生化藥理學、天然物之心血管藥理學
林國強助理教授(兼)	國防醫學院 醫學博士	臨床藥理學
陳明仁助理教授(兼)	Institute of Cancer Studies, School of Medicine, University of Birmingham, Birmingham UK 醫學博士	應用基因藥理學
李居仁助理教授(兼)	國立陽明大學 藥理學博士	藥理學
郭玉誠助理教授(兼)	台大電機工程研究所 醫學工程組博士	中醫藥研究方法
陳裕仁副教授(兼)	國立陽明大學 傳統醫藥研究所博士	抗癌藥物之研發與免疫藥理學

研究成果

藥理學科在進行腦中風、心血管與血栓凝血系統、自由基與發炎相關作用藥物之機轉探討上研究成果豐碩，皆發表於高質量國際期刊，近三年研究成果如下:

1. Chang, Y., Hsieh, C.Y., Peng, Z.A., Yen, T.L., Hsiao, G., Chou, D.S., Chen, C.M., Sheu, J.R.(2009).Neuroprotective mechanisms of puerarin in middle cerebral artery occlusion-induced brain infarction in rats. J. Biomed. Sci.
2. Shen, M.Y, Hsiao, G., Fong, T.H., Chen, H.M., Chou, D.S., Lin, C.H., Sheu, J.R.(2008).Amyloid beta peptide-activated signal pathways in human platelets. Eur. J. Pharmacol.(588):259-266.
3. Shen, M.Y., Liu, C.L., Hsiao, G., Liu, C.Y., Lin, K.H., Chou, D.S., Sheu, J.R.(2008).Involvement of p38 MAPK phosphorylation and nitrate Formation in aristolochic acid-mediated antiplatelet activity. Planta. Med.(74):1240-1245.
4. Chung, C.L., Sheu, J.R., Liu, H.E., Chang, S.C., Chou, Y.C., Chen, W.L., Chou, D.S., Hsiao, G.(2008).Dynasore, a dynamin inhibitor, induces PAI-1 expression in MeT-5A human pleural mesothelial cells.

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5. Chung, C.L., Chen, C.H., Yeh, C.Y., Sheu, J.R., Chang, S.C.(2008).Early effective drainage in the treatment of loculated tuberculous pleurisy. Eur. Respir. J.(31):1261-1267.
6. Shen MY, Hsiao G, Fong TH, Chou DS, Sheu JR(2008).Expression of amyloid beta peptide in human platelets: pivotal role of the phospholipase Cγ2-protein kinase C pathway in platelet activation. Pharmacological Research.(57):151-158.
7. Chamg TH, Liu CL, Lin KH, Lin MN, Hsiao G, Sheu JR(2008).Neuroprotective Effects of Acetylsalicylic Acid in Middle Cerebral Artery Occlusion-induced Brain Ischemia in Rats: Suppressed the iNOS, HIF-1alpha, TNF-alpha, and Active Caspase-3 Expressions. Pharm. Biol.
8. Shyu, K.G, Huang, W.C., Tai, P.A., Hsiao, G., Chou, D.S., Lee, L.W., Chen, J.S., Sheu, J.R.(2008).Inhibitory effects of lycopene on the induction of NO, cytokines, and mitogen-activated protein kinase expressions by lipopolysaccharide in primary cultured microglia. Pharma. Biol.(42):579-586.
9. Hsiao G, Lee JJ, Lin KH, Shen CH, Fong TH, Chou DS, S heu JR(2007).Characterization of a novel and potent collagen antagonist, caffeic acid phenethyl ester, in human platelets: in vitro and in vivo studies. Cradiovascular Research.(75):782-792.
10. Shen MY, Hsiao G, Liu CL, Fong TH, Lin KH, Chou DS, Sheu JR(2007).Inhibitory mechanisms of resveratrol in platelet activation: pivotal roles of p38 MAPK and NO/cyclic GMP. British Journal of Haematology.(139):475-485.
11. Chang Y, Hsiao G, Chen YC, Lin JH, Lin KH, Chou DS, Sheu JR(2007).Tetramethylpyrazine suppresses the HIF-1 , TNF- , and active caspase-3 expressions in middle cerebral artery occlusion-induced brain ischemia in rats. Acta Pharmacol. Sin.(28):327-333.
12. Pan CF, Shen MY, Wu CJ, Hsiao G, Chou DS, Sheu JR(2007).Inhibitory mechanisms of gabapentin, an antiseizure drug, on platelet aggregation. Journal of Pharmacy and Pharmacology.(59):1255-1261.
13. Chou DS, Lee JJ, Hsiao G, Hsieh CH, Tsai YJ, Chen TF, Sheu JR(2007).Baicalein induction of hydroxyl radical formation via 12-lipoxygenase in human platelets: an ESR study. J. Agric.Food Chem.(55):649-655.
14. Chen, T.G., Lee, J.J., Lin, K.H., Shen, C.H., Chou, D.S., Sheu, J.R.(2007).Antiplatelet activity of caffeic acid phenethyl ester is mediated through a cyclic GMP-dependent pathway in human platelets. Chin. J. Physiol.(50):121-126.
15. Hsu MJ, Hsu CY, Chen BC, Chen MJ, Ou Geprge, Lin CH(2007).ASK1 in Amyloid β Peptide-Induced Cerebral Endothelial Cell Apoptosis. J. Neurosci. 27(21):5719-5729.

(許準榕 主任/教授)

Department of Pharmacology

History and Overview

The Department of Pharmacology is responsible for teaching pharmacology and pharmacological experiment courses for medical、dental、pharmacy and nursing students. Comprehensive pharmacology courses are also provided to the students of nutrition and health. Graduate programs were established in 2002 respectively offering training courses leading to M.S. and Ph.D. in pharmacology. In order to accommodate the development of Taiwan's biotechnology and pharmaceutical manufacture, faculty members collaborated with clinical medical departments and devoted in natural products used in Chinese medicine and the pharmacological mechanism of synthetic leading drug. Our department aims to elevate the level of education and research in pharmacology, strengthen the learning capacity and prelude