Hong Kong Institute of Medical Laboratory Sciences Ltd.

香港醫務化驗學會有限公司

Annual Scientific Meeting 2008

Theme :

Practice of Evidence-based Medical Laboratory Sciences

Date : Sunday, 27th July 2008

Time : 2:00 pm-6:15 pm

Venue : Grand Ballroom I & II, 6th Floor, Royal Plaza Hotel,
193 Prince Edward Road West,
Mongkok MTR East Station (formerly Mongkok KCR Station)

Major Sponsors in alphabetical order :

Abbott Laboratories Ltd. - Diagnostics Division

Beckman Coulter Hong Kong Ltd.

Sysmex Hong Kong Ltd.

香港醫務化驗學會有限公司
Hong Kong Institute of Medical Laboratory Sciences Ltd.
Formerly Hong Kong Medical Technology Association (Founded 1966)
Flat 1711, 17/F, Block C, Bell House, 525-543 Nathan Road, Yaumatei, Kowloon, Hong Kong
Phone: (852) 2499 0015 Fax: (852) 2499 0382 URL: http://hkimls.org e-mail: info@hkimls.org

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Welcome Message

Y.L. Tsim
President, Hong Kong Institute of Medical Laboratory Sciences

The annual scientific meeting is a major event of the Hong Kong Institute of Medical Laboratory Sciences Ltd. In fact, this is the primary mission of the Institute, which is, to promote the professionalism and academic status of a high calibre amongst her members.

We are fortunate to-day to have four renowned scholars namely, Prof. Patrick Woo of Department of Microbiology, The University of Hong Kong; Prof. Liwei Lu of Department of Pathology, The University of Hong Kong; Prof. Simon Lee of Institute of Chinese Medicine Science, The University of Macau and Prof. Gregory Cheng of Department of Medicine & Therapeutics, The Chinese University of Hong Kong, to enlighten us with the recent advances in the practice of evidence-based medical laboratory sciences, the theme chosen for to-day's meeting.

We will not be able to organize such an assembly in this venue without the sponsorships from our partners in the commercial field. They are, in alphabetical order: Abbott Laboratories Limited, Diagnostics Division; Beckman Coulter Hong Kong Ltd; and Sysmex Hong Kong Ltd.

I need to thank members of the organizing committee for their hard work, in particular Dr. Kent Tsang and Ms. Emily Yeh. Lastly, I thank all fellow members and friends of the MLT profession for attending to-day's meeting.

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Schedule	Title	Speaker
2:25 pm	Opening Speech	Mr. Yiu-Lam Tsim President, HKIMLS
2:30 pm	More and More Human and Animal Coronaviruses	Prof. Patrick CY Woo Professor Department of Microbiology The University of Hong Kong
3:15 pm	Regulation of B Cell and Dendritic Cell Development and Function	Dr. Li-Wei Lu Associate Professor Division of Immunology Department of Pathology The University of Hong Kong
4:00 pm	**Tea Break / Trade Exhibition**	
4:30 pm	Scientific Clues to the Mystery of Natural Products	Dr. Simon MY Lee Assistant Professor Institute of Chinese Medicine Science The University of Macau
5:15 pm	New Concept and Treatment of Immune Thrombocytopenia	Prof. Gregory Cheng Professor Department of Medicine & Therapeutics The Chinese University of Hong Kong
6:00 pm	Closing Remarks	Mr. Tat-Tang Cheung Vice President, HKIMLS

MLT Board CPD Accreditation: 3 Points
Programme/Activity Code: 07080071

MEMBER of International Federation of Biomedical Laboratory Science, IFBLS
Non-Governmental Organization in Official Relationship with the World Health Organization, W.H.O.

More and More Human and Animal Coronaviruses

Patrick C.Y. Woo
Department of Microbiology, The University of Hong Kong.

The recent SARS epidemic has boosted interest in the discovery of novel human and animal coronaviruses. By January 2008, more than 3000 coronavirus sequence records, including more than 250 complete genomes, are available. The number of coronavirus species with complete genomes available has increased from nine in 2003 to 25 in 2008, of which six, including human coronavirus HKU1, bat SARS coronavirus, group 1 bat coronavirus HKU2, groups 2c and 2d coronaviruses, were sequenced by our laboratory. Recently, we have also developed a comprehensive database, CoVDB (http://covdb.microbiology.hku.hk), of annotated coronavirus genes and genomes, for rapid and accurate batch sequence retrieval, the cornerstone and bottleneck for comparative gene or genome analysis.

Regulation of B Cell and Dendritic Cell Development and Function

Liwei Lu
Department of Pathology, The University of Hong Kong.

Substantial evidence has demonstrated the critical role of both intrinsic mechanisms and bone marrow (BM) microenvironmental factors on the phenotypic differentiation and functional maturation of B cells and dendritic cells (DCs). To further understand both cell autonomous and extrinsic mechanisms in lymphopoiesis, we have recently used knockout mice that are either deficient in Hoxb3 or the leptin receptor (Ob-R) to analyze the development of B cells and dendritic cells respectively. We found that the adult *Hoxb3*$^{-/-}$ mice displayed significantly impaired B lymphopoiesis in the BM. The BM cellularity was reduced by 30% in the mutant compared to wild-type controls. The population size of B220^{+}CD43^{+} progenitor B cells showed a 2-fold reduction while that of B220^{+}CD43^{-} IgM^{-} precursor B cells was decreased by 5 fold. Sorting-purified *Hoxb3*$^{-/-}$ progenitor B cells displayed significantly reduced proliferative response to IL-7 in culture, consistent with our findings of reduced IL-7 receptor expression in *Hoxb3*$^{-/-}$ progenitor B cells. Thus, our results suggest that the *Hoxb3* gene plays an essential role in regulating B lymphopoiesis in the BM of adult mice. To address the potential role of leptin-signaling in DC development, we examined the *db/db* mice at a pre-diabetic stage and found that the total number of DCs generated from BM cultures were significantly lower than wild-type controls. Similarly, selective blockade of leptin with a soluble mouse leptin receptor chimera (Ob-R:Fc) inhibited DC generation in the wild-type BM cultures. The reduced DC yield in the *db/db* BM culture was attributed to significantly increased apoptosis, which was associated with dysregulated expression of Bcl-2 family genes. Moreover, *db/db* DCs displayed markedly reduced expression of co-stimulatory molecules and a Th-2 type cytokine profile with a poor capacity in stimulating allogeneic T cell proliferation. Consistent with their impaired DC phenotype and function, *db/db* DCs showed significantly downregulated activities of the PI3K/Akt pathway as well as STAT-3 and Iκ B-α , indicating the involvement of leptin signaling in DC survival and maturation. In summary, our findings have provided new insights in understanding the functional regulation of B cell and DC development in mouse BM.

Scientific Clues to the Mystery of Natural Products

Simon M.Y. Lee
Institute of Chinese Medicine Science, The University of Macau.

A variety of herbs and natural products have a traditional history of usage, with strong roles in cultural heritage, and in the appreciation of food and/or its links to health. Demonstrating the benefits of these natural products by scientific means remains a challenge. In this presentation, focus is made on introducing recent scientific findings on select natural products such as Omega 3, resveratrol and particularly, ginseng. Ginseng, the root of some *Panax* species, has long been regarded as "all-healing" medicine in Asian countries. *Panax ginseng* C. A. Mey (Asian ginseng), *Panax quinquefolius* L. (American ginseng) and *Panax notoginseng* (Burk.) F.H. Chen (called Sanqi in Chinese) are also popularly consumed worldwide. These different *Panax* species have different clinical uses and they have been found to have differential and even opposing biological activities such as angiogenesis and anti-cancer in experimental models. Sometimes, raw ginseng is processed by heating for sake of longer stable storage and different medicinal uses. And it is interesting to find out that red ginseng (steamed and dried roots of *P. ginseng*) had superior growth promoting activity but weaker anticancer activity to that of white ginseng (peeled and dried root of *P. ginseng*) as shown on some studies. Different biological activities are mainly attribute to a major class of chemical constituent called saponins/ginsenosides in ginseng which can be further categorized into either 20(S)-protopanaxadiol (e.g. Rg3, Rb1, Rb2, and Rb3) or 20(S)-protopanaxatriol aglycon moieties (e.g. Rg1, Re, R1, and Rg2). Our findings on variation of chemical composition and mechanism of action on the saponins/ ginsenosides provide evidences toward the understanding of the diverse and prominent actions of ginseng.

New Concept and Treatment of Immune Thrombocytopenia

Gregory Cheng
Department of Medicine & Therapeutics, The Chinese University of Hong Kong.

Traditionally, thrombocytopenia in patients with immune thrombocytopenic purpura (ITP) had been thought to be caused solely by autoantibodies that accelerate platelet destruction. Therefore current treatment strategies have focused primarily on inhibiting platelet destruction e.g. glucocorticoids, intravenous immunoglobulins, splenectomy, and monoclonal antibodies directed at B-cells. Although these treatments are often useful, not all patients respond. Furthermore, they may be associated with unfavorable side effects. More recent work has suggested that in ITP patients these antibodies may also damage megakaryocytes and interfere with platelet release resulting in suboptimal platelet production. As an alternative approach, stimulation of thrombopoiesis and megakaryopoiesis has been explored since suboptimal platelet production plays an important role in the pathophysiology of chronic ITP. The primary growth factor underlying megakaryopoiesis and platelet production is thrombopoietin (TPO) and thrombopoiesis stimulation agent, have demonstrated efficacy in patients with chronic ITP.

2007/2008 Report of HKIMLS Presidents

Y.L. Tsim, T.T. Cheung

The primary mission of the Hong Kong Institute of Medical Laboratory Sciences Ltd. (HKIMLS) is to promote academic activities of a high calibre amongst her members. We try every endeavour to update and upkeep our professional knowledge by organizing monthly seminars, and encouraging members to attend local and overseas conferences relevant to the profession. Details of these activities are shown separately in the Academic Report.

The HKIMLS Quality Assurance Programme (HKIMLSQAP) is now working towards professional recognition as an accredited programme. The Institute will put every effort to make it successful. Professional agent and full time executive secretary are employed to assist the huge workload involved. Details are available from the HKIMLSQAP report.

Timely recreational activity is essential to maintain a lively balance between professional hardship and mental health of our members. An outing was arranged last Christmas and was well attended as judged from the number of participants.

As at 30th May 2008, membership stands at 765 as detailed below:

Honorary member	3
Life member	3
Retired member	9
Fellow	21
Associate	430
Ordinary member	207
Provisional member	56
Overseas member	33
Student member	3

The future development of the Institute lies in fulfilling the need of our members and the industry, as well as to serve the public at large. Core laboratory service is now practised in many medical laboratories and hospitals. Enhancement of training in this area is necessary. Interpretation of laboratory results and its clinical applications become more important in the MLT profession. We certainly can contribute more in this area. Finally, we wish to thank the councilors for the hard work in the past year. The continuous support and enthusiasm from our members are also well appreciated.

2007/2008 Report of Academic Committee

K.S. Tsang, L.P. Wong, V. Ma

In the fiscal year of August 2007 to July 2008, the Academic Committee organized 14 scientific functions including one special symposium and 12 multi-disciplinary monthly meetings, not to mention the annual scientific meeting. Both local and overseas renowned scholars and experts with sound creditability and remarkable achievements were invited to enlighten members with the latest knowledge and recent advances in medical laboratory sciences. Details of the year-round activities were shown below. Some presentations are accessible on-line at http://www.hkimls.org.

Date	**Topic of Scientific Meeting 2007/2008**	**Speaker**
24th August 2007	Requirements and Methods for Calibration of Equipment in Clinical Laboratories	Mr. Nan-Kwan Chan Blood Transfusion Service
28th September 2007	HbA1c is not your Average Analyte - Part II	Mr. Trefor Higgins University of Alberta, Canada
5th October 2007	Updates in Laboratory Accreditation	Ms. Bella Ho Hong Kong Accreditation Service
11th October 2007	Special Symposium on HBV and HIV	Prof. George Lau University of Hong Kong Dr. Wing-Wai Wong Taipei City Hospital, Taiwan
25th October 2007	Changes in Blood Bank Safety	Mr. Rhodel Mallion Johnson & Johnson
15th November 2007	Recent Advances in Flow Cytometry: Diagnosis and Minimal Residual Disease Studies of Haemic Malignancies	Prof. Dario Campana University of Tennessee College of Medicine, USA
20th December 2007	Clinical Application of Tandem Mass Spectrometry	Dr. Chung-Shun Ho Prince of Wales Hospital
30th January 2008	Voluntary MLT CPD Scheme	Mr. Arnold Foo University of Hong Kong
15th April 2008	The Secret of Influenza	Prof. Paul Chan Chinese University of Hong Kong
25th April 2008	Telomeres, Aging and Cancer	Dr. Thomas Wan Queen Mary Hospital
9th May 2008	Management and Molecular Monitoring of CML: How does the laboratory help?	Dr. Sze-Fai Yip Queen Mary Hospital
3rd June 2008	How Water Quality Affects Medical Testing	Mr. Mikael Cleverstam Worldwide Millipore
20th June 2008	Immunological Investigations of Paraneoplastic Disorders	Dr. Wai-Ki Ip Queen Mary Hospital
27th July 2008	Annual Scientific Meeting: Practice of Evidence-based Medical Laboratory Sciences	Prof. Patrick Woo University of Hong Kong Dr. Li-Wei Lu University of Hong Kong Dr. Simon Lee University of Macau Prof. Gregory Cheng Chinese University of Hong Kong

2007/2008 Report of HKIMLS Quality Assurance Programme

K.S. Tsang, K.F. Li, Y.C. Yuen, M.C. Wong, W.S. Wong, C.Y. Mok, F.C. Long, S.M. Li, S.L. Wong, Y. Leung, H.K. Leung, W.T. Hui, K.L. Tong, K.C. Cheng and Y.L. Tsim on behalf of HKIMLSQAP

HKIMLSQAP has been operating for 19 years since 1990 and will continue to provide a non-profit making external quality assurance programme to participating laboratories at low cost. To cope with the advent of medical laboratory sciences in Hong Kong and the nearby localities, HKIMLSQAP remains to pursue high-standard external quality assurance programme to participating laboratories. In year 2008 onwards, participating laboratories can on-line access the preliminary survey reports at http://www.hkimls.org few weeks after the cut-off date of submission of survey data. Besides, HKIMLSQAP is actively prepared for accreditation by strengthening and substantiating the comprehensiveness of the survey reports to individual participating laboratories. Apart from the current practice of highlighting and commenting on shortcomings of survey results, a note alerting critical reviews on outliers and significantly deviated readouts will be incorporated to individual survey reports to participating laboratories. The prospective manoeuvre is no exceptional to similar programmes available internationally or regionally.

In year 2008 the annual subscription was slightly adjusted to off-set the greater than before cost. A nominal increase of HK$100 was levied for specialties namely, Acid-Fast Bacillus, Anatomical Pathology, Haematology and Serology, Medical Microbiology and Virus Serology. An additional HK$200 was charged to Clinical Chemistry. The newly adjusted annual subscription fee for each specialty was HK$900, except HK$400 and HK$2,000 for Acid-Fast Bacillus and Clinical Chemistry, respectively. Two modules of the interpretative quality assurance programme (IQAP) in haematology merged together and the annual subscription was unified to HK$2200. To-date, the numbers of participants were 44 in Clinical Chemistry, 50 in Haematology and Serology, 9 in IQAP (Haem), 31 in Acid-Fast Bacillus, 39 in Medical Microbiology, 9 in IQAP (Microbiology), 18 in Anatomical Pathology and 35 in Virus Serology.

The Council of HKIMLSQAP much appreciates the contributions of Mr Lai-Man Mok, Mr Tak-Ming Wong, Mr Tin-Chu Wong and Dr Caesar Wong in the past few years. Ms Christina Siu-Mui Leung kindly took up the office of Executive Manager. Ms Ala Lee resigned from the office of panel head of Haematology and Serology but continues to serve in the panel. The vacated office was kindly taken up by Ms Nancy Wong. Ms Yonna Leung took the office of deputy panel head of Haematology and Serology. Details of the currently serving office-bearers of HKIMLSQAP Council and specialty panels are accessible on-line at the homepage of HKIMLS. Interesting cases and educational materials are also posted electronically and available freely to HKIMLS members and the general public at large.

2007/2008 Report of Welfare Committee

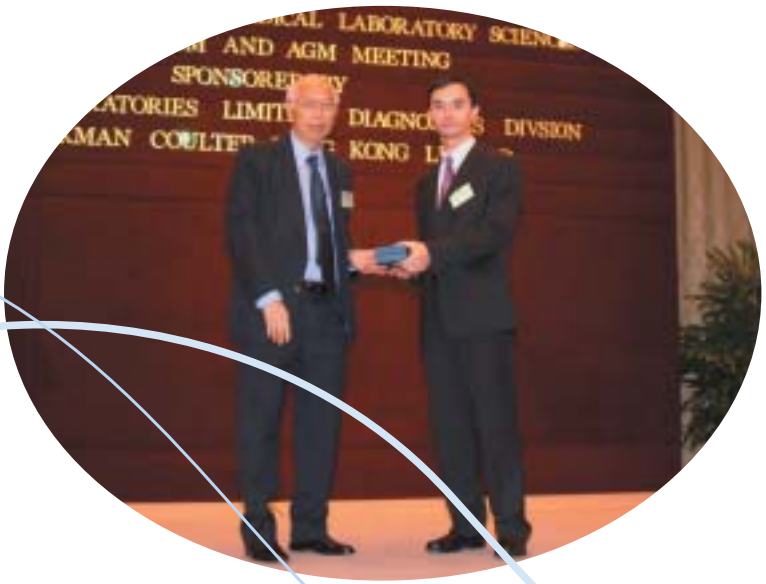
E. Yeh, Y. Leung

2007年12 月16 曰 聖誕聯歡旅行

每一年的HKIMLS聖誕聯歡都希望給各會員一種驚喜，今次我們一改以往作風，不再在酒店慶祝聖誕，我們去探索一個建於深圳的新景點(東部華僑城，茵特拉根小鎮，茶溪谷)。

當天大清早，各會員及家屬帶著興奮的心情準備出發，專業的領隊及司機很快便從九龍帶我們到出名的大梅沙海濱公園，我遠望一眼，所有的酒店、沙灘、海浪都像一幅畫，我還以為身在夏威夷的Wakiki Beach，各人都以9秒9速度快快捕捉景象，好像想告知天下這裏就是中國。

我們繼續行程到東部華僑城，我們乘坐大型登山纜車上山，從高處觀賞三洲田和大峽谷，很有大地在我腳下Feel。繼而乘車進入茵特拉根小鎮。該鎮引入瑞士阿爾卑斯山畔的茵特拉根題材，將中歐山地的建築風格與茶溪谷優美的自然景觀創造成這完美的組合。小鎮規劃了主題街區、度假酒店、劇場等，簡直是置身於一個童話世界裡。各人都忙於獵景，觀賞巡遊和探索小商店。午餐並安排於華僑城內的丹桂軒，我們食得開心，連抽獎也皆大歡喜。 在此很多謝一直支持我們的藥廠、化驗所及同業們所捐贈的禮物和禮券，令此旅行生色不少，當然，各人都大有收獲啦！午餐後，我們前往茶溪谷乘搭火車遊覽茶田風景及花海。最後大家到大劇院觀看“天禪”表演。這劇目人靚歌甜，無論服裝或舞台都變化多端，還加入電腦效果，令人嘆為觀止！快樂的時光總是過得很快，各人都帶著愉快的心情回家。在此但願各人都以歡樂的心情去迎接每一天！我們下一個聖誕再見面啦！



2007 Annual Scientific Meeting

好日子!!
12月16日

2007 聖誕聯歡旅行

好地方!!
東部華僑城, 茵特拉根小鎮, 茶溪谷

好飽滿!!

有美食, 有抽獎, 永不落空

好開心!!

大家濟濟一堂, 留住好時光

悖德明毅