

主辦機構 Organizers:



香港檢測和認證局
The Hong Kong Council for
Testing and Certification



創新科技署 標準及校正實驗所
Standards and Calibration Laboratory
Innovation and Technology Commission



政府化驗所
Government Laboratory

世界計量日 2013 研討會：測量與生活

World Metrology Day 2013 Seminar: Measurements in Daily Life

2013 年 5 月 20 日 (星期一)
下午 1 時 45 分至下午 5 時 15 分

20 May 2013 (Monday)
1:45 p.m. – 5:15 p.m.

九龍塘達之路 78 號生產力大樓 4 樓會議廳
Conference Hall, 4/F, HKPC Building
78 Tat Chee Avenue, Kowloon Tong

118/08 mmHg
(SYS/DIA)

110 km/h

8888 dB

010088 kWh

支持機構 Supporting Organizations



Metrology



測量與生活
Measurements
in daily life



World Metrology Day
20 May 2013
www.worldmetrologyday.org



簡介 Overview

1999年9月美國太空總署損失了價值1億2千5百萬美元的火星氣候探測儀。原因是指示探測儀運作的重要數據，部份採用英制度量衡，其他部份則採用公制，但工程師卻沒有將數據的單位統整。探測儀在太空依靠不相配合的數據行走了9個月問題都未被發現。結果探測儀的運行軌跡出現嚴重偏差，探測儀最後在火星高空解體。這是個昂貴的教訓：度量衡的隱藏力量。

在地球的日常生活中，度量衡也靜靜地發揮作用：指出學生是否遲到的時鐘、顯示健康與否的體溫計、暴露司機是醉是醒的呼氣測試器等。我們不常留意這些儀器如何測量數據，卻也相信儀器經常都很準確。但試想想，如果每個時鐘報的時間都不相同，或者體溫計時冷時熱，又或者呼氣測試器只適用於餐酒不可用於啤酒，生活將會是如何的混亂和充滿危機……

我們的生活沒有跌入混亂中，是因為有明顯的度量衡秩序在發揮作用。這秩序是由世界各地的大量計量學專家，也就是研究度量衡科學的群體，努力不懈地維持的。

是次研討會將揭示計量隱藏在生活中的運作。

請你稍微回想昨日的活動：你大概吃過早餐（食品經過實驗所的測試），為汽車加了油（液體體積的量度）或者看了一齣深夜電視劇（色彩、光度及電子訊號都測量了）。這些普通不過的活動都隱藏著多樣度量衡的運作。是次研討會講者將和我們分享生活背後的計量原理和應用。

距離舊時以人肘作為量度單位的時代，今日的計量學已不可同日而語。研討會是難得的機會讓計量專業人員、化驗師、工程師、（考慮）使用校正服務的機構、老師、學生、檢測及認證業從業員及對研討會主題有興趣人士，進一步認識我們時刻都活在計量中。

In September 1999, NASA lost its \$125-million Mars Climate Orbiter because spacecraft engineers had failed to align the two different measurement systems used in the Orbiter's vital data, the English and the metric. The Orbiter had in fact been running in space by incomparable data for 9 months without anyone noticing, until eventually it deviated from its charted course and disintegrated over the Martian sky. We have learnt a costly lesson on the hidden power of measurement.

On a more earthly note, measurement also powers many of our daily activities without causing so much as a stir in us: the clock that tells if a student is late for his class, or the thermometer that indicates well-being or otherwise, or the breathalyzer that exposes a driver's sobriety or drunkenness. We seldom pay attention to how these devices measure the data they give and we trust in their accuracy most of the time. But imagine the chaos and crises if all clocks should tell a different time, or if the thermometer mercury should shot high or low on its own whim, or if all breathalyzers could only pick up wine and not beer....

We have not plunged into chaos because there is an obvious order in measurement exerting its power in our daily life. A large community of people specialising in metrology, the science of measurement, is working hard all over the world to ensure that the order keeps working.

This seminar unveils metrology and how measurement works behind the scenes in human activities.

Pause and think for a moment, say, yesterday: you probably had breakfast with coffee (food had been tested), filled your car with petrol (liquid volume was measured) or watched a TV midnight show (colour, brightness and electrical signals were measured). We typically do not pass a day without depending on all sorts of measurements being silently taken. Speakers of this seminar will help us understand the metrological principles and applications behind.

Metrology has come a long way from the archaic endeavour of measuring by the length of a man's palm or forearm. To metrology professionals, chemists, engineers, users or potential users of calibration services, teachers, students, practitioners of testing and certification industry, as well as parties interested in the subject, this seminar provides a rare opportunity to learn about metrology in daily life.



研討會程序 Programme of the Seminar

時間 Time	程序 Programme
1:45 p.m.	接待及登記 Reception and Registration
2:00 p.m.	歡迎辭 Welcome Remarks 香港檢測和認證局秘書長 洪良斌先生 Mr. John Hung , Secretary-General, Hong Kong Council for Testing and Certification
2:10 p.m.	致送紀念品予講者 Presentation of Souvenirs to Speakers
2:15 p.m.	(待定) (To be advised) 講者： 香港應用科技研究院有限公司行政總裁 張念坤博士 Speaker: Dr. Nim-kwan Cheung , Chief Executive Officer, Hong Kong Applied Science and Technology Research Institute Company Ltd
2:35 p.m.	測量不確定度在合格評定的角色 The Role of Measurement Uncertainty in Conformity Assessment 講者： 香港標準及校正實驗所 高級電子工程師 甄銳權先生 Speaker: Ir. Y. K. Yan , Senior Electronics Engineer, Standards and Calibration Laboratory (SCL)
3:00 p.m.	小休及茶點 Tea Break
3:20 p.m.	化學計量與生活 Metrology in Chemistry and Daily Life 講者： 政府化驗所 高級化驗師 (品質管理組) 王兆基博士 Speaker: Dr. S. K. Wong , Senior Chemist (Quality Management Section), Government Laboratory
3:45 p.m.	光學測量於日常生活 Optical Metrology for Daily Life 講者： 香港標準及校正實驗所 高級電子工程師 李華坤先生 Speaker: Ir. Dennis W. K. Lee , Senior Electronics Engineer, SCL
4:10 p.m.	化學計量與應用 Metrology in Chemistry and Its Applications 講者： 政府化驗所 高級化驗師 (策略性發展組) (署理) 葉耀宗博士 Speaker: Dr. Y. C. Yip , Senior Chemist (Strategic Development Section) (acting), Government Laboratory
4:35 p.m.	計量全方位 Metrology Omni-range 講者： 香港標準及校正實驗所 — 電子工程師 潘仲賢先生 、電子工程師 高振權先生 、 電子工程師 林凱珊女士 及 機電工程師 黃尚賢博士 Speakers: SCL — Ir. Johnny C. Y. Poon , Electronics Engineer, Ir. Samuel C. K. Ko , Electronics Engineer, Ir. Brenda H. S. Lam , Electronics Engineer and Dr. S. Y. Wong , Electrical and Mechanical Engineer
5:00 p.m.	討論環節 Discussion Session
5:15 p.m.	研討會結束 Seminar Ends

備註：主辦機構保留權利可更改調動研討會題目、內容及講者而不須先行通知。

Note: The organizers reserve the right to alter the topic/content/speaker of the seminar programme without prior notice.

日期 Date	2013年5月20日(星期一) 20 May 2013 (Monday)
時間 Time	下午一時四十五分至五時十五分 1:45 p.m. – 5:15 p.m.
地點 Venue	九龍塘達之路 78 號生產力大樓 4 樓會議廳 Conference Hall, 4/F, HKPC Building, 78 Tat Chee Avenue, Kowloon Tong
研討會 目標對象 Target Audience	計量界專業人士、化驗師、工程師、(考慮)使用校正服務的機構、老師、學生、檢測及認證業從業員及對研討會主題有興趣人士 Metrology professionals, chemists, engineers, users or potential users of calibration services, teachers, students, practitioners of testing and certification industry, as well as parties interested in the subject.
費用 Fee	免費入場 Free admission ; 語言 Language 廣東話 Cantonese



報名辦法 Enrolment

主辦機構聘請了國際會議顧問有限公司協助籌辦是次研討會。請於 2013 年 5 月 13 日(星期一)或之前，把填妥的報名表格傳真至 2547 9528 或電郵至 hkctc-seminar@icc.com.hk。名額有限，報名從速。我們將在 5 月 14 日 - 16 日間以電話或電郵確認座位預留。

The organizers have engaged International Conference Consultants Ltd as the event co-ordinator for the seminar to handle logistics and all enrolment matters. Please complete the enrolment form and return it by fax to 2547 9528 or email to hkctc-seminar@icc.com.hk on or before 13 May 2013 (Monday). Seats are subject to availability. Confirmation of seating availability will be notified by phone or email between 14-16 May 2013.

查詢電話 Enquiry Hotline : 2559 9973

報名表格 Enrolment Form

我們擬為下列代表預留座位：

We would like to reserve a seat for the following representative:

姓名 Name	Mr / Ms*	先生 / 女士 *
職位 Position		
機構名稱 Name of Organization		
電郵 Email Address		
電話 Tel		
傳真 Fax		
* 請刪去不適用者。Please delete as appropriate.		

如果你希望取得香港檢測和認證局日後舉辦的研討會或活動資料，請於左邊方格內打✓。本頁報名資料將於研討會舉行後一個月內銷毀。
If you would like to receive information on future seminars or activities organized by HKCTC, please insert a ✓ in the box above. Information collected on this page will be destroyed within one month after the seminar is held.

如果你希望查閱及改正由香港檢測和認證局所持有關於你的個人資料，請聯絡本局秘書處(電郵：enquiry@hkctc.gov.hk)。
If you wish to access and correct your personal data held by HKCTC, please contact the HKCTC Secretariat (email : enquiry@hkctc.gov.hk).

是次研討會已得到下列機構確認為持續專業發展活動：

- 香港測檢認證協會檢測專業人員認證計劃(電話：3116 1376 或網站：www.hktic.org)
- 香港工程師學會 -- 控制、自動化及儀器儀表分部(網站：ca.hkie.org.hk)

如有查詢，請與有關機構聯絡。

The seminar is recognized as a continuing professional development (CPD) element by the following organizations :

- Hong Kong Association for Testing, Inspection and Certification under the Professional Certification Scheme for Testing Personnel Scheme (tel : 3116 1376 or website : www.hktic.org)
- Hong Kong Institution of Engineers--Control, Automation and Instrumentation Division (website : ca.hkie.org.hk)

For enquiries, please contact the organization.

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Please visit us at our websites :

香港檢測和認證局

Hong Kong Council for Testing and Certification

www.hkctc.gov.hk

政府化驗所

Government Laboratory

www.govtlab.gov.hk

創新科技署 標準及校正實驗所

Standards and Calibration Laboratory

Innovation and Technology Commission

www.itc.gov.hk