

Drug Safety

科学服务

环境保护

CONTROLLED DRUGS

Contact Evidence

Crime Investigation

公众安全

Science

ENVIRONMENTAL HYGIENE

Chinese Medicine Analysis

环境卫生

Trade Description

药物安全

Questioned Documents

Forensic Toxicology

Forensic DNA

Food Safety

食物安全

Metrology

商品说明

法证DNA

法证毒理

中药分析

刑事鉴  
定

Public  
Safety

Environmental  
Protection

文件鉴辨

受管制药物

# 香港特别行政区 政府化验所 年报

Government Laboratory  
HKSAR  
Annual Report

2018



罪案现场勘查

化学计量





# 理想、使命及信念 VISION, MISSION & VALUES



## 理想

获国际公认为提供世界先进水平  
科学服务化验所。

## Vision

To be recognised internationally as a laboratory  
providing world-class scientific services.

## 使命

建立一支充满自信而勇于承担的工作队伍，  
借着推展计量科学及相关标准，  
为市民提供优质的分析、  
法证和咨询服务。

## Mission

To provide our community with quality analytical,  
forensic, and advisory services, achieved  
through advancing measurement science and  
standards by a proud and committed work force.

## 信念

### 处事公正

我们严守职业道德，  
坚持诚实和大公无私的工作态度。

## Values

### Integrity

We act honestly, ethically and  
impartially at all times.

### 作风专业

我们提倡自强不息的精神  
以达致卓越的科学水平。

### Professionalism

We encourage self-improvement and  
aim for scientific excellence.

### 保证质量

我们力求所有工作均符合  
业内最佳的质量标准。

### Quality Assurance

We ensure that all our work is carried out  
in accordance with recognised standards.

### 群策群力

我们确认整体员工的  
积极参与和合作  
是成功的重要因素。

### Teamwork

We recognise the participation, initiative and  
cooperation of all our staff  
as being essential to our success.

### 以客为本

我们致力了解和重视  
客户的需求，  
以公开和合作的态度制定工作计划  
及完成既定目标。

### Client Focus

We strive to recognise and anticipate  
the needs of clients, working openly and  
cooperatively in setting work schedules  
and meeting targets.

### 重视环保

我们承诺一切作业  
均符合环保指引。

### Environmental Consciousness

We are committed to conducting all our work  
within the established guidelines for protection of  
the environment.



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**2018** 年是政府化验所充满挑战和富有成果的一年，其间我们继续为香港特别行政区各政府部门提供优质及公正的分析、法证及咨询服务。政府化验所在 **2018** 年按服务承诺指标，共完成了 **216,255** 项食品安全检测、**135,562** 项药品安全检测、**58,866** 项消费品安全检测、**205,605** 项环境保护检测及 **39,423** 宗法证个案，在此要感谢同事们过去一年来的辛劳。

除了常规的化验检测外，化验所还提供二十四小时现场勘查和紧急检测服务，以协助客户部门进行刑事调查，及处理紧急事故和跟进与公共卫生安全相关的问题，例如食物事故或牵涉到药物安全的事件。面对紧迫的工作日程及非常广泛的测试项目范围，政府化验所同事们仍不断追求卓越，不管检测的性质如何，亦从未放弃对工作质量的要求。

政府化验所的首要承诺，是为社会提供优质服务，并以提供世界级科学分析服务为使命，以支持香港特别行政区政府推行不同范畴的政策和措施，进一步改善香港的生活质素。毫无疑问，政府化验所会继续与时俱进，精益求精，我们通过积极参与有关的科研，应用先进分析仪器，及持续员工培训，进一步提升测试能力，以应对新的分析挑战和业务变化。此外，作为代表香港特别行政区的特派计量机构，政府化验所会致力支援化学及生物计量在香港的发展及继续向本地检测及认证业界提供化学计量服务，包括举办实验室能力验证计划、研制标准物质及安排讲座和研讨会，以支援该业界的发展。

最后，我希望读者会喜欢这份年报，并从中了解更多有关政府化验所及其在过去一年的工作。谢谢。

单慧媚

政府化验师

2019 年 8 月



2018 was a challenging and fruitful year for the Government Laboratory (GL) while we continued the provision of quality and impartial analytical, forensic and advisory services to various government departments of Hong Kong. Thanks to the hard work of our colleagues, in 2018, the Laboratory completed 216,255 tests on food safety, 135,562 tests on drug safety, 58,866 tests on consumer goods safety, 205,605 tests on environmental protection and 39,423 cases on forensic testing within our pledged performance targets.

Apart from regular laboratory testing, the Laboratory provided round-the-clock services in terms of on-site investigations and urgent laboratory examinations to support client departments in criminal investigation and respond to emergency situations and public health safety concerns like food incidents or drug quality issues. Despite the great variety of the scope of work and tight schedules, colleagues of GL never compromise the quality of their work regardless of the nature of analyses or investigations and always aim for scientific excellence.

The commitment to better serving the community is always GL's top priority. We shall carry on with our mission to provide world-class scientific services to support the Government in the implementation of policies and measures in different domains to further improve the quality of life in Hong Kong. It is beyond doubt that the GL shall move forward and we will strive to further enhancing its testing capabilities and competency so as to meet the new analytical challenges and business changes through active engagement in research and development activities, applications of advanced analytical instruments and continuous development of staff. In addition, as a Designated Institute for Hong Kong, China, we are dedicated to support the development of metrology in chemistry and biology in Hong Kong. To this end, the GL offers scientific support to the local testing and certification industry through arranging proficiency testing programmes, provision of reference materials and organising seminars and conferences.

Lastly, I hope the readers would enjoy reading this annual report and know more about GL and our work in the last year. Thank you.

Della WM Sin  
Government Chemist  
August 2019



政府化验所内部随工作性质而划分为两个事务部，包括分析及咨询事务部和法证事务部。每个事务部按不同的专业技术范畴和客户部门及政策局再细分为多个不同组别。行政及文书支援的工作则由行政事务部负责。

截至 2018 年底，政府化验所的员工编制共有 487 人，包括 7 位首长级人员、145 位专业职系人员、278 位技术职系人员和 57 位行政及支援职系人员。另外，有 16 位专业职系人员和 41 位技术职系人员调派到其他政府部门工作。

多年来，政府化验所吸纳了很多具有高学历的人才加入政府。截至 2018 年底，我们有 99 位专业职系人员拥有博士学位。而技术职系人员当中，有 68 位拥有硕士学位及 91 位拥有学士学位。部份员工并已服务本所多年，以 2018 年为例，分别有 8 位同事获得 30 年长期优良服务奖及 12 位获得 20 年长期优良服务奖。



# 我们的团队 Our Workforce



There are 2 operational divisions in the Government Laboratory (GL), namely the Analytical & Advisory Services Division and the Forensic Science Division. Under each division, sections are grouped according to their specialties and services to client departments and bureaux. Executive and clerical support is provided by the Administration Division.

As at the end of 2018, the GL had an establishment of 487 staff, comprising 7 directorate staff, 145 professionals, 278 technical staff and 57 administrative and supporting staff. Besides, there were 16 professionals and 41 technical staff posted to other departments.

Over the years, the GL attracted many candidates with high qualifications to join the civil service. By the end of 2018, we have 99 professional staff with PhD degrees. Among the technical staff members, 68 and 91 have Master's degrees and Bachelor's degrees respectively. Many of them have numerous years of service in GL. For instance, in 2018, 8 colleagues received the 30 Years' Long and Meritorious Service Award while 12 colleagues received the 20 Years' Long and Meritorious Service Award.

# 我们的位置

## Our Locations

我们在 1992 年迁入何文田政府合署。这处除了是一所占地数层的多用途的实验室外，亦是政府化验所总部。在过去 26 年，随着客户部门对服务需求的快速增长，员工的数目亦有显著增长，由当时迁至何文田总部的 311 名员工，增加至 2018 年底的 487 名。

总部的空间已经不敷应用，政府化验所不断为提供新服务而寻找合适的处所。现在，卫星实验室的数目已增至 6 间。

GL's headquarters occupying several floors at Homantin Government Offices, is a purpose-built laboratory where we moved into in 1992. However, with the rapid increase in service demands from clients, the space in the headquarters became insufficient in accommodating the increasing staff members and facilities over the past 26 years. The number of staff increased from 311 at the time GL moved to the Homantin Headquarters to 487 as at the end of 2018.

Owing to limitation of space capacity in headquarters, GL has kept seeking appropriate accommodation for the provision of new services, and currently the number of satellite laboratories has increased to six.



荔枝角政府合署  
Lai Chi Kok  
Government Offices



食物安全检测所  
Food Safety  
Laboratory



香港科学园  
Science Park



公共卫生检测中心  
Public Health  
Laboratory Centre



何文田政府合署  
(总部)  
Homantin  
Government Offices  
(Headquarters)



京士柏气象站  
King's Park  
Meteorological Station



工务中央试验所大楼  
Public Works Central  
Laboratory Building

# 组织图

## Organisation Chart

政府化驗所  
Government Laboratory

分析及諮詢事務部  
Analytical & Advisory Services  
Division

行政及支援處  
Administration  
and Support Services  
Division

食物安全及品質科  
Food Safety and Quality Group

添加劑、污染物及成分組  
Additives, Contaminants and Composition  
Section  
殘留組  
Residues Section  
食物投訴組  
Food Complaints Section  
外判管理組  
Outsourcing Management Section  
策略性發展組  
Strategic Development Section  
微量元素化驗組  
Trace Elements Section  
品質管理組  
Quality Management Section

其他科學服務科  
Other Scientific Services Group

中藥材化學組  
Chinese Materia Medica Chemistry  
Section  
中藥組  
Chinese Medicines Section  
環境化學A組  
Environmental Chemistry A Section  
環境化學B組  
Environmental Chemistry B Section  
藥劑化驗組  
Pharmaceutical Chemistry Section  
藥品質量及檢驗組  
Pharmaceutical Quality and Investigation  
Section  
商品測試及應課稅品化驗組  
Product Testing and Dutiable  
Commodities Section  
商品說明組  
Trade Descriptions Section  
化學安全組  
Chemical Safety Section



化验所  
Laboratory

收部  
ion Division

法证事务部  
Forensic Science Division

刑事科学及品质管理科  
Criminalistics and Quality  
Management Group

生化A组  
Biochemical Sciences A Section  
生化B组  
Biochemical Sciences B Section  
化学组  
Chemical Sciences Section  
DNA 资料库组  
DNA Database Section  
亲子鉴证组  
Parentage Testing Section  
物理组  
Physical Sciences Section  
现场勘查及品质管理组  
Scene of Crime and Quality Management  
Section

药物、毒理及文件科  
Drugs, Toxicology and Documents  
Group

受管制药物 A 组  
Controlled Drugs A Section  
受管制药物 B 组  
Controlled Drugs B Section  
法证毒理 A 组  
Forensic Toxicology A Section  
法证毒理 B 组  
Forensic Toxicology B Section  
文件鉴辨组  
Questioned Documents Section



环境化学 A 组  
Residues Section

添加剂、污染物及成分组

Additives, Contaminants and  
Composition Section

Quality Management  
Section

Food Safety and Quality Group

Environmental Chemistry A  
Section

TRACE ELEMENTS SECTION

外判管理组

Product Testing and  
Dutiable Commodities  
Section

Chinese Materia Medica  
Chemistry Section

商品说明组

环境化学 B 组

Section

Trade Descriptions Section

策略性发展组

Other Scientific Services Group

食物投诉组

OUTSOURCING MANAGEMENT SECTION

FOOD COMPLAINTS SECTION

微量元素化验组

商品测试及  
应课税品化

中药材化学组

残留组 验组 Strategic  
Development

**Analytical  
& Advisory  
Services**

Chemical Safety Section

Chinese Medicines Section

Environmental Chemistry B Section

Pharmaceutical Chemistry Section

药品质量及检验组

其他科学服务科

Pharmaceutical Quality and  
Investigation Section



### 食品安全及环境卫生

政府化验所为确保香港的食物安全及环境卫生，一直致力提供优质的测试和调查服务。政府化验所并为食物环境卫生署(食环署)及渔农自然护理署(渔护署)提供全面的化验服务，以协助各部门执行有关食物及环境卫生的法例。所涉及的法例包括《公众卫生及市政条例》(第132章)、《除害剂条例》(第133章)及《公众卫生(动物及禽鸟)条例》(第139章)。

此外，政府化验所亦为食环署辖下的食物安全中心执行的食物常规监察计划提供测试服务，包括检测食物中营养成分、添加剂、有害污染物、除害剂残留物与兽药残留物等。



### FOOD SAFETY AND ENVIRONMENTAL HYGIENE

The GL has all along endeavoured to provide quality testing and investigative services to ensure food safety and environmental hygiene in Hong Kong. Comprehensive analytical services are provided to the Food and Environmental Hygiene Department (FEHD) and the Agriculture, Fisheries and Conservation Department (AFCD) in support of the enforcement of various pertinent regulations under the Public Health and Municipal Services Ordinance (Cap. 132), the Pesticides Ordinance (Cap. 133) and the Public Health (Animals and Birds) Ordinance (Cap. 139).

The GL also provides testing services to support the Centre for Food Safety (CFS) of the FEHD in implementing the regular food surveillance programme. The scope of chemical analysis ranges from food composition & labelling to additives,





### 工作统计

2018 年，政府化验所完成了 203,406 项有关各类型食物样本的测试，其中 184 项是与食物事故有关的紧急测试。本年度 99% 的食物样本测试，均能在目标时间内完成(指

contaminants, pesticide residues and veterinary drug residues.

### Work Statistics

In 2018, the GL completed a total of 203,406 tests on a wide range of food samples, of which 184 tests pertained to food incidents that required urgent analytical services. In the year, 99%



标为 95%)。每个样本的平均测试时间为 15 个工作日，较目标时间的 19 个工作日为短。

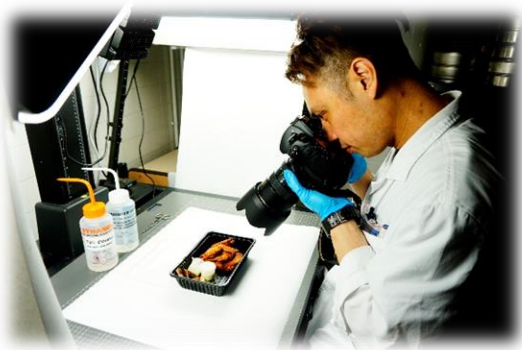
食物的添加剂和成分、有害污染物以及除害剂和兽药残留三类的测试工作，分别占食物测试总工作量的 24%、15% 及 61%。

(target: 95%) of the tests conducted were completed within the target reporting time and the average sample turnaround time was 15 working days which was well within the targeted 19 working days.

The breakdown percentages of the total number of tests analysed for food additives and composition, contaminants, pesticide and veterinary drug residues



有关跟进食物投诉个案的检测工作共进行了 12,849 项测试。93% 的个案于目标时间内完成(指标为 84%)，而平均检测时间为 19 个工作天，较目标时间的 25 个工作天为短。此外，政府化验所于 2018 年内完成了 37,031 项有关渗水及泳池水样本的测试，而 100% 的分析工作于 10 个工作天的指标时间内完成检测(指标为 96%)。



除常规监察服务外，政府化验所亦就多项食物事故有关的突发事件提供所需的分析服务。

2018 年突发个案包括巴西进口肉类和禽肉之相关检测。其他突发个案包括检测食物中的残余兽药和毒素、怀疑食物中毒个案、以及与市民食物安全有关的紧急检测服务。政府化验所亦为 11 宗有关注册除害剂的有效成分检测方法和除害剂名称的查询提供专业意见。

were 24%, 15% and 61% respectively.

12,849 tests were performed in connection with the investigation of food complaint cases. 93% (target: 84%) of the cases were completed within the target reporting time. The average turnaround time was 19 working days which was within the targeted 25 working days. Besides, the GL completed 37,031 tests for seepage and swimming pool samples in 2018 and 100% (target: 96%) of the analyses were completed within the pledged target reporting time of 10 working days.

In addition to routine monitoring work, the GL also rendered analytical support to the handling of various food incidents.

In 2018, urgent analytical services were provided for the testing of various parameters in meat and poultry meat imported from Brazil. Other samples requiring urgent attention included detections of toxins and veterinary drug residues in food, suspected food poisoning cases, as well as urgent food samples submitted in relation to public food safety concern. Professional advice to a total of 11 requests on analytical methods and nomenclature in relation to the active ingredients of registered pesticide formulations was also provided in the year.



### 新服务以支援《食物掺杂(金属杂质含量)规例》(第132章第V部)的修订

立法会于 2018 年10 月完成审议《2018年食物掺杂(金属杂质含量)(修订)规例》(《修订规例》)的程序。《修订规例》旨在加强保障公众健康和促使本港标准与国际标准接轨。《修订规例》涵盖了对应于特定食品或食品组别中的 14 种金属污染物和 144 种含量上限，并将于 2019 年 11 月 1 日开始实施。

为支援《修订规例》的实施，政府化验所进行了方法研发工作以配合新的分析要求，如元素形态分析和一些食品内大幅降低了的含量上限。已顺利完成研发的方法有米和水产品中无机砷分析、鱼类中甲基汞的分析、以及降低特定食品内金属污染物的报告限。

有关为本地检测业及食品业界提供技术支援方面，食物安全中心、政府化验所及香港认可处举办了一系列关于有毒金属形态分析的最新发展和金属污染物检测方法的技术研讨会。除此之外，政府化验所和香港检测和认证局共同举办了一项关于水产品中无机砷检测的能力验证计划(2018 年 11 月至 2019 年 2 月)以支援本地检测业界的发展。





### **New Services on supporting the amendments to the Food Adulteration (Metallic Contamination) Regulations (Cap 132V)**



The Legislative Council has completed its scrutiny of the Food Adulteration (Metallic Contamination) Regulation 2018 (the Amendment Regulation) in October 2018. The Amendment Regulation aims to better protect public health and promote harmonisation between local and international standards, and covers 14 metallic contaminants and 144 maximum levels (MLs) for specific food commodities or food groups. It will come into operation on 1 November 2019.

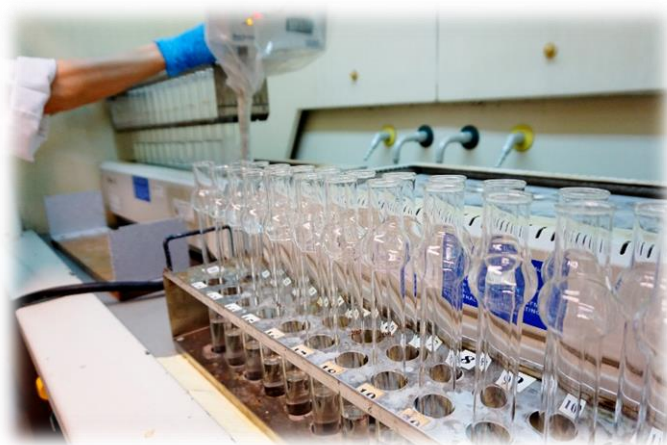
In supporting the implementation of the Amendment Regulation, GL has undertaken method development to cope with the new analytical requirements such as speciation analysis and extra-low MLs in some food commodities. Development of new analytical methods for the inorganic arsenic in rice and aquatic products, methylmercury in fish, and to lower the reporting limits of metallic contaminants in target food matrices were successfully completed.

On providing technical support to local testing industry and food trades, a series of technical seminars relating to the latest development in chemical speciation of toxic metals and test methods for determination of metallic contaminants was organized by CFS, GL and Hong Kong Accreditation Service (HKAS). Furthermore, GL and Hong Kong Council for Testing and Certification (HKCTC) have co-organised a proficiency testing programme (November 2018 – February 2019) for the determination of inorganic arsenic in aquatic product to support the development of local commercial laboratories.



### 环境保护

政府化验所为环境保护署(环保署)提供分析及咨询服务，协助推行多个与空气和水体有关的环境监察计划，配合执行如《空气污染管制条例》(第311章)、《保护臭氧层条例》(第403章)、《废物处置条例》(第354章)、《水污染管制条例》(第358章)和《有毒化学品管制条例》(第595章)等污染管制和环境保护法例。为配合不同的环境监察计划，化验所恒常检测多种环境样本包括空气、河水和海水、生物中的有毒污染物。此外，化验所亦定期进行石棉含量、柴油、生化柴油、无铅汽油和船用燃料等相关的法定检测工作。



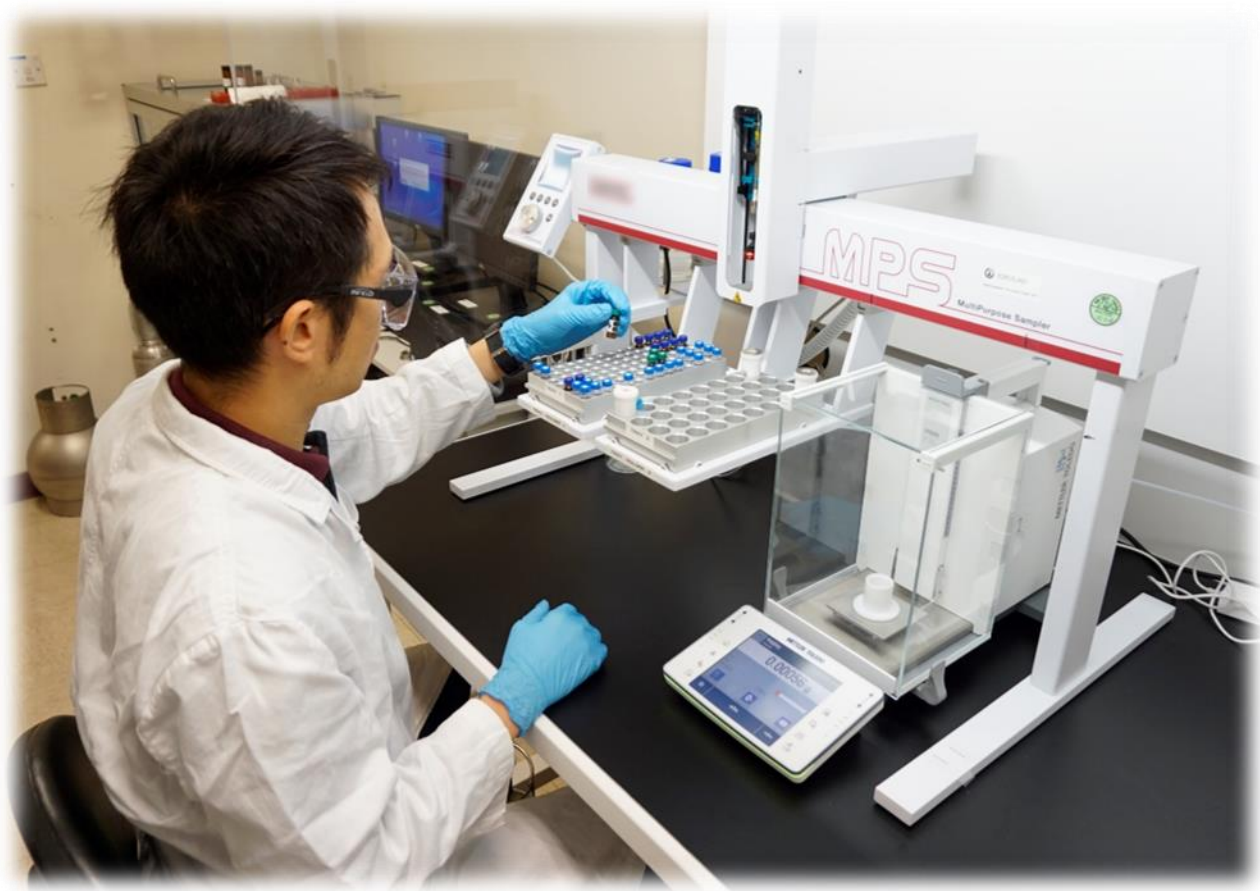
### ENVIRONMENTAL PROTECTION

GL provides analytical and advisory services to the Environmental Protection Department (EPD) in support of management and monitoring of air and water quality, implementation of various environmental programmes and the enforcement of pollution control and environmental protection legislations including the Air Pollution Control Ordinance (Cap. 311), the Ozone Layer Protection Ordinance (Cap. 403), the Waste Disposal Ordinance (Cap. 354), the Water Pollution Control Ordinance (Cap. 358) and the Hazardous Chemicals Control Ordinance (Cap. 595). Environmental samples such as air, water, sediment, biota and waste of different nature and matrices are regularly submitted for analysis pertaining to various environmental programmes including the toxic air pollutants monitoring programme, the river and marine water quality monitoring programmes, the biological monitoring programme, the toxic substances monitoring programme and illegal discharge investigations. Testing of materials for asbestos and analyses of diesel, biodiesel, and unleaded petrol and marine fuel are also part of GL's statutory functions.



此外，政府化验所亦为其他政府部门，包括渔护署、惩教署、机电工程署(机电署)、食环署、康乐及文化事务署(康文署)等提供有关环境监察方面的分析服务。政府化验所亦为海事处在追查油污源头和执行《船舶及港口管制条例》(第313章)方面，提供技术支持。

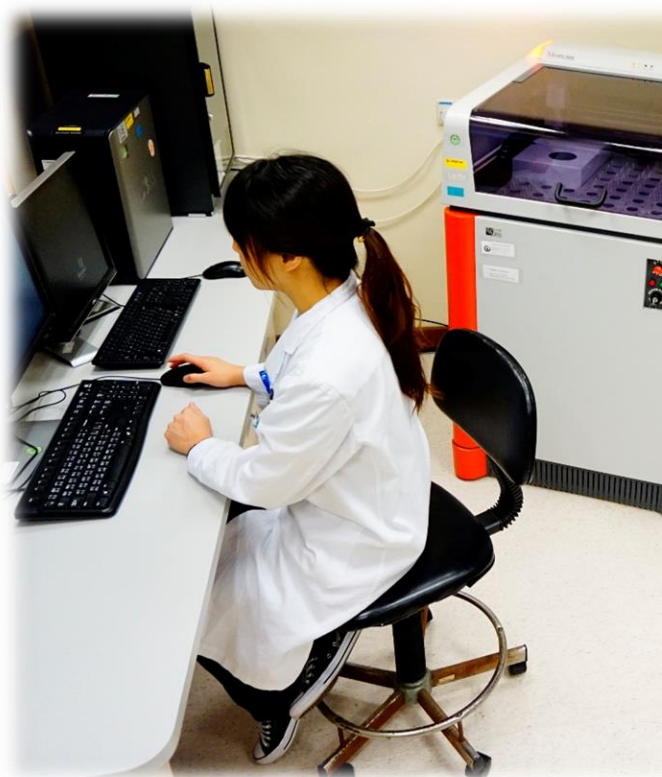
Other government departments to which analytical services relating to environmental monitoring were provided in the year included the AFCD, the Correctional Services Department (CSD), the Electrical and Mechanical Services Department (EMSD), the FEHD and the Leisure and Cultural Services Department (LCSD). Technical support was also rendered to the Marine Department in the identification of the sources of oil spills in enforcement of the Shipping and Port Control Ordinance (Cap. 313).

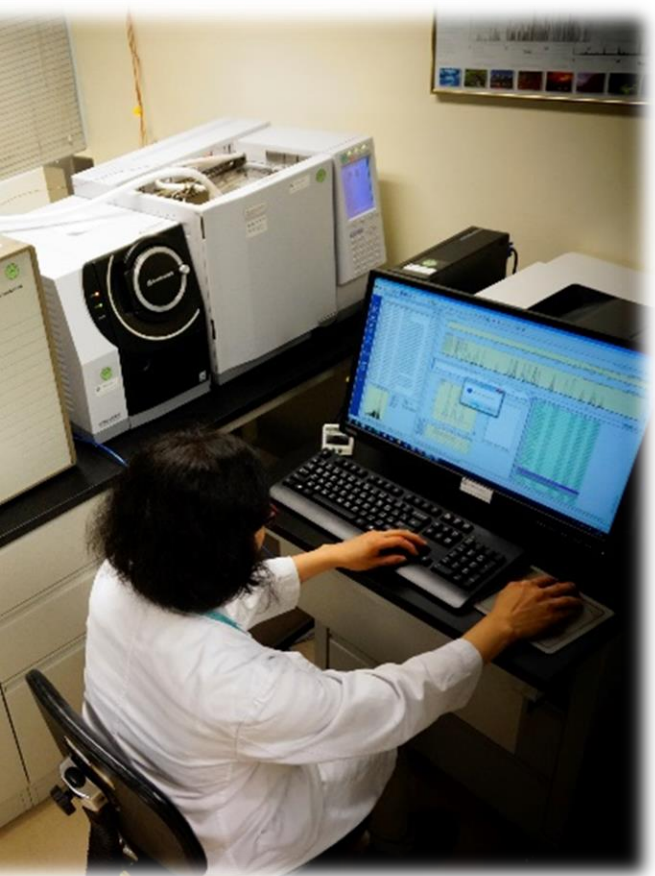
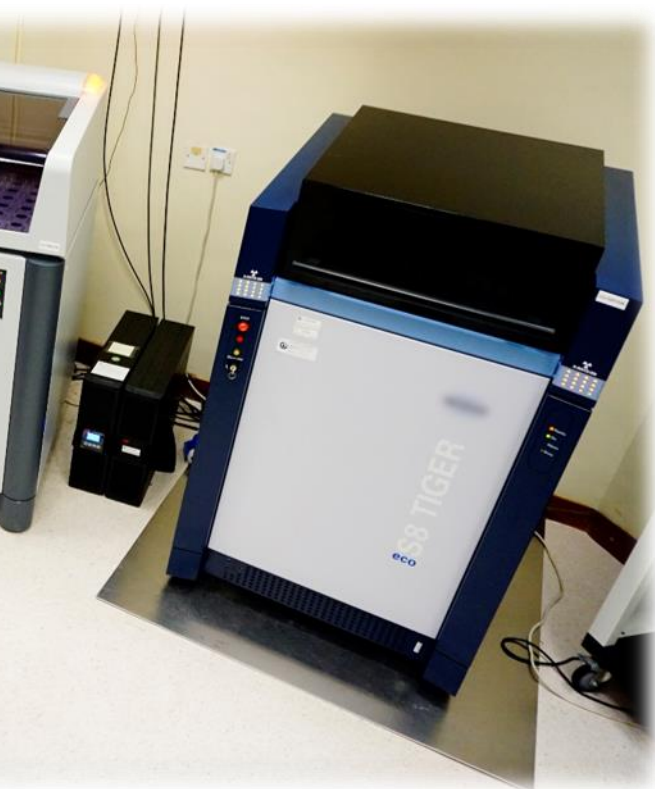




### 工作统计

政府化验所达成 2018 年度在环境保护方面所定的全部工作目标。本年度共完成 205,605 项测试。有关空气样本的测试总量达 65,151 项，其中 61,871 项属一般空气监测，465 项属现场调查及 2,815 项用于检控方面，当中 99% 常规样本，100% 现场调查样本及 100% 检控样本测试均在目标时间内完成。在水、沉积物及生物组织样本方面，本年度共完成 127,349 项测试，而 99% 的测试都在目标时间内完成。测试范围涉及超过 100 多种污染物，包括养份、微量金属、有机化合物等，样本载体计有河水、海水、沉积物、生物组织等。有关废水、堆填渗滤液、禽畜废料、化学废料及杂项固体废料测试方面，本年度完成测试项目当中，12,524 项属常规样本测试，581 项属检控样本测试，而当中 98% 常规样本及 100% 检控样本的测试都能在承诺时限内完成。





### Work Statistics

GL had achieved all the work targets set in 2018 related to environmental protection. The total number of tests conducted in the year was 205,605. For air-related tests, 61,871 were performed on monitoring samples, 465 on field investigation samples and 2,815 on litigation samples, giving a total of 65,151, respectively with 99%, 100% and 100% of the tests completed within the corresponding target reporting times.

For water, sediment and biota samples, 127,349 tests involving more than 100 different pollutants including various nutrients, trace metals and organic compounds in a wide range of sample matrices such as river water, marine water, sediment and biological tissues were conducted with 99% of the tests completed within the corresponding target reporting times.

Regarding waste samples covering wastewater, leachates, livestock waste, chemical wastes and miscellaneous solid wastes, 12,524 tests were performed on monitoring samples and 581 tests on litigation samples, respectively with 98% and 100% completed within the corresponding target reporting times.



### 消费者权益

政府化验所为香港海关(海关) 及其他政府部门提供分析及咨询服务以保障消费者权益，并协助它们执行各种条例和规例的法定职能，当中包括《度量衡条例》(第68章)、《应课税品条例》(第109章)、《商品说明条例》(第362章)、《玩具及儿童产品安全条例》(第424章) 及《消费品安全条例》(第456章)等。

而为各部门提供的科学服务涉及不同类型的产品，包括香烟、玩具、儿童产品、消费品、应课税品及其他商品。

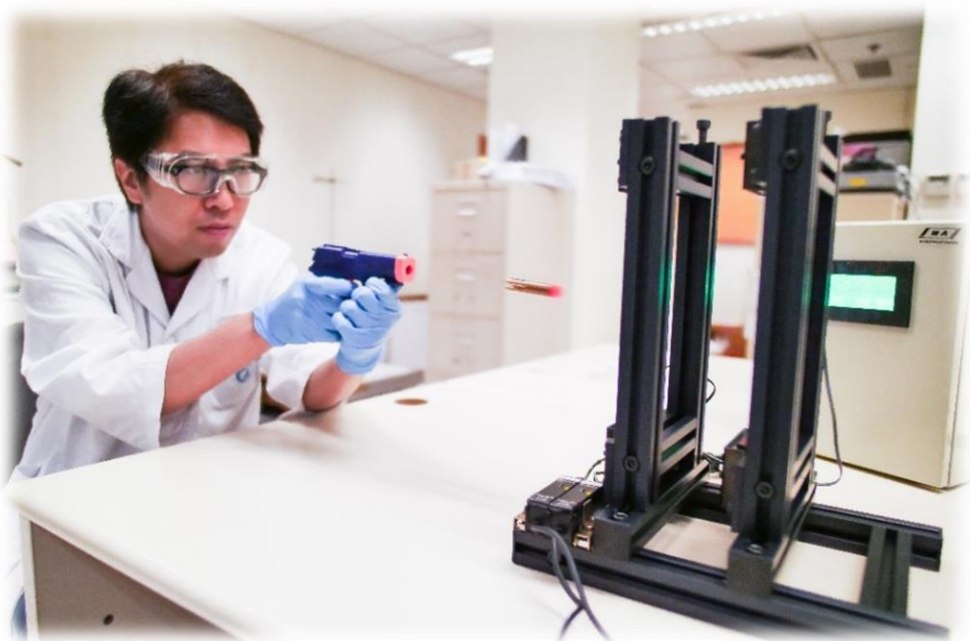
### CONSUMER PROTECTION

The GL provides analytical and advisory support to the Customs & Excise Department (C&ED) and other government departments for consumer protection. Analytical services are provided to support their statutory functions under various regulations and ordinances such as Weights and Measures Ordinance (Cap. 68), Dutiable Commodities Ordinance (Cap. 109), the Trade Descriptions Ordinance (Cap. 362), the Toys and Children's Products Safety Ordinance (Cap. 424), and the Consumer Products Safety Ordinance (Cap. 456).

The scientific services provided by the GL covered a large variety of products

including cigarettes, toys and children's products, consumer goods, dutiable commodities and other miscellaneous commodities.

Besides, suspected counterfeit goods samples were also submitted for authenticity testing.





### 工作统计

政府化验所在 2018 年就商品的标签说明检定工作或真伪鉴别共进行了 5,608 项测试，以协助执行香港法例《商品说明条例》(第362章)。当中包括测试预先包装产品、银器饰物及金属产品的成分，以确定是否符合其标签说明；而鉴别真伪测试的项目非常广泛，包括中药、海味及其他源自藻类、真菌、植物或动物等产品。

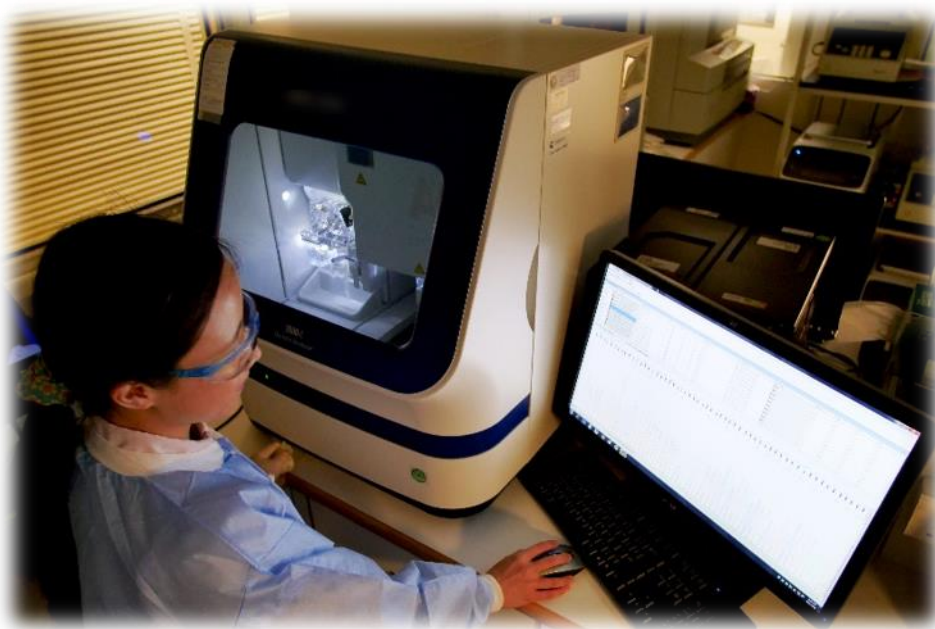
香烟方面，政府化验所共测试 80 款本港畅销牌子香烟中焦油和尼古丁含量。所得数据上载于政府化验所网页，供市民浏览。

另外，政府化验所共进行 878 项其他烟草产品测试。而在玩具及儿童产品方面，政府化验所共进行了 21,345 项塑化剂含量及根据相关产品安全条例标准的测试。

### Work Statistics

During 2018, GL conducted a total of 5,608 tests on a variety of commodities for compliance assessment of the labelled claim or confirmation of their authenticity in support of the enforcement of the Trade Descriptions Ordinance (Cap. 362). Samples of consumer goods submitted for assessment of labelled claim included prepackaged products, silver and metallic articles. Testing on authenticity covered a wide variety of trading goods including Chinese medicine, seafood, and products of fungal, plant or animal origin.

For cigarettes, 80 brands of best-selling cigarettes on sale in the local market were examined and their tar and nicotine yields determined were





测试物品包括挤压玩具、粘液玩具、中秋节灯笼、农历新年玩具、儿童床、婴儿手推车、奶瓶奶嘴、儿童涂料等。政府化验所亦一如既往与海关紧密合作跟进公众关注的事故，例如「选择」月刊报导婴儿手推车测试。消费品方面，为确定该消费品是否符合相关法例订明的《一般安全规定》，化验所本年内就各类消费品包括食品容器、折叠凳、炊具、热水瓶和化妆品例如乳液、洗发水和面膜等，进行合共 11,920 项相关的化验工作。应课税

published on the website of GL for public browsing. In addition, GL carried out 878 tests on other tobacco products. For toys and children's products, 21,345 tests were conducted for phthalates contents and safety requirements as stated in the standards under the relevant Ordinances. Items tested included squeeze toys, slime toys, Mid-Autumn Festival lanterns, Lunar New Year toys, children's cots, strollers, bottle teats, children's paint, and etc. As always, the GL worked closely with the C&ED in the year to follow-up those cases of public concern, e.g. baby strollers published by the CHOICE Magazine. For consumer goods, a wide





品方面，酒类和碳氢油的工作量分别为 1,201 和 1,292 项测试。

在杂项商品方面，政府化验所为气体用软胶喉共进行 182 项测试，以检查该些软胶喉是否符合香港法例第51章《气体安全条例》中的规定，也就这条条例为液态石油气样本进行了 91 项气体成分测试。此外，政府化验所为特区政府招标采购物料提供合规检测服务，年内共进行 67 项有关测试，产品范围包括食米、

variety of samples including food containers, folding stools, cookware, hot water bottles and cosmetic products such as lotions, shampoos and facial masks were submitted to test for compliance with the statutory general safety requirements. These accounted for a total of 11,920 tests for this test category in the year. For dutiable commodities, the workload for liquors and hydrocarbon oils were 1,201 and 1,292 tests, respectively.

For miscellaneous commodities, GL carried out 182 tests to check the integrity of flexible gas tubing under the





洗手液及漂白粉等。为协助调查涉嫌违反香港法例《进出口条例》(第60章)案件，政府化验所共进行7,028项测试，货品主要包括除害剂、配方奶粉、加热烟草产品及贵金属块如金、钯和钻石等。政府化验所亦进行了198项有关调查货物涉嫌重量不足及商用度量衡器具计量检定的测试。

requirements of the Gas Safety Ordinance (Cap. 51). Besides, GL conducted 91 tests on liquefied petroleum gas samples in determining the gaseous composition in relation to the enforcement of the Gas Safety Ordinance. In the year, 67 tests were also carried out for evaluation of government tenders. The items examined included rice, liquid soap, bleaching powder, etc. In addition, 7,028 tests were carried out in relation to investigation cases under the Import and Export Ordinance (Cap. 60). The majority of goods tested included pesticide formulations, powdered formula, heated tobacco products and valuable articles such as gold, palladium slabs and diamond. Also, 198 tests were conducted for the investigation of suspected short weight of goods and for metrological verification of traders' weighing equipment.





### 药物安全

政府化验所与卫生署、政府物流服务署、医院管理局及海关紧密合作，执行《抗生素条例》(第137章)、《药剂业及毒药条例》(第138章)、《中医药条例》(第549章)及《进出口条例》(第60章)，以保障公众健康。

政府化验所提供的药物化学分析服务包括(i) 为在本地销售的注册药物进行常规质量检测，(ii) 为投诉个案、非法销售（包括通过互联网）及拥有怀疑受管制药物进行分析调查及鉴定，(iii) 为政府部门采购的药物进行品质检定，(iv) 为保健品进行常规掺杂药物测试服务。



### DRUG SAFETY

GL works closely with the Department of Health (DH), Government Logistics Department (GLD), Hospital Authority (HA) and C&ED with a view to safeguarding public health and supporting the enforcement of the Antibiotic Ordinance (Cap. 137), the Pharmacy and Poisons Ordinance (Cap. 138), the Chinese Medicine Ordinance (Cap. 549), and the Import and Export Ordinance (Cap. 60).

GL's professional services on pharmaceutical analyses mainly provide support to (i) the routine market surveillance programme for monitoring the quality of the local registered pharmaceutical products; (ii) the investigatory programme for complaint cases, illegal sales (including via internet) and possession of suspected controlled drugs, (iii) the general quality control programme for facilitating government procurement exercises on pharmaceutical products, and (iv) the routine surveillance programme for testing drug adulteration in health products.



常规的中药检测服务包括分析中成药和中药材的重金属及有害元素和残留农药含量，以及中成药是否掺杂西药成分。政府化验所亦为卫生署和海关就证明涉嫌未注册的中成药进行化学指标物检测，以支援相关个案的检举工作。政府化验所亦为卫生署就有关服用含未标示西药成分的中成药而导致不良反应的个案，及服用错配受污染或掺杂有毒成分的中药材而导致有人中毒的事件，提供紧急化验服务。

另外，政府化验所继续通过比较验证中药材标准检测方法和进行试行性研究，协助卫生署制定《香港中药材标准》(《港标》)。

Routine analyses for Chinese medicines include the testing of Chinese herbal medicines (Chms) and proprietary Chinese medicines (pCms) for contamination of heavy metals, toxic elements and pesticide residues; as well as drug adulteration in pCms. Analytical support in the testing of chemical markers for certification of suspected unregistered pCms is also provided to DH and C&ED. Furthermore, GL offers full support to DH for urgent investigatory analyses of samples for (i) cases of adverse reaction arising from the consumption of pCms containing undeclared drug ingredients, and (ii) poisoning incidents related to erroneous substitution or contamination of Chinese medicines.

In addition, GL continues to provide analytical and advisory support to DH in the development of Hong Kong Chinese Materia Medica Standards (HKCMMS) through conducting method verification and trial run studies.



工作统计

政府化验所在 2018 年为紧急和其他西药样本分别完成了 292 及 53,910 项测试，该两类测试在目标时间内完成化验的达标率分别为 100% 及超过 97%。另外,政府化验所为紧急和其他中药样本进行了 276 及 81,084 项测试，所有紧急测试皆能在目标时间内完成，而超过 98% 的其他中药样本在目标时间内完成化验。



Work Statistics

In 2018, GL completed 292 and 53,910 tests for urgent and other pharmaceutical samples respectively. The proportions of urgent and other samples completed within the pledged turnaround time were 100% and 97% respectively. On the other hand, GL conducted 276 and 81,084 tests for urgent and other Chinese medicine samples respectively. All tests for urgent samples were completed within the pledged turnaround time while over 98% of that for other Chinese medicine samples met the pledged target.



### 公众安全

政府化验所的其中一个法定任务是要协助有关政府部门执行公众安全法例，并提供分析及咨询服务，当中职责包括：为消防处及其他政府部门提供危险品分类和职业安全及健康的分析及咨询服务；提供 24 小时的专业咨询及现场支援，协助消防处控制和处理有关化学品的紧急事故；协助香港天文台(天文台) 执行环境辐射监测计划；为食环署监测进口食物中的辐射污染情况；为大亚湾紧急应变计划(DBCP)提供支援，在制定核动战舰访港期间的公众安全应变计划(PORTSAFE)工作上提供技术支援；

### PUBLIC SAFETY

To support the Government in ensuring public safety, GL is entrusted with the statutory role to provide analytical and advisory services. The scope of service includes providing analytical and advisory services for the Fire Services Department (FSD) and other government departments in the classification of dangerous goods (DG) and on matters relating to occupational safety and health; providing 24-hour emergency response service to support the FSD in handling of chemical incidents; collaborating with the Hong Kong Observatory (HKO) in monitoring radiation levels of environmental samples; rendering analytical support to the FEHD in the surveillance of radioactive contamination of imported foodstuff; providing technical support to





就香港特别行政区执行《化学武器公约》的工作提供技术支援；及向工业贸易署及海关提供专业咨询服务，以协助执行有关规管战略物品进出口的法例。

### 工作统计

政府化验所在 2018 年共进行了 3,610 项根据《危险品条例》(第 295 章) 及其附属规例为危险品分类的相关测试，平均每个样本需要 10 个工作天完成测试，而所有样本测试均于目标时间内完成。至于职业安全

the Daya Bay Contingency Plan (DBCP) and the Nuclear Powered Vessel Contingency Plan for Public Safety During Visits of Nuclear Powered Warships "PORTSAFE" in Hong Kong; provision of technical support for the implementation of the Chemical Weapons Convention (CWC) in the Hong Kong Special Administrative Region and the control of import and export of strategic commodities through the provision of professional services to the Trade & Industry Department (TID) and the C&ED in the enforcement of the relevant local legislation.



及健康方面，政府化验所为劳工处及香港警务处（警务处）合共处理了 341 个样本及完成了 1,912 项的相关测试。

在检测食物中放射性核素污染方面，政府化验所在 2018 年为天文台的环境辐射监测计划合共处理了 3,946 项样本前处理工作，并为食环署进行了 941 项有关的检测。所有食物样本均符合食品法典委员会对进出口食物中碘-131、铯-134 及 铯-137 的规定。全部样本均于定下的目标时间内完成，平均每个样本需要约 7 个工作日完成化验。

就保障公众安全方面，政府化验所在 2018 年提供超过 350 次有关危险品分类的专业咨询服务，当中涉及超过 1,100 件物品。政府化验所亦就有关执行《进出口（战略物品）规例》（第60G章）和《化学武器（公约）条例》（第578章）的事项提供超过 430 次共涉及超过 520 项技术咨询服务。





### Work Statistics

For the classification of dangerous goods under the Dangerous Goods Ordinance (Cap. 295) and its subsidiary regulations, the GL conducted 3,610 tests in 2018. All the classification tests were completed within the pledged target reporting time and the average reporting time was 10 working days. In relation to occupational safety and health, the GL completed 1,912 tests on 341 samples taken by the Labour Department (LD) and the Hong Kong Police Force (HKPF).

In 2018, the GL completed 3,946 tests on sample pre-treatment for radioactivity measurement by the HKO and conducted 941 radioactive contamination tests on imported food samples under the FEHD food surveillance programme. None of the food samples tested was found to exceed the guideline levels stipulated in the Codex Alimentarius Commission for cross-border trade of foodstuffs in respect of 3 major gamma-emitting radionuclides, namely I-131, Cs-134 and Cs-137. All the tests were completed within the pledged reporting time with the average reporting time of 7 working days.

Apart from testing services, the GL also provides advisory services to client departments in support of law enforcement. In 2018, the GL offered over 350 pieces of professional advice relating to over 1,100 items for classification under the Dangerous Goods Ordinance while over 430 pieces of advice involving over 520 items were provided pertaining to the implementation of the Import and Export (Strategic Commodities) Regulations (Cap. 60G) and the Chemical Weapons (Convention) Ordinance (Cap. 578).



# 法证科学

刑事科学及品质管理科

Drugs, Toxicology and Documents Group

DNA Database Section 法证毒理B组

现场勘查及品质管理组

物理组 亲子鉴证组

Biochemical Sciences

B Section 受管制药物B组

Forensic

Toxicology B Section

Chemical Sciences Section

PARENTAGE TESTING SECTION

Biochemical Sciences A

Section

Controlled Drugs B Section

法证毒理A组

受管制药物A组

Physical Sciences Section

Forensic Toxicology A

Section

Group

Quality Management

Criminalistics and

Scene of Crime and Quality Management Section

化学组

药物、毒理及文件科

生化A组

Controlled Drugs A Section

文件鉴辨组

Forensic Science

DNA 资料库组  
DNA 资料库组  
生化B组



## 现场勘查

政府化验所一向致力为香港执法部门，提供优质和专业的全天候罪案现场勘查服务。罪案现场勘查服务由一队拥有丰富经验的化验所专科服务主任(科学鉴证)连同其他组别受过相关训练的化验师负责，服务范围包括识别、保存及搜集重要之现场证据作科学分析，并为所搜集之证据提供专业评估、罪案案情重组及在法庭上举证等。



## SCENE OF CRIME INVESTIGATION

GL is committed to provide high quality and professional 24-hour crime scene investigation (CSI) to the law enforcement departments in Hong Kong. CSI service is supported by a team of experienced Laboratory Specialist Services Officers (Scientific Evidence) and chemists from different operational sections in the Criminalistics and Quality Management Group. Scene investigation includes but not limited to identification, preservation and collection of various types of forensic evidence for scientific examination, providing professional evaluation of the gathered forensic evidence, reconstructing the sequence of events at the scene and presenting the evidence in court.

Apart from provision of general CSI services, specialized scene investigation services in four different areas, including fire investigation to determine the cause of suspicious fire, traffic accident reconstruction to assist in deciphering the possible cause of road traffic accidents, bloodstain pattern analysis to assist in reconstructing possible events that had occurred at the crime scene for murder



除了一般罪案现场的勘查服务之外，经过特殊专门训练的化验所专业人员，会在四个不同范畴提供专科现场勘查服务，包括火场调查—以确定可疑火警事故的起火原因及经过；交通意外重组—从中协助找寻引致道路交通意外事故的可能原因；于一些严重罪案如凶杀案或严重伤人案中，提供血溅痕迹分析服务，协助推断案发过程；以及勘查涉嫌制毒工场/栽植场。如有需要，一般罪案现场勘查人员会联同相关组别的专科人员一起作综合性勘查。

### 工作统计

在 2018 年，化验所人员就罪案现场勘查服务一共出勤了 370 次，当中 152 次属于一般罪案现场，4 次涉及血溅分析，13 次属于火场调查，170 次与交通意外/车辆相关的现场和 31 次与毒品相关的现场，与 2017 年相比，整体的现场勘查出勤次数增加约 13%。除此，化验所为香港执法部门提供了共 14 次二十四小时快速法证检验服务，以配合迫切刑事调查需要。





or serious wounding cases and drug-related scene investigation for illicit drug manufacturing / cultivation activities, are provided by professional staff with specialist training supports in these fields of work. Where necessary, the scene officers for general crime scenes and the specialist professional officers will conduct the investigation together as a comprehensive team.

## Work Statistics

In 2018, a total of 370 crime scene visits had been conducted which comprised 152 general crime scenes, 4 scenes with bloodstain pattern analysis, 13 fire scenes, 170 traffic accident/vehicle-related scenes and 31 illicit drug-related scenes. The overall scene attendance had increased by about 13% as compared with 2017. Besides, the Laboratory had provided round-the-clock forensic testing services to the law enforcement departments in 14 cases so as to meet prompt criminal investigation needs.



## 法证DNA检验

政府化验所内有 4 个组别为警务处和其他执法部门提供优质的法证DNA检验服务。生化组由其中两个组别组成，主要对罪案现场生物物证中所提取的DNA进行 15 组短串联重复序列 (STR) 及性别检测，以辨认出涉案人士。

DNA资料库组负责代警务处处长管理及更新储存于DNA资料库内，有关严重可逮捕罪行的被定罪者及疑犯的DNA数据。从送检证物中成功提取而又未被比中的DNA结果会上载到DNA资料库，并与资料库中的其他DNA结果作定期互相比对，从而找出涉案疑犯。DNA资料库自 2000 年成立以来，许多从悬案现场获取的DNA通过此资料库成功配对，为执法部门提供重要调查线索。

自 2000 年起，亲子鉴定组主要为入境事务处涉及入境事务的个案提供基因化验服务，以确定声称之亲子关系。

## FORENSIC DNA EXAMINATION

There are four working Sections in GL providing quality forensic DNA examination services to HKPF and other law enforcement agencies. The two Biochemical Sciences Sections (BSS) routinely analyze 15 Short Tandem Repeats (STR) DNA systems along with one gender testing system on the DNA recovered from crime scene biological evidence materials with an aim to identify the person(s) related to the committed crime.

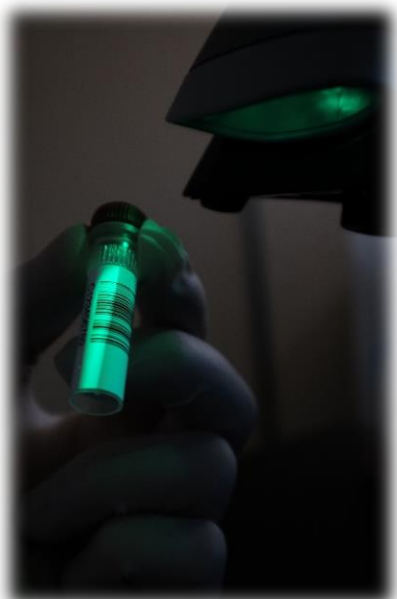
The DNA Database Section (DDS) maintains and updates a DNA database on behalf of the Commissioner of Police for DNA data of convicted offenders and suspects of serious criminal offences stored in the database. Outstanding DNA profiles from evidence materials are uploaded to the DNA database for regular comparison with the DNA data in the database with a view to locating any potential culprits involved. Since the database was set up in 2000, a large number of outstanding crime scene DNA profiles have been matched and subsequently led to further investigations by law enforcement officers in otherwise unsolved crime cases.



### 工作统计

在 2018 年，政府化验所生化组完成了 1,715 宗检验个案，合共检验了 9,511 件物证。与 2017 年相比 ( 1,959 宗检验个案)，检验个案数目下跌约 12%。针对罪案现场的生物物证作分析的案件中，约 97% 的“一般”个案于 60 个工作天的目标限期内完成；而约 96% 的“复杂”个案于 130 个工作天的目标限期内完成。

DNA 资料库组在 2018 年完成检验个案达 2,494 宗，当中 95% 的个案在 22 个工作日的目标限期内完成。与 2017 年的检验个案量和达标率相比有轻微下跌。直至 2018 年底，在数据库中储存相关的 DNA 数据量已增至 55,198 个。



The Parentage Testing Section (PTS) provides genetic testing services mainly to the Immigration Department (ImmD) for the verification of parent/child relationships in connection with immigration-related cases since 2000.



### Work Statistics

In 2018, BSS completed examination of a total of 1,715 non-complicated and complicated cases involving 9,511 exhibit items related to crime scene biological evidence materials. The number of completed cases examined decreased by about 12% compared to the 2017 (1,959 cases). 97% of the non-complicated cases were completed within the target turnaround time of 60 working days and 96% of the complicated cases met the target turnaround time of 130 working days.

DDS examined 2,494 cases with 95% of cases completed within the target turnaround time of 22 working days in 2018. In comparison with the figures in 2017, the number of cases examined and the percentage meeting



在 2018 年，使用资料库已配对了 228 项现场证物与罪犯/疑犯的数据，而现场证物之间的配对则有 30 项。这些配对结果为执法机构进一步调查未侦破的罪案提供了重要的线索。

本年度生化组/ DNA 资料库组为执法部队提供了 6 次二十四小时紧急服务，并于三天内提交了初步结果。

亲子鉴证组就有关按《2001 年入境事务(修订)条例》列明的居留权证明书的申请，于本年完成了 1,122 份报告。与 2017 年相比，下跌约 44%。在目标限

target is slightly decreased. By the end of 2018, the number of relevant DNA data stored in the database had increased to 55,198.

In 2018, the use of the database has resulted in 228 and 30 pairs of matches between data from crime scene exhibits with offenders/suspects and amongst crime scene exhibits respectively. These matching results have provided important clues for the law enforcement agencies to further investigate unsolved crime cases.

In 2018, BSS/DSS delivered “Round-the-clock testing service” on six occasions to law enforcement departments with preliminary findings made available within three days.



In connection with the Certificate of Entitlement (CoE) applications pursuant to the Immigration (Amendment) Ordinance 2001, PTS has completed 1,122 reports in 2018, about 44% decrease compared with the figure in



期 22 个工作日内完成的个案比率与 2017 年的 98% 相若。2018 年符合亲子关系个案的比率大约为 94%，与 2017 年相比，下跌约 1%，非符合亲子关系个案需要更多的测试作关系确定。

除了居留权证明书的申请之外，政府化验所亦为入境事务处其他组别如居留权组和生死登记总处，提供基因化验服务，并于 2018 年完成了 61 宗此类个案的基因化验，与 2017 年相比，下跌约 24%。

入境事务处继续协助内地当局处理香港居民在内地合资格的「超龄子女」以单程证来港定居的申请。部份「超龄子女」申请个案中在港的父母，因健康理由未能前赴内地公安机关出入境管理部门提供样本，入境事务处协助这些声称父亲或母亲在香港采样，并将样本送交政府化验所作基因测试。在 2018 年，政府化验所完成了 3 宗有关个案的基因测试。

2017. The percentage of cases completed within the target turnaround time of 22 working days was similar to 2017 as 98% of cases met target. The average positive parentage matching rate in 2018 was about 94%, decreased 1% as compared with the rate in 2017; consequently, more tests were involved for solving those non-matching cases.

Apart from the CoE applications, GL has also offered genetic testing services to other sections in the ImmD such as Right of Abode section and the Birth and Death General Register Office; GL has assisted in 61 such cases in 2018, about 24% decrease compared with the figure in 2017.

The ImmD continues to assist the Mainland authorities in processing the One Way Permit (OWP) applications of eligible Mainland “overage children”. Due to poor health of some Hong Kong parents of “overage children” who are unable to attend the Exit-Entry Administration of the Public Security Bureau to provide specimens, the ImmD assists these OWP applications by collecting specimens from the claimed parents in Hong Kong and submitting the specimens to GL to conduct the genetic tests. In 2018, GL has completed 3 cases under this category.





## 接触证据和物理测试

政府化验所为各执法部门提供广泛的科学鉴证服务，协助调查不同类型的刑事罪行和随后的起诉工作。化学组的测试服务范围包括微量物证检验和杂项化学调查，如衣物纤维、油漆、玻璃、助燃剂及爆炸品的残留物。而物理组则主要负责检验痕迹和印痕证据。



政府化验所提供二十四小时的火场勘查和交通意外事故调查服务，前者调查可疑火警事件中的起火原因及发展过程，当中涉及多项专科，包括消防科学、火灾动态学、建筑物知识、现场勘查、化学分析及其不同分析工具。后者则协助警务处调查交通事故，重组交通意外事件发生经过。

## CONTACT & PHYSICAL EVIDENCE

GL provides services on the examination of trace evidence, such as textile fibres, paint, glass, flammable and explosive residues, and miscellaneous chemical investigation. Trace evidence examination and miscellaneous chemical investigation frequently play an important part in the evidence produced in crime investigation and subsequent legal proceedings, which justifying the effort and commitment apportioned to it.

Fire investigation and traffic accident investigation are currently included under GL's 24-hours services. The former is to determine the origin, cause, and development of a fire or explosion. It involves multiple disciplines including fire chemistry, fire dynamic, knowledge of building systems, scene investigation techniques, chemical analysis and various analysis tools. The latter is to assist the police in the reconstruction of the traffic accident.

GL's forensic physical examination services include traffic accident reconstruction (TAR), tyre examination, vehicle number restoration, forgery and counterfeit items and cases involving marks and impressions evidence. The



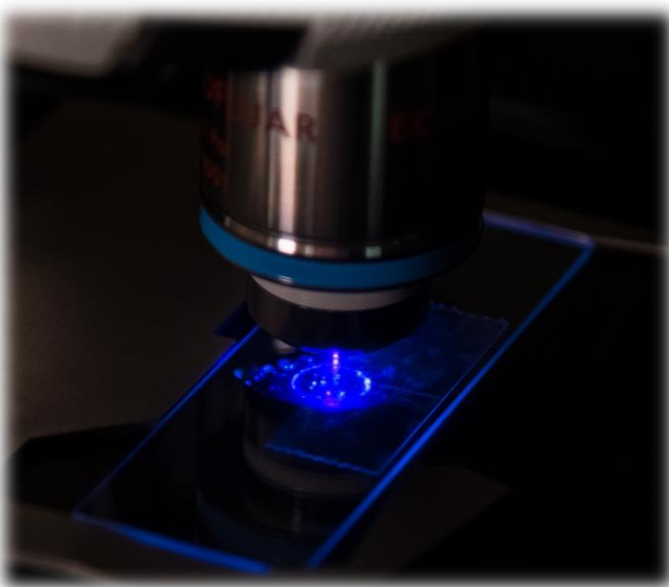
政府化验所的物理测试服务范围包括交通意外重组、轮胎检验、序号复原、伪造物品鉴证及与案件有关之痕迹和印痕分析。后者可以提供物件互相接触的证据，例如将罪案现场找到的工具痕迹和鞋印与涉案工具和鞋子串连起来，或是寻求受伤者和交通意外现场与肇事车辆互相接触的关系。

交通意外重组是利用不同科学领域如数学、物理学、汽车工程学、法证视频分析及现场勘查技术寻找交通意外起因。轮胎鉴证可协助查明轮胎泄气是导致意外的原因或由意外引起，从而提供有用的资料作进一步调查。汽车序号复原是鉴定车辆的车身及引擎编号曾否被改动，以及在可能情况下还原本来编号。



latter can help associate physical contact of objects such as tools and shoes with toolmarks and shoeprints recovered at crime scenes and associate a vehicle with a victim and the scene of an accident.

Different from chemical analysis, TAR involves the application of various scientific disciplines including mathematics, physics, automotive engineering, forensic video analysis and scene investigation techniques in deciphering possible cause of road traffic accidents. Examination of failed tyres often provides useful information in determining whether their deflation causes the accident or is a consequence of the accident. Vehicle number examination and restoration entails, as the name suggests, the discovery and retrieval of numbers unique to the vehicles concerned as a means of detecting unauthorized vehicle-taking or modification.





## 工作统计

### 化学组

在 2018 年，政府化验所完成检验共 593 宗案件，涉及 3,087 件从犯罪现场检获的物证。其中，13 宗 (129 件)，304 宗 (2024 件) 和 276 宗 (934 件) 分别属于火灾调查，微量物证和杂项化学调查。就这三类完成检验的案件，100%，96% 和 97% 分别在 88，66 和 33 个工作日天内完成。

直至 2018 年底，只有 105 宗涉及火灾调查，微量物证和杂项化学调查的个案，检验仍在进行中。



### 物理组

在 2018 年，政府化验所完成检验共 574 宗关于物理测试的个案，涉及 1,387 件有关痕迹和印痕证据、交通事故调查及杂项物理调查的物证。其中 146 宗 (180 件)，133 宗 (413 件) 和 295 宗 (794 件)，分别属于交通意外重组，痕迹和印痕证据及杂项物理

## Work Statistics

### Chemical Sciences Section

GL examined a total of 593 cases involving 3087 exhibit items in relation to trace evidence, fire investigation and miscellaneous chemical investigation in 2018. Among these, 13 cases (of 129 items), 304 cases (of 2024 items) and 276 cases (of 934 items) were examined in the areas of fire investigation, trace evidence and miscellaneous chemical investigation respectively. For those reported cases involving fire investigation, trace evidence and miscellaneous chemical investigation, 100%, 96% and 97% of them were completed within the targeted turnaround time of 88, 66 and 33 working days respectively.

By the end of 2018, GL had 105 active cases still undergoing fire investigation, trace evidence and miscellaneous chemical investigation.

### Physical Sciences Section

For physical examination, GL examined a total of 574 cases involving 1,387 exhibit items in relation to marks & impressions evidence, traffic accident related investigation and miscellaneous physical investigation in 2018. Among



调查。就这些完成的检验个案，75%、75% 和 92% 分别在 66、66 和 33 个工作日天内完成。与 2017 年相比完成个案的总数减少约 15%，而所检验的证物的总数却增加约 14%。

直至 2018 年底，有 137 宗痕迹和印痕证据检验、交通事故调查及杂项物理调查仍在进行中，这个数字较 2017 年高。

these, 146 cases (of 180 items), 133 cases (of 413 items) and 295 cases (of 794 items) were examined in the area of traffic accident reconstruction (TAR), marks and impressions evidence examination, and miscellaneous physical investigation respectively. For those reported cases involving TAR, marks and impressions evidence and miscellaneous physical investigation, 75%, 75% and 92% of them were completed within the target turnaround of 66, 66 and 33 working days respectively. As compared with the figures in 2017, there was a decrease of about 15% in the number of completed cases, but an increase of about 14% in the number of the number of exhibit items examined.

By the end of 2018, GL had 137 active cases still undergoing marks & impressions evidence examination, traffic accident related investigation and miscellaneous physical investigation, which were higher than those in 2017.





## 大埔公路死亡交通意外

2018 年 2 月 10 日，一辆载着 83 名乘客的 872 路线九巴驶至大埔公路近大埔尾村弯位时失控翻侧，造成 19 人死亡、66 人受伤。

事发后，政府化验所就警务处的要求，派遣一队法证意外调查专家小组到场，进行了全面和详细的勘查，调查意外原因。政府化验所已完成法证意外调查，报告亦提交相关执法部门。肇事九巴车长最终被控 19 项误杀罪及 18 项危险驾驶引致他人身体受严重伤害罪。



## Fatal Traffic Accident in Tai Po Road

On 10 February 2018, a KMB double-decker Route 872, carrying 83 passengers, toppled over at the bend of Tai Po Road near Tai Po Mei Tsuen. A total of 19 passengers were killed and 66 passengers injured in this serious traffic accident.

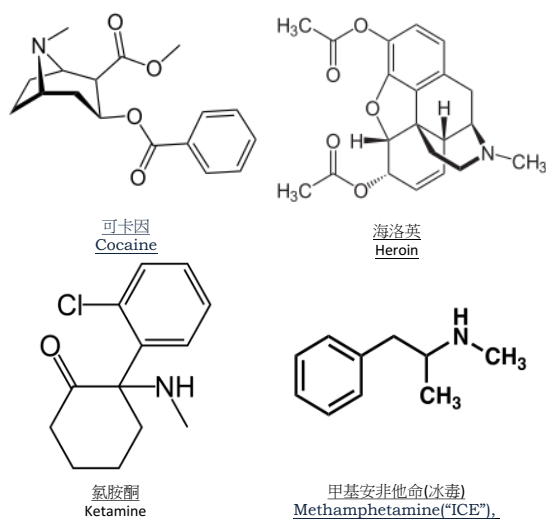
In the aftermath, an expert team of forensic accident investigators from GL was requested by HKPF to attend the accident scene and conduct a comprehensive and detailed scene examination with a view to determining the cause of the accident. GL has completed the forensic accident

investigation and submitted the report to the relevant law enforcement departments. The driver of the double-deckers was finally charged with 19 counts of manslaughter and 18 counts of dangerous driving causing grievous bodily harm.



## 受管制药物

政府化验所提供广泛的受管制药物检测服务，协助执行管制包括《危险药物条例》(第134章)、《药剂业及毒药条例》(第138章)、《抗生素条例》(第137章) 或《化学品管制条例》(第145章)之有关药物及其前体化学品。服务对象主要包括警务处、海关及其他政府执法部门。



## 工作统计

在 2018 年，政府化验所共处理 4,383 宗药物化验个案，涉及 20,195 个样本，个案数量较 2017 年处理的 4,902 宗有约 10% 的下跌，而样本数量亦与当年的 25,811 个有 21% 的下降。93% 的常规个案在目标时间

## CONTROLLED DRUGS

GL strives to provide comprehensive analytical services for enforcing the control of drugs and their chemical precursors involved in the contravention of the Dangerous Drugs Ordinance (Cap. 134), the Pharmacy and Poisons Ordinance (Cap. 138), the Antibiotics Ordinance (Cap. 137), or the Control of Chemicals Ordinance (Cap. 145). These services are mainly provided to the HKPF and the C&ED as well as other law enforcement departments.

## Work Statistics

In 2018, GL examined 4,383 drug cases involving 20,195 items, representing about a 10% decrease in number of cases from 4,902 cases in 2017 and about a 21% drop in items examined from 25,811 items in 2017. Percentages of cases meeting target were both 93% for routine cases with targeted 11 working days and major seizure/manufacturing cases with targeted 44 working days. 98% of the cases involving other illegal drug activities were completed within the targeted 120 working days.

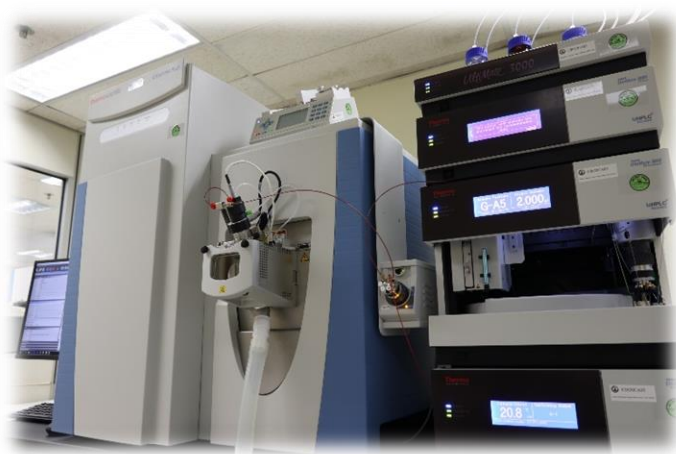


11 個工作天內完成化驗，同樣有 93% 的大量證物及制毒個案在目標時間 44 個工作天內完成，而涉及其他非法藥物活動的個案，則有 98% 在目標時間 120 個工作天內完成。

政府化驗所從個案樣本的化驗結果得出統計數字，供有關政策局及執法部門用於監察濫用藥物的趨勢。在 2018 年的化驗個案數量當中，可卡因成為最常見的被濫用藥物，約占总數的 22%，與 2017 年的 18% 相比有約 4% 的升幅。而甲基安非他命鹽酸鹽(冰毒)、大麻、海洛英和氯胺酮分別占 2018 個案總數的 20%、16%、13% 及 8%，此四種濫用藥物與 2017 年的 23%、13%、16% 及 9% 比較下，冰毒、海洛英和氯胺酮的宗數占比有所下降，而大麻則有所增加。

The GL provided statistical figures from results of examined case exhibits to relevant policy bureau and law enforcement departments for monitoring trends of drug abuse in Hong Kong. Among the number of cases examined in 2018, cocaine became the most common drug of abuse, representing about 22% of the total cases, a 4% increase when compared with that of 2017 (i.e. 18%); followed by methamphetamine hydrochloride ("ICE"), cannabis, heroin and ketamine which accounted for 20%, 16%, 13% and 8%. As compared with the figures of 23%, 13%, 16% and 9% of the total cases respectively obtained for the same 4 drugs in 2017, there was a decrease in the proportion of cases involving "ICE", heroin, and ketamine but an increase in proportion of case involving cannabis was observed.

According to the examination results, the monthly average purity of ketamine increased from 38-81% in 2017 to 53-82% in 2018. The heroin purity (58-79%) and cocaine base purity (62-90%) in 2018 both showed a decrease in the respective figures (68-79%) and (75-91%) obtained in 2017. The purity of methamphetamine hydrochloride remained high as in previous years ranging from 89% to 98%.





跟据化验结果，氯胺酮的每月平均纯度由 2017 年的 38% 至 81% 升到 2018 年的 53% 至 82%。而海洛英的纯度( 58% 至 79% )及可卡因碱的纯度( 62% 至 90% )则与 2017 年的数据( 68% 至 79% )及( 75% 至 91% )比较下有所下跌。甲基安非他命盐酸盐的纯度则仍然维持在 89% 至 98% 的高纯度。

在 2018 年，政府化验所就非法制造/种植毒品的罪案现场勘查服务共出勤 32 次，较 2017 年的 28 次现场勘查有所增加。当中霹雳可卡因非法制造现场( 17 个现场勘查)及非法大麻种植场( 10 个现场勘查)已占 2018 年现场勘查服务的大部份案件。

因应新型滥用药物持续出现的趋势及执行与毒品管制有关的立法新修订，政府化验所致力开发新的定性及定量检测方法。与此同时，政府化验所继续向政策局就修訂立法规管此类滥用药物提供专业意见。



In 2018, GL attended 32 illicit drug manufacturing/cultivation scenes, representing an increase when compared to 28 scenes attendance in 2017. Manufacturing of “Crack” cocaine (17 scene visits) together with cultivation of cannabis (10 scene visits) constituted a major and significant proportion of the scene visits in 2018.

In response to the trends of continual emergence of new abused drugs and the implementation of new legislative amendments in relation to drug control, GL has long been striving to develop new analytical methods for new drugs identification as well as quantification. GL will continue to offer technical advice to the policy bureau in relation to the legislation amendments for the control of such abused drugs.



法证毒理

政府化验所提供的法证毒理分析服务，可分为五大工作范畴：分析毒理、尿液检测、酒后驾驶、药后驾驶及头发验毒。

分析毒理服务  
Analytical Toxicology Service

- 此项服务为从死者、疑犯或受害人取得的生物样本及从死亡/罪案现场检获的相关证物进行毒理化验，以协助司法机构、死因裁判官、法医科医生及警务处研究死因和侦查罪案。
- Biological specimens from the deceased, suspects or victims as well as relevant exhibits seized at death/crime scenes are examined for drugs and poisons so as to assist the judiciary, coroners, pathologists and the HKPF in death inquiries and criminal investigations.

尿液检测服务  
Urinalysis Service

- 此项服务为社会福利署、惩教署、卫生署辖下之美沙酮诊所、警务处(警司警诫计划)及非政府机构和学校(参与禁毒处的「健康校园计划」)所收集的尿液样本进行滥用药物检验。
- Drugs of abuse are examined in urine samples collected by the Social Welfare Department, the Correctional Services Department, the Methadone Clinics of the DH and the HKPF (under the Superintendent Discretion Scheme), as well as the non-government organisations and schools (under the Healthy School Programme of the Narcotics Division) in their respective drug use surveillance programmes.

酒后驾驶  
Drink Drive

- 此项服务检定血液或尿液样本精浓度，以协助道路交通条例驾驶罪行的检控。
- Alcohol concentration in blood or urine are determined to assist the enforcement of driving provisions in accordance with the Road Traffic Ordinance.



FORENSIC TOXICOLOGY

Forensic toxicology services provided by GL encompass five operational areas: Analytical Toxicology, Urinalysis, Drink Driving, Drug Driving and Hair Drug Testing.

分析服务  
ing Service

涉案驾驶者的  
本中所含的酒  
助警务处执行  
中关于酒后驾  
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centrations in  
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HKPF to take  
action in  
to the drink  
isions in the  
Ordinance.

药后驾驶分析服务  
Drug Driving Service

- 此项服务检定涉案驾驶者的血液或尿液样本中是否含有药物，包括六种零容忍的「指明毒品」，以协助香港警务处执行 2011 年道路交通(修订)条例。
- Blood and urine samples of drivers are examined for the presence of drugs including the six "specified illicit drugs" of zero-tolerance so as to assist the HKPF to take enforcement action in accordance to the Road Traffic (Amendment) Ordinance 2011.

头发验毒服务  
Hair Drug Testing Service

- 此项服务向已参与「健康校园计划」的非政府机构及学校所收集的头发样本进行滥用药物检验。
- Drugs of abuse are examined in hair samples collected by non-government organisations in collaboration with schools under the Healthy School Programme.



## 工作统计

### 分析毒理服务

在 2018 年分析毒理服务合共处理了 2,255 宗毒理分析个案，涉及 8,993 个样本的化验。处理个案及样本数量均较去年减少约 4.9% 及 2.5%。分析毒理的个案主要来自法医科，有 1,786 宗合共 7,375 个样本，分别占全年个案及样本总数的 79% 及 82%。而来自警务处的个案则为 304 宗，涉及样本数量为 1,162 个，约占全年个案及样本总数的 13%。在 2018 年处理的分析毒理个案中，样本内检出含有药物或毒物的个案比率为 60%。

## Work Statistics

### Analytical Toxicology Work Statistics

In 2018, a total of 2,255 cases involving 8,993 samples were examined for analytical toxicology, with a decrease of about 4.9 % and 2.5 % respectively as compared to last year. The majority of the cases were from the Forensic Pathology Service with 1,786 cases involving 7,375 samples, equivalent to 79 % and 82 % of the total cases and samples respectively. Other cases were mainly from the HKPF, with 304 cases involving 1,162 samples, equivalent to about 13 % of the total cases and samples. Amongst these examined cases in 2018, about 60 % were found to have drugs or poisons.





## 尿液检测服务

政府化验所于 2018 年就此项服务检测了 18,374 宗司法确认个案及 7,253 宗美沙酮诊所个案，较去年分别减少约 7% 及 3%。88% 司法确认(常规)个案，100% 司法确认(加强感化)个案及 91% 美沙酮诊所个案分别于 22、6 和 11 个目标工作天内完成。

## 酒后驾驶分析服务

在 2018 年，政府化验所共处理了 52 宗个案，处理个案数目较去年减少 16%。全部血液酒精含量检测个案于 11 个目标工作天内完成。

## 药后驾驶分析服务

政府化验所于 2018 年就此项服务处理了 6 宗个案，较去年显著减少约 65%。就这些完成检验的个案，全部于 33 个目标工作天内完成。

## 头发验毒服务

在 2018 年，政府化验所为「健康校园计划」检测了 1,622 个头发样本。与 2017 年相比，完成个案的总数大幅增加 44%。

## Urinalysis Work Statistics

For this service, GL examined 18,374 cases for judicial confirmation and 7,253 cases for methadone clinics in 2018, with a decrease of about 7% and 3% respectively compared to last year. There were 88% judicial confirmation (routine), 100% judicial confirmation (enhanced probation) and 91% methadone clinics cases completed within the target turnaround time of 22, 6 and 11 working days respectively.

## Drink Driving Service Work Statistics

GL handled totally 52 cases for this service in 2018, with a decrease of 16% compared to last year. All the cases for alcohol determinations were completed within the target turnaround time of 11 working days.

## Drug Driving Service Work Statistics

GL examined 6 cases for this service in 2018, with a significant decrease of about 65% compared to last year. All the drug driving cases were completed within the target turnaround time of 33 working days.

## Hair Drug Testing Service Work Statistics

GL examined 1,622 hair samples for Healthy School Programme in 2018, with a remarkable increase of 44% compared to 2017.



## 文件鉴辨

政府化验所为执法部门提供签名、笔迹与文件真伪及文件曾否被涂改等鉴辨服务。在 2018 年，警务处仍是主要的客户部门，所提交的个案超过全年总数的 75%。

政府化验所亦有提供旅游及身份证明文件的「特快证件验证服务」。88% 个案来自香港警务处，其余的 12% 则由入境事务处提交。其中香港智能身份证仍然为特快证件验证服务中最常见的怀疑伪造证件，占个案总数的 75%。

政府化验所为入境事务处就新一代香港智能身份证和电子护照的质量提供专业建议和测试。此外，政府化验所亦向政府物流服务署为保安纸张提供专业测试。



## QUESTIONED DOCUMENTS

GL provides services to law enforcement departments on the determination of the authorship of questioned handwriting and signatures and the authenticity and/or alteration of questioned documents. The HKPF remained the major client – being the source of over 75% of cases submitted in 2018.

“Express Service” for urgent examination of the authenticity of travel and identity documents was also provided in the year. 88% of the express cases were received from HKPF and the remaining 12% of cases were submitted by the ImmD. The Hong Kong Smart Identity Card remained the most prominent type of questioned documents for the Express Service, amounting to 75% of the express cases received in 2018.

GL offered technical advice and testing to ImmD on the quality of the new generations Hong Kong Smart Identity Card and e-Passport. We also provided professional support to the Government Logistics Department (GLD) in conducting testing for security paper.

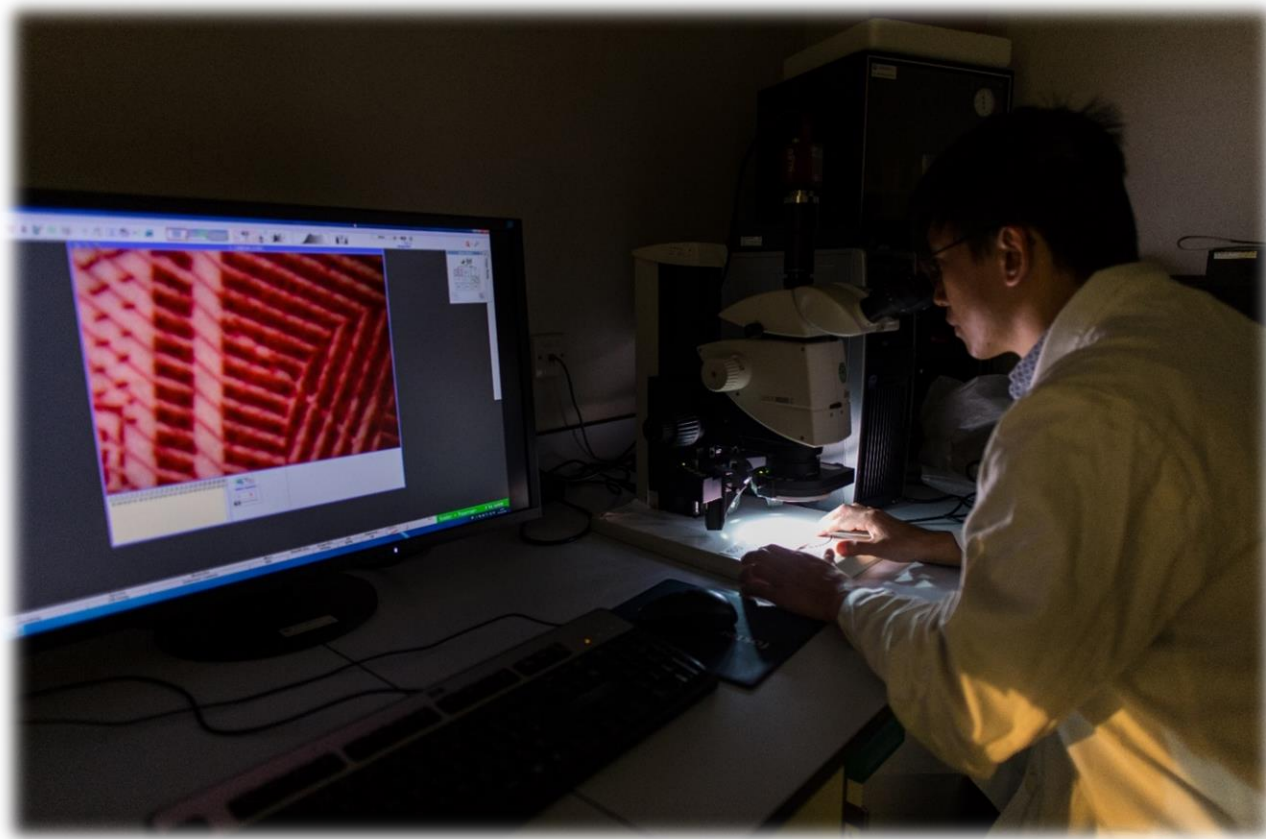


### 工作统计

在 2018 年，政府化验所共处理 346 宗伪造文件及笔迹鉴辨个案和 189 宗特快证件验证服务的个案。与往年一样，政府化验所文件鉴辨服务达到了既定的工作目标：97% 的伪造文件鉴辨个案(指标为 90% 个案在 30 个工作天内完成)，95% 的笔迹鉴辨个案(指标为 85% 个案在 66 个工作天内完成)及 100% 的特快证件验证服务个案(指标为 99% 个案在 1 个工作天内完成) 在目标时间内完成。

### Work Statistics

In 2018, GL handled a total of 346 document examination cases under handwriting and counterfeit/forgery categories and 189 Express Service cases. As in the previous year, all pertinent pledged performance targets were met in 2018. 97% of the counterfeit/forgery cases (target: 90% completed within 30 working days), 95% of handwriting cases (target: 85% completed within 66 working days) and 100% of the Express Service cases (target: 99% completed within 1 working day) were completed within the targeted turnaround times.

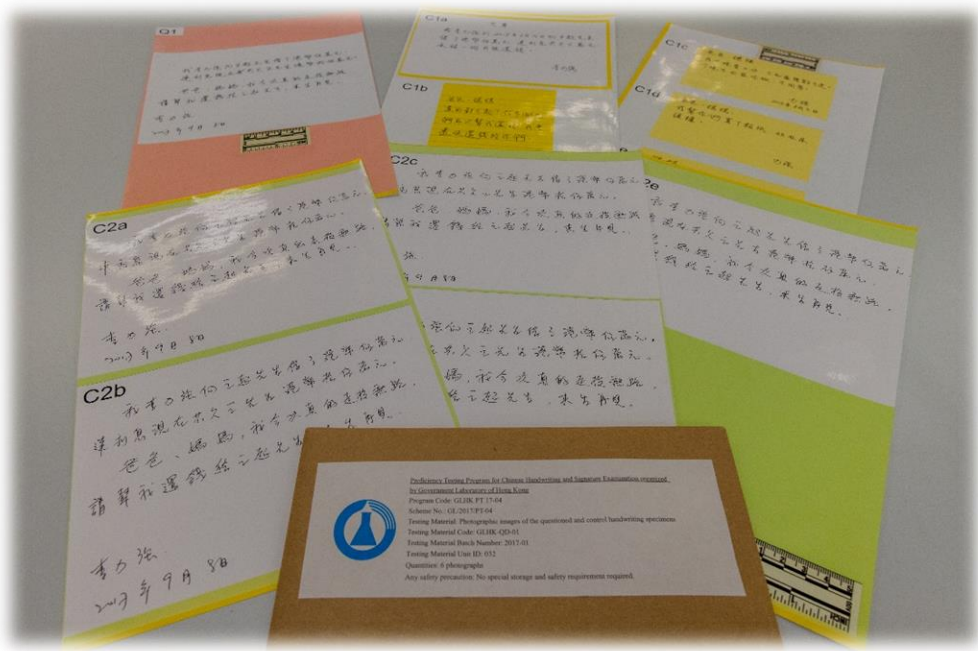




第二轮中文笔迹及签名能力验证计划在年内完成。此计划为参与者提供一个分析和讨论平台，并协助他们展示中文笔迹及签名鉴别的验证能力。是项计划共有 31 个海外实验室参与，而测试的整体表现令人满意。为了进一步协助文件鉴辨专家更理解中文笔迹和签名鉴别的理论和方法，政府化验所人员在美国法证科学学会第 70 届年度科学会议上发表了以「中文笔迹和签名鉴别能力」为题的专题报告。政府化验所在分享中文笔迹和签名鉴别的知识和经验所作的努力，受到海外同业的热烈欢迎及认同。

The second round of proficiency testing (PT) programme on Chinese handwriting and signature examination was completed in 2018. The programme provided an analytical and discussion platform for participants and assisted them to demonstrate their competency in the examination of Chinese handwriting and signature. 31 overseas government laboratories or agencies participated in the programme and the overall results of the examination were satisfactory. To further assist document examiners to have a better understanding on the theory and methodology in Chinese handwriting and signature examination, a presentation entitled “Competency for Chinese handwriting and signature examination” was given in the 70th

Annual Scientific Meeting of the American Academy of Forensic Science. Our efforts in sharing the knowledge and experience in Chinese handwriting and signature examination have been warmly welcomed and recognized by overseas peers.





# 发展

Single Residue methods APLAC T106

单残留检测

玉米「98140」

Proficiency Testing Programmes

Food Adulteration

(Metallic Contamination)

(Amendment) Regulation

标准物质生产者

Digital PCR

Quality Assurance

Asia Pacific Metrology Programme

特派计量机构

油菜籽「DP-073496-4」

# DEVELOPMENT

重金属污染物

ISO/IEC 17043:2010

除害剂

Reference Material Producer

单残留方法

Inductively coupled  
plasma mass  
spectrometry

技术  
交流会

Designated Institute

实验室能力验证计划

ISO/IEC 17025:2017

Organochlorine

Pesticides

Environmental  
Management

in Ginseng Root

tandem and high  
resolution mass  
spectrometry

食物掺杂（金属杂质含量）（修订）规例

数码聚合酶链式反应技术 电感耦合等离子体质谱联用技术

Genetically Modified (GM) Food

蔘须中残留有机氯农药检定



### 食品安全及环境卫生

为支援执行《食物内除害剂残余规例》(第132CM章)而进行有关检测的工作，政府化验所继续开发了更多先进的检测方法，包括各种除害剂单残留方法。这些方法应用了多种色谱分析法及串联质谱和高分辨质谱联用技术的组合。而于「单残留检测」和「谷类基质」范畴上，政府化验所在欧洲联盟举办的能力验证计划(EUPT-SRM12 和 EUPT-CF12)中分别获评为「甲类实验所」。

为配合将于 2019 年 11 月 1 日实施的《2018年食物搀杂（金属杂质含量）（修订）规例》，政府化验所应用了电感耦合等离子体质谱联用技术，开发了先进的金属种态检测方法，以配合最新的法例要求。

在转基因食品方面，化验所成功研发新方法检测三个转基因品系，包括运用实时聚合酶连锁反应技术验证的玉

### FOOD SAFETY AND ENVIRONMENTAL HYGIENE

To support the implementation of the Pesticide Residues in Food Regulation (Cap. 132CM), the GL continued to develop more advanced analytical methods, including various single residue methods. These methods involved various combinations of chromatographic techniques, tandem and high resolution mass spectrometry. The GL was classified as “Category A” laboratory in two European Union Proficiency Tests (EUPT-SRM12 and EUPT-CF12) respectively on single residue analytes and in cereal matrix.





米「98140」，以及运用数码聚合酶链式反应技术验证的油菜籽「DP-073496-4」及油菜籽「GT73/RT73」。

政府化验所继续将部分的常规食物检测工作外判予私营化验所，范畴包括除害剂及兽药残留、防腐剂、重金属污染物、以及其他污染物等。所腾出的资源已重新调配于研发新的检测技术，以应付因修订食物法例而新增的检测工作及履行其他职务，包括管理外判工作、推广化学计量和支援本地检测业界。在 2018 年，政府化验所亦



In light of the Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018 coming into operation on 1 November 2019, the GL developed advanced analytical methods on metal speciation analysis for the new legislative requirements using hyphenated Inductively coupled plasma mass spectrometry (ICPMS) technique.

On genetically modified (GM) food, new test methods were developed for the analysis of three GM events, including maize 98140 validated using real-time PCR, and rapeseed DP-073496-4 and rapeseed GT73/RT73, both validated using digital PCR.

The GL continued to outsource certain routine food testing work covering the testing of residues of pesticides and veterinary drugs, preservatives, heavy metals and other contaminants to commercial testing laboratories. The released resources were deployed to meet the demand of the work arising from the amendments of food legislation, development of new testing methods and other duties including management of outsourcing activities and chemical metrology work as well as enhancing the testing capabilities of local laboratories. Two technical briefings on “Chemical Testing of Food Contaminants” and “Trace Element



为私营化验所举办了两个技术简报会，让业界更掌握食品中污染物的化学检测技术和有关《2018年食物搀杂（金属杂质含量）（修订）规例》的微量元素检测。

在国际比对计划方面，政府化验所举办了两项亚太计量规划的补充比对及试行研究计划—食品补充剂中的元素 (APMP.QM-S10 和 APMP.QM-P31) 和 蔘须中残留有机氯农药检定 (APMP.QM-S11 和 APMP.QM-P32)。与此同时，政府化验所亦利用相同的测试样本举办两项亚太计量规划组织及亚太实验室认可组织 (APMP-APLAC) 联合能力验证计划工作组的能力验证计划 (APLAC T106 和 APLAC T107)。有关 APMP.QM-S10 及其相关能力验证计划的总结报告及其相关的研究报告经已完成及发表，而 APMP.QM-S11 及其相关能力验证计划的总结报告亦正在修订中。

此外，政府化验所是代表中国香港在化学和生物计量方面的的特派计量机

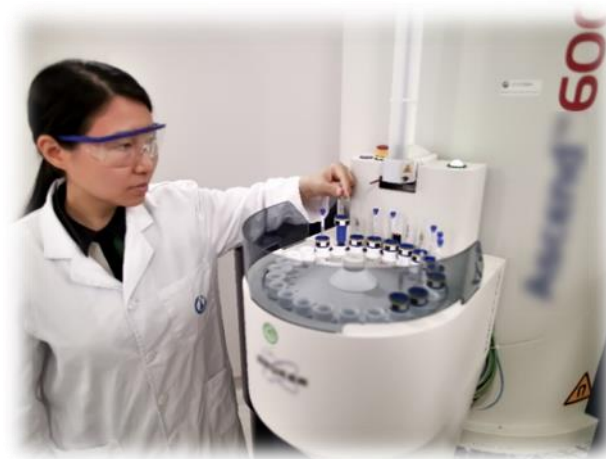
Analysis for the Food Adulteration (Metallic Contamination) (Amendment) Regulation 2018” were also given to commercial testing laboratories in 2018.

On international comparisons, GL organised two Asia Pacific Metrology Programme (APMP) supplementary comparisons with associated pilot studies on the determination of elements in food supplement (APMP.QM-S10 and APMP.QM-P31) and the analysis of organochlorine pesticides in ginseng root (APMP.QM-S11 and APMP.QM-P32) respectively. Two proficiency testing programmes (APLAC T106 and APLAC T107) were organised under the auspices of Asia Pacific Metrology Programme and Asia Pacific Laboratory Accreditation Cooperation (APMP - APLAC) Joint Proficiency Testing Working Group in parallel with these supplementary comparisons using the same test samples for examination. The final report on APMP.QM-S10 and its associated studies were approved and





構，肩負着建立及傳遞相關測量溯源性的義務，包括舉辦實驗室能力驗證計劃、研制標準物質及安排講座和研討會，以支援本地檢測業界的发展。在 2018 年，政府化驗所忙於準備將標準物質生產者的認可資格由 ISO 導則 34:2009 轉為 ISO 17034: 2016 的最新修訂版本。化驗所在 2019 年 1 月成功建立合乎 ISO 17034 要求的新標準物質生產者管理系统，並獲得相關的認可資格。



published accordingly. Revision of the final report on APMP.QM-S11 and its associated studies is in progress.

Moreover, the GL is Hong Kong, China's Designated Institute for metrology in chemistry and biology, and has the responsibility in establishing and disseminating traceability of related measurements to support the testing community in Hong Kong through arranging proficiency testing programmes, provision of reference materials and organising seminars and conferences. Relatedly, GL has been busy in preparing the transition of the reference material producer accreditation from ISO Guide 34:2009 to ISO 17034:2016 in 2018. In January 2019, the GL successfully upgraded the management system of reference material producer in accordance with the ISO 17034 requirements and obtained the accreditation to the new ISO standard.





## 环境保护

为回应斯德哥尔摩公约，政府化验所将继续研发及确认新的分析方法，以用于检测各种环境样本中新增的持久性有机污染物。政府化验所已完成研发工作，并为环境保护署提供新的分析服务，包括化验空气样本中的六溴环十二烷和润版液及印刷机清洁剂中的挥发性有机化合物。

## ENVIRONMENTAL PROTECTION

In response to the Stockholm Convention on Persistent Organic Pollutants (POPs), GL continues to carry out method development and validation work for the analysis of new POPs in various environmental samples.

GL has completed the method development work and provided EPD with new analytical services including testing of hexabromocyclododecane in air samples and volatile organic compounds in fountain solutions and printing machine cleaning agents.





## 消费者权益

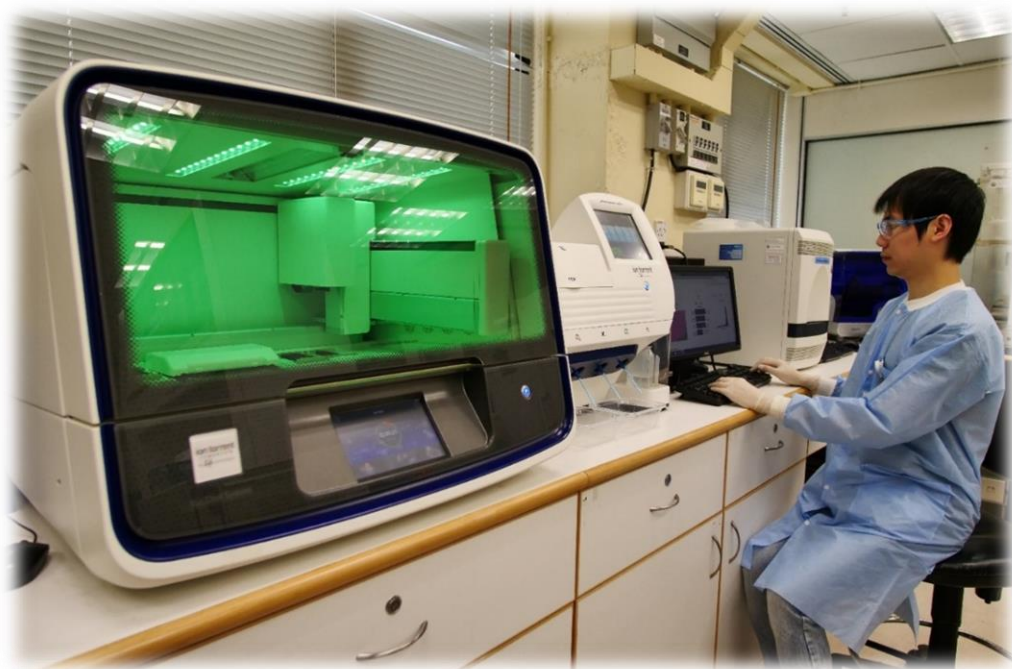
**政**府化验所不断研发新方法，扩展服务范围以保护消费者权益。本年新增的检测项目包括：鉴别川贝母及鲑科鱼籽。政府化验所亦开发了一系列方法，用作测试加热烟草产品，以保障公共卫生和税收。此外，政府化验所添置了一套装设有积分球的分光光谱仪，用作检验防紫外线衣物及太阳眼镜等产品。

为提高政府化验所对物理和机械测试能力，旧有的万能材料试验机亦于2018年替换至最新型号。

## CONSUMER PROTECTION

**D**uring the year, GL continued to develop new test methods to broaden the scope of service provision concerning consumer protection, such as the authentication of chuan bei mu and Salmonidae in fish roe. New test methods were developed for the analysis of heated tobacco products for the protection of public health and revenue collection. Furthermore, a system of integrating sphere-based transmittance spectrophotometer was installed for the examination of UV-protective clothing, sunglasses, etc.

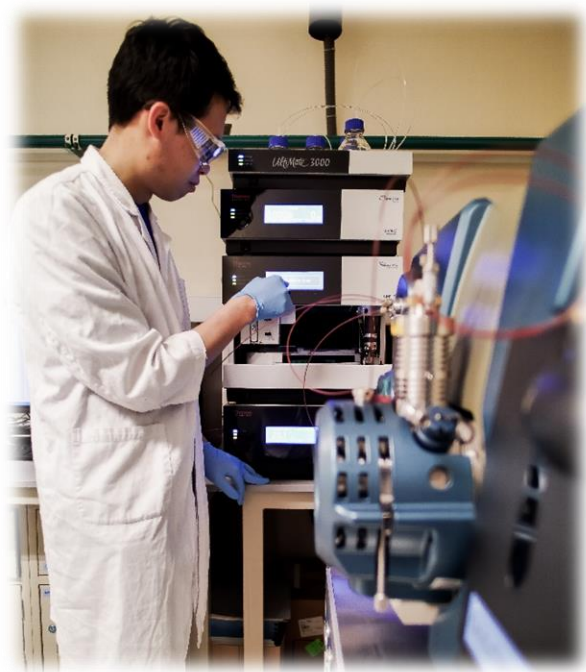
To enhance the analytical capability for physical and mechanical testing, an up-to-date universal testing machine was also acquired to replace the old testing equipment in 2018.





## 药物安全

为加强中成药的检测能力以支援相关的工作，政府化验所利用气相色谱串联质谱仪和液相色谱串联质谱仪，开发了新的检测方法，筛选和定量中成药中的农药残留物及鉴定中成药中的化学标记物。此外，政府化验所继续研发不同的快速检测方法，分析中药中的有毒生物碱，以配合有关疑似中药中毒事故的紧急化验服务要求。

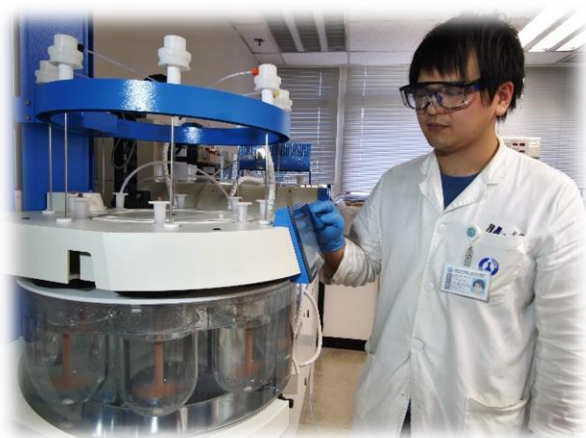


同时，为加强恒常药物测试的能力，政府化验所也更换了两台新型号的气相色谱质谱仪及一台溶出度测试仪。

## DRUG SAFETY

To strengthen the analytical capability in proprietary Chinese medicine (pCm) testing to support clients' need, GL has developed new screening and quantitative methods for pesticide residues as well as qualitative methods for chemical markers, using gas chromatograph - tandem mass spectrometers and liquid chromatograph - tandem mass spectrometers. In addition, GL continued to develop different rapid analytical methods for the determination of toxic alkaloids in Chinese medicines to cope with the urgent requests relating to the suspected poisoning cases.

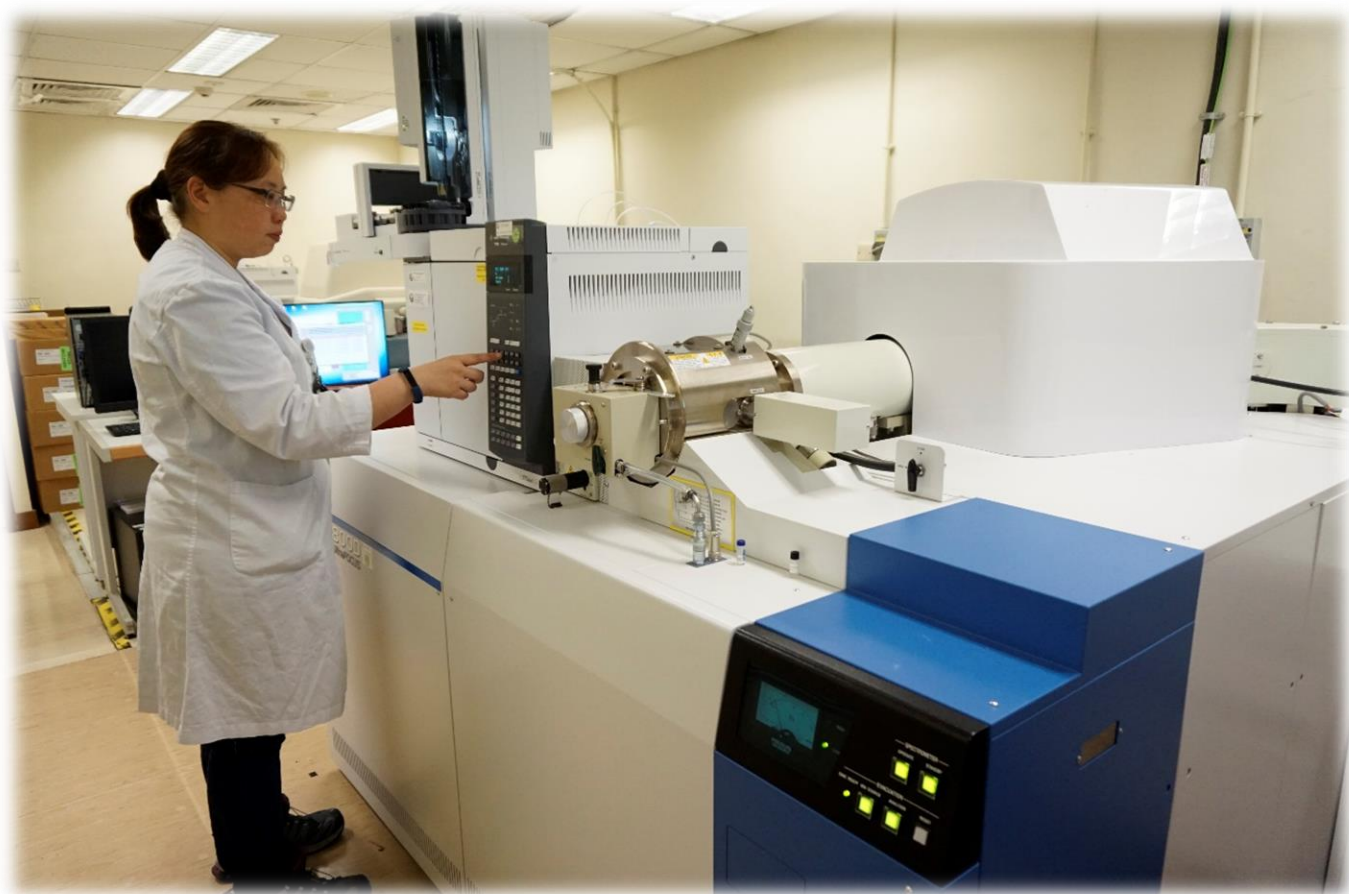
Further, two sets of gas chromatography-mass spectrometry and one set of dissolution tester were installed in 2018 to enhance our routine drug testing capability.





在 2018 年 7 月美国食品药品监督管理局发出警示，涉及多只降血压药物在生产过程中受到N-甲基亚硝胺 (NDMA) 及 N-乙基亚硝胺 (NDEA) 污染。因两污染物皆为致癌物，药品生产商主动作全球性回收。在本地回收过程中，政府化验所向卫生署提供相关致癌物检测服务。

In July 2018, an international alert on the contamination of N-nitrosodimethylamine (NDMA) and N-nitrosodiethylamine (NDEA) during the manufacturing of sartan-type drugs which are used for regulating high blood pressure, such as valsartan and losartan. Owing to the carcinogenic effect of NDMA and NEDA, a voluntary global recall of the pharmaceutical products was launched. During the local recall, GL has provided analytical services to DH in testing of the two carcinogens.







知识交流和科研分享对推动科学的发展和进步，起着重要的作用。这不但直接鼓励科学工作者积极参与科研活动，更让他们透过交流活动，分享各自的科研成果和经验，带动有关研究领域的发展和知识增长。作为一所从事科学的机构，政府化验所不断努力于科学和研究发展工作，并不断透过内部培训、在国际科学期刊中发表论文、在国际会议及研讨会中作专题报告、向其他部门员工提供专业训练，以及与访客作技术交流等形式，来分享科研方面的一些知识。

Knowledge sharing is essential for science to advance and develop. It does not only encourage members of the science community to continue engaging in research and development work. It allows them to be mutually benefited through sharing of the fruits of their hard work and experiences gained with peers. As a scientific institute, the GL makes every endeavour to pursue scientific discovery and disseminate knowledge, both in-house to our staff and externally with the international community, through publications in scientific journals, presentation at conferences and workshops, training and exchange with visitors.



为客户部门提供培训

Training to Client Departments

政府化验所为多个执法部门举办相关训练，借此巩固工作的协调性及加强各服务的成效。于 2018 年，政府化验所为来自警务处、消防处、海关、廉政公署、律政司、惩教署、食境署及社会福利署，合共约 1,900 位人员，安排了共 36 场次的讲座及/或参观化验所活动。

GL organizes different kinds of relevant training to various law enforcement departments and related parties with a view to reinforcing the cooperation and strengthen the effectiveness of various services. In 2018, a total of about 1,900 participants from the HKPF, FSD, C&ED, Independent Commission Against Corruption (ICAC), Department of Justice (DoJ), Correctional Service Department (CSD), FEHD, and Social Welfare Department attended a total of 36 lectures and/or visits arranged by GL.

| 客户部门<br>Client Departments                           | 受训人数<br>No. of Trainees |
|--|-------------------------|
| 惩教署<br>Correctional Services Department              | 21                      |
| 律政司<br>Department of Justice                         | 44                      |
| 消防处<br>Fire Services Department                      | 13                      |
| 香港警务处<br>Hong Kong Police Force                      | 1713                    |
| 食物环境卫生署<br>Food and Environmental Hygiene Department | 21                      |
| 廉政公署<br>Independent Commission Against Corruption    | 40                      |
| 香港海关<br>Customs and Excise Department                | 8                       |
| 社会福利署<br>Social Welfare Department                   | 33                      |



专题报告  
PRESENTATIONS

|   | 报告题目<br>Presentation title  | 场合<br>Event   | 讲者<br>Presenter              |
|---|---|---|------------------------------|
| 1 | 通过化验本地检获毒品研究香港非法药物的情况<br>A study of illicit drug situation in Hong Kong by examination of local drug seizures | 法证毒理学家协会 (SOFT) 和国际法证毒理学家协会 (TIAFT) 第五次联席会议 (美国 佛罗里达州 博卡拉顿)<br>The 5th Joint Meeting of the Society of Forensic Toxicologists (SOFT) and the International Association of Forensic Toxicologists (TIAFT) (Boca Raton, Florida, USA) | 郑永志 博士<br>Dr. CHENG Wing-chi |
| 2 | 中文笔迹鉴辨能力<br>Competency for Chinese handwriting Examination  | 美国法证科学院第70届年度科学会议 (美国 西雅图)<br>American Academy of Forensic Sciences 70th Annual Scientific Meeting (Seattle, USA)   | 李志強 博士<br>Dr. LI Chi-keung   |
| 3 | 量度不确定性的基础概念<br>Elementary Concept of Measurement Uncertainty  | 香港科技大学实验室管理课程 (香港)<br>MSc Programme in Laboratory Management, HKUST (Hong Kong)   | 黃耀松 博士<br>Dr. WONG Yiu-chung |
| 4 | 根据 ISO/IEC17043 规格能力验证<br>Requirements for the Organization of Proficiency Testing under ISO/IEC17043         | 澳门化验师公会 (澳门)<br>Associação de Laboratório Tecnólogos de Macau (Macau)   | 黃耀松 博士<br>Dr. WONG Yiu-chung |



|   | 报告题目<br>Presentation title  | 场合<br>Event  | 讲者<br>Presenter  |
|---|---|--|--|
| 5 | 政府化验所能力验证计划<br>PT Programme in Government Laboratory  | 澳门化验师公会 (澳门)<br>Associação de Laboratório Tecnólogos de Macau (Macau)  | 黃耀松 博士<br>Dr. WONG Yiu-chung                             |
| 6 | 以液相色谱 - 四极杆离子阱高分辨质谱仪 (LC-HRMS) 测定鸡蛋和蛋制品中的氟虫腈残留量<br>Determination of Fipronil residue in Eggs and Egg Products by Liquid Chromatograph - Quadrupole Orbitrap High Resolution Mass Spectrometer (LC-HRMS) | 第十二届欧洲农药残留研讨会 (德国 慕尼黑)<br>12th European Pesticide Residue Workshop (Munich, Germany)   | 古志健 博士<br>Dr. KOO Chi-kin                                |
| 7 | 化学计量在保障公众安全上担当的角色<br>The Role of Metrology in Chemistry in the Upholding of Public Safety   | 世界计量日、世界认可日及世界标准日2018研讨会 (香港)<br>Seminar on the World Metrology Day (WMD), World Accreditation Day(WAD) and World Standards Day (WSD) 2018 (Hong Kong) | 冯伟康 博士<br>Dr. FUNG Wai-hong                              |
| 8 | 政府化验所为检测业界提供有关化学计量的支援<br>Provision of Metrology-in-Chemistry Support Services to the Testing Community by Government Laboratory   | 香港检测和认证局第37次会议 (香港)<br>37th Meeting of Hong Kong Council for Testing and Certification (Hong Kong)   | 冯伟康 博士<br>黃耀同 博士<br>Dr. FUNG Wai-hong, Dr. WONG Yiu-tung |



|    | 報告題目<br>Presentation title  | 場合<br>Event  | 講者<br>Presenter                   |
|----|---|--|-----------------------------------|
| 9  | 食物投诉个案处理<br>Food Complaint Cases Handling   | 第七届欧洲化学科学化学大会 - 分子尖端及全球挑战 (英国·利物浦)<br>7th EuCheMS Chemistry Congress - Molecular frontiers & global challenges (Liverpool, UK)     | 邵凯恩 博士<br>Dr. SHIU Hoi-yan, Fiona |
| 10 | 氯-N,N-二甲基卡西酮 (CDC) 和氯乙基卡西酮 (CEC) 的法证药物分析<br>检获毒品中4-CDC和4-CEC的鉴定<br>(海报展示)<br>Forensic drug analysis of chloro-N,N-dimethylcathinone (CDC) and chloroethcathinone (CEC): identification of 4-CDC and 4-CEC in drug seizures<br>(Poster Presentation) | 澳洲新西兰法证科学学会第24届法证科学国际研讨会 (澳洲 珀斯)<br>The ANZFSS 24th International Symposium on the Forensic Sciences (Perth, Australia)            | 王永昌 博士<br>Dr. WONG Wing-cheong    |
| 11 | DNA检测应用的实例<br>Application of DNA Identification Technology  | DNA鉴别技术在中药品质控制中药品质控制的应用研讨会 (香港)<br>Application of DNA Identification Technology in Quality Control of Chinese Medicine (Hong Kong) | 李天慧 博士<br>Dr. LI Tin-wai          |



论文发表  
 PUBLICATIONS

|   | 发表物名称 (文章、书)<br>Publication title (paper, article, book, etc)   | 作者<br>Author(s)   |
|---|---|---|
| 1 | <p>物质量咨询委员会关键比对 - 转基因水稻基质样品中Bt63的相对定量 (CCQM-K86.b) 之最终报告,<br/>Metrologia 55, (2018) Tech. Suppl. 08017.</p> <p>Final report for CCQM-K86.b relative quantification of Bt63 in GM rice matrix sample,<br/>Metrologia 55 (2018) Tech. Suppl. 08017.</p> | <p>Lianhua Dong<sup>#</sup>、Zhiwei Sui<sup>#</sup><br/>Jing Wang<sup>#</sup>、邓希文、覃咏恩、李富荣、单慧媚、<br/>Melina Pérez-Urquiza<sup>#</sup>、<br/>Malcolm Burns<sup>#</sup>、<br/>Stephen L R Ellison<sup>#</sup>、<br/>Helen Parkes<sup>#</sup>、<br/>Mojca Milavec<sup>#</sup>、<br/>Chaiwat Prawettongsopon<sup>#</sup>、<br/>Kate R Griffiths<sup>#</sup>、<br/>Jacob L H McLaughlin<sup>#</sup>、<br/>Sachie Shibayama<sup>#</sup>、<br/>Sema Akyurek<sup>#</sup> 及<br/>Muslum Akgoz<sup>#</sup></p> <p>Lianhua Dong<sup>#</sup>, Zhiwei Sui<sup>#</sup>,<br/>Jing Wang<sup>#</sup>, Vincent H M Tang,<br/>Winnie W Y Chum, Foo-wing Lee,<br/>Della W M Sin,<br/>Melina Pérez-Urquiza<sup>#</sup>,<br/>Malcolm Burns<sup>#</sup>,<br/>Stephen L R Ellison<sup>#</sup>,<br/>Helen Parkes<sup>#</sup>, Mojca Milavec<sup>#</sup>,<br/>Chaiwat Prawettongsopon<sup>#</sup>,<br/>Kate R Griffiths<sup>#</sup>,<br/>Jacob L H McLaughlin<sup>#</sup>,<br/>Sachie Shibayama<sup>#</sup>,<br/>Sema Akyurek<sup>#</sup> and<br/>Muslum Akgoz<sup>#</sup></p> |

(# 非政府化验所人员 Non-Government-Laboratory Staff)



|   | 发表物名称 (文章、书)<br>Publication title (paper, article, book, etc)  | 作者<br>Author(s)  |
|---|--|--|
| 2 | <p>利用数学处理笔压数据的签名验证原型<br/>法证科学 63(1), (2018), 275-284.</p> <p>A Prototype of Mathematical Treatment of Pen Pressure Data for Signature Verification<br/>Journal of Forensic Sciences 63(1), (2018), 275-284.</p>  | <p>李志强, 王兆基 及 詹丽珠</p> <p>LI Chi-keung, WONG Siu-Kay and CHIM Lai-Chu Joyce.</p>  |
| 3 | <p>按照 ISO/IEC 17043 的要求, 组织 印章鉴别的实验室能力验证计划<br/>法证科学 63(5), (2018), 1556-1560.</p> <p>Organizing a Proficiency Testing Program on Stamp Impressions Examination in Accordance with ISO/IEC 17043 Requirements<br/>Journal of Forensic Sciences 63(5), (2018), 1556-1560.</p>    | <p>李志强, 许颖思 及 彭志明</p> <p>LI Chi-keung, HUI Wing-sze Janesse and PANG Chi-Ming.</p>   |
| 4 | <p>一项对三种qPCR定量试剂盒表现及其与六色DNA分型系统的兼容性的研究<br/>法医科学国际:遗传学 33, (2018), 72-83.</p> <p>A performance study on three qPCR quantification kits and their compatibilities with the 6-dye DNA profiling systems<br/>Forensic Sci Int Genet. 33, (2018), 72-83.</p>                        | <p>连诗华、李敏薇 及 叶志远</p> <p>LIN Sze-wah, LI Christina and IP Chi-yuen Stephen.</p>   |
| 5 | <p>气相色谱串联质谱和液相色谱串联质谱超痕量分析法测定奶和奶粉中的氟乙酸钠 ( 1 0 8 0 ) 残留量, 分析方法, 10, (2018), 3514-3524.</p> <p>Ultra-trace determination of sodium fluoroacetate (1080) as monofluoroacetate in milk and milk powder by GC-MS/MS and LC-MS/MS,<br/>Analytical Methods, 10, (2018), 3514-3524.</p> | <p>黄耀同, 罗咏棋, 赖秀玲, 王少彬, 刘港智 及 何嘉丽</p> <p>WONG Yiu-tung, LAW Wing-ki, LAI Sau-ling Shirley, WONG Siu-pan, LAU Kong-chi and HO Clare.</p> |



## 到访来宾

### OUR VISITORS in 2018

1/2/2018

国家卫生和计划生育  
委员会  
副主任  
崔丽 女士 到访

Visit by  
Ms. CUI Li,  
Vice Minister,  
National Population and Family  
Planning Commission.



20/3/2018

国家认证认可监督管理委员会  
国家认证认可监督管理局  
副主任  
刘卫军 先生 (左三) 到访

Visit by  
Mr. LIU Weijun (third left),  
Deputy Director,  
Certification and Accreditation  
Administration.





26 & 27 /3/2018

「鼓掌、创你程」计划

Career and Life Adventure Planning (CLAP)  
for Youth Programme.



20/04/2018

亚太计量规划组织 (APMP) 主席  
高辻利之 博士 到访



Visit by  
Dr. TAKATSUJI Toshiyuki  
Chairman  
Asia Pacific Metrology Programme (APMP).





27/5/2018

英国, LGC Group  
顾问  
Michael WALKER 博士 到访

Visit by  
Dr. Michael WALKER  
Consultant,  
LGC Group, United Kingdom.



29/5/2018



香港警务处  
刑事及保安处处长 到访  
李志恒 先生 (右图,右四)

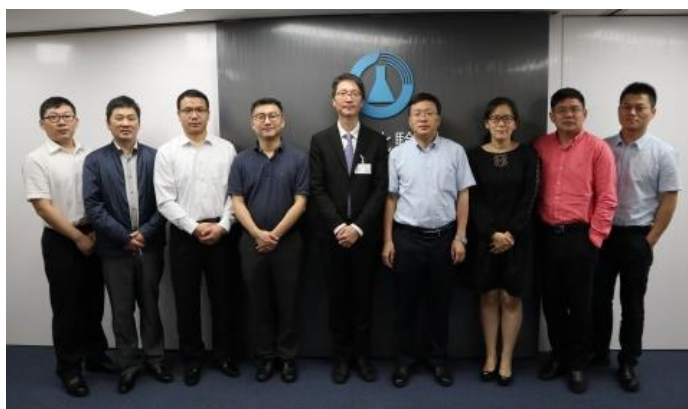


Visit by Mr. LI Chi-hang (fourth right, right photo)  
Director of Crime & Security,  
Hong Kong Police Force,  
and his team.

6/6/2018

内地法律工作人员代表团 到访

Visit by delegation from Mainland  
Justice Bureaux.





8/6/2018

公务员叙用委员会 到访

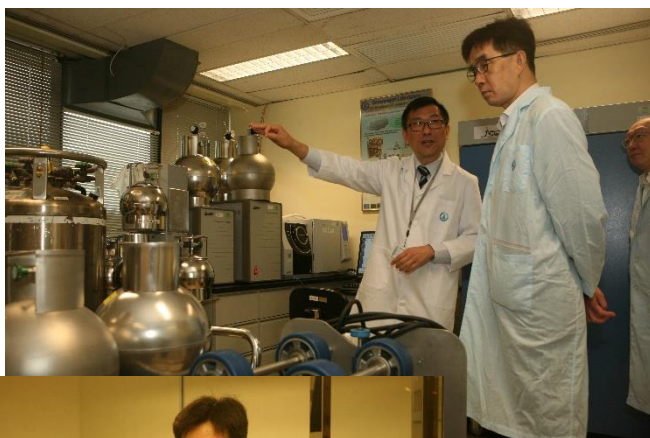
Visit by  
Public Service Commission.



28/6/2018

食物及卫生局  
常任秘书长(食物)  
容伟雄 先生 到访

Visit by  
Mr. Philip YUNG  
Permanent Secretary  
for Food and Health  
(Food).





6/7/2018

亚太计量规划组织 (APMP) 成员  
到访

Visit by  
Members of the Asia Pacific  
Metrology Programme (APMP).



12/7/2018

国际计量委员会,  
单位咨询委员会主席  
德国联邦物理技术研究所主席  
Joachim ULLRICH 教授  
到访

Visit by  
Prof. Joachim ULLRICH  
President of CCU of CIPM  
President of PTB, Germany.





17/7/2018

公安部  
刑事侦查局刑事技术交流团  
到访  
副局长 孙劲峰 先生 (前排、右五)  
Visit by Criminal  
Investigation  
Department,  
Ministry of Public Security.



18/9/2018

公安部  
刑事侦查局刑事技术交流团  
到访  
副局长 杜岩 先生(中排、右六)  
Visit by Criminal  
Investigation  
Department,  
Ministry of Public Security.

10-11/10/2018

英国, LGC Group,  
政府化验师  
Julian BRAYBROOK 博士 到访

Visit by Dr. Julian BRAYBROOK,  
Government Chemist, LGC Group,  
United Kingdom.





22/10/2018

北京市食品科学研究院代表团 到访  
院长 王守伟教授 (右五)

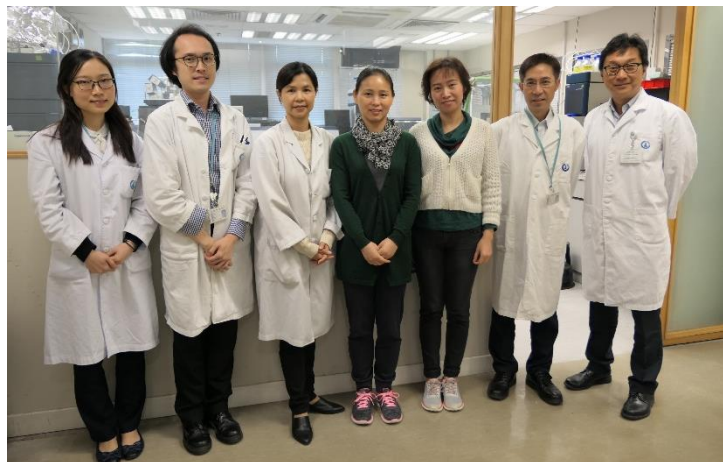
Visit by Prof. WANG Shouwei  
(fifth right), Head of Beijing  
Academy of Food Sciences  
and delegation.



23-27/10/2018

Visit by delegation from  
Institute of Forensic Science,  
Ministry of Public Security.

公安部物证鉴定中心代表团 到访  
副主任 孙云青 先生  
(上图、前排、右三)



22-23/11/2018

内地与香港公务员交流计划  
Civil Service Exchange Programme  
with Mainland

长沙市食品药品监督管理局副局长  
彭进 女士 (左四)

Ms. PENG Jin (Fourth left)

Changsha Food and Drug Administration

北京市食品药品监督管理局副处长  
袁静 女士 (右三)

Ms. YUAN Jing (Third right)

Beijing Food and Drug Administration

20/11/2018

Visit by

Mr. Zhanat Yeshmagambetov,

Vice Minister of the Ministry of Justice, delegation from the  
Ministry of Justice and KAZGUU University,  
the Republic of Kazakhstan.





Visit by delegation from  
Institute of Forensic Science,  
Ministry of Public Security.



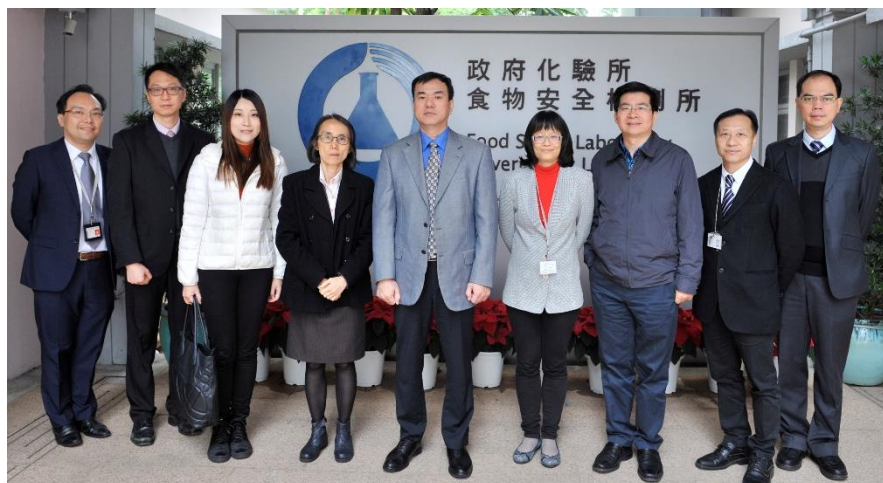
26-30 / 11 / 2018

公安部  
物证鉴定中心代表团 到访  
彭磊 主任科员 (右图)

30/11/2018

海关总署商品检验司代表团 到访

Visit by delegation from Department  
of Commodity Inspection,  
General Administration of Customs.



Visit by Mr. LIU Jinfeng (middle),  
Director-General,  
Department of Food Safety Standards, Risk Surveillance and Assessment,  
National Health Commission.

12/12/2018

国家卫生健康委员会  
食品安全标准  
与监测评估司司长  
刘金峰 先生 (中) 到访





**2018**

**[www.govtlab.gov.hk](http://www.govtlab.gov.hk)**

香港特别行政区 政府化验所

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Government Laboratory, Hong Kong SAR

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