行政院所屬各機關出國報告
(出國類別:研究)

參加「第126屆AOAC International年會」研習「食品檢驗科技新知」

服務機關：行政院衛生署食品藥物管理局
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摘要

第 126 屆 AOAC International 年會於 2012 年 9 月 29 日至 10 月 4 日於美國內華達州拉斯維加斯的 Planet Hollywood 旅館舉行，年會期間舉辦數場 AOAC 之事務會議、座談會、研討會、儀器展覽會以及壁報論文發表會。本局在這次會議中發表了 3 篇壁報論文，題目分別爲「Simultaneous Quantification of 11 Mycotoxins in Finished Cereal and Nut Products Using UPLC-MS/MS」、「The Contamination of Bacillus cereus in Ready-to-Eat Food in Taiwan」及「The Market Survey of Genetically Modified Food for Labeling System in Taiwan」，以及 1 篇口頭論文，題目爲「Comparison of LC-MS/MS and Uhplc-Quadrupole Orbital Trap MS Techniques for the Multi-Mycotoxin Analysis of Finished Grain and Nut Products」。會中除參觀及聆聽業務相關論文之展示及發表、參加主題式之座談會及研討會外，並與相關檢驗科技專家等國際人士互相交流，了解國際間檢驗科技之發展現況與趨勢，有利於本局未來工作之推展。年會期間另參加國際公定分析化學家協會台灣分會及亞洲分會聯合會議，將台灣在 2012 年食品檢驗相關的訊息向國際發聲，並藉此了解台灣與大陸、日本、印度、泰國等 4 個亞洲國家在檢驗技術上之努力及推展方向，就近尋求合作空間。

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國際 Association of Analytical Communities (以下簡稱 AOAC)成立之宗旨在成爲積極的確效分析方法及實驗室品質保證方案與服務的全球性供應者及促進者，並爲其會員及顧客提供方法及時更新及交換的溝通平台與高品質的實驗室資訊。

爲了達到這些目標，AOAC 有兩個方法確效計畫，「the AOAC® *Official Methods*℠ Program®」及「the AOAC® *Performance Tested Methods*℠ Program」。AOAC 集中精力且嚴謹的致力於方法審查程序的流暢度，以及提升新方法在國際間的關注度，例如，膳食補充品、基因改造食品(GMOs)及生物技術產品(如 *Bacillus anthracis*)之分析方法。在實驗室品質保證上，AOAC 還提供「The AOAC® Laboratory Proficiency Testing℠ Program」，利於實驗室透過能力試驗來確認自身的能力及品質，以提升其顧客對外及對內的可信任度。此外，AOAC 在實驗室管理、品質保證、品質稽核、統計、量測不確定度等領域也出版刊物、主辦技術會議及訓練課程，並及時提供會員方法審議及同儕審查的最新進度及資訊，目前約有 3000 個方法被世界各國所認同及使用。

AOAC 每年舉辦年會，於會中舉辦事務會議、座談會、研討會、儀器展覽會、以及壁報論文發表會，本局派員參加 AOAC 第 126 屆年會，藉由觀摩其他國家檢驗研究單位之研究成果，以了解國際間最新檢驗科技之應用與發展趨勢；並與各國專家學者溝通討論，相互交換意見，建立本局與國際檢驗技術溝通及聯絡穩定之管道。而藉由論文之發表更可展現本局檢驗研究之成果，提升我國檢驗技能之國際知名度。

貳、行程及會議經過

一、行程與工作紀要：

2012 年第 126 屆 AOAC International 年會於 2012 年 9 月 29 日至 10 月 4 日於美國內華達州拉斯維加斯的 Planet Hollywood 旅館舉行。(詳附件一)

日期	地點	工作紀要
101.09.29 - 30	台北---美國洛杉機---拉斯維加斯	啓程
101.09.30 - 10.04	美國內華達州拉斯維加斯	參加 AOAC International 年會及研討會
101.10.05- 06	美國拉斯維加斯---洛杉磯---台北	返程

二、內容概要：

本屆 AOAC 年會於美國拉斯維加斯的 Planet Hollywood 旅館舉行第 126 屆年會及研討會，會期由 9 月 30 日至 10 月 4 日共計 5 天，9 月 30 日完成報到手續後，於晚間參加開幕歡迎會。今年約有 870 餘位來自世界各地的 AOAC 會員、自願參加者及廠商利害關係人等學者專家參加，其中來自台灣的有 3 位，分別是 AOAC 台灣分會理事長陳樹功博士及本局蔡佳芬技正與廖家鼎薦任技士。

AOAC第126屆年會開幕式於10月1日上午8點30分舉行，由會長Stan Bacler主持，安排有頒獎典禮及開幕演講，今年的 Harvey W. Wiley Award 得獎者爲英國食品標準局(Food Standard Agency)退休的 Dr. Roger Wood，表彰其在英國食品法規標準與歐盟調和之貢獻，同時他也是 AOAC 及其他組織在能力試驗及品質保證等指引的起草及推動者。大會演講者爲 Abbott Nutrition 公司的 Dr. Robert H. Miller，演講題目爲「How Infant Formula Quality, Safety, and Fair Trace Came to Rely on AOAC」，以國際嬰兒配方食品製造業者的觀點來看，業者如何仰賴 AOAC 的第三者公證角色，在嬰兒配方食品的品質、安全及信賴追溯上，積極進行檢驗方法之開發及尋求一致性。由於嬰兒配方食品之檢驗方法已有業者的方法、政府部門的方法，建立方法間之一致性有其必要，可減少紛爭的發生。因此近年來嬰兒配方食品製造業者於 AOAC 積極推動利害關係人嬰兒配方及成人營養素(Stakeholder Panel on Infant Formula and Adult Nutritionals, SPIFAN)的方法審議委員

會，自主的來進行方法之調和。於開幕式結束後，隨即參加大會所舉辦之學術研討會、壁報論文展示及儀器廠商、試藥供應商及代檢驗公司舉辦之展示會。

圖一、AOAC 第 126 屆年會會場入口

圖二、會長 Stan W. Bacler 主持開幕式

圖三、AOAC 第 126 屆年會開幕式

圖四、AOAC 第 126 屆年會大會演講

AOAC 台灣分會會議於 10 月 1 日下午 6 時舉行，由理事長陳樹功博士主持，因適逢中秋節後，台灣分會特別準備月餅與鳳梨酥招待與會來賓。陳理事長介紹台灣分會過去一年來的活動及未來規劃，並請與會者自我介紹，促進交流。與會者除來自台灣的 3 位代表外，尚有美國 FDA、檢驗公司、儀器公司等代表，共 14 人參加。AOAC 下屆會長 Dr. Coleman 亦出席本會議，十分讚許本會之表現。接著於 7 時舉行 Joint AOAC Asian Section Meeting，邀請亞洲 4 個分會代表及其他亞洲與會人員出席此會議，AOAC 會長 Dr. Bacler 等行政人員亦親自出席，表達 AOAC 對亞洲地區會務推行的重視。會中達成以下共識：(1)亞洲各國可就分析方法之研究及訓練進行合作及交流；(2)可先就亞洲各國分析方法進行調和。會議圓滿結束，各國皆期望未來能有更多的合作機會。

圖五、AOAC 台灣分會會議

圖六、AOAC 亞洲聯合分會會議

圖七、AOAC 亞洲聯合分會會議團體照

三、研討會演講

大會於同一時間安排多場不同主題之研討會、方法討論會、方法審議會，與會者可自行選擇，其內容均十分吸引人，但礙於同時段僅能擇一參加，將本次所參與之研討議題摘要如下：

(一) Screening and Structural Elucidation of Marine Toxins, Analogues and Related Metabolites: Detection Tools, Toxicity and Potential Reference Materials

因應檢驗技術不斷的推陳出新，以及法規要求可能有所變動，檢驗方法必須不時的更新，以達到更佳的檢驗感度。近年來檢驗方法的開發多朝以最少的前處理步驟、多重的篩檢方式爲目標前進，講者 Andy Selwood 就以 Okadaic acid (DSP 的分析標的)、Tetrodotoxin 及 Palytoxin 這 3 種海洋毒素爲例，因該等毒素係結構複雜或爲一群相似結構的化合物族群，透過簡單的鹼水解可讓複雜的待測物族群

單純化，或經過衍生化反應來提高離子化程度，讓感度達法規要求，減少干擾，以達到快速篩檢的目的。講者 Andrew Turner 則與大家分享在例行分析過程中使用 Certified reference standards (CRMs)的重要性，而其產出的過程更必須依循 ISO Guide 35、34、31，從基質的選擇、代測物濃度、均質方式、待測物正確含量、運送過程及長時間貯存的穩定度均需被仔細的考量，通常其來源可能爲天然的毒素污染事件、適度基質添加或實驗室餵養產出，最後亦會選擇多種分析方法來確認其含量。講者 Frances M. Van Dolah 則爲大家報告 AOAC 舉辦的以 Receptor Binding Assay 方法分析 Paralytic Shellfish Poisoning (PSP)的實驗室間共同試驗，依 AOAC 實驗室間共同試驗之要求，至少要有 8 家實驗室參加試驗，該試驗最後提交數據者有來自 7 個國家的 9 個實驗室，試驗結果整體而言再現性 R 爲 33.1%，精密度 r 爲 25.1%，在例行分析實驗室的精密度 r 爲 17.1%，回收率爲 88.1－93.3%，也沒有僞陰性的情形。

(二) New Analytical Trends and Techniques for Evaluating Botanicals

植物性藥物的鑑別及品質一直是膳食補充品製造業者的一大挑戰，由於在真實世界中，這些植物成分本就有很大的變異性，講者 Sidney Sudberg 說明在過去的 15 年間，植物性藥物的分析方法涵蓋 HPTLC、HPLC、顯微檢查等，而分析結果更是發現植物性藥物的種類及含量範圍複雜且廣，在製造業者間因使用的原料、萃出物不同，都會影響其選用的分析標的及方法。講者 Kim Colson 則介紹以 NMR 來進行天然物、膳食補充品及植物性藥物的定量及定性分析，自從 2007 年美國 FDA cGMP 強制要求膳食補充品製造廠必須能夠對其產品確認其鑑別、純度、活力及組成，但植物性藥物的組成及含量受到其品種及生長環境的影響極大，NMR 提供了指紋圖譜工具及利用爲定量分析兩方面的功用，報告中以 NMR 進行膳食補充品中 sulfoaildenafil 的分析。

(三) Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges

在今年的 AOAC 年會中，高解析度 LC-MS-MS 大放異彩，被大量的應用於 target analysis 及 non-target analysis，講者 Sherri Turnipseed 應用 Q-TOF 及 Exactive 兩種高解析度質譜分析技術，嘗試將原有分析牛奶中 25 種動物用藥的分析方法擴大應用範圍，在初步的結果發現此研究方向應是可行，甚至應用分子式鍵入的方式，還可應用於 non-target 的分析。講者 Imma Ferrer 則將 LC/Q-TOF-MS 應用於緊急事件的污染物分析，利用精確質譜成功的快速篩檢出河流中污染的含氯化合物 lamotrigine 及河流中 100 個西藥成分及其代謝物。講者 Anton Kaufmann 則提醒大家，目前仍有串聯質譜儀的感度仍然優於高解析度質譜儀、高解析度質譜儀是否擁有足夠的線性範圍、可能有僞陽性及僞陰性的可能、受限於現行軟體功能等疑慮，但高解析度質譜儀確實有其強大的功能，尤其是在串聯質譜儀只能告訴我們「你預期看到的」，而高解析質譜儀則可告訴我們「發現未預期的」。講者 Jana Hajslova 與大家分享 polyfluorinated surfactants (PFSs)自包裝容器具遷移至食品的研究，Hajslova 應用 DART-HRMS 來快速篩檢食品用紙類包裝紙及包裝盒的 PFSs，在分析的 47 件樣品中有 16 件檢測到 C2F4 的關聯物，利用 DART-orbitrap MS 在 4 個樣品中測得 Polyfluoroalkylphosphate surfactants (PAPS)，利用 UHPLC-TOFMS 在 8 個樣品中測得 PAPS。陽性樣品包括瑪芬杯(muffin cups)、速食紙盒(fast food wraps)、微波玉米袋(microwave popcorn bags 及比薩盒(pizza box)等，這些都經過 DART-orbitrap MS 鑑別後，再一次以 UHPLC-IMS-TOF MS 確認。而遷移試驗則發現，遷移的速度及程度和待測物與容器介質之極性相符程度有關，QuEChERS 方法可用來進行食品基質的前處理。

(四) Roundtable on Good Practices for Establishing Meaningful Specifications for Botanicals in Dietary Supplements and Nutrition: Scientific Perspective

除了 GAP (Good Agriculture Practice)、GMP (Good Manufacturing Practice)、製造流程的確效(validated manufacturing process，如原料檢驗、線上檢驗、安定性試驗等)等整體管理政策外，歐盟在 2006 年對草藥膳食補充品(草藥)規格(Specifications for (Herbal) Dietary Supplements)有了規範，在一般檢驗之要求有：草藥原料：定義、感官特徵、污穢物質、鑑定(肉眼檢查、顯微檢查、層析分析、摻加化學物質)、量測(包括特定已知功效成分及/或指標物質之指紋鑑定)、不純

物(污染物、微生物、毒性降解產物)；中草藥製程：原料、劑型、溶劑、DER (藥物-萃取物的比例)、感官特徵、鑑定(層析分析)、量測(包括特定已知功效成分及/或指標物質之指紋鑑定)、不純物(殘留溶劑、污染物、微生物)；中草藥產品(HMPs)：外觀(大小、形狀、顏色)、感官特徵、鑑定(層析分析、肉眼/顯微檢查(植物粉末)、量測(包括特定已知功效成分及/或指標物質之指紋鑑定)、不純物(殘留溶劑、微生物、降解產物)。在特定檢驗之要求則包括：中草藥產品(HMPs)之錠劑及膠囊：溶解/溶離度、硬度/易碎性、重量及組成的均一性、水分、不純物(特定微生物)；中草藥產品(HMPs)之口服液：劑量一致性、pH 值、不純物(特定微生物)、抗菌防腐成分及有效性測試(廚架壽命)、抗氧化防腐劑、容器封裝系統可萃性(extractables from container-closure system，有必要時)、酒精含量、溶解性(有必要時，如口服懸浮液)、其他；中草藥產品(HMPs)含草本物質者(如，茶)：乾燥減重、鑑定(層析分析、肉眼/顯微檢查、有毒物質、重量均一性/茶袋平均內容物重、顆粒大小、量測、微生物品質。講者 Klaus Reif 針對上述要求，舉例說明在規格上應有的陳述。

(五) Proficiency Testing for Veterinary Drug Residues in Food

爲何要進行能力試驗？哪裡可以進行能力試驗？如何進行能力試驗？講者 Eric Verdon 以簡單活潑的簡報，以動物用藥殘留爲例來闡明上述問題。爲了食品安全及國際貿易需求，這些年來有些動物用藥殘留能力試驗的供應者，依循嚴謹的方法確效、文件提供、統計模式等標準，提供了這項服務，其考量的因素有各國不同的法規標準、分析目的(定性篩檢或定量)、實驗室採用的方法可信度、如何相信實驗室產出的數據、使用分析方法的層級(Peer-review Published Methods (scientific journals)、Officially Recognized Methods (country-dependent)、Validated Methods (official / non official guidelines)、Accredited Methods (fixed scope / flexible scope)、Reference Methods 或 Standardized Methods)，還要思索試驗性質屬於 Collaborative Studies (適於用來評估方法)、Cooperative Studies (適於用來評估物質，如某物質的証明)或 Proficiency Testing Studies(適於用來評估實驗室的能力)，其中 Proficiency Testing Studies 最能顯現實驗室的整體能力，Eric Verdon 也提供了國際間可提供動物用藥殘留分析能力試驗的單位供大家參考。而能力試驗執行必

須依循 ISO 17025 : 2005 及 17043 : 2010 之要求，針對各項品質及完整方案予以文件化，而參加能力試驗則可得到實驗室能力評估、矯正措施、預防措施及持續改進等益處。在能力試驗的數據統計上，講者 Daniel Tholen 爲大家說明 ISO 13528 : 2005 的發展，由於現行 ISO 13528 仍存有一些問題，將會持續作出修正，或許在 2013/2014 年會正式發布。其中除了繼續加強對測試物均勻性、可能的誤差等規範外，還將增加新的 robust procedures (穩健程序，如，簡單：中位數、nIQR；複合：Hampel Q)、能力評估的說明(使用 D = (xi － X)、D% = (xi － X) / X *100%及 PA (percent of allowed error，PA = D/E *100；考量 En 及 zeta (ζ -值))、均勻性及安定性之考量、不確定度評估等。

$$\zeta = \frac{x - X}{\sqrt{u_{lab}{}^2 + u_{av}{}^2}}$$

u_{lab}是參加者結果的組合標準不確定度，u_{av}是設定值的標準不確定度。

$$E_n = \frac{x - X}{\sqrt{U_{\text{lab}}^2 + U_{\text{ref}}^2}}$$

U_{lab}爲參加者結果的擴充不確定度；U_{ref}爲參考實驗室設定值的擴充不確定度。

(六) FSMA's Impact on Laboratories and Food Testing

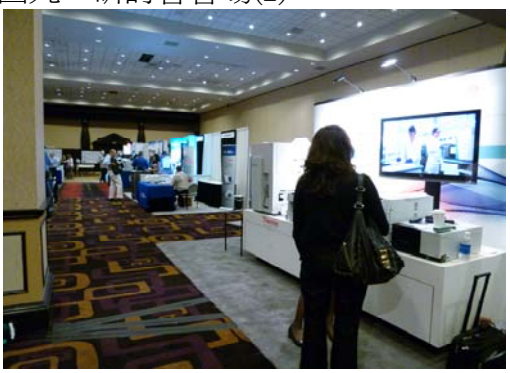
美國「食品安全現代化法案」(Food Safety Modernization Act, FSMA)是在 2011 年 1 月 4 日由歐巴馬總統簽署生效，目的在確保美國境內的食品安全，此法案擴大授權美國衛生部（Department of Health and Human Services, DHHS）下轄之食品藥物管理局（Food and Drug Administration, FDA），在整個食品供應鏈建立全面性、以科學方法爲基礎之預防性控管機制，並幫助 FDA 在發生食品安全問題時能更迅速地反應與控制危害。講者 Shannon Cole 解釋，按照 FSMA 的規定，已在美國完成註冊的外國公司，每兩年都需重新註冊一次。且 FSMA 要求進口商要採行能夠證明其欲輸入美國境內食品的安全程序，還需證明他們的供應商是遵循了合理恰當的風險預防控制方案。此舉是希望透過食品進口前的嚴格控管，及進口後的定期檢驗，增加美國境內的食品安全，若未合乎 FSMA 規定，將被強制召回，甚至拒絕入境。因此，食品製造業者在 FSMA 施行後有了新的責任：對每天作業的

影響(食品安全計畫/預防性管控、供應鏈管理、紀錄維護及評估、食品防禦方案)；所有業者的註冊登記(含倉儲及海外業者)，FSMA 在食品安全計畫上，是循著危害分析、預防性管控、監測、矯正措施、確認、再分析的軌跡不斷運行，並落實文件化。FSMA 的概念來自於預防食品遭到污染遠勝於事後靠著精良分析技術的檢查，在原料供應端要明確知道供應來源及是否符合要求，尤其是避免未標示或未宣稱含有過敏原的情形，美國 FDA 有權調閱所有的文件紀錄，包括客訴的紀錄及處理。講者 Jonathan DeVries 進一步說明該法案施行後對法規檢測實驗室(Regulatory Laboratories)、公司中央實驗室(Company Central Laboratories)、公司工廠實驗室(Company Plant Laboratories)、第三實驗室(Commercial Laboratories)等 4 種類型實驗室而言，都應符合優良實驗室操作規範(GLP)，提供高品質的分析數據，因此，實驗室都必須使用經過多實驗室確效的分析方法(如，AOAC Official Methods of Analysis)、提供分析人員適當的科學訓練、使用參考物質、以標準參考物質(CRM)來追溯、進行實驗室品質管控來查核樣品、參加能力試驗。未來，FSMA 也會透過由每個實驗室通報數據，建構食品緊急事件網絡。

圖八、研討會會場(1)

圖九、研討會會場(2)

圖十、廠商展示會(1)



圖十一、廠商展示會(2)

四、壁報論文展示與閱覽

本次大會之壁報論文分 3 天舉行，每天均有不同研究主題進行展示，10 月 1 日展示主題有(1)食因性污染物及殘留物分析(Analysis of Foodborne Contaminants and Residues)；(2)非食因性污染物及殘留物分析(Analysis of Non-foodborne Contaminants and Residues)；(3)食品營養及食物過敏原(Food Nutrition and Food Allergens)。10 月 2 日展示主題有(1)攙假(Authenticity)；(2)天然毒素之檢驗與量測(Detection and Measurement of Natural Toxins)；(3)食品安全之突發案件(Emerging Issues in Food Safety and Security)；(4)微生物方法(Microbiological Methods)；(5)績效評估方法 (Performance Tested Methods^{SM})。10 月 3 日展示主題有(1)植物性藥物及膳食營養補充劑(Botanicals and Dietary Supplements)；(2)一般分析方法、品質保證與認證(General Methods, Quality Assurance and Accreditation)；(3)藥物分析之準確性及安全性(Pharmaceutical Analysis, Authenticity and Safety)。本局在會議中發表了 3 篇壁報論文，題目分別爲「Simultaneous Quantification of 11 Mycotoxins in Finished Cereal and Nut Products Using UPLC-MS/MS」、「The Contamination of Bacillus cereus in Ready-to-Eat Food in Taiwan」及「The Market Survey of Genetically Modified Food for Labeling System in Taiwan」，期間並閱覽與業務相關之論文，以了解最新研究情形，參閱之壁報論文擇要整理如下：

(一)殘留農藥分析

1. Use of New Spherical Materials in a Dual-Layer SPE Tube for the Analysis of Pesticide Residues in Spinach

高色素含量的蔬果(如，菠菜)在檢驗時總需較多的淨化步驟，研究者利用新式的 Supel Sphere dual-layer SPE 淨化管，讓分析步驟更爲簡單，而去除色素的效果很好。取均質後的菠菜檢體 10 g，加乙腈 10 mL，振搖 1 分鐘，加入 Supel-Q Acetate tube (55234-U)，振搖 1 分鐘，於 3200 rpm 離心 5 分鐘。取上清液 12 mL 置入含無水硫酸鎂 1 g 之 dSPE，振搖後於 3200 rpm 離心 5 分鐘。取 5 mL 於 40ºC 乾燥至 1 mL，加入甲苯 250 μL。SPE 淨化管先以乙腈：甲苯(75:25) 10 mL 潤洗，注入檢液，立即收集流出液，以乙腈：甲苯(75:25) 20 mL 沖提之，合併流出液，以 Agilent 7890/5975 GC/MS 分析之。

2. Use of APPI to Minimize Matrix Effects Suffered in ESI LC-MS Analysis of Pesticides and Mycotoxins in Foods

大氣壓光離子化游離法(APPI)具有在大量進樣時較低離子抑制效用及可同時監測高及低質量的優勢，研究者在農藥殘留及黴菌毒素分析上比較了 APPI 與 ESI 之分析效果。以 Agilent 1290 UHPLC 串聯 Q-TOF MS 及 Syagen’s PhotoMate 分別進行 ESI 及 APPI 分析。分析管柱爲 Poroshell C18，2.1 × 50 mm，2.7 μm；移動相 APPI 爲乙腈/水，ESI 爲乙腈/水，另含 0.025% TFA (ESI+)及 25 mM 醋酸銨(ESI-)。檢體爲 2 g 蕃茄、蘋果及胡蘿蔔，APPI dopants 爲丙酮、甲苯及氯苯。結果，APPI 基質效應較低，前處理可較簡單，縮短層析分析時間；APPI 較 ESI 可離子化之範圍廣，一次分析之標的物較多，ESI 無法對 2,3,5,6-tetrachloronitrobenzene、chloroneb 及 cypermethrin 等農藥進行離子化；APPI 對多數農藥及黴菌毒素於正離子化可提供$[M+H]^+$、$[MH-H_2O]^+$或$[M-H_2O]^+$，於負離子化可提供 M^-或$[M-X]^-$；對 APPI 及 ESI，於負離子化時有機磷農藥多有$[M-CH_3]^-$或$[M-C_2H_5]^-$；在 dopant 的選擇，質子置換時丙酮及甲苯之效果略高於氯苯，電價交換上則氯苯之整體表現又較佳，因此在正離子化時，氯苯因可應用於較多分析標而被選爲 dopant；甲苯則爲負離子化時之 dopant；APPI 在 aflatoxins (B_1、B_2、G_1、G_2、M_1)、citrinin、deoxynivalenol、sterigmatocystin、ergosine 及 ergotamine 等黴菌毒素之分析感度較 ESI 佳，其他則以 ESI 較佳，蘋果基質有較高的基質效應，強度依序爲蘋果>胡蘿蔔>蕃茄；APPI 較能容許流速較快之分析。

(二)殘留動物用藥分析

1. Sensitive and Accurate Multi-Class Multi-Residue Veterinary Drug Analytical Method Validation for Shell Egg Using Liquid Chromatography Tandem Mass Spectrometry

多重分析方法已是農藥及動物用藥殘留檢驗的趨勢，研究者建立了可同時分析帶殼蛋中 nitroimidazole、phenicol、β-lactam、quinolone、macrolide、sulfonamide、tetracycline、coccidiostat 等歐盟蛋品監測的分屬 8 類 40 種動物用藥的殘留分析方法。取檢體 2 g 置於離心管，以乙腈 8 mL 攪拌萃取後，加入緩衝液 0.5 mL 再攪拌萃取 4 分鐘，於 3000 × g 離心 5 分鐘。取上清液經 C18 SPE 淨化，收集流洗

液於試管中，再以 90%乙腈 3 mL 沖提之，合併收集液於 40ºC 乾燥至剩約 0.3 mL，以 60%甲醇定容至 2.0 mL，進行 LC-MS/MS (ABSciex 5500 Q-Trap MS)分析，採 MRM 模式，在 15 分鐘內可完成儀器分析，而未來本方法還可擴充至水產品及肉品的檢驗。

2. Comparison of Instrument Detection Limits of an "Orbitrap" Mass Spectrometer and a Triple Quadrupole Mass Spectrometer for Screening and Quantitation of a Variety of Veterinary Drug Residues

以 Waters ACQUITY UPLC 分別串聯 AB Sciex 5500 Q-Trap 及 Thermo Q-Exactive 進行動物用藥殘留分析，比較儀器之偵測極限(IDL)，兩者對多重殘留分析而言，都提供了適當的分析感度(IDL 詳下表)，然而 Q-Exactive 還另外多了可日後在檢視資料及無限量分析標的物的優點。

Compound	IDL (pg/mL)		Compound	IDL (pg/mL)	
	Q-Trap	Q-Exactive		Q-Trap	Q-Exactive
Leucocrystal Violet	1	30	Trimethoprim	7.5	4
Leucomalachite Green	0.5	5	Ormetoprim	10	4
Crystal Violet	2	50	Sulfadimethoxine	20	30
Malachite Green	7.5	12	Sulfadiazine	50	30
Enrofloxacin	5	3	Sulfadoxin	10	13
Sarafloxacin	12	15	Sulfamethoxypyridazine	25	40
Flumequine	2.5	2	Sulfapyridine	40	20
Nalidixic Acid	5	60	Sulfaquinoxaline	60	50
Oxolinic Acid	25	8	Sulfamethizole	50	100
Ciprofloxacin	25	30	Sulfamethazine	40	40
Danofloxacin	25	20	Sulfathiazole	50	75
Erythromycin	20	25	Sulfamonomethoxine	50	100
Emamectin	3	25	Sulfachloropyridazine	55	100
Ivermectin	375	1600	Sulfamerazine	40	30
Dimetronidazole	50	50	Sulfamoxole	50	60
Metronidazole	15	35	Sulfamethoxazole	55	40
Ronidazole	25	80	Sulfacetamide	60	400
Iprondazole	20	15	Sulfasoxazole	75	75
IPZOH	75	90	Tetracycline	200	300
MNZOH	250	180	Chlortetracycline	250	200
HMMNI	500	90	Oxytetracycline	800	200

(Gibbs等，2012)

(三)重金屬分析

1. Analysis of Arsenic Species and Low-Level Heavy Metals in Rice

米是部分族群的主食，因此其所含污染物對很多人來說是一個熱門議題，

但目前對米中所含極低含量(ppb)的重金屬，尤其是砷物種的分析卻並不多見，EU 訂定食品中 Cd 限量爲 200 ppb，中國大陸米之無機砷限量爲 150 ppb，WHO 與 EU 則對白米中無機砷 200 ppb 之限量還尚未定論。有鑒於重金屬及無機砷已是近年來食品安全的重要議題之一，研究者以 Perkin-Elmer ICP-MS 搭配 ELAN DRC II 來分析 9 個國家的食米之 As、Cd、Pb 及 Hg，同時還分析無機砷、arsenite [As(III)、arsenate [As(III)]的濃度。方法之檢出極限均爲 10 ppb 或 10 ppb 以下，該方法使用 NIST SRM 1568a 米粉來加以驗效。部分檢驗結果發現，檢測值有高於法規值或討論值之情形，有必要持續關注其含量，此外，研究者所進行的洗滌試驗證實，部分重金屬含量明顯可因洗滌而下降。

2. Speciation of Arsenic in Rice Grain, Juice, and Fish Meal

有研究指出，高砷攝入量可能引發癌症及心臟疾病，美國 EPA 對飲用水砷限量定爲 10 ppb，但至 2012 年 9 月都還未制定食品中砷的限量標準。穀物、蔬果中的砷可能來自環境或人爲的污染，而無毒性則端視砷物種、暴露路徑、暴露量及期間長短。砷可分爲有機砷及無機砷，有機砷有 Dimethylarsenic acid (DMA)、Monomethylarsonic acid (MMA)及 Arsenobetaine (AsB)，多自尿液中排出體外。無機砷相較而言吸收快速，而其毒性以 Arsenate, As (V)高於 Arsenite, As (III)。研究者建立以 Hamilton PRP-X100，10 μm，250 × 4.1 mm 爲分離管柱，Hamilton PRP-X100 爲保護管柱，10 mM $(NH_4)_2HPO_4$，pH 8.25 爲移動相的條件下，利用 ICP-MS 同時分析米、魚肉及果汁中 5 種砷物種(As (V)、As (III)、AsB、DMA 及 MMA)之分析方法，其線性範圍爲 2.5~250 ppm。(依本局經驗，ppm 應爲 ppb 之誤植。)

(四)無標的物分析

1. The Use of Multivariant Analysis for Early Identification of Potential Food or Beverage Adulterations

食品工業爲了獲取更大的經濟利益，食品攙雜已對消費者健康造成潛在的威脅，問題亦日益增多。攙雜可以是不被接受的強化、成分的取代、產品或成分

易使人誤解的的標示等。例如，今日的食品和飲料市場，公司所使用的香料來自於全世界，爲了確保品牌，食品和飲料製造商必須保證原料和最終產品沒有攙雜的情形，而能提供豐富訊息的分析方法將能幫助證實原料和成品的品質。牛奶樣品添加 melamine、cyanuric acid 及 5 種人畜用藥後，加入 10%甲酸(v/v) 1 mL，以 vortex 振盪 15 秒，取 1 mL 加到 9 mL 含 10 mM 醋酸銨的 ACN/H_2O (97/3)溶液中，混勻後經 0.2 μm PTFE 濾膜過濾，以 Waters 廠牌 ACQUITY UPLC 串聯 Xevo G2 QTof 分析，數據經 Waters 的 MS^E模式分析，再與 UNIFI 資料庫比對，篩檢出未知的化合物。

2. Discovery and Identification of Unknown Compounds in River Water by UPLC-QTOF MS

分析環境水中的農藥殘留是一件非常平常的事情，但是人類用藥及其代謝物卻也可能以和農殘相當的含量存於其中，而這兩種其實都會危害水體中的生物及下游住民的健康。這些年來已大量利用 Time-of-Flight (Tof)分析技術來篩檢食品及環境中污染物，這種技術因在分析過程中可蒐集更多資訊，因此被拿來與傳統以四極柱的標的物分析區隔，而被稱爲是 non targeted 的篩檢分析。河水以 500 mL 經 Oasis HLB 淨化管柱萃取淨化後，以 Waters 廠牌 UPLC 串聯 Xevo G2-S QTof 分析，數據在 MS^E 模式下一次分析即蒐集到前驅離子及產物離子之精確質量(*m/z*)，經與 Waters 的 UNIFI 資料庫比對，篩檢出未知的化合物。

3. Automated 1H NMR Screening of Vitamin B Tablets using Assure – RMS

自 2007 年 FDA 膳食補充品 cGMP 施行以來，其對品質及安全的要求更趨嚴格，因此製造業者必須要能確認其產品之鑑別、純度、效價、組成。因此方法之現代化便成當務之急，本研究利用 1H NMR 全自動的來監測維生素 B 錠。利用同步標的物及無標的物分析趨近(targeted and non-target approach)的 Assure-Raw Material Screening (RMS)技術來定性及定量維生素 B。這是一個新的分析概念，甚是引起筆者的好奇心，未來評估後或可引入本局，爲無標的分析技術加入新的生力軍。

(五)添加物分析

1. Artificial Preservatives in Pet Food: BHT, BHA and Ethoxyquin Extraction by QuEChERS Methodology and Analysis by LC-MS/MS

寵物飼料自三聚氰胺事件後備受全球關注，爲求顧客安心，製造業者必須對其產品進行安全篩檢，飼料中防腐劑有可能關乎長期暴露所引起的致癌風險，或是引發的過敏反應。本研究針對 butylated hydroxytoluene (BHT)、butylated hydroxyanisole (BHA)、ethoxyquin 這三種抗氧化及防腐成分開發簡單而有效的檢驗方法，利用 QuEChERS (Quick, Easy, Cheap, Effective, Rugged, Safe)進行前處理，以 Agilent 廠牌 LC-MS/MS (6460 Triple Quadrupole Mass Spectrometer)分析。取檢體 2 g，加入陶瓷均質石 2 粒，加水 8 mL，以 vortex 振盪 1 分鐘，加入乙腈 10 mL，以 vortex 振盪 1 分鐘，加 p/n: 5892-5650 QuEChERS，振搖 1 分鐘，於 5000 rpm 離心 5 分鐘。取 6 mL 萃取液至 p/n: 5892-5221 淨化管，以 vortex 振盪 1 分鐘，於 5000 rpm 離心 5 分鐘。取 700 μL 上清液以氮氣吹乾，以 700 μL 的 ACN/H_2O 1/4 溶液回溶，經 0.45 μm 濾膜過濾，以 Agilent Poroshell 120 SB-C18 LC column 管柱，進行 LC-MS/MS 分析。其方法簡單，且回收率及再現性均佳。

2. Analysis of 2- and 4-Methylimidazole in Beverages, Condiments and Foods by LC-MS/MS

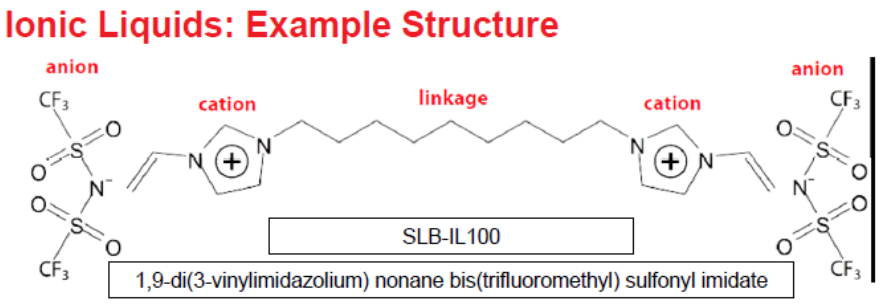
焦糖廣泛使用於食品及飲料，4-Methylimidazole (4-MEI)是焦糖的副產物，而含碳水化合物與胺基酸食品的褐變反應也會產生 4- MEI。4-MEI 被認爲在兔子、小鼠及雞餵食大劑量(360 mg/kg body weight)時會有抽搐及對人類之致癌可能。本研究建立以 LC-MS/MS (Dionex UltiMate 3000 UHPLC 附 Applied Biosystems API 4000 Triple Quad)分析飲料、醬料及食品中 4-MEI 之分析方法，檢體加入 4-MEI-d3 內標後以水適當稀釋，過濾後及進行分析。2-Methylimidazole (2-MEI)及 4-MEI 爲同分異構物，雖然 2-MEI 尚未有安全疑慮，但因其可能導致 4MEI 之誤判，因此一併分析。分析條件：分析管柱爲 Waters Acquity UPLC BEH Amide，1.7 μm，2.1

× 100 mm，VanGuard BEH 1.7 μm 爲保護管柱。移動相爲 0.125 mM 醋酸銨/乙腈：8：92，流速 0.3 mL/min。

(六)食品組成成分分析

1. Ionic Liquid Capillary Columns for the Analysis of FAME Isomers

脂肪酸通常以甲基酯(FAMEs)的形態進行分析，包括其飽和、多元不飽和，順式、反式異構物之分析。傳統上是以 silicone polymer 或 polyethylene glycol based 的靜相來進行沖提，但是食品中脂肪酸組成變化很大，找到適合的分析管柱搭配適合的前處理，對分析結果的正確性影響極大，非極性 methyl silicone 層析管柱可依沸點分離 FAME 異構物，但多元不飽和 FAME 異構物的分離稍受限制，極性 polyethylene glycol (PEG)層析管柱雖可依不飽和程度來分離，但對碳數變化很小的 FAME 分離狀況仍欠佳。高極性 cyanosilicone 層析管柱則可利用順式及反式異構物幾何結構的不同而分離之。Ionic Liquid 這種新式的靜相(詳下圖)提供較傳統更爲優化的層析效果，研究者比較了 SLB®-IL60 (PEG 相似靜相物)與 SLB-IL111 (高極性選擇性)等不同性質的 Ionic Liquid 層析管柱應用於 FAME 之分析效果。

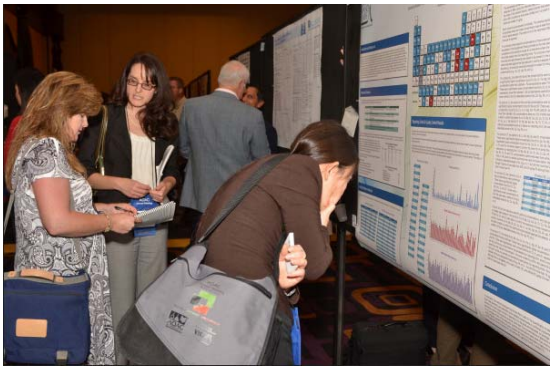


(Sidisky 等，2012)

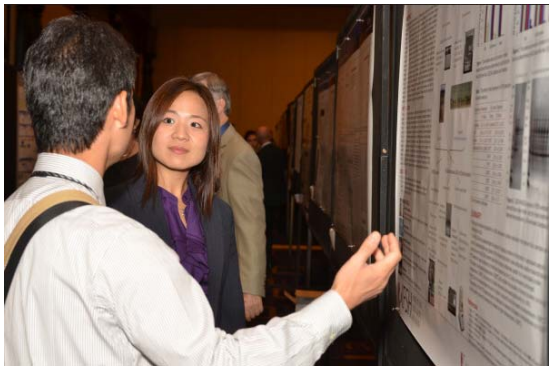
2. Profiling Extra Virgin Olive Oil using QTOF LC/MS and Developing a Prediction Model for Geographical Origin Determination and Adulteration of Oils

近年來，特級初榨橄欖油(extra virgin olive oil, EVOO)攙僞因龐大的商業價值而備受關注，原產地及品系是橄欖油主要特徵元素。由於欠缺其攙僞鑑別之分析方法，研究者以 QTOF LC/MS 搭配 Principal Component Analysis (PCA)分析軟體來區隔橄欖油的原產地，並建立一個檢體分級預測模式(Sample Class Prediction

Model)，用來預測未知樣品的群組屬性。EVOO 分別取自義大利、希臘及西班牙，共計分析 28 件希臘、14 件義大利、12 件西班牙產橄欖油及 16 件蔬菜/精製油。PCA 可以清楚的區別混合的 EVOO、蔬菜/精製油與 EVOO 及其他油品的分布區塊，並具顯著差異($p<0.005$)。



圖十二、壁報展示及閱讀(1)



圖十三、壁報展示及閱讀(2)

五、專家交流

由於此行已是第二次參加 AOAC 會議，經驗告訴我會議內容豐富且緊湊，必須穿梭於各不同領域的演講及討論會中，必須養足充沛的體力才能應付。同時在吸收知識的同時，還要睜大眼睛尋找舊識並結交新知，尤其是可經由任職於美國 FDA、加拿大衛生部的華人友人協助，結交更多的專家學者，建立日後聯繫的管道。而爲了把握機會介紹台灣，也在一場華人聚會中爲大家介紹我國食品安全檢驗的現況，獲與會者熱烈的迴響，紛紛讚賞我國食品安全檢驗的技術及能力，陳樹功理事長也爲大家說明我國健康食品的管理制度。華人聚會中還遇到前 AOAC Chief Scientific Officer Dr. Al Pohland，上前和其寒暄，還聊到 11 年前 Dr. Al Pohland 到台灣參加 AOAC 台灣分會成立大會的往事。可見，每一次的國際交流，都會建立一些人脈網絡，透過不斷的接觸，這個網絡就可越擴越大、越來越綿密，對日後方法建立及研究當可助益良多。

參、心得與建議

一、心得：

(一)國際公定分析化學家協會每年皆吸引來自全世界檢驗研究單位及分析儀器公司的專業人士參加，不但提供各界一個資訊交流的平台，同時還舉辦各領域檢驗方法之討論會及審查會，此次有幸能再次參加如此大規模之國際學術會議，除可增廣見聞，受益良多外，藉由在方法產出過程中激烈但不紊亂的討論及攻防過程，更見識到分析先進們對其研究之深度及廣度，值得我們學習。而見到從崗位上退休的研究者，仍然精神奕奕的參加大會活動，感佩於其對研究之熱情。

(二)參加本次年會發現，不但高解析度質譜分析技術已是趨勢，無標的物分析技術亦漸獲重視，而本局近年來也添置了高解析度質譜儀，同時加強無標的物分析技術之訓練，顯見本局已掌握檢驗技術之國際潮流。

(三)由於消費意識抬頭，食品污染物之分析是本次會議的重點，尤其是動物用藥、農藥殘留、黴菌毒素、海洋毒素的分析，佔了會議過半的時段，爲了國際間方法之調和，在方法討論會中針對動物用藥分析方法，進行了多場熱烈的辯論。

(四)對於著作權的尊重也是本次大會不同以往的作法，在會議中禁止對簡報的攝影，壁報展示區域亦立牌禁止攝影，因此所有資料的取得，都必須透過向發表者索取，這是一種對研究者的基本尊重。

(五)AOAC INTERNATIONAL 對於公定分析方法之制定原本就有一套嚴謹之程序，其所制定的方法已是國際間公認參採的方法，這些年來爲進一步肩負國際間方法調和的角色，能與 ISO 作一連結，Official Method Board 統籌負責公定分析方法制訂之整體執行程序，我國亦可擴大參與 AOAC INTERNATIONAL 制定方法之各項活動，藉以提升各相關領域之水準，並增加國際發聲之機會。

(六)年會期間參加國際公定分析化學家協會台灣分會及亞洲分會聯合會議，除可將台灣食品檢驗相關訊息向國際發聲，並可藉此了解台灣與大陸、日本、

印度、泰國等 4 個亞洲國家在檢驗技術上之努力及推展方向，就近尋求合作空間。

二、建議：

(一)透過 AOAC 台灣分會之引介，擴大參與 AOAC INTERNATIONAL 分析方法之專家討論活動。藉以增加我國食品分析各相關領域在國際發聲之機會。

(二)此研討會是極佳的學習與交流平台，除吸收相關領域之新知外，亦可與會中專家學者彼此交換資訊，有利於工作之發展，建議讓更多同仁有機會參與，以掌握最新資訊，維繫建立不易的人脈網絡，並擴大交流。

(三)安排互訪活動，邀請國際專家學者至台灣舉辦檢驗技術研討會，也可派員至建立之友好專家實驗室進行長、短期之檢驗研究訓練。

肆、附件

附件一、研討會議程

2012 ANNUAL MEETING SCHEDULE AT A GLANCE

Saturday, September 29, 2012

7:30 am–12:00 pm	Editorial Board Meeting
9:00 am–5:00 pm	Registration Open

Sunday, September 30, 2012

7:30 am–7:00 pm	Registration Open
9:00 am–11:00 am	AOAC INTERNATIONAL Board of Directors Meeting
12:00 pm–4:00 pm	Whey Protein: Casein Ratio Expert Review Panel (ERP)
1:00 pm–5:00 pm	Dietary Supplements Working Group
2:00 pm–4:00 pm	Methods Committee on Microbiology Meeting
6:00 pm–8:00 pm	Exhibit Hall Grand Opening Reception
8:00 pm–10:00 pm	President's Welcome Reception

Monday, October 1, 2012

7:00 am–8:00 am	Technical Division on Reference Materials (TDRM) Executive Committee Meeting
7:30 am–5:00 pm	Registration Open
8:00 am–8:30 am	Continental Breakfast
8:30 am–10:30 am	Keynote Address and Awards Ceremony
10:00 am–5:00 pm	Exhibit Hall Open
	Poster Presentations: Analysis of Foodborne Contaminants and Residues, Analysis of Non-Foodborne Contaminants and Residues, and Food Nutrition and Food Allergens
10:30 am–11:00 am	Exhibitor Presentation: Pickering Laboratories, Inc.
10:30 am–11:30 am	Latin America Section Business Meeting
10:30 am–12:00 pm	Agricultural Materials Community Meeting
11:30 am–12:00 pm	Exhibitor Presentation: LECO Corporation
11:30 am–1:00 pm	Poster Author Presentations
12:00 pm–1:00 pm	Exhibitor/Partner Presentation: Agilent Technologies
1:00 pm–1:30 pm	H.W. Wiley Award Address
1:00 pm–5:00 pm	SPSFAM ERP
1:00 pm–7:00 pm	Veterinary Drug Residues ERP
1:30 pm–3:00 pm	Wiley Award Symposium: The Times They Are A-Changin
	Symposium: Screening and Structural Elucidation of Marine Toxins, Analogues and Related Metabolites: Detection Tools, Toxicity and Potential Reference Materials
	Symposium: Undesirable Plant Toxins in Food and Feed
3:00 pm–3:30 pm	Partner Presentation: Covance Laboratories
	Refreshment Break
3:30 pm–5:00 pm	Symposium: Rapid Point-of-Sampling Tests for Mycotoxins
3:30 pm–5:00 pm	Symposium: Emerging Marine and Freshwater Toxins: Occurrence and Distribution, Analysis and Toxicological Impact
	AOAC INTERNATIONAL Stakeholder Panels Update: International Stakeholder Panel on Alternative Methods (ISPAM), Stakeholder Panel on Agent Detection Assays (SPADA), Stakeholder Panel on Infant Formula and Adult Nutritionals (SPIFAN), and SPSFAM
3:30 pm–5:30 pm	Method Committee: Arsenic, Cadmium, Mercury, and Lead in Foods by Inductively Coupled Plasma/Mass Spectrometry After Pressure Digestion
4:30 pm–5:30 pm	Laboratory Proficiency Testing Program Advisory Committee Meeting
4:45 pm–6:45 pm	Methods Committee on Antimicrobial Efficacy Testing Meeting, Part 1
5:00 pm–5:30 pm	Exhibitor Presentation: J2 Scientific
5:00 pm–6:30 pm	New Member Welcoming Reception
5:00 pm–7:00 pm	Chemical Contaminants and Residues in Food Community Meeting
5:00 pm–7:30 pm	Marine and Freshwater Toxins Community Meeting
6:00 pm–7:00 pm	Taiwan Section Business Meeting
	Japan Section Business Meeting
6:00 pm–8:00 pm	Method Committee: Three Methods–Folic Acid, Biotin, and Pantothenic Acid in Fortified Bovine Milk-Based and Fortified Soya-Based Infant Formula Powders, Fortified and Unfortified Cereals, Vitamin Tablets, and Dietary Supplements by Surface Plasmon Resonance
6:30 pm–7:30 pm	Reception for Technical Division for Laboratory Management (TDLM) Members (Sponsored by Microbiologics)
7:00 pm–8:00 pm	Joint Asian Section Business Meeting

Tuesday, October 2, 2012

7:15 am–8:15 am	Exhibitor/Partner Presentation: Waters Corporation
7:30 am–5:00 pm	Registration Open
7:45 am–8:15 am	Refreshment Break
8:00 am–12:00 pm	AAFCO Meeting
	SPIFAN ERP
	SPSFAM ERP
8:15 am–9:45 am	Symposium: New Analytical Trends and Techniques for Evaluating Botanicals
	Symposium: Enforcement vs. Compliance: Is Everybody Playing by the Same Rules?
	Symposium: New Blood 2012: Developing Methods for the Detection of Chemical Contaminants
9:00 am–10:00 am	TDLM Executive Committee Meeting
9:00 am–11:00 am	Water/Waste Water Community Meeting
9:45 am–10:15 am	Exhibitor/Partner Presentation: Thermo Fisher Scientific

10:00 am–10:30 am	Refreshment Break
10:00 am–12:00 pm	Committee on Statistics Meeting
10:00 am–5:00 pm	Exhibit Hall Open
	Poster Presentations: Authenticity, Detection and Measurement of Natural Toxins, Emerging Issues in Food Safety and Security, Microbiological Methods, and *Performance Tested Methods*^{SM}
10:15 am–11:45 am	Symposium: Analysis of Chemical Contaminants Using High-Resolution Mass Spectrometry: Method Development, Validation, and Challenges
	Roundtable: Multiplexing Technology for Allergen Detections: Where Do We Stand?
	Symposium: Challenges with Probiotics: Research, Regulations, Product Formulation, and Analysis
11:30 am–1:00 pm	Poster Author Presentations
11:45 am–1:15 pm	Contaminants Subgroup Meeting—Pesticides
12:00 pm–12:30 pm	Exhibitor/Partner Presentation: Biotage
12:30 pm–2:30 pm	Committee on Sections Meeting
1:00 pm–1:30 pm	Exhibitor Presentation: Metrohm
1:00 pm–3:00 pm	AOAC Research Institute Advisory Council Meeting
1:00 pm–4:00 pm	Methods Committee on Antimicrobial Efficacy Testing Meeting, Part 2
1:00 pm–5:00 pm	SPSFAM ERP
1:00 pm–7:00 pm	SPIFAN ERP
1:30 pm–3:00 pm	Contaminants Subgroup Meeting—Unknowns
2:00 pm–2:30 pm	Exhibitor Presentation: Neogen Corporation
2:15 pm–2:45 pm	Refreshment Break
3:00 pm–4:30 pm	Roundtable: Leadership Challenges in the Laboratory: The "Pains" of Lab Management
	Roundtable: Good Practices for Establishing Meaningful Specifications for Botanicals in Dietary Supplements and Nutrition: Scientific Perspective
	Roundtable: LC/MS/MS Technologies for Multi-Allergen Detection: What Do You Have to Offer?
4:30 pm–5:00 pm	Exhibitor Presentation: Bruker Corporation
4:30 pm–6:00 pm	Contaminants Subgroup Meeting—Veterinary Drugs
	Membership Committee Meeting
4:30 pm–7:30 pm	Mycotoxin Community Meeting
5:00 pm–6:00 pm	TDRM Members Meeting
5:00 pm–7:00 pm	Committee on Safety Meeting
5:15 pm–8:15 pm	Food Allergen Community Meeting
5:30 pm–6:00 pm	Exhibitor Presentation: IonSense, Inc.
6:00 pm–7:00 pm	TDRM Members Reception (Sponsored by Silliker)
6:15 pm–7:45 pm	Contaminants Subgroup Meeting—Metals
6:30 pm–7:30 pm	China Section Business Meeting

Wednesday, October 3, 2012

7:15 am–8:15 am	Exhibitor Presentation: AB SCIEX
7:30 am–5:00 pm	Registration Open
7:45 am–8:15 am	Refreshment Break
8:00 am–10:00 am	Method Committee: Aflatoxins B_1, B_2, G_1, and G_2 in Olive, Peanut, and Sesame Oils by Immunoaffinity Column Cleanup, Post-Column Derivatization and LC/Fluorescence Detection
8:15 am–11:45 am	TDRM/TDLM Symposium: Reference Materials—Enabling Accuracy/Trueness Control in Analytical Method Validation and Verification
9:45 am–10:15 am	Exhibitor Presentation: Microbiologics
10:00 am–10:30 am	Refreshment Break
10:00 am–12:00 pm	AOAC Research Institute Board of Directors Meeting
10:00 am–5:00 pm	Poster Presentations: Botanicals and Dietary Supplements, General Methods, Quality Assurance and Accreditation, Pharmaceutical Analysis, Authenticity and Safety
10:15 am–11:45 am	Symposium: Proficiency Testing for Veterinary Drug Residues in Food
	Symposium: Live Microbial Ingredients: A Growing Trend in the U.S. Food Supply
10:30 am–12:30 pm	Method Committee: Flavanol and Procyanidin (by Degree of Polymerization 1-10) Content of Chocolate, Cocoa Liquors, Powder(s), and Cocoa Flavanol Extracts by Normal-Phase High-Performance Liquid Chromatography
11:30 am–1:00 pm	Poster Author Presentations
11:45 am–1:00 pm	Technical Programming Council Meeting
12:00 pm–12:30 pm	Exhibitor Presentation: bioMérieux
1:00 pm–2:30 pm	Symposium: What New and Emerging Chemicals Used in Food and Agriculture Are Being Detected by Chemical Screening?
	Symposium: Regulatory Requirements and Measurement Uncertainty
	Symposium: Non-O157 STECs: Current State of Global Methods and Requirements
1:00 pm–3:00 pm	Method Committee: Bovine IgG in Bovine Colostrum and Milk Products, and Dietary Supplements Containing Bovine Colostrum Products by an Automated Direct Immunoassay with Optical Biosensor
2:30 pm–3:00 pm	Refreshment Break
2:30 pm–3:30 pm	Meet Your Board of Directors
3:00 pm–4:30 pm	Symposium: Analytical Challenges in Masked Mycotoxin Research
	Symposium: FSMA's Impact on Laboratories and Food Testing
	Symposium: International Developments on Protein Quality Assessment of Foods and Dietary Supplements
3:00 pm–5:00 pm	Update on Tea Collaborative Study Meeting
4:30 pm–6:00 pm	AOAC INTERNATIONAL Business Meeting
8:00 pm–11:00 pm	Annual Meeting Closing Reception

Thursday, October 4, 2012

8:30 am–1:00 pm	Food Industry Analytical Chemists Share Group Meeting
9:00 am–4:00 pm	Official Methods Board Meeting
1:00 pm–5:00 pm	Juice and Juice Products Community Meeting

Scientific Sessions

MONDAY, OCTOBER 1, 2012

1:30 p.m. - 3:00 p.m. **Melrose 3**

Wiley Award Symposium: The Times They are A-Changin'

CHAIR: **Hilde Skår Norli**, NMKL, Nordic Committee on Food Analysis

S-100	1:35 p.m.	**Stan Bacler**, Health Canada, Bureau of Chemical Safety The Future of the Standardization Work: Challenges on the Horizon
S-101	1:55 p.m.	**Joerg Stroka**, European Commission, Joint Research Centre The Chemist, His Method, His Instrument and the expectation that All Works Just Fine
S-102	2:15 p.m.	**Jane Weitzel**, Quality Analysis Consultants The Order is Rapidly Fadin'; The Times They Are A-Changin'
S-103	2:35 p.m.	**Franz Ulberth**, European Commission, Joint Research Centre European Union Reference Laboratories - Their Role in Ensuring the Implementation of EU Food and Feed Safety Legislation

1:30 p.m. - 3:00 p.m. **Celebrity 7**

Screening and Structural Elucidation of Marine Toxins, Analogues and Related Metabolites: Detection Tools, Toxicity and Potential Reference Materials

CHAIR: **Andrew Turner**, CEFAS

S-200	1:30 p.m.	**Andy Selwood**, Cawthron Institute Chemical Transformation as a Detection Tool
S-201	1:50 p.m.	**Andrew Turner**, CEFAS Transformation of Marine Biotoxins for Targeted Production of Shellfish Reference Materials
S-202	2:10 p.m.	**Frances Van Dolah**, NOAA A Receptor Binding Assay for Paralytic Shellfish Toxins: Results of an AOAC Collaborative Study and Progress in Assay Implementation
S-203	2:30 p.m.	**Michael Quilliam**, National Research Council Canada Detection and Identification of Acyl Ester Metabolites of Shellfish Toxins by LC-MS/MS

1:30 p.m. - 3:00 p.m. **Celebrity 6**

Undesirable Plant Toxins in Food and Feed

CO-CHAIR: **Joerg Stroka**, European Commission, Joint Research Centre

CO-CHAIR: **Pelin Ulca**, A&T Food Labs

S-300	1:35 p.m.	**Juan Antonio Fernández Pierna**, Walloon Agricultural Research Centre (CRA-W) Toxic Plants in Animal Feed - Challenges and Opportunities Spectroscopic and Physical Methodologies Have to Offer
S-301	1:55 p.m.	**Steve Barnes**, University of Alabama at Birmingham Parameters in the LC-MS Analysis of Isoflavones
S-302	2:15 p.m.	**Monique de Nijs**, RIKILT – Institute of Food Safety Determination of Tropane Alkaloids in Feed - Analytical Challenges
S-303	2:35 p.m.	**Helmut Wiedenfeld**, University of Bonn Pyrrolizidine Alkaloids in Food and Feed - Recent Developments and New Challenges

3:30 p.m. - 5:00 p.m. **Celebrity 7**

Emerging Marine and Freshwater Toxins: Occurrence and Distribution, Analysis and Toxicological Impact

CO-CHAIR: **Ana Gago-Martinez**, EU Reference Laboratory for Marine Biotoxins/University of Vigo

CO-CHAIR: **James Hungerford**, U.S. Food and Drug Administration

S-400 **3:30 p.m.** **Vitor Vasconcelos**, University of Porto, CIIMAR

The Cyanobacteria Neurotoxin BMAA: an Update on its Occurrence, Toxicity and Emerging Problems

S-401 **3:50 p.m.** **Virginie Hossen**, ANSES - French Agency for Food, Environmental and Occupational Health Food Safety

Occurrence Data of Palytoxins in Marine Products from the Eastern French Mediterranean Coast

S-402 **4:10 p.m.** **Alison Robertson**, U.S. Food and Drug Administration

Trophic Transfer and Biotransformation of Caribbean Ciguatoxins in Finfish: Implications for Monitoring and Management of Ciguatera

S-403 **4:30 p.m.** **Giorgia Del Favero**, University of Trieste

New *in vivo* and *in vitro* Toxicity Studies on Palytoxins

3:30 p.m. - 5:00 p.m. **Celebrity 6**

Rapid Point-of-Sampling Tests for Mycotoxins

CO-CHAIR: **Susie Dai**, Office of the Texas State Chemist

CO-CHAIR: **Stephen Powers**, Waters Corporation

S-500 **3:35 p.m.** **Mary Trucksess**, U.S. Food and Drug Administration, (retired)

Advantages and Disadvantages of Using Commercial Immunoassay Kits for Food Contaminants

S-501 **3:55 p.m.** **Chris Maragos**, U.S. Department of Agriculture

Materials Used in Toxin Detection, from A to Z

S-502 **4:15 p.m.** **Timothy Norden**, U.S. Department of Agriculture

The Official Mycotoxin Testing Program for U.S. Grain and Method Performance Evaluation at the USDA

S-503 **4:35 p.m.** **Susie Dai**, Office of the Texas State Chemist

Evaluation of Test Kits for Rapid Measurement of High Aflatoxin Maize and Field Survey for Kits Usage in the Grain Industry

Oral Poster Presentation **Bhummanagari Narsimha Reddy**, Osmania University

Occurrence of Fumonisin B1 and Aflatoxin B1 in Stored Sorghum Analyzed by Indirect Competitive Enzyme-Linked Immunosorbent Assay

3:30 p.m. - 5:00 p.m. **Melrose 3**

AOAC INTERNATIONAL Stakeholder Panels Update: ISPAM, SPADA, SPIFAN, and SPSFAM

CHAIR: **Jim Bradford**, AOAC INTERNATIONAL

S-600	3:45 p.m.	**LouAnne Blanchard**, Kraft Foods Stakeholder Panel on Strategic Food Analytical Methods Update
S-601	4:00 p.m.	**Russell Flowers**, Mérieux NutriSciences Corporation International Stakeholder Panel on Alternative Methodology Update
S-602	4:30 p.m.	**Darryl Sullivan**, Covance Laboratories Stakeholder Panel on Infant Formula and Adult Nutritionals Update
S-603	4:45 p.m.	**James Bradford**, AOAC INTERNATIONAL Stakeholder Panel on Agent Detection Assays Update

TUESDAY, OCTOBER 2, 2012

8:15 a.m. - 9:45 a.m. **Celebrity 7**

New Blood 2012: Developing Methods for the Detection of Chemical Contaminants

CO-CHAIR: **Michael McLaughlin**, U.S. Food and Drug Administration

CO-CHAIR: **Alexander Krynitsky**

CO-CHAIR: **Jon Wong**

S-700	8:15 a.m.	**Derick Lucas**, University of Maryland Development of Multi-Analyte Detection Methods in Foods for Teaching At the International Food Safety Training Laboratory
S-701	8:40 a.m.	**Chia-Ding Liao**, Taiwan Food and Drug Administration Comparison of LC-MS/MS and Uhplc-Quadrupole Orbital Trap MS Techniques for the Multi-Mycotoxin Analysis of Finished Grain and Nut Products
S-702	9:05 a.m.	**Michael Filigenzi**, University of California at Davis What Did that Dog Eat, Anyway? - High Resolution Mass Spectrometry Applications in Veterinary Toxicology
Oral Poster Presentations		**Wei Li**, Texas AgriLife Research Heavy Metal Analyses in Animal Feed by ICP-MS **Hongwei Zhang**, Shandong Exit-Entry Inspection and Quarantine Bureau of China Development of Fast Screening Method for Multiclass Residue Analysis of Veterinary Drugs in Meat Based on Laboratory-Built LC-MS/MS Library

8:15 a.m. - 9:45 a.m. **Melrose 3**

New Analytical Trends and Techniques for Evaluating Botanicals

CO-CHAIR: **Amitabh Chandra**, AMWAY

CO-CHAIR: **Steven Dentali**, AHPA

S-800	8:20 a.m.	**Sidney Sudberg**, Alkemist Pharmaceuticals What is Botanical Quality Anyway? Who Defines it and How Can We Determine it with HPTLC and Microscopy?
S-801	8:40 a.m.	**Kim Colson**, Bruker-BioSpin Direct Qualitative and Quantitative Analysis of Natural Products, Dietary Supplements and Botanicals by NMR
S-802	9:00 a.m.	**Mark Roman**, Tampa Bay Analytical Research Inc. Techniques for Natural Product, Botanical and Nutraceutical Analysis
S-803	9:20 a.m.	**Gabriel Giancaspro**, United States Pharmacopeia Use of New Analytical Methodologies in Setting Compendial Specifications for Botanicals
Oral Poster Presentation		**Ian Acworth**, Thermo Fisher Scientific The Spectro-Electro Array: A Novel Platform for the Measurement of Secondary Metabolites in Botanicals, Supplements, Foods and Beverages - Part 3: Metabolomics

8:15 a.m. - 9:45 a.m. **Celebrity 6**

Enforcement vs. Compliance: Is Everybody Playing by the Same Rules?

CO-CHAIR: **Carmen Diaz-Amigo**, Eurofins Scientific Group

CO-CHAIR: **Eric Marceau**, Canadian Food Inspection Agency

S-900	8:15 a.m.	**Eric Marceau**, Canadian Food Inspection Agency Evaluation and Selection of Analytical Methods to Enforce Food Allergens Labeling Regulations: The Never-Ending Process
S-901	8:35 a.m.	**Reiko Adachi**, National Institute of Health Sciences The Official Detection Methods for Monitoring of Food Allergy Labeling System in Japan
S-902	8:55 a.m.	**Robin Sherlock**, Food Allergen Control Training Analysis Pty. Ltd The Implications for Analysis of the VSEP Reviewed VITAL Grid: VITAL 2.0 and What it Means for You
S-903	9:15 a.m.	**Steve Taylor**, University of Nebraska-Lincoln Food Industry Use of Allergen Analysis Methods and Results in the U.S.

10:15 a.m. - 11:45 a.m. **Celebrity 7**

Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges

CO-CHAIR: **Kai Zhang**, Daytonian

CO-CHAIR: **Paul Yang**, Calibration and Validation Group

S-1000	**10:15 a.m.**	**Sherri Turnipseed**, U.S. Food and Drug Administration Expanding High Resolution Mass Spectrometry Methods for Veterinary Drug Residues in Food
S-1001	**10:30 a.m.**	**Imma Ferrer**, University of Colorado Ultra High Resolution Mass Spectrometry (LC/Q-TOF-MS) for the Identification of Emerging Contaminants: How to Use Accurate Mass Tools
S-1002	**10:45 a.m.**	**Anton Kaufmann**, Official Food Control Authority, Switzerland Is Current High Resolution Mass Spectrometry Technology Ready to Replace Tandem Mass Spectrometry Applications in Routine Laboratories?
S-1003	**11:00 a.m.**	**Jana Hajšlová**, Institute of Chemical Technology, Czech Republic High Resolution Mass Spectrometry: an Efficient Tool to Monitor Polyfluorinated Surfactants (PFSs) in Food Contact Materials and Their Migration Into Foodstuffs
S-1004	**11:15 a.m.**	**Richard Fussell**, Food and Environmental Research Agency (FERA) A New Accurate Mass Screening Solution Incorporating UNIFI Scientific Information System for the Analysis of Pesticide Residues at Regulatory Limits in Food
S-1005	**11:30 a.m.**	**Paul Yang**, Calibration and Validation Group Multiresidue Pesticides Analysis Using HPLC-Orbitrap Mass Spectrometry: Method Development, Operational Parameters and Method Performance

10:15 a.m. - 11:45 a.m. **Melrose 3**

Challenges with Probiotics: Research, Regulations, Product Formulation, and Analysis

CHAIR: **Wayne Ellefson Covance Laboratories Inc.**

S-1100	**10:20 a.m.**	**James Steele**, University of Wisconsin Probiotic Efficacy: from Anecdotal Evidence to Double-Blinded Placebo Controlled Studies
S-1101	**10:40 a.m.**	**Corey Hilmas**, U.S. Food and Drug Administration Regulatory Considerations for the Use of Probiotics in Dietary Supplement Products
S-1102	**11:00 a.m.**	**Scott Poxon**, Pfizer Consumer Healthcare Probiotics Product Development: A Case Study
S-1103	**11:20 a.m.**	**Jean Schoeni**, Covance Laboratories Inc. Unique Methodology Challenges in the Analysis of Probiotic Dietary Supplement Products

10:15 a.m. - 11:45 a.m. **Celebrity 6**

Roundtable on Multiplexing Technology for Allergen Detections: Where Do We Stand?

CO-CHAIR: **Jupiter Yeung**, Nestlé Gerber

CO-CHAIR: **Thomas Holzhauser**, Paul-Ehrlich-Institut

S-1200	**Sigrid Haas-Lauterbach**, R-Biopharm AG ELISA Technology for Multi-Allergen Applications
S-1201	**Thomas Holzhauser**, Paul-Ehrlich-Institut DNA-Based Simultaneous Detection of Multi-Allergens
S-1202	**Christiane Fæste**, Norwegian Veterinary Institute Peptide-Based LC-MS/MS Method for the Detection of Multi-Allergens
Oral Poster Presentation	**Stephen Lock**, AB SCIEX Allergen Screening in Food by LC/MS/MS

3:00 p.m. - 4:30 p.m. **Melrose 3**

Roundtable on Leadership Challenges in the Laboratory: The "Pains" of Lab Management

CO-CHAIR: **M. Jasmine Thompson**, U.S. Food and Drug Administration

CO-CHAIR: **Irene Grabowski**, Business System Solutions, LLC

S-1300	**Julie Brunkhorst**, Trilogy Analytical Laboratory
S-1301	**Irene Grabowski**, Business Systems Solutions, LLC
S-1302	**Kelly Reins**, Alkemist Labs
S-1303	**Brad Stawick**, Microbac Laboratories, Inc.
S-1304	**M. Jasmine Thompson**, U.S. Food and Drug Administration
S-1305	**Jane Weitzel**, Quality Analysis Consultants
S-1306	**Donna Williams-Hill**, U.S. Food and Drug Administration

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3:00 p.m. - 4:30 p.m. **Celebrity 7**

Roundtable on Good Practices for Establishing Meaningful Specifications for Botanicals in Dietary Supplements and Nutrition: Scientific Perspective

CO-CHAIR: **Amitabh Chandra**, AMWAY

CO-CHAIR: **Jatinder Rana**, AMWAY

CO-CHAIR: **Michael McLaughlin**, U.S. Food and Drug Administration

S-1400	**Jatinder Rana**, AMWAY Testing Methods for Irradiated Foods
S-1401	**Amitabh Chandra**, AMWAY Factors that Introduce Variabilities during a Typical Manufacturing Process and Their Impact on Ingredient Specification
S-1402	**James Neal-Kababik**, Flora Research Laboratories Botanical Specifications from a Contract/Third Party Testing Lab Perspective
S-1403	**Jana Hildreth**, Blaze Science Industries LLC Impact of Reference Standards on Botanical Specifications
S-1404	**Mitzi Rettinger**, Cerriliant Impact of Reference Standards on Botanical Specifications
S-1405	**Klaus Reif**, PhytoLab GmbH and Co., KG Specifications for Dietary Supplements – A European Perspective
S-1406	**Mark Roman**, Tampa Bay Analytical Research, Inc Variabilities from Analytical Methods to be Considered During Setting up Specifications for Botanicals
S-1407	**Edward Walker**, Weber State University "Botanical Specifications" - An Academic Perspective

3:00 p.m. - 4:30 p.m. **Celebrity 6**

Roundtable on LC/MS/MS Technologies for Multi-Allergen Detection: What do you have to Offer?

CHAIR: **Bert Popping**, Eurofins Scientific Group

WEDNESDAY, OCTOBER 3, 2012

8:15 a.m. - 11:45 a.m. **Melrose 3**

TDRM/TDLM Symposium: Reference Materials - Enabling Accuracy/trueness Control in Analytical Method Validation and Verification

CO-CHAIR: **Jane Weitzel**, Quality Analysis Consultants

CO-CHAIR: **Håkan Emteborg**, European Commission

S-1600	**8:15 a.m.**	**Jane Weitzel**, Quality Analysis Consultants Introduction of the Workshop
S-1601	**11:25 a.m.**	**Håkan Emteborg**, European Commission Summary and Conclusions of the Workshop

10:15 a.m. - 11:45 a.m. **Celebrity 7**

Proficiency Testing for Veterinary Drug Residues in Food

CO-CHAIR: **Eric Verdon**, ANSES: French Agency for Food, Environmental, and Occupational Health Safety

CO-CHAIR: **Jian Wang**, Canadian Food Inspection Agency

S-1700	**10:15 a.m.**	**Eric Verdon**, ANSES: French Agency for Food, Environmental, and Occupational Health Safety Proficiency Testing for the Control of Veterinary Drug Residues in Food - Why? Where? and How?
S-1701	**10:40 a.m.**	**Daniel Tholen**, Dan Tholen Statistical Consulting Accreditation of PT Providers and PT Statistics - ISO/IEC 17043 and ISO13528
S-1702	**11:05 a.m.**	**Mark Sykes**, The Food and Environment Research Agency Global Proficiency Test Provision for Veterinary Drugs Analysis - The FAPAS Experience

10:15 a.m. - 11:45 a.m. **Celebrity 6**

Live Microbial ingredients - A Growing Trend in the US Food Supply

CHAIR: **Daniel Fabricant**, U.S. Food and Drug Administration

S-1800		**Daniel Fabricant**, U.S. Food and Drug Administration
S-1801		**Mary Ellen Sanders**, Dairy and Food Culture Technologies
S-1802		**Corey Hilmas**, U.S. Food and Drug Administration

1:00 p.m. - 2:30 p.m. **Celebrity 6**

Non-O157 STECs: Current State of Global Methods and Requirements

CO-CHAIR: **DeAnn Benesh**, 3M Food Safety

CO-CHAIR: **Patrice Arbault**, BioAdvantage Consulting

S-1900	**1:00 p.m.**	**Ian Jenson**, Meat and Livestock Australia STEC Testing Using Commercially Available and Emerging Methods in Australia
S-1901	**1:20 p.m.**	**Roger Johnson**, Public Health Agency of Canada Non-O157 VTEC: Current Canadian Perspectives on Issues Related to Food safety, Methodology and Public Health
S-1902	**1:40 p.m.**	**Patrice Arbault**, BioAdvantage Consulting STEC Analytical Method in Europe: From Lab to Field is Not Always Straight!!!
S-1903	**2:00 p.m.**	**Kendra Nightingale**, Texas Tech University Detection of Shiga Toxin Producing *Escherichia coli* (STEC) in the United States: From the Analytical Methodology to Challenges, Considerations and Implications

1:00 p.m. - 2:30 p.m. **Celebrity 7**

What New and Emerging Chemicals Used in Food and Agriculture Are Being Detected By Chemical Screening?

CO-CHAIR: **Andre Schreiber**, AB SCIEX

CO-CHAIR: **Alexander Krynitsky**

S-2000	**1:00 p.m.**	**Susan Richardson**, Leading Expert on Emerging Environmental Contaminants New and Emerging Chemicals: A Source of Exposure from Food and Agriculture?
S-2001	**1:20 p.m.**	**Shane Snyder**, The University of Arizona Fate, Transport, and Treatment of "Emerging Contaminants," Related to Modern Agriculture
S-2002	**1:40 p.m.**	**Christopher P. Higgins**, Colorado School of Mines Accumulation of Emerging Contaminants in Foodcrops from Reclaimed Water and Biosolids-Amended Soils
S-2003	**2:05 p.m.**	**Jana Hajšlová**, Institute of Chemical Technology Environmental Contaminants and Toxicants in Food Chains

1:00 p.m. - 2:30 p.m. **Melrose 3**

Regulatory Requirements and Measurement Uncertainty

CO-CHAIR: **Jane Weitzel**, Quality Analysis Consultants

CO-CHAIR: **Franz Ulberth**, European Commission, Joint Research Centre

S-2100	**1:10 p.m.**	**Franz Ulberth**, European Commission, Joint Research Centre Regulatory Limits and Measurement Uncertainty in European Union Food Legislation
S-2101	**1:30 p.m.**	**Markus Lipp**, United States Pharmacopeia The Use of Performance-Based Methods for Compliance with Identity Standards – The Approach of the United States Pharmacopeia
S-2102	**1:50 p.m.**	**James Roberts**, National Measurement Institute Estimation of Measurement Uncertainty and Reporting of Bias

3:00 p.m. - 4:30 p.m. **Celebrity 7**

FSMA's Impact on Laboratories and Food Testing

CO-CHAIR: **Shannon Cole**, Grocery Manufacturers Association

CO-CHAIR: **Susan Martin**, The Coca-Cola Company

S-2200	**3:00 p.m.**	**Shannon Cole**, Grocery Manufacturers Association Food Safety Modernization Act (FSMA) 101 - Overview of the Law
S-2201	**3:20 p.m.**	**Jonathan DeVries**, Medallion Laboratories/General Mills What the FSMA Provisions Mean for Laboratories
S-2202	**3:40 p.m.**	**Susan Martin**, The Coca-Cola Company Global Impacts of FSMA on Laboratories
S-2203	**4:00 p.m.**	**Timothy McGrath**, U.S. Food and Drug Administration FDA Perspective on FSMA Implementation and Impact on Laboratories

3:00 p.m. - 4:30 p.m. **Melrose 3**

International Developments on Protein Quality Assessment of Foods and Dietary Supplements

CO-CHAIR: **Sneh Bhandari**, Silliker Inc.

CO-CHAIR: **Sarwar Gilani**, Nutrition and Health Consultant

S-2300	**3:00 p.m.**	**Sneh Bhandari**, Silliker Inc. A Review of U.S. Regulations on Protein Quality Assessment of Foods, Especially Infant Formulas
S-2301	**3:20 p.m.**	**Sarwar Gilani**, Nutrition and Health Consultant International Activities Leading to the Development of DIAAS (Digestible Indispensable Amino Acid Score) for Protein Quality Evaluation of Foods and Dietary Supplements
S-2302	**3:40 p.m.**	**John Austad**, Covance Laboratories Standardized Methodology for the Quantitative Determination of Amino Acids in Foods and Dietary Supplements
S-2304	**4:00 p.m.**	**Paul Moughan**, Massey University Accurate Determination of Amino Acids Digestibility and Availability in Humans: Evidence Underlying DIAAS

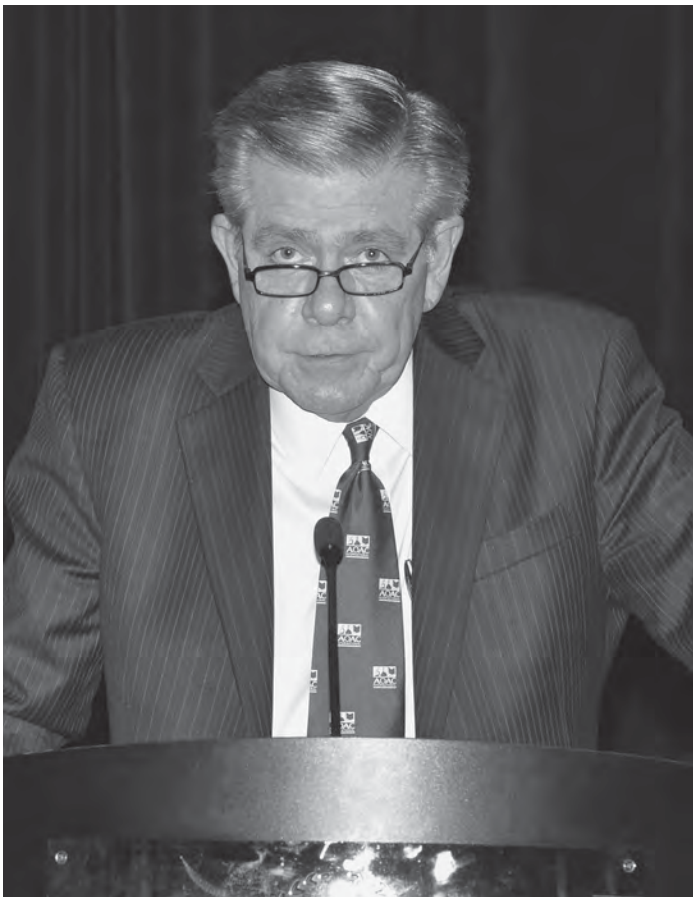
3:00 p.m. - 4:30 p.m. **Celebrity 6**

Analytical Challenges in Masked Mycotoxin Research

CO-CHAIR: **John Gilbert**, FoodLife International Ltd.

CO-CHAIR: **Sarah De Saeger**, Ghent University

S-2400	**3:05 p.m.**	**José Diana Di Mavungu**, Ghent University Analytical Methodology and Survey Results for Masked Mycotoxins in Food and Feed
S-2401	**3:25 p.m.**	**Michele Suman**, Barilla SpA Study of deoxynivalenol and deoxynivalenol-3-glucoside Evolution within Industrial Production of Bakery Products Exploiting Design of Experiments and LC-MS/MS Strategies
S-2402	**3:45 p.m.**	**Chiara Dall'Asta**, University of Parma Hidden fumonisins: A Step beyond the Analytical Issue
S-2403	**4:05 p.m.**	**Hiroyuki Nakagawa**, National Food Research Institute Detection of Masked Mycotoxins by High-Resolution LC-Orbitrap MS
Oral Poster Presentation		**Ebru Ates**, Thermo Fisher Scientific An Automated On-Line Turbulent-Flow High Resolution Mass Spectrometric Method Using Orbitrap Technology for the Determination of Mycotoxins in Animal Feed



Poster Presentations

Poster Presentations feature displays by authors of contributed scientific research papers and will include a written and pictorial summary of the author's research. The "Author Presentations" time slots provide an opportunity for attendees to meet and interact with the authors. All Poster Presentations will be held in the Exhibit Hall within the following topical areas:

Monday, October 1, 2012

Poster Author Set-Up	7:30 am – 9:45 am
Poster viewing	10:00 am – 5:00 pm
Author Presentations	11:30 am – 1:00 pm

Analysis of Foodborne Contaminants and Residues

Analysis of Non-Foodborne Contaminants and Residues

Food Nutrition and Food Allergens

Tuesday, October 2, 2012

Poster Author Set-Up	7:30 am – 9:45 am
Poster viewing	10:00 am – 5:00 pm
Author Presentations	11:30 am – 1:00 pm

Authenticity

Detection and Measurement of Natural Toxins

Emerging Issues in Food Safety and Security

Microbiological Methods

Performance Tested Methods

Wednesday, October 3, 2012

Poster Author Set-Up	7:30 am – 9:45 am
Poster viewing	10:00 am – 5:00 pm
Author Presentations	11:30 am – 1:00 pm

Botanicals and Dietary Supplements

General Methods, Quality Assurance and Accreditation

Pharmaceutical Analysis, Authenticity and Safety

MONDAY, OCTOBER 1, 2012

Celebrity Ballroom

Poster Viewing	**10:00 am – 5:00 pm**
Author Presentations	**11:30 am – 1:00 pm**

ANALYSIS OF FOODBORNE CONTAMINANTS AND RESIDUES

P-M-001 Multi-Residue Method for Determination of Veterinary Drugs in Milk Using LC/MS/MS
Priti Amritkar, Envirocare Labs Pvt. Ltd.

P-M-002 Method for the Detection of Genetically Modified Organisms (GMOs) Contamination in Honey
Saurabh Arora, Arbro Pharmaceuticals Ltd.

P-M-003 Surveying the Fish Parasite Anisakis Simplex in Norwegian Fish Products
Christiane K. Fæste, Norwegian Veterinary Institute

P-M-004 Automated Solid Phase Extraction (SPE)-LC/MS/MS Method for the Determination of Acrylamide in Brewed Coffee Samples
Fredrick Foster, Gerstel, Incorporated

P-M-005 Rapid Element Screening and Origin Analysis of Edible Oils by TXRF Spectroscopy
Armin Gross, Bruker Nano GmbH

P-M-006 POSTER WITHDRAWN

P-M-007 Identification of Unknown Toxicants in Fruits and Vegetables Using LC/QTOF-MS
Sunil-Chidambar Kulkarni, Agilent Technologies, Incorporated

P-M-008 Heavy Metal Analyses in Animal Feed by ICP-MS
Wei Li, Texas AgriLife Research, Texas A&M System

P-M-009 Blue Coloration in Fresh Cheese: Analysis to Determine Casual Agent
Esteban Pérez, University of Las Palmas de Gran Canaria

P-M-010 Development and Evaluation of Latex Agglutination Tests, Immunomagnetic Beads and ELISAs for Non-O157 Shiga Toxin-Producing *E. coli* (STEC)
Fernando Rubio, Abraxis LLC

P-M-011 Automatic Screening and Identification of Pesticide Residues with High Confidence Using LC-MS/MS

Andre Schreiber, AB SCIEX

P-M-012 Rapid Detection of Pesticides in Fruit Juice Without Sample Preparation Using High Resolution Chromatography and Highly Sensitive Tandem MS

Dimple Shah, Waters Corporation

P-M-013 Analysis of Illegal Dyes in Food Matrices Using Automated Online Sample Preparation with a High-Resolution Benchtop Orbitrap Mass Spectrometer

Yang Shi, Thermo Fisher Scientific

P-M-014 Harnessing the Potential of Ion-Mobility Mass Spectrometry for the Development and Characterization of a Multi-Residue Method for the Determination of Veterinary Antibiotics in Crude Extracts

Sara Stead, Waters Corporation

P-M-015 Analysis of Thiocyanate in Dairy Products

Cheryl Stephenson, Eurofins Central Analytical Laboratories

P-M-016 Sensitive and Accurate Multi-Class Multi-Residue Veterinary Drug Analytical Method Validation for Shell Egg Using Liquid Chromatography Tandem Mass Spectrometry

Haejung An, U.S. Food and Drug Administration

P-M-017 Simultaneous Analysis of Nitrofuran Metabolites, Chloramphenicol and Nitroimidazoles in Shell Egg Using Liquid Chromatography-Tandem Mass Spectrometry

Haejung An, U.S. Food and Drug Administration

P-M-018 Determination of 250 Pesticides in Wine Using Dispersive Extraction and Gas Chromatography/ Tandem Mass Spectrometry

Kaushik Banerjee, National Research Centre for Grapes

P-M-019 POSTER WITHDRAWN

ANALYSIS OF NON-FOODBORNE CONTAMINANTS AND RESIDUES

P-M-020 High Resolution LC-MS for Screening and Quantitative Analysis of Antibiotics in Drinking Water Using an Orbitrap and Online Sample Preparation

Jonathan Beck, Thermo Fisher Scientific

P-M-021 Use of Atmospheric Pressure Photoionization (APPI) to Minimize Matrix Effects Suffered in ESI LC-MS Analysis of Pesticides in Foods

Sheng-Suan (Victor) Cai, Syagen Technology, Incorporated

P-M-022 Analysis of Meat and Seafood Samples for the Presence of Chloramphenicol Using Immunoaffinity Columns

Simon Bevis, R-Biopharm Rhone

P-M-023 Analysis of Low-Level Heavy Metals and Organo-Metallic Contaminants in Rice

Michelle Briscoe, Brooks Rand Labs

P-M-024 Screening of a Wide Range of Beta-lactam Antibiotics and Chloramphenicol in Milk with Biochip-Based Immunoassays

Matthew Clarke, Randox Food Diagnostics

P-M-025 Simultaneous Screening of Ceftiofur, Quinolones, Streptomycin, Tetracyclines, Thiamphenicol, and Tylosin in Honey on a Biobhip Platform

Matthew Clarke, Randox Food Diagnostics

P-M-026 Phthalate Screening and Quantitative Analysis in Food Packaging and Food Matrices by Ambient Ionization High Resolution Mass Spectrometry

Catharina Crone, Thermo Fisher Scientific

P-M-027 Determination of Aminoglycoside Residues in Milk and Honey Products Using Automated SPE Clean Up and Post Column Derivatization

Tom Dobbs, J2Scientific

P-M-028 Headspace Solid-Phase Microextraction with GC-MS Determination of Naphthalene in Total Diet Foods

Xu-Liang Cao, Health Canada, Bureau of Chemical Safety

P-M-029 Detection and Quantitation of Brominated and Chlorinated Hydrocarbons by DART with Linear Ion Trap and Triple Quadrupole Technology

Dipankar Ghosh, Thermo Fisher Scientific

P-M-030 Comparative Study for the Determination of Avermectins in Corned Beef Between a Confirmatory Method and a Screening Method on a Biochip Platform

Mauricio Grecco, Randox Food Diagnostics

P-M-031 Determination of Common Herbicides in Food by LC/MS/MS

Li Huang, Silliker JR Laboratories, ULC

P-M-032 Analysis of Phthalates in Pharmaceutical Preparations by Liquid Chromatography-Tandem Mass Spectrometry for Phthalate Crisis in Tainted Pharmaceutical Products

Ray C.T. Hung, Government Laboratory Hong Kong Sar

P-M-033 Extraction and Quantitation of Trace Organic Contaminants from Plant Tissue and Soils

Katherine Hyland, Colorado School of Mines

P-M-034 Analysis of Residual Solvents in Annatto Extracts Using a Static Headspace Gas Chromatography Method

Yusai Ito, National Institute of Health Sciences

P-M-035 Development of Ultra-Trace Drug Residue Analysis Methods for Coccidiostats in Animal Feed by UHPLC-MS/MS Meeting the Needs for Zero-Tolerance Limits

Curt Jarand, Eurofins Central Analytical Laboratories

P-M-036 Simultaneous Determination of Zilpaterol, Ractopamin, and Clenbuterol in Bovine Tissue by LC-MS/MS

JeongWoo Kang, Animal, Plant, and Fisheries Quarantine and Inspection Agency

P-M-037 Rapid Analysis of Sodium Hypochlorite Residues in Milk Using Ultra Performance Liquid Chromatography Coupled with Mass Spectrometry

Chulyoung Kim, Korea Yakult Co., Ltd.

P-M-038 Comparison of LC-MS/MS and GC-MSD Analyses of Pesticide Residues in Food Products When Using the QuEChERS Sample Preparation Technique

Serena Lazzaro, Phenomenex

P-M-039 Determination of Vet Drugs in Meat and Fish with Quechers Extraction and LC/MS/MS Detection

Paolo Matteini, Silliker Incorporated

P-M-040 Determination of Mineral Oil Saturated Hydrocarbons (MOSH) and Mineral Oil Aromatic Hydrocarbons (MOAH) in Food and Packaging

Paolo Matteini, Silliker Incorporated

P-M-041 Ion Chromatography ICP-Q-MS for the Detection of As Species in Apple Juice

Deepali Mohindra, Thermo Fisher Scientific

P-M-042 Comparison of Instrument Detection Limits for an Orbitrap Mass Spectrometer to a Triple Quadrupole Mass Spectrometer for Screening and Quantitation of a Variety of Veterinary Drug Residues

Cory Murphy, Canadian Food Inspection Agency

P-M-043 Recognizing and Overcoming Analytical Error in the Use of ICP-MS for the Determination of Cadmium in Fortified Cereal and Dietary Supplements

Karen E. Murphy, National Institute of Standards and Technology

P-M-044 QuEChERS and GPC: Sample Cleanup for Pesticides in Animal Feed

Jessica Netzer, J2Scientific

P-M-045 Microarray Readout Platform RIDA®CHIP SCAN for Parallel Detection of Antibiotics in Milk

Ronald Niemeijer, R-Biopharm AG

P-M-046 Method Development for Multi-Residue Analysis of Pesticides in Eggs and Egg Products

Su Jeong Park, Animal, Plant, and Fisheries Quarantine and Inspection Agency

P-M-047 Multi-Residue Screening Method of 180 Veterinary Drugs in Muscle Matrices Using UHPLC-MS/MS

SuJeong Park, Animal, Plant, and Fisheries Quarantine and Inspection Agency

P-M-048 Accelerated Solvent Extraction of Multi-Residue Pesticides for GC/MS/MS Analysis

Jennifer Peterson, Thermo Fisher Scientific

P-M-049 Multi-Residue Pesticide Analysis in Herbal Products Using Accelerated Solvent Extraction with a Triple Quadrupole GC/MS/MS System

Eric Phillips, Thermo Fisher Scientific

P-M-050 Sensitive GC-MS/MS Method for the Simultaneous Analysis of Various Groups of Environmental Contaminants in Fish and Seafood

Jana Pulkrabova, Institute of Chemical Technology

P-M-051 Organochlorine Insecticides in the Milk from Canadian Mothers

Sue Quade, Health Canada

P-M-052 New Microbial Screening Test for the Analysis of Antibiotics in Meat

Pedro Razquin, Zeu-Inmunotec

P-M-053 Determination of Trace Metals in Seeds and Plant-Derived Feed by Microwave Assisted Digestion and Inductively Coupled Plasma Mass Spectrometry (ICP-MS)

Li Sheng, EPL Bio Analytical Services

P-M-054 A High-Throughput Approach to Multi-Matrix Food Testing Using QuEChERS and Tandem GC/MS

Joan Stevens, Agilent Technologies, Incorporated

P-M-055 Differential Analysis of Organic and Non-Organic Honey for Pesticides and Pollutants by LC Time-of-Flight Mass Spectrometry

Joan Stevens, Agilent Technologies, Incorporated

P-M-056 Artificial Preservatives in Pet Food: BHT, BHA, and Ethoxyquin Extraction by QuEChERS Methodology and Analysis by LC/MS/MS

Joan Stevens, Agilent Technologies, Incorporated

P-M-057 Development of a GC-MS/MS Based MRM Method for Quantitation of PCB and PBDE Congeners in Human Plasma

Helen (Qingyu) Sun, Bruker Daltonics

P-M-058 UHPLC/ESI-MS/MS and UHPLC/ESI Q-Orbitrap MS Analysis of 151 Pesticides in Soybeans and Pulses

Jian Wang, Canadian Food Inspection Agency

P-M-059 Simplified Method Development for Analyzing 280 Pesticides in Food Matrices on GC-MS/MS by Using an MRM Compound Library

Kefei Wang, Bruker Daltonics

P-M-060 Using UHPLC and Orbitrap Mass Spectrometry for Fast Qualitative and Quantitative Pesticides Analysis in Food Matrices

Leo Jinyuan Wang, Thermo Fisher Scientific

P-M-061 Establishment of Rapid Analysis Method of Pesticide Residue and Minimizing of the Matrix Interference Using Gas Chromatography-Triple Quadrupole Mass Spectrometry (GC/MS/MS)

Wen Wang, Agilent Technologies, Incorporated

P-M-062 Utilization of Rapid LC-MS for Screening and Quantitative Analysis of Pesticides in Food Matrix Using an Exactive Plus Orbitrap Platform

Charles Yang, Thermo Fisher Scientific

P-M-063 Utilization of High Resolution LC-MS for Screening and Quantitative Analysis of Pesticides in Food Matrix Using a Quadrupole-Orbitrap Platform

Charles Yang, Thermo Fisher Scientific

P-M-064 Conazole Fungicides in Orange Juice: Sample Preparation Strategies for Multi-Residue and Targeted Analysis Using LC-MS and LC-UV

Michael S. Young, Waters Corporation

P-M-065 Sample Preparation for UPLC-MS/MS Determination of Aminoglycoside Antibiotics in Meat and Milk

Michael S. Young, Waters Corporation

P-M-066 Online Sample Preparation LC/MS/MS Method for the Rapid Determination of Multiple Veterinary Drug Residues in Chicken, Pork, and Beef

Haiqiang Yu, Thermo Fisher Scientific

P-M-067 The QuEChERS Sample Preparation Approach with Dispersive and Cartridge SPE Cleanup, GCxGC-TOFMS, and LC-MS/MS for the Analysis of Pesticides in Tobacco

Julie Kowalski, Restek Corporation

P-M-068 Feasibility of Dilute-and-shoot LC/MS/MS, Solvent-only Calibration and Multiple Food Types for Multi-Residue Pesticide Analysis: Lazy Chemists and Old Instruments

Julie Kowalski, Restek Corporation

FOOD NUTRITION AND FOOD ALLERGENS

P-M-069 The Holy Grail: Comprehensive Polycyclic Aromatic Hydrocarbon Analysis by Serial Combination of HPLC Columns with Different Selectivities and UV and Fluorescence Detection

Julie Kowalski, Restek Corporation

P-M-070 A New Capillary GC Column for Highly Efficient Separation of Polycyclic Aromatic Hydrocarbons, Including the EFSA PAH4

Julie Kowalski, Restek Corporation

P-M-071 Detection and Characterization of Polyphenolic Compounds and their Metabolites in Human Plasma After Consumption of Grape Seed Extract Using Accurate Mass QTOF-LC/MS

Katarzyna Banaszewski, Institute for Food Safety and Health at the Illinois Institute of Technology

P-M-072 Determination of Folic acid in Flour Using Immunoaffinity Column Cleanup Prior to Analysis by HPLC

Simon Bevis, R-Biopharm Rhone

P-M-073 Characterization of EASI-Extract Vitamin B12 for the Determination of Vitamin B12 in Pharmaceuticals, Food and Drink Using Immunoaffinity Cleanup and UV-HPLC Analysis

Simon Bevis, R-Biopharm Rhone

P-M-074 Analysis of Vitamins D2, D3, 25(OH) D2, and 25(OH) D3 in Food and Pet Food Matrices by a LC-MS/MS Method

Sneh Bhandari, Silliker Incorporated

P-M-075 Quantifying Micronutrients to Determine Truthfulness of Ingredients in Supplements and Nutraceuticals

Michelle Briscoe, Brooks Rand Labs

P-M-076 Analysis of Fat Soluble Vitamin Capsules Using Ultra-Performance Convergence Chromatography

Jennifer Burgess, Waters Corporation

P-M-077 Complete Amino Acid Analysis of Foods and Feeds

Jennifer A. Burgess, Waters Corporation

P-M-078 Impact of Thermal Processing on the Detection of Almond Allergens: ELISA versus PCR-Based Test
Claire Chang, U.S. Food and Drug Administration

P-M-079 A Novel Approach to Detection of Lignans and Mammalian Metabolites Using LC-MS/MS-ESI
Lisa Cousins, IONICS Mass Spectrometry

P-M-080 Quantitation of Multiple Allergens in Infant Formula by LC-MS/MS
Keling Dong, AB SCIEX

P-M-081 Analysis of Gluten from Various Food Products Using High Resolution LC-MS/MS
Keling Dong, AB SCIEX

P-M-082 Potential New Allergens in the Fish Parasite Anisakis Simplex
Christiane K. Fæste, Norwegian Veterinary Institute

P-M-083 Quantification of Fat Soluble Vitamins in Infant Formula and Standard Reference Material 1849a
Antonietta Gledhill, Waters Corporation

P-M-084 Quantitative Analysis of Egg Allergens Using Ion Mobility Data Independent Mass Spectrometry
Antonietta Gledhill, Waters Corporation

P-M-085 Measurement of Protein Hydrolysates by Competitive ELISAs: Problems, Solutions, and Limitations
Sigrid Haas Lauterbach, R-Biopharm AG

P-M-086 Quantifying Gluten in Beer Samples with the RIDASCREEN® Gliadin Competitive–Second Generation
Sigrid Haas-Lauterbach, R-Biopharm AG

P-M-087 In vino Veritas–Quantifying Allergens in Wine
Sigrid Haas-Lauterbach, R-Biopharm AG

P-M-088 How Specific are MRM-Based Mass Spectrometry Assays to Detect Traces of Allergens?
Thomas Holzhauser, Paul-Ehrlich-Institute

P-M-089 Gluten Detection With a New Generation of Monoclonal Antibody
Donna Houchins, Romer Labs, Incorporated

P-M-090 Validation of Mineral Analytical Method for Food Nutrients Database Construction
Jinbong Hwang, Korea Food Research Institute

P-M-091 Challenges in the Development of Certified Vitamin Reference Solutions
Derrell Johnson, Cerilliant Corporation

P-M-092 POSTER WITHDRAWN

P-M-093 The Development and Validation of a Reveal™3D Total Milk, a Lateral Flow Device for the Rapid Detection of Total Milk Proteins in CIP and Environmental Samples
Frank Klein, Neogen Corporation

P-M-094 Determination of Biotin by HPLC After Easi-Extract® Biotin Immunoaffinity Column Purification
M Lieske, Central Laboratories Friedrichsdorf

P-M-095 Allergen Screening in Food by LC/MS/MS
Stephen Lock, AB SCIEX

P-M-096 Fat Soluble Vitamin Detection in Food by LC/MS/MS
Stephen Lock, AB SCIEX

P-M-097 Gluten Detection in Food by LC/MS/MS
Stephen Lock, AB SCIEX

P-M-098 Vitamin B Complex Detection in Food by LC/MS/MS
Stephen Lock, AB SCIEX

P-M-099 High Resolution Mass Spectrometry Using Orbitrap-Based Technology for Multi-Allergen Screening in Wine
Linda Monaci, Institute of Sciences of Food Production, National Research Council of Italy (ISPA-CNR)

P-M-100 Simultaneous Separation of Fat-Soluble Vitamins by Reversed-Phase HPLC Using a Cholesteryl Group Bonded Stationary Phase
Toshi Ono, Nacalai USA, Incorporated

P-M-101 Calcium Content in Commercial Yogurt in Mexico
Ruben Perez-Franco, Nutek, S.A. DE C.V.

P-M-102 Using LC/MS/MS to Measure Water-Soluble Vitamins in NIST Unfortified Food-Matrix SRMs
Melissa Phillips, National Institute of Standards and Technology

P-M-103 Analysis of Antioxidants in Animal Feeds by GC/M
Anindya Pradhan, Eurofins Central Analytical Laboratories

P-M-104 An Investigation of the Residual Levels of Selected Fining Agents in Wines by the Use of ELISA-Based Kits to Determine Appropriate Use for Detecting Marker Proteins of Allergenic Importance
Michael S. Ryan, Elisa Systems Pty Ltd.

P-M-105 Amino Acid Analysis by High Resolution Accurate Mass MS in Legumes
Frans Schoutsen, Thermo Fisher Scientific

P-M-106 The Simultaneous Analytical Method for the Determination of Structural Amino Acid in Foods Using Automated Amino Acid Analyzer

Dongwon Seo, Korea Food Research Institute

P-M-107 Measurement of Vitamin D in Milk and Infant Formulas Using Online Liquid Chromatography Sample Preparation Coupled with Mass Spectrometry

Yang Shi, Thermo Fisher Scientific

P-M-108 Rapid (~ 2 min) TD-NMR Method for Simultaneous Analysis of Moisture and Fat in Dry Food Products

Colin Simpson, CEM Corporation

P-M-109 VitaFast® Tests – Vitamin Analysis in Feed

Sylvia Stengl, R-Biopharm AG

P-M-110 Determination of Carotenoids in NIST Standard Reference Material 2383a Baby Food Composite Using Liquid Chromatography with Absorbance Detection

Jeanice B. Thomas, National Institute of Standards and Technology

P-M-111 Rapid and Sensitive Lateral Flow Immunoassays for the Detection of Allergenic Substances in Processed Foods

Rieko Tsuruma, Morinaga Institute of Biological Science, Incorporated

P-M-112 Extraction of Liposoluble Vitamins from Complex Nutritional and Biological Matrices Using Supported Liquid Extraction (SLE) Prior to LC-APCI-MS/MS Analysis

Victor Vandell, Biotage, USA

P-M-113 Identifying Peptide Markers to Peanut and Tree Nut Allergens Using LC-Q-TOF Mass Spectrometry

Jennifer Voyksner, LCMS Limited

P-M-114 Simultaneous Determination of Nutritional Nucleotides and Nucleosides in Infant Formula by UHPLC-MS/MS

Leo Jinyuan Wang, Thermo Fisher Scientific

P-M-115 Determination of Fatty Acids in Maize Grain, Soybean Seed and Canola Seed Using Microwave-Assisted Extraction and Gas Chromatography with Flame Ionization Detection

Joe Warnick, EPL BioAnalytical

P-M-116 Real-Time PCR Method for Detection of Wheat in Processed Foods

Satoshi Watanabe, House Foods Corporation

P-M-117 Total Vitamin C Analysis Using HPLC/UV

Xun Yan, Amway

P-M-118 Milk Allergen Identification and Quantitation with LC-MS/MS Approaches

Terry Zhang, Thermo Fisher Scientific

P-M-119 More Efficient Extraction Procedure for Gluten Detection Using the R5 ELISA Method

Thomas A. Grace, Bia Diagnostics LLC

TUESDAY, OCTOBER 2, 2012

Celebrity Ballroom

Poster Viewing **10:00 am – 5:00 pm**
Author Presentations **11:30 am – 1:00 pm**

AUTHENTICITY

P-T-001 Chromatographic-Based Approaches for the Identification and Quantitation of Adulterants Present in Dow Genuine Glutaraldehyde Products

Emmanuel Appiah-Amponsah, The Dow Chemical Company

P-T-002 Profiling Extra Virgin Olive Oil Using QTOF LC/MS and Developing a Prediction Model for Geographical Origin Determination of Oils

Katarzyna Banaszewski, Institute for Food Safety and Health at the Illinois Institute of Technology

P-T-003 A Rapid LC/UV-Vis Method for the Simultaneous Determination of Catechins, Xanthines, and Theaflavins in Raw Materials, Beverages and Finished Products

Steven Baugh, ChromaDex

P-T-004 Determination of Invertase in Honey by Immunoassay

Titan Fan, Beacon Analytical Systems

P-T-005 Application of a Modernized "Kirksey" Polyphenol Method for the Assessment of the Presence of "Narginin" in Lemon Juices

David Hammond, Eurofins Scientific Group

P-T-006 An Automated Sample Preparation System for the Analysis of Fatty Acid Methyl Esters (FAME) in Edible Oils

Rima Juskelis, Institute for Food Safety and Health at the Illinois Institute of Technology

P-T-007 AOAC Method 998.12, C-4 Plant Sugars in Honey: A Collaborative Study of Two Modifications of the Protein Preparation Procedure

Dana Krueger, Krueger Food Laboratories, Incorporated

P-T-008 Applicability of Qualitative and Quantitative Real-time Polymerase Chain Reaction Method for Detecting Genetically Modified Papaya Line 55-1 to Papaya Products
Kosuke Nakamura, National Institute of Health Sciences

P-T-009 Determination of Organic Acid and Anthocyanins in Cranberry Extract
Pranathi Perati, Thermo Fisher Scientific

P-T-010 Qualitative Analysis of Commercially Available Coconut Water Products Using the GERSTEL MPS 2
Edward Pfannkoch, GERSTEL, Incorporated

P-T-011 Analysis of Vitamins by Water-in-Oil Microemulsion Electrokinetic Chromatography
Maria Inês Rocha Miritello Santoro, Universidade de São Paulo

P-T-012 LC-MS/MS-Based Metabolomics for Authenticity Assessment of Fruit Juices
Andre Schreiber, AB SCIEX

P-T-013 What's in Your Beer? GC/MS Static Head Space with a DB- 624 Ultra Inert Capillary GC Column
Joan Stevens, Agilent Technologies, Incorporated

P-T-014 Comparison of Two Methods for the Analysis of Organic Acids in Fruit Juices
Cassandra Taylor, Eurofins Scientific, Incorporated

P-T-015 Application of the HADH Assay for Differenting Fresh/Chilled and Frozen Pork
Siu Kuen Tong, Government Laboratory, Hong Kong

P-T-016 Demonstrating the Authenticity of Meat Species in Traditional Turkish Meat Products Using Real-Time PCR
Pelin Ulca, A&T Food Labs

P-T-017 Dilute-and-Shoot GC/MS Analysis of Olive Oils for the Determination of Quality and Authenticity
Philip L. Wylie, Agilent Technologies, Incorporated

P-T-018 Automated 1H NMR Screening of Vitamin B Tablets Using Assure-RMS
Jimmy Yuk, BrukerBioSpin

P-T-019 Chicken Feeding History Control: Application of DART-TOF-MS Detection Tool
Milena Zachariasova, Institute of Chemical Technology

P-T-020 Identification and Characterization of Animal DNA in the Vegetable Cooking Oil by PCR-RFLP and Lab-on-Chip System
Jenny J. Zhang, Agilent Technologies, Incorporated

DETECTION AND MEASUREMENT OF NATURAL TOXINS

P-T-021 A Rapid Method for the Determination of Multi-Mycotoxins in Wines and Beer by LC-MS/MS Using a Stable Isotope Dilution Assay
Fadwa Al-Taher, Institute for Food Safety and Health at the Illinois Institute of Technology

P-T-022 An Automated On-line Turbulent-Flow High Resolution Mass Spectrometric Method Using Orbitrap Technology for the Determination of Mycotoxins in Animal Feed
Ebru Ates, Thermo Fisher Scientific

P-T-023 Determination of Aflatoxins B1, B2, G1, and G2 in Olive Oil , Peanut Oil, and Sesame Oil Using Immunoaffinity Column Clean-up, Post-Column Derivatization, and Liquid Chromatography/ Fluorescence Detection Collaborative Study
Lei Bao, Shandong Exit and Entry Inspection and Quarantine Bureau of China

P-T-024 Simultaneous Determination of Total Aflatoxin, Ochratoxin A, and Zearalenone Using AO ZON PREP® in Conjunction with HPLC
Simon Bevis, R-Biopharm Rhone

P-T-025 Evaluation of the Puritox Multi-Mycotoxin Purification Column Using LC/MS/MS
Julie L. Brunkhorst, Trilogy Analytical Laboratory

P-T-026 Rapid Multiplex Immunoassay to Distinguish Botulinum Neurotoxin Serotypes on a Single Lateral Flow Device
Kathryn Ching, U.S. Department of Agriculture

P-T-027 ToxiQuant Instrument for the Analysis of Mycotoxins
Raymond Coker, ToxiMet Limited

P-T-028 Antifungal and Antibacterial Properties of Intermittently Pumped Trans-2-Hexenal, a Soybean Volatile, in Non-Sterile, Wet Corn
Anthony De Lucca, U.S. Department of Agriculture

P-T-029 Determination of Citrinin in Red Yeast Rice and Dietary Supplement by Immunoassay
Titan Fan, Beacon Analytical Systems

P-T-030 Inter-laboratory Validation of a Fast and Sensitive UHPLC-MS/MS Method with Fast Polarity Switching for the Analysis of Lipophilic Shellfish Toxins
Thomas Glauner, Agilent Technologies, Incorporated

P-T-031 Research Decreasing the Impact of Aflatoxin in Mississippi
Gale Hagood, Mississippi State Chemical Laboratory, Mississippi State University

P-T-032 POSTER WITHDRAWN

P-T-033 Use of a New Multitoxin Clean-up Column and Fully Stable 13C-Labelled Internal Standards for Multitoxin Mycotoxin Analysis by LC-MS/MS

Donna Houchins, Romer Labs, Incorporated

P-T-034 Total Aflatoxins in Maize: Development of a new Quantitative Lateral Flow Device Test

Donna Houchins, Romer Labs, Incorporated

P-T-035 Quantitation of Aflatoxin B1 by ELISA in Commodities that Pose a Matrix Effect

Thu Huynh, Helica Biosystems, Incorporated

P-T-036 Simultaneous Determination of Six Type A and Type B Trichothecenes in Grains Using High Performance Liquid Chromatography-Tandem Mass Spectrometry

Ping Jing, Food and Agricultural Products Testing Agency, Shandong Exit-Entry Inspection and Quarantine Bureau of China

P-T-037 Development and Validation of a Quantitative Lateral Flow Device for the Detection and Quantification of Aflatoxin in Grains

Frank Klein, Neogen Corporation

P-T-038 Development and Validation of a Quantitative Lateral Flow Device for the Detection and Quantification of Zearalenone in Grains

Frank Klein, Neogen Corporation

P-T-039 Development and Validation of a Quantitative Lateral Flow Device for the Detection and Quantification of Deoxynivalenol in Grains

Frank Klein, Neogen Corporation

P-T-040 Development and Validation of a Quantitative Lateral Flow Device for the Detection and Quantification of Fumonisin in Corn

Frank Klein, Neogen Corporation

P-T-041 Performance Validation Study of the Detection of Aflatoxin in Pistachios and Almonds Using an Immunoaffinity Column Coupled with HPLC or Fluorometry

Alex Kostin, Neogen Corporation

P-T-042 Sensitive Dipstick Indicator for the Detection of Histamine in Food and Beverage Samples

Joseph Krebs, BIOO Scientific Corporation

P-T-043 Simultaneous Quantification of 11 Mycotoxins in Finished Cereal and Nut Products Using UPLC-MS/MS

Chia-Ding Liao, Taiwan Food and Drug Administration

P-T-044 A New Immunoaffinity Column for Deoxynivalenol and Nivalenol

Jianmin Liu, Vicam

P-T-045 Vitamin A and Total Xanthophylls in Chicken Serum like a Parameter of Anti-Mycotoxin Agent Efficacy and Innocuity Evaluation

Juan Carlos Medina Bravo, Nutek S.A. de C.V.

P-T-046 Validation of the New and Improved RIDASCREEN®FAST Aflatoxin ELISA

Ronald Niemeijer, R-Biopharm AG

P-T-047 Occurrence of Deoxynivalenol and Acethyl-Deoxynivalenol in Cereals

Seungyoung Park, Kyeongin Regional Food and Drug Administration

P-T-048 Extraction Methods for Microcystin Analysis in Different Matrices

Pedro Razquin, Zeu-Inmunotec

P-T-049 Occurrence of Fumonisin B1 and Aflatoxin B1 in Stored Sorghum Analyzed by Indirect Competitive Enzyme-Linked Immunosorbent Assay

Bhummanagari Narsimha Reddy, Osmania University College for Women

P-T-050 Development and Evaluation of an ELISA for the Monitoring of Yellow Azo Dyes in Food and Non-Food Products

Fernando Rubio, Abraxis LLC

P-T-051 Adsorption of Zearalenone to Japanese Acid Clay and Influencing Factors

Risa Sasaki, Shinshu University

P-T-052 Development of an Analytical Method for Sterigmatocystin in Grain

Risa Sasaki, Shinshu University

P-T-053 **POSTER WITHDRAWN**

P-T-054 Use of Cyclodextrin-Based Polymer for Patulin Analysis in Apple Juice

Takashi Shirasawa, Shinshu University

P-T-055 Rapid Detection and Identification of Bacteria and Yeasts by rRNA Sandwich Hybridization – A New Technology

Leonard M. Sidisky, Supelco/Sigma-Aldrich

P-T-056 Interlaboratory Comparison of Two AOAC Liquid Chromatographic Methods for PSP Toxins Through Characterization of an Oyster Reference Material

Andrew Turner, CEFAS

P-T-057 Modified QuEChERS Method Coupling With UHPLC-ESI/QQQ Mass Spectrometry for Simultaneous Determination of Multiple Mycotoxins in Sesame Butter

Jinhua Wang, Beijing Bureau of Entry-Exit Inspection and Quarantine

EMERGING ISSUES IN FOOD SAFETY AND SECURITY

P-T-058 Speciated Arsenic Contents of Some Foods

John Budin, Silliker Incorporated

P-T-059 The Use of Multivariant Analysis for Early Identification of Potential Food or Beverage Adulterations

Gareth Cleland, Waters Corporation

P-T-060 Direct Screening and Quantitative Analysis of Carbendazim and Other Pesticides in Fruit Juices by Ambient Ionization Mass Spectrometry

Elizabeth Crawford, IonSense, Incorporated

P-T-061 Speciation of Arsenic in Rice Grain, Juice, and Fish Meal

Sarah King, Eurofins Central Analytical Laboratories

P-T-062 Application of the Photostimulated Luminescence, Thermoluminescence, and Electron Spin Resonance Methods for the Detection of Irradiated Foods in Korea

Kim Kyu-Heon, Korea Food and Drug Administration

P-T-063 Compartmentalization in China

Chengzhu Liang, Food and Agricultural Products Testing Agency, Shandong Exit-Entry Inspection and Quarantine Bureau of China

P-T-064 Analysis of Clandestine Beta-Phenylethylamines in Dietary Supplement Botanical Ingredients Marketed for Sport Utilizing GC-EI-IT-MS, GC-CI-IT-MS and High Resolution Q-TOF

James Neal-Kababick, Flora Research Laboratories

P-T-065 Rapid Detection of Clandestine 1,4-Butanediol Adulteration in a Dietary Supplement Utilizing Phytoforensic Techniques

James Neal-Kababick, Flora Research Laboratories

P-T-066 Quantitative Analysis of FD&C Color Additives in Food Products Using Liquid Chromatography

Bhakti Petigara Harp, U.S. Food and Drug Administration

P-T-067 Medicines versus Dietary Supplements: Who is Who and Who Should do What?

António Raposo, University of Las Palmas de Gran Canaria

P-T-068 Intuitive Data Processing Tools for Targeted Quantitation and Non-Targeted Screening for Food Residues Using High Resolution Accurate Mass LC-MS/MS

Andre Schreiber, AB SCIEX

P-T-069 Using LIMS to Maintain Regulatory Compliance in the Food Safety Laboratory

Colin Thurston, Thermo Fisher Scientific

MICROBIOLOGICAL METHODS

P-T-070 Rapid Molecular Typing of Shiga Toxin-Producing *Escherichia coli* Using the Automated DiversiLab Repetitive-Sequence-Based PCR System

Kimberly Anderson, U.S. Food and Drug Administration

P-T-071 A Comparative Evaluation of the GeneDisc® Plate *Listeria* DUO for the Detection of *Listeria monocytogenes* and *Listeria* species in a Variety of Foods and Environmental Surfaces

Patrice Arbault, Bioavantage Consulting

P-T-072 Enforcement of Microbiological Safety and Compositional Standards for Traditional Turkish White and Kashar Cheeses

Handan Balta, A&T Food Labs

P-T-073 Performance Evaluation of a New Molecular Technology for *Salmonella* spp. in Food

DeAnn Benesh, 3M Food Safety

P-T-074 Pathatrix Auto versus KingFisher Flex: Who is the Winner?

Laurie M. Clotilde, U.S. Food and Drug Administration

P-T-075 A Comparative Evaluation of the VIDAS® UP *Salmonella* (SPT) Method for the Detection of *Salmonella* Modification/Matrix/Extension: 375 g Raw Ground Beef, 375 g Raw Ground Turkey, 375 g Almonds, Chicken Carcass Rinsate

Erin Crowley, Q Laboratories, Incorporated

P-T-076 An Independent Evaluation of the 3M™ Molecular Detection Assay *E. coli* O157 (including H7) for the Detection of *E. coli* O157 in Raw Ground Beef

Erin Crowley, Q Laboratories, Incorporated

P-T-077 Design and Evaluation of a Real-Time PCR Method for Detecting O157:H7 and Non-O157 STEC Strains from Beef Samples

Peyman Fatemi, Life Technologies Corporation

P-T-078 Evaluation of a Real-Time PCR Method to Detect *Salmonella Enteritidis* in the Poultry Environment

Peyman Fatemi, Life Technologies Corporation

P-T-079 The Contamination of *Bacillus cereus* in Ready-to-Eat Food in Taiwan

Tsui-Ping Huang, Taiwan Food and Drug Administration

P-T-080 Collaborative Study on a Standard Method for Detection of *Campylobacter jejuni* and *Campylobacter coli* from Foods in Japan

Shizunobu Igimi, National Institute of Health Sciences

P-T-081 Comparison of VIDAS® UP *Salmonella* and BioControl GDSTM for the Detection of *Salmonella* in Foods

Ronald Johnson, bioMérieux, Incorporated

P-T-082 Enrichment Media Comparison for Testing Seasonings Using the Atlas™ *Salmonella* Detection Assay on the Atlas System

Joseph Kibala, Roka Bioscience

P-T-083 Comparison of Repetitive Sequence-Based PCR Characterization and PFGE for the Molecular Typing of *Salmonella* in Food Matrices

Eileen Liu, U.S. Food and Drug Administration

P-T-084 *Actero Listeria* Enrichment Media for Rapid Single-Step Recovery and Enrichment of *Listeria* spp. from Environmental Samples

Gabriela Martinez, Maxivet Incorporated

P-T-085 *Actero Salmonella*/STEC Enrichment Media: New Broth for Enrichment of *Salmonella* spp. and STEC strains

Gabriela Martinez, Maxivet Incorporated

P-T-086 Evaluation of a Next-Day Enumeration Method for the Total Mesophilic Aerobic Bacteria in Select Food and Environmental Surface Samples with Reference to FDA-BAM and SMEDP Methods

John Mills, bioMérieux SA

P-T-087 Comparison of VIDAS® UP *Salmonella* and DuPont Qualicon BAX® for the Detection of *Salmonella* in Foods

John Mills, bioMérieux, Incorporated

P-T-088 Detection of Pathogens in Foods and Environmental Samples Using Isothermal Nucleic Acid Amplification

Mark Mozola, Neogen Corporation

P-T-089 Development of a Novel Nucleic Acid Lateral Flow Assay for Detection of *Listeria monocytogenes* in Food

Yasutaka Nishiyama, Nippon Meat Packers, Incorporated

P-T-090 Evaluation of an Immunochromatographic Assay for Simple and Rapid Detection of *Escherichia coli* O157

Yasutaka Nishiyama, Nippon Meat Packers, Incorporated

PERFORMANCE TESTED METHODS℠

P-T-091 Single Laboratory Method Validation for Cyanide-Independent Enzyme Activity Level in Beans

Natsumi Abe, Shinshu University

P-T-092 A Comparative Evaluation of the GeneDisc® Plate *Listeria* Identification Kit for the Identification and Discrimination of *Listeria* Species

Patrice Arbault, Bioavantage Consulting

P-T-093 Evaluation of the Atlas™ *Listeria* Detection Assay Comparing Various Environmental Sample Collection Devices

Thomas Briggs, Roka Bioscience

P-T-094 Determination of Choline in Infant Formula, Egg Powder, and Soy Flour by Ion Chromatography

Lillian Chen, Thermo Fisher Scientific

P-T-095 Increase Efficiency of Fat Content Determination in Food–A Comparison Between Pressurized Liquid Extraction and Classical Extraction Methods

Zigerlig Claudio, BUCHI Labortechnik AG

P-T-096 An Independent Laboratory Evaluation of the Mericon™ *Salmonella* spp. Detection Kit

Erin Crowley, Q Laboratories, Incorporated

P-T-097 A Comparative Evaluation of Neogen Corporation's Soleris® NF-TVC Method for the Detection of Total Aerobic Bacteria in Food

Erin Crowley, Q Laboratories, Incorporated

P-T-098 A Comparative Evaluation of the VIDAS® Campylobacter for the Detection of *Campylobacter* Species and CampyFood Agar for the Detection and Enumeration of *Campylobacter* Species

Erin Crowley, Q Laboratories, Incorporated

P-T-099 Fiber Artifacts Generated by Incomplete Enzyme Digest in AOAC 991.43 are Minimized with New Codex Method, AOAC 2009.01

Jonathan DeVries, Medallion Laboratories/General Mills

P-T-100 New Dietary Fiber Method, AOAC 2011.25, for Determination of Insoluble, Soluble and Total Dietary Fiber (CODEX Definition) in Foods by Enzymatic-Gravimetric-Liquid Chromatography: Collaborative Study

Jonathan DeVries, Medallion Laboratories/General Mills

P-T-101 Collaborative study for RIDASCREEN® Gliadin and RIDASCREEN® Gliadin Competitive Showing Low LOQs and Good Precision

Sigrid Haas-Lauterbach, R-Biopharm AG

P-T-102 Single-Laboratory Validation of an ELISA Test Kit for the Detection of Total Aflatoxins in Corn by Comparison with HPLC

Eri Hojo, Nippon Meat Packers, Incorporated

P-T-103 Validation of Water-Soluble Vitamins Analysis in Infant Formula by HPLC and Collaborative Study Result

Hyunhwa Ji, Animal, Plant and Fisheries Quarantine and Inspection Agency

P-T-104 Determination of Free Sulphur Dioxide in Wine: A New Method Compared to Existing Principles

Markus Lacorn, R-Biopharm AG

P-T-105 Determination of Total Sulphur Dioxide in Wine: Methods–Limitations–Problems–Solutions

Markus Lacorn, R-Biopharm AG

P-T-106 Modification to AOAC-RI Performance Tested Method SM 031201: Evaluation of the Atlas™ *Salmonella* Detection Assay in Nine Additional Food Matrices

Kristin Livezey, Roka Bioscience

P-T-107 Development and Validation of a Sensitive and Robust Sandwich ELISA for Detection of CNS Bovine Brain Contaminants in Heated Meat Products

Meiguo Xin, ELISA Technologies, Incorporated

WEDNESDAY, OCTOBER 3, 2012

Celebrity Ballroom

Poster Viewing 10:00 am – 5:00 pm
Author Presentations 11:30 am – 1:00 pm

BOTANICALS AND DIETARY SUPPLEMENTS

P-W-001 The Spectro-Electro Array: A Novel Platform for the Measurement of Secondary Metabolites in Botanicals, Supplements, Foods and Beverages – Part 1: Theory and Concepts

Ian Acworth, Thermo Fisher Scientific

P-W-002 The Spectro-Electro Array: A Novel Platform for the Measurement of Secondary Metabolites in Botanicals, Supplements, Foods and Beverages – Part 2: Targeted Analyses

Ian Acworth, Thermo Fisher Scientific

P-W-003 The Spectro-Electro Array: A Novel Platform for the Measurement of Secondary Metabolites in Botanicals, Supplements, Foods and Beverages – Part 3: Metabolomics

Ian Acworth, Thermo Fisher Scientific

P-W-004 Determination of Isoxanthohumol, Xanthohumol, Alpha and Beta Bitter Acids, and *trans* and *cis*-Iso-Alpha Acids by HPLC with UV and Electrochemical Detection: Application to Hop and Beer Analysis

Ian Acworth, Thermo Fisher Scientific

P-W-005 Novel, Universal Approach for the Measurement of Natural Products in a Variety of Botanicals and Supplements

Ian Acworth, Thermo Fisher Scientific

P-W-006 Development and Evaluation of Mango Proteins from Different Ciltivars of Mango as a Nutraceutical

Neha Saurabh Arora, Hamdard University

P-W-007 Quantitative Determination of Dimethylaminoethanol in Dietary Supplement Products by Headspace Gas Chromatography with Flame Ionization Detection

Steve Baugh, ChromaDex

P-W-008 Determination of Ursolic Acid in Holy Basil (*Ocimum sanctum*)

Amitabh Chandra, Amway

P-W-009 Evaluation of D- and L- Ascorbic Acid in Acerola Cherry

Amitabh Chandra, Amway

P-W-010 Separation of Lutein, Zeaxanthin, and Meso Zeaxanthin Using Chiral Chromatography on Different Delivery Forms of Dietary Ingredients

Jayanthi Chavan, OmniActive Health Technologies Ltd.

P-W-011 Mercury Speciation Determinations in Asian Dietary Supplements

Deepali Mohindra, Thermo Fisher Scientific

P-W-012 Analysis of Phytosterols in Plant Oils via HPLC

Kendra Cox, Hitachi High Technologies America

P-W-013 Determination of Menaquinone (MK-7) in Dietary Supplements by HPLC

Zahra Mina Fakhary, Pharmavite

P-W-014 Identification and Structural Elucidation of Two Novel Glucosinolates in *Aubrieta deltoidea* Using UPLC QTof MS with Ion Mobility

Antonietta Gledhill, Waters Corporation

P-W-015 Identification of Flavonoids in Ficus sp. Extracts Using High Definition Ion Mobility Mass Spectrometry

Antonietta Gledhill, Waters Corporation

P-W-016 HPLC Determination of Honokiol and Magnolol

Mickael Hybois, Invivo Labs

P-W-017 Study on the Standard Monographs for Herbal Medicines

Seong Ye Hyeon, Korea Food and Drug Administration

P-W-018 Isolation and Identification of Chrysophanol, an Hepatoprotective Compound from *Cassia Auriculata*

Revathi Kasturi, Ethiraj College for Women

P-W-019 An HPLC-UV Method for the Analysis of Gingerol and Related Compounds from Ginger Root

Jeff Layne, Phenomenex

P-W-020 An HPLC-UV Method for the Analysis of Flavonoids from Ginkgo Biloba Extracts

Jeff Layne, Phenomenex

P-W-021 A Method for the Analysis of Chlorogenic Acid in Coffee Using HPLC with UV Detection

Jeff Layne, Phenomenex

P-W-022 Determination of Cocoa Flavanols and Procyanidins (DP 1-10) By Rapid Resolution LC: Single Laboratory Validation

Philip R. Machonis, Mars, Incorporated

P-W-023 Measuring Phytosterols in Health Supplements by LC/MS

Marcus Miller, Thermo Fisher Scientific

P-W-024 Determination of Major Flavonolignans in Milk Thistle Raw Materials and Finished Products by High-Performance Liquid Chromatography with Ultraviolet Detection: Single-Laboratory Validation

Elizabeth Mudge, British Columbia Institute of Technology

P-W-025 In-Situ Rapid Phytoforensic Analysis of Dietary Supplement Raw Materials and Finished Dosage Forms Utilizing FTIR/FTNIR Microspectroscopy

James Neal-Kababick, Flora Research Laboratories

P-W-026 Analysis of Antioxidants in Foods and Dietary Supplements Using HPLC with Post-Column Derivatization

Maria Ofitserova, Pickering Laboratories

P-W-027 Sensitive HPLC Method for Triterpenoid Analysis Using Charged Aerosol Detection with Improved Resolution

Marc Plante, Thermo Fisher Scientific

P-W-028 Rapid Antimicrobial Screening of Botanical Extracts for *Staphylococcus aureus* Inhibition

Jat Rana, Amway

P-W-029 A Testing Panel for Jellyfish as Seasoning Powder

António Raposo, University of Las Palmas de Gran Canaria

P-W-030 Design and Development Challenges of Natural Products Certified Reference Solutions

Mitzi Rettinger, Cerilliant Corporation

P-W-031 Improving Measurement Capabilities: NIST Interlaboratory Studies for Foods and Dietary Supplements

Catherine Rimmer, National Institute of Standards and Technology

P-W-032 Standard Reference Materials (SRMs) Characterized for Fatty Acids

Michele Schantz, National Institute of Standards and Technology

P-W-033 Profiling of Botanical Samples to Identify Unknown Chemical Contaminants and the Authenticity of Natural Ingredients Using High Resolution and Accurate Mass MS/MS

Andre Schreiber, AB SCIEX

P-W-034 Characterization and Determination of Deoxy-Anthocyanins in Sorghum

Nathan Stern, Amway

P-W-035 Use of Supercrtical Fluid Chromatography for the Analysis of Variety of Botanicals
Jennifer Van Anda, Aurora SFC Systems, Incorporated

P-W-036 Determination of Aloin A and Aloin B in *Aloe vera* In-Process Materials and Finished Products by High Pressure Liquid Chromatography: Single-Laboratory Validation
Ronan Yu, British Columbia Institute of Technology

GENERAL METHODS, QUALITY ASSURANCE, AND ACCREDITATION

P-W-037 Carbohydrate Analysis Using HPLC with PAD, FLD, Charged Aerosol Detection, and MS Detectors
Ian Acworth, Thermo Fisher Scientific

P-W-038 Irvine Rapid Analtical Method: A Rapid SPE Multi-Residue Method for the Analysis of Pesticides in Food Products
Olusegun Ajayi, U.S. Food and Drug Administration

P-W-039 Determination of Dimethyl Polysiloxane (DMPS) in Edible Oil
Priti Amritkar, Envirocare Labs Pvt. Ltd.

P-W-040 Freezing and Thawing Milk Calibration Standards for Electronic Somatic Cell Counters
David Barbano, Cornell University

P-W-041 Reference Material for Somatic Cell in Milk in the Structure of an International Analytical Reference System
David M. Barbano, Cornell University

P-W-042 A New Approach to Make Milk Calibration Standards for Electronic Somatic Cell Counters
David M. Barbano, Cornell University

P-W-043 Determination of Trace Organic Impurities in Color Additives Using Solid Phase Extraction and Ultra-Performance Liquid Chromatography
Nebebech Belai, U.S. Food and Drug Administration

P-W-044 Screening for Petrochemical Contaminants in Seafood by Headspace Solid-Phase Microextraction Gas Chromatography-Mass Spectrometry
F. Aladar Bencsath, U.S. Food and Drug Administration

P-W-045 Determination of Haloacetic Acids in Aqueous Environments: An Automated Solid Phase Extraction Using Advanced Sample Processing Instrumentation
Tom Dobbs, J2Scientific

P-W-046 Di(2-ethylhexyl) Adipate (DEHA) in Selected Total Diet Food Composite Samples
Xu-Liang Cao, Health Canada, Bureau of Chemical Safety

P-W-047 Detection, Identification, and Structural Elucidation of Unknown Contaminants During a Routine Nontargeted Screening of River Water Samples Using a New Scientific Information System
Gareth Cleland, Waters Corporation

P-W-048 Determination of Plant Growth Regulators (Abscisic Acid, Indole-3-Butyric Acid, Zeatin Riboside) in Liquid Seaweed Fertilizers by Immunoassay
Titan Fan, Beacon Analytical Systems

P-W-049 Single Laboratory Validation for the Analysis of Ergosterol in Barley, Wheat, and Oats by GC-MS
Don Gaba, Canadian Grain Commission

P-W-050 Collaborative Study Proposal–Determination of Phosphorus and Potassium in Commercial Inorganic Fertilizers by ICP-OES
William Hall, Mosaic

P-W-051 Evaluating the Use of Ceramic Homogenizers in the QuEChERS Method
Brian Kinsella, UCT Incorporated

P-W-052 The Detection of Mustard in Food by LC/MS/MS
Stephen Lock, AB SCIEX

P-W-053 The Detection of Polyphenolics in Food and Drinks by LC/MS
Stephen Lock, AB SCIEX

P-W-054 Peroxide Testing in Aged Pet Food Samples
Steve Lunetta, Natural Balance Pet Foods, Incorporated

P-W-055 The Application of Single Reaction Chamber Microwave Digestion Preparation of Food Samles Prior to Analysis by ICP-OES and ICP-MS
Tim Michel, Milestone, Inc

P-W-056 Direct Analysis in Real Time (DART) Analysis with a Modified GC/MS System
Brian Musselman, IonSense, Incorporated

P-W-057 Maximizing Lipid Load Without Chlorinated Solvents With 2-Dimensional GPC Cleanup
Jessica Netzer, J2Scientific

P-W-058 Analysis of 2- and 4-Methylimidazole in Beverages, Condiments, and Foods by LC-MS/MS
Ryan Picou, Eurofins Central Analytical Laboratories

P-W-059 A New Approach to the Simultaneous Analysis of Underivatized Ionophoric Antibiotics Using Liquid Chromatography with Charged Aerosol Detection

Marc Plante, Thermo Fisher Scientific

P-W-060 Multiresidue Analysis of Rodenticides in Foodstuff Using Ultra Performance Liquid Chromatography/ Tandem Mass Spectrometry

Yaorong Qian, U.S. Environmental Protection Agency

P-W-061 Formulation Preparation and Stability Testing of Ethinyl Estradiol in Low-Level Feed Formulations

Jamie Richey, Battelle Memorial Institute

P-W-062 Quantitative Analysis of Ractopamine in Beef Extract Using Automated Online Sample Preparation with Liquid Chromatography-Tandem Mass Spectrometry

Yang Shi, Thermo Fisher Scientific

P-W-063 Analysis of Pesticides in Fruits and Vegetables Using Z-Sep and Z-Sep+ SPE Sorbents as Part of QuEChERS Approach to Sample Cleanup

Leonard M. Sidisky, Supelco/Sigma-Aldrich

P-W-064 Use of New Spherical Materials in a Dual-Layer SPE Tube for the Analysis of Pesticide Residues in Spinach

Leonard M. Sidisky, Supelco/Sigma-Aldrich

P-W-065 Ionic Liquid Capillary Columns for the Analysis of FAME Isomers

Leonard M. Sidisky, Supelco/Sigma-Aldrich

P-W-066 Simultaneous Quantitation of 2- and 4-Methylimidazole in Food Products with Monolithic Type Sample Preparation Approach and LC-MS/MS

Joan Stevens, Agilent Technologies, Incorporated

P-W-067 Determination of Phthalates in Food–Quantification and Confirmation

Siu Kuen Tong, Government Laboratory

P-W-068 Pesticide Analysis Using QuEChERS Extraction: A Comparison of Manual and Automated Approaches

Tyler Trent, Teledyne Tekmar

P-W-069 Simultaneous Determination of Paraquat and Diquat in Water Samples by HPLC-MS/MS

Leo Jinyuan Wang, Thermo Fisher Scientific

P-W-070 Anodic Stripping Voltammetric Determination of Bismuth (III) with 1-(2-Pyridylazo)-2-Naphthol Modified Carbon Ionic Liquid Electrode

Manxia Wang, Shandong Exit-Entry Inspection and Quarantine Bureau of China

P-W-071 The Market Survey of Genetically Modified Food for Labeling System in Taiwan

Yu-Ting Wang, Taiwan Food and Drug Administration

P-W-072 Toxic Elements in New Food and Dietary Supplement Standard Reference Materials

Laura Wood, National Institute of Standards and Technology

PHARMACEUTICAL ANALYSIS, AUTHENTICITY AND SAFETY

P-W-073 Determination of 4-Methylimidazole in Coffee by LC/MS/MS

Alice Yau, Southwest Research Institute

P-W-074 Development of Fast Screening Method for Multiclass Residue Analysis of Veterinary Drugs in Meat Based on Laboratory-Built LC-MS/MS Library

Hongwei Zhang, Shandong Exit-Entry Inspection and Quarantine Bureau of China

P-W-075 Analysis of BioProcess Impurities: Residuals, Leachables, and Extractables

Jon S. Kauffman, Eurofins Scientific, Incorporated

P-W-076 USP Method 233 – Microwave Sample Preparation of Pharmaceutical Samples

Jason D. Keith, CEM Corporation

P-W-077 Development of a Method for Quantification of Ethinylestradiol and Drospirenone in Oral Contraceptives by High Performance Liquid Chromatography

Maria Inês Rocha Miritello Santoro, University of São Paulo

P-W-078 Self-Carmelization of Sucralose: Identification of over 100 Degradation Products by UHPLC and LC/QTOF-MS with Ultrahigh Resolution Time-of-Flight Mass Spectrometry and Accurate Mass

Michael Thurman, University of Colorado

P-W-079 Easy, Rapid Inter-Conversion Between HPLC and SFC with a Single Instrument for Pharmaceutical Chiral Screening and Orthogonal Analysis

Jennifer Van Anda, Aurora SFC Systems, Incorporated

附件三、心得分享簡報

參加「第126屆AOAC International年會」研習「食品檢驗科技新知」心得分享

蔡佳芬

2012.11.28

126th AOAC Annual Meeting & Exposition

EDUCATE | NETWORK | COLLABORATE

September 30 - October 3, 2012
at Planet Hollywood

分享內容大綱

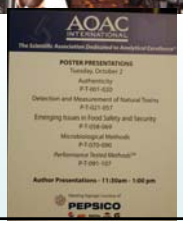
- 大會流程簡介
- 開幕式專題演講
- 臺灣分會、亞洲分會聯合會議
- 研討會演講
- 壁報論文閱覽
- 專家交流
- 心得與建議


AOAC第126屆年會會場入口


會長Stan W. Bacler主持開幕式

大會流程簡介

- 9/30 報到、歡迎會
- 10/1 開幕式、頒獎、專題演講、專題報告、儀器展示、討論會、方法審議會、分會會議
- 10/2-3專題報告、儀器展示、討論會、方法審議會
- 10/4 方法審議會

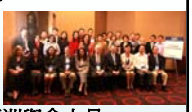


開幕式專題演講

- 題目：How Infant Formula Quality, Safety, and Fair Trace Came to Rely on AOAC
- 講者：Dr. Robert H. Miller (Abbott Nutrition公司)
- 內容摘要：以國際嬰兒配方食品製造業者的觀點來看，業者如何仰賴AOAC的第三者公證角色，在嬰兒配方食品的品質、安全及信賴追溯上，積極進行檢驗方法之開發及尋求一致性。由於嬰兒配方食品之檢驗方法已有業者的方法、政府部門的方法，建立方法間之一致性有其必要，可減少紛爭的發生。
  因此近年來嬰兒配方食品製造業者於AOAC積極推動利害關係人嬰兒配方及成人營養素(Stakeholder Panel on Infant Formula and Adult Nutritionals, SPIFAN)的方法審議委員會，自主的來進行方法之調和。

臺灣分會、亞洲分會聯合會議

- 臺灣分會
  - 會議時間：10月1日下午6時
  - 主持人：陳樹功博士
  - 參加人員：AOAC會員、美國FDA、檢驗公司、儀器公司等代表，共14人參加
  - 會議摘要：介紹台灣分會過去一年來的活動及未來規劃，並請與會者自我介紹，促進交流。



- 亞洲分會聯合會
  - 會議時間：10月1日下午7時
  - 主持人：鮑蕾博士(中國分會會長)
  - 參加人員：亞洲4個分會代表及其他亞洲與會人員
  - 會議共識：(1)亞洲各國可就分析方法之研究及訓練進行合作及交流；(2)可先就亞洲各國分析方法進行調和。

研討會演講

- Screening and Structural Elucidation of Marine Toxins, Analogues and Related Metabolites: Detection Tools, Toxicity and Potential Reference Materials
- Undesirable Plant Toxins in Food and Feed
- Emerging Marine and Freshwater Toxins: Occurrence and Distribution, Analysis and Toxicological Impact
- Rapid Point-of-Sampling Tests for Mycotoxins
- AOAC INTERNATIONAL Stakeholder Panels Update: ISPAM, SPADA, SPIFAN, and SPSFAM
- New Blood 2012: Developing Methods for the Detection of Chemical Contaminants
- New Analytical Trends and Techniques for Evaluating Botanicals
- Enforcement vs. Compliance: Is Everybody Playing by the Same Rules?
- Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges
- Challenges with Probiotics: Research, Regulations, Product Formulation, and Analysis
- Roundtable on Multiplexing Technology for Allergen Detections: Where Do We Stand?

研討會演講

- Roundtable on Leadership Challenges in the Laboratory: The "Pains" of Lab Management
- Roundtable on Good Practices for Establishing Meaningful Specifications for Botanicals in Dietary Supplements and Nutrition: Scientific Perspective
- Roundtable on LC/MS/MS Technologies for Multi-Allergen Detection: What do you have to Offer?
- TDRM/TDLM Symposium: Reference Materials - Enabling Accuracy/trueness Control in Analytical Method Validation and Verification
- Proficiency Testing for Veterinary Drug Residues in Food
- Live Microbial ingredients - A Growing Trend in the US Food Supply
- What New and Emerging Chemicals Used in Food and Agriculture Are Being Detected By Chemical Screening?
- Regulatory Requirements and Measurement Uncertainty
- FSMA's Impact on Laboratories and Food Testing
- International Developments on Protein Quality Assessment of Foods and Dietary Supplements
- Analytical Challenges in Masked Mycotoxin Research

New Analytical Trends and Techniques for Evaluating Botanicals

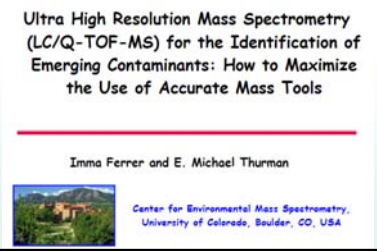
- 植物性藥物的鑑別及品質一直是膳食補充品製造業者的一大挑戰，由於在真實世界中，這些植物成分本就有很大的變異性。
  - 講者Sidney Sudberg說明在過去的15年間，植物性藥物的分析方法涵蓋HPTLC、HPLC、顯微檢查等，而分析結果更是發現植物性藥物的種類及含量範圍複雜且廣，在製造業者間因使用的原料、萃出物不同，都會影響其選用的分析標的及方法。
  - 講者Kim Colson介紹以NMR來進行天然物、膳食補充品及植物性藥物的定量及定性分析，2007年美國FDA cGMP強制要求膳食補充品製造廠必須能夠對其產品確認其鑑別、純度、活力及組成，但植物性藥物的組成及含量受到其品種及生長環境的影響極大，NMR提供了指紋圖譜工具及利用爲定量分析兩方面的功用，報告中以NMR進行膳食補充品中sulfoaildenafil的分析。

Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges (1)

- 在今年的AOAC年會中，高解析度LC-MS-MS大放異彩，被大量的應用於target analysis及non-target analysis
  - 講者Sherri Turnipseed應用Q-TOF及Exactive兩種高解析度質譜分析技術，嘗試將原有分析牛奶中25種動物用藥的分析方法擴大應用範圍，在初步的結果發現此研究方向應是可行。

Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges (2)

- 講者Imma Ferrer則將LC/Q-TOF-MS應用於緊急事件的污染物分析，利用精確質譜成功的快速篩檢出河流中污染的含氯化合物lamotrigine及河流中100個西藥成分及其代謝物。



Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges (3)

- 講者Anton Kaufmann則提醒大家，目前仍有串聯質譜儀的感度仍然優於高解析度質譜儀、高解析度質譜儀是否擁有足夠的線性範圍、可能有僞陽性及僞陰性的可能、受限於現行軟體功能等疑慮，但高解析度質譜儀確實有其強大的功能，尤其是在串聯質譜儀只能告訴我們「你預期看到的」，而高解析質譜儀則可告訴我們「發現未預期的」。

Analysis of Chemical Contaminants Using High Resolution Mass Spectrometry: Method Development, Validation and Challenges (4)

- 講者Jana Hajslova與大家分享polyfluorinated surfactants (PFSs)自包裝容器具遷移至食品的研究，應用DART-HRMS來快速篩檢食品用紙類包裝紙及包裝盒的PFSs，在分析的47件樣品中有16件檢測到C2F4的關聯物，利用DART-orbitrap MS在4個樣品中測得polyfluoroalkylphosphate surfactants (PAPS)，利用UHPLC-TOFMS在8個樣品中測得PAPS。陽性樣品包括瑪芬杯(muffin cups)、速食紙盒(fast food wraps)、微波玉米袋(microwave popcorn bags及批薩盒(pizza box)等，這些都經過DART-orbitrap MS鑑別後，再一次以UHPLC-IMS-TOF MS確認。而遷移試驗則發現，遷移的速度及程度和待測物與容器介質之極性相符程度有關，QuEChERS方法可用來進行食品基質的前處理。

Roundtable on Good Practices for Establishing Meaningful Specifications for Botanicals in Dietary Supplements and Nutrition: Scientific Perspective

- 除了GAP (Good Agriculture Practice)、GMP (Good Manufacturing Practice)、製造流程的確效(validated manufacturing process，如原料檢驗、線上檢驗、安定性試驗等)等整體管理政策外，歐盟在2006年對草藥膳食補充品(草藥)規格(Specifications for (Herbal) Dietary Supplements)有了規範。
  - 講者Klaus Reif針對該要求，舉例說明在規格上應有的陳述。

Proficiency Testing for Veterinary Drug Residues in Food (1)

- 爲何要進行能力試驗？哪裡可以進行能力試驗？如何進行能力試驗？
  - 講者Eric Verdon以簡單活潑的簡報，以動物用藥殘留爲例來闡明上述問題。
  - 能力試驗執行必須依循ISO 17025：2005及17043：2010之要求，針對各項品質及完整方案予以文件化，而參加能力試驗則可得到實驗室能力評估、矯正措施、預防措施及持續改進等益處。

Proficiency Testing for Veterinary Drug Residues in Food (2)

- 講者Daniel Tholen爲大家說明ISO 13528：2005的發展。
- 由於現行ISO 13528仍存有一些問題，將會持續作出修正，或許在2013/2014年會正式發布。
- 加強對測試物均勻性、可能的誤差等規範外，還將增加新的robust procedures (簡單：中位數、nIQR；複合：Hampel Q)、能力評估的說明(使用D = (xi – X)、D% = (xi – X) / X *100%及PA (percent of allowed error，PA = D/E *100；考量En及zeta)、均勻性及安定性之考量、不確定度評估等。

FSMA's Impact on Laboratories and Food Testing (1)

- 美國「食品安全現代化法案」(Food Safety Modernization Act, FSMA)是在2011年1月4日由歐巴馬總統簽署生效，目的在確保美國境內的食品安全，此法案擴大授權美國衛生部（Department of Health and Human Services, DHHS）下轄之食品藥物管理局（Food and Drug Administration, FDA），在整個食品供應鏈建立全面性、以科學方法爲基礎之預防性控管機制，並幫助FDA在發生食品安全問題時能更迅速地反應與控制危害。

FSMA's Impact on Laboratories and Food Testing (2)

- 講者Shannon Cole解釋，按照FSMA的規定，已在美國完成註冊的外國公司，每兩年都需重新註冊一次。且FSMA要求進口商要採行能夠證明其欲輸入美國境內食品的安全程序，還需證明他們的供應商是遵循了合理恰當的風險預防控制方案。
- 此舉是希望透過食品進口前的嚴格控管，及進口後的定期檢驗，增加美國境內的食品安全，若未合乎FSMA規定，將被強制召回，甚至拒絕入境。
- 因此，食品製造業者在FSMA施行後有了新的責任：對每天作業的影響(食品安全計畫/預防性管控、供應鏈管理、紀錄維護及評估、食品防禦方案)；所有業者的註冊登記(含倉儲及海外業者)，FSMA在食品安全計畫上，是循著危害分析、預防性管控、監測、矯正措施、確認、再分析的軌跡不斷運行，並落實文件化。

FSMA's Impact on Laboratories and Food Testing (3)

- 講者Jonathan DeVries進一步說明該法案施行後對法規檢測實驗室(Regulatory Laboratories)、公司中央實驗室(Company Central Laboratories)、公司工廠實驗室(Company Plant Laboratories)、第三實驗室(Commercial Laboratories)等4種類型實驗室而言，都應符合優良實驗室操作規範(GLP)，提供高品質的分析數據。
- 因此，實驗室都必須使用經過多實驗室確效的分析方法(如，AOAC Official Methods of Analysis)、提供分析人員適當的科學訓練、使用參考物質、以標準參考物質(CRM)來追溯、進行實驗室品質管控來查核樣品、參加能力試驗。
- 未來，FSMA也會透過由每個實驗室通報數據，建構食品緊急事件網絡。

廠商展示會

壁報論文閱覽

- 食因性污染物及殘留物分析(analysis of foodborne contaminants and residues)
- 非食因性污染物及殘留物分析(analysis of non-foodborne contaminants and residues)
- 食品營養及食物過敏原(food nutrition and food allergens)
- 攙假(authenticity)
- 天然毒素之檢驗與量測(detection and measurement of natural toxins)
- 食品安全之突發案件(emerging issues in food safety and security)
- 微生物方法(microbiological methods)
- 績效評估方法 (performance tested methodsSM)
- 植物性藥物及膳食營養補充劑(botanicals and dietary supplements)
- 一般分析方法、品質保證與認證(general methods, quality assurance and accreditation)
- 藥物分析之準確性及安全性 (pharmaceutical analysis, authenticity and safety)

殘留農藥分析

- Use of New Spherical Materials in a Dual-Layer SPE Tube for the Analysis of Pesticide Residues in Spinach
  - 高色素含量的蔬果(如，菠菜)在檢驗時總需較多的淨化步驟，研究者利用新式的Supel Sphere dual-layer SPE淨化管，讓分析步驟更爲簡單，而去除色素的效果很好。取均質後的菠菜檢體10 g，加乙腈10 mL，振搖1分鐘，加入Supel-Q Acetate tube (55234-U)，振搖1分鐘，於3200 rpm離心5分鐘。取上清液12 mL置入含無水硫酸鎂1 g之dSPE，振搖後於3200 rpm離心5分鐘。取5 mL於40ºC乾燥至1 mL，加入甲苯250 µL。SPE淨化管先以乙腈：甲苯(75:25) 10 mL潤洗，注入檢液，立即收集流出液，以乙腈：甲苯(75:25) 20 mL沖提之，合併流出液，以Agilent 7890/5975 GC/MS分析之。

殘留動物用藥分析

- Sensitive and Accurate Multi-Class Multi-Residue Veterinary Drug Analytical Method Validation for Shell Egg Using Liquid Chromatography Tandem Mass Spectrometry
  - 多重分析方法已是農藥及動物用藥殘留檢驗的趨勢，研究者建立了可同時分析帶殼蛋中nitroimidazole、phenicol、β-lactam、quinolone、macrolide、sulfonamide、tetracycline、coccidiostat等歐盟蛋品監測的分屬8類40種動物用藥的殘留分析方法。取檢體2 g置於離心管，以乙腈8 mL攪拌萃取後，加入緩衝液0.5 mL再攪拌萃取4分鐘，於3000xg離心5分鐘。取上清液經C18 SPE淨化，收集流洗液於試管中，再以90%乙腈3 mL沖提之，合併收集液於40ºC乾燥至剩約0.3 mL，以60%甲醇定容至2.0 mL，進行LC-MS/MS (ABSciex 5500 Q-Trap MS)分析，採MRM模式，在15分鐘內可完成儀器分析，而未來本方法還可擴充至水產品及肉品的檢驗。

重金屬分析

- Speciation of Arsenic in Rice Grain, Juice, and Fish Meal
  - 砷可分爲有機砷及無機砷，有機砷有dimethylarsenic acid (DMA)、monomethylarsonic acid (MMA)及arsenobetaine (AsB)，多自尿液中排出體外。無機砷相較而言吸收快速，而其毒性以arsenate, As (V)高於arsenite, As (III)。研究者建立以Hamilton PRP-X100，10 µm，250 x 4.1 mm爲分離管柱，Hamilton PRP-X100爲保護管柱，10 mM (NH4)2HPO4，pH 8.25爲移動相的條件下，同時分析米、魚肉及果汁中5種砷物種(As (V)、As (III)、AsB、DMA及MMA)之分析方法，其線性範圍爲2.5~250 ppm。

無標的物分析

- The Use of Multivariant Analysis for Early Identification of Potential Food or Beverage Adulterations
  - 攙雜可以是不被接受的強化、成分的取代、產品或成分易使人誤解的的標示等。例如，今日的食品和飲料市場，公司所使用的香料來自於全世界，爲了確保品牌，食品和飲料製造商必須保證原料和最終產品沒有攙雜的情形，而能提供豐富訊息的分析方法將能幫助證實原料和成品的品質。牛奶樣品添加melamine、cyanuric acid及5種人畜用藥後，加入10%甲酸(v/v) 1 mL，以vortex振盪15秒，取1 mL加到9 mL含10 mM醋酸銨的ACN/H2O 97/3溶液中，混勻後經0.2 µm PTFE濾膜過濾，以Waters廠牌ACQUITY UPLC串聯Xevo G2 QTof分析，數據經Waters的MSE模式分析，再與UNIFI資料庫比對，篩檢出未知的化合物。

無標的物分析

- Discovery and Identification of Unknown Compounds in River Water by UPLC-QTOF MS
  - 分析環境水中的農藥殘留是一件非常平常的事情，但是人類用藥及其代謝物卻也可能以和農殘相當的含量存於其中，而這兩種其實都會危害水體中的生物及下游住民的健康。這些年來已大量利用Time-of-Flight (Tof)分析技術來篩檢食品及環境中污染物，這種技術因在分析過程中可蒐集更多資訊，因此被拿來與傳統以四極柱的標的物分析區隔，而被稱爲是non targeted的篩檢分析。河水以500 ml經Oasis HLB淨化管柱萃取淨化後，以Waters廠牌UPLC 串聯Xevo G2-S QTof分析，數據在MSE模式下一次分析即蒐集到前驅離子及產物離子之精確質量(*m/z*)，經與Waters的UNIFI資料庫比對，篩檢出未知的化合物。

無標的物分析

- Automated 1H NMR Screening of Vitamin B Tablets using Assure – RMS
  - 自2007年FDA膳食補充品cGMP施行以來，其對品質及安全的要求更趨嚴格，因此製造業者必須要能確認其產品之鑑別、純度、效價、組成。因此方法之現代化便成當務之急，本研究利用1H NMR全自動的來監測維生素B錠。利用同步標的物及無標的物分析趨近(targeted and non-target approach)的Assure-Raw Material Screening (RMS)技術來定性及定量維生素B。這是一個新的分析概念，甚是引起筆者的好奇心，未來評估後或可引入本局，爲無標的分析技術加入新的生力軍。

添加物分析

- Artificial Preservatives in Pet Food: BHT, BHA and Ethoxyquin Extraction by QuEChERS Methodology and Analysis by LC-MS/MS
  - 本研究針對butylated hydroxytoluene (BHT)、butylated hydroxyanisole (BHA)、ethoxyquin這三種抗氧化及防腐成分開發簡單而有效的檢驗方法，利用QuEChERS進行前處理，以Agilent廠牌LC-MS/MS (6460 Triple Quadrupole Mass Spectrometer)分析。取檢體2 g，加入陶瓷均質石2粒，加水8 mL，以vortex振盪1分鐘，加入乙腈10 mL，以vortex振盪1分鐘，加p/n: 5892-5650 QuEChERS，振搖1分鐘，於5000 rpm離心5分鐘。取6 mL萃取液至p/n: 5892-5221淨化管，以vortex振盪1分鐘，於5000 rpm離心5分鐘。取700 µL上清液以氮氣吹乾，以700 µL的ACN/H2O 1/4溶液回溶，經0.45 µm濾膜過濾，以Agilent Poroshell 120 SB-C18 LC column管柱，進行LC-MS/MS分析。其方法簡單，且回收率及再現性均佳。

專家交流

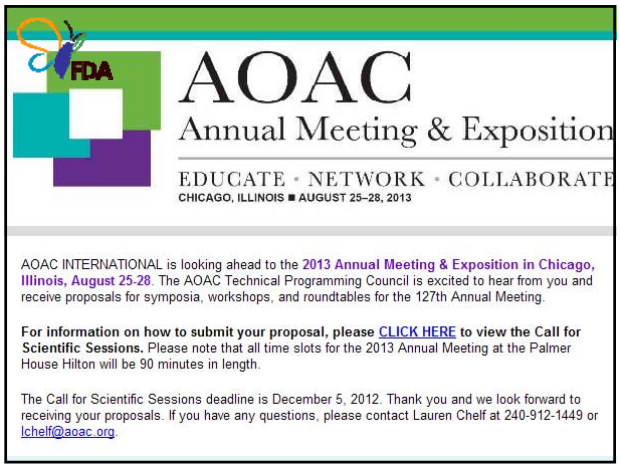
- 養足充沛的體力，穿梭於各不同領域的演講及討論會。
- 睜大眼睛尋找舊識並結交新知，尤其是可經由任職於美國FDA、加拿大衛生部的華人友人協助，結交更多的專家學者，建立日後聯繫的管道。
- 保握機會介紹台灣。
- 每一次的國際交流，都會建立一些人脈網絡，透過不斷的接觸，這個網絡就可越擴越大、越來越綿密，對日後方法建立及研究當可助益良多。

心得

- 提供各界一個資訊交流的平台，舉辦各領域檢驗方法之討論會及審查會，在方法產出過程中激烈但不紊亂的討論及攻防過程，見識到分析先進們對其研究之深度及廣度。
- 高解析度質譜分析技術已是趨勢，無標的物分析技術亦漸獲重視。
- 由於消費意識抬頭，食品污染物之分析是本次會議的重點，尤其是動物用藥、農藥殘留、黴菌毒素、海洋毒素的分析，佔了會議過半的時段。
- 在會議中禁止對簡報的攝影，壁報展示區域亦立牌禁止攝影，所有資料的取得，必須透過向發表者索取，這是一種對研究者的基本尊重。
- AOAC對於分析方法之制定有一套嚴謹之程序，其所制定的方法已是國際間公認參採的方法，爲進一步肩負國際間方法調和的角色，能與ISO作一連結，Official Method Board統籌負責AOAC方法制訂之執行。
- 參加AOAC台灣分會及亞洲分會聯合會議，可就近尋求檢驗技術上之合作空間。

建議

- 透過AOAC台灣分會之引介，擴大參與AOAC INTERNATIONAL分析方法之專家討論活動。藉以增加我國食品分析各相關領域在國際發聲之機會。
- AOAC年會是極佳的學習與交流平台，除吸收相關領域之新知外，亦可與會中專家學者彼此交換資訊，有利於工作之發展，建議讓更多同仁有機會參與，以掌握最新資訊，維繫建立不易的人脈網絡，並擴大交流。
- 安排互訪活動，邀請國際專家學者至台灣舉辦檢驗技術研討會，也可派員至建立之友好專家實驗室進行長、短期之檢驗研究訓練。



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The Call for Scientific Sessions deadline is December 5, 2012. Thank you and we look forward to receiving your proposals. If you have any questions, please contact Lauren Chelf at 240-912-1449 or lchelf@aoac.org.