

## KENNETH G. FURTON

---

Florida International University, Office of the Dean, DM445C, University Park,  
Miami, Florida 33199; Tel: (305)-348-6546; Fax (305)-348-4172; [furtonk@fiu.edu](mailto:furtonk@fiu.edu)

## EDUCATION

---

- 1986-1988 Coleg Y Brifysgol Abertawe (University College of Swansea), Wales, U.K.  
Postdoctoral Research Associate
- 1983-1986 Wayne State University, Detroit, MI  
Ph.D. in Chemistry (Analytical) with a minor in Biology
- 1980-1983 University of Central Florida, Orlando, FL  
B.S. in Forensic Science with a minor in Chemistry

## EXPERIENCE

---

- 2006-present Associate Dean for Budget, Facilities and Research, College of Arts & Sciences,  
FIU, Miami, FL
- 2004-2006 Interim Associate Dean of Research, College of Arts & Sciences, FIU, Miami, FL
- 2001-2006 Associate Dean, Budget & Facilities, College of Arts & Sciences, FIU, Miami, FL
- 2005-present Co-Director and Director of Strategic Planning and Research, IFRI, FIU, Miami,  
FL
- 1997-2005 Founding Director, International Forensic Research Institute (IFRI), Miami, FL
- 1996-2003 Founding Director, FIU Forensic Science Certificate Program
- 1988-2003 Director, Criminalistics Chemistry Program, FIU, Miami, FL
- 2001-present Professor, Department of Chemistry and Biochemistry, FIU, Miami, FL
- 1997-2001 Chair, Dept. of Chemistry, Florida International University (FIU), Miami, FL
- 1993-2001 Associate Professor of Chemistry, Department of Chemistry, FIU, Miami, FL
- 1994-1997 Graduate Program Director, Department of Chemistry, FIU, Miami, FL
- 1988-1993 Assistant Professor of Chemistry, Department of Chemistry, FIU, Miami, FL
- 1989-1995 Adjunct Professor, Department of Marine and Atmospheric Chemistry  
University of Miami-RSMAS, Miami, FL

- 1986-1988 Lecturer, Senior Research Asst., Chemistry Dept., Univ. of Wales, Swansea, U.K.  
Postdoctoral Research Assistant, British Nuclear Fuels (BNFL), Sellafield, U.K.
- 1983-1986 Graduate Research/Teaching Assistant, Department of Chemistry  
Wayne State University, Detroit, MI
- 1985-1986 Research Consultant, Departments of Pharmacology and Pathology  
Wayne State University Medical School, Detroit, MI
- 1983 Forensic Science Intern, Chemical Analysis Unit  
Crime Laboratory, Detroit Police Headquarters, Detroit, MI
- 1981-1983 Student Escort/Patrolman, University of Central Florida Police Department  
Lab/Research Asst., UCF Chemistry Department, Orlando, FL

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

- American Chemical Society - Past Chairman, South Florida Section 1993-94  
American Academy of Forensic Sciences  
American Society of Crime Laboratory Directors (Academic Affiliate).

#### AWARDS AND HONORS

- 1984 Phi Lambda Upsilon (National Honorary Chemical Society)  
1985 Thomas C. Rumble University Graduate Fellow  
1986 David F. Boltz Award in Analytical Chemistry  
1993 FIU Foundation Excellence in Research Award  
1996 FIU Foundation Excellence in Teaching Award  
1996 International Association of Forensic Sciences Young Investigators' Award  
1997 California Narcotic Canine Association (CNCA) Appreciation Award  
1998, 99 FIU Faculty Senate Service Award (For Service as Chair of Univ. Library Cmt.)  
1999 FIU Faculty Senate Service Award (For Service on Research I Task Force)  
1999 Florida SUS Board of Regents Teaching Incentive Program Award  
2000 Metro-Dade K9 Training Center Appreciation Award  
2001 FIU Foundation Excellence in Service Award  
2001 U.S. State Department/Metro-Dade K9 Training Center Appreciation Award  
2001 Special Achievement Award (for 11 years of service to FIU Libraries)  
2002 Pacific Northwest Police Detector Dog Association Appreciation Award  
2003 National Academy of Sciences Panel Invitee "Biotechnology Applications for  
Improving the Detection Capabilities of Canines"  
2003 Recognition of Commitment and Service to the ACS Project SEED Program  
2004 Appreciation Award from Florida Highway Patrol Academy  
2005 FIU Council of 100 Outstanding University Professor Award  
[http://news.fiu.edu/releases/2005/11-03\\_furton.htm](http://news.fiu.edu/releases/2005/11-03_furton.htm)

2006 Appreciation Award for Outstanding Contributions to the Ronald E. McNair Post Baccalaureate Program

2007 Appreciation Award for service as Advisor for FIU's Chapter of the Lambda Chi Alpha Fraternity (Chartered as Pi Phi Zeta)

FIU SERVICE (to the University)

---

- 2004-present Associate Dean of Budget, Facilities and Research, College of Arts & Sciences  
The mission of the Office of Research at the College of Arts and Sciences is to meet the administrative needs of the College's research community including helping to identify, obtain, and administer external research funds (current total C&G annual budget of approximately \$35M). Staff includes an Assistant Director of Research, a grant specialist, a financial manager and an office assistant. The Office of Research also coordinates with accountants in departments and Centers and Institutes where Arts & Sciences faculty are affiliated. Also oversee and have signature authority on all College E&G accounts (approximately \$55M), foundation accounts (approximately \$10M) and auxiliary accounts (approximately \$2M).
- 2001-present Associate Dean, College of Arts & Sciences Office of Budget and Facilities  
The areas of responsibility for this office include all issues of college budget planning and management (current total E&G annual budget of approximately \$56M) as well as current space allocations/maintenance and future space and emergency planning. This office coordinates facilities management and inventory, faculty contracts and adjunct contracts. In addition, the office works with most of the staff and administrators in the College on issues including enrollment and adjunct budgets, C&G and Recharge Center funds, Graduate Stipends and Assistantships, private funding, and staffing and salary models. Budget office staff includes a budget coordinator, two accountants, a senior secretary and a coordinator of administrative services. Outreach and On-line program staff includes a Director and a program assistant.
- 2005-present Co-Director, International Forensic Research Institute (IFRI)  
Director of Strategic Planning and Research, International Forensic Research Institute (IFRI). Annual budget of approximately \$1M.
- 1997-2005 Director, International Forensic Research Institute (IFRI)  
Founding director of this SUS BOR Type II Center. IFRI was the first academic Forensic Center approved by the State in 1997. IFRI houses the first State approved M.S. program in Forensic Science started in 1998 currently with approximately 30 students and will coordinate a new Ph.D. program Fall 2004. FIU was one of the first 5 forensic science programs in the country accredited by the American Academy of Forensic Sciences in 1994. IFRI supports various teaching, research and service activities including establishing the first statewide canine detection team certification program with independent scientific validation, an innovative

proficiency test program used in crime laboratory certifications and a variety of casework support.

- 1997-2004 Director, FIU Forensic Science Certificate Program  
Founding director of FIU's undergraduate Certificate in Forensic Science with approximately 40 students.
- 2004-present Committee member, FIU Forensic Science Certificate Program
- 2005 Member, Search and Screen Committee for Director of Academic Space
- 2006-present Member, Disaster Resistant University (DRU) Advisory Council  
Committee charged with developing a comprehensive DRU Hazard Mitigation Plan based on an assessment of the risks, vulnerabilities and the priorities of FIU. Funded by FEMA, the plan is intended to increase FIU's eligibility for future funding and reduce the impact of hazards the University may face.
- 2006-present Member, Intellectual Property Advisory Committee  
Committee charged with reviewing invention disclosures and pertinent background information, and advising on patenting scientific and commercialization concerns.
- 2005-present Member, Dissertation Year Fellowship and Presidential Awards Evaluation Committee  
Committee charged with evaluating applications for University Dissertation Year Fellowship and Presidential Awards
- 2005-present Member, Cyberbridges Advisory Committee  
Committee charged with evaluating proposals for graduate fellowships integrating Cyber-Infrastructure including high-performance networking and grid computing into science and engineering projects.
- 2005-present Member, FIU On-Line Task Force  
Committee charged with evaluating the current on-line courses and programs at FIU and developing a strategic plan for the future of on-line learning at FIU.
- 2004-2006 Member, FIU Marketing Task Force  
Committee charged with development and implementation of institutional marketing and branding campaign.
- 2004-2005 Member, Sponsored Research Management Council  
The purposes of this Council are to establish policies and procedures for sponsored research and to discuss and find solutions to issues connected with submission and management of sponsored projects.

- 2004-2005 Member, FIU Centers & Institutes Work Group  
Committee charged with recommending improvements in grouping of centers and policies and procedures.
- 2004-2005 Member, FIU Continuing Education Task Force  
Charged with reviewing all policies and charging practices related to continuing off campus credit/non-credit programs
- 2003-2004 Member, FIU Medical School Task Force  
Represented A&S along with Kelsey Downum at meetings of the Medical School Task Force co-chaired by T. Breslin and R. Berkman.
- 2004-2005 Member, Research Libraries Planning Group (charged with detailing the components needed to implement the research library mission)
- 2002-2003 Member, Building Planning Committee. Consisting of Deans of CHUA, Architecture and Arts & Sciences to discussions solutions to recurring problems with construction of new buildings.
- 2002-2003 Member, Cross-functional action planning committee on Financial Infrastructure
- 2006-present High Pi, Colony 330, Lambda Chi Alpha Fraternity at FIU  
Successful colonization of Pi Phi Zeta (chapter) chartered on April 21 2007
- 2004-present Member, Alumni Advisory Board, Lambda Chi Alpha Colony at FIU
- 2001 Founding Faculty Advisor, Lambda Chi Alpha Fraternity at FIU - Colony 330
- 2001-present Library Committee A&S Dean's Office Representative
- 1997-2001 Member, AMSF University Advisory Committee
- 2000-2002 Member, Faculty Advisory Board, FIU College of Law
- 2000-2001 Member, Information Ecology Committee (examined our changing information ecology at FIU and proposed strategies and action steps to reduce the "distance" between the libraries and the student user)
- 2000 Author of Faculty Senate Report on the Impact of the FIU Law School on the Library
- 96-98, 00-01 Senator representing the College of Arts & Sciences, FIU Faculty Senate
- 1996-2001 Chair, Faculty Senate Library and Media Committee

- 1998-2000 Chair, SACS Self-Study Library, IS & IT Committee (Library, Instructional Support & Information Technology Resources and Systems)
- 1999 Co-author of the “Makemson-Furton Report” to the Faculty Senate on the analysis of the termination of the Department of Medical Laboratory Sciences
- 1999 Helped select and hosted USF consultant reviewing the Department of Medical Laboratory Sciences and possible restructuring of the program
- 1995-1996 Mentor for the Florida-Georgia Alliance for Minority Participation (FGAMP) in Science, Engineering and Mathematics Scholarship Program at FIU
- 1991-1993 University Library ILL Committee
- 1988-1989 University Committee on New Faculty Orientation

FIU SERVICE (to the College)

---

- 2000-2001 Member, College of Arts & Sciences Technology Advisory Group
- 1990-2002 Chair, College of Arts & Sciences Library and Media Committee
- 1997 FIU Presidential Quality Improvement Program (QIP) Award, \$500,000 to set-up Advanced Mass Spectrometry Facility (AMSF). Prepared winning proposal and presentation with R. Jaffe and the support of the Dean’s office.
- 1994 Teaching Incentive Program (TIP) Committee Member
- 91-92, 94-95 FIU College of Arts & Sciences Procedural Committee

FIU SERVICE (to the Department)

---

- 2003-2004 Member, Forensic Scientist Search Committee
- 2002-2003 Chair, Forensic Chemist Lecturer Search Committee
- 1998-present Forensic Science M.S. Graduate Committee Member
- 1990-2004 Chemistry Department Graduate Committee Member
- 1988-2003 Director, Criminalistics Chemistry Program
- 1997-2001 Chair, Department of Chemistry
- 1997-2001 Member, AMSF Technical Committee

- 1988-2001 Library Committee Department Representative (/alternate), Chemistry Department
- 1997-1998 Member, Chemistry Department Lab/Space Oversight Committee
- 1996-1998 Chair, Analytical Chemist Search Committee
- 1988-93,97-98 Faculty Advisor, FIU Chapter, ACS Student Affiliates  
*Named "Commendable" Chapter '92/'93; "Outstanding" ACS Chapter '97/'98*
- 1993-1997 Faculty Co-Advisor, FIU ACS Student Affiliates Chapter  
*Named "Outstanding" ACS Chapter '93/'94, '94/'95, '95/'96, '96/'97*
- 1996-1997 Member, SERP/Chemistry Search & Screen Committee (2 half-lines filled)
- 1996-1997 Member, Chemistry Department By-laws Committee
- 1996-1997 Chair, Chemistry Department Differential Assignment Committee
- 1994-1997 Director, Chemistry Department Graduate Program
- 1993-1996 Joint FAU/FIU Chemistry Ph.D. Proposal Committee
- 1993-1994 Chair, Chemistry Department Budget Committee
- 1992-1994 Chair, Chemistry Ph.D. Proposal Committee
- 1992-1995 Laboratory Oversight Committee
- 1988-1996 Chemistry Department Budget Committee Member
- 1989-1991 Chair, Environmental Chemist Search Committee

PROFESSIONAL SERVICE (to Associations/Societies)

---

- 2003 Invited Attendee of the National Academy of Sciences Group on Terrorism and Canine Detection. Workshop on "Biotechnology Applications for Improving the Detection Capabilities of Canines" held March 18-19, 2003 in Washington, DC.
- 1999-present Elected Board Member of the California Narcotic Canine Association (CNCA) including writing science columns for association newsletters.
- 1998-present Coordinator, IFRI/NFSTC Florida Statewide Detector Dog Trainer and Team Certification Program. Certified more than 100 Drug and Explosives Detection Teams annually).

- 1998-2002 Member, Florida Forensic Center Consortium (F2C2) meeting twice a year with other F2C2 member centers.
- 1998-2001 Member, Ad-Hoc Committee on the Feasibility of Student Affiliate Chapters of the American Academy of Forensic Sciences
- 1998-2001 Member, American Society of Crime Lab Directors Education Committee
- 1996-2005 Member, Council on Forensic Science Education, American Academy of Forensic Sciences
- 1993-present Reviewer for proposals submitted to the *National Science Foundation-Chemistry Division*, *ACS PRF*, *National Institute for Occupational Safety & Health*, and the *Department of Energy*.
- 1989-present Reviewer for articles in *Analytical Chemistry*, *Journal of Chromatography*, *Journal of Chromatographic Science*, *J. Chem. Ed*, *Environ. Sci & Technol.*, *J. Microcol. Sepn.*, *J. Assoc. Off. Anal. Chem*, *Ind. Eng. Chem. Res.* and *Analytica Chimica Acta*,
- 1989-2005 Member of Committee E-30 on Forensic Sciences for the American Society for Testing and Materials (ASTM)
- 1996-1999 Member, International Sub-Committee on Standards in Forensic Science Undergraduate Education, American Academy of Forensic Sciences
- 1995 Immediate Past Chair and Chairman, Long Range Planning, South Florida Section, American Chemical Society
- 1994 Chairman, South Florida Section, American Chemical Society
- 1993 Chair-elect and Program Chairman, South Florida Section, American Chemical Society
- 1991-1996 Reviewed books for *Trends in Analytical Chemistry (TRAC)* and *ACS Books*
- 1993-1995 Midwest Research Institute Committee on SFE Methods Standardization.
- 1993-1996 Team member, Project IV: South Florida Oil Spill Shoreline Protection and Countermeasures: A Study Project for the Initiation of the South Florida Oil Spill Research Center, RSMAS, University of Miami.

PROFESSIONAL SERVICE (to the Community or Public)

- 2003-present Volunteer Pit Reporter, American Le Mans Series (ALMS) Trackside Media, International Motor Sports Association (IMSA), Braselto, GA
- 2003-present Den Leader, Pack 530, Miami, Florida, Cub Scouts of America
- 1992-present Lab Director for Community Laboratory Research Program through Dade County Public Schools (1-2 students each year).
- 1988-present Guest Speaker/Career day participant at local Elementary schools and Senior high schools. Sunset Senior High and Kendale Lakes Elementary
- 1989-present Science Fair Judge including Captain of Judging Teams for the South Florida Science and Engineering Fair
- 1994 Committee Member, Dade County Public Schools, Division of Mathematics and Science  
Review of Competency Based Curriculum for the Sciences as part of the National Science Foundation grant Urban Systemic Initiative
- 1989-93,95,98 Sponsoring preceptor of NSF Young Scholars/Project SEED Program students
- 1992-93,96,97 Sponsoring preceptor of Project SEED Summer II Program students
- 1988-1997 FIU/ACS Chemathon participant and speaker on "What Chemists Do"
- 1991-1997 Participant in "Third Grade Demonstration Project" performing chemical demonstrations for local elementary schools
- 1999 Hosted Feb. 29th campus tour and lectures (H. Averch, S. Kakar, K. Condon and K. Furton for 65 students from Coral Reef High School's Criminal Justice Academy.

#### RECENT MEDIA COVERAGE EXAMPLES

---

Featured in New York Times Science Section Article "With Dog Detectives, Mistakes Can Happen" published on December 24, 2002.

Featured in FIU news article "FIU Institute Advances Science of Detector Dogs" on FIU home page in May, 2003.

Featured in AP article "Experts: Scent Damaging to Peterson Defense" published March 1, 2004 on ABC7News.com

Featured in Forensic Magazine article "Scents and Sense-Ability" published April/May 2006.

## PROFESSIONAL SERVICE (remunerated)

---

- 1996-present Qualified as an expert witness in Analytical Chemistry and Forensic Science. Testified approximately a dozen times including depositions, probable cause hearings, federal grand jury and in jury trials in federal and state court on behalf of both the prosecution and defense.
- 2002-present Consultant, National Nuclear Security Administration (NNSA), reviewer of research projects being conducted in National laboratories.
- 1998-1999 Consultant, Department of Energy/Federal Bureau of Investigation "Law Enforcement: Forensic R&D Initiative". Selected as one of four academics in U.S. to assist the DOE with first meeting held in Washington involving V.P. Gore and Cabinet Secretaries Pena, Rubin, and Reno.

## TEACHING EXPERIENCE

---

### FLORIDA INTERNATIONAL UNIVERSITY (Fall 1989-Spring 2004)

- CHM 1032 Chemistry & Society (Summer A 1991, Summer B 1992, Summer B 1993, Fall 1994, Summer 1994, Fall 1995, Summer 1995, Summer 1996, Spring 1996, Spring 1997, Summer 1997, Spring 1998, Summer 1998, Fall 1998, Spring 1999, Fall 1999, Fall 2000, Spring 2001, Fall 2001, Fall 2002, Fall 2003, Fall 2005)
- EVR 3011 Environmental Resources and Pollution (Summer B 1992, Summer B 1994 - team taught with Pam Shlachtman)
- EVR 3011L Environmental Resources and Pollution Lab (Summer B 1992, Summer B 1994)
- CHM 3120 Quantitative Analysis (with Z. Morales-Martinez Fall 1988)
- CHM 3120L Quantitative Analysis Laboratory (Fall 1988, Summer 1989, Fall 1989, Summer C 1990, Summer 1991, Fall 1991).
- CHS 3501 Survey of Forensic Science (Spring 2006, Spring 2007)
- CHM 4130 Modern Analytical Chemistry (Spring 1989, Spring 1990, Spring 1991, Spring 1992, Spring 1993, Spring 1996)
- CHM 4130L Modern Analytical Chemistry Laboratory (Spring 1989, Spring 1990, Spring 1991, Spring 1992, Spring 1993, Spring 1994).
- CHS 4591 Internship in Criminalistics Chemistry/Internship in Forensic Science (Spring/summer semesters 1988-2000).
- CHM 4910L Undergraduate Research in Chemistry (Summer 1990 – present)
- CHM 4911 Undergraduate Research 2 (Spring 1998, Summer 1998, Summer 1999, Fall 1999)
- CHM 4930 Senior Seminar (Spring 1996)
- CHM 4990 Separation Science (Fall 1996)
- CHS 4993 Forensic Science (Spring 1996, Spring 1997)
- CHM 5150 Graduate Analytical Methods (Spring 1990, Spring 1994, Spring 1996)

- CHM 5156 Advanced Chromatography (Fall 1993, Fall 1994, Fall 1996, Spring 2000, Spring 2002, Spring 2004 – team taught with Alberto Sabucedo performing majority of lectures)
- CHM 5181 Special Topics in Analytical Chemistry (Fall 1988, Fall 1989, Fall 1990, Fall 1991, Summer 1995); Under different names each time.
- CHS 5531 Forensic Analysis (Fall 1992, Spring 1993, Spring 1994, Spring 1996, Spring 1997)
- CHS 5531L Forensic Analysis Lab (Fall 1992)
- EVR 5936 Topics in Environmental Studies (Summer B 1992)
- CHM-5995 Chemistry and Analysis of Drugs (Spring 2002) team taught with J. Almirall
- CHM 5996 Principles of Chemical Instrumentation (Summer A 1990)
- CHM 6905 Independent Study in Chemistry (Fall 1989, Spring 1990, Fall 1994, Summer 1997, Fall 1998, Summer 1998)
- CHM 6910L Graduate Research in Chemistry (Spring 1989, Summer C 1990, Fall 1990, Spring 1991, Fall 1991, Fall 1992, Fall 1993, Spring 1994, Summer C 1994, Fall 1994, Spring 1995, Summer 1995, Fall 1995, Spring 1996, Summer 1996, Fall 1996, Spring 1997, Summer 1997, Fall 1997)
- CHM 6935 Graduate Seminar (Fall 1995/Spring 1996 Team taught)
- CHM 6970 Thesis Research (Summer 1990 – present)
- CHM 6971 Thesis (Fall 1991 – present)
- CHM 7980 Doctoral Dissertation (Fall 2000 – present)
- CHM 7984 Dissertation Research (Spring 1998 – present)

UNIVERSITY OF WALES, Swansea, U.K.: Honorary College Lecturer - Forensic Analysis [for second and final year honours students] (1987, 1988).

FLORIDA STATE UNIVERSITY LONDON STUDY CENTER, London, U.K.: Lecturer - Science and the Law, Forensic Science in Britain and America (1987,1988).

WAYNE STATE UNIVERSITY, Detroit, MI: Substitute Instructor - Analytical Chemistry (Winter 1985, Winter, 1986). Teaching Assistant - Principles of Chemistry, Honors General Chem, Organic Chemistry, Survey of Analytical Chemistry, Instrumental Analysis (1983-1986)

#### UNDERGRADUATE RESEARCH PROJECTS DIRECTED

1. Cindy Cork Summer C 1990 & Fall 1990, "Comparison of Nonaqueous Reverse-Phase High Performance Liquid Chromatography to Supercritical Fluid Chromatography for Polycyclic Aromatic Hydrocarbons".
2. Carlos Blanco Summer C 1990 & Fall 1990, "Ambiguities Associated with the use of McReynolds Constants for Evaluating the Polarity and Selectivity of Very Polar Gas Chromatographic Stationary Phases".

3. Ana Suarez Fall 1990, Spring 1991, "Gas-liquid Chromatographic Enantiomorphic Resolution Using a Liquid Organic Salt Column".
4. Aldo Calvo Spring 1991, Fall 1991, "Correction of McReynolds Constants for Gas-Liquid Interfacial Adsorption and Probe Reactivity When Evaluating Very Polar Gas Chromatographic Stationary Phases".
5. Fei Mak Spring 1991, "Comparison of Liquid Coated and Bonded-Phase Liquid Organic Salts as Selective Gas Chromatographic Packings".
6. Veronica V. del Carril Spring 1991, "Kinetic Experiments of Carcinogen-DNA Reactivity Using High Performance Liquid Chromatography".
7. Dennise Haughton Spring 1991, Fall 1991, "Comparison of Supercritical Fluid Extraction to Conventional Extraction Techniques".
8. Bobby Glickman Summer C 1991 & 1992, "Gas-liquid chromatographic stationary phase properties of free and polymer-bound pyridinium 4-toluenesulfonate".
9. Gretchen Pentzke Fall 1992, Spring 1993, "Extraction and Analysis of Polycyclic Aromatic Hydrocarbons from Environmental Samples".
10. Peter Cabauy Fall 1993, Spring 1993, "Development of Novel Methods For Studying Surfactant Solutions Above Critical Micelle Concentrations"  
  
Winner of the Undergraduate Award at the National Science Foundation Conference on Diversity in the Scientific and Technological Workforce, Washington, D.C., October 28-30, 1993.  
  
Fall 1994, Spring 1995, Summer 1995, "Kinetics of the Supercritical Carbon Dioxide Extraction of Model Adsorbents: C18 and Phenyl-bonded silica".
11. Judith Jean-Louis Spring 1993 & Summer 1993, "Enzymatic and Mechanical Sample Preparation For Biological Samples Prior to Supercritical Fluid Extraction".
12. Barbara Viniegra Fall 1994, Spring 1995, Summer 1995, "Kinetics of the Supercritical Carbon Dioxide Extraction of Model Adsorbents: Silica and Alumina".
13. Arold Norelus Fall 1994, Spring 1995, Summer 1995, "Speciation of HOCs in Recent Sediments using Supercritical Carbon Dioxide".
16. Docten S. Serralta Fall 1995, "Establishment of Methyl Benzoate as the Primary Odor in Canine Alerts to Cocaine".
17. Silvio A. Restrepo Fall 1995, "The Source of Methyl Benzoate Found in Cocaine Specimens".

18. Pedro Lagos Spring 1996, "Methyl Benzoate Diffusion in Different Polymeric Containment Devices".
19. Nayiby Alvarez Spring 1996, "Methyl Benzoate Discrimination and Detection Capabilities of Canines and Humans".
20. Frances Lopez Fall 1996, Spring 1997, Summer 1997, "Controlled Diffusion Devices for Use in Canine Olfactometry"
21. Arold Norelus Fall 1997, Spring 1998, "Field Application of Controlled Drug Odor Diffusion Devices"
22. Claudia Lopez Fall 1997, Spring 1998, "The Analysis of Hydrocarbon in Geological Samples with Subcritical Water Extraction/SPME/GC"; Fall 1998, Spring 1999, Fall 1999, "Optimization of a SPME Procedure for the Analysis of Drug Odor Signatures on Currency"
23. Jonia Prieto Spring 2001/Fall 2001, "Evaluation of Free and Bound Cocaine on Circulated U.S. Paper Currency"
24. Diana Sum Fall 2001/Spring 2002, "Preferential Extraction of Homologous Series with Different Functional Groups Comparing Charcoal Adsorption to Solid Phase Microextraction.  
2002-2003 ASCLD Scholarship Winner (one of only 3 in U.S.A.)
25. Bolanle Alade Spring 2003, Summer 2003, "Controlled permeation of odors from human remains as unique training aids for research and certification of cadaver dogs"
26. Somi Bonne Fall 2002, Spring 2003, "Evaluation of storage devices for restricting and controlling odor permeation"
27. Farzan Khodadadi Spring 2003, Summer 2003, Fall 2003, "Explosive odor compositions, diffusion and permeation under various laboratory and field conditions"
28. Wilma Jeffris Spring 2004, Summer 2004, "Identification of odor signature compounds in decomposing human blood used by cadaver dogs to detect human remains"
29. Alisha Latham Spring 2004, Summer 2004, "Development of improved pseudo narcotic training aids for cocaine and 3,4-Methylenedioxymethamphetamine.
30. Paola Prada Summer 2004, Fall 2004, "Comparison of Extraction Methods for the Elimination of VOCs Present in Sorbents Used for Human Scent Evidence Collection." FIU's first every B.S. Honors Thesis graduate

31. Jessica Wirks      Spring 2006, Summer 2006, ““Optimization of Sorbent Materials for the Collection and Analysis of Human Scent”
32. Lilian Garcia      Summer 2006
33. Yenisey Velar      Summer 2006
34. Linda Calvo      Spring 2007
35. Sally Garcia
36. Mailyn Vega
37. Philip Davis      Spring 2007, Summer 2007, “ Evaluation of potentially interfering organic chemicals in breath alcohol measurements”.

HIGH SCHOOL STUDENT RESEARCH PROJECTS DIRECTED  
(ACS SEED/NSF YOUNG SCHOLARS)

1. Adriana Mantilla      Summer C 1989 (SEED I), "Evaluation of Laundry Detergents Containing Anionic Surfactants as Column Packings in Gas Chromatography".
2. Maria I. Perez      Summer C 1990 (SEED I), "Polarity and Selectivity of Ionic Gas Chromatographic Stationary Phases: Comparison of Anionic Detergents to Conventional Molecular Liquids".
3. Arold Norelus      Summer C 1991 (SEEDI), "A Novel Colorimetric Method for Determining the Critical Micelle Concentration of Aqueous Surfactant Solutions".
4. Cristina Ferro      Summer C 1992 (SEEDI), "Comparison of the Physical Properties and Efficacy of Regular and 'Ultra' Laundry Detergent Powders".
- Arold Norelus      Summer C 1992 (SEEDII), "The Gas-Liquid Chromatographic Stationary Phase Properties of Detergent Powders Used as Column Packings".  
  
1992 South Florida Regional Science & Engineering Fair: Superior, Florida State Science & Engineering Fair: 5th Place.
- Cristina Ferro      Summer C 1993 (SEEDII), "Inexpensive Gas Chromatography Experiments Utilizing Commercial Detergent Powders Containing Anionic, Non-ionic and Mixed Surfactants".
5. Angena Norelus      Summer C 1995 (SEEDI), "The Chemical Development of Latent Fingerprints Exclusiviely Employing Consumer Products".

- Angena Norelus Summer C 1996 (SEEDII), "Comparison of Chemical Development Methods for Latent Fingerprints from Different Surfaces".
6. Jude Norelus Summer C 1998 (SEED), "Manipulation of Latent Fingerprints Developed with Consumer Products".
- Jude Norelus Summer C 2000 (SEEDII), "The Environmental Stability of Latent Fingerprints Chemically Developed".
7. Emmanuel Norelus Summer C 2001 (SEEDI), "Identification of 3,4-Methylenedioxymethamphetamine byproducts by SPME/GC/MS".

DADE COUNTY PUBLIC SCHOOLS COMMUNITY LAB RESEARCH INTERNSHIPS

- Arold Norelus August 1992 - June 1993, "Comparison of Anionic, Cationic and Non-ionic Surfactant CMCs Using a New Visualization Technique".  
Miami Edison SHS 1993 South Florida Regional Science & Engineering Fair: Superior & Best Physical Science Project, Florida State Science & Engineering Fair: 3rd Place.
8. Michael L. Sarkees August 1993 - June 1994, "Undergraduate experiments and demonstrations of the physicochemical properties of micellar solutions".  
Miami High Valedictorian 1994 South Florida Regional Science & Engineering Fair: Superior
- Angena Norelus August 1994 - June 1995, "A latent fingerprint detection experiment utilizing exclusively consumer products".  
Miami Edison SHS
9. Jessica Carranza August 1994 - June 1995, "Comparison of methods to accurately determine critical micelle concentrations".  
Coral Park SHS
- Jessica Carranza August 1995 - June 1996, "Surface Tension Measurements by Conventional Tensiometry and a Hanging Drop Method".  
Coral Park SHS
10. Ofelia Rodriguez August 1995 - June 1996, "Intermolecular Attractions and Surface Cleaning of Semiconductor Surfaces with Supercritical Fluids"  
Holmes Braddock HS
11. Jose Marquez August 1996 - June 1997, "Aromascan: Theory and Practice of Chemical Sensor Technology"  
Miami Killian SHS
12. Simon Gil August 1996 - June 1997, "Chemical Development of Latent Fingerprints and Computer Digitization"  
Holmes Braddock HS
13. Michelly Wei August 1997 - June 1998, "Optimization and Comparison of Chemical Fingerprint Development Methods"  
Miami Killian SHS
14. David Leon August 1998-June 1999, "Undergraduate Experiments Demonstrating

Miami Springs SHS Aquarium and Swimming Pool Chemistry".

15. Ying Chen August 1999-June 2000, "Evaluation of Primary Odor Chemicals Used by Miami Palmetto SHS Drug and Explosives Detector Dogs".

16. Vanessa Cabrera August 2000-June 2001, "Speciation of Drugs on Currency in General Coral Reef SHS Circulation"

17. Michael Chow August 2002-June 2003, "Identification of Active Odor Signature Cpd in Drugs and Human Remains"  
Miami Sunset SHS in Drugs and Human Remains"  
Valedictorian Semifinalist, Intel Science Talent Search – Stanford Early Acceptance

18. Scott Rabin August 2003-June 2005, "Uniqueness of Human Scent from Identical Miami Palmetto SHS Twins".

19. Carlos Ramirez August 2005-June 2006, "Dissipation of Human Scent Components and HS Automated Analysis of Identified Components".

#### GRADUATE THESES DIRECTED

---

1. Raul Morales, The Effect of Anion Chain Length on the Solvent Properties of Liquid Tetra-n-butylammonium n-alkylsulfonate Salts Studied by Gas-Liquid Chromatography (M) 1991.
2. Joseph Rein, The Relative Effect of Experimental Variables on Analytical Supercritical Fluid Extraction Efficiencies and Correlations with Chromatographic Data (M) 1991.
3. Qiang Lin, Variation in the Supercritical Fluid Extraction of Polychlorinated Biphenyls as a Function of Sorbent Type, Extraction Cell Dimensions, and Fluid Flow Rate (M) 1992.
4. Ethon Jolly, The Selective Elution of Analytes from Solid Phase Extraction Sorbents by Supercritical Fluid Extraction (M) 1993.
5. Regina Vichot, Reversed-Phase Ion-Pair High Performance Liquid Chromatography of Low Molecular Weight Organic Acids With Indirect Photometric and Luminescence Detection (M) 1993.
6. Chia-Wen Huang, High Temperature Supercritical Fluid Extraction of Hydrocarbons from Ancient Sediments, (M) 1994.
7. Yu-Min Gong, Experimental Parameters Controlling the Supercritical Fluid Extraction of Hydrocarbons, co-advisor with R. Jaffe, (M) 1995.
8. Alberto J. Sabucedo, Development of Modifier Probes for the Selective Extraction of Drugs from Sorbents and the Supercritical Fluid Extraction of Drugs of Abuse from Human Tissues (M) 1995.

9. Yi-Cheng Hong, The Chemical Basis of Cocaine Detection by Canines and its Significance to the Contaminated Money Theory, (M) 1995.
10. Li Chen, Speciation of Uranium and Organic Compounds on Solid Matrix Studied by Supercritical Fluid Extraction, joint project with R. Jaffe, (M) 1996.
11. Doraida Diaz, Hydrocarbon Speciation Studies in Ancient Sediments BY High Temperature Supercritical Carbon Dioxide Extraction, joint project with R. Jaffe, (M) 1996.
12. Lilia San-Miguel, Comparison of Ion Pair and Buffered Mobile Phase Chromatography of Haloacetic Acids Using Direct and Indirect UV and Fluorescence Detection, (M) 1998.
13. Ya-Li Hsu, Correlation of Detector Dog Alerts to Cocaine Decomposition Products Found in Illicit Forensic Specimens, (M) 1998.
14. Tianying Lou, "SPME/GC Signature Analysis of Cocaine Impurities and Correlation to Drug Dog Detection", (M) 1998.
15. Jing Wang, "Variable Influencing the Recovery of the Ingitable Liquid Residues from Simulated Fire Debris and Human Skin Using Solid Phase Microextraction/Gas Chromatography ", (M) 1998.
16. Grace Bi, "The Rapid Analysis of Explosives and Explosives Odors by SPME/GC-MS and SPME/HPLC", 1998.
17. Gretchen Pentzke, "The analysis of hydrocarbons in complex mixtures by SPME/GC-MS", 1997-98 (student changed advisors in 1998).
18. Julio Lopez, "High Pressure Solvent Extraction of Hydrocarbons from Geological Samples", co-advisor with R. Jaffe, (M) 1998.
19. Sugunya Monsalud, "Optimization of SPME for the Analysis of Organometalics in Natural Waters", co-advisor with Y. Cai, (M) 1999.
20. Lianming Wu, "Optimization of Solid-Phase Microextraction (SPME) for the Recovery of Explosives in Water and Post-Explosion Debris Followed by Gas and Liquid Chromatographic Analysis", (M), 1999.
21. Juan Bruna, A Novel Technique for Arson Analysis Using Solid Phase Microextraction which is More Rapid, Safer, Less Expensive and More Sensitive than Existing Methods, (M) 2001 (anticipated).

22. Wendy Foss, "Spectroscopic and Chromatographic Characterization of Novel Alumina Based Liquid Chromatographic Stationary Phases" co-advisor with Gerome Hakey, (D) - Student became inactive in the program in 1999.
23. Behnoush Memari, "Critical Evaluation of the Analytical Precision and Accuracy of the Intoxilyzer 4000 Instrument", (M) 1999.
24. X. Fan, "Method Development for the Analysis of Explosives Using Capillary Zone Electrophoresis", co-advisor with Y. Deng, (M) 2000.
25. John Walton, "Decomposition and dissipation of illicit drugs and drug odor chemicals under various conditions including U.S. circulated currency, (M) 2001.
26. Albert J. Sabucedo, "Stabilization of Troponin I for Applications in Clinical Chemistry and Forensic Medicine", (Ph.D. - Chemistry) 2001.
27. Tianlang Wan, Analysis of Explosive Odor Signatures and Detector Dog Performance Employing Solid Phase Microextraction / Gas Chromatography (SPME/GC) and Controlled Polymeric Diffusion", (M.S. – Chemistry) 2002.
28. Norma Lorenzo, "Identification of Active Odor Signature Chemicals in Methamphetamine and 3,4-Methylenedioxymethamphetamine (Ecstasy) Using Canis Familiaris as Biological Detectors", (M.S. -Forensic Science) 2002.
29. Andrew Benson, "Simultaneous Separation, Identification and Quantitation of Common Date Rape Drugs Directly from Simulated Tampered Beverages Using High-Performance Liquid Chromatography Mass Spectrometry (HPLC/MS)", (M.S. - Forensic Science - 2002).
30. Timothy Scanlon, "The Corrosive Effect of Blood Regarding the Forensic Identification of Fired Projectiles" (M.S. - Forensic Science) 2003.
31. Jing Wang, "Classification of explosives and ignitable liquids by trace analysis of odor signatures and residues using SPME/GC/CI/MS<sup>III</sup>", with J. Almirall (Ph.D. - Chemistry) 2005 (anticipated). Student currently working full time in industry and inactive.
32. Mary Ferguson, "Spectrophotometric Detection of 1-methylaminoanthraquinone from Recovered Illicit Currency", (M.S. – Forensic Science) 2004 (anticipated). Student currently inactive.
33. Lidia Marbot, "Speciation of HOCs in Recent Sediments", with R. Jaffe (Major Professor), (M.S. - Chemistry) 2005 (anticipated). Student currently inactive.
34. Samantha Tolliver, Identification of Active Odor Signature Chemicals Used By Detector Dogs to Locate Human Remains, M.S. – Forensic Science 2005.

35. Bradley Young, "The Fate of Cocaine on U.S. Paper Currency", (M.S. - Forensic Science) 2005.
36. Ross J. Harper, Improving the Scientific Reliability of Biological Detection by Canis Familiaris: Active Odor Signatures and Their Implications (Ph.D. Chemistry 2005).
37. Allison Curran, The Analytical Determination of the Uniqueness and Persistence of the Volatile Components of Human Scent Using Optimized Collection Methods, (Ph.D. – Chemistry) 2005.
38. Ya-Li Hsu, "The Rapid Recovery of Non-protein Bound (Free) Psychoactive Drugs Via SPME/GC/MS/MS and Correlation to Therapeutic Dose", (Ph.D. - Chemistry) 2007 (anticipated).
39. Benoush Memari, Development of a Rapid Multiprotein Marker System for Estimating Postmortem Interval, (Ph.D. – Chemistry 2008) (anticipated)
40. Rob Griffith, Scientific Confirmation of Detector Dog's Ability to Differentiate the Microbial Volatile Organic Compounds From Different Mold Species, (M.S – Forensic Science) 2005.
41. Laura Conner, Evaluation of Field Sampling and Analysis Methods for Arson Investigation Including Electronic Noses and Adsorption Sampling/GC/MS, (M.S. – Forensic Science) 2005 (anticipated)
42. Adam Wolff, The Accuracy and Precision of Breath and Blood Alcohol Measurements Using the Intoxilyzer 5000 vs. 8000 and Headspace Dual Column GC/FID vs. SPME/GC/MS, (M.S. – Forensic Science) 2006 (Anticipated).
43. Davia Hudson, Variables Affecting the Collection and Preservation of Human Scent Components, (Ph.D. - Chemistry), 2008 (anticipated).
44. JoNell Aarons, Survey of THC and other controlled substances on circulated currency from the Americas and the Carribean, (M.S. - Forensic Science), 2006 (anticipated).
45. Samantha Tolliver, Correlation on toxicological results from postmortem and antemortem specimens, Ph.D. – Chemistry 2009 (anticipated).
46. Michael Macias, Evaluation of pseudo scents and simulants and the development of improved forensic odor mimicks, (Ph.D. – Chemistry) 2008 (anticipated).
47. Ashley Phillips, Optimization of Adsorbers for the Collection and Preservation of Human Scent Chemicals, (Ph.D. – Chemistry) 2005 (student left program to go to Vet school).
48. Paola Prada, Optimization of Adsorbers for the Collection and Preservation of Human Scent Chemicals, (Ph.D. – Chemistry) 2008 (anticipated).

49. Maiko Kusano, Systematic Evaluation of Profiling Potential of Volatile Biomarkers from Biological Samples (Blood, Breath, Buccal Cells, Sweat and Urine) Across a Population (Ph.D. – Chemistry) 2009 (anticipated).
50. Lauryn DeGreeff, Development of Improved Methods for Human Scent Identification (Ph.D. – Chemistry) 2010 (anticipated)

## RESEARCH EXPERIENCE

---

FLORIDA INTERNATIONAL UNIVERSITY - DEPARTMENT OF CHEMISTRY: Assistant and Associate Professor. Dr. Furton's research program has focused on separation science and the development of novel sample preparation methods including solid phase extraction, supercritical fluid extraction and, most recently, solid phase microextraction (SPME). Recent research includes physicochemical measurements using chromatographic techniques and the development of column technology and instrumentation for chromatography. Recent specific projects have included the use of supercritical fluids in forensic toxicology, the use of SPME in arson, explosives and drug analysis, the discriminating power of glass fragments, chemical agents to detect illicit US currency, chemical methods to visualize latent fingerprints and behavioral olfactometry to study canine selectivity and sensitivity to chemical odor fingerprints associated with paper currency, drugs and explosives.

UNIVERSITY COLLEGE OF SWANSEA - DEPARTMENT OF CHEMISTRY: Postdoctoral Research Assistant. Conducted with Professor J.H. Purnell, OBE (Physical Chemistry) and Dr. G. Stedman (Inorganic Chemistry). Determination of thermodynamic data relating to potentially hazardous acids in various complexing solvents for use in spent nuclear fuel reprocessing techniques.

WAYNE STATE UNIVERSITY - DEPARTMENT OF CHEMISTRY: Graduate Research Assistant. Conducted with Professor C.F. Poole (Analytical Chemistry). Ph.D. Dissertation Title: "Factors Governing the Retention of Solutes on Liquid Organic Salt Phases Used in Gases Chromatography". Synthesis and evaluation of new selective stationary phases for chromatography, methods for evaluating polarity and selectivity of stationary phases used in gas chromatography.

WAYNE STATE UNIVERSITY - SCHOOL OF MEDICINE: Research Consultant. Conducted with Professor S. Dutta (Pharmacology). The analysis of permanent gases/light hydrocarbons in the study of lipid peroxidation in rats. Also with Professor T. Kuo (Pathology). The study of fatty acid methyl esters derived from rat heart plasma membrane phospholipids.

UNIVERSITY OF CENTRAL FLORIDA - DEPARTMENT OF CHEMISTRY: Research Assistant. Conducted with Professor C.A. Clausen (Physical Chemistry). The development of a routine sampling method to entrap, detect, and identify accelerants present in fire atmospheres, the application of ATR/FTIR to the analysis of questioned documents.

## PUBLICATIONS

---

1. K.G. Furton and C.F. Poole, Variation in the Gas Chromatographic Stationary Phase Properties of Tetra-n-Butylammonium Salts as a Function of the Anion Type, *J. Chromatogr.*, 349 (1985) 235-47.
2. C.F. Poole, B.R. Kersten, S.J. Ho, M.E. Coddens, and K.G. Furton, Organic Salts, Liquid at Room Temperature, as Mobile Phases in Liquid Chromatography, *J. Chromatogr.*, 352 (1986) 407-25.
3. M.E. Coddens, K.G. Furton, and C.F. Poole, Synthesis and Gas Chromatographic Stationary Phases Properties of Alkylammonium Thiocyanates, *J. Chromatogr.*, 356 (1986) 59-77.
4. C.F. Poole, K.G. Furton, and B.R. Kersten, Liquid Organic Salt Phases for Gas Chromatography, *J. Chromatogr. Sci.*, 24 (1986) 400-409.
5. K.G. Furton and C.F. Poole, Fast Atom Bombardment Mass Spectra of Some Alkylammonium 4-Toluenesulfonate Salts, *Org. Mass Spectrom.*, 22 (1987) 210-211.
6. K.G. Furton, S.K. Poole, and C.F. Poole, Gas Chromatographic Stationary Phase Properties of Two Room Temperature Liquid Organic Salts, *Anal. Chimica Acta*, 192 (1987) 49-61.
7. K.G. Furton and C.F. Poole, Solute-Solvent Interactions in Liquid Alkylammonium 4-Toluenesulfonate Salts Studied by Gas Chromatography, *Anal. Chem.*, 59 (1987) 1170-1176.
8. K.G. Furton and C.F. Poole, Thermodynamic Characterization of Solute Solvent Interactions in Liquid Organic Salt Solvents, Studied by Gas Chromatography, *J. Chromatogr.*, 399 (1987) 47-68.
9. K.G. Furton, C.F. Poole, and B.R. Kersten, Correlation of Solute Retention in Gas Chromatography With Properties of the Anion for Tetra-n-Butylammonium Salts, *Anal. Chimica Acta*, 192 (1987) 255-265.
10. K.G. Furton and C.F. Poole, Fast Atom Bombardment Mass Spectra of Some Tetra-n-Butylammonium Salts, *Org. Mass Spectrom.*, 22 (1987) 377-378.
11. B.R. Kersten, C.F. Poole, and K.G. Furton, Ambiguities in the Determination of McReynolds Stationary Phase Constants, *J. Chromatogr.*, 411 (1987) 43-59.
12. S.K. Poole, K.G. Furton, and C.F. Poole, Determination of Benzene in Gasoline by Gas Chromatography Using a Liquid Organic Salt Column, *J. Chromatogr. Sci.*, 26 (1988) 67-81.
13. K.G. Furton, The Mysterious Field of Forensic Chemistry (Invited Review for the Chemistry Journal of the University of Wales) *Pentacol*, 18 (1988) 8-10.

14. K.G. Furton, J.H. Purnell and G. Stedman, Stability Constants of Hydracid-Tributyl Phosphate Complexes in Alkane Solution: Hydrochloric Acid and Hydrogen Cyanide, *J. Chromatogr.*, 468 (1989) 73-89.
15. K.G. Furton, J.H. Purnell and G. Stedman, Chromatographic Study of the Complexation of Hydrogen Chloride and Hydrogen Cyanide with Tributyl Phosphate in Hexadecane. *Anal. Proc.*, 27 (1990) 42-43.
16. K.G. Furton and J. Rein, Trends in Techniques for the Extraction of Drugs and Pesticides from Biological Specimens Prior to Chromatographic Separation and Detection (invited review for special issue "Sample Preparation for Chromatographic Analysis"), *Anal. Chimica Acta*, 236 (1990) 99-114.
17. K.G. Furton, J.H. Purnell and G. Stedman, Stability Constants of Hydrazoic Acid-Tributyl Phosphate Complexes in Hexadecane Solution, *J. Chem. Soc. Faraday Trans.*, 86 (1990) 3561-3565.
18. K.G. Furton and A. Mantilla, Polarity and Selectivity of Ionic Stationary Phases Used in Gas Chromatography: Evaluation of Commercial Detergents Containing Anionic Surfactants as Column Packings, *J. Chem. Ed.*, 68 (1991) 74-77.
19. K.G. Furton and R. Morales, Potential Ambiguities in the Use of McReynolds Constants: Apparent Differences in Stationary Phase Selectivities Exclusively Attributable to the Hydrocarbon Index Standards, *J. High Resolut. Chromatogr.*, 14 (1991) 62-64.
20. K.G. Furton and R. Morales, The Effect of Anion Chain Length on the Solvent Properties of Liquid Tetrabutylammonium Alkylsulfonate Salts Studied by Gas-liquid Chromatography (invited paper for the special issue "Looking to the Future of Analytical Chemistry"), *Anal. Chimica Acta*, 246 (1991) 171-179.
21. J. Rein, C. Cork and K.G. Furton, Factors Governing the Analytical Supercritical Fluid Extraction and Chromatography of Polycyclic Aromatic Hydrocarbons, *J. Chromatogr.*, 545 (1991) 149-160.
22. K.G. Furton and J. Rein, The Quantitative Effect of Microextractor Cell Geometry on the Analytical Supercritical Fluid Extraction Efficiencies of Environmentally Important Compounds, *Chromatographia*, 31 (1991) 297-299.
23. K.G. Furton and J. Rein, Effect of Microextractor Cell Geometry on Supercritical Fluid Extraction Recoveries and Correlations With Supercritical Fluid Chromatographic Data, *Anal. Chimica Acta.*, 246 (1991) 263-270.
24. K.G. Furton and M.I. Perez, A Sensual Separation Science Experiment: Extraction and Chromatographic Separation of Menthol Utilizing Various Consumer Products, *J. Chem. Ed.*, 68 (1991) 946-947.

25. C.F. Poole, K.G. Furton, R.M. Pomaville, S.K. Poole, and B.R. Kersten, Physicochemical Properties of Liquid Organic Salts Using Chromatographic Techniques, in "Molten Salt Techniques", R.J. Gale and D.G. Lovering (eds.), Plenum Press, New York, Vol. 4, 1991, pp. 41-81.
26. K. Mopper and K.G. Furton, Extraction and Analysis of Polysaccharides, Chiral Amino Acids, and SFE-Extractable Lipids from Marine POM, in "Marine Particles: Analysis and Characterization", Geophysical Monograph 63, D.C. Hurd and D.W. Spencer (eds.), American Geophysical Union, Washington, 1991, pp. 151-161.
27. K.G. Furton and J. Rein, Relative Effect of Experimental Variables: Analytical Supercritical Fluid Extraction Efficiencies and Correlations with Chromatographic Data, Invited Chapter for ACS Symposium Series 488, F.V. Bright and M.E.P. McNally (Editors) "Supercritical Fluids Technology: Theoretical and Applied Approaches in Analytical Chemistry", American Chemical Society, Washington, 1992, pp. 237-250.
28. K.G. Furton and Q. Lin, The Dependence of Sorbent/Analyte Type on Observed Differences in Supercritical Fluid Extraction Efficiencies Employing Extraction Vessels of Different Dimensions, *Chromatographia*, 32 (1992) 185-187.
29. K.G. Furton, E. Jolly and J. Rein, Variables Affecting the Supercritical Fluid Extraction of Analytes from Octadecylsilane Solid Phase Sorbents invited paper for the special issue "Principles and Applications of Solid-Phase Extraction", *J. Chromatogr.*, 629 (1993) 3-9.
30. K.G. Furton and A. Norelus, A Novel Colorimetric Method for Determining the Critical Micelle Concentration of Aqueous Surfactant Solutions, *J. Chem. Ed.*, 70 (1993) 254-257.
31. K.G. Furton and Q. Lin, Variation in Supercritical Fluid Extraction Efficiencies of Polychlorinated Biphenyls as a Function of Extraction Cell Dimensions, Fluid Flow Rate, and Sorbent Type (invited paper for a special issue devoted to Advances in Supercritical Fluid Extraction, *J. Chromatogr Sci.*, 31 (1993) 201-206.
32. K.G. Furton, E. Jolly and G. Pentzke, Recent Advances in the Analysis of Polycyclic Aromatic Hydrocarbons and Fullerenes (invited review article for the special issue "Chromatography in Environmental Analysis"), *J. Chromatogr.*, 642 (1993) 33-45.
33. R. Morales, C. Blanco and K.G. Furton, The Gas-Liquid Chromatographic Stationary Phase Properties of Liquid Organic Salts: Anomalous Selectivity Variation Employing the Rohrschneider/McReynolds System, *Talanta*, 40 (1993) 1541-1549.
34. P. Cabauy and K.G. Furton, A Straightforward Method for Determining Critical Micelle Concentrations in Undergraduate Laboratories, 1st Place NSF Undergraduate Research Paper Competition reviewed by three referees and published in the Conference Proceedings of the *2nd National Conference on Diversity in the Scientific and Technological Workforce*, NSF 94-12 (1994) 97-100.

35. R. Morales, C. Blanco and K.G. Furton, Response to Letter to the Editor of *Talanta* Re: The Gas-Liquid Chromatographic Stationary Phase Properties of Liquid Organic Salts: Anomalous Selectivity Variation Employing the Rohrschneider/McReynolds System, *Talanta*, 41 (1994) 447. (Reviewed by the Editor of *Talanta*)
36. R. Vichot and K. G. Furton, Variables Influencing the Direct Determination of Haloacetic Acids in Water by Reversed-Phase Ion-Pair Chromatography with Indirect UV Detection, *J. Liq. Chromatogr.*, 17 (20) (1994) 4405-4429.
37. K.G. Furton, C.-W. Huang, R. Jaffé and M.A. Sicre, High-Temperature Supercritical Fluid Extraction of Hydrocarbons from Geological Samples and Comparison to Soxhlet Extraction, *J. High Resolut. Chromatogr.*, 17 (1994) 679-681.
38. J.R. Almirall and K.G. Furton, A Fast and Simple Method for the Analysis of Accelerants From Fire Debris Using Headspace Solid-Phase Microextraction, *Proceedings of the International Symposium on the Forensic Aspects of Arson Investigations*, U.S. Government Printing Office, Washington, D.C., 1995 (ISBN 0932115144), pp. 337-345.
39. R. Jaffe, L. Chen, C.W. Huang, N. Hajje, K.G. Furton and M.A. Sicre, An Investigation on Hydrocarbon Speciation in Ancient Sediments by Stepwise Supercritical Carbon Dioxide Extraction at Various Temperatures: Preliminary Results, in *Organic Geochemistry: Developments & Applications in Energy, Climate, Environment and Human History*, 1995, pp. 796.
40. J.R. Almirall and K.G. Furton, The Evolution, Practice and Future of Science in the Administration of Justice: The Importance of Standards in Forensic Science, *Standardization News*, 4 (1995) 42-49.
41. K.G. Furton, L. Chen and R. Jaffe, Rapid Determination of Uranium on Solid Matrices by Synergistic In-Situ Chelation Supercritical Fluid Extraction and UV Absorption Spectroscopy, *Anal. Chimica Acta.*, 304 (1995) 203-208.
42. K.G. Furton, J.R. Almirall and J. Bruna, A Simple, Inexpensive, Rapid, Sensitive and Solventless Method for the Recovery of Accelerants from Fire Debris Based on SPME, *J. High Resolut. Chromatogr.*, 18, (1995) 625-629.
43. K.G. Furton, J.R. Almirall and J. Bruna, A Novel Method for the Analysis of Gasoline from Fire Debris Using Headspace Solid-Phase Microextraction, *J. Forensic Sci.*, 41, (1996) 12-22.
44. J.R. Almirall, J. Bruna and K.G. Furton, The Recovery of Accelerants in Aqueous Samples from Fire Debris Using Solid Phase Microextraction (SPME), *Science and Justice*, 36 (1996) 283-287.
45. K.G. Furton, Y.-L. Hsu, T. Luo, J. Wang and S. Rose, Odor Signature of Cocaine Analyzed by GC/MS and Threshold Levels of Detection for Drug Detection Canines, *Curr. Top. Forensic Sci., Proc. Meet. Int. Assoc. Forensic Sci.*, 14(2) (1997) 329-332.

46. J.R. Almirall, M. Cole, K.G. Furton and G. Gettinby, Classification and Discrimination of Forensic Glass Samples Using the Statistical Analysis of their Elemental Composition and Refractive Index Data, *Curr. Top. Forensic Sci., Proc. Meet. Int. Assoc. Forensic Sci.*, 14(4) (1997) 79-89.
47. O.G. Ferreira, H.R. Fuentes, R. Jaffe and K.G. Furton, Supercritical Fluid Extraction of PAHs from Aquifer Materials, *Hazard. Ind. Wastes*, 29 (1997) 273-281.
48. K. G. Furton, A. Sabucedo, J. Rein and W. L. Hearn, "Analysis of drugs in human tissues by supercritical fluid extraction/immunoassay", in *Forensic Evidence Analysis and Crime Scene Investigation*, John Hicks, Peter De Forest, Vivian M. Baylor, Editors, Proc. SPIE Vol. 2941, pp. 19-23 (1997).
49. J. R. Almirall, M. Cole, K. G. Furton, and G. Gettingby, "The Statistical Significance of Trace Evidence Matches Using Independent Physicochemical Measurements", in *Forensic Evidence Analysis and Crime Scene Investigation*, John Hicks, Peter De Forest, Vivian M. Baylor, Editors, Proc. SPIE Vol. 2941, pp. 24-40 (1997).
50. K. G. Furton, Y.-L. Hsu, T. Luo, N. Alvarez and P. Lagos, "Novel Sample Preparation Methods and Field Testing Procedures Used to Determine the Chemical Basis of Cocaine Detection by Canines", in *Forensic Evidence Analysis and Crime Scene Investigation*, John Hicks, Peter De Forest, Vivian M. Baylor, Editors, Proc. SPIE Vol. 2941, pp. 56-62 (1997).
51. R. Jaffe, D. Diaz, N. Hajje, L. Chen, C. Eckardt and K.G. Furton, Hydrocarbon Speciation in Ancient Sediments Studied by Stepwise High Temperature Supercritical Carbon Dioxide Extraction, *Org. Geochem.*, 26 (1997) 59-65.
52. R. Jaffé, Y. Gong and K.G. Furton, Temperature Effects on Supercritical Carbon Dioxide Extraction of Hydrocarbons from Geological Samples, *J. High Resolut. Chromatogr.*, 20 (1997) 586-590.
53. K.G. Furton and G. Pentzke, *Chapter 1: Polycyclic Aromatic Hydrocarbons* in "Chromatographic Analysis of Environmental Food Toxicants", *Chromatogr. Sci. Ser.* Vol 77, T. Shibamoto, Editor, Marcel Dekker, New York, 1998, pp. 1-30.
54. J.R. Almirall, M.D. Cole, G. Gettinby and K.G. Furton, Discrimination of Glass Sources Using Elemental Composition and Refractive Index: Development of Predictive Models, *Science and Justice*, 38 (1998) 93-100.
55. Y. Deng, X. Fan, A. Delgado, C. Nolan, K.G. Furton, Y. Zuo and R. Jones, Separation and Determination of Aromatic Acids in Natural Waters with Preconcentration by Capillary Zone Electrophoresis, *J. Chromatogr. A*, 817 (1998) 145-152.
56. Y. Cai, S. Monsalud, K.G. Furton, R. Jaffe and R.D. Jones, Determination of Methylmercury in Fish and Aqueous Samples Using Solid-Phase Microextraction Followed by Gas

- Chromatography-Atomic Fluorescence Spectrometry, *Applied Organometallic Chemistry*, 12 (1998) 565-569.
57. K.G. Furton, Y.-L. Hsu, T. Luo and S. Rose " Field and Laboratory Comparison of the Sensitivity and Reliability of Cocaine Detection on Currency Using Chemical Sensors, Humans, K-9s and SPME/GC/MS/MS Analysis", in *Investigation and Forensic Science Technologies*, Kathleen Higgins, Editor, Proc. SPIE Vol. 3576, pp. 41-46 (1999).
  58. J.R. Almirall, L. Wu, M. Bi, M.W. Shannon and K.G. Furton, "The Field Recovery of Explosive Residues Using Solid-Phase Microextraction Followed by Chromatographic Analysis", in *Investigation and Forensic Science Technologies*, Kathleen Higgins, Editor, Proc. SPIE Vol. 3576, pp. 18-23 (1999).
  59. J.R. Almirall, D.C. Duckworth, C.K. Bayne, S.J. Morton, D.H. Smith, R.D. Koons, K.G. Furton, "Elemental Analysis of Forensic Glasses by Inductively Coupled Plasma Mass Spectrometry" in *Investigation and Forensic Science Technologies*, Kathleen Higgins, Editor, Proc. SPIE Vol. 3576, pp. 87-91 (1999).
  60. K.G. Furton, J.R. Almirall and Jing Wang, Variables Controlling the Recovery of Ignitable Liquid Residues from Simulated Fire Debris Samples Using Solid Phase Microextraction/Gas Chromatography, in *Investigation and Forensic Science Technologies*, Kathleen Higgins, Editor, Proc. SPIE Vol. 3576, pp. 136-141 (1999).
  61. J.R. Almirall and K.G. Furton, "Chapter 7: Forensic and Toxicology Applications" in "Solid Phase Microextraction: A Practical Guide", Edited by Sue Ann Scheppers Wercinski, Marcel Dekker, New York, pp. 203-216 (1999).
  62. K.G. Furton, Y.-L. Hsu and M.D. Cole, What Educational Background Is Required by Crime Laboratory Directors?, *J. Forensic Sci.*, 44, (1999), 128-132.
  63. Wu L, Almirall JR, Furton KG. An Improved Interface for Coupling Solid-Phase Microextraction (SPME) to High Performance Liquid Chromatography (HPLC) Applied to the Analysis of Explosives, *J. High Resolut. Chromatogr.*, 22 (1999) 279-282.
  64. K.G. Furton, J.H. Purnell and G. Stedman, Gas Chromatographic Study of Complexing in the System, Hydrazoic Acid - Tributylphosphate - Nitric Acid - Uranyl Nitrate, *J. Chromatogr.*, 859 (1999) 41-48.
  65. K.G. Furton, J.H. Purnell and G. Stedman, Determination of Liquid-Liquid Partition Data for Hydrazoic Acid Between Tributylphosphate-Alkane /Nitric Acid Solutions Using Gas-Liquid Chromatography, *J. Radioanal. Nucl. Chem.*, 242(3) (1999) 663-669.
  66. K.G. Furton, L. Chen and R. Jaffe, Relative Recoveries of Hydrocarbons from Geological Samples Using High Temperature Supercritical Fluid Extraction: Contributions from Thermal Desorption, *J. High Resol. Chromatogr.*, 22(11) (1999) 623-627.

67. R. Jaffe, D. Diaz, K.G. Furton and E. Lafargue, High Temperature Supercritical Carbon Dioxide Extraction of Geological Samples: Effects and Contributions from the Sample Matrix, *Applied Geochemistry*, 15 (2000) 79-89.
68. J.R. Almirall, J. Wang, K. Lothridge and K.G. Furton, The Detection and Analysis of Ignitable Liquid Residues Extracted from Human Skin Using SPME/GC, *J. For. Sci.*, 45(2) (2000) 461-469.
69. K.G. Furton, L. Wu and J.R. Almirall, Optimization of Solid Phase Microextraction (SPME) for the Recovery of Explosives From Aqueous and Post-Explosion Debris Followed by Gas and Liquid Chromatographic Analysis, *J. For. Sci.*, 45(4) (2000) 845-852.
70. K.G. Furton, J. Wang, Y.-L. Hsu, J. Walton and J.R. Almirall, The Use of Solid-Phase Microextraction / Gas Chromatography in Forensic Analysis, *J. Chromatogr. Sci.*, Invited review for special issue "Solid-Phase Microextraction Combined with Gas Chromatography". 38 (2000) 297-306.
71. Y. Cai, S. Monsalud and K.G. Furton, Determination of Methyl- and Ethylmercury Compounds Using Gas Chromatography Atomic Fluorescence Spectrometry Following Aqueous Derivatization with Sodium Tetrphenylborate, *Chromatographia*, 52(1/2) (2000) 82-86.
72. K.G. Furton, J.R. Almirall, M. Bi, J. Wang and L. Wu , Application of Solid-Phase Microextraction to the Recovery of Explosives and Ignitable Liquid Residues From Forensic Specimens, *J. Chromatogr.*, 885 (2000) 419-432.
73. K.G. Furton and L.J. Myers, The Scientific Foundations and Efficacy of the Use of Canines as Chemical Detectors for Explosives, Invited review for special thematic issue "Methods for Explosive Analysis and Detection", *Talanta*, 54/3 (2001) 487-500.
74. K.G. Furton, Factors Affecting Selectivity in Supercritical Fluid Chromatography, Invited article for entry in the "Dekker Encyclopedia of Chromatography", Edited by J. Cazes, Marcel Dekker, New York, 749-752 (2001).
75. J.R. Almirall and K.G. Furton, Forensic Chemistry, invited entry for the 2002 Yearbook of Science & Technology, MacGraw-Hill, New York, 113-115.
76. K.G. Furton, Y. C. Hong, Y.-L. Hsu, T. Luo, S. Rose and J. Walton, Identification of Odor Signature Chemicals in Cocaine Using Solid-Phase Microextraction / Gas Chromatography and Detector Dog Response to Isolated Compounds Spiked on U.S. Paper Currency, *J. Chromatogr. Sci.*, Invited paper for special issue "Solid-Phase Microextraction". 40 (2002) 147-155.
77. J.R. Almirall and K.G. Furton, New Developments in Sampling and Sample Preparation for Forensic Analysis, Invited chapter for "Sampling and Sample Preparation for the Field and

Laboratory” in Wilson and Wilson’s Comprehensive Analytical Chemistry Vol. 37, edited by J.B. Pawliszyn, Elsevier, 2002, pp. 919-934.

78. J.R. Almirall, S. Montero and K.G. Furton, Association of Glass Fragments by their Trace Elemental Content Using ICP-MS and LA-ICP-MS in the Analysis Scheme in *Enabling Technologies for Law Enforcement and Security*, Edward M. Carapezza, Editor, Proc. SPIE, 2002, pp. 61-71.
79. J.R. Almirall and K.G. Furton, “Trends in Forensic Science Education: Expansion and Increased Accountability”, *Journal of Analytical and Bioanalytical Chemistry*, 376 (2003) 1156-1159.
80. N. Lorenzo, T. Wan, R.J. Harper, Y.-L. Hsu, M. Chow, S. Rose and K.G. Furton, Laboratory and field experiments used to identify *canis lupus var. familiaris* active odor signature chemicals from drugs, explosives and humans, *Analytical and Bioanalytical Chemistry*, invited paper for special forensic chemistry issue, 376 (2003) 1212-1224.
81. J.R. Almirall and K.G. Furton, Characterization of Background and Pyrolysis Products that May Interfere with the Forensic Analysis of Fire Debris, Invited paper for *J. Analyt. Appl. Pyrolysis*, 71(1) (2003) 51-67.
82. A.J. Sabucedo and K.G. Furton, Estimation of Postmortem Interval using the Protein Cardiac Troponin I, *Forensic Sci. International*, 134 (2003) 11-16.
83. K.G. Furton, R.J. Harper, J. M. Perr and J.R. Almirall, Optimization of biological and instrumental detection of explosives and ignitable liquid residues including canines, SPME/ITMS and GC/MS<sup>n</sup>, in *Sensors and Command, Control, Communications and Intelligence Technologies for Homeland Defense and Law Enforcement*, Edward M. Carapezza, Editor, Proc. SPIE, 2003, 183-192.
84. J.R. Almirall, T. Trejos, A. Hobbs and K.G. Furton, Trace elemental analysis of glass and paint samples of forensic interest by ICP-MS using Laser Ablation solid sample introduction, in *Sensors and Command, Control, Communications and Intelligence Technologies for Homeland Defense and Law Enforcement*, Edward M. Carapezza, Editor, Proc. SPIE, 2003, 193-204.
85. K.G. Furton and R. Harper, Detection of Ignitable Liquid Residues in Fire Scenes Accelerant Detection Canine (ADC) Teams and other Field Tests *Advances in Forensic Science in Advances in Forensic Science Techniques: Interpretation of Fire Scene Evidence*, CRC Press, Boca Raton, 2004.
86. J.R. Almirall and K.G. Furton, *Advances in Forensic Science Techniques: Interpretation of Fire Scene Evidence*, Edited Book published by CRC Press, Boca Raton, February 2004, 264 pages. First book in the series “Forensic Science Techniques Series” by CRC Press (J.R. Almirall and K.G. Furton, Series Eds.)

87. A.J. Sabucedo, M.A. Gutierrez, K.C. Mueller, B.L. Bellissima, Y.-L. Hsu, S. Rose, and K.G. Furton, Sex, Lies, and Niagra (Presence of Sildenafil in Niagra Actra R<sub>x</sub><sup>®</sup> and Actra Rx<sup>®</sup>), *JAMA*, 291(5) (2004) 560-562.
88. S. Rose and K.G. Furton, Variables Affecting the Accuracy and Precision of Breath Alcohol Instruments Including the Intoxilyzer 5000, Invited Book Chapter for “Georgia DUI Law, A Resource for Lawyers and Judges” edited by George Stein, Michie, 2004 (ISBN#0327162961).
89. J.R. Almirall, T. Trejos, A. Hobbs, J. Perr and K.G. Furton, Mass Spectrometry in Forensic Science, in *Advances in Mass Spectrometry*, Vol 16, A.E. Ashcroft, G. Breton and J.J. Monaghan, Eds., Elsevier, 2004, 167-187.
90. A.J. Sabucedo and K.G. Furton, Extractionless GC/MS Analysis of  $\gamma$ -Hydroxybutyrate and  $\gamma$ -Butyrolactone with Trifluoroacetic anhydride and Heptafluoro-1-butanol, *J. Separation Sci.*, 27 (2004) 703-709.
91. J.M. Perr, K.G. Furton and J.R. Almirall, Improved Detection of Organic Explosives Using SPME-IMS and SPME-GC-MS-MS, Proceedings of the 8th International Symposium on the Analysis and Detection of Explosive (ISADE), 2004, Ottawa, Canada.
92. R.J. Harper, J.R. Almirall and K.G. Furton, Improving the Scientific Reliability of Biological Detection of Explosives by Canis Familiaris Through Active Odor Signatures and their Implications, Proceedings of the 8th International Symposium on the Analysis and Detection of Explosive (ISADE), 2004, Ottawa, Canada.
93. Harper, R.J., A.M. Curran, J.R. Almirall and K.G. Furton Developing the Science Behind Canine Olfaction of Forensic Specimens, Proc. of the Olfactory Based Systems for Security Applications (OBSSA-04) hosted by DSTL, London England 12/2004.
94. A.M. Curran, S.I. Rabin and K.G. Furton, Analysis of the uniqueness and persistence of human scent, *Forensic Science Communications*, Vol. 7, No. 2, (April 2005), 23 pages accessed at [http://www2.fbi.gov/hq/lab/fsc/backissu/april2005/research/2005\\_04\\_research02.htm](http://www2.fbi.gov/hq/lab/fsc/backissu/april2005/research/2005_04_research02.htm).
95. J.M. Perr, K.G. Furton and J.R. Almirall, Solid phase microextraction ion mobility spectrometer interface for explosive and taggant detection, *J. Separation Sci.*, Volume 28, Issue 2 (February 2005), (p 177-183).
96. A.M. Curran, P.A. Prada, A.A. Schoon, J.R. Almirall and K.G. Furton, Human Scent as a Biometric Measurement, in *Biometric Technology for Human Identification II*, edited by A.K. Jain and N.K. Ratha, Proc. Of SPIE Vol. 5779, SPIE, Bellingham, WA, March, 2005, 398-408.
97. A.M. Curran, J.R. Almirall, A.A. Schoon and K.G. Furton, Human Scent as a Potential Biometric Measurement Utilizing Solid Phase Microextraction – Gas Chromatography/Mass Spectrometry (SPME-GC/MS), Proc. of the Eleventh International Symposium on Olfaction

- and electronic Nose – ISOEN 2005, S. Marco and I. Montoliu, Editors, Barcelona University, Spain, 2005 (ISBN: 84-689-113), pp. 345-348.
98. R.T. Griffith, K. Jayachandran, W. Whitstine and K.G. Furton, Differentiation of Hazardous Indoor Molds via Canine Detection and SPME-GC/MS, Proceedings of the Eleventh International Symposium on Olfaction and electronic Nose – ISOEN 2005, S. Marco and I. Montoliu, Editors, Barcelona University, Spain, 2005 (ISBN: 84-689-113), pp. 351-354.
99. L. Conner and K.G. Furton, Evaluation of Electronic Noses in Conjunction with Field Sampling Apparatus in Fire Investigations, Proceedings of the Eleventh International Symposium on Olfaction and electronic Nose – ISOEN 2005, S. Marco and I. Montoliu, Editors, Barcelona University, Spain, 2005 (ISBN: 84-689-113), pp. 222-225.
100. A.M. Curran, S.I. Rabin, P.A. Prada and K.G. Furton, Comparison of the Volatile Organic Compounds Present in Human Odor Using SPME-GC/MS, *J. Chemical Ecology*, Vol. 31, No. 7 (2005) 1607 - 1619.
101. R.J. Harper, J.R. Almirall and K.G. Furton, Identification of dominant odor chemicals emanating from explosives for use in developing optimal training aid combinations and mimics for canine detection, *Talanta*, 67 (2005) 313-327.
102. J.M. Perr, K.G. Furton and J.R. Almirall, Gas Chromatography Positive Chemical Ionization and Tandem Mass Spectrometry for the Analysis of Organic High Explosives, *Talanta*, 67 (2005) 430-436.
103. K.G. Furton and D.P. Heller, Advances in the reliable location of forensic specimens through research and consensus best practice guidelines for dog and orthogonal instrumental detectors, *Canadian Journal of Police & Security Services*, Special Issue: Advances in Forensic Science, Vol. 3, Issue 2 (2005), 97-107.
104. S. Rose and K.G. Furton, Fundamentals of Forensic Breath- and Blood-Alcohol Analysis (Chapter 5.01[B]), in *Drunk Driving Defense*, 6<sup>th</sup> Edition, by Lawrence Taylor and Steve Oberman, Aspen Publishers, New York, ISBN 0-7355-5429-3, pp. 317-349, 2006.
105. L. Conner, S. Chin and K.G. Furton, Evaluation of Field Sampling Techniques including Electronic Noses and a Dynamic Headspace Sampler for Use in Fire Investigations, *Sensors and Actuators B*, 116 (2006) 121-129.
106. R.J. Harper and K.G. Furton, Biological Detection of Explosives in "Counterterrorist Detection Techniques of Explosives", J. Yinon, Editor, Elsevier, 2006, in press.
107. A.M. Curran, C.F. Ramirez, A.A. Schoon and K.G. Furton, The Frequency of Occurrence and Discriminatory Power of Compounds Found in Human Scent Across a Population Determined by SPME-GC/MS, *J. Chromatogr. B*, 846 (2007) 86-97.

108. Curran, A.M, S.I. Rabin, P.A. Prada, and K.G. Furton. On the Definition and Measurement of Human Scent: Response by Curran et. al., *Journal of Chemical Ecology*, Vol. 32 (2006) 1617-1623.

Papers In Preparation/Submitted/Accepted/In Press

---

109. K.G. Furton, M. Kusano and M.S. Macias, Gas Chromatography: Forensic Applications (L3), in Encyclopedia of Separation Science, First On-line Update, Elsevier Ltd., 2006, in press.
110. A.M. Curran, P.A. Prada, D.L. Slavin, W. Kift and K.G. Furton, Canine Human Scent Identifications with Post-Blast Debris Collected from Improvised Explosive Devices (For Submission to the *Journal of Forensic Science*)
111. A.J. Sabucedo and K.G. Furton, Method of Determining Time of Death, 2 U.S. Patents pending filed on September 5, 2002; Serial No. 10/144,346 and 11/202,909, pending, 2005.
112. K.G. Furton and A.M. Curran, Patent assignment "Identification of Humans through Characteristic Volatile Organic Compounds Detected in Human Scent" U.S. Provisional Patent filed November 18, 2005.
113. K.G. Furton, A.J. Sabucedo, J. Rein and W.L. Hearn, Supercritical Fluid Extraction/Radial Partition Enzyme Immunoassay for the Rapid Determination of Phenobarbital in Human Liver Tissues, *J. Chromatogr.*, submitted.
114. K.G. Furton, E. Jolly and A.J. Sabucedo, The Systematic Choice of Modifiers for the Supercritical Fluid Elution of Drugs from Solid Phase Sorbents Using Solvent Selectivity Schemes, *J. Chromatogr.*, in revision.
115. Curran, A.M., G.A.A. Schoon and K.G. Furton. Human Scent Evidence, CRC Press 2006 (in preparation)
116. J.R. Almirall and K.G. Furton, Forensic Science Explained!, CRC Press, Planned publication Fall 2006.
117. K.G. Furton and K.L. Overall, Detector Dogs: From Procurement to Prosecution, part of Advances in Forensic Techniques Series. CRC Press. Edited book with planned Publication Fall 2006.
118. R. Jaffe, A. Gongora, L. Marbot, A. Medjedovic and K.G. Furton, Speciation of PAHs in Historically Contaminated Sediments: An Assessment Using Selective Supercritical Fluid Extractions, *Env. Sci. Technol.*, in preparation.
119. R. Jaffe, J. Lopez, and K.G. Furton, High Pressure Solvent Extraction of Hydrocarbons from Geological Samples – 1: Water and Steam, *J. Chromatogr.*, in preparation.

120. R. Jaffe, J. Lopez, and K.G. Furton, High Pressure Solvent Extraction of Hydrocarbons from Geological Samples – 2: Speciation of Aromatic Hydrocarbons *Applied Geochem.*, in preparation.
121. R. Jaffe, O.G. Ferreira, H.R. Fuentes, and K.G. Furton, Comparison of Pressurized Fluid Extraction Methods for the Recovery of PAHs from Contaminated Soils, *Chromatographia*, in preparation.
122. K.G. Furton, Y.-C. Hong, Y.-L. Hsu and S. Rose, The Chemical Basis of Drug Detector Dog Alerts to Suspected Drug Money, *J. Forensic Sci.*, in preparation.
123. K.G. Furton, Y.-L. Hsu, T. Luo and S. Rose, Threshold Levels of Cocaine Odor Detection by Dogs and Correlation to U.S. Currency Cocaine Contamination, *J. Anal. Toxicol.*, in preparation.
124. KG Furton, T Luo, F Lopez, N Alvarez, P Lagos and S Rose, The Potential Use of Controlled Diffusion and SPME/GC Analysis of Volatile Drug Components to Validate Detector Dog Alerts to Suspected Drug Money. *J High Resolut. Chromatogr.*, in preparation.
125. K. G. Furton, Tianying Luo, Frances Lopez, Nayiby Alvarez and Pedro Lagos, Diffusion of Volatile Drug Components Under Controlled Experimental Conditions and the Relevance to Detector Dog Alerts to Suspected Drug Money, *Forensic Sci. Proc.*, in preparation.
126. K.G. Furton and R. Morales, Thermodynamics of Molecular Association in Liquid Organic Salt Solvents: The Effect of Anion Chain Length, *J. Chromatogr.*, in preparation.
127. K.G. Furton and Q. Lin, The Importance of Flow Rates and Average Linear Velocities on Apparent Recovery Differences Employing Supercritical Fluid Extraction Vessels of Different Dimensions, *J. Chromatogr.*, in preparation.
128. R. Vichot and K.G. Furton, Enthalpy-Entropy Compensation in the Ion Pair Chromatography of Haloacetic Acids, *Chromatographia*, in preparation.
129. L. San Miguel and K.G. Furton, Comparison of Ion Suppression and Ion-Pair Chromatography of Haloacetic Acid using Direct and Indirect UV and Fluorescence Detection, *J. Liq. Chromatogr.*, in preparation.
130. K.G. Furton, A. Norelus and A. Norelus, A Forensic Science Experiment: The Chemical Development of Latent Fingerprints with the Exclusive use of Consumer Products, *J. Chem. Ed.*, in preparation.
131. K.G. Furton, A. Norelus and C. Ferro, “Ultra” Chromatography: The Use of Laundry Detergents as Chromatographic Stationary Phases, *J. Chem. Ed.*, in preparation.
132. K.G. Furton, B. Memari and S. Rose, The Relative Influence of Variables Affecting the Precision and Accuracy of the Intoxilyzer 5000, *J. Forensic Sci.*, In preparation.

133. K.G. Furton, J. Wang, J. Bruna and J.R. Almirall, Variables Controlling the Recovery of Ignitable Liquid Residues from Fire Debris Samples Using Solid Phase Microextraction/Gas Chromatography, *J. Chromatogr.*, in preparation.
134. A.J. Sabucedo and K.G. Furton, Stabilization of Troponin I a Biochemical Marker for Time of Death from Heart Tissues, *Clin. Chem*, in preparation.
135. Y. Deng, X. Fan and K.G. Furton, Method Development for the Analysis of Explosives Using Micellar Electrokinetic Capillary Chromatography, *J. Chromatogr.*, in preparation.
136. J. Almirall and K.G. Furton, Solid Phase Microextraction, *Chem. Rev.*, in preparation.

#### PAPERS/PRESENTATIONS AT MEETINGS/CONFERENCES

---

1. S.C. Dhanesar, K.G. Furton, M.E. Coddens, and C.F. Poole, Organic Molten Salt Phases for Gas Chromatography, 36th Pittsburgh Conference and Exposition, New Orleans, Louisiana, February 25 - March 1, 1985.
2. K.G. Furton, M.E. Coddens, S.C. Dhanesar, S.J. Ho, and C.F. Poole, Chromatographic Properties of Organic Molten Salts, 21st International Symposium - Advances in Chromatography, Oslo, Norway, June 3 - 6, 1985.
3. C.F. Poole, B.R. Kersten, S.J. Ho, M.E. Coddens, and K.G. Furton, Solvent Properties of Liquid Organic Molten Salts, 9th International Symposium on Column Liquid Chromatography, Edinburgh, Scotland, July 1 - 5, 1985.
4. K.G. Furton and C.F. Poole, Organic Molten Salt Phases for G.C., 1985 Anachem Symposium, Plymouth, Michigan, October 24, 1985.
5. K.G. Furton and C.F. Poole, The Stationary Phase Properties of Tetra-n-butylammonium Salts in Gas Chromatography, 37th Pittsburgh Conference and Exposition, Atlantic City, New Jersey, March 10 - 14, 1986.
6. K.G. Furton and C.F. Poole, Liquid Organic Salts as Selective Stationary Phases for Gas Chromatography, 18th American Chemical Society Regional Meeting, Bowling Green, Ohio, June 1 - 5, 1986.
7. C.F. Poole, B.R. Kersten, and K.G. Furton, Factors Affecting the Determination of the Selectivity of Polar Stationary Phases for Gas Chromatography, 22nd International Symposium - Advances in Chromatography, Houston, Texas, September 15 - 18, 1986.
8. K.G. Furton and C.F. Poole, Factors Governing the Retention of Solutes on Liquid Organic Salt Phases in Gas Chromatography, 22nd International Symposium - Advances in Chromatography, Houston, Texas, September 15 - 18, 1986.

9. K.G. Furton and C.F. Poole, Retention Mechanisms of Liquid Organic Salt Phases Used in Gas Chromatography, Federation of Analytical Chemistry and Spectroscopy Societies, XIII, St. Louis, Missouri, September 28 - October 3, 1986.
10. C.F. Poole, K.G. Furton, and B.R. Kersten, Liquid Organic Salt Phases for Gas Chromatography, Federation of Analytical Chemistry and Spectroscopy Societies, XII, St. Louis, Missouri, September 28 - October 3, 1986.
11. C.F. Poole, B.R. Kersten, and K.G. Furton, Determination of the Selectivity of Polar Phases, 1986 Anachem Symposium, Plymouth, Michigan, October 28, 1986.
12. K.G. Furton and C.F. Poole, Evaluation of Polarity and Selectivity of Liquid Organic Salt Phases in Gas Chromatography by Thermodynamic Quantities, 1986 Anachem Symposium, Plymouth, Michigan, October 28, 1986.
13. K.G. Furton and C.F. Poole, Comparison of the Intermolecular Interactions in LOS and Non-Ionic Liquids by GLC Physicochemical Measurements, 24th International Symposium - Advances in Chromatography, Berlin, West Germany, September 8 - 10, 1987.
14. K.G. Furton, J. H. Purnell, and G. Stedman, Gas Chromatographic Study of the Complexation of Hydrogen Chloride With Tributyl Phosphate in Organic Solvents, 25th Anniversary Analytical Chemistry Research and Development Topics Meeting - Royal Society of Chemistry, Plymouth, United Kingdom, July 18 - 19, 1988.
15. K.G. Furton, J.H. Purnell, and G. Stedman, Chromatographic Investigation of the Solution Properties of Hydracids in Tributyl Phosphate/Hydrocarbon/Aqueous Systems, 25th International Symposium - Advances in Chromatography, Minneapolis, Minnesota, August 29 - September 1, 1988.
16. K.G. Furton, J. H. Purnell, and G. Stedman, Thermodynamics of Hydracid Complexation Studied by Gas Chromatography, 198th ACS National Meeting, Miami, Florida, September 10-15, 1989.
17. K.G. Furton and R. Morales, Anion and Cation Effects on the Polarity and Selectivity of Liquid Organic Salt Stationary Phases Used in Gas Chromatography, 198th ACS National Meeting, Miami, Florida, September 10-15, 1989.
18. K.G. Furton and R. Morales, The Stationary Phase Properties of Liquid Tetra-n-butylammonium Alkyl and Aryl Sulfonate Salts Used in Gas Chromatography, 16th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies, Chicago, Illinois, October 1 - 6, 1989.
19. A. Mantilla and K.G. Furton, Evaluation of Laundry Detergents Containing Anionic Surfactants as Column Packings in Gas Chromatography, 1990 Society for the

- Advancement of Chicanos and Native Americans in Science Conference, Tempe, Arizona, January 5 - 7, 1990.
20. K.G. Furton and J. Rein, Study of Microextractor Designs and Optimization for Use in Analytical Supercritical Fluid Extraction of Environmentally Important Compounds, 200th ACS National Meeting, Washington, D.C., August 26 - 31, 1990.
  21. K.G. Furton and R. Morales, Gas Chromatographic Physicochemical Measurements and Practical Applications of Liquid Tetra-n-butylammonium n-alkyl Sulfonate Salts, 200th ACS National Meeting, Washington, D.C., August 26 - 31, 1990.
  22. M.I. Perez and K. G. Furton, Polarity and Selectivity of Ionic Gas Chromatographic Stationary Phases: Comparison of Anionic Detergents to Conventional Molecular Liquids, SACNAS Conference, Costa Mesa, California, January 4 - 7, 1991, Young Scholars Poster 4.
  23. K. Mopper and K.G. Furton, Extraction and Analysis of Polysaccharides, Chiral Amino Acids, and SFE-extractable Lipids from Marine POM, FRECLES Workshop on "The Analysis and Characterization of Marine Particles", East-West Center, Honolulu, Hawaii, January 20-26, 1991.
  24. K.G. Furton, C. Blanco and R. Morales, Effect of Anion Chain Length on the Thermodynamics of Solute-Solvent Interactions in Liquid Organic Salts Studied by Gas Chromatography, Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Chicago, Illinois, March 4-8, 1991.
  25. K.G. Furton, C. Cork and J. Rein, Factors Governing the Supercritical Fluid Extraction Efficiencies of Polycyclic Aromatic Hydrocarbons in Combination with Gas, Liquid, and Supercritical Fluid Chromatography, Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Chicago, Illinois, March 4-8, 1991.
  26. J. Rein and K.G. Furton, The Quantitative Effect of Microextractor Cell Geometry on the Supercritical Fluid Extraction Efficiencies of Environmentally Important Compounds, 201st ACS National Meeting, Atlanta, Georgia, April 14-19, 1991, ACS Sci-Mix.
  27. K.G. Furton and J. Rein, Factors Governing the Supercritical Fluid Extraction Efficiencies of Polycyclic Aromatic Hydrocarbons and Correlations with Supercritical Fluid Chromatographic Data, 201st ACS National Meeting, Atlanta, Georgia, April 14-19, 1991, Invited Paper for ACS Symposium Series 'Supercritical Fluid Technology'.
  28. J. Rein and K.G. Furton, The Quantitative Effect of Microextractor Cell Geometry on the Supercritical Fluid Extraction Efficiencies of Environmentally Important Compounds, 201st ACS National Meeting, Atlanta, Georgia, April 14-19, 1991, Environmental Chemistry Division.

29. K.G. Furton and J. Rein, The Relative Effect of Experimental Variables on the Supercritical Fluid Extraction of Polycyclic Aromatic Hydrocarbons from Octadecyl Sorbents, 1991 Annual Meeting of the Florida Section of the American Chemical Society, Tampa, Florida, May 15-17, 1991, Session 9: Environmental Chemistry; paper No. 96.
30. K.G. Furton, E. Jolly, Q. Lin, and J. Rein, The Quantitative Effect of Experimental Variables on the Supercritical Fluid Extraction of Polycyclic Aromatic Hydrocarbons and Polychlorinated Biphenyls from Model Sorbents and Environmental Solids, 2nd Pan American Chemical Congress, San Juan, Puerto Rico, September 24-29, 1991.
31. A. Norelus and K. G. Furton, A Novel Colorimetric Method for Determining the Critical Micelle Concentration of Aqueous Surfactant Solutions, SACNAS Conference, San Antonio, Texas, January 2 - 4, 1992.
32. K.G. Furton, Raul Morales and A. Calvo, Anomalous Selectivity Variation when Employing the Rohrschneider/McReynolds System to Characterize Liquid Organic Salt Stationary Phases, 1992 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, Louisiana, March 9-13, 1992.
33. K.G. Furton, E. Jolly, Q. Lin, and J. Rein, The Relative Effects of Temperature, Density, and Cell Dimensions on the Supercritical Fluid Extraction Efficiencies of Analytes from Model Sorbents and Environmental Solids, 1992 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, Louisiana, March 9-13, 1992.
34. K.G. Furton, and A. Norelus, An Accurate, Straightforward Visualization Technique for Determining Critical Micelle Concentrations, 204th ACS National Meeting, San Francisco, California, April 5 - 10, 1992.
35. K.G. Furton, E. Jolly, and J. Rein, Selective Elution of Analytes from Solid Phase Extraction Sorbents using Supercritical Fluids, 204th ACS National Meeting, San Francisco, California, April 5 - 10, 1992, Invited Paper for symposium entitled 'Solid Phase Extraction in Environmental and Clinical Chemistry'.
36. K.G. Furton, E. Jolly, and Q. Lin, Variables Affecting the Analytical-Scale Supercritical Fluid Extraction Efficiencies of Environmentally Important Compounds, 1992 Annual Meeting - Florida Sections - American Chemical Society, Cocoa Beach, Florida, April 30 - May 2, 1992.
37. A. Norelus and K.G. Furton, The Gas-Liquid Chromatographic Stationary Phase Properties of Commercial Detergent Powders used as Column Packings, 1993 Society for the Advancement of Chicanos and Native Americans in Science Conference, Albuquerque, New Mexico, January 14 - 18, 1993.
38. C. Ferro Hernandez and K.G. Furton, Comparison of the Physical Properties and Efficacy of Regular and "Ultra" Laundry Detergent Powders, 1993 Society for the Advancement of

- Chicanos and Native Americans in Science Conference, Albuquerque, New Mexico, January 14 - 18, 1993.
39. E. Jolly, J. Rein and K.G. Furton, The Supercritical Fluid Extraction of Drugs of Abuse from Octadecylsilane Solid Phase Sorbents, 1993 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, Georgia, March 8-12, 1993.
  40. K.G. Furton, B. Glickman, C.F. Hernandez, and A. Norelus, The Gas-Liquid Chromatographic Stationary Phase Properties of Alkylbenzenesulfonate Salts, 1993 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, Georgia, March 8-12, 1993.
  41. K.G. Furton and Q. Lin, Supercritical Fluid Extraction of Polychlorinated Biphenyls from Solid Phase Sorbents: The Effect of Cell Dimensions, Fluid Flow Rate, and Sorbent Type, 1993 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Atlanta, Georgia, March 8-12, 1993.
  42. K.G. Furton, E. Jolly and Q Lin, Variables Influencing the Supercritical Fluid Extraction of PCBs and PAHs from Solid Phase Sorbents, Invited paper for Environmental Chemistry division symposium "Applications of Supercritical Fluid Extraction" 205th ACS National Meeting, Denver, Colorado, March 28 - April 2, 1993.
  43. E. Jolly, K.G. Furton, J. Rein and L. Hearn, The Use of Supercritical Fluids To Elute Drugs From Solid Phase Sorbents, 1993 Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 6 - 8, 1993.
  44. K.G. Furton, Advances in Sample Preparation Methods For The Isolation and Concentration of Non-volatile Poisons, Invited speaker for Forensic Chemistry symposium, 1993 Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 6 - 8, 1993.
  45. A. Norelus and K.G. Furton, The Development of an Inexpensive, Straightforward Method for Determining Critical Micelle Concentrations With High Accuracy, 1993 Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 6 - 8, 1993.
  46. K.G. Furton, L. Chen, Y.-M. Gong, R. Jaffe and C.-W. Huang, The Study of 'Trapped' Analytes in Environmental Solids Using Unconventional Solids and Supercritical Fluids, Invited presentation for special symposium on SFE at the 1993 Southeast Regional American Chemical Society Meeting, Johnson City, Tennessee, October 17 - 20, 1993.
  47. P. Cabauy and K.G. Furton, Development of Accurate Straightforward Inexpensive Methods for Determining Critical Micelle Concentrations of Aqueous Surfactant Solutions, NSF National Conference on Diversity in the Scientific and Technological Workplace, Washington, D.C., October 28-30, 1993 (Student won 1st place in undergraduate research paper competition).

48. K. G. Furton, E. Jolly, A.J. Sabucedo, J. Rein and L. Hearn, Supercritical Fluid Extraction in Forensic Toxicology: Potential and Problems, Invited presentation for symposium "SFE and SFC: Current Status and Future Directions", 1993 Eastern Analytical Symposium & Exposition, Somerset, New Jersey, November 14 - 19, 1993.
49. K.G. Furton, R. Jaffe, C.-W. Huang and M.A Sicre, High Temperature SFE for the Recovery of Hydrophobic Organic Compounds from Ancient Sediments, The 5th International Symposium on Supercritical Fluid Chromatography and Extraction, Baltimore, Maryland, January 11 - 14, 1994.
50. K.G. Furton and R. Vichot, Variables Influencing the Reversed-Phase Ion-Pair Chromatography of Haloacetic Acids with Indirect Detection, 1994 Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Chicago, Illinois, February 27 - March 3, 1994.
51. A.J. Sabucedo and K.G. Furton, Selectivity Schemes for the Systematic Choice of Modifiers for Use In Supercritical Fluid Extraction, 1994 FIU GSA Graduate Students Scholarly Forum, Miami, Florida, April 11, 1994.
52. P. Cabauy, A. Norelus, M.L. Sarkees and K.G. Furton, Inexpensive Undergraduate Experiments Demonstrating the Physicochemical Properties of Micellar Solutions, 1994 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 7, 1994.
53. A. Norelus and K.G. Furton, The Gas Chromatographic Stationary Phase Properties of Alkylbenzenesulfonate Salts and Commercial Detergents, 1994 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 7, 1994.
54. A.J. Sabucedo, E. Jolly, and K.G. Furton, Comparison of Solvent Selectivity Schemes for the Systematic Choice of Modifiers for Use In Supercritical Fluid Extraction, 1994 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 7, 1994.
55. C.-W. Huang, K.G. Furton, R. Jaffe, and M.A. Sicre, The Recovery of HOCs from Sediments Using High-Temperature Supercritical Carbon Dioxide Extraction, 1994 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 7, 1994.
56. K.G. Furton and S. Rose, Cocaine Contaminated Currency, Metro-Dade Police Department Narcotics Canine Course, Miami, Florida, August 29 - September 2, 1994.
57. K.G. Furton, A. Sabucedo, J. Rein and W.L. Hearn, Supercritical Fluid Extraction/Enzyme Immunoassay for the Rapid Determination of Phenobarbital in Human Liver Tissues, Southern Association of Forensic Scientists - Fall 1994 Meeting, Orlando, Florida, September 7 - 10, 1994.

58. J.R. Almirall, K.G. Furton and J.C. Bruna, A Novel Method for the Analysis of Gasoline from Fire Debris Using Headspace Solid-Phase Microextraction, Southern Association of Forensic Scientists - Fall 1994 Meeting, Orlando, Florida, September 7 - 10, 1994.
59. K.G. Furton, A.J. Sabucedo, E. Jolly, J. Rein and W.L. Hearn, Supercritical Fluid Extraction of Drugs of Abuse from Post-Mortem Fluids and Tissues, Joint Congress of the International Association of Forensic Toxicologists and Society of Forensic Toxicologists, Tampa, Florida, October 31 - November 4, 1994.
60. K.G. Furton, J.R. Almirall, and J.C. Bruna, The Application of Headspace Solid-Phase Microextraction to the Analysis of Accelerants from Fire Debris in Casework (B7), 47th Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 13 - 18, 1995.
61. J.R. Almirall, K.G. Furton and J.C. Bruna, A Novel Method for the Analysis of Accelerants from Fire Debris Using Headspace Solid-Phase Microextraction (B61), 47th Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 13 - 18, 1995.
62. A. Sabucedo, K.G. Furton, J. Rein and W.L. Hearn, Supercritical Fluid Extraction/Enzyme Immunoassay for Determination of Drugs of Abuse in Human Tissue, Pittcon '95, New Orleans, Louisiana, March 5 - 10, 1995, 614.
63. J.C. Bruna, J.R. Almirall and K.G. Furton, The Rapid Ultra-Trace Analysis of Accelerants from Fire Debris Using Headspace Solid-Phase Microextraction, Pittcon '95, New Orleans, Louisiana, March 5 - 10, 1995, 999.
64. A. Norelus and K.G. Furton, Ultra Chromatography: Evaluation of Various Regular and "Ultra" Laundry Detergent Powders Used as Gas Chromatographic Packings., 209th ACS National Meeting, Anaheim, California, April 2 -6, 1995.
65. P. Cabauy, Y. Darici and K.G. Furton, Study of Sulfur Bonding on Gallium Arsenide (100) Surfaces using Supercritical Fluid Extraction, 209th ACS National Meeting, Anaheim, California, April 2 -6, 1995.
66. N. Hajje, R. Jaffe, L. Chen, C.-W. Huang, K.G. Furton and M.A. Sicre, Supercritical Carbon Dioxide Extractions of Geological Samples at Various Temperatures: Preliminary Results, 209th ACS National Meeting, Anaheim, California, April 2 -6, 1995.
67. B. Viniegra, P. Cabauy, K.G. Furton and R. Jaffe, Supercritical Fluid Extractions of Hydrophobic Organic Compounds (HOCs) from Different Solid Phases, 209th ACS National Meeting, Anaheim, California, April 2 -6, 1995.
68. J.C. Bruna, J.R. Almirall, and K.G. Furton, The Application of Direct and Headspace Solid-Phase Microextraction to the Analysis of Forensic Science Casework, 1995 Joint

- Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
69. A. Sabucedo, K.G. Furton, J. Rein and W.L. Hearn, Supercritical Fluid Extraction/Enzyme Immunoassay for the Rapid Determination of Drugs in Forensic Toxicology Samples, 1995 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
  70. A. Norelus, A. Norelus, J. Carranza and K.G. Furton, Undergraduate Laboratory Experiments in Forensic Science Utilizing Consumer Products, 1995 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
  71. P. Cabauy, Y. Darici and K.G. Furton, The Use of High Temperature Supercritical Fluid Extraction to Study Sulfur Bonding on Gallium Arsenide Semiconductor Surfaces, 1995 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
  72. D. Diaz, N. Hajje, R. Jaffe, K.G. Furton, C. Eckardt and H.R. Fuentes, Supercritical Fluid Extraction of Geological Samples: Extraction Temperature Dependence and Molecular Speciation, 1995 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
  73. L. Marbot, R. Jaffe, K.G. Furton, and H.R. Fuentes, Molecular Speciation of Hydrophobic Compounds in Sediments from the Port of Galveston, Texas, 1995 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
  74. Y. Gong, R. Jaffe and K.G. Furton, Experimental Parameters Controlling the Supercritical Fluid Extraction of Hydrocarbons from Geological Samples, 1995 Joint Annual Meeting - Florida Sections - American Chemical Society, Orlando, Florida, May 5 - 6 1995.
  75. J.R. Almirall and K.G. Furton, A Fast and Simple Method for the Analysis of Accelerants From Fire Debris Using Headspace Solid-Phase Microextraction, The International Symposium on the Forensic Aspects of Arson Investigations, Fairfax, Virginia, July 31 - August 4, 1995.
  76. R. Jaffe, L. Chen, C.-W. Huang, N. Hajje, K.G. Furton and M.A. Sicre, An Investigation of Hydrocarbon Speciation in Ancient Sediments by Stepwise Supercritical Carbon Dioxide Extraction at Various Temperatures, 17th International Meeting on Organic Geochemistry, Donostia-San Sebastian, The Basque Country, Spain, September 4 - 8, 1995.
  77. Y.-L. Hsu, Y.-C. Hong, T. Luo and K.G. Furton, Challenges in the Preparation of Laboratory and Field Samples Used to Determine the Chemical Basis of Cocaine Detection by Canines, International Conference & Exposition Sample Preparation & Hyphenated Techniques in Analytical Separations, Orlando (Haines City), Florida, January 21 - 24, 1996.

78. K.G. Furton, Y.C. Hong and Y.L. Hsu, Development of Multistep Sample Preparation Methods for the Isolation of Non-Volatile Drugs as well as Associated Volatile Chemicals Present in Forensic Specimens, International Conference & Exposition Sample Preparation & Hyphenated Techniques in Analytical Separations, Orlando (Haines City), Florida, January 21 - 24, 1996.
79. J. Bruna, K.G. Furton and J.R. Almirall, A Novel Technique for Recovering Flammable and Combustible Liquid Residues from Aqueous and Solid Fire Debris Samples, International Conference & Exposition Sample Preparation & Hyphenated Techniques in Analytical Separations, Orlando (Haines City), Florida, January 21 - 24, 1996.
80. R. Jaffe, K.G. Furton, D. Diaz, N. Hajje and H.R. Fuentes, Isolation of Hydrocarbons from Geological Samples: High Temperature Supercritical Fluid Extraction, International Conference & Exposition Sample Preparation & Hyphenated Techniques in Analytical Separations, Orlando (Haines City), Florida, January 21 - 24, 1996.
81. A. Sabucedo and K.G. Furton, SFE/EIA and SFE-GC/MS for the Rapid Analysis of Drugs of Abuse from Human Tissues, International Conference & Exposition Sample Preparation & Hyphenated Techniques in Analytical Separations, Orlando (Haines City), Florida, January 21 - 24, 1996.
82. R. Jaffe, K.G. Furton, D. Diaz, N.Hajje, Y. Gong and H.R. Fuentes, Stepwise Supercritical Carbon Dioxide Extraction at Increasing Temperatures: A Tool for Hydrocarbon Speciation Studies in Ancient Sediments, VI Latin American Congress on Chromatography, Caracas, Venezuela, January 21 - 25, 1996.
83. K.G. Furton, Y.-C. Hong, Y.-L. Hsu and S. Rose, Drug Money and Detection Dogs: What Are They Really Smelling and What Does it Mean?, 48th Annual Meeting of the American Academy of Forensic Sciences, Nashville, Tennessee, February 19 - 24, 1996, B12.
84. K.G. Furton, J.R. Almirall, and J.C. Bruna, The Rapid Analysis of Flammable and Combustible Liquid Residues from Fire Debris Using Solid-Phase Microextraction, 48th Annual Meeting of the American Academy of Forensic Sciences, Nashville, Tennessee, February 19 - 24, 1996, B41.
85. J.R. Almirall, M.R. Cole and K.G. Furton, Characterization of Glass Evidence by the Statistical Analysis of their Inductively Coupled Plasma/Atomic Emission Spectroscopy and Refractive Index Data, 48th Annual Meeting of the American Academy of Forensic Sciences, Nashville, Tennessee, February 19 - 24, 1996, B77.
86. K.G. Furton, A. Sabucedo, Joseph Rein and W. Lee Hearn, The Potential and Problems Using Supercritical Fluid Extraction in Forensic Toxicology, Invited Presentation at the 48th Annual Meeting of the American Academy of Forensic Sciences, Nashville, Tennessee, February 19 - 24, 1996, K46.

87. K.G. Furton and A. Sabucedo, The Development of Supercritical Fluid Extraction/Enzyme Immunoassay for Forensic Drug Analysis, Invited Guest Speaker for the 7th International Symposium on Supercritical Fluid Chromatography and Extraction, Indianapolis, Indiana, March 31 - April 4, 1996.
88. K.G. Furton Threshold Levels of Cocaine Odor Detection by K-9's Under Field Conditions, Invited Speaker at the Seventh Annual FAA Southern Region K-9 Conference, Atlanta, Georgia, May 21 - 23, 1996
89. K.G. Furton, Y.-L. Hsu and T. Luo, Statistical Significance of Cocaine Contamination on U.S. and Canadian Currency and Correlation to Detector Dog Alerts to Suspected Drug Money, Third International Conference on Forensic Statistics, Edinburgh, Scotland, June 30 - July 3, 1996. Granted NSF Travel award to attend.
90. K.G. Furton Odor Signatures of Narcotics Analyzed by GC/MS and Threshold Levels of Detection for Drug Detection Canines Under Field Conditions, 14th Meeting of the International Association of Forensic Sciences (IAFS), Tokyo, Japan, August 26 - 30, 1996. Receptient of a Young Investigators' Award.
91. R. Jaffe, L. Marbot, K.G. Furton and H.R. Fuentes, Speciation of Hydrophobic Organic Compounds in Contaminated Sediments – Assessment via Stepwise Supercritical Fluid Extraction, 5<sup>th</sup> Latin American Congress on Organic Geochemistry, October, 1996, Cancun, Mexico.
92. O.G. Ferreira, H.R. Fuentes, R. Jaffe and K.G. Furton, Supercritical Fluid Extraction of PAH-Contaminated Soils, II International Seminar on Environment and Sustainable Development, Symposium No. 4: 'Energia y Medio Ambiente', October, 1996, Bucaramanga, Columbia.
93. K.G. Furton, A. Sabucedo, J. Rein and W.L. Hearn, Analysis of drugs in human tissues by supercritical fluid extraction/immunoassay, SPIE's First Annual Symposium on Enabling Technologies for Law Enforcement and Security, Boston, Massachusetts, November 19 - 21, 1996.
94. J.R. Almirall, M. Cole, K.G. Furton, and George Gettinby, The Statistical Significance of Trace Evidence Matches Using Independent Physicochemical Measurements, SPIE's First Annual Symposium on Enabling Technologies for Law Enforcement and Security, Boston, Massachusetts, November 19 - 23, 1996.
95. K.G. Furton, Y.-L. Hsu, T. Luo, N. Alvarez and P. Lagos, Novel sample preparation methods and field testing procedures used to determine the chemical basis of cocaine detection by canines, SPIE's First Annual Symposium on Enabling Technologies for Law Enforcement and Security, Boston, Massachusetts, November 19 - 21, 1996.
96. K.G. Furton, Y.-L. Hsu, T. Luo, N. Alvarez and P. Lagos, U.S. Currency Cocaine Speciation and Threshold Levels of Cocaine Odor Detection by K-9, Man and Machines,

- 49th Annual Meeting of the American Academy of Forensic Sciences, New York, New York, February 17 - 22, 1997, B30.
97. J.R. Amirall, M. Cole, G. Gettinby and K.G. Furton, The Evaluation of the Physicochemical Measurements of Glass Fragments, 49th Annual Meeting of the American Academy of Forensic Sciences, New York, New York, February 17 - 22, 1997, B79.
  98. L. San Miguel and K.G. Furton, Comparison of Ion Suppression and Ion-Pair Chromatography of Haloacetic Acid using Direct and Indirect UV and Fluorescence Detection, 1997 Annual Meeting of the Florida Sections - American Chemical Society, Orlando, Florida, May 2 - 3 1997.
  99. M. Bi, J.R. Almirall, and K.G. Furton, Potential and Problems in the Analysis of Explosives by Solid-Phase Microextraction followed by HPLC and GC/MS, 1997 Annual Meeting of the Florida Sections - American Chemical Society, Orlando, Florida, May 2 - 3 1997.
  100. T. Luo, F. Lopez and K.G. Furton, Diffusion of Volatile Drug Components Under Controlled Experimental Conditions and the Relevance to Detector Dog Alerts to Suspected Drug Money, 1997 Annual Meeting of the Florida Sections - American Chemical Society, Orlando, Florida, May 2 - 3 1997.
  101. Y.-L. Hsu and K. G. Furton, Speciation of Cocaine and Methyl Benzoate in Forensic Specimens Studied by SPME/GC/MS/MS, 1997 Annual Meeting of the Florida Sections - American Chemical Society, Orlando, Florida, May 2 - 3 1997.
  102. J. Wang, J.R. Almirall, and K.G. Furton, The Influence of Water on the Analysis of Accelerants in Fire Debris Using Direct and Headspace Solid-Phase Microextraction, 1997 Annual Meeting of the Florida Sections - American Chemical Society, Orlando, Florida, May 2 - 3 1997.
  103. K.G. Furton, What Chemical Education Background is Required to Land a Job in a Crime Lab?, 1997 Annual Meeting of the Florida Sections - American Chemical Society, Orlando, Florida, May 2 - 3 1997.
  104. K.G. Furton, Scientific Investigation of Dog Alerts to Drug Odor Chemicals on Currency, Detection Canine Trainer Certification Course, Organized by K.G. Furton, Supervised by P.W. Gallagher, co-sponsored by the National Forensic Science Technology Center and the International Forensic Research Institute, Miami, Florida, June 9 - 13, 1997
  105. K.G. Furton, Introduction to Chemometrics, Basic Trace Evidence Course sponsored by the Florida Crime Laboratory Council, Miami Beach, Florida, June 18-20, 1997. Invited 1 hour lecture.

106. M. Bi, J.R. Almirall and K.G. Furton, The Analysis of Explosives and Explosive Odors by Solid-Phase Microextraction Followed by HPLC and GC/MS, 214<sup>th</sup> ACS National Meeting, Las Vegas, NV, September 7 – 11, 1997.
107. J. Wang, J.R. Almirall and K.G. Furton, Variables Influencing the Recovery of Ignitable Liquid Residues from Simulated Fire Debris Samples Using Solid-Phase Microextraction, 214<sup>th</sup> ACS National Meeting, Las Vegas, NV, September 7 – 11, 1997.
108. T. Luo, and K.G. Furton, Evaluation of Solid-Phase Microextraction for the Detection of Cocaine Odors and the Relevance to Drug Dog Detection, 214<sup>th</sup> ACS National Meeting, Las Vegas, NV, September 7 – 11, 1997.
109. K.G. Furton, K-9's and Currency: Scientific Validation of Alerts, California Narcotic Canine Association Annual Training Conference, Van Nuys, California, October 9-11, 1997. Invited instructor for two 2-hour sessions.
110. K.G. Furton, Chemical Basis of Dog Alerts to Drug Money, University of Central Florida Chemistry Departmental Seminar, Orlando, Florida, October 13, 1997.
111. K.G. Furton, The Chemical Validation of K-9 Alerts to Drug Money, University of Miami Chemistry Departmental Seminar, Miami, Florida, November 21, 1997.
112. Y. Deng, A. Delgado, C. Nolan, X. Fan, K.G. Furton, Y. Zuo and R. Jones, Method Development for the Analysis of Aromatic Acids Using Capillary Zone Electrophoresis, The First SoFLACS Industrial/Academe Symposium on Marine and Environmental Chemistry, Highland Beach, Florida, November 15, 1997.
113. K.G. Furton, The Chemical Basis of Dog Alerts to Drug Odors, Detection Canine Trainer Certification Course, Organized by K.G. Furton, Supervised by P.W. Gallagher, co-sponsored by the National Forensic Science Technology Center and the International Forensic Research Institute, Miami, Florida, January 12 – 16, 1998.
114. Y. Deng, X. Fan, A. Delgado, C. Nolan, K.G. Furton, Y. Zuo and R. Jones, Separation and Quantitative Determination of Phenolic Acids by Capillary Zone Electrophoresis, The Eleventh International Symposium on High Performance Capillary Electrophoresis and Related Microscale Technology (HPCE'98), January 31 – February 5, 1998, Orlando, Florida.
115. K.G. Furton, Training and Research Trends in Materials Analysis, part of workshop on Developments in Trace Evidence Examinations: Interpretation of Material Transfers with J.R. Almirall, K. Lothridge, S.M. Ballou, J.L. Buckle and M.M. Houck, 50th Annual Meeting of the American Academy of Forensic Sciences, San Francisco, California, February 9 - 14, 1998, Workshop #1.

116. K.G. Furton and M.D. Cole, What Educational Background Is Required by Crime Laboratory Directors?, 50th Annual Meeting of the American Academy of Forensic Sciences, San Francisco, California, February 9 - 14, 1998, B11.
117. K.G. Furton, Y.-L. Hsu, T. Luo, F. Lopez and S. Rose, Diffusion Studies and SPME/GC/MS/MS Analysis of Volatile Drug Components and the Relevance to Detector Dog Alerts to Suspected Drug Money, 50th Annual Meeting of the American Academy of Forensic Sciences, San Francisco, California, February 9 - 14, 1998, B49.
118. J.R. Almirall, J. Wang and K.G. Furton, Variables Controlling the Recovery of Ignitable Liquid Residues from Simulated Fire Debris Samples Using Solid Phase Microextraction/Gas Chromatography, 50th Annual Meeting of the American Academy of Forensic Sciences, San Francisco, California, February 9 - 14, 1998, B70.
119. J.R. Almirall, G. Bi and K.G. Furton, The Analysis of High Explosives Residues by Solid-Phase Microextraction Followed by HPLC, GC/ECD and GC/MS, 50th Annual Meeting of the American Academy of Forensic Sciences, San Francisco, California, February 9 - 14, 1998, B71.
120. J. Hudson, R. Knabe, K.G. Furton and S. Rose, Panel: Airport Searches and Canine Cases, U.S. Department of Justice Advanced Asset Forfeiture Seminar, Charleston, South Carolina, February 17-19, 1998.
121. A. Norelus, K.G. Furton, Y.L. Hsu, T. Luo, F. Lopez and S. Rose, Analysis of Volatile Cocaine Components and the Relevance to Detector Dog Alerts to Suspected Drug Money, paper 60a, 215<sup>th</sup> ACS National Meeting, Dallas, Texas, March 29 – April 2, 1998.
122. L. Wu, M. Bi, J.R. Almirall and K.G. Furton, Optimization of SPME for the Recovery of Explosives Followed by Gas and Liquid Chromatographic Analysis, FAME98 (ACS Florida Annual Meeting and Exposition), Orlando, Florida, May 8 – 9, 1998.
123. D.C. Duckworth, D.C. Bayne, S.J. Morton, D.H. Smith, J.R. Almirall, R.D. Koons and K.G. Furton, Elemental Analysis of Forensic Glasses by Inductively Coupled Plasma Mass Spectrometry, 46<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Orlando, Florida, May 31 - June 4, 1998.
124. R. Knabe, S. Rose and K.G. Furton, Scientific Validation of the Uses of Canines in Forefeiture Cases, Invited speaker at the U.S. Department of Justice Southwest Border/Asset Forfeiture Financial Investigations Seminar, Albuquerque, New Mexico, June 23-25, 1998.
125. C.M. Lopez, J. Lopez, R. Jaffe and K.G. Furton, High Pressure Water/Solid Phase Microextraction of Hydrocarbons from Geological Samples, 216th ACS National Meeting, Boston, MA, August 23-27, 1998.

126. K.G. Furton, Scientific Evaluation of K-9 Alerts to Currency and Comparison to an Electronic Nose, California Narcotic Canine Association Annual Training Conference, Van Nuys, California, October 7-10, 1998. Invited instructor for two 2-hour sessions.
127. R. Knabe, S. Rose and K.G. Furton, Practical and Legal Implications of the Use of Canines in Search and Seizure Operations, Invited speaker at the Florida Association of Police Attorneys (FAPA) Legal Update Seminar, Long Boat Key, Florida, November 5 - 6, 1998.
128. K.G. Furton, Optimized Analysis of Narcotic, Explosive and Accelerant Residues from Forensic Specimens Using SPME Combined with Chromatographic Separation and Spectroscopic Identification, Chemical and Analytical Sciences Division Seminar, Oak Ridge National Laboratory, Oak Ridge, Tennessee, January 26, 1999.
129. K.G. Furton, Location and identification of drug money, accelerants and explosives by odor signatures using K-9s and instrumental analysis, Chemical Science and Technology Division Seminar, Los Alamos National Laboratory, Los Alamos, New Mexico, February 3, 1999.
130. K.G. Furton, New Developments in Forensic Chemistry, Invited speaker at the multidisciplinary symposium: An Overview of the Forensic Sciences: Where Have We Been and Where are We Going?, 51<sup>st</sup> Annual Meeting of the American Academy of Forensic Sciences, Orlando, Florida, February 15- 20, 1999.
131. K.G. Furton, Y.-L. Hsu, T. Luo, and S. Rose, Comparisons of Sensitivity and Reliability of Cocaine Odor Detection on Currency Using Chemical Sensors, Humans, SPME/GC/MS/MS Analysis and K9 Detection, 51<sup>st</sup> Annual Meeting of the American Academy of Forensic Sciences, Orlando, Florida, February 15- 20, 1999, B28.
132. K.G. Furton and M.D. Cole, What is the Ideal Criminalistics Curricula? Invited speaker at The Future of Education in the Forensic Sciences Symposium, 51<sup>st</sup> Annual Meeting of the American Academy of Forensic Sciences, Orlando, Florida, February 15- 20, 1999, B35.
133. K.G. Furton, L. Wu, J.R. Almirall, J. Wang and G. Bi, The Analysis of High Explosives and Ignitable Liquid Residues by Solid Phase Microextraction Combined with Chromatographic Analysis, 51<sup>st</sup> Annual Meeting of the American Academy of Forensic Sciences, Orlando, Florida, February 15- 20, 1999, B66.
134. J.R. Almirall, R.D. Koons, D.C. Duckworth, C.K. Bayne, S.J. Morton and K.G. Furton, The Forensic Analysis of Glass Fragments by ICP-MS, Pittcon '99, Orlando, Florida, March 7 - 12, 1999, 606.
135. K.G. Furton, Y.-L. Hsu, T. Luo, A. Norelus and S. Rose, Detection and Quantitation of Cocaine Odor Chemicals on US Paper Currency Using Chemical Sensors, Detector Dogs and SPME/GC-MS-MS Analysis, Pittcon '99, Orlando, Florida, March 7 - 12, 1999, 676.

136. J.Wang, J.R. Almirall, K. Lothridge and K.G. Furton, The Rapid Determination of Accelerant Residues in Fire Debris Samples and on Human Skin Using Solid Phase Microextraction/Gas Chromatography, Pittcon '99, Orlando, Florida, March 7 - 12, 1999, 1705P.
137. L.Wu, G. Bi, M.W. Shannon, J.R. Almirall and K.G. Furton, Rapid Extraction and Quantitation of Explosives in Water and Post-Explosion Residues Using SPME/GC/ECD/MS and SPME/HPLC/UV/MA Analysis, Pittcon '99, Orlando, Florida, March 7 - 12, 1999, 1706P.
138. R. Knabe, S. Rose and K.G. Furton, Money Seizures and the Use of Canines, U.S. Customs Service Academy Asset Forfeiture Financial Investigations Seminar, San Antonio, Texas, March 16 - 26<sup>th</sup>, 1999.
139. N.M. Sanchez, E. Hernandez, D. Aquilar, Z.C. Morales-Martinez, K.G. Furton and K. O'Shea, Five Consecutive Years of Outstanding Recognition of the Florida International University American Chemical Society Student Affiliate Chapter, 217<sup>th</sup> ACS National Meeting, Anaheim, California, March 21-25, 1999.
140. K.G. Furton, S. Rose and R.C. Pixler, Significance of a Dog Alert in a Forfeiture Case, Invited speaker at the U.S. Department of Justice Southwest Border/Asset Forfeiture Financial Investigations Seminar, Phoenix, Arizona, April 6-8, 1999.
141. K.G. Furton, Chemometrics Applied to Trace Evidence, Invited speaker at the National Forensic Science Technology Center "Trace Evidence Workshop", May 10-12, 1999, Miami, Florida.
142. K.G. Furton and S. Rose, Cocaine Detection on Currency by Detection K9's/K9 Olfaction and Scent Recognition, Invited speaker at the Pacific Northwest Police Detection Dog Association Narcotics Detection Dog Seminar and Clinic, Mt. Vernon, Washington, May 13-17<sup>th</sup>, 1999.
143. Y.-L. Hsu, J. Walton, C. Lopez, S. Rose and K.G. Furton, Applying the Scientific Method to the Determination of the Reliability of Law Enforcement Canines Used as Chemical Detectors, FAME99 (ACS Florida Annual Meeting and Exposition), Orlando, Florida, May 8 - 9, 1999.
144. B. Memari, S. Rose and K.G. Furton, Variable Affecting the Analytical Precision and Accuracy of the Intoxlyzer 5000, FAME99 (ACS Florida Annual Meeting and Exposition), Orlando, Florida, May 8 - 9, 1999.
145. J. Almirall, A. Bouza, K.G. Furton, D. Duckworth, S. Morton, C. Bayne and R. Koons, Discrimination Power of ICP-MS in the Forensic Analysis of Glass Fragments, 47<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, Dallas, Texas, June 13 - 17, 1999.

146. S.L. Ellison, S. Rose and K.G. Furton, Money Seizures and the Use of Canines, U.S. Customs Service Academy Asset Forfeiture/Financial Investigations Seminar, Jacksonville, Florida, June 15-25, 1999.
147. K.G. Furton, The Physiological and Chemical Basis of K9 Alerts to Drug Odor Signatures, International Narcotics Interdiction Association SKYNARC 1999 Conference, Ft. Lauderdale, Florida, June 13-16, 1999.
148. K.G. Furton, J. Almirall, S. Rose and K. Lothridge, Development, Implementation and Management of a Scientifically Sound Program to Determine and Certify the Reliability of Law Enforcement Canines Used as Chemical Detectors, 15<sup>th</sup> Triennial Meeting of the International Association of Forensic sciences (IAFS), August 22-28, 1999.
149. K.G. Furton, B. Memari and S. Rose, Statistical Evaluation of the Relative Influence of Variables Affecting the Precision and Accuracy of Breath Alcohol Concentration Measurements Using the Intixilyzer 5000, 15<sup>th</sup> Triennial Meeting of the International Association of Forensic sciences (IAFS), August 22-28, 1999.
150. K.G. Furton, Fundamentals of Drug Analysis, Fire Debris Analysis and Toxicology, Invited Speaker for U.S. Customs Forensic Science Training Class hosted by the National Forensic Science Technology Center (NFSTC), St. Petersburg, FL, September 15 – 29, 1999.
151. D.C. Duckworth, C.K. Bayne, S.J. Morton, J. Almirall, K.G. Furton and R.D. Koons, Discrimination of Glass Fragments by ICP-MS, 50<sup>th</sup> Anniversary Southeast Regional Meeting of the American Chemical Society (SERMACS-99), Knoxville, Tennessee, October 17-20, 1999.
152. J.R. Almirall and K.G. Furton, Forensic and Toxicology Applications: Ignitable Liquid Residues, Explosives and Drug analysis by SPME, invited paper in the Advances in Solid Phase Microextraction Session of the 1999 Eastern Analytical Symposium, Somerset, New Jersey, November 14 - 19, 1999.
153. K.G. Furton, Scientific Validation of Dog Alerts to Drug Odor Chemicals on Forfeiture Money, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 12-15, 2000. Invited instructor for two 2-hour sessions.
154. X. Fan, Y. Deng, L. Wu, J. Wang, R. Nossen, K.G. Furton and J.R. Almirall, Rapid Extraction and Quantitation of Explosives in Water and Post-Explosion Residues Using SPME/GC/ECD, SPME/HPLC/UV and SPME/MECC Analysis, 52<sup>nd</sup> Annual Meeting of the American Academy of Forensic Sciences, Reno, Nevada, February 21- 26, 2000. B3
155. J. Walton, Y.-L. Hsu, C. Lopez, J.R. Almirall, S. Rose, K. Lothridge and K.G. Furton, Development of a Scientific Protocol to Evaluate and Certify the Sensitivity and Reliability of Chemical(s) Odor Detection by Canines, 52<sup>nd</sup> Annual Meeting of the American Academy of Forensic Sciences, Reno, Nevada, February 21- 26, 2000. B9

156. S. Montero, K.G. Furton, D.C. Duckworth, S.J. Morton, C.K. Bayne, R.D. Koons and J.R. Almirall, Advances in Elemental Analysis of Glass by ICP-MS, 52<sup>nd</sup> Annual Meeting of the American Academy of Forensic Sciences, Reno, Nevada, February 21- 26, 2000. B32
157. Y. Deng, X. Fan, K.G. Furton and Y. Zuo, Separation and Identification of Aromatic Acids in Soil and Sediment Samples Using Solid-Phase Microextraction Followed by Capillary Electrophoresis, Pittcon 2000, New Orleans, LA, March 12 - 17, 2000, 1897P.
158. Y. Deng, X. Fan, K.G. Furton and Y. Zuo, Analysis of Phenolic Antioxidants in Chianti Red Wine and Cranberry Juice by Solid-Phase Microextraction and Capillary Electrophoresis, Pittcon 2000, New Orleans, LA, March 12 - 17, 2000, 1898P.
159. J.R. Almirall, K.G. Furton, D.C. Duckworth, S.J. Morton, C.K. Bayne, S. Montero, Trace-elemental analysis of forensic glass samples by ICP-MS, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000 Paper 108.
160. C. Lopez, J. Walton, Y-L. Hsu, J. Wang, S. Rose, K.G. Furton, Isolation, identification, quantitation, and confirmation of volatile odor signature chemicals in controlled substances and high explosives. 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000. Paper 523.
161. J.R. Almirall, R.M. Nossen, X. Fan, Y. Deng, L. Wu, J. Wang, K.G. Furton, Quantitation of high explosives extracted from postblast residues using SPME/GC/ECD, SPME/HPLC/UV, and SPME/MECC analysis, 219th ACS National Meeting, San Francisco, CA, March 26-30, 2000. Paper 540.
162. K.G. Furton and J.R. Almirall, Analytical Chemistry Applications in Forensic Science: New Methods and Method Development, FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000. Invited speaker and presider over Forensic Chemistry Symposium.
163. K.G. Furton, B. Memari and S. Rose, Evaluation of the Analytical and Biological Variables Affecting the Precision and Accuracy of Breath Alcohol Instruments Including the Inoxylyzer 5000, FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000.
164. A. Sabucedo, E. Jolly, J. Rein, W.L. Hearn and K.G. Furton, The Utility of Solvent Selectivity Schemes for the Optimization of Supercritical Fluid Extraction of Drugs from Model Sorbents and Post Mortem Tissues , FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000.
165. S. Montero, J.R. Almirall, K.G. Furton, D.C. Duckworth, S.J. Morgan and R.D. Coons, Trace Elemental Analysis of Forensic Glass by ICP-MS, FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000.

166. J. Walton, C. Lopez, J. Wang, Y.-L. Hsu, L.J. Myers and K.G. Furton, Comparison of the Identification of Volatile Odor Signatures Chemicals from Narcotics and High Explosives Using Canines and Instruments, FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000.
167. J. Wang, L. Wu, J.R. Almirall and K.G. Furton, The Application of Solid-Phase Microextraction to the Recovery of Accelerants and Explosive Traces from Forensic Specimens, FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000.
168. Y.-L. Hsu, S. Rose and K.G. Furton, Isolation and Quantitation of Drug Odor Chemicals and Free Fraction Drugs Using SPME/GC/MS/MS, FAME 2000 (Florida Annual ACS Meeting and Exposition), Orlando, Florida, May 12 and 13, 2000.
169. J.R. Almirall and K.G. Furton, Application of Solid Phase Microextraction to the Recovery of Explosive Residues from Post Blast Debris, Invited paper for symposium "Detection of Explosives: Challenges for Chemists", 220<sup>th</sup> ACS National Meeting, Washington, D.C., August 20-24, 2000.
170. K.G. Furton, Scientific Validation of Dog Alerts to Suspected Drug Money, invited talk at the Asset Forfeiture Seminar, Mid-Atlantic Narcotics Training Academy, Ft. Fisher, North Carolina, November 7-9, 2000.
171. K.G. Furton, K-9's & Currency: The Scientific Foundations and Efficacy of the Use of Canines as Chemical Detectors for Narcotics, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 11-13, 2001. Invited instructor for two 2-hour sessions.
172. K.G. Furton, J.R. Almirall, J. Wang and Y.-L. Hsu, Standardization of SPME Methods for Forensic Analysis including Arson and Explosives, Invited paper for the Sixth International Conference on Sample Preparation, January 21-24, 2001, Amelia Island, Florida, U.S.A.
173. A.J. Sabucedo, J. Almirall and K.G. Furton, Analysis of Flammables and Explosive Residues, Invited talk at workshop W4 "An Introduction to Solid-Phase Microextraction – Forensic Applications", 53rd Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 19- 24, 2001.
174. K.G. Furton, Forensic Sciences at Florida International University, One of four invited Academic Program Directors for Young Forensic Scientists Forum "Expectations and Realities for Forensic Science Employment", 53rd Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 19- 24, 2001.
175. K.G. Furton, J. Almirall and D.C. Duckworth, Discrimination of Forensic Glasses via Trace Element Analysis by Inductively Coupled Plasma Mass Spectrometry, National

- Institute of Justice Investigative and Forensic Science Division 2001 Program Meeting, Seattle, Washington, February 21, 2001.
176. Y.-L. Hsu, J. Walton, C. Lopez, S. Rose and K.G. Furton, The Analysis of Drug Odor Signatures and Free Fraction Drugs from Plasma Using SPME/GC/MS, 53rd Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 19- 24, 2001, B57.
  177. X. Fan, Y. Deng, L. Wu, J. Wang, J.R. Almirall and K.G. Furton, Critical Evaluation of SPME for the Rapid Analysis of High Explosives in Water and Post-Explosion Residues Combined with Separation Methods Including GC, HPLC, and MECC, 53rd Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 19- 24, 2001, B66.
  178. J. Wang, M.D. Plasencia, K.G. Furton, and J.R. Almirall, A Comprehensive Approach to the Extraction, Detection, and Identification of Compounds from Ignitable Liquid Residues Using SPME-GC-MS-MS, 53rd Annual Meeting of the American Academy of Forensic Sciences, Seattle, Washington, February 19- 24, 2001, B67.
  179. K.G. Furton, Comparison of Instrumental and K-9 Detection of Explosives and Drug Odors from Forensic Specimens, invited speaker for Symposium “Catching Crooks with Chemistry”, The Pittsburgh Conference 2001, New Orleans, LA, March 4-9, 2001.
  180. K.G. Furton, The Law and Science of Detector Dogs and How it Relates to the Drugs on Your Money, invited Featured Speaker for FIU Faculty Lunchtime Symposium, FIU Faculty Club, March 29, 2001
  181. K.G. Furton, Identification of Drug Money Using Biological and Instrumental Chemical Detectors: K9s and SPME/GC/MS/MS, Departmental Seminar, Department of Chemistry and Biochemistry, Ohio University, Athens, Ohio, April 13, 2001
  182. K.G. Furton, K-9s and Currency: Scientific Validation of Dog Alerts to Drug Odor Chemicals on Forfeiture Money, invited Featured Speaker at the Pacific Northwest Police Detection Dog Association Narcotics Interdiction Seminar, Vancouver, British Columbia, Canada, May 7<sup>th</sup> – 10<sup>th</sup>, 2001.
  183. K.G. Furton and S. Rose, K9 Olfaction and Scent Recognition: Odor Signature Chemicals of Methamphetamine and 3,4-Methylenedioxy-N-Methylamphetamine (Ecstasy), invited Featured Speaker at the Pacific Northwest Police Detection Dog Association Narcotics Interdiction Seminar, Vancouver, British Columbia, Canada, May 7<sup>th</sup> – 10<sup>th</sup>, 2001.
  184. N. Lorenzo, V. Cabrera, J. Prieto, J. Walton, Y.-L. Hsu and K.G. Furton, Identification of Canine Active Odor Signature Chemicals from Currency and Street Narcotics Including 3,4-Methylenedioxy-N-Methylamphetamine (Ecstasy), Florida Annual Meeting and Exposition (FAME), Orlando, Florida, May 11 & 12, 2001.

185. K.G. Furton, Norma Lorenzo, Ya-Li Hsu, Claudia Lopez, John Walton and Jose Almirall, Instrumental and K-9 Detection of Explosives, Drugs and Ignitable Liquid Residues, Florida Annual Meeting and Exposition (FAME), Orlando, Florida, May 11 & 12, 2001.
186. J. Wang, J.R. Almirall and K.G. Furton, The Application of SPME/GC/MS/MS to the Detection of Ignitable Liquid Residues from Fire Debris, Florida Annual Meeting and Exposition (FAME), Orlando, Florida, May 11 & 12, 2001.
187. K.G. Furton, K-9 alerts to “drug” money, 2<sup>nd</sup> National Detector Dog Conference: Training Aids and Certification Standards for the New Millennium, North Miami Beach, Florida, May 22-25, 2001.
188. K.G. Furton, J. Wang and J.R. Almirall, Determination of Active Odor Signature Chemicals and the Efficacy of the Use of Canines as Chemical Detectors for Explosives, 7<sup>th</sup> International Symposium on the Detection and Analysis of explosives, Edinburgh, Scotland, U.K. June 25-28, 2001.
189. J. R. Almirall and K.G. Furton, Fast Extraction of High Explosives from Water and Post-Blast Residues Using Solid-Phase Microextraction (SPME) for GC, HPLC and MECC Analyses, 7<sup>th</sup> International Symposium on the Detection and Analysis of explosives, Edinburgh, Scotland, U.K. June 25-28, 2001.
190. K.G. Furton, The Science of Currency Alerts, Invited speaker for two two hour talks, International Narcotics Interdiction Association 11<sup>th</sup> Annual Training Conference, Washington, D.C. July 15-18, 2001.
191. K.G. Furton, K-9's & Currency: The Scientific Foundations and Efficacy of the Use of Canines as Chemical Detectors, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 9-11, 2002. Invited instructor for two 2-hour sessions.
192. K.G. Furton, K-9 Alerts to Drug Money & the Designer Drug “MDMA”, invited speaker at the Advanced K-9 Narcotics Seminar, Police K-9 Training Institute, Ft. Lauderdale, Florida, January 14-18, 2002.
193. K.G. Furton, The importance of scientific research, proper training aids and a standardized certification program for reliable canine detection, invited speaker at the 2<sup>nd</sup> International Termite Detector Dog Association Conference, Clearwater, Florida, January 17-19, 2002.
194. J.R. Almirall, S. Montero and K.G. Furton, Association of Glass Fragments by their Trace Elemental Content Using ICP-MS and LA-ICP-MS in the Analysis Scheme, paper in session “Forensic Science: Technologies and Systems” of “Enabling Technologies for Law Enforcement and Security” program at SPIE's 16<sup>th</sup> Annual International Symposium on Aerospace/Defense Sensing, Simulation and Controls, Orlando, Florida, April 1-5, 2002.

195. K.G. Furton, T. Wan, R.J. Harper and J.R. Almirall, Analytical Techniques to Validate Explosive Detector Dogs for Evidentiary Purposes, paper in session “Forensic Science: Technologies and Systems” of “Enabling Technologies for Law Enforcement and Security” program at SPIE’s 16<sup>th</sup> Annual International Symposium on Aerospace/Defense Sensing, Simulation and Controls, Orlando, Florida, April 1-5, 2002.
196. A. Benson , A. Sabucedo , J. Almirall , K. G. Furton , Detection and identification of illicit drugs including GHB, rohypnol, ketamine, and psilocybin by refocused solid-phase microextraction high-performance liquid chromatography mass spectrometry, 223rd ACS National Meeting, Orlando, FL, ANYL 54, April 7-11, 2002.
197. N. Lorenzo , Y-L. Hsu , K. G. Furton, Identification of Canis familiaris active odor signature chemicals in methamphetamine and 3,4-methylenedioxy-N-methylamphetamine (Ecstasy), 223rd ACS National Meeting, Orlando, FL, ANYL 84, April 7-11, 2002.
198. Y-L. Hsu , S. Rose , K. G. Furton, Determination of the free fraction of protein-bound drugs using valproic acid in clinical samples by solid-phase microextraction GC/MS, 223rd ACS National Meeting, Orlando, FL, ANYL 143, April 7-11, 2002.
199. K.G. Furton, N. Lorenzo, Y.-L. Hsu, T. Wan and B. Young, Use of Detector Dogs for the Accurate Location and Collection of Forensic Evidence, Invited speaker for special session “Forensic Science Symposium and Hands-on Activity”, 223rd ACS National Meeting, Orlando, FL, April 7-11, 2002.
200. K.G. Furton, K-9 Olfaction and active odor signature chemicals in methamphetamine and 3,4-methylenedioxy-N-methylamphetamine (Ecstasy), invited Featured Speaker at the Pacific Northwest Police Detection Dog Association Narcotics Interdiction Seminar, Vancouver, British Columbia, Canada, May 6<sup>th</sup> – 10<sup>th</sup>, 2002.
201. N. Lorenzo, R.J. Harper, Y.-L. Hsu, J.R. Almirall and K.G. Furton, Identification of Canis Familiaris Active Odor Signature Chemicals from Narcotics and Explosives Employing Headspace SPME/GC/MS, 16<sup>th</sup> Australia and New Zealand Forensic Science Society (ANZFSS) International Symposium on the Forensic Sciences, Canberra, Australia, May 12-17, 2002.
202. K.G. Furton and A.J. Sabucedo, Determination of Time Since Death by Fragmentation of Cardiac Troponin I, 16<sup>th</sup> Australia and New Zealand Forensic Science Society (ANZFSS) International Symposium on the Forensic Sciences, Canberra, Australia, May 12-17, 2002.
203. K.G. Furton, What Educational Background Do Crime Lab Directors Require? – USA Perspective, invited speaker at the “Forensic Education and Training Forum” 16<sup>th</sup> Australia and New Zealand Forensic Science Society (ANZFSS) International Symposium on the Forensic Sciences, Canberra, Australia, May 12-17, 2002.
204. K.G. Furton, Explosive Residue Analysis and Odour Signature Analysis by SPME, invited instructor at “Practice and Applications of SPME Workshop”, 16<sup>th</sup> Australia and New

- Zealand Forensic Science Society (ANZFSS) International Symposium on the Forensic Sciences, Canberra, Australia, May 12-17, 2002.
205. A. Benson, A.J. Sabucedo, Y.-L. Hsu, L. Wu, J.R. Almirall and K.G. Furton, The Analysis of Thermally Labile Forensic Specimens Including Explosives and Illicit Drugs Using SPME/HPLC/MS, 16<sup>th</sup> Australia and New Zealand Forensic Science Society (ANZFSS) International Symposium on the Forensic Sciences, Canberra, Australia, May 12-17, 2002.
  206. K.G. Furton and A.J. Sabucedo, Cardiac Troponin I : A Time of Death Marker, 16<sup>th</sup> Meeting of the International Association of Forensic Sciences, Montpellier, France, September 2-7, 2002.
  207. N. Lorenzo, Y.-L. Hsu and K.G. Furton, Identification of Active Odor Signature Chemicals in 3,4-Methylenedioxy-N-Methylamphetamine (Ecstasy) Using Canis Familiaris as Biological Detectors, 16<sup>th</sup> Meeting of the International Association of Forensic Sciences, Montpellier, France, September 2-7, 2002.
  208. R.J. Harper, J.R. Almirall and K.G. Furton, A Comprehensive Study of the Scientific Foundation of Explosive Detector Dog Performance, 16<sup>th</sup> Meeting of the International Association of Forensic Sciences, Montpellier, France, September 2-7, 2002.
  209. K.G. Furton, S. Rose and Y.-L. Hsu, The Determination of the Free Fraction of Protein Bound Drugs Including Valproic Acid in Clinical Samples by Solid Phase Microextraction(SPME) GC/MS, 16<sup>th</sup> Meeting of the International Association of Forensic Sciences, Montpellier, France, September 2-7, 2002.
  210. K.G. Furton, ID of Unique Odor Chemicals from Narcotics, Explosives and Training Aids and the Legal Significance, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 15-17, 2003. Invited instructor for two 2-hour sessions.
  211. K.G. Furton, Recent Advances in Field Sampling in Forensic Science Including the Use of Detector Dogs, Forensic Sciences Symposium – South Florida ACS, Nova Southeastern University, Ft. Lauderdale January 18, 2003.
  212. R. Harper and K.G. Furton, Identification of Active Odor Signatures from Bomb Dogs, Forensic Sciences Symposium – South Florida ACS, Nova Southeastern University, Ft. Lauderdale January 18, 2003.
  213. A. Sabucedo and K.G. Furton, Development of a Time of Death Marker Based on Cardiac TroponinI, Forensic Sciences Symposium – South Florida ACS, Nova Southeastern University, Ft. Lauderdale January 18, 2003.
  214. Y.-L. Hsu and K.G. Furton, Analysis of Antipsychotic Drugs from Biological Samples Using Nonequilibrium SPME/GC/MS/MS, Forensic Sciences Symposium – South Florida ACS, Nova Southeastern University, Ft. Lauderdale January 18, 2003

215. J.M. Perr, C.J. Diaz, K.G. Furton and J.R. Almirall, The Analysis of Ignitable Liquid Residues and Explosive Material Using SPME/GC/MS/MS”, American Academy of Forensic Sciences Annual Meeting, Chicago, Illinois, February 17-22, 2003.
216. R.J. Harper, J.R. Almirall and K.G. Furton, A Comprehensive Study of the Scientific Foundation of Explosive Detector Dog Performance, American Academy of Forensic Sciences Annual Meeting, Chicago, Illinois, February 17-22, 2003.
217. N. Lorenzo, Y.-L. Hsu and K.G. Furton, Identification of active odor signature chemical in methamphetamine and 3,4-methylenedioxy-N-methamphetamine (ecstasy) using *canis familiaris* as biological detectors, B28, American Academy of Forensic Sciences Annual Meeting, Chicago, Illinois, February 17-22, 2003.
218. A.J. Benson, A. Sabucedo and K.G. Furton, Detection and Identification of Date Rape Drugs Directly from Simulated Tampered Beverages Using Solid Phase Microextraction (SPME) High-Performance Liquid Chromatography Mass Spectrometry (HPLC/MS), B13, American Academy of Forensic Sciences Annual Meeting, Chicago, Illinois, February 17-22, 2003.
219. A.J. Sabucedo and K.G. Furton, Determination of Time Since Death – Cardiac Troponin I, G77, American Academy of Forensic Sciences Annual Meeting, Chicago, Illinois, February 17-22, 2003.
220. C. Lopez, J. Walton, Y.-L. Hsu, R. Harper and K.G. Furton, Identification of *Canis familiaris* active odor signature chemicals in controlled substances and high explosives, The 225th ACS National Meeting, New Orleans, LA, March 23-27, 2003
221. J.R. Almirall, T. Trejos, A. Hobbs and K.G. Furton , Trace elemental analysis of glass and paint samples of forensic interest by ICP-MS using Laser Ablation solid sample introduction, in Sensors and C3I Technologies for Homeland Defense and Law Enforcement, SPIE’s 17<sup>th</sup> Annual International Symposium on Aerospace/Defense Sensing, Simulation and Controls, Orlando, Florida, April 21-25, 2003.
222. K.G. Furton, R.J. Harper, J. M. Perr and J.R. Almirall, Optimization of biological and instrumental detection of explosives and ignitable liquid residues including canines, SPME/ITMS and GC/MS<sup>n</sup>, in Sensors and C3I Technologies for Homeland Defense and Law Enforcement, SPIE’s 17<sup>th</sup> Annual International Symposium on Aerospace/Defense Sensing, Simulation and Controls, Orlando, Florida, April 21-25, 2003.
223. K.G. Furton, N. Lorenzo, Y.-L. Hsu, R. Harper, S. Tolliver and J.R. Almirall, SPME/GC/MS Combined with Field Experiments Used to Identify Active Odor Signature Chemicals Used By Detector Dogs to Locate Forensic Specimens, Florida ACS Annual Meeting and Exposition (FAME), Orlando, Florida May 8-10, 2003.

224. R.J. Harper, J.R. Almirall and K.G. Furton, Biological Detection of Explosives by Canis Familiaris: A Scientific Approach, Florida ACS Annual Meeting and Exposition (FAME), Orlando, Florida May 8-10, 2003.
225. J.M. Perr, K.G. Furton, and J.R. Almirall, Design and Testing of a SPME/IMS Interface for Identification and Detection of Explosives, Florida ACS Annual Meeting and Exposition (FAME), Orlando, Florida May 8-10, 2003.
226. S. Tolliver, M. Chow and K.G. Furton, Identification of Canis Familiaris Active Odor Signature Chemicals in Human Remains, Florida ACS Annual Meeting and Exposition (FAME), Orlando, Florida May 8-10, 2003.
227. J.R. Almirall and K.G. Furton, Trends in Forensic Science Education: Expansion and Increased Accountability; A Report on the Forensic Education Programs Accreditation Committee (FEPAC) of the AAFS, Florida ACS Annual Meeting and Exposition (FAME), Orlando, Florida May 8-10, 2003.
228. A.J. Sabucedo, and K.G. Furton, Estimation of Postmortem Interval using Cardiac Troponin I, Florida ACS Annual Meeting and Exposition (FAME), Orlando, Florida May 8-10, 2003.
229. K.G. Furton, The Identification of Canis Familiaris Active Odor Signature Chemicals in Pseudos, Simulants and Actual Items Including Cocaine and MDMA, 3<sup>rd</sup> National Detector Dog Conference: The Expanding Role of Detection Canines in Homeland Security, North Miami Beach, Florida, May 19-23, 2003.
230. K.G. Furton, Y.-L. Hsu, A. Benson, and A.J. Sabucedo, Forensic Applications of Extractionless GC/MS, SPME-GC/MS<sup>n</sup> and SPME-LC/MS including Drug Detection in Beverages and Free Fraction Toxicological Analysis in Biological Samples, WeC-167, 16<sup>th</sup> International Mass Spectrometry Conference (IMSC), Edinburgh, Scotland, August 31<sup>st</sup> - September 5<sup>th</sup> 2003.
231. J.M. Perr, K.G. Furton and J.R. Almirall, Development of a SPME/IMS Interface and Method for the Detection of Explosive Compounds, WeC-171, 16<sup>th</sup> International Mass Spectrometry Conference (IMSC), Edinburgh, Scotland, August 31<sup>st</sup> - September 5<sup>th</sup> 2003.
232. Jose Almirall, Kenneth G. Furton, Mass Spectrometry in Forensic Science, 16<sup>th</sup> International Mass Spectrometry Conference (IMSC), Edinburgh, Scotland, August 31<sup>st</sup> - September 5<sup>th</sup> 2003.
233. Ross Harper, J.R. Almirall and K.G. Furton, Investigation of Canis Familiaris as Biological Detectors for Explosives Using Headspace SPME-GC-MS Analysis 16<sup>th</sup> International Mass Spectrometry Conference (IMSC), Edinburgh, Scotland, August 31<sup>st</sup> - September 5<sup>th</sup> 2003.

234. K.G. Furton, Laboratory and field experiments used to identify the odor signature chemicals used by detector dogs to locate drugs, explosives and humans, Invited speaker at the 3<sup>rd</sup> International Working Dog Breeding Conference, San Antonio, Texas, October 5-8, 2003.
235. A.J. Sabucedo and K.G. Furton, Extraction of Cardiac Troponin I from Muscle Tissue with Carboxylate Magnetic Microparticles, The 30th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Ft. Lauderdale, Florida, October 19 - 23, 2003.
236. S. Tolliver, M. Chow, K.G. Furton , Identification of Canis Familiaris Active Odor Signature Chemicals in Human Remains, The 30th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Ft. Lauderdale, Florida, October 19 - 23, 2003.
237. A. Curran and K.G. Furton, Laboratory and field experiments used to identify the uniqueness of human scent identified by canines, SPME/GC/MS and SPME/LC/MS, The 30th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Ft. Lauderdale, Florida, October 19 - 23, 2003.
238. K.G. Furton, N. Lorenzo, R. Harper, Y.-L. Hsu, S. Tolliver, A. Curran, J.R. Almirall Laboratory and field experiments used to identify canis lupus var. familiaris active odor signature chemicals from drugs, explosives and humans, The 30th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Ft. Lauderdale, Florida, October 19 - 23, 2003.
239. R. Harper, J.R. Almirall, K.G. Furton, Investigation of Canis Familiaris as Biological Detectors for Explosives Using Headspace SPME-GC-MS Analysis, The 30th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Ft. Lauderdale, Florida, October 19 - 23, 2003.
240. J. Perr, K.G. Furton, J.R. Almirall, Improving the Detection and Sampling of Ignitable Liquid Residues and Explosive Compounds, The 30th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Ft. Lauderdale, Florida, October 19 - 23, 2003.
241. A.M. Curran and K.G. Furton, Development of Optimal Collection and Storage Methods for Human Scent Evidence and Characterization of Uniqueness of Human Scent, Netherlands Police National Agency, Amsterdam, Netherlands, November 5-8, 2004.
242. K.G. Furton and J.R. Almirall, Trends in Forensic Science Education: Expansion and Increased Accountability, invited paper in the Session: Forensic Science Education, 2003 Eastern Analytical Symposium, Somerset, New Jersey, November 17 - 20, 2003.
243. K.G. Furton and, Gas Chromatographic Methods Used to Determine the Odor Signature Chemicals Used by Detector Dogs to Locate Forensic Specimens, invited paper in the

Session: Recent Advances in Gas Chromatography in Forensic Science, 2003 Eastern Analytical Symposium, Somerset, New Jersey, November 17 - 20, 2003.

244. K. G. Furton, The Study of Scents Detected by Dogs Using SPME Combined with Gas and Liquid Chromatography, invited speaker for the Society for Analytical Chemists of Pittsburgh (Co-sponsor of PittCon), January 5, 2004, Pittsburgh, Pennsylvania.
245. K.G. Furton, Chemistry of Scent: Olfaction and Odor Signature Analysis, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 13-15, 2004. Invited instructor for two 2-hour sessions.
246. K.G. Furton, Current Detection Dog Research, Invited speaker at the 10<sup>th</sup> Annual Sports Medicine Symposium, Auburn University, Auburn, Alabama, January 23-25, 2004.
247. K.G. Furton, Identification of the Dominant Odor Signature Chemical(s) used by Dogs to Locate Forensic Specimens, Invited speaker at the 7<sup>th</sup> UNCW Symposium on Chemistry and Biochemistry, Wilmington, North Carolina, January 30-31, 2004.
248. K.G. Furton, Identification of Odor Signature Chemical(s) Used By Dogs and Possibly Instruments to Locate Forensic Specimens, Forensic Sciences Symposium 2004 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 27-28, 2004.
249. A. Curran and K.G. Furton, Optimization of Collection and Storage Methods for Scent Evidence and the Identification of the Volatile Components Comprising an Individual Human Odor Signature, Forensic Sciences Symposium 2004 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 27-28, 2004.
250. R.J. Harper, F. Khodadadi, S. Rose, J.R. Almirall and K.G. Furton, Continued Scientific Investigation of Explosives Detection by *Canis lupis var. familiaris*, Forensic Sciences Symposium 2004 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 27-28, 2004.
251. J. Perr, K.G. Furton and J.R. Almirall, Construction and Development of a SPME/IMS Interface for the Detection of Explosive Compounds and Taggants, Forensic Sciences Symposium 2004 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 27-28, 2004.
252. S. Tolliver, M. Chow, A.S. Lowy, M.A. Sawal and K.G. Furton, x, Forensic Sciences Symposium 2004 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 27-28, 2004.
253. D. Heller, J.R. Almirall, S. Rose and K.G. Furton, Scientific Validation of the Reliability of Detector Dog Teams: Progress Towards the Development of a National Standard for Best Practices, Forensic Sciences Symposium 2004 – Fort Lauderdale Forensic

- Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 27-28, 2004.
254. K.G. Furton, Dogs Serving Forensic Science: From Folklore to Fact, Invited speaker at Young Forensic Scientists Forum at the 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  255. J.M. Perr, K.G. Furton and J.R. Almirall, Construction of a SPME/IMS Interface for Detection of Explosive Compounds and Taggants Evaluated by SPME/GC/MS, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004. (Best Oral Presentation Award by Jeannette Perr).
  256. A.M. Curran and K.G. Furton, Optimization of Collection and Storage Methods for Scent Evidence and the Identification of the Volatile Components Comprising an Individual Human Odor Signature, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  257. A. Benson, S. Rose, Y.-L. Hsu, K.G. Furton and A. Sabucedo, LC/MS Analysis of Flunitrazepam (Rohypnol) Solid Dosage Tablets, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  258. D.P. Heller, J.R. Almirall, S. Rose and K.G. Furton, Scientific Validation of the Reliability of Detector Dog Teams: Progress Towards the Development of a National Standard for Best Practices, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  259. R.J. Harper, F. Khodadadi, S. Rose, J.R. Almirall and K.G. Furton, Continued Scientific Investigation of Explosives Detection by Canis Lupus var. Familiaris, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  260. S.S. Chin and K.G. Furton, Comparison of Field Portable Instruments and Accelerant Detection Canines for the Detection and Collection of Ignitable Liquid Residue at Fire Scenes, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  261. A.J. Sabucedo and K.G. Furton, Extractionless GC/MS of  $\gamma$ -Hydroxybutyrate and  $\gamma$ -Butyrolactone with Trifluoroacetic Anhydride and Heptafluoro-1-butanol from Aqueous Samples, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.
  262. S.S. Tolliver, M. Chow, A.S. Lowy, M.A. Sawal and K.G. Furton, Identification of Canis familiaris Signature Odor Chemicals in Human Remains, 56<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Dallas, Texas, February 16-21, 2004.

263. S. Rose and K.G. Furton, Identification of Odor Signature Chemicals used by Dogs and Possibly Instruments to Locate Forensic Specimens, Featured Speaker at the 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida.
264. A.M. Curran and K.G. Furton, Optimization of Collection and Storage Methods for Scent Evidence and the Identification of the Volatile Components Comprising an Individual Human Odor Signature, 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida.
265. R.J. Harper, F. Khodadadi, S. Rose, J.R. Almirall and K.G. Furton, Continued Scientific Investigation of Explosives Detection by Canis Lupus var. Familiaris, 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida.
266. J.M. Perr, K.G. Furton and J.R. Almirall, Construction of a SPME/IMS Interface for the Detection of Explosive Compounds and Taggants, 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida. (Best poster presentation by Jeannette Perr).
267. S.S. Tolliver, M. Chow, A.S. Lowy, M.A. Sawal and K.G. Furton, Identification of Canis Familiaris Signature Odor Chemicals in Human Remains, 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida.
268. D.P. Heller, J.R. Almirall, S. Rose and K.G. Furton, Scientific Validation of the Reliability of Detector Dog Teams: Progress Towards the Development of a National Standard for Best Practices, 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida.
269. A.J. Sabucedo and K.G. Furton, Extractionless GC/MS of  $\gamma$ -Hydroxybutyrate and  $\gamma$ -Butyrolactone with Trifluoroacetic Anhydride and Heptafluoro-1-butanol from Aqueous Samples, 2<sup>nd</sup> Annual Ft. Lauderdale Forensic Science Symposium, February 27-28, 2004, Ft. Lauderdale, Florida.
270. J.R. Amirall and K.G. Furton, Trends in forensic science education in the U.S.A: expansion and increased accountability, accreditation by FEPAC of the AAFS, 17<sup>th</sup> International Symposium on the Forensic Sciences, ANZFSS, Wellington, NZ, March 28 – April 2<sup>nd</sup>, 2004.
271. J. Perr, K.G. Furton and J.R. Almirall, Solid Phase MicroExtraction Coupled to Ion Mobility Spectrometry (SPME-IMS) for the Field Detection of Explosives, 17<sup>th</sup> International Symposium on the Forensic Sciences, ANZFSS, Wellington, NZ, March 28 – April 2<sup>nd</sup>, 2004.
272. K.G. Furton, Odor Signature of Cocaine Analyzed by GC/MS and Threshold Levels of Detection for Drug Detection Canines, Drug Detection Canine Record Keeping and Court Testimony Seminar (Multijurisdictional Counter Drug Task Force Training Center), Orlando, Florida, April 1-2, 2004.

273. K.G. Furton and A. Curran, Laboratory and field experiments used to identify the uniqueness of human scent identified by instrumental methods and canine detection, Invited speaker at special symposium on human scent detection, FBI Academy, Quantico, VA, April 29, 2004.
274. A.M. Curran and K.G. Furton, The Identification of the Volatile Components Comprising an Individual Human Odor Signature (Invited Speaker), Human Scent Symposium, Federal Bureau of Investigations (FBI), Quantico VA April 29, 2004.
275. K.G. Furton, K-9 Olfaction and active odor signature chemicals in narcotics and other forensic specimens, invited Featured Speaker at the Pacific Northwest Police Detection Dog Association Narcotics Interdiction Seminar, Seattle, WA, May 3 – 8, 2004.
276. K.G. Furton, Organized and presided over 2 day Forensic Chemistry Symposium I and II., ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
277. K.G. Furton, CSI K9: Accurate Location Of Forensic Evidence And WMD With Canines And Instrumentation, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
278. J. Perr, K.G. Furton and J.R. Almirall, Application Of SPME-IMS To The Detection of Explosives, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
279. L. Conner and K.G. Furton, Critical Evaluation of Field Sampling And Analysis Methods For Arson Investigation Including Electronic Noses And Adsorption Sampling/GCMS, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
280. R.J. Harper, S. Rose, J.R. Almirall and K.G. Furton, Odor Analysis of Smokeless Powders For Canine Detection, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
281. Y.-L. Hsu, B.J. Young and K.G. Furton, Drugs On Money-The Role Of Ink, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
282. R. Griffith and K.G. Furton, Location Of Molds And Mycotoxins Using Canines And SPME/GC/MS Detection Of Microbial Volatile Organic Compounds, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
283. S. Tolliver, M. Chow, A.S. Lowy, M.A. Sawal and K.G. Furton, Identification Of Canis Familiaris Signature Odor Chemicals In Human Remains, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.

284. A.M. Curran and K.G. Furton, The Analysis Of Volatile Compounds Found In Human Scent, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
285. A. Sabucedo, and K.G. Furton, Applications of GC/MS And LC/MS In Forensic Drug Analysis, ACS Florida Annual Meeting and Exposition (FAME) 2004, Orlando, Florida, May 6 – 8, 2004.
286. J.M. Perr, K.G. Furton and J.R. Almirall, Improved Detection of Organic Explosives Using SPME-IMS and SPME-GC-MS-MS, Proceedings of the 8th International Symposium on the Analysis and Detection of Explosive (ISADE), June 6-10, 2004. Ottawa, Canada.
287. R.J. Harper, J.R. Almirall and K.G. Furton, Improving the Scientific Reliability of Biological Detection of Explosives by Canis Familiaris Through Active Odor Signatures and their Implications, Proceedings of the 8th International Symposium on the Analysis and Detection of Explosive (ISADE), June 6-10, 2004. Ottawa, Canada.
288. D. Heller, R.J. Harper, J.M. Perr, J.R. Almirall and K.G. Furton, , Improving the Scientific Reliability of Biological Detection of Explosives Through Active Odor Signatures and the Development of Best Practices for Dogs and Orthogonal Detectors, Homeland Security Advanced Research Projects Agency (HSARPA) Technology Workshop on Countering Threats from Truck, Suicide and Public Transportation Bombs, Washington, DC, June 15-16, 2004.
289. K.G. Furton, J.M. Perr and J.R. Almirall, Optimizing the Rapid Detection of Explosive Odors Employing Biological and Instrumental Methods Including SPME-IMS AND SPME-GC-MS-MS, Homeland Security Advanced Research Projects Agency (HSARPA) Technology Workshop on Countering Threats from Truck, Suicide and Public Transportation Bombs, Washington, DC, June 15-16, 2004.
290. K.G. Furton and D. Heller, SWGDOG – the need for global cooperation and understanding, International Explosives Detection Canine Conference, New Orleans, Louisiana, August 30 – September 1, 2004.
291. A.M. Curran and K.G. Furton, Contamination Issues as it Pertains to Human Scent and Improving Non-Hazardous Training Aids, International Explosives Detection Canine Conference, New Orleans, Louisiana, August 30 – September 1, 2004.
292. R.J. Harper, J.R. Almirall and K.G. Furton, Explosive Detection Canines – Part I: The Need for Scientific Study, International Explosives Detection Canine Conference, New Orleans, Louisiana, August 30 – September 1, 2004.
293. R.J. Harper, J.R. Almirall and K.G. Furton, Explosive Detection Canines – Part II: Identifying Active Odours, International Explosives Detection Canine Conference, New Orleans, Louisiana, August 30 – September 1, 2004.

294. K.G. Furton and J.R. Almirall, The Forensic Science Education Programs Accreditation Commission (FEPAC) of the AAFS: An Update and Perspectives from a University Administrator, NIJ FRN/CLIP National Conference: Innovative Partnerships, Tampa, Florida, September 20-22, 2004.
295. B. Young, A. Latham, Y.-L. Hsu, S. Rose and K.G. Furton, Detection of Signature Chemicals Used to Locate Items Containing Drugs and Drug Odors Including Currency, The Joint Meeting of the Southern Association of Forensic Scientists (SAFS), Midwestern Association of Forensic Scientists (MAFS), Mid-Atlantic Association of Forensic Scientists (MAAFS) and Canadian Society of Forensic Science (CSFS), Orlando, Florida, September 19-24, 2004.
296. R. Griffith, K. Jayachandran, W. Whitstine and .G. Furton, Canine and SPME/GC/MS Detection of Microbial Volatile Organic Compounds Emitted from Two Problematic Indoor Molds: Penecillium Chrysogenum and Aspergillus Versicolor, The Joint Meeting of the SAFS, MAFS, MAAFS and CSFS, Orlando, Florida, September 19-24, 2004.
297. L. Conner and K.G. Furton, Field Sampling and Analysis Methods for Arson Investigation, The Joint Meeting of the SAFS, MAFS, MAAFS and CSFS, Orlando, Florida, September 19-24, 2004.
298. P. Prada, A.M. Curran and K.G. Furton, Supercritical Fluid Extraction of Organic Compounds from Adsorbents Used to Collect Human Scent Evidence, The Joint Meeting of the SAFS, MAFS, MAAFS and CSFS, Orlando, Florida, September 19-24, 2004.
299. W. Jeffris, S.S. Tolliver and K.G. Furton, Identification of Volatile Organic Compounds Produced by Decomposing Human Blood and Those Detected by Cadaver Dogs, The Joint Meeting of the SAFS, MAFS, MAAFS and CSFS, Orlando, Florida, September 19-24, 2004.
300. R.J. Harper, J.R. Almirall and K.G. Furton; Explosive Detection Goes to the Dogs: Scientific Investigations into Canine Olfaction, The Joint Meeting of the SAFS, MAFS, MAAFS and CSFS, Orlando, Florida, September 19-24, 2004.
301. A.M. Curran and K.G. Furton, SPME-GC/MS Analysis of the Volatile Components Comprising an Individual Human Odor Signature, The Joint Meeting of the SAFS, MAFS, MAAFS and CSFS, Orlando, Florida, September 19-24, 2004.
302. K.G. Furton, S. Chin, L. Conner, R.J Harper, J. M. Perr, D. Heller and J.R. Almirall, Comparison of instrumental and biological field detection of accelerants and explosives, The 31<sup>st</sup> Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Portland, Oregon, October 3 - 7, 2004.
303. A.M. Curran and K.. Furton, SPME-GC/MS Investigations Into the Uniqueness of Human Scent, The 31<sup>st</sup> Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Portland, Oregon, October 3 - 7, 2004.

304. R.J. Harper, S. Rose, J.R. Almirall and K.G. Furton, Chemical Odour Signatures of Powder Explosives and Their Implications upon Biological Detection of Explosives by *Canis Familiaris*, The 31<sup>st</sup> Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (FACSS), Portland, Oregon, October 3 - 7, 2004
305. R.J. Harper, A.M. Curran, J.R. Almirall and K.G. Furton, Improving the Science behind Canine Olfaction of Forensic Specimens, Olfactory-Based Systems for Security Applications 2004 (OBSSA 04), Dstl Fort Halstead, U.K., 29th November - 01st December 2004.
306. R.J. Harper, A.M. Curran, J.R. Almirall and K.G. Furton Developing the Science Behind Canine Olfaction of Forensic Specimens, Olfactory Based Systems for Security Applications (OBSSA-04) hosted by DSTL, London, England, December 2004
307. K.G. Furton, Advances in Chemistry of Scent: Currency, Narcotics, Explosives and Humans, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 13-15, 2004. Invited instructor for two 2-hour sessions.
308. K.G. Furton, Advances in Instrumental and Biological Explosive Detection Systems, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
309. A. Curran, P.A. Prada, A.A. Schoon, J.R. Almirall and K.G. Furton, Human Scent as a Biometric Measurement, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
310. P.A. Prada, A.M. Curran and K.G. Furton, Supercritical Fluid Extraction of Organic Compounds Present in Adsorbents Used in Human Scent Evidence, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
311. J.M. Perr, K.G. Furton and J.R. Almirall, Improving the Detection of Explosive Compounds Before and After Detonation, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
312. W. Jeffris, S.S. Tolliver and K.G. Furton, Volatile Compounds Produced by Decomposing Human Blood and Those Detected by Cadaver Dogs, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
313. R. Griffith, K. Jayachandran, W. Whitstine and K.G. Furton, Canine and SPME/GC/MS Detection of Microbial Volatile Organic Compounds from Toxic Indoor Molds, Forensic

- Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
314. R. Harper, J.R. Almirall and K.G. Furton, Explosive Detection Canines – Part I: The Need for Scientific Study, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
315. R. Harper, J.R. Almirall and K.G. Furton, Explosive Detection Canines – Part II: Identifying Active Odors, Forensic Sciences Symposium 2005 – Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, February 4-5, 2005.
316. K.G. Furton and D. Kontny, K9 versus Machine: Optimizing the Combination of Biological and Instrumental Detectors, Invited speaker for the Young Forensic Science Forum session “Forensic Science Outside the Box”, 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
317. P.A. Prada, A.M. Curran and K.G. Furton, Comparison of Pressurized Fluid Extraction Methods of Adsorbents for Use in Human scent Evidence Collection (B35), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
318. R.J. Harper, A.M. Curran, D. Heller, and K.G. Furton Understanding the Odors of Forensic Specimens, (Invited Speaker) Nomadics, Still Water, Oklahoma, February 2005
319. J.M. Perr, K.G. Furton, M. Prieto and J.R. Almirall, Application of a Standardized Gas Chromatography Tandem Mass Spectrometry Method for the Improved Detection of Ignitable Liquid Residues (B118), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
320. R.J. Harper, J.R. Almirall, D. Heller and K.G. Furton, Realizing the Science Behind Canine Detection of Explosives (B122), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
321. A.M. Curran, J.R. Almirall, A.A. Schoon and K.G. Furton, The Instrumental Analysis of the Volatile Organic Compounds Present in Human Scent by SPME-GC/MS and the Evaluation of Scent Preservation Methods (B154), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
322. W. Jeffris, S. Tolliver and K.G. Furton, Volatile Compounds Produced by Decomposing Human Blood and Those Detected by Cadaver Dogs (B43), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.

323. L.M. Conner and K.G. Furton, Field Sampling and Analysis Methods for Arson Investigation (D21), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
324. S. Tolliver, M. Chow, A. Lowy, M.A. Sawal and K.G. Furton, Detection of *Canis Familiaris* Signature Odor Chemicals in Human Remains Using Derivatization/SPME/GC/MS (D45), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
325. R.T. Griffith, K. Jayachandran, W. Whitstine and K.G. Furton, Canine and SPME/GC/MS Detection of Microbial Volatile Organic Compounds Emitted from *Stachybotrys chartarum*, *Penicillium chrysogenum* and *Aspergillus versicolor* (D48), 57<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, New Orleans, Louisiana, February 21 - 26, 2005.
326. A.M. Curran, A.A. Schoon and K.G. Furton, Determination of the Volatile Organic Compounds in a Human Scent Profile through SPME-GC/MS, Young Forensic Scientists Forum, Bring Your Own Poster, AAFS, New Orleans LA, February 2005
327. K.G. Furton, Alisha Latham, Ya-Li Hsu, Stefan Rose, Bradley Young, Signature Chemicals Used by Instrumental and Biological Detectors to Locate Items Containing Drugs and Drug Odors Including Currency, PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.
328. R.T. Griffith, K. Jayachandran and K.G. Furton, Identification of Signature Microbial Volatile Organic Compounds from Toxic Molds Using SPME/GC/MS and Canine Detection (1330-8 P), PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.
329. R.J. Harper, J.R. Almirall, K.G. Furton, Determining Explosive Odours Using Solid Phase Microextraction: Gas Chromatography (SPME-GC) and Explosive Detection Canines (1520-5), PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.
330. L. Conner and K.G. Furton, Field Sampling and Analysis Methods for Arson Investigation (1880-1 P), PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.
331. A.M. Curran, K.G. Furton and A.A. Schoon, Determination of the Volatile Organic Compounds Present in a Human Scent Profile through SPME-GC/MS (1880-2 P), PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.
332. S. Tolliver and K.G. Furton, Detection of *Canis Familiaris* Signature Odor Chemicals in Human Remains Using Derivatization/SPME/GC/MS (1880-12 P), PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.
333. P.A. Prada, A.M. Curran and K.G. Furton, Supercritical Fluid Extraction of Organic Compounds Present in Adsorbents Used in Human Scent Evidence Collection (1880-22 P), PittCon 2005, Orlando, Florida, February 27 – March 4, 2005.

334. A.M. Curran, P. Prada, A.A. schoon, J.R. Almirall and K.G. Furton, Human Scent as a biometric measurement (5779-46), in Technologies for Human Identification, SPIE Defense and Security Symposium, Orlando, Florida, March 28 – April 1, 2005.
335. R.J. Harper, J.R. Almirall and K.G. Furton, Discrimination of smokeless powders by headspace SPME-GC-MS and SPME-GC-ECD, and the potential implications upon training explosives detection canines (5778-91), in Sensors and C3I Technologies for Homeland Security and Homeland Defense, SPIE Defense and Security Symposium, Orlando, Florida, March 28 – April 1, 2005.
336. J. Perr, K.G. Furton and J.R. Almirall, Application of a SPME-IMS detection system for illicit explosives (5778-94), in Sensors and C3I Technologies for Homeland Security and Homeland Defense, SPIE Defense and Security Symposium, Orlando, Florida, March 28 – April 1, 2005.
337. K.G. Furton, The significance of drug dog alerts to paper currency, Invited talk for the Miami Dade Police Training Bureau Narcotics Canine Course, Miami, Florida, April 11 - 15, 2005.
338. A.M. Curran, J.R. Almirall, A.A. Schoon and K.G. Furton, Human Scent as a Potential Biometric Measurement Utilizing Solid Phase Microextraction – Gas Chromatography/Mass Spectrometry (SPME-GC/MS), 11<sup>th</sup> International Symposium on Olfaction and electronic Nose, Barcelona, Spain, April 13 – 15, 2005.
339. R.T. Griffith, K. Jayachandran, W. Whitstine and K.G. Furton, Differentiation of Hazardous Indoor Molds via Canine Detection and SPME-GC/MS, 11<sup>th</sup> International Symposium on Olfaction and electronic Nose, Barcelona, Spain, April 13 – 15, 2005.
340. L. Conner and K.G. Furton, Evaluation of Electronic Noses in Conjunction with Field Sampling Apparatus in Fire Investigations, 11<sup>th</sup> International Symposium on Olfaction and electronic Nose, Barcelona, Spain, April 13 – 15, 2005.
341. K.G. Furton and L. Myers, Co-organized and co-hosted the 4<sup>th</sup> National Detector Dog Conference, Auburn, Alabama, April 28 – May 1, 2005.
342. K.G. Furton, Chemistry of Training Aids, 4<sup>th</sup> National Detector Dog Conference, Auburn, Alabama, April 28 – May 1, 2005.
343. R.J. Harper, J.R. Almirall and K.G. Furton, Development of Explosive Odor Mimics for Scientifically Sound Canine Training, 4<sup>th</sup> National Detector Dog Conference, Auburn, Alabama, April 28 – May 1, 2005.
344. A.M. Curran, A.A. Schoon and K.G. Furton, Analysis of the Components of Human Scent by SPME-GC/MS, 4<sup>th</sup> National Detector Dog Conference, Auburn, Alabama, April 28 – May 1, 2005.

345. K.G. Furton, Organized and presided over Forensic Chemistry Symposium, ACS Florida Annual Meeting and Exposition (FAME) 2005, Orlando, Florida, May 5 – 7, 2005.
346. K.G. Furton and D. Heller, The Reliable Location of Forensic Specimens Through Research and Best Practice Guidelines for Dog and Orthogonal Instrumental Detectors (paper #40), ACS Florida Annual Meeting and Exposition (FAME) 2005, Orlando, Florida, May 5 – 7, 2005.
347. Jeannette Perr, K.G. Furton, and J.R. Almirall, Improved Tandem Mass Spectrometry Method for Ignitable Liquid Residue Analysis Using Multiple Reaction Monitoring (paper #42), ACS Florida Annual Meeting and Exposition (FAME) 2005, Orlando, Florida, May 5 – 7, 2005.
348. D.K. Mills and K.G. Furton, Graduate Student and Forensic Research at Florida International University's Forensic DNA Profiling Facility: A Summary (paper #44), ACS Florida Annual Meeting and Exposition (FAME) 2005, Orlando, Florida, May 5 – 7, 2005.
349. A.M. Curran, A.A. Schoon and K.G. Furton, The Analysis of Human Scent by SPME-GC/MS (paper #74), ACS Florida Annual Meeting and Exposition (FAME) 2005, Orlando, Florida, May 5 – 7, 2005.
350. K.G. Furton, Basics of Canine Olfaction and Odor Signature Analysis, First Annual International Mold Detector Dog Association (IMDDA) Conference, Tampa, Florida, May 20 – 21, 2005.
351. R. Griffith and K.G. Furton, Developments in the Pioneering Research Being Conducted with Mold Detection Dogs, First Annual International Mold Detector Dog Association (IMDDA) Conference, Tampa, Florida, May 20 – 21, 2005.
352. K.G. Furton, Research into Chemical Odor Signatures for Different Detection Canines including Bomb, Drug, Persons and Cadavers, First Annual International Mold Detector Dog Association (IMDDA) Conference, Tampa, Florida, May 20 – 21, 2005.
353. K.G. Furton, Forensic searches: dog vs. machine, The Leads 6<sup>th</sup> International Seminar on Detection Dogs, Tullialian Castle, Fife, Scotland, June 3 – 5, 2005.
354. A. Curran, R. Harper and K.G. Furton, Contamination issues for the improvement of non-hazardous training aids / Real or pseudo, what's the difference?, The Leads 6<sup>th</sup> International Seminar on Detection Dogs, Tullialian Castle, Fife, Scotland, June 3 – 5, 2005.
355. R.T. Griffith, K. Jayachandran, K.G. Shetty, W. Whitstine and K.G. Furton, Hazardous Indoor Molds Detection Application in Forensic Sciences, American Society of Microbiology 105<sup>th</sup> General Meeting: Atlanta, GA, June 5-9, 2005

356. A.M. Curran and K.G. Furton, Human Odor Component Determination Through SPME-GC/MS (Invited Speaker) Federal Bureau of Investigation, Quantico Virginia, October, 2005.
357. A.M. Curran and K.G. Furton, Human Odor Component Determination Through SPME-GC/MS (Invited Speaker) Old Dominion Bloodhound Seminar, Appomattox, Virginia, October, 2005.
358. A.M. Curran and K.G. Furton, SPME-GC/MS for the Analysis of Human Scent as a Potential Biometric Measurement, National Academies of Science Sackler Forensic Science Colloquium, Washington D.C. November, 2005
359. K.G. Furton, Advances in the Chemistry of Scent, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 9-11, 2006. Invited instructor for two 2-hour sessions.
360. K. G. Furton, A. Curran and D. Hudson, Advances in Human Scent Evidence Research, Human Scent Research Workshop, Nunspeet, Netherlands, January 17th, 2006.
361. R.J. Harper, A.M. Curran and K.G. Furton, The Nose Knows: Canine and Instrumental Detection of Suspects, Explosives and Cadavers, Moderator for Workshop #8, 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.
362. A.M. Curran and K.G. Furton, Scientific Working Group on Dog and Orthogonal Detection (SWGDOG), National Institute of Justice Office of Science and Technology Investigative and Forensic Sciences Division 2006 General Forensics R&D Grantees Meeting, Seattle, WA, February 21, 2006.
363. K.G. Furton, Chemistry of Scent and SWGDOG/Research in the K-9 Field, 2 Invited lectures at the Ke Kula Maka'I Canine Training Facility Seminar, Hawaii, February 20-24, 2006.
364. R. J. Harper and K.G. Furton, Development of Scientifically Sound Protocols for the Training of Explosive Detection Canines (B11), 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.
365. D.T. Hudson, A.M. Curran, A.A. Schoon and K.G. Furton, The Effects of Storage Conditions on Human Scent by SPME-GC/MS (B12), 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.
366. M.S. Macias, R.J. Harper and K.G. Furton, A Comparison of Real vs. Pseudo Contraband for Reliable Detector Dog Training (B13), 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.

367. A.M. Curran, R.A. Stockham and K.G. Furton, The Acceptance of Human Scent as Evidence in the U.S. Court System (B69) (FSF Emerging Forensic Scientist Award Paper Presentation); 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.
368. P.A. Prada, A.M. Curran, A.A. Schoon and K.G. Furton, Compounds Present in Human Scent: A Population Study (B109), 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.
369. J. Aarons, Y.-L. Hsu and K.G. Furton, Comparison of the Volatile Organic Compounds Above Paper Currency and Illicit Drugs using SPME/GC-MS, 58<sup>th</sup> Annual American Academy of Forensic Sciences Meeting, Seattle, Washington, February 20 - 25, 2006.
370. J.N. Aarons, Y.-L. Hsu, B.J. Young and K.G. Furton, Chemical and Microscopic Characterization of Illicit Drug Speciation in Paper Currency, PittCon 2006, Orlando, Florida, March 12 – 17, 2006.
371. M. Macias, R. Harper and K.G. Furton, The Use of SPME-GC/MS for the Analysis of VOC's of Contraband and Simulated Contraband, PittCon 2006, Orlando, Florida, March 12 – 17, 2006.
372. L. Conner and K.G. Furton, Evaluation of Field Portable Detection and Collection Devices for use in Arson Investigation, PittCon 2006, Orlando, Florida, March 12 – 17, 2006.
373. D.T. Hudson, A.M. Curran, A.A. Schoon and K.G. Furton, Optimization of the Storage of Collected Human Scent Evaluated by SPME-GC/MS, PittCon 2006, Orlando, Florida, March 12 – 17, 2006.
374. K.G. Furton, The optimized combination of canines and machines for detecting forensic traces, 4<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, April 28-29, 2006.
375. J. Aarons, Y.-L. Hsu and K.G. Furton, Comparison of the volatile organic compounds above paper currency and illicit drugs using SPME/GC-MS, 4<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, April 28-29, 2006.
376. P.A. Prada, A.M. Curran, A.A. Schoon and K.G. Furton, A population study: Compounds present in human scent, 4<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, April 28-29, 2006.
377. M. Macias, R.J. Harper and K.G. Furton, A comparison of real vs. simulated contraband VOC's for reliable detector dog training utilizing SPME-GC/MS, 4<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, April 28-29, 2006.

378. K.G. Furton, Organized and presided over Forensic Chemistry Symposium, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006.
379. K.G. Furton and D. Heller, Improved location of forensic traces through canine research and standardization efforts including SWGDOG, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006 (paper 96).
380. A.M. Curran, R.A. Stockham and K.G. Furton, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006 (paper 97).
381. D.T. Hudson, A.M. Curran, A.A. Schoon and K.G. Furton, Storage of human scent, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006 (paper 98).
382. M. Macias, R.J. Harper and K.G. Furton, A Comparison of Real vs. Simulated Contraband VOC's for Reliable Detector Dog Training Utilizing SPME-GC/MS, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006 (Paper 161).
383. P. Prada, A.M. Curran and K.G. Furton, Optimization of Sorbent Materials Used to Collect Human Scent for Instrumental Analysis, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006 (paper 162).
384. J.N. Aarons, Y.L.-Hsu and K.G. Furton, Comparison of Volatile Organic Compounds Above Paper Currency and Illicit Drugs using SPME/GC-MS, ACS Florida Annual Meeting and Exposition (FAME) 2006, Orlando, Florida, May 11 – 13, 2006 (paper 163).
385. K.G. Furton, Advances in the Chemistry of Scent, invited Featured Speaker at the Pacific Northwest Police Detection Dog Association Annual Conference, Bellingham, WA, May 22 – 26, 2006.
386. K.G. Furton, Advances in the optimal detection of odors by detector dogs and machines, keynote speaker at the 1<sup>st</sup> Tennessee Detector Dog Conference, Knoxville, Tennessee, June 12 - 14, 2006.
387. K.G. Furton, Optimizing the Combination of Biological and Instrumental Detectors, Invited speaker at the workshop “Use of Dogs for Helping Forensic Investigation” organized by Silke Löffler, 4<sup>th</sup> European Academy of Forensic Science Conference, Helsinki, Finland, June 13-16, 2006.
388. P. Prada, A. Curran and K.G. Furton, Optimization of Sorbent Materials in Human Scent Identification (W72), 4<sup>th</sup> European Academy of Forensic Science Conference, Helsinki, Finland, June 13-16, 2006.
389. A. Curran, A. Schoon and K.G. Furton, Optimization of Sorbent Materials in Human Scent Identification (W73), 4<sup>th</sup> European Academy of Forensic Science Conference, Helsinki, Finland, June 13-16, 2006.

390. D. Hudson, A. Curran, A. Schoon and K.G. Furton, Storage Conditions and Human Scent Evidence (W104), 4<sup>th</sup> European Academy of Forensic Science Conference, Helsinki, Finland, June 13-16, 2006.
391. K.G. Furton, L. Conner, R. Griffith, J. Aarons, M. Macias, S.S. Tolliver and, A.M. Curran, Improved detection of accelerants, biotoxins, currency, drugs, explosives and humans by canines and instruments through optimal combination of odor signature chemicals (F72), 4<sup>th</sup> European Academy of Forensic Science Conference, Helsinki, Finland, June 13-16, 2006.
392. K.G. Furton, Improved detection of forensic specimens by canines and instruments through identification of odor signature chemicals (F72), 4<sup>th</sup> European Academy of Forensic Science Conference, Helsinki, Finland, June 13-16, 2006.
393. K.G. Furton, The use of chemical odor profiles to optimize biological and instrumental detection systems, invited lunchtime lecture, Nomadics, Inc., Stillwater, Oklahoma, July 20, 2006.
394. K.G. Furton, Canines in Court: From Civil Forfeiture to Criminal Human Scent Identification Cases, Invited speaker for the National Conference on Science, Technology and the Law, St. Petersburg, Florida, November 2-5, 2006.
395. K.G. Furton, Chemistry of Scent: Science behind K9 detection of contaminated currency, narcotics, explosives and human scent, California Narcotic Canine Association (CNCA) Annual Training Conference, Burbank, California, January 9-11, 2007. Invited instructor for two 2-hour sessions.
396. D. Hudson, A.M. Curran and K.G. Furton, The Effects of Storage on Volatile Organic Compounds Present in Hand Odor Samples through the Use of SPME-GC/MS, 5<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, January 19-20, 2007.
397. M.S. Macias and K.G. Furton, Development of Reliable Contraband Mimics for Biological/Instrumental Training Aids/Calibration Standards Using SPME/GC-MS, 5<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, January 19-20, 2007.
398. P. Prada, A. Curran and K.G. Furton, Optimization of Sorbent Materials to Collect Human Scent for Instrumental Analysis, 5<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, January 19-20, 2007.
399. B. Memari, A. Sabucedo and K.G. Furton, Improved Estimation of Time Since Death with Multiple Protein Markers and Improved Analytical Methods, 5<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, January 19-20, 2007.

400. K.G. Furton, Advances in the Biological and Instrumental Detection of Forensic Evidence, 5<sup>th</sup> Annual Fort Lauderdale Forensic Conference (FFC) – South Florida ACS, Nova Southeastern University, Ft. Lauderdale, January 19-20, 2007.
401. P. Guerra, M. Macias, K.G. Furton and J.R. Almirall, Field Detection of Drug and Explosive Odor Signatures Using SPME-IMS, NIJ Grantees meeting, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
402. K.G. Furton, J. Greb and H. Holness, Scientific Working Group on Dog & Orthogonal detector Guidelines (SWGDOG), NIJ Grantees Forum, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
403. K.G. Furton, Characterization of Volatile Chemical Profiles and the Development of Explosive Odor Calibrants for Instruments and Canines, Speaker and Co-organizer of workshop #1 at the 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
404. D.T. Hudson, A.M. Curran, A.A. Schoon and K.G. Furton, Biological and Chemical Influences on a Canine's Ability to Differentiate Hand Odor Samples, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
405. J.N. Aarons, I. Corbin and K.G. Furton, The Quantification of Drug Residies and Drug odorants Under Variable Conditions Evaluated by SPME-GC/MS and with Detection Canines, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
406. M.S. Macias and K.G. Furton, Explosive Training Aid Variance Affecting Canine Detection, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
407. P.A. Prada, A.M. Curran and K.G. Furton, Laboratory Experiments for the Optimization of Non-Contact Human Scent Sampling, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.
408. M. Kusano and K.G. Furton, Comparision of the Volatile Biomarkers from Biological Specimens for Profiling Potential, 59<sup>th</sup> Annual Scientific Meeting of the American Academy of Forensic Sciences, San Antonio, TX, February 19-24, 2007.

#### EXTERNAL RESEARCH GRANTS/CONTRACTS FUNDED

---

Below are the external contracts and grants providing continuous funding for Dr. Furton's independent research program and collaborative projects since 1990 (\$3.5 million total).

1. NSF Proposal "Acquisition of a Heat Flux Calorimeter" co-P.I. with M. Quirke, S. Winkle, and R. Lopez de la Vega(P.I.), \$48,486.00 (funded May 2, 1990).
2. ACS-PRF Type G Proposal "Thermodynamics of Molecular Association at Finite Concentrations in Liquid Organic Salts Studied by Gas-Liquid Chromatography", \$18,000.00 (funded May 31, 1990). August 1990-August 1993.
3. NSF Proposal "Speciation of Hydrophobic Organic Compounds in Sediments and Soils", co-P.I. with R. Jaffe (P.I.) and H. Fuentes, \$382,000, (Funded, September 8, 1994-December 1997).
4. Metro-Dade Police Law Enforcement Trust Fund proposal "Facilitation and Study of Training and Testing for Drug Detector Dogs", Submitted November 13, 1995. Sole P.I. \$142,958. (Funded April 1996 - December 1997).
5. NSF Travel Grant to present paper at the Third International Conference on Forensic Statistics entitled "Statistical Significance of Cocaine Contamination on U.S. and Canadian Currency and Correlation to Detector Dog Alerts to Suspected Drug Money", Edinburgh, Scotland, June 30-July 3, 1996. \$1000 (Funded May 1996).
6. NIJ Proposal "Discrimination of Forensic Glasses via Trace Element Analysis by Inductively Coupled Plasma Mass Spectrometry", co-P.I. with D.C. Duckworth & C.K. Bayne - Oak Ridge National Lab, S.A. McKenney - CASTLE, J. Almirall - Metro-Dade Police Crime Lab, R. Davis - Tennessee Bureau of Investigation and R.D. Koons Forensic Science Research Unit, FBI Laboratory , Submitted November 1996 for \$450,000. (\$150,000 Funded November 1997, 9,630 for FIU - 12/1/98).
7. Metro-Dade Police Law Enforcement Trust Fund proposal "Facilitation and Continuation Study of Training and Testing for Drug Detecting Dogs: Analysis of Drug Odor Signatures on Forfeiture Money and Correlation to Drug Dog Alerts", Submitted April 1997. Sole P.I. \$118,418/2 years. Funded (59,209/yr) January 1998 – July 2000 (6 mo. no-cost extension).
8. Sigma/Aldrich/Supelco Proposal "Development of SPME for Arson and Explosive Analysis". \$10,000 funded February 1998. P.I. with J. Almirall.
9. DOE-NIJ Proposal "ICP-MS Analysis of Forensic Glasses and Database Development" Co-P.I with Jose Almirall (P.I.), D.C. Duckworth & C.K. Bayne - Oak Ridge National Lab, S.A. McKenney – CASTLE, R. Davis - Tennessee Bureau of Investigation and R.D. Koons Forensic Science Research Unit, FBI Laboratory , Submitted January 1999. \$151,000 funded in 1999 (\$77,738 for FIU).
10. Sigma/Aldrich/Supelco Proposal "Continued Development of SPME for Arson and Explosive Analysis". \$10,000 funded February 1999 (co-P.I. with J. Almirall).
11. DOD/TSWG Proposal "Discrimination of Forensic Glasses Via Trace Element Analysis by ICP-MS" Co-P.I with Jose Almirall (P.I.), D.C. Duckworth & C.K. Bayne - Oak Ridge

- National Lab, S.A. McKenney – CASTLE, R. Davis - Tennessee Bureau of Investigation and R.D. Koons Forensic Science Research Unit, FBI Laboratory , Submitted December 1999. \$312,944 funded for September 2000 (\$135,000 for FIU).
12. NSF Florida Collaborative for Excellence in Teacher Preparation (FCETP) Proposal “Forensic Chemistry for Secondary School Educators”, co-P.I. with J.R. Almirall (P.I.), \$15,765 funded April 2000 (\$6000 direct costs to FIU).
  13. Sigma/Aldrich/Supelco Proposal “Development of SPME for Arson and Explosive Analysis”. \$10,000 funded for 2000 (co-P.I. with J. Almirall).
  14. Florida Department of Law Enforcement proposal “Improved Statewide Detector Dog Training and Certification Program” P.I. with J.R Almirall (co-P.I.) for \$350,000. Submitted October 1999. (\$50,000 funded July 2000 – July 2001).
  15. Sigma/Aldrich/Supelco Proposal “Development of SPME for Arson and Explosive Analysis” for \$10,000. (co-P.I. with J. Almirall).
  16. Trace Evidence Proficiency Testing Program (Glass, Paint, Fiber and Ignitable Liquid Residue Tests) to Crime Labs (co-P.I. with Jose Almirall (P.I.) \$36,600 in 2001/2002.
  17. Technical Support Working Group of the Department of Defense, U.S. Government. Second year of competitive grant entitled: “Discrimination of Forensic Glasses by ICP-MS” (co-PI w/Almirall Total: \$ 254,912. (2000-2002)
  18. Quality Forensics, Inc. competitive based grant for the design, development and manufacture of Trace Evidence Proficiency Tests in trace evidence (co-PI w/Almirall), \$ 55,000. was awarded Sept. 2002 – August 2003
  19. Instrument grant from GE Iontrack for Ion Mobility Spectrometer, \$ 49,000, (PI w/Almirall), August 2003.
  20. National Institute of Justice (NIJ)/National Forensic Science Technology Center (NFSTC) Proposal “Development and Implementation of Best Practice Procedures for Detector Dog Teams Through Scientific Based Validation” (PI) Funded January 1, 2003 – August 2005, \$506,938 with matching (\$350,000 direct to FIU).
  21. Netherlands National Police Proposal “Deployment of Human Scent Research” (PI with J. Almirall) Funded August, 2004 – August, 2005; \$48,405.
  22. National Institute of Justice (NIJ) proposal “The Scientific Working Group on Dog and Orthogonal Detector Guidelines” (PI with D. Heller). Funded July 30, 2005 – August 1, 2006; \$97,020.
  23. Netherlands National Police Proposal “Deployment of Human Scent Research” (PI with AM Curran) Funded August, 2005 – August, 2006; \$60,627.

24. National Institute of Justice (NIJ) proposal “The Scientific Working Group on Dog and Orthogonal Detector Guidelines – continuation funding” (Sole PI). Funded July 30, 2006 – August 1, 2007; \$95,150.
25. DoD / Technical Support Working Group (interagency and international R&D for combating terrorism) proposal “Optimization of Sorbent Materials for the Collection and Analysis of Human Scent” (P.I. with AM Curran) March 2006 – March 2008; \$454,405 Funded.
26. DoD / Technical Support Working Group (interagency and international R&D for combating terrorism) proposal “Optimization of Sorbent Materials for the Collection and Analysis of Human Scent – Supplement for Studying the Effect of Microbial Sterilization” (P.I. with AM Curran) October 2007 – September 2008; \$250,000 – under revision.
27. DoD / Technical Support Working Group (interagency and international R&D for combating terrorism) proposal “Optimization of Sorbent Materials for the Collection and Analysis of Human Scent – Supplement for Video Study of the Performance of Humans Scent Canines” (P.I. with AM Curran) October 2007 – September 2008; \$1,000,000 – in preparation.
28. Nomadics proposal “Optimal Sorbent Material for the Sorption and Desorption of Odors from Explosives and Development of Mimics” (P.I.) June 30, 2005 – June 30, 2008; \$247,206.00, under review.
29. Netherlands National Police Proposal “Continuation of Deployment of Human Scent Research” (PI with AM Curran) Approved for funding August, 2006 – August, 2007; \$60,000.
30. National Institute of Justice (NIJ) proposal “Field Detection of Drug and Explosive Odor Signatures Using SPME-IMS” (Co-PI with J.R. Almirall). Funded October 30, 2006 – November 1, 2008; \$249,445.
31. National Institute of Justice (NIJ) proposal “The Scientific Working Group on Dog and Orthogonal Detector Guidelines – continuation funding” (PI). Submitted for funding July 30, 2007 – August 1, 2008; \$94,000.

Cases in which Dr. Kenneth G. Furton has been retained as an expert including testimony for the prosecution (TP) and the defense (TD):

1. 1/25/96 retained by USAO Southern District of Florida. Case of U.S. \$500,000 95-1322-CIV-UUB. Deposition of Dr. Furton taken on 1/29/96. Settled in 1996. (TP)
2. 9/19/96 retained by Metro-Dade Police Department Legal Bureau. Affidavit submitted in State v. \$104,00.00, case no. 28405-S.

3. 6/23/97 retained by USAO Southern District of Florida in Case. No. 97-0073-CIV-SH US v. \$201,700.00 in U.S. Currency. Testified in a probable cause hearing on 12/2/97 and in trial on 12/4/97. (TP)
4. 7/18/97 retained by USAO Eastern District of New York; Case of United States v. \$64,980 Civil No. 96/4883 (Block, J.)(EDNY). Affidavit submitted.
5. 2/3/1998 retained by USAO, San Diego, United States v. \$13,980 in US Currency, Case # 97CV1097-J(POR). Affidavit submitted.
6. 4/15/1998 retained by USAO and testified at grand jury regarding the reliability of narcotics detection canines in USAO#1998R000623, Key West, Florida. (TP)
7. 8/19/1998 retained by USAO, Phoenix, AZ for U.S. v. \$22,474 U.S. Currency (CIV-98-0525-PHX-EHC). Affidavit submitted.
8. 4/1/1998 retained USAO, Buffalo, NY, U.S. v. \$94,010.00 in U.S. Currency; affidavit submitted,
9. 10/26/99 retained by District Attorneys Office, Oakland County, Pontiac, Michigan, People v. Joseph Puertas, case no. CR 98-157485-FH. Testified in trial. (TP)
10. 3/3/99 retained by USAO, Atlanta, GA., U.S. v. \$279,040.00 in U.S. Currency, case no. 4:98-CV-0182-HIM. Affidavit submitted.
11. 3/31/9999 retained by USAO, Albuquerque, NM, U.S. v. \$180,770, Civ. No. 98-1103. Affidavit submitted.
12. 9/30/99 retained by USAO, Southern District of Florida, Miami, FL , U.S. v. \$70,000 in US Currency, Case No. 98-2378-Civ-Gold/Simonton. Report and affidavit submitted.
13. 5/10/1999 retained by USAO, Southern District of Florida in U.S.A. v. Manny Varas, case no. 98-282-CR-SEITZ regarding the reliability of explosives detection canines. Testified in trial. (TP)
14. 9/11/2000 retained by U.S. Attorneys Office; District of New Jersey; United States v. \$200,000 in US Currency, Case Civ. No. 99-4561(HAA); Submitted affidavit.
15. 9/15/2000. Retained by Public Defender's Office, 11<sup>th</sup> Judicial Circuit of Florida, Miami, Florida in Case Number 118242X. Testified regarding the calculating of percent blood alcohol from breath alcohol measurements. (TD)
16. 5/10/2000 retained by Public Defender's office, 11<sup>th</sup> Judicial Circuit of Florida, Miami, Florida in Case Number 119558F. Testified regarding the calculating of percent blood alcohol from breath alcohol measurements. (TD)

17. 5/10/2000 retained by Public Defender's office, 11<sup>th</sup> Judicial Circuit of Florida, Miami, Florida in Case Number 318189W. Testified regarding the calculating of percent blood alcohol from breath alcohol measurements. (TD)
18. 2/9/2002 retained by defense Attorney Woodard, Coconut Grove, FL in State v. Juan Estremera: F00-40592; MDPD # 2000 0690098CX. Analyzed and submitted report regarding suspected MDMA tablets. (TD)
19. 2/19/2002; Retained by Office of the Attorney General, Appellate Section; Ft. Lauderdale, Re: \$21,495.00 U.S. currency seizure (Case # 02-44-00351-24). Affidavit given.
20. 9/15/2000; Retained by Law Offices of Richard Ware Levitt; New York, NY; Case EDNY 96-CR329. Testified regarding a DEA agent field testing a suspected heroin sample. (TD)
21. 5/11/2000 retained by Broward County Office of the Public Defender, Ft. Lauderdale, FL; State of Florida vs. Joe F. Smith. Case Number 99-018558-CF10A. Gave affidavit regarding the reliability of the Ionscan 400 for the identification of controlled substances including false positives. (TD)
22. 7/15/1999 retained by Defense Attorney in Bartow, Florida; Case CF98-04028A-XX (Polk County); Produced report of testing and weighing of alleged cocaine.
23. 7/14/2000 retained by the Dade County Public Defenders Office. Testified that urine drug screen produced before trial was only presumptive of THC and GC/MS is required. Recently run GC/MS produced by county lab at trial. (TD)
24. 7/25/2000 Retained by Defense office Andrew F. Rier Esq.; Rier & Doherty; Miami, Florida; Produced drug analysis report of suspected cocaine sample from case# 86441512710 12/01/86.
25. 1/29/2001 retained by defense attorney in Bartow, Florida 33830; State v. Michael Martel: CF99-06363A-XX (Polk County); Produced report of testing and weighing of alleged methamphetamine.
26. 8/28/2001 retained by Office of the Attorney General, Appellate Section; Ft. Lauderdale, Florida, Palm Beach Circuit Court CL-01-02274-AO; \$44,930 in U.S. Currency a 1989 Buick. Affidavit given.
27. 6/27/2003 retained by USAO in the case of US vs. \$90,150.00. Review of records and submitted affidavit.
28. 8/25/2003 retained by Office of the Public Defender; Eleventh Judicial Circuit of Florida; Miami, Florida; State v. Timothy Lively: Case # P02010821; reweighing of MDMA evidence and generation of report.
29. 9/10/2004 retained by County of Los Angeles District Attorney office in the case of State

- v. Benigno Salcido. Testified in a Kelly-Frye hearing regarding the admissibility of human scent evidence in case number GA052057. (TP)
30. 9/17/2004 retained by USAO Southern District of Florida in the case of US vs. \$467,250. Reviewing records of drug dog alert in forfeiture proceeding.
  31. 9/20/2004 retained by Defense attorney Keating in DEA vs. Lemus. Reviewing records of a DEA agent field testing a suspected heroin sample.
  32. 3/9/2005 retained by USAO in the case of US vs. \$30,350.00. Reviewed records and submitted affidavit.
  33. 4/5/2005 retained by USAO Southern District of Florida in case of US vs. \$99,960 and \$40,060. Testified in trial on 6/28/2005. (TP)
  34. 6/1/2005 retained by USAO in the case of U.S. vs \$1,199,500 (USDC Cr. No. 05-243). Review of records and preparation of affidavit.
  35. 6/2/2005 retained by USAO in the case of US v. Hyunh involving the forfeiture of \$28,880. Reviewed records and prepared affidavit.
  36. 7/13/2005 retained by USAO in the case of U.S. vs. Castanon. Review of record and preparation of affidavit in \$2.3M forfeiture.
  37. 8/2/2005 retained by USAO (Lornette Reynolds) in the case of U.S. v. Mario Mello, et. al. / U.S. v. \$199,120. Review of records of drug dog alert.
  38. 11/8/2005 retained by defense attorney Richard J. Diaz in the case of Forfeiture of \$249,058 in U.S. Currency (Case No. 04-18006 CA 09/Carlos Zapada).
  39. 11/21/2005 retained by State Attorneys office (Mathew Klecka) in the case of State v. Victor Robles (Case No. F03-000918 / Seizure of \$1,167,780). Testified in trial on 12/9/2005. (TP)
  40. 5/1/2006 retained by USAO in the case of U.S. v. \$148,840. (USDC Cr. 05-1263 MV/JDS).
  41. 7/17/2006 retained by USAO in the case of U.S. v \$23,400 in U.S. Currency (USDC, Ashville 1:05cv310). Reviewed records and prepared affidavit. Scheduled for trial on 1/16/2007.
  42. 8/17/2006 retained by USAO in the case of U.S. v. \$155,895 in U.S. Currency. Reviewed records and prepared affidavit. Case settled on 9/3/2006.
  43. 8/22/2006 retained by Defense attorney Jonathan Drucker in the case of State v. Juan Carlos Merceles.

44. 8/22/2006 retained by USAO in the case of U.S. v. \$871,400 in U.S. Currency (Steven Tan 1:05CV919).
45. 2/2/2007 retained by USAO in the case of U.S. v. \$99,480.00 in U.S. Currency (Barbara Papademetriou 06-22966-Civ-King).