

Microgram

Bulletin

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OCTOBER 2003

- INTELLIGENCE ALERT -

CODEINE IN "SNOW-CONE" SYRUP IN ONTARIO, CALIFORNIA

The DEA Southwest Laboratory (Vista, California) recently received an unusual exhibit consisting of four 1-gallon plastic bottles of grape-flavored "snow-cone" syrup, each filled with a viscous purple liquid with a strong grape odor, suspected to contain codeine (see Photo 1; note the small glass vial in the foreground showing a sample of the liquid). The exhibit was seized by the DEA Los Angeles Field Division (Riverside) at the United Parcel Service facility in Ontario (about 25 miles east of Los Angeles). Analysis by GC-FID, GC-IR, and GC-MS confirmed codeine. Quantitation by CE with UV detection determined a concentration of 1.1 milligrams/milliliter, equivalent to a net total mass of 16.7 grams of codeine in the four gallons. This amount is equivalent to approximately 2200



Photo 1

(normal) adult dosage units. This is the first time the Southwest Laboratory has encountered this type of exhibit.

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- INTELLIGENCE ALERT -

CHOCOLATE/PSILOCYBIN “LOLLIPOP” IN TAMPA, FLORIDA

The Florida Department of Law Enforcement Tampa Crime Laboratory (Tampa, Florida) recently received an unusual submission of a chocolate lollipop from the Tampa Police Department. The evidence was recovered at a Grateful Dead Concert in Tampa, and was submitted as a suspected chocolate/psilocybin mushroom concoction. The lollipop was cellophane wrapped, about 6 x 4 centimeters in size (candy only), weighed 27.4 grams (including the stick), and looked and smelled like chocolate candy (see Photo 2).

However, pieces of fibrous material (presumed ground psilocybin mushroom) were visible throughout the chocolate when the lollipop was broken (see Photo 3). Acid/base workup followed by analysis of an extract by GC and GC/MS confirmed psilocin. Extraction of a separate sample of the exhibit with methanol, followed by preparatory TLC, followed by standard TLC, confirmed psilocin (quantitation not performed). Of note, there was no indication of psilocybin in the sample. This was the first encounter with a chocolate/psilocybin (psilocin) concoction by the Laboratory.

[Editor’s Note: Numerous additional examples of chocolate/psilocybin mushroom concoctions were reported in the May, June, and August 2003 issues of *Microgram Bulletin*.]



Photo 2

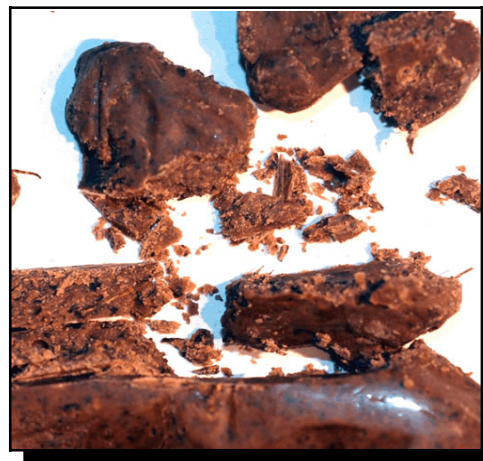


Photo 3

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- INTELLIGENCE ALERT -

COCAINE INSIDE PICTURES IN MEMPHIS, TENNESSEE

The DEA Mid-Atlantic Laboratory (Largo, Maryland) recently received 11.71 kilograms of white powder, suspected cocaine, concealed within six wood-framed pictures decorated with laminated art prints (see Photo 4, next page). The artwork was seized at the main FedEx facility in Memphis, Tennessee by the U.S. Customs Service, and was subsequently controlled-delivered



Photo 4



Photo 5

to a location in Alexandria, Virginia. The powder was enclosed in white plastic and tape, then sandwiched between two wooden layers (see Photo 5). The front wooden layer had the art print affixed while the back of the frame was covered in plaster and paint to help conceal the contents. Analysis by GC, FTIR and GC/MS resulted confirmed 40 percent cocaine hydrochloride, adulterated with phenacetin. Although the Laboratory has seen similar exhibits in the past, this concealment method is not commonly encountered.

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- INTELLIGENCE ALERT -

**COCAINE BRICKS SMUGGLED IN X-RAY FILM POUCHES
IN MIAMI, FLORIDA**

The DEA Southeast Laboratory (Miami, Florida) recently received an unusual submission consisting of 30 packages containing compressed bricks of white powder, suspected cocaine, 29 of them contained in “FilmShield” lead pouches (see Photo 6). “FilmShield” pouches are intended to be used to protect film against airport X-ray damage; their external dimensions are 12 x 6 x 1.5 inches. The exhibits were seized at a hotel in Miami in an undercover operation by the DEA Miami Field Division. The bricks (8 x 5.6 x 1.4 inches) were successively packaged in clear

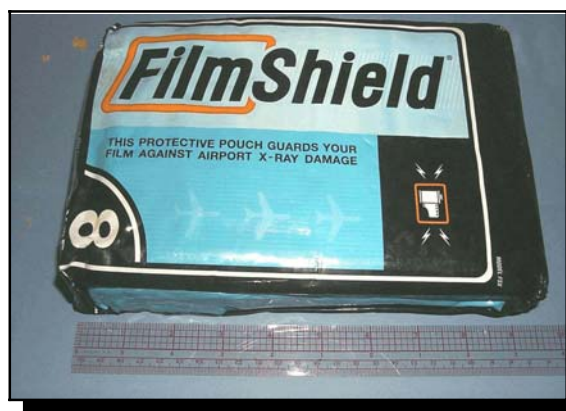


Photo 6

plastic wrap, then a rubber wrap, then another layer of clear plastic wrap, and finally a silver colored tape. Each brick had two logos; the larger looks like the former Eastern Airlines logo, while the smaller is an indistinct eight-sided seal with both a cross and the Peanuts' comic strip character Woodstock (small, stylized bird) in the center (see Photo 7). Analysis of the powder (total net mass 29.98 kilograms) by GC/MS, GC, and IR confirmed 84 percent cocaine hydrochloride. This is the first submission of this type of concealment method to the Laboratory.



Photo 7

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- INTELLIGENCE ALERT -

HEROIN IN LARGE CANDLES IN MEMPHIS, TENNESSEE

The DEA Northeast Laboratory (New York, New York) recently received an unusual submission from the Department of Homeland Security (Immigration and Customs Enforcement, New York City Office) consisting of 2 pillar candles each containing three discs of compressed tan powder, suspected heroin. The first candle was green and gold in color and approximately 5 inches in height by 4 ¼ inches in diameter, while the second was blue and green in color and approximately 7 ½ inches in height by 4 ¼ inches in diameter (see Photo 8). The exhibits originated in Buenos Aires, were initially seized at the FedEx facility in Memphis, Tennessee, and were then control-delivered to a location in New York City. Analysis of the powder (total net mass 975 grams) by GC-FID, GC-MS and FT-IR confirmed 85 percent heroin hydrochloride, adulterated with lidocaine. This is the first submission of heroin in candles to the Laboratory.



Photo 8

[Editor's Note: A review of the *Microgram* archives indicate that there have been no previous reports of powdered heroin smuggled inside candles. However, a similar seizure of cocaine in a candle was reported in the September 2003 issue of *Microgram Bulletin*, and a seizure of cocaine base "secreted in the base of religious candles" (not clear if inside the candle, or inside separate bases that held the candles) was reported in the December 1986 issue of *Microgram*.]

- INTELLIGENCE BRIEF -

**MULTI-COMPONENT ECSTASY TABLETS WITH A STAR LOGO
IN SCOTTSDALE, ARIZONA**

The Scottsdale Police Department Crime Laboratory (Scottsdale, Arizona) recently received two yellow tablets with a star logo, suspected ecstasy (see Photo 9). The tablets (total net mass 469 milligrams) were included as a “freebie” during an undercover purchase of cocaine made in Scottsdale by the Scottsdale Police Department, and were sold identified only as “pills to party with”. Analysis by color testing and MS, however, indicated not only MDMA but also methamphetamine, ephedrine, caffeine, lidocaine, and ketamine. The exhibits were not formally quantitated; however, the MDMA, methamphetamine, and ketamine were present in an approximate 2:1:1 ratio. This is the first submission of this type to the Crime Laboratory.



Photo 9

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- INTELLIGENCE BRIEF -

**CAPSULES CONTAINING POWDERED PSILOCYBIN MUSHROOMS
IN COUNCIL GROVE, KANSAS**

The Kansas Bureau of Investigation Laboratory in Topeka recently received a submission of seven clear capsules containing a light brown powder (total net mass not reported) from the Council Grove Police Department (Council Grove is located about 50 miles southwest of Topeka). The capsules (see Photo 10) were seized (along with several ounces of marijuana) subsequent to a DUI/vehicle stop. The defendant indicated that the capsules were “mushroom pills”. Analysis by TLC indicated psilocin and psilocybin, and analysis by GC/MS confirmed psilocin (quantitation not performed). This was the Laboratory’s first encounter with this type of exhibit; however, a similar exhibit was seen by the KBI Great Bend Laboratory in 2002.



Photo 10

- INTELLIGENCE BRIEF -

**PEYOTE BUTTONS
IN ARCATA, CALIFORNIA**

The State of California Forensic Laboratory in Eureka recently received a submission of 11.02 grams of peyote buttons (see Photo 11; note that both sides of the buttons are displayed). The exhibits were seized by the Arcata Police Department (circumstances of seizure not reported); Arcata is a college town housing Humboldt State University, located about 10 miles north of Eureka. Analysis by GC/MS confirmed mescaline (3,4,5-trimethoxyphenethylamine); quantitation not performed. This was the first peyote case seen at the Laboratory in about three years.



Photo 11

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- INTELLIGENCE BRIEF -

PEYOTE CACTUS AND ROOTS IN HEBBRONVILLE, TEXAS

The DEA South Central Laboratory (Dallas, Texas) recently received a seizure of suspected peyote cactus bulbs (buttons) and roots from Hebbronville, Texas (located about 50 miles east southeast of Laredo) (see Photo 12). The exhibits (total net mass 4.034 kilograms, damp) were seized by the U.S. Border Patrol during a vehicle stop just south of the town. Analysis by GC and GC/IR confirmed mescaline (quantitation not performed). Although the Laboratory has seen over 100 exhibits of peyote since 1970, this is the first exhibit received in about two years.



Photo 12

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CALL FOR PAPERS FOR *MICROGRAM JOURNAL*

As of the completion of the third quarter of Calendar Year 2003 (September 30, 2003), only four manuscripts had been submitted for publication in the next (July - December, 2003) issue of *Microgram Journal*, and four additional manuscripts (detailed below) have been promised. The DEA Office of Forensic Sciences continues to invite the submission of both Technical Notes and full-length Scientific Articles for consideration for publication in the *Journal*. Towards that end, the following suggestions are offered as possible research topics:

Currently Promised

The following manuscripts have been promised, but are provided so that other researchers can see examples of the types of research articles that are needed:

- A) Detailed Botanical Identification of *Salvia Divinorum*.
- B) Comprehensive Spectral and Chromatographic Data for Salvinorin A, B, and C.
- C) Comprehensive Spectral and Chromatographic Data for Nandralone Cypionate.
- D) Comprehensive Spectral and Chromatographic Data for 5-Methoxy-*alpha*-methyltryptamine (5-MeO-AMT) (one submitted; two others promised).

Ideas

- A) Improved Color Test for Ketamine.
- B) Comprehensive Spectral and Chromatographic Data for Carisoprodol.
- C) Time Study of the Decomposition of Illicit Drugs Upon Extended Vault Storage.
- D) "Marker" Impurities that Establish the Use of Home-Made Anhydrous Ammonia in the Lithium/Ammonia or Sodium/Ammonia Reduction ("Nazi") Synthesis of Methamphetamine.
- E) Statistical Analysis of Large Bags of Mixed Logo/Mixed Color MDMA Tablets - Are Isolation and Separate Analyses Necessary?

[Expansion: Large exhibits of MDMA tablets often consist of complex mixtures of tablets with a wide variety of logos and colors. Standard operating procedures in many forensic laboratories require isolation and separate analyses for each tablet type, a very tedious and time-consuming operation. Recent seizures of very large MDMA laboratories in Malaysia, Canada, and elsewhere, where multiple tablet dies and a variety of food coloring additives were found, suggest that the chemical compositions of all the tablets from those operations are highly similar, and therefore do not need to be

separately analyzed. A detailed statistical study of this phenomenon is needed, analyzing (if possible) the seizures from such large laboratories, and also analyzing multiple “field” seizures of bags of hundreds/thousands of mixed tablets.]

F) Identification of Licit versus Illicit Commercial Drugs.

G) Methods Used (by an Individual Laboratory or Laboratory System) to Identify Synthetic Routes Used to Produce Illicit Drugs.

H) Mini-Reviews (separate manuscripts for each topic) on the Current State of:

Marijuana DNA Analysis

Analysis of Human Growth Hormone (HGH)

Analysis of GHB and GBL

Bench-Top Raman Spectroscopy for Analysis of Illicit Drugs

Portable Raman Spectroscopy for Analysis of Substances at Clandestine Laboratory Sites

ICP/MS for Analysis of Illicit Drugs

Miniaturized/Portable/Field Rugged GC/MS for Analysis of Substances at Clandestine Laboratory Sites

IMS for Detection and Analysis of Substances at Clandestine Laboratory Sites (and Similar Venues)

SPME for Analysis of Illicit Drugs

Guidelines for Authors were published in the January - June, 2003 of the *Journal*, and are also posted on the *Microgram* website.

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LAST CALL FOR EMAIL ADDRESSES

The following alphabetized list represents domestic (U.S.) organizations that have dropped off the *Microgram* subscription e-net. Most of these organizations never responded to last year’s multiple subscription re-validation requests. Some represent offices or laboratories that closed years or even decades ago. A few others provided invalid email addresses, or provided email addresses that have since become invalid.

The Office of Forensic Sciences requests your assistance in tracking down these organizations, and (if they are still interested in receiving *Microgram Bulletin* and *Microgram Journal*) asking them to provide an accurate email address to the *Microgram* Editor. Note that personal names and/or street addresses have been redacted for security reasons; however, the provided information should be adequate to identify those organizations that are still operational. If the office or laboratory has closed or consolidated, or is simply not interested in remaining on the subscription e-net, that information would also be appreciated. All responses should be emailed to the Editor at: microgram_editor@mailsnare.net

An equivalent listing of foreign organizations will be provided in the November issue of *Microgram Bulletin*. All organizations for which no response is received will be deleted from the subscription database at the end of this year.

Organization	Office	City	State
4th Judicial Circuit of FL - Toxicologist Office Med Exam		Jacksonville	FL
Alabama Dept of Forensic Sciences	Florence Laboratory	Florence	AL
Alameda County Coroners Dept		Oakland	CA
Albany State University	Criminal Justice Dept/Forensic Science	Albany	GA
Albuquerque Police Dept	Metropolitan Forensic Science Center	Albuquerque	NM
Albuquerque Scientific Laboratory Division	Toxicology Laboratory	Albuquerque	NM
Am Embassy Muscat - Admin Counsel		Washington	DC
Anaheim Police Dept	Major Narcotic Unit	Anaheim	CA
Anderson Police Dept		Anderson	IN
Andrews AFB - Drug Investigations Program Manager	HQ-AFOSI	Andrews AFB	MD
Arizona Dept Of Public Safety	Western Regional Crime Laboratory	Lake Havasu City	AZ
Armed Forces Inst Of Pathology		Washington	DC
ASCLD/LAB		Garner	NC
Baltimore Chief Medical Examiner		Baltimore	MD
Baltimore College Of Dental Surgery	University of MD At Baltimore	Baltimore	MD
Bensalem Township Police	Special Investigation Unit	Bensalem	PA
Bergen Pines County Hospital	Research & Development	Paramus	NJ
Bernalillo County Sheriff's Dept	Criminalistics	Albuquerque	NM
Berrien County Forensic Lab	Andrews University	Berrien Springs	MI
Box Elder County Sheriff Crime Laboratory		Brigham	UT
British Embassy - Drug Liaison Office		Washington	DC
Brooke Army Medical Center	Dept Of Pathology	Fort Sam Houston	TX
Brooks AFB - Armstrong Laboratory	Quality Control	Brooks AFB	TX
Brooks AFB - Drug Screening Lab	Quality Assurance	Brooks AFB	TX
Brooks AFB - Us Dept Of The Air Force	AF Institute For Environment Risk Assessment, AFMC	Brooks AFB	TX
Broward County Office Of The Medical Examiner		Fort Lauderdale	FL
Buffalo State College		Pendleton	NY
Bureau Of Crim Ident And Invest	East Central Laboratory	Byesville	OH
Bureau Of Narcotic Enforcement		Fresno	CA
Burlington County Forensic Science Lab		Mt. Holly	NJ
CA Dept Of Just/Bur Of Narc Enforcement	Clan. Lab. Enforcement Prg.	Sacramento	CA
California Dept Of Health Services	Food & Drug Laboratory	Emeryville	CA
Calvert Forensic Enterprises		Harvard	IL
Canyon County Sheriff's Office		Caldwell	ID
CDPHE		Denver	CO
Chadron Police Dept		Chadron	NE
Chapel Hill Chief Medical Examiner Office		Chapel Hill	NC
Charleston Police Dept Forensic Laboratory		Charleston	SC
Chicago Police Dept	Forensic Science Section	Chicago	IL

Organization	Office	City	State
Chula Vista Police Dept	Narcotics Enforcement Team (NET)	Chula Vista	CA
Clark College - Administration Of Justice		Vancouver	WA
College Of Soc & Behav Sci - Dept Of Criminology		St Petersburg	FL
College Of The Southwest - Carlsbad	Criminal Justice Dept	Carlsbad	NM
Collier County Sheriff's Office	Crime Laboratory	Marco	FL
Columbia Police Dept	Drug Analysis Laboratory/Crime Scene Unit	Columbia	SC
Columbus Hospital Toxicology Dept		Great Falls	MT
Cook County Hospital		Chicago	IL
Cook County Office Of The Medical Examiner	Toxicology Laboratory	Chicago	IL
Costa Mesa Police Dept		Costa Mesa	CA
Cuyahoga County Coroner's Office		Cleveland	OH
Daviess County Sheriff's Dept		Owensboro	KY
Daytona Beach Reg Crime Lab		Daytona Beach	FL
DC Medical Examiner	Forensic Toxicology Laboratory	Washington	DC
Denver Police Dept	Crime Laboratory	Denver	CO
Dept Of Trans Div Of Sp (???)		Madison	WI
DHEW Food And Drug Administration		Buffalo	NY
Director, Anal Chem Division	Bureau Of Laboratories	Columbia	SC
Div Of Laboratories (???)		Washington	DC
Div Of Pharm. Serv/Drug Contr. (???)		Little Rock	AR
Division Of Forensic Toxicology (???)		Rockville	MD
DoD Computer Forensics Laboratory	Air Force Office Of Special Investigations	Linthicum	MD
Dorthea Dix Hospital		Raleigh	NC
Dubuque Police Dept		Dubuque	IA
Eastern Nebraska Forensic Laboratory		Omaha	NE
Eastern Washington University	Dept Of Chemistry And Biochemistry	Cheney	WA
El Paso County Coroner's Office		Colorado Springs	CO
Elyria City Dept Health Lab		Elyria	OH
EPI	Div Of Alcohol & Drug Abuse	Trenton	NJ
Erie County Medical Ctr	Toxicology Laboratory	Buffalo	NY
Eugene Police Dept		Eugene	OR
Everett Medical Examiner's Office		Everett	WA
Everett Police Dept	Drug Enforcement Unit	Everett	MA
FBI Academy Library	Government Documents	Quantico	VA
Florida Dept Of Law Enforcement	Jacksonville Regional Crime Lab	Jacksonville	FL
Florida Dept Of Law Enforcement	Daytona Beach Regional Crime Lab - Chem Section	Daytona Beach	FL
Forensic Analytical Serv. & Testing Inc		Bessemer City	NC
Forensic Sci Resch & Trng Ctr		Quantico	VA
Forensic Science Institute of Puerto Rico	Regional Laboratory	Aguadilla	PR
Forensic Science Institute of Puerto Rico	Regional Laboratory	Ponce	PR
Forensic Science Institute of Puerto Rico	Regional Laboratory	Arecibo	PR

Organization	Office	City	State
Fort Bliss Toxicology Branch	Dept Of Pathology	Fort Bliss	TX
Fort Devens Field Office		Fort Devens	MA
Fort Eustis Field Office		Fort Eustis	VA
Fort Gordon - DDEAMC	Dept Of Pathology	Fort Gordon	GA
Fort Knox District		Fort Knox	KY
Fort Lauderdale Police Dept	Attn: Investigative Bureau	Fort Lauderdale	FL
Fort Leonard Wood Office of (???)		Fort Leonard Wood	MO
Fort Monmouth Resident Agency		Fort Monmouth	NJ
Fort Pierce Regional Crime Laboratory		Fort Pierce	FL
Forth Worth Police Dept Crime Lab		Fort Worth	TX
Frankfort Chemistry Laboratory		Frankfort	KY
Fremont Police Dept	Narcotics Unit	Fremont	CA
Ft Hamilton Res Agency		Fort Hamilton	NY
Gauilan College	Admin Of Justice	Gilroy	CA
Geo Wash Univ Med Center	Dept Of Emergency Medicine	Washington	DC
Georgia State Crime Laboratory	Drug Identification Section	Atlanta	GA
Glendale Crime Lab		Milwaukee	WI
Grand Junction Police Dept Laboratory		Grand Junction	CO
Grand Rapids Police Dept	Crime Laboratory	Grand Rapids	MI
Great Lakes Laboratories		Michigan City	IN
Greenwood Police Dept	Crime Laboratory	Greenwood	IN
Gregg County Sheriffs Dept.	Criminal Investigations Division	Longview	TX
Halt Pharmacist/DOT Pharmacy Supervisor		Los Angeles	CA
Hamburg Township Police Dept		Hamburg	MI
Harris Labs Inc		Lincoln	NE
Hartford Police Dept	Crime Laboratory	Hartford	CT
Harvard University - J.F. Kennedy School Of Govt	Dept Of Criminal Justice Policy	Cambridge	MA
Hawaii County Office Of Prosecuting Attorney		Hilo	HI
Hawaii State Laboratories Division		Pearl City	HI
Hennipen County Medical Ctr	Dept Of Clinical Laboratories	Minneapolis	MN
Hermosa Beach Police Dept		Hermosa Beach	CA
Hillsborough County Medical Examiner Dept		Tampa	FL
Houston Advanced Research Ctr		The Woodlands	TX
HQDA (SGPS-FP)		Falls Church	VA
Idaho State University	Dept Of Pharmacology/Toxicology	Pocatello	ID
Illinois Dept Of Health	McHenry County	Woodstock	IL
Illinois State Police	Intelligence Bureau	Springfield	IL
Illinois State Police	Tactical Response Team	Couinsville	IL
Independence Police Dept	Special Investigations Lab	Independence	MO
Indiana Univ Med Cntr	Dept Of Forensic Pathology	Indianapolis	IN
Inglewood Police Dept Crime Lab		Inglewood	CA
Institute of Addiction (???)	Library Central States	Chicago	IL
International Assoc Of Forensic		Newport Beach	CA

Organization	Office	City	State
Toxicology			
INTERPOL-USNCB	US Department Of Justice	Washington	DC
Intl Crim Inv Training Asst Prg		Washington	DC
Iola Police Dept		Iola	KS
Jacksonville Dept HRS		Jacksonville	FL
Jacksonville Naval Air Station		Jacksonville	FL
Jacksonville Sheriff's Office		Jacksonville	FL
Jefferson County Sheriff's Dept	Attn: Criminalistics Unit	Golden	CO
Kalamazoo Police Dept	Crime Laboratory	Kalamazoo	MI
Kansas City Police Crime Laboratory		Kansas City	MO
Kansas City, Kansas Police Dept	Special Enforcement Unit	Kansas City	KS
Kenosha Health Dept Laboratory		Kenosha	WI
Kenosha Sheriff Dept		Kenosha	WI
Kentucky State Police	Northern Regional Laboratory	Cold Springs	KY
King County Medical Examiner		Seattle	WA
Knox County Narcotics Division		Knoxville	TN
La Police Dept Detective Division	Crime Laboratory	Van Nuys	CA
Laboratory of Forensic Sciences (???)		Corning	NY
Lake Charles Memorial Hospital	Toxicology/Pathology	Lake Charles	LA
Lake Superior State College		Sault Ste Marie	MI
Lancaster Water Control Board		Lancaster	PA
Lansing Police Dept	Special Operations Division	Lansing	MI
LAPD Central Area		Los Angeles	CA
Law Enf. & Sec. Training Div (???)	Narcotics Training Group	College Station	TX
Leavenworth Police Dept	Leavenworth County Drug Task Force	Leavenworth	KS
Licking County Sheriffs Dept	Forensic Laboratory	Newark	OH
Linn County Medical Examiner	Mercy County Blairs Ferry	Hiawatha	IA
Lorain County Water Pollution Control Plant		Lorain	OH
Macomb County Comm College	Law Enforcement Program	Clinton Twp.	MI
Madison Controlled Substances Board		Madison	WI
MAGLOCLEN		Newtown	PA
Mallinckrodt Baker, Inc.		Phillipsburg	NJ
Maryland State Dept Of Health		Baltimore	MD
Maryland Transportation Authority Police	Tunnel Command	Baltimore	MD
Maryville College	Chemistry Dept	Maryville	TN
Maui Police Dept Crime Laboratory		Wailuku	HI
Medical College Of Virginia		Richmond	VA
Memphis Police Dept	Crime Response Unit	Memphis	TN
Mercy Hospital		Hamilton	OH
Miami-Dade Crime Laboratory		Miami	FL
Military Police		Oakland	CA
Milwaukee Cnty Medical Examiner		Milwaukee	WI
Minneapolis Police Dept	Identification Division	Minneapolis	MN
Mississippi Bureau Of Narcotics		Jackson	MS

Organization	Office	City	State
Monroe County Sheriffs Office		Key West	FL
Montana Board Of Pharmacy		Helena	MT
Montana State Attorney General		Helena	MT
Montrose Police Dept	Forensic Science Laboratory	Montrose	CO
Napa County Sheriffs Dept	Crime Laboratory	Napa	CA
Napa Police Dept		Napa	CA
Natchez Police Dept	Drug Laboratory	Natchez	MS
National Sheriffs Association		Alexandria	VA
Naval Criminal Investigative Service	Regional Forensic Laboratory - San Diego	San Diego	CA
Naval Research Laboratory	Forensics	Washington	DC
Netherlands Embassy		Washington	DC
New Hampshire Dept Of Corrections	Drug Testing Laboratory	Laconia	NH
New Jersey State Med Examiner		Newark	NJ
New Jersey State Police	Southern Regional Laboratory	Hammonton	NJ
New Orleans Coroner's Office	Forensic Laboratory	New Orleans	LA
New York Police Dept Crime Laboratory		Jamaica	NY
Newark Police Dept	Forensic Services	Newark	OH
NIDA Addiction Research Ctr	Chemistry Laboratory	Baltimore	MD
Norman Police Dept		Norman	OK
North Dakota State Dept Of Health Labs	Forensic Science Division	Bismarck	ND
North Dakota State Lab & Consumer Affairs	State Laboratory	Bismarck	ND
OCSD - Forensic Science Services		Buena Park	CA
Office Of The Chief Medical Examiner		South Charleston	WV
Office Of The Chief Medical Examiner		Washington	DC
Office Of The Coroner	Chemistry Dept	Akron	OH
Office Of The Coroner		San Rafael	CA
Office Of The District Attorney	Major Narcotics Vendor Prosecution	Modesto	CA
Office Of The Medical Examiner	Toxicology Laboratory	San Diego	CA
Office Of The Medical Examiner		East Meadow	NY
Ohio Investigative Unit		Columbus	OH
Oklahoma City - Toxicology & Accident Research Laboratory		Oklahoma City	OK
Oklahoma State Bureau Of Investigation		Edmond	OK
Oklahoma State Medical Examiner		Oklahoma City	OK
Onondaga County Center For Forensic Sciences		Syracuse	NY
Orange County Sheriff's Office		Orlando	FL
Oregon State Police	Forensic Services	Eugene	OR
Oregon State Police	Ontario Forensic Laboratory	Ontario	OR
Ormsby County Sheriff's Office		Carson City	NV
PA State Police - Carlisle Barracks		Carlisle Barracks	PA
Palm Beach Sheriff's Crime Laboratory	Technical Services	West Palm Beach	FL
Panama City Medical Examiners Office	District 14	Panama City	FL
Pasadena Police Dept	Vice Narcotic Bureau	Pasadena	CA

Organization	Office	City	State
Pennsylvania Dept Of Health	Bureau Of Laboratories	Exton	PA
Peterson AFB - 21st Security Police Squad		Peterson AFB	CO
Placer County Dist Atty Crime Laboratory		Auburn	CA
Prince George's County Police Dept	Forensic Services Division	Landover	MD
Public Health Chemist		Minneapolis	MN
Racine Health Dept		Racine	WI
Renton Police Dept	Invest. Div, Narcotics Unit	Renton	WA
Richland County Sheriff's Department		Colombia	SC
Richmond Police Dept	Crime Laboratory	Richmond	IN
Richmond Police Dept	Vice/Narcotics Unit	Richmond	CA
Riverton Police Dept		Riverton	WY
Rock Hill Forensic Laboratory		Rock Hill	SC
Rockland County Medical Examiners Office		Pomina	NY
Rocky Mntn Poison & Drug Ctr		Denver	CO
Saginaw County Department Of Public Heal	Laboratory Services Division	Saginaw	MI
Salt Lake City County Toxicology Laboratory		Salt Lake City	UT
Salt Lake City Police Crime Laboratory		Salt Lake City	UT
San Antonio Police Dept	Evidence Unit	San Antonio	TX
San Bernardino Police Dept	Attn Vice/Narcotics	San Bernardino	CA
San Bernardino Toxicology Laboratory	Anatomic, Neuro, and Forensic Pathology	San Bernardino	CA
San Diego County	Office Of The Sheriff	San Diego	CA
San Francisco Bay Area Quality Mgt Dist		San Francisco	CA
San Mateo Police Dept	Crime Laboratory	San Mateo	CA
Santa Ana Police Dept	Crime Laboratory	Santa Ana	CA
Santa Barbara County Sheriff - Coroner		Santa Barbara	CA
Santa Rosa Regional Lab		Santa Rosa	CA
Sarasota Sheriff's Office		Sarasota	FL
Scottsdale Police Dept	Crime Laboratory	Scottsdale	AZ
Sewald Labs		Williamsport	PA
Smith Kline Clinic Lab Inc		Schaumburg	IL
South Dakota Division Criminal Investigation	Crim Just Trng Cntr	Pierre	SD
Southern Calif Public Health Laboratory		Los Angeles	CA
Southfield Crime Lab		Southfield	MI
St Agnes Hospital		Baltimore	MD
St Joseph Dept Of Police		St Joseph	MO
St Joseph Medical Center		Ponca City	OK
St Joseph's Prosecutor's Office		St Joseph	MI
St Paul Police Department - Crime Lab		St Paul	MN
St Tammany Parish Sheriff's Office	Crime Laboratory	Covington	LA
St. Johns University / St. Vincents College	Dept Of Criminal Justice (Forensic Science Minor)	Jamaica	NY

Organization	Office	City	State
Stanislaus Drug Enforcement Agency		Modesto	CA
Stillwater Police Dept		Stillwater	OK
Stockton Police Crime Laboratory		Stockton	CA
Syracuse Police Laboratory		Syracuse	NY
Tennessee Bureau Of Investigation	Crime Lab - Memphis - Drug Section	Memphis	TN
Tennessee Bureau Of Investigation Crime Lab	Regional Crime Laboratory	Jackson	TN
Texas A & M University	College Of Veterinary Medicine	College Station	TX
Texas Dept Of Public Safety	Crime Laboratory	El Paso	TX
Texas Dept Of Public Safety	Crime Laboratory	Abilene	TX
The Lab for Chromatography		Lawrence	NY
Town Of Cohasset Police Department	Narcotics Section	Cohasset	MA
Trenton Police Dept		Trenton	NJ
Trinidad State Jr Coll	Law Enforcement Academy	Trinidad	CO
Trumbull County Coroners Office		Warren	OH
Tulsa City County Health Dept		Tulsa	OK
Tupelo Crime Laboratory		Tupelo	MS
UCLA School Of Public Policy		Los Angeles	CA
Ukiah Sheriff's Office		Ukiah	CA
Univ Colorado/Health Sciences	Dept. Prev. Med. & Biometrics	Denver	CO
Univ Of Nebraska, College Of Pharmacy	Dept Of Biomedical Chem	Omaha	NE
Univ Of Oregon Dental School	Dept Of Pharm	Portland	OR
Univ Of Texas Mental Sci Inst	Urine Drug Screening Program	Houston	TX
University Of California	School Of Vet Medicine	Davis	CA
University Of Georgia	Veterinary Diagnostic Laboratory	Tifton	GA
University Of Miami - Forensic Toxicology Lab		Miami	FL
University Of Missouri - Toxicology Laboratory		Columbia	MO
University of Tennessee	Toxicology Laboratory	Memphis	TN
US Coast Guard - Investigations		Alameda	CA
US Customs Service	Contraband Enforcement Team	Elizabeth	NJ
US Dept of Agriculture (USDA)	Analytical Services	Laramie	WY
US Dept of Justice	Federal Prison System	Lexington	KY
US Dept of Justice		Washington	DC
US Dept of Justice, Northern Dist Of NY	Organized Crime And Racketeering Section	Syracuse	NY
US Dept of State - Narc Coord		Washington	DC
US Dept of The Navy		San Diego	CA
US Environmental Protection Agency (EPA)	Region 3	Philadelphia	PA
US Environmental Protection Agency (EPA)	Region 10	Port Orchard	WA
US Naval Medical Center - Clinical Chemistry	Laboratory Administration	Bethesda	MD
USACIDC - Aberdeen Proving Ground		Aberdeen	MD
USACIDC - Seventh Region		APO San Francis.	CA

Organization	Office	City	State
USACIDC, Third Region		Fort Meade	MD
USAE SFUR (ICITAP) - HQ		West Palm Beach	FL
Utah Bureau Of Forensic Services	Northern Laboratory	Ogden	UT
Utah Dept Of Public Safety	Central Utah Criminalistics Laboratory	Salt Lake City	UT
Vancouver Police Dept		Vancouver	WA
Vincennes Police Dept	Forensic Services	Vincennes	IN
Virgin Islands Office Of Commissioner Of Police	Crime Laboratory	St. Thomas U.S.	VI
Virgin Islands Ter. Crime Lab	Patrick Sweeney HQs	Kings Hill, St Croix	VI
Virginia Public Safety Foundation		Richmond	VA
Wake County ABC Law Enforcement		Raleigh	NC
Wake County Bureau Of Investigation		Raleigh	NC
Warwick Police Dept		Warwick	RI
Washington State University	College Of Pharmacy	Pullman	WA
Washoe County Sheriff's Office		Reno	NV
Waynesburg College	Forensic Science Program	Waynesburg	PA
West Covina Police Dept		West Covina	CA
West Point Resident Agency	Attn: CIRC-WWP	West Point	NY
West Valley City Police Dept	Forensic Services Unit	West Valley City	UT
West Virginia University	Forensic Identification Program	Morgantown	WV
West Warwick Police Dept		West Warwick	RI
Westchester County Sheriffs Office		White Plains	NY
Western States Info Network		Sacramento	CA
Whittier Crime Laboratory		Whittier	CA
Wichita Police Dept Crime Lab	Lab Section	Wichita	KS
Wichita Sheriffs Office		Wichita	KS
Wildwood Police Dept Laboratory		Wildwood	NJ
Will County Health Dept		Joliet	IL
Wisconsin State Laboratory of Hygiene - Toxicology	Univ. Of Wisconsin - Environmental Health Division	Madison	WI
Wright-Patterson AFB - AFOSI DET 101/FSO		Wright-Patterson AFB	OH
Wyoming Dept Of Public Health	Chemical Testing Program	Cheyenne	WY
York County Sheriff's Office		York	SC
Young Laboratories		Waterville	ME
Youngstown Police Dept	Crime Lab And Records	Youngstown	OH

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SELECTED REFERENCES

[Note: Selected references are a compilation of recent publications of presumed interest to forensic chemists. Unless otherwise stated, all listed citations are published in English. If available, the email address for the primary author is provided as the contact information. Listed mailing address information (which is sometimes cryptic or incomplete) exactly duplicates that provided by the abstracting services.]

1. Titterton E, Carter J, Murray M, Sleeman R. **Characterisation [sic] of ecstasy tablets by isotope ratio mass spectrometry.** Proceedings of the 16th Meeting of the International Association of Forensic Sciences, Montpellier, France, September 2-7, 2002, pps 111-115. [Editor's Notes: MDA- and MDMA-based Ecstasy tablets were analyzed for deuterium, carbon-13, and nitrogen-15 to derive a isotopic fingerprint. Deuterium substitution was also determined via deuterium NMR. Contact: Mass Spec Analytical Limited, Bristol, UK (no further addressing information provided).]
2. Alghanim HJ, Almirall JR. **Development of microsatellite markers in cannabis sativa for DNA typing and genetic relatedness analyses.** Analytical and Bioanalytical Chemistry 2003;376(8):1225. [Editor's Notes: Presents a DNA analysis for marijuana. Contact: Florida International University, International Forensic Research Institute (IFRI), Department of Chemistry, University Park, Miami, FL 33314.]
3. Ottaviano V, Furnari C, Rosati F. **Identification of di(beta-phenylisopropyl)amine as the main ingredient in illicit amphetamine tablets.** Annali dell' Instituto Superiore di Sanita 2002;38(3):331. [Editor's Notes: Presents the identification of the title compound as the primary ingredient in several sets of amphetamine tablets sold in Rome during 1999-2000. Contact: Dipartimento di Sanita Pubblica, Laboratorio di Tossicologica Forense, Universita degli Studi "Tor Vergata", Rome, Italy.]
4. King L. **What's in a drug?** Druglink 2003;18(4):21. [Editor's Notes: Presents a minor survey of the typical contents of illicit drugs. Contact information not provided.]

Additional References of Possible Interest:

1. Ruiz R, Rafols C, Roses M, Bosch E. **A potentially simpler approach to measure aqueous pKa of insoluble basic drugs containing amino groups.** Journal of Pharmaceutical Sciences 2003;92(7):1473. [Editor's Notes: Presents a method for determining pKa's via extrapolation from values determined in methanol/water mixtures. Title drugs include imipramine, maprotiline, nortriptyline, trazadone, and trimipramine. Contact: bosch@apolo.qui.ub.es]
2. Epstein DM, Tebbett IR, Boyd SE. **Eliminating sources of pipetting error in the forensic laboratory.** Forensic Science Communications 2003;5(4):No Page Number (Internet Reference: www.fbi.gov/hq/lab/fsc/current/index.htm) [Editor's Notes: Presents an overview of the potential sources of error when utilizing air-displacement pipettes. Contact: National Forensic Science Technology Center, Largo, MD (zip code not provided).]
3. Bartick E. **Forensic analysis by Raman spectroscopy: An emerging technology.** Proceedings of the 16th Meeting of the International Association of Forensic Sciences, Montpellier, France, September 2-7, 2002, pps 45-50. [Editor's Notes: Presents a general

- introduction and review of Raman for forensic analysis. Contact: Counterterrorism and Forensic Science Research Unit, FBI Academy, Quantico, VA (zip code not provided).]
4. Sun Q. **Novel method for identifying Chinese herbal medicine.** Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1370839 A 25 Sept 2002, 6 pp. CLASS: ICM: C12Q001-25. APPLICATION: CN 2001-104457 27 Feb 2001. [Editor's Notes: Presents an application of PCR with Taq enzyme to identify Chinese herbal medications. This patent is written in Chinese. Contact: Peop. Rep. China (no further addressing information provided).]
 5. Ballou S, Goodpaster J, MacCrehan W, Reeder, D. **Forensic Analysis.** Analytical and Bioanalytical Chemistry 2003;376(8):1149. [Editor's Notes: No details provided in abstract. Contact: 100 Bureau Drive, Office of Law Enforcement Standards, National Institute of Standards and Technology, STOP 8102, Gaithersburg, MD 20899.]
 6. Gaensslen RE. **How do I become a forensic scientist? Educational pathways to forensic science careers.** Analytical and Bioanalytical Chemistry 2003;376(8):1151. [Editor's Notes: No details provided in abstract. Contact: College of Pharmacy, Department of Biopharmaceutical Science, Forensic Science Program, Director of Graduate Studies, University of Illinois at Chicago, Chicago, IL 60612.]
 7. Almirall JR, Furton KG. **Trends in forensic science education: Expansion and increased accountability.** Analytical and Bioanalytical Chemistry 2003;376(8):1156. [Editor's Notes: No details provided in abstract. Contact: Department of Chemistry, International Forensic Research Institute, Associate Director and Director, Florida International University, University Park, Miami, FL 33199.]
 8. Negrusz A, Gaensslen RE. **Analytical developments in toxicological investigation of drug-facilitated sexual assault.** Analytical and Bioanalytical Chemistry 2003;376(8):1192. [Editor's Notes: Presents a general overview of the drug-facilitated sexual assault phenomenon, and discusses recent analytical/toxicological developments to detect same. Contact: College of Pharmacy, Department of Biopharmaceutical Science (M/C 865), Forensic Science Program, University of Illinois at Chicago, 833 South Wood Street, Chicago, IL 60612.]
 9. Lorenzo N, Wan TL, Harper RJ, Hsu Y-L, Chow M, Rose S, Furton KG. **Laboratory and field experiments used to identify Canis lupus var. familiaris active odor signature chemicals from drugs, explosives, and humans.** Analytical and Bioanalytical Chemistry 2003;376(8):1212. [Editor's Notes: Presents the use of headspace-SPME-GC to identify the odors that dogs alert to when searching for the title targets (listed drugs include cocaine and MDMA). Contact: Florida International University, Department of Chemistry and International Forensic Research Institute (IFRI), University Park, Miami, FL 33199.]
 10. Fitsev IM, Budnikov GK, Blokhin VK, Teslenko PG. **Gas chromatographic determination of diacetylmorphine with mass spectrometric detection.** Journal of Analytical Chemistry (English translation of Zhurnal Analiticheskoi Khimii) 2003;47(9-12):423. [Editor's Notes: Appears to be a GC/MS method for analysis of heroin in fluids (not clear in abstract). Contact: Forensic Examination Center, Ministry of Internal Affairs of Tatarstan, ul. Dzerzhinskogo 19, Kazan Tatarstan 420503, Russia.]
 11. Kuznetsov PE, Aparkin AM, Zlobin VA, Nazarov GV, Kosterin PV, Lyubun' EV, Shcherbakov AA. **Analysis of opiates by spin-lattice relaxation techniques.** Pharmaceutical Chemistry

Journal (English translation of Khimiko-Farmatsevticheskii Zhurnal) 2002;36(6):331. [Editor's Notes: Presents the use of the title technique to detect opiates in plasma. Contact: Saratov State University, Saratov, Russia (no further addressing information provided).]

12. Page K. **Forensic science: Reformers aim to shake up British system.** Science 2003;301(5633):579. [Editor's Notes: No details provided in abstract. Contact information not provided.]

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THE JOURNAL/TEXTBOOK COLLECTION EXCHANGE

FREE TO ANY SUBSCRIBER

Unless otherwise noted, requests for any of the following offerings should be emailed to the *Microgram* Editor at: microgram_editor@mailsnare.net Requests should include complete mailing address information, **and should confirm that the provided destination is a "safe" (irradiation free) address.** Unless otherwise noted, in cases of competing requests, libraries have precedence. [Note: Postage for offerings from the DEA Office of Forensic Sciences will be covered by the Office.]

- 1) *Analyst* 2002;127(11,12); 2003;128(1).
- 2) *Journal of AOAC International* 1998 - 2002 (some issues missing).
- 3) *Journal of Clinical Psychopharmacology* 1991 - 2002 (many issues missing).
- 4) *Journal of Forensic Sciences* 2000;45(6); 2001;46(2,3,4,5,6); 2002;47(All); 2003;48(2).
- 5) *Journal of Pharmacology and Experimental Therapeutics* 1998 - 2002 (some issues missing).
- 6) *Journal of Toxicology and Clinical Toxicology* 1997 -2002 (some issues missing).

The next offering of journals and textbooks will be in the January 2004 issue of *Microgram Bulletin*. **Subscribers are encouraged to donate surplus or unwanted items or collections; if interested, please consult the *Microgram* website for further instructions.**

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THE DEA FY - 2004 STATE AND LOCAL FORENSIC CHEMISTS SEMINAR SCHEDULE

The FY - 2004 schedule for the DEA's State and Local Forensic Chemists Seminar is as follows:

December 8 - 12, 2003
February 9 - 13, 2004
April 19 - 23, 2004
June 14 - 18, 2004
September 20 - 24, 2004

Note that the school is open only to forensic chemists working for law enforcement agencies, and is intended for chemists who have completed their agency's internal training program and have also been working on the bench for at least one year. There is no tuition charge for this course. The course is held at the AmeriSuites Hotel in Sterling, Virginia (near the Washington/Dulles International Airport). A copy of the application form is appended onto the end of this issue of *Microgram Bulletin*, and should be mailed to the Special Testing and Research Laboratory (Attention: Pam Smith or Jennifer Kerlavage) at: 22624 Dulles Summit Court, Dulles, VA 20166. For additional information, call 703 668-3337.

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EMPLOYMENT OPPORTUNITIES

1. Houston Police Department

(Third and Final Posting)

Position: Crime Laboratory Director

Location: City of Houston, Texas

Salary Range: \$92,066 - \$100,000 Annually, Dependant on Qualifications

Application Deadline: Open Until Filled

Duties: Manages the daily operations of the Crime Laboratory, including DNA Analysis, Serology, Toxicology, Drug Identification, Trace evidence analysis, Firearms/Toolmark Examination and evidence registration; will serve as Crime Laboratory Director; hires, supervises and evaluates staff of fifty (50) persons; prepares, administers and monitors division budget; ensures compliance with all federal, state and local laws and regulations regarding physical evidence; oversees development and implementation of standard forensic testing practices and procedures for all sections of Crime Laboratory in accordance with standards set forth by ASCLD-LAB or other appropriate accrediting entity to achieve and maintain laboratory accreditation; plans and implements programs to ensure quality control of laboratory including the generation and storage of laboratory case reports and records; reviews reports and documents concerning evidence analysis and findings; plans directs and oversees the continuous training for all aspects of forensic laboratory services to keep Criminalists up-to-date with all methods of forensic work; works with Investigative Division supervisors to develop protocols for prioritizing laboratory services usage; coordinates division operations with outside agencies and other government agencies; provides physical evidence information to law enforcement agencies, attorneys, judges, the District Attorney's Office and other scientific professionals; reports to an Assistant Chief; performs related duties as required.

Qualifications: Educational: Graduation from an accredited college or university with an Advanced Degree and major course of study in Criminalistics, Chemistry or any natural or physical science - or - graduation from an accredited four-year college or university with a major course of study other than one of the described sciences plus fifteen (15) or more years of increasingly complex forensic work experience in a crime laboratory. Experience: Seven (7) years progressively responsible Crime Laboratory experience including two (2) years supervisory experience in an accredited laboratory; or an equivalent combination of education and experience. License: Valid Texas Driver's License and compliance with city's policy on driving (AP 2-2).

Application Procedures: Original applications only are accepted and must be received by the Human Resources Department, at 611 Walker, First Floor, Houston, Texas, 77002.

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2. Hamilton County Coroner's Crime Laboratory

(Third and Final Posting)

Position: Drug Analyst

Location: Cincinnati, Ohio

Salary Range: \$33,467.00 (Note: Hamilton County has an excellent retirement and benefits program.)

Application Deadline: Open Until Filled

Duties: Primary responsibility is to analyze and identify controlled substances using GC-MS, FTIR, and other analytical techniques. Analyst is required to present expert testimony in court. Staff members must comply with safety, quality control, technical and administrative procedures required by accrediting agencies. Analysts also routinely instruct law enforcement officers and other criminal justice professionals on matters relating to forensic science.

Qualifications: A BS/BA degree in forensic science or related natural science from an accredited college. Applicants must have completed an internship in a forensic laboratory. A strong background in mass spectrometry, pharmaceutical analysis, or analytical chemistry is desirable. Applicants must possess, or be able to obtain, a valid drivers license.

Application Procedures: Submit resume with cover letter to the contact listed below. Individuals selected for interviews are responsible for their own travel expenses.

William L. Dean
Chief of Forensic Sciences
Hamilton County Coroner's Crime Laboratory
3159 Eden Ave.
Cincinnati, Ohio 45219

Phone: 513-946-8755
E-mail: bill.dean@hamilton-co.org
Fax: 513-946-8772
Website: www.hamilton-co.org/coroner

* * * * *

3. Broward County Sheriff's Office (BSO)

(Second Posting)

Position: Crime Laboratory Manager
Location: Fort Lauderdale, Florida
Salary Range: To Be Determined.
Application Deadline: Open Until Filled

Duties: This position directs, administers and manages all forensic services functions for the BSO. Critical functions under charge include the Crime Laboratory, Automated Fingerprint Identification System (AFIS), and Latent Identification. Employees in this classification maintain responsibility for the direction, and management of personnel engaged in latent and ten-print identification, audio/video enhancements, quality control/quality assurance, DNA analysis, firearms and tool mark identification, forensic chemistry, questioned documents examination, and trace evidence analysis.

Qualifications: A Master's degree in chemistry, biology, or another physical science is required; a Ph.D. is preferred. The position also requires ten years experience that includes advanced forensic chemistry, biology or criminalistics preferably in a large national, state or regional laboratory. Thorough knowledge of DNA processing and American Society of Crime Laboratory Directors (ASCLD) certification required; certification by the American Board of Criminalistics (ABC) preferred. Experience in a managerial capacity with responsibility for administrative aspects of the work strongly desired.

Application Procedures: You may view a detailed job description, download an application or apply on-line at: www.sheriff.org. A completed application and accompanying resume will also be accepted by mail: Broward Sheriff's Office, Human Resources Bureau, 2601 W. Broward Blvd., Fort Lauderdale, FL 33312.

EOE M/F/D/V DFWP

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4. Ohio University

(Second Posting)

Position: Assistant/Associate Professor of Forensic Chemistry
Location: Athens, Ohio
Salary: [Not Listed]
Application Deadline: Open Until Filled

Duties: The Department of Chemistry and Biochemistry invites applications for a tenure-track position as an assistant/associate professor of forensic chemistry. We seek a chemist with postdoctoral or related experience and a research interest in forensic chemistry or related fields (toxicology, DNA typing, homeland security, etc.)

General Requirements: The successful applicant will be expected to have a Ph.D. in chemistry or a related field, and to establish a vigorous research program that will attract external funding. Candidates should be prepared to teach general chemistry as well as courses in their area of specialization at both the undergraduate and graduate (M.S. and Ph. D.) levels.

Application Procedure: Submit a curriculum vita, a research plan, a statement of teaching philosophy, and arrange to have at least three letters of recommendation sent to: Chair, Search Committee, Department of Chemistry and Biochemistry, Clippinger Laboratories, Ohio University, Athens, OH 45701-2979. Review of applications will begin on September 22, and will continue until the position is filled. Further information on the College of Arts and Sciences can be viewed at <http://www.cas.ohiou.edu>

and on the position and the department at <http://www.chem.ohiou.edu> Minority and female applicants are especially encouraged to apply.

Ohio University is an Affirmative Action/Equal Opportunity employer.

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5. Bureau of Alcohol, Tobacco, Firearms and Explosives

(First Posting)

Position: Laboratory Chief

Location: Walnut Creek, California (Contra Costa County, San Francisco area)

Salary: \$101,351 to \$143,500, dependent on qualifications.

Application Deadline: November 25, 2003

Duties and General Requirements: The successful applicant should possess a B.S. degree in chemistry or other physical science. The position also requires passage of a background investigation and a top-secret clearance. The applicant will be measured against the following knowledge, skills, and abilities:

- * Knowledge of the forensic sciences and their application to law enforcement programs. (Prior experience supporting explosives, fire debris, trace evidence and/or firearm enforcement programs is desirable, but not required.)
- * Knowledge of the theory and practice of management and the ability to manage people, programs and the resources of a laboratory.
- * Ability to independently identify and solve problems.
- * Ability to represent ATF at all levels, including internationally; and to work with others to accomplish goals, routinely dealing with representatives from other venues with conflicting priorities.
- * Ability to communicate effectively in both scientific and managerial arenas, verbally and in writing.

Application Procedure: The full vacancy announcement (DPO-A03-027) and application materials may be found at: <http://jsearch.usajobs.opm.gov/summary.asp?OPMControl=110767>

Relocation expenses may be provided.

NOTE!: Due to problems in the personnel office, anyone who has previously applied for this position is advised to resubmit their application!

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SCIENTIFIC MEETINGS

1. Title: American Academy of Forensic Sciences - 56th Annual Meeting

(Third Posting)

Sponsoring Organization: American Academy of Forensic Sciences

Inclusive Dates: February 16 - 21, 2004

Location: Dallas, TX

Contact Information: [See website]

Website: [www.aafs.org]

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2. Title: 44th Annual International Drug Conference

(Third and Final Posting)

Sponsoring Organization: International Narcotic Enforcement Officers Association

Inclusive Dates: October 19 - 25, 2003

Location: Fort Lauderdale, FL (Wyndham Bonaventure Resort and Spa)

Contact Information: [None Listed]

Website: [None Listed]

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Computer Corner

Instrument Monitoring in a Digital Evidence Laboratory

#175

by Michael J. Phelan
DEA Digital Evidence
Laboratory

Quality assurance is an essential component of every forensic laboratory's daily operation. An important element in Quality Assurance Programs is instrument monitoring.

Historically, the use of various scientific instruments in the forensic/analytical process has resulted in the development and execution of detailed record keeping procedures that formally document instrument configuration and control settings. Many modern forensic laboratory instruments are primarily analog devices interfacing some sensor or detector array to a display or computer. Analog technology is a concern for forensic scientists because the technology has some inherent characteristics which, if improperly managed, can result in erroneous measurements. Examples of potential analog technical concerns include signal level variations, non-linearity in sensor response, and sensor corruption or "memory" resulting from contamination from previous sample analyses. The ability to monitor and document instrument performance over time adds to the credibility of the forensic laboratory's operation and its findings.

Digital evidence laboratories also have to be concerned with their laboratory instrumentation.

However, unlike the analog devices of a drug chemistry or DNA forensic laboratory, digital evidence laboratories are exclusively concerned with binary technologies, in particular computers. Concern for analog related issues in a digital evidence laboratory is of theoretical interest, but it is not a concern at the everyday practical level when conducting digital evidence examinations. Nonetheless, digital evidence laboratory instruments (primarily computers) should be monitored and documented to demonstrate that they are in continuous nominal working order. A basic instrument monitoring program would help defeat technical challenges regarding laboratory findings or examiner conclusions that are based on contesting the accuracy and/or working order of the instrumentation. The implementation costs of an instrument monitoring program are reasonable as long as the scope of monitoring activity is properly managed.

There are several areas that should be considered in developing an instrument monitoring policy for a digital evidence laboratory.

Base Line Documentation

First, the computer used in an examination needs to be documented at both the

hardware and software levels. The documentation preserves basic information that may be required if it is later discovered that there was a flaw that could have affected the outcome of an examination. At the hardware level, only the principal components need to be enumerated. The documentation should include the make, model, and, serial number of the base examination computer. Internal features such as processor type (for example, Pentium IV), processor speed, memory capacity (Random Access Memory), and internal add-on cards (SCSI, PCMCIA, or IDE-Promise) should be identified.

Similarly, principal software should also be documented. This documentation should include operating system(s), forensic software, anti-virus software, and any other software utilities such as file browsers, or hexadecimal editors, that are used as part of the examination process. Software documentation should include both name and version/release information.

Upgrades

Second, any major hardware, firmware (ROM/BIOS chips) or software addition, deletion or change to the base examination system, also needs to be recorded. This information

preserves the ability of laboratory management to identify computer system changes that may impact on the examination results or conclusions.

However, the recording of minor software upgrades would likely result in an inordinate amount of examiner time being spent on instrument log upkeep. Digital evidence laboratory management should therefore establish clear policies on what kinds of changes merit being recorded in an instrument log. For example, an upgrade of a new version of software (such as, a change from version 3 to version 4) is usually considered a significant event that should be recorded. In contrast, a software patch (for example, a change from version 4.01 to version 4.02) is a common occurrence in the software business, and should not be recorded. In most laboratories, documenting all such minor changes would become an almost daily task that would very likely reduce examiner productivity. An alternative, less intensive policy would be to selectively record only changes to forensic examination software. Regardless, failure to establish a rational threshold of what constitutes a significant change will likely result in voluminous and time consuming log entries of questionable utility.

Image Restoration

Third, any restoration of “ghosted” or hard drive duplicates should be documented. Typically, examination hard drives are restored at the beginning of a

new examination, as part of the quality assurance process to insure the integrity of the software. This practice is a useful digital evidence laboratory quality assurance technique.

Failures

Fourth, any major hardware or software failure should be recorded to identify problems that conceivably could affect examination results. However, a rational threshold is also needed here to identify those failures that should to be documented. Occasional system lock ups (affectionately known as “the blue screen of death”), or the need to reinitialize a specific program or process, should not be considered a major technical failure unless it occurs with a regular frequency (“regular” meaning often enough to significantly impact examiner productivity, or to suggest that the program is somehow corrupted).

Periodic Testing

Fifth, periodic examination computer system checks should be conducted and documented. Successful passing of the POST test, booting completely to either a GUI interface or command prompt, and executing a normal shut down, all demonstrate that both the computer hardware and operating system software are nominally functional.

Program Scope

The scope of any instrument monitoring and documentation program needs to balance concerns for thoroughness and laboratory credibility with examiner time expenditure.

DEA has chosen to implement a monthly testing program, record only significant changes, and document all exhibits that are processed on each computer system.

Log Books

DEA has a bound instrument monitoring log book assigned to every computer workstation in its laboratory that is used to process evidence. This includes specialized portable computers that process evidence on-site and dedicated password cracking computers. Use of a bound log book is a common forensic laboratory technique to demonstrate continuity of hand written data records.

Questions or comments:

E-mail: mphelan@erols.com

DEA State and Local Forensic Chemists Seminar Application Form

Name: (PRINT NAME EXACTLY AS IT IS TO APPEAR ON CERTIFICATE)		Title:	
Employer:			
Your Office Mailing Address (include city, state and zipcode)		Business Fax () -	
Business Telephone () -	Length of Service	Date of Application	
EDUCATION		Degree	Major
University			
Please Check Which Techniques or Equipment used in your lab			
	Color Tests		UV
	Column Chromatography		IR
	Microcrystal tests		CE
	Thin Layer Chromatography		GC/MS
	GC		IR
	HPLC		Other(please specify)
Indicate analytical problem(s) nominee would like to have covered:			
Choice of Seminar Dates:			
1st Choice:		2nd Choice:	
Laboratory Chief/Director:			
Printed Name: _____		Signature: _____	
Title: _____		Date: _____	
Phone: _____			