



# NEWLETTER California Association of Criminalists NEWLETTER

JAN 19 1989

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### Also Included with this mailing:

1. CAC 1988 Salary Survey
2. Call for nominations for the 1989 Distinguished Member Award
3. Abstracts of the 72nd Semi-Annual Seminar, October 20-22, 1988

January 1989

## CONFERENCES AND SEMINARS

### ASTM COMMITTEE E-30 ON FORENSIC SCIENCE

February 13, 1989

ASTM Committee E-30 will hold a meeting for individuals interested in reorganizing and expanding the activities of the Committee. This meeting will be held on Monday during the week of the AAFS meeting. For further information, contact Wendy Dyer, ASTM, 1916 Race Street, Philadelphia PA 19103-1187 (215) 299-5400 FAX (215) 977-9679

### 41ST ANNUAL MEETING OF THE AMERICAN ACADEMY OF FORENSIC SCIENCES

February 13-18, 1989

This conference will be held at the Riviera Hotel, Las Vegas, NV. Contact AAFS, 225 South Academy Blvd., Colorado Springs, CO, 80910. (303) 596-6006.

### CALIFORNIA ASSOCIATION OF TOXICOLOGISTS

February 11, 1989

The meeting will be held at the Sahara Hotel and Casino, Las Vegas, Nevada. The hosts are Gary Barnum and Ted Johnson. For further information, contact Lee B. Knight, CAT Vice President, Memorial Healthtech Laboratories, 701 E. 28th Street, Suite 113, Long Beach CA 90806. (213) 595-3427

### NORTHWEST ASSOCIATION OF FORENSIC SCIENTISTS

April 3-7, 1989

The Spring, 1989, NWAFFS meeting will be hosted by the new National Fish and Wildlife Forensics Laboratory in Ashland OR. The meeting will be held at the Ashland Hills Inn. For further information, contact Beth Ann Gilroy, Forensic Specialist, National Fish and Wildlife Forensics Laboratory, 1490 East Main Street, Ashland OR 97520. (503) 482-4191. FAX (503) 482-4989

### SOUTHERN ASSOCIATION OF FORENSIC SCIENTISTS

May 4-6, 1989

The Spring, 1989, SAFFS meeting will be held at the Radisson Plaza Hotel, Raleigh, North Carolina. The theme for this meeting will be "Scanning Electron Microscopy in Forensic Science." For further information, contact Lt. R.S. White, WV State Police Laboratory, 725 Jefferson Road, South Charleston WV 25309. (304) 746-2181.

### CALIFORNIA ASSOCIATION OF TOXICOLOGISTS

May 4, 1989

The meeting will be held at the Westin South Coast Plaza Hotel, Costa Mesa CA. The hosts is Maureen Black. For further information, contact Lee B. Knight, CAT Vice President, Memorial Healthtech

Laboratories, 701 E. 28th Street, Suite 113, Long Beach CA 90806. (213) 595-3427

### CALIFORNIA ASSOCIATION OF CRIMINALISTS - SPRING SEMINAR

May 17 -20, 1989

The 73rd Semi-Annual Seminar of the California Association of Criminalists will be held at the Fountain Suites Hotel in Sacramento, California. The theme for the meeting is "A Century of Progress - 1888-1988." The meeting will include a special SEM session, panel discussions on professionalism and historic cases, and tutorial sessions on a variety of subjects: DNA, lasers, data systems, CCI library services, etc. For further information, contact Bureau of Forensic Services, California Criminalistics Institute, 4949 Broadway, Room F-104, Sacramento CA 95820. (916) 739-4380 FAX (916) 44-5433

### CALIFORNIA ASSOCIATION OF TOXICOLOGISTS

August 5, 1989

This meeting will be held in northern California, but the meeting site has not yet been established, but it will be hosted by Bob Fogerson. For further information, contact Lee B. Knight, CAT Vice President, Memorial Healthtech Laboratories, 701 E. 28th Street, Suite 113, Long Beach CA 90806. (213) 595-3427

### INTERNATIONAL SOCIETY FOR FORENSIC HEMOGENETICS

October 18 - 20, 1989

The 13th International Congress of the International Society for Forensic Hemogenetics will be held in New Orleans, LA, from October 18 through 20, 1989. For further information, contact Dr. Herbert Polesky, Memorial Blood Bank Center Minneapolis, 2304 Park Avenue South, Minneapolis MN 55404.

### CALIFORNIA ASSOCIATION OF TOXICOLOGISTS

November 4, 1989

This meeting will be held in San Diego and hosted by Dick Shaw. For further information, contact Lee B. Knight, CAT Vice President, Memorial Healthtech Laboratories, 701 E. 28th Street, Suite 113, Long Beach CA 90806. (213) 595-3427

### PAN AMERICAN ASSOCIATION OF FORENSIC SCIENCES

November 1989

The Fourth International Meeting of the Pan American Association of Forensic Sciences will be held in Bogota, Columbia. The theme of the meeting is "The Sciences and Justice." For further information, contact Dr. Egon Lichtenberge, Carrera 11 A 96-26, Bogota, Columbia.

## INTERNATIONAL ASSOCIATION OF FORENSIC SCIENCES

October 24-31, 1990

The IAFS meeting will be held in Adelaide, Australia, in October, 1989. For further information, contact Dr. W. J. Tilstone, President IAFS, Forensic Science Center, 21 Divett Place, Adelaide SA 5000. (08) 226-7715 FAX (08) 224-0174

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## JOB OPENINGS

(Job openings are obtained from a variety of sources. Given publication deadlines and delay in receiving announcements from other parts of the country, some of the openings announced here may be filled by the time this Newsletter is received. Job announcements will normally be run only one time. Members actively seeking employment are encouraged to contact the editorial secretary for information about openings which become available between newsletters.)

Although the following jobs were announced in the October Newsletter, they are being repeated in this Issue due to the late publication of the October Newsletter, and in the hope that some of the positions may be open.

### SENIOR FORENSIC CHEMIST

The Naval Investigative Service Regional Forensic Laboratory, San Diego, has an opening for a Senior Forensic Chemist. This position requires a degree in a physical or chemical science, or in engineering, and extensive experience in the theory and practical use of instrumentation. A minimum of four years experience in recognized forensic laboratory is required. Salary range (GS-13 level) is \$41,121 to \$53,460. For further information, contact Dorothy Boyer, Laboratory Director, NIS Regional Forensic Laboratory, P.O. Box 220, Naval Base, San Diego CA 92136. (619) 235-1947 or 235 1611.

### LABORATORY DIRECTOR

The Naval Investigative Service Regional Forensic Laboratory, San Diego, has an opening for a Laboratory Director. This position requires six years of experience in a forensic laboratory including supervisory or administrative experience. Salary range (GM-13, GM-14) is \$41,121 to \$53,460, effective January 1, 1989, \$48,592 to \$63,172. For further information, contact Dorothy Boyer, Laboratory Director, NIS Regional Forensic Laboratory, P.O. Box 220, Naval Base, San Diego CA 92136. (619) 235-1947 or 235 1611.

### SENIOR CRIMINALIST

The City of Mesa, Arizona, is seeking applicants for the position of Senior Criminalist. The position specializes in the areas of blood alcohol and drug screening in body fluids. Minimum requirements include a BS degree in Chemistry, Criminalis-

tics or a closely related field and four to six years of experience as a criminalist. Salary range is \$36,283 to \$48,971. For further information, contact Mesa Personnel Department, P.O. Box 1466, Mesa, Arizona, 85211. (602) 644-2365.

### CRIMINALIST

#### SENIOR CRIMINALIST

The County of Orange has several openings at the criminalist and senior criminalist levels. Qualifications include a Bachelor's degree in Criminalistics, Chemistry, Biology or a closely related field. The Senior Criminalist position requires two years experience in a forensic laboratory. The salary range is \$2,142 - \$2,879 (Criminalist) and \$2,798 - \$3,768 (Senior Criminalist). For further information, contact Margaret Kuo, Forensic Science Services, Sheriff's Department, P.O. Box 449, Santa Ana CA 92702. (714) 834-4549.

### ASSISTANT CRIMINALIST

#### CRIMINALIST

The Oakland Police Department anticipates openings for Assistant Criminalists and Criminalists in the Fall of 1988. Both require a B.S. degree in Criminalistics or a closely related field. Two years of experience is required for the Criminalist experience. The salary range is \$2,699 to \$2,980 (Assistant Criminalist) and \$3,239 to \$3,583 (Criminalist). For further information, contact Jan S. Bashinski, Laboratory Director, Oakland Police Department, 455 Seventh Street, Room 608, Oakland CA 94607. (415) 273-3386.

### LATENT PRINT EXAMINER

The City of San Diego is currently recruiting for a Latent Print Examiner. The requirements for this position are one year of full-time experience the fingerprint classification, searching, and comparison

News about Our members and identification of latent prints; and acceptance in court as an expert witness. For further information, contact San Diego Employment Information Counter, 202 C Street, San Diego CA 92101. (619) 236-5753.

#### **NEW JOBS AVAILABLE:**

SUPERVISORY FORENSIC SCIENTIST (Morphology)  
SENIOR FORENSIC SCIENTIST (Criminalistics)  
SENIOR FORENSIC SCIENTIST (Serology)  
SENIOR FORENSIC SCIENTIST (DNA Analysis)  
SENIOR FORENSIC SCIENTIST (Mammalogy)

The National Fish and Wildlife Service Forensics Laboratories has a number of openings in the

stated positions. The new 23,000 square foot laboratory is conveniently located in Ashland, Oregon. Salary ranges are \$41,121-53,460 (Supervisory), or 34,580-44,957 (Senior Scientist). For additional information, contact Ken Goddard, Director, National Fish and Wildlife Service Forensics Laboratory, 1490 East Main Street, Ashland OR 97520 (503) 482-4191

## **NEWS of MEMBERS**

This section of the Newsletter is designed to let other others within the Association know what our members have been doing - job changes, promotions, awards, or other activities that might be of interest to the members. Please send information to the Editorial Secretary.

#### **Jay Mark to Santa Clara County**

Jay Mark, a CAC member and currently Chief Criminalist and Director of the Laboratory of Criminalistics for the City of Huntington Beach, California, has been appointed Director of the Santa Clara County Laboratory of Criminalistics.

#### **Nancy Hartel joins SMCSO lab**

Nancy Hartel, formerly with Serological Research Institute, has gone to work for the San Mateo County Sheriff's Office Criminalistics Laboratory,

#### **Steve Cooper Retires**

Steve Cooper, formerly with the California Department of Justice Laboratory and past president of the CAC has retired. Steve says he still intends to remain active in the CAC and can be reached at P.O. Box 4066, Salinas CA 93912.

#### ***Correction***

In the report of the Drug Study Group activities in the last newsletter it was stated that the Appellate Court decision in the John Michael Hall case, which allowed a DOJ analyst to testify to the results of another analyst when the first analyst is unavailable had been ordered published. Oops! That should have been "ordered depublished." According to Orwell, that means that the decision cannot be cited as precedent in other jurisdictions.

## COMMENTARY

### Seminar Abstracts

**J. H. White**

*Orange County Sheriff's Office*

*Criminalistics Laboratory*

Oral Presentation at our semi-annual seminars is the primary method of communication among our member scientists. Because few of us formalize our findings for publication, our abstracts are frequently the sole legacy of our work. Since these abstracts are read by those members who were not able to attend the seminar and are published in the Journal of the Forensic Science Society for review by the entire forensic community, it is extremely important that these abstracts are capable of standing alone to represent the paper that was presented.

The characteristics of a good abstract are well described by Robert Day in his book How to Write and Publish a Scientific Paper (ISI Press, 1983).

"The Abstract should not exceed 250 words and should be designed to define clearly what is dealt with in the paper. Many People will read the Abstract, either in the original journal or in Biological Abstracts, Chemical Abstracts or one of the other secondary publications.

The Abstract should (i) state the principal objectives and scope of the investigation, (ii) describe the methodology employed, (iii) summarize the results, and (iv) state the principal conclusions."

I suggest that program chairs for our seminars use these guide lines in reviewing submitted abstracts and return deficient abstracts for rewriting. High quality abstracts for our seminars will not only increase the effectiveness of the communication of our findings, but will also increase our level of professionalism as seen by our peers.

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## AWARDS COMMITTEE ANNOUNCEMENTS

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### 1988 Paul Kirk Award

Mary Murphy Hong was the recipient of the 1988 Paul Kirk Award. Mary is a criminalist with the Orange County Sheriff's Office. Mary came highly regarded for her initiative and motivation by her laboratory. She received \$100.00 from the American Academy of Forensic Sciences as part of their General Section Award. Congratulations!

### Outstanding Presentation Award - Fall 1988 Seminar

Teresa Spear was selected to receive the Most Outstanding Presentation award for her paper at the Costa Mesa Seminar. Her paper "An Evaluation of the HemeSelect Immunochemical Test for the Identification of Human Bloodstain" received high marks for technical merit and relevance to forensic problems. A merit award certificate and \$100.00 will be presented to Terry at the Spring Seminar in Sacramento. Congratulations!

### 1989 Distinguished Member Award - NOMINATIONS

Nominations for the DM award will be accepted during the month of Jan. 1989. The criteria for the award and the nomination forms are enclosed with the newsletter. Please send them in early!! Any questions should be addressed to Bruce Fukayama, Awards Committee Chariman (415) 646-2962.

### Previous Paul Kirk and Distinguished Member Awardees:

Year	Paul Kirk	Distinguished Member
82	Allen Garrett	
83	Teresa Spear	
84	David Sugiyama	George Sensabaugh
85	Laurie Rawlinson	Edward Blake
86	Eric Parsons	James White
87	Richard Brown	Jerry Chisum
88	Mary Murphy Hong	Lucien Haag

## TWO RECENT COURT DECISIONS

Two recent Court decisions, from the U.S. Supreme Court and the other from the California Appellate Court, are of interest to Criminalists. One of these cases redefines the responsibility for collection and preservation of physical evidence, and the other may affect the use of breath testing instruments for the determination of blood alcohol levels in DWI cases.

### Collection and Preservation of Evidence

#### *Arizona vs. Youngblood*

In this sexual assault case the clothing of the victim was examined for the first time some 14 months after the assault occurred. The examination of a semen stain on the clothing failed to yield any genetic information which could be used to establish the identity of the semen donor. The suspect, who had been identified by the victim from a photographic lineup, argued that the failure of the State to preserve the clothing evidence by freezing, argued that he was deprived of Due Process. The Arizona Appellate Court reversed the conviction. The case was then appealed to the U.S. Supreme Court who reversed the Arizona Appellate Court's decision.

The Supreme Court, in a 6-3 decision, ruled that the failure of the police to preserve the evidence did not violate defendant's Due Process rights. The court, furthermore, went further in their decision (as was pointed out in a separate, concurring decision by Justice Stevens) when they stated

We think that requiring a defendant to show bad faith on the part of the police both limits the extent of the police's obligation to preserve evidence to reasonable bounds and confines it to that class of cases where the interests of justice most clearly require it. i.e., those cases in which the police themselves by their conduct indicate that the evidence could form a basis for exonerating the defendant. We therefore hold that unless a criminal defendant can show bad faith on the part of the police, failure to preserve potentially useful evidence does not constitute a denial of due process of law. (emphasis added)

It appears that the Court has rejected the notion that physical evidence is a "silent witness" which can be used to determine issues which are relevant to the investigation. The Court rejects the notion that a full revelation of the facts surrounding an incident is important to a fair trial and fails to suggest how the police can determine that the evidence "could form a basis for exoneration" prior to any analysis being done on the evidence. Rather, the Court has adopted the position that physical evidence is something which, if it is helpful to the police, should be collected and preserved, otherwise can be overlooked or discarded without consequence.

The appropriate role of a Criminalist, however, goes well beyond this narrow scope required by the Supreme Court. The CAC Code of Ethics says, "It is the duty of any person practicing the profession of criminalistics to serve the interests of justice to the best of his ability at all times. In fulfilling this duty, he

will use all of the scientific means at his command to ascertain all of the significant physical facts relative to the matter under investigation."

The role of the Criminalist is, in part, the collection and preservation of physical evidence. There is nothing which restricts our efforts to that portion of the physical evidence which appears to support the position currently taken by the person or agency by whom we are employed. Whenever evidence is collected, either in the field or in the laboratory, decisions must be made about what is collected, how it is collected, and how it is preserved. Such decisions are made, one hopes, based on an assessment of the potential of the evidence to answer relevant questions, and the nature of the analyses that will be required to extract information from this "silent witness." It is unfortunate that the Supreme Court has limited the responsibility of those people who are in the best position to collect physical evidence - the police. One hopes that the criminalistics profession will reject the Court's narrow view, and continue with our tradition of encouraging the proper collection and proper preservation of all physical evidence relevant to the investigation.

### Breath Alcohol Testing - 2100:1

*People vs. Bruce Robert McDonald* No. G006994

McDonald was convicted of driving under the influence of alcohol based, in part, on a 0.13% blood alcohol level determined by a breath testing machine. The issue in dispute was the validity of the blood:breath alcohol partition ratio, 2100:1, as used by the breath testing machine and assumed as valid by the California Administrative Code. If the partition ratio was incorrect for the defendant at the time the test was administered, the resulting blood alcohol level determined by the instrument would have been incorrect.

Testimony from criminalists testifying for both the defense and the prosecution established that the 2100:1 ratio is an average figure, and the actual figure for a given person at a given time could be between 1550:1 and 2700:1. There was also testimony that the actual figure, for a given individual, might vary from time to time. The Court instructed the jury that it should assume that the value of 2100:1 is correct.

In reversing the conviction, the Appellate Court ruled that the actual partition ratio is a question of fact for the jury to decide, hence an instruction

removing this determination from the jury's province this decision was improper.

Is it ever possible to determine the actual partition ratio applicable for a person who takes a breath test? If the ratio for a person may change from time to time, as the evidence in this case alleged, how can we ever go back in time and determine what the

ratio was when the actual test was given? Is any person with a .10% blood alcohol based on a breath test using a 2100:1 ratio any less under the influence if the blood alcohol level were stated based on a calculation assuming a 1550:1 partition ratio?

## **CAC MERCHANDISE**

Show your colors (or colours) - at home, at work or at play. Be the first (and probably the only) person on your street to have one of these. Limited stocks on hand at CAC Seminars and by mail (via John DeHaan Calif DOJ - Sacramento). Special order items and colors available on request. All CAC clothing items bear a specially embroidered emblem. These goodies are offered to you at cost, so you won't find a better deal.

The current offerings are listed here. if you would like to see a particular product offered, contact John DeHaan (DOJ-CCI) or Sue Swarner (Contra Costa County).

### **CAC**

Sweatshirts- various colors (50/50 blend): \$12.00

Hats (one size fits all, mesh and foam, various colors with white): \$5.50

Mugs: Glazed ceramic mugs: \$4.50

Name Badges: Custom engraved (name & agency): \$5.00

Patches: CAC logo only, black-on-white: \$5.00

Golf Shirts (Hanes Cotton-Polyester, short sleeve): \$15.50 Available in: black burgundy, slate grey, ecru, navy, kelly green, red, yellow, light blue, silver and white

Sweaters (long-sleeve acrylic pullovers): \$17.50

Vest (sleeveless acrylic pullovers): \$16.50

Sweaters or vests available in: black, brown, burgundy, tan (camel), light blue, red and navy. (100% Orlon available at extra cost)

Tote bags (natural canvas tweed): \$9.00

### **Forensic Science Society**

Ties: Embroidered FSS motif: \$6.50 (navy brown, burgundy) Woven multiple scale/micro- scope motif: \$.500 (burgundy)

Plaques: \$20.00

Pin Badges: \$3.00

Changes of address should be sent to the MEMBERSHIP secretary. Please be sure to indicate both your business address and your preferred mailing address. The published roster will contain your preferred mailing address and all CAC correspondence will be sent to that address.

## **DRUG STUDY GROUP**

**Kenneth Fujii**

*Contra Costa Sheriff's Office*

*Criminalistics Laboratory*

*1122 Escobar Street*

*Martinez CA 94553*

A Drug Study Group meeting was hosted by Contra Costa County Sheriff's Criminalistics Laboratory on November 29 1988.

### **The discussion of color tests Included:**

- Reagents
- Recipes
- Techniques
- Positive and Negative results
- References

### **Seminar presentations of Interest**

CAC Fall Seminar:

"DeMinimus Quantity" by Wayne Moorehead

NWAFS Fall Seminar:

"Methamphetamine Synthesis - An Unusual Impurity" by John Bowden.

"GC-FTIR in Forensic Toxicology Cases" by Wayne Jeffrey.

"Lithium-Ammonia Reduction of Ephedrine to Methamphetamine: An Unusual Clandestine Synthesis" by Roger Ely and Diane C. McGrath.

### **Legal Update**

AB2700 does make MDMA illegal in spite of lobbying by special interest groups.

### **Recent Casework**

- Rock d-methamphetamine - HCl for smoking.
- Ephedrine being imported from China in sealed, square cans.
- Coke in Oakland getting garbagy, the melt is being cut with niacinamide, aspirin, wax.
- Valley Tox Reports fake rocks called "Rooks", grey rocks made by freebasing PMS capsules, the colors are a blue CoSCN, slight purple Marquis and a dark purple Mecke.
- DEA has seen 90% Fentanyl submitted by Contra Costa County, 99% Methamphetamine in kilo bricks and as clear rocks.
- Chris Bommarito provided GC-MS and IR data for:

4-Bromo-2,5-Dimethoxyphenethylamine - HCl  
Marquis Yellow - Green, Froehde Yellow  
2,5-Dimethoxy-4-Methylphenethylamine - HCl  
Marquis Yellow - Green, Froehde Green  
5-Methoxy-N, N-Dimethyltryptamine - HCl  
Marquis Brown-Black, Froehde Yellow

Plans for future meetings include DEA Special Agent Sandy Smith speaking on Bombs and Booby traps in Clan Lab Investigations and a meeting with Drug Quantitations as the subject of discussion.

# NAME REACTIONS AND DRUG TESTING

## AN ANTICIPATION OF A KELLY/FRYE CHALLENGE

**John I. Thornton**

*Forensic Science Group*

*Dept. of Biomedical and Environmental Health Science*

*University of California*

*Berkeley CA 94720*

At a recent CAC Drug Study Meeting, the issue was raised concerning Kelly Frye Challenges to drug testing. Although no one present had a functional crystal ball, it was in fact the consensus of opinion at the meeting that Kelly/Frye challenges to microchemical and microcrystalline testing are inevitable.

If these challenges do take place, and there seems to be little doubt in the mind of anyone that they will, then the courts will be scrutinizing microchemical and microcrystalline testing to see if they meet the Kelly/Frye criteria. One aspect of this inspection will relate to the history of these tests. When was the test introduced? Was it reported in the open literature and made available to peer review? How long a period of time has elapsed since the test has been successfully used by the scientific community?

For many of the tests that we commonly use in the forensic laboratory for the characterization and identification of abused substances, the history of the test is obscure. Contemporary works giving the formulation of a reagent are generally silent when it comes to giving reference. It does happen that we use a test without knowing when or where it was first reported, even though for many years the test may have been the furniture of our own consciousness. Some tests are particularly hard to tack down. The Beam test for cannabidiol is mentioned in Clarke, is

given significant coverage in Osterburg, and is referred to in a number of other works, and yet the obscure reference is never given (cf. Beam test below). It does happen that we use a test which we call by the name of the original developer, but where the test now has been modified over the years to the point where it now has a significantly different formulation than that originally proposed. We all use the Levine modification of the Duquenois test, but are we all aware that Levine, during his lifetime, never reported his work? We use the Mecke test for alkaloids and mescaline, but would we be able to point out to the court that the test is really a slightly different version of the Renteln test, devised a decade earlier? We all use the Koppanyi test for barbiturates, but are we using the Dille-Koppanyi test, the Koppanyi-Murphy-Krop, or still another variant? And finally, some tests are not nearly as ancient as might be expected -- Wagenaar's reagent dates back only to 1941, and Ludy-Tenger reagent to 1951.

Since the history of these name reactions would likely be an element in any Kelly/Frye review, an attempt has been made here to locate the Original references to these tests. In a considerable number of instances, the original tests bear only slight resemblance to the tests as they are currently performed, but we can begin to document the history and validity of each of these tests with the original journal reference.

Name	Test for	Reference
Abensour	Quinine	<i>J. Pharm. Chim.</i> 26:25 (1907)
Allen	Strychnine	<i>Analyst</i> 1881:141 (1881)
Aloy	Morphine	<i>Bull. Soc Chim.</i> 29:610 (1910)
Beam	<i>Cannabis</i>	<i>Wellcome Trop. Res. Lab., Rep.</i> <i>Sudan Gov</i> 4:25 (1911)
Beckurts	Alkaloids	<i>Pharm. Zentralhalle</i> 27:140 (1885)
Benedict	Sugars	<i>J. Biol. Chem.</i> 5:485 (1908)
Bloxam	Alkaloids	<i>Chem. News</i> 55:155 (1887)
Bloxam	Strychnine	<i>Zeitschr. Anal. Chem.</i> 30:263 (1891)
Bouquet	<i>Cannabis</i>	<i>Arch. Inst. Pasteur Tunis</i> 26:288(1937)

Bronciner	Alkaloids	<i>J. Pharm. Chim.</i> (5), 18, 204 (1888)
Bronciner	Digitalin	<i>J. Pharm. Chim.</i> (5), 21, 468 (1890)
Camilla-Pertusi	Sacharin	<i>Giorn. Farm. Chim.</i> 60:385 (1911)
Cole	Alkaloids	<i>Jahresber. Pharm.</i> 1923:190 (1923)
Cramer	Sugars	<i>Biochem. J.</i> 9:156 (1915)
Czerkis	<i>Cannabis</i>	<i>Ann.</i> 351: 461 (1907)
Czumplitz	Alkaloids	<i>Pharm. Post.</i> 14:47 (1881)
David	Barbiturates	<i>Pharm. Stg.</i> 77:1165 (1932)
Davis	Barbiturates	<i>J. Crim. Law, Crimonology and Police Sci.</i> 52:459 (1961)
DeHaas	Codeine	<i>Pharm. Weekblad</i> 1930:508 (1930)
Deniges	ASA	<i>Bull. Trav. Soc. Pharm. Bordeaux</i> 70:235 (1932)
Deniges	Procaine	<i>Repert. de Pharm.</i> 81:35 (1925)
Deniges	Strychnine	<i>Repert. de Pharm.</i> 1903:249 (1903)
Deniges	Cocaine	<i>Bull. Trav. Soc. Pharm. Bordeaux</i> 52:385 (1914)
Dille-Koppanyi	Barbiturates	<i>J. Am. Pharm. Assoc.</i> 23:1079 (1934)
Dragendorff	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 1866:137
Dragendorff	Volatile oils	<i>Arch. Pharm.</i> 1878:289 (1878)
Duflos	Morphine	<i>J. Chem. Phys.</i> 61:105 (1831)
Duquenois	<i>Cannabis</i>	<i>J. Egypt. Med. Assoc.</i> 21:224 (1938)
Ekkert	Barbiturates	<i>Pharm. Zentralhalle</i> 73:487 (1932)
Ekkert	Cocaine	<i>Magyar Gyogy. Tarsasag Ert.</i> 8:29 (1932)
Formanek	Alkaloids	<i>Pharm. Post.</i> 28:179 (1895)
Froehde	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 5:214 (1866)
Gettler	Chloral	<i>Proc. Soc. Exptl. Biol. Med.</i> 16:110 (1919)
Ghamrawy	<i>Cannabis</i>	<i>J. Egypt. Med. Assoc.</i> 20:193 (1937)
Giemsa	Quinine	<i>Arch. Schiffs. u. Tropen-Hyg.</i> 12:78 (1908)
Glucksmann	<i>Cannabis</i>	<i>Pharm. Praxis.</i> 1914:471 (1914)
Godeffroy	Alkaloids	<i>Pharm. Zeitschr. Russland</i> 15:673 (1876)
Greitherr	Cocaine	<i>Pharm. Ztg.</i> 1889:617 (1889)
Grutterink	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 1912:175
Guy	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 1:90 (1862)
Handorf	Barbiturates	<i>Zeitschr. Ges. Exptl. Med.</i> 28:56 (1922)
Hankin	Cocaine	<i>Analyst</i> 36:2 (1911)
Hargreaves	Quinine	<i>J. Am. Pharm. Assoc.</i> 1926:100
Herissey	ASA	<i>Bull. Soc. Chim. Biol.</i> 4:468 (1922)
Hoshida	Morphine	<i>Apoth. Ztg.</i> 1908:643 (1908)
Huseman	Morphine	<i>Ann.</i> 1863:305 (1863)
Ihl	Sugars	<i>Chem. News</i> 51:114 (1885)
Jaworowski	Alkaloids	<i>Pharm. Zeitschr. Russland</i> 35:326 (1986)
Jaworowski	Chloral	<i>Pharm. Zeitscher Russland</i> 33:373 (1984)
Jorissen	Alkaloids	<i>Bull. Acad. Roy. Sci. Belg.</i> (2):48 IX X. (1879)
Jorissen	Barbiturates	<i>Repert. de Pharm.</i> 1912:58 (1912)
Jorissen	Morphine	<i>Zeitschr. Anal. Chem.</i> 63:188 (1924)
Jorissen-Klett	ASA	<i>Pharm. Zentralhalle</i> 1900:452 (1900)
Kelly	<i>Ephedra alk</i>	<i>Am. J. Pharm.</i> 109:36 (1908)
Kerbosch	Alkaloids	<i>Arch. Pharm.</i> 1910:541 (1910)
Kieffer	Morphine	<i>Ann.</i> 103:271 (1857)
Knorr	Alkaloids	<i>Ber.</i> 30:917 (1897)
Kolthoff	Cyanide	<i>Zeitschr. Anal. Chem.</i> 63:188 (1924)
Koppanyi-		
Murphy-Krop	Barbiturates	<i>Proc. Soc. Exptl. Biol. Med.</i> 30:542 (1933)
Kryz	Sucrose	<i>Schweiz. Chem. - Ztg</i> 1922:17 (1922)
Lauth	Amines	<i>Zeitschr. Anal. Chem.</i> 30:490 (1891)

Lepage	Alkaloids	<i>Repert. de. Pharm.</i> 1875:647 (1875)
Levine-Butler	<i>Cannabis</i>	<i>J.A.O.A.C.</i> 45:597 (1962)
Lintner	ASA	<i>Zeitschr. Angew. Chem.</i> 1900:707
Lloyd	Alkaloids	<i>J. Am. Chem. Soc.</i> 1907:767 (1907)
Ludy-Tenger	Alkaloids; Barbiturates	<i>Mikrochemie</i> 36-37:882 (1951)
Lyons-Dox	Barbiturates	<i>J. Am. Chem. Soc.</i> 52:288 (1929)
Mandelin	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 23:235 (1884)
Marme	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 24:264 (1885)
Marquis	Alkaloids; amphetamine	<i>Pharm. Zentralhalle</i> 1897:76 (1897)
Mayer	Alkaloids	<i>Amer. J. Pharm.</i> 35:20 (1863)
Mecke	Alkaloids	<i>Zeitschr. Offentl. Chem.</i> 1899:351
Melzer	Alkaloids	<i>Zeitschr. Abal Chem.</i> 37:351 (1898)
Merz	"-caines"	<i>Arch. Pharm.</i> 270:97 (1932)
Mokrantza	Alkaloids	<i>Bull. Soc. Chim Roy. Yuogoslav.</i> 3:171 (1932)
Nadler	Morphine	<i>Zeitschr. Anal. Chem.</i> 13:235 (1874)
Otto	Strychnine	<i>J. Prakt. Chem.</i> 38:511 (1846)
Peset-Beundia	Alkaloids	<i>Anales Soc. Espan. Fis. Quim.</i> 1916:257 (1916)
Renteln	Alkaloids	<i>Jahresber. Pharm.</i> 1881:886 (1881)
Ridenour	ASA	<i>Pharm. Zentralhalle</i> 1899:785 (1899)
Rochleder	Caffeine	<i>Ann.</i> 69:120 (1849)
Roe	Citric acid	<i>Science</i> 80:561 (1934)
Rosenthaler	Alkaloids	<i>Schweiz. Apoth.-Ztg.</i> 61:117 (1923)
Rosenthaler-Turk	Alkaloids	<i>Pharm. Zentralhalle</i> 1904:692 (1904)
Sanchez	Alkaloids	<i>Semana Med. (Buenos Aires)</i> 1921:61
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Sanchez	Nicotine	<i>Semana Med. (Buenos Aires)</i> 1921:61
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Schaer	Alkaloids	<i>Apoth. Stg.</i> 1910:705 (1910)
Schaerges	Cocaine	<i>Schweiz. Wochscr. Pharm.</i> 31:341(1894)
Schindelmeiser	Nicotine	<i>Pharm. Zentralhalle</i> 1899:703 (1899)
Schneider	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 12:210 (1873)
Schultze	Alkaloids	<i>Ann.</i> 109:177 (1859)
Scudi	Sulfanilamide	<i>Ind. Eng. Chem. Anal. Ed.</i> 10:346 (1938)
Self	ASA	<i>Pharm. J.</i> 94:521 (1915)
Serullas	Alkaloids	<i>J. Chim. Med.</i> 1830:257 (1830)
Smith	Alkaloids	<i>Ber.</i> 12:1420 (1877)
Sonnenschein	Alkaloids	<i>Ann.</i> 104:45 (1857)
Staas-Otto	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 13:73 (1874)
Struve	Morphine	<i>Zeitschr. Anal. Chem.</i> 12:174 (1873)
Tattersall	Morphine	<i>Chem. News</i> 41:63 (1880)
Van Urk	Indoles	<i>Pharm. Weekblad</i> 78:245 (1941)
Vitali	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 181:563
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Wagenaar	Caffeine	<i>Mikrochemie</i> 13:145 (1933)
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Wagner	Alkaloids	<i>Arch. Pharm.</i> 1863:260 (1863)
Wasiky	Alkaloids	<i>Zeitschr. Anal. Chem.</i> 1915:394
Young	Cocaine	<i>Am. J. Pharm.</i> 1931:709 (1931)
Zwikker	Barbiturates	<i>Pharm. Weekblad</i> 68:975 (1931)

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The following publications are available from the CAC. These are available at the CAC table at our semi-annual seminars. For further information, contact John DedHaan or Susan Swarner.

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Explosion Investigation, Yallop \$25.00

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World List of Laboratories \$20.00

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The Controlled Substances Act: A Resource Manual of the Current Status of the Federal Drug Laws, Alexander Shulgin

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