



**International
I.A.M.A.
Association
for MicroAnalysis**

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**BEXAR COUNTY CRIMINAL
INVESTIGATION
LABORATORY**

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Primer GSR Collaborative Proficiency Testing

In the July 1999 issue of the *ASCLD/LAB Newsletter*, ASCLD/LAB indicated that each laboratory was required to participate in an external proficiency program in each discipline. It was also stated that if no test provider existed it was necessary for the laboratory to arrange external testing from an outside source. To this end, the Trace Evidence Section of the Bexar County Criminal Investigation Laboratory would like to take this opportunity to request your participation in developing a proficiency program for primer gunshot residue (P-GSR), particularly, by Scanning Electron Microscopy/Energy Dispersive X-Ray (SEM/EDX).

A well known company providing proficiencies in forensic science will be offering a P-GSR by SEM/EDX proficiency in late 2000. An inquiry into the sample preparation revealed that the company was still not certain how they were going to prepare the samples. This uncertainty and lack of foresight is strong reason for questioning the validity of the proficiency. Therefore, by establishing a collaborative proficiency developed by forensic scientists and based on real life scenarios, we will provide a valuable means of evaluating our ability to interpret P-GSR evi-

dence. We have inquired with Gary M. Lawrence of the Arkansas State Crime Lab, M. Jennifer Kimmett of the Denver Police Department, Samarendra Basu, Ph. D. of Albany State University, representatives from Tri-Tech, Inc., and Oxford Instruments, and we have concluded that there will be enough interest and support for our endeavor. The involvement of Tri-Tech, Inc.'s and Oxford Instruments' would include providing resources and supplies in order to achieve this task. Through publication, Dr. Basu has shown that he is a strong proponent for establishing new and accurate guidelines for analytical and forensic interpretation of gunshot residue evidence and has graciously offered his support and services. Mr. Lawrence and Ms. Kimmett have accepted our request for their involvement and will be key contacts as well as developers in this project.

This "grass-roots" program will allow the experts in the crime labs to develop the proficiency. Our immediate goal is to establish a proficiency test for P-GSR analysis via SEM/EDX, with a long term goal of establishing proficiency tests in P-GSR by other analytical techniques. The end result will be an established profi-



ciency test for accredited and non-accredited laboratories. Further, it would involve the establishment of an organization and/or committee dedicated to instrumental analysis of P-GSR. Application for grant funding will be initiated in order to finance our collective endeavor and possibly establish an annual symposium on P-GSR analysis. In doing this, we will create a venue for sharing information and expanding our knowledge and expertise in P-GSR analysis.

Please express your interest or opinion or to make suggestions. We look forward to your participation. If you have any questions please feel free to contact either Mr. Martinez or Mr. Garcia at the phone number listed on the next page.

Sincerely,

James D. Garcia, M S
Sr. Trace Evidence Analyst
I.A.M.A. Co-Founder

Michael V. Martinez, MSFS
Trace Evidence Analyst
I.A.M.A. Co-Founder

Special Points of Interest:

- P-GSR Proficiency
- P-GSR Detection Methods
- SWAFS in San Antonio 2001

About Bexar Co. Crime Lab



“Circumstantial evidence is a very tricky thing. It may seem to point very straight to one thing, but if you shift your own point of view a little, you may find it pointing in an equally uncompromising manner to something entirely different.”

**Sir Arthur Conan Doyle
Sherlock Holmes– The**



The Bexar County Criminal Investigation Laboratory is an ASCLD accredited, full-service laboratory. We are a fee-for-service laboratory offering competitive pricing using state of the art instruments in the disciplines of Serology/DNA-STR, Trace and Transfer Evidence, Firearm and Toolmark Examination and Drug Identification. The crime lab frequently performs criminal testing on cases for law enforcement agencies locally, state-wide and out-of-state.

The Trace Evidence section has been doing P-GSR by

SEM/EDX since 1996 and averages approximately 350 cases yearly. We are currently using the Joel 5800 SEM accompanied by Oxford Instruments ISIS-GSR Microanalysis system equipped with a Silicon-Lithium crystal detector.

We pride ourselves in being active in developing and optimizing the procedures and protocols encompassing all phases of P-GSR by SEM/EDX. Please give us a call and ask for our fee schedule.



Methods Used to Detect P-GSR by SEM/EDX

In order to provide a comprehensive proficiency, we need to know some information about how your laboratory analyzes P-GSR. Please provide:

- How many P-GSR cases per year.
- Type of SEM in your laboratory.
- Does your SEM have an automated stage?
- EDX manufacture & crystal used. (i.e. beryllium, silicon-lithium, germanium, etc.)
- Microanalysis software and version used.
- Accelerating voltage, bias current, % deadtime & working distance.
- What elemental calibration standard do you use?
- Do you use an imaging standard, positive and negative controls?
- Do you carbon sputter coat your samples?
- Do you set a limit on the minimum number of P-GSR particles confirmed before reporting results as positive? If so, How many?

In addition, We would like to know what you think of this association. What objectives would you like to see in the upcoming issues? Does your organization have any interesting research or case studies you would like to share?

If so, please contact Mike Martinez or James Garcia at (210) 335-4115 or fax us at (210) 335-4101.

IAMA Committee Members

So far, the International Association of Microanalysis (IAMA) committee members are :

Bexar Co. Criminal Investigation Laboratory-

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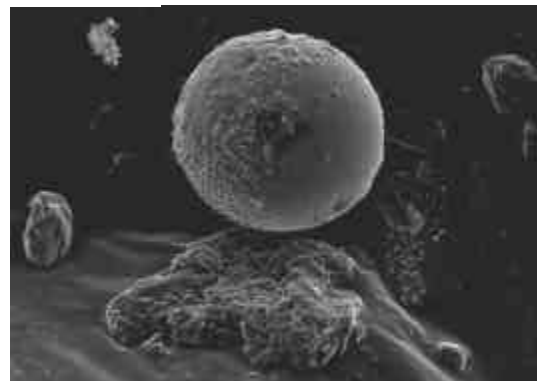
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“It is of the highest importance in the art of detection to be able to recognize out of a number of facts which are incidental and which vital. Otherwise your energy and attention must be dissipated instead of being concentrated. “

Sir Arthur Conan Doyle

Sherlock Holmes-The Reigate (Puzzle) (Squire) (Squires).

FYI!

The Bexar County Criminal Investigation Laboratory is proud to host the 2001 South-western Association of Forensic Scientist (SWAFS) Conference. This event will be held in the city of San Antonio and within walking distance from the beautiful Riverwalk. We expect to have many well known forensic speakers providing informative work-shops in many disciplines. So don't delay, budget for this event early.

For more information please call (210) 335-4100



WE HOPE TO HEAR FROM YOU SOON!

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