

Young Forensic Scientists Forum Newsletter

Show Me the Money

Many young forensic scientists find it challenging while in college and in the first few years at a job to locate the funds to travel to conferences.

The American Academy of Forensic (AAFS) 59th Annual Scientific Meeting will be held February 19-24, 2007 at the Henry B. Gonzalez Convention Center in San Antonio, TX. The AAFS annual meeting is the largest forensic science meeting held in the United States, with over 500 scientific papers, breakfast seminars, workshops, and other special events. The value of attending the AAFS meetings is immeasurable, yet many young scientists find it hard to attend due to the costs involved. The AAFS provides various avenues which are sometimes underutilized to offset these costs, including: volunteering, travel grants, and providing group rates at area hotels.

A part of making the annual meeting a success is the participation of volunteers whose job duties range from running the registration desk to helping with section luncheons throughout the week of the meeting. These tasks allow volunteers to interact with others in the field of forensic science in a face to face manner and give back to the community as a whole. Volunteers who are **not** members of the Academy may receive complimentary registration to attend all non-ticketed sessions of the meeting with a minimum of 8 hours of completed volunteer service at the meeting (does **not** include sessions requiring pre-registration or fees other than the basic meeting registration fee). Although AAFS Members do not receive complimentary registration for volunteering, the Academy **does** need its members to volunteer. Young members of the AAFS have in years past done a great job in filling these volunteer positions and thus are instrumental in the success of the meeting. A volunteer form may be found on page 9 of this issue of *Academy News*. The submission deadline to volunteer is **December 1**.

The Forensic Sciences Foundation (FSF) will be offering five Travel Grants this year for students to assist with travel expenses not to exceed \$600 to

attend the AAFS annual meeting. These grants have been offered since 2004 and have grown in number as the numbers of applications have increased. The requirements for application are: the applicant must be a fourth year undergraduate or a graduate student at an accredited four-year college, university, or professional school whose accreditation is acceptable to the FSF Board of Trustees, the applicant must have a letter of recommendation from his/her advisor or professor, the applicant must submit a 400-600 word essay explaining how attendance at an AAFS meeting will impact his/her career decision, the applicant must include information such as forensic science specialty and other pertinent data related to his/her forensic background as well as his/her curriculum vitae. The deadline for submission of the completed applications (including essays and CV) is **October 1**. The successful grant recipients are notified by November 15, and will be acknowledged in the January issue of *Academy News*. The application packet, including the letter of application, letter of recommendation, and essay, should be mailed to Anne Warren at AAFS, 410 N 21st Street, Colorado Springs, CO 80904.

Group rates are available at hotels near the conference center in the San Antonio area and are listed on the AAFS website. To take advantage of the special AAFS room rates, which range from \$145-\$195/night depending on the hotel and number of guests, reservations are required prior to **January 28, 2007**. After that date, AAFS room blocks will be released and hotels may charge higher rates. All rates listed are per room and are subject to 16.75% occupancy tax (subject to change). These rooms usually book quickly, ergo now is the time to start thinking about travel arrangements for the upcoming meeting. Additional information pertaining to room rates as well as volunteering and travel grants can be found at www.aafs.org.

— Allison M. Curran, PhD
YFSF President

Young Forensic Scientists Forum Special Session Update

Greetings to all from your YFSF program committee! We are excited to announce that as of the deadline for this newsletter the YFSF Special Session schedule and proposal has been finalized and submitted to the AAFS! Planning for the San Antonio meeting has been underway for several months now, and we are working hard to bring you a session full of interesting and exciting topics. This year's theme is "Forensic Science in an Age of Advancing Technology: Maintaining Scientific Integrity and Ethics." Throughout the day we will hear from a variety of different speakers from a wide range of forensic science disciplines. These topics include physical anthropology, engineering and accident reconstruction, the assessment of saw marks on bone, global heroin production, evidence handling, entomology, child abduction cases, and the inner workings of a medical examiner's office — just to name a few! Our nationwide lineup of speakers are sure to peak your interest with the fascinating work they have accomplished in their fields. But that's not all folks, register for the YFSF Special Session and we will also throw in one free lunch, one free breakfast session, a poster session, and a bring your own slides event; all for one amazing low price! So, mark your calendars for February's meeting, stay tuned for more updates, and get ready for another great YFSF Special Session in San Antonio!

— Marrah E. Lachowicz, MFS
YFSF 2007 Program Chair

YFSF Poster Session

On behalf of the Young Forensic Scientists Forum, I would like to invite all students and new forensic scientists to participate in the 2007 YFSF Poster Session. The YFSF is geared toward introducing students and new forensic scientists to the wide and interesting field of forensic science and integrating them into their respective sections of the Academy. This will ideally occur at the American Academy of Forensic Sciences Annual Meeting in San Antonio, TX. We are all looking forward to the fine Texas hospitality.

As part of our goal of introducing you to the field of forensics, we have designed several events focused on bringing your research and casework to the attention of the many meeting participants. Last year, both the Poster Session and the Bring Your Own Slides Session attracted a large crowd interested in meeting the fresh faces of forensic science. In addition, current AAFS President **James Young**, has made one of his primary goals bringing YFSF to a more prominent position in the AAFS organization recognizing we are where the future of forensic science begins.

This year the YFSF Poster Session is tentatively scheduled for February 20th. The Poster Session offers a comfortable and educational environment for students and new forensic scientists to present their work. This session is an appropriate time to present undergraduate or graduate research or to share unique cases encountered in the field. If you are already presenting in another AAFS session, then you may also share your presentation as a poster at the YFSF Poster Session.

The Poster Session requires registration with the program chair at least two weeks before the meeting. A limited number of board spaces are available, so submissions received by January 1, 2007, will be given preferential treatment before later submissions. Please send your curriculum vitae and a 1 to 2 paragraph abstract for review to: Jennifer Mercer (Jennifer.W.Mercer@gmail.com) or Melissa Ely (MelissaGEly@gmail.com).

The YFSF Poster Session hopes to represent as many institutions and fields as possible, thus students from all academic institutions and laboratory systems are encouraged to submit an abstract.

— Jennifer Wiseman Mercer
YFSF Poster Session Chair

2007 YFSF Annual Breakfast

Don't Mess with Texas! An approach to getting your first job and keeping it!

An elementary school class goes on a field trip to the police station. The Officer points to the 10 MOST WANTED list and tells them that these are the most wanted fugitives in the USA. Little Boy says "He is the MOST WANTED in the USA?!" Officer says "Yes." Little Boy asks "Why didn't you keep him when you took his picture?"

This year's breakfast session will not only provide techniques for those students looking to obtain their first job, but will also provide skills and tools for those emerging forensic scientists already in the field! To begin this year's meeting, we have planned to bring in a number of presenters covering a range of topics. These topics include:

- Resume review, cover letter writing, interview preparation, and techniques to make the best first impression
- The application process
- Importance of an internship and the temporary position
- Laboratory job requirements, salaries, and benefits
- Courtroom Testimony Skills and how one becomes an expert witness
- Building your Curriculum Vitae
- Getting a promotion and avenues on how to get "them" to choose you over someone else

A resume review panel, consisting of forensic scientists and managers in different disciplines including, serology/DNA, chemistry, criminalistics, toxicology, fingerprints, bomb and arson, and trace analysis will be utilized. Time will also be set aside between bites of Texas Toast for any questions you may have.

In closing, we will present an interesting case study, from crime scene to court room testimony, which we hope you all will enjoy! We look forward to you making the most out of this session, acquiring techniques and answers to any questions, in order to apply them to your real-life circumstances. Any suggestions or comments about what you may want to see at this year's breakfast session are always welcome!

— Erica Blais, BS
YFSF Breakfast Session Chair
Erica.blais@pol.state.ma.us

YFSF Bring Your Own Slides

The YFSF Bring Your Own Slides is an opportunity to share experiences and research in your laboratory, school, or agency to better inform colleagues of current topics as well as better presentation skills. Presentations are brief, semi-formal overviews of present research, case studies, or intriguing cases that you would like to share. We hope to have a plethora of presentations to meet everyone's special interests. If you would like to present at this year's meeting, please contact **Robin Bowen** at robin.bowen@mail.wvu.edu or **Melissa Smith** at msmith@ocme.nyc.gov. There is still plenty of time to sign up for a spot, but just think how great of an experience this can be.

— Missy Smith and Robin Bowen
YFSF BYOS Program Co-Chairs

YFSF Advice Column

The YFSF receives questions every week asking for information or advice. We realize this information is of interest to our readers and have decided to start an advice column. Please feel free to write in with concerns or questions anytime to Jeannette.Perr@fiu.edu to receive a prompt answer.

Dear YFSF:

I am currently a student majoring in forensic science. In order to complete my degree I must undertake a subject related placement year in my third year. This could be paid or unpaid work but I also think it would help the possibility of getting a job after graduation. I am writing to ask whether you know of any organizations that would allow me to undertake my placement year with them and how to go about applying.

*Thanks for your help,
Forensic Science Student*

Dear Forensic Science Student:

My best advice for finding an internship would be to start small. You don't have to necessarily take out the trash, but you can help make standard solutions. Many police departments need people to help organize their evidence and help keep track of it within the vaults. If they know this is your desire to be a crime scene investigator you can start there, the police department can see if they like you for a position with them, and you can get the experience. Another place to look is the coroner's office or some other law enforcement related agency. Don't apply just to one place, apply to multiple locations all close to you. Most of the internships will be unpaid, so you don't want to live somewhere where you won't be paid to work and you will have to pay to live. Remember to send out professional cover letters and resumes free of misspellings and grammatical errors. Also find out who is in charge of internships (personnel or the laboratory director or police captain) with a simple phone call to the organization and address your inquiry to them. Keep the YFSF updated and let us know if there is anything else you need!

*Thanks,
YFSF*

YFSF Feature Article:

How to Become a Forensic Scientist?

This article is for all you science students, particularly majoring in biology and chemistry, which have realized that forensic science is your future. You have finally come to the decision that you want to become a forensic scientist, but you don't know how to do it? The path seems too long, too complicated, and you feel discouraged even before you give it a try. Well, there is good news. It is not hopeless, but a very possible goal. If you have a type A personality like myself, you probably already have a million questions to ask and you don't know how to get started. You are confused, scared, worried, but most of all... fully energized to take on this new adventure in your life. Well, this article is for you.

How do you enter the world of forensic science?

I have one simple answer. "Do whatever is necessary to get your foot in the door." Forensic science is an all encompassing word for a variety of disciplines ranging from the pure sciences: biology and chemistry, and physical anthropology to the humanities: linguistics. There is a vast array of sub-fields within each discipline. Although this may make it overwhelming for someone just entering the field, it is also what makes it so interesting. Before we continue any further, let us make sure we understand what the definition of Forensic Science is.... "It is the Application of Science to the Law." Once you understand the true meaning, you can better appreciate the ramifications it is in all areas of criminal justice.

Why do you want to become a forensic scientist?

This is an important question to ask yourself before you commit yourself into tackling this new career choice. The reason you may want to ask this question first is to make sure that you are really and truly dedicated to becoming 100 percent involved in choosing this career path. It is a full time job. By becoming a forensic scientist, you will become an expert in your field. It is the nature of the profession. That is what a forensic scientist does. They become an expert; they have to be in order to come up with answers to very complex questions. Thus, you must want to know everything there is to know in the area of discipline you choose to study. Now that you are sure you truly want to be a forensic scientist, there are some key steps that you will need to follow.

Networking!

Networking! Networking! Networking! I can't emphasize this enough. Someone once said that the definition of success is when opportunity meets preparedness. All these years you have prepared yourself by getting an education, trying to get work related experience. Yet, what good is all that if you do not have the opportunity to demonstrate your abilities. Yes, you need an education. Yes, you need experience, but neither of these things mean much if you don't have the opportunity to use them. Opportunity is created primarily by **networking**. Meeting people, interacting, and learning about the field from forensic scientists themselves is one of the integral parts of the equation. Thus, joining the AAFS, and better yet the YFSF, are excellent ways to develop and expand a network — an opportunity that should not be missed.

Learning

Forensic science is a very demanding career choice, but that is one great plus. A solid education is needed and most positions advertised start at the BS level. Of course, it is recommended to move ahead with your education, obtain a master's, possibly more, but it is not imperative, at least not in the beginning. Even after saying this, I must articulate the significance in getting more than a BS. As I am sure you all know, the field of forensic science is becoming more and more competitive. Thus, in order for any reputable company to even look at your resume, you need to have an edge. This edge can be your work experience, your attributes, but most of all your education. Never stop learning.

Education

Obtaining a degree in biology or cell and molecular biology is recommended for students pursuing a career as a DNA analyst. Chemistry and biochemistry degrees are preferable for students interested in serology, toxicology, etc. Make sure that you have completed the required course material even though it is not required for you to graduate. For example, to become a DNA Analyst I, you need to have completed biostatistics, molecular biology, genetics, and biochemistry. Yet, you don't necessarily need these courses to complete your BS. Completing these courses while you are still a student will save you a lot of time later on. Once you are working, it will be much harder to complete these courses and without them, you cannot be promoted. Be wary of online courses in forensic science and crime scene investigation. Some university online programs are not well recognized by the scientific community and one should verify that they are obtaining a relevant degree or certificate before enrolling in one. Do some research.

Don't Give Up

Never take no for an answer. Never let it get you down. If you have approached just about every company you can think of and sent off several resumes and don't hear from them, don't let it get you down. Keep applying, making cold calls, and selling yourself until someone hears you. Let me recount my own personal experience. I had plenty of rejection from employers, plenty of people telling me that my chances of finding a job were slim. All it takes is one employer to give you a chance. My experience in making the transition from a biology student to becoming a forensic scientist may give you some hope. I graduated from a Canadian University with an undergraduate degree in biology and went backpacking through Europe for two years. It was during my traveling experiences that I realized that I wanted to become a forensic scientist, with a passion! After returning home to Canada, I started applying everywhere, but never even got an interview. Eight months had passed and I was running out of ideas. I made several cold calls to no avail - until one day. I called this company that had already rejected my resume twice. This time I asked to speak to the President himself. I spoke with him briefly and shared my interest in forensics with him. The attention grabber: I mentioned that I would be attending the upcoming AAFS annual meeting and said that I would introduce myself to him. So I did. Once at the conference, I met him and we scheduled an interview. After sending off almost 70 resumes, this was my first interview and everything seemed to fall into place. Within a month I was offered a position at this private DNA Testing Company and moved to the United States immediately. This is a perfect example of where opportunity meets preparedness. I was prepared for the interview,

prepared for rejection, prepared to throw myself out there and by throwing myself out there...I created my own opportunity to be noticed. So can you!

Take on the Challenge

Finally, my last piece of advice is to take on the challenge. By making a commitment to yourself that you want to become a Forensic Scientist, you have already expressed a personality trait that will help you in this profession. You want to take on challenges. Well, look at this job hunting process as your next big challenge and face it head on. Enjoy the journey! It will be quite the learning experience.

— Ms. Sudurika Mukhopadhyay

YFSF Eye on Forensic Microscopy

Microscopy has existed for hundreds of years and is used in many scientific fields. Throughout the years, innovations have been made in the quality of microscopes and the versatility of their use. Keeping microscopy around for several hundred more years requires that people be educated in regard to its applications and capabilities. There is one institute dedicated to the continuation of microscopy education, the McCrone Research Institute (McRI).

McRI was founded by **Walter C. McCrone** (1912-2002) in 1960. McCrone was a leader in the fields of optical microscopy, crystallography, ultramicroanalysis, and particle identification. Owing to McCrone's lifelong work and teaching, the Institute has grown to become an internationally recognized provider of education and research.

McRI is a non-profit organization located in Chicago, IL. The facility is equipped with polarized light microscopes, scanning electron microscopes, FTIR microspectrometers, and hot and cold stages as well as accessories, reagents, and library resources used to aid in microscopical analysis. Courses are mostly offered in Chicago, and some courses are held onsite at various host facilities. McRI's courses emphasize proper handling, setup, and use of the microscope. Each class is composed of lectures, demonstrations, and laboratory practice to expose students to theory and practical exercises. A major advantage to students is that each individual has his or her own microscope and all other needed supplies, allowing the maximum amount of experience per student as compared with other institutions. Courses range from basic introductory classes to more specialized courses in a chosen area. One-week intensive classes are offered in the areas of forensic analysis, materials science, methods (microchemistry, conoscopy, fluorescence, etc.), environmental science, as well as some specialty courses (particle handling, pharmaceutical microscopy, microscopy for art conservators, etc.). For instance, the *Advanced Forensic Microscopy* class is an advanced polarized light microscopy course with a focus on trace evidence. Köhler illumination and polarized light microscopy observations such as shape, size, homogeneity, transparency, color, pleochroism, refractive indices, dispersion staining, birefringence, extinction, sign of elongation, and interference figures are reviewed with an emphasis on applying these techniques to hairs, fibers, glass, soils, drugs, explosives, gunshot residue, paint, and general dust samples. For interests not based in forensic science, there are several other courses available. One such class in the area of environmental science is *Microscopical Identification of Asbestos*. In this class, students are

taught proper microscope alignment, procedures, and techniques needed for asbestos fiber identification, with studies of both serpentine and amphibole asbestos types included in the curriculum. Students learn crystallographic and optical properties of asbestos minerals, the various substances likely to occur with asbestos, and the procedures for sample preparation and fiber identification.

Because each course is fast paced and very intensive, students leave with a broad appreciation of what the microscope can do for them and often return to McRI for further coursework to build knowledge in a specific area and to refine techniques through experience. Though microscopy, as McRI teaches it, has been virtually the same for almost the past one-hundred years, innovations in technology have occurred. In the last year, new courses such as *Raman Microscopy* and *Microscope Cleaning, Maintenance, and Adjustment* have been offered to keep students up to date with new instruments while also reminding them of the importance of taking care of their older equipment.

Aside from courses, McRI offers a certification program in applied chemical microscopy. To become certified by the Board of Directors of McRI, one would have to complete six McRI courses, pass comprehensive written examinations, and properly analyze practical proficiency samples. Certification for an individual allows for the recognition of a person's abilities and knowledge of chemical microscopy.



Students have the opportunity to take hands-on courses at the McCrone Research Institute located in Chicago, IL.

McRI has been an active advocate of spreading knowledge and development in the field of chemical microscopy. McRI sponsors an annual conference, Inter/Micro, promoting discussions of current research in all disciplines of microscopy and advancements in technology. Technical workshops are offered as part of the conference. McRI also publishes an international journal, *The Microscope*. As in any field, livelihood is dependent on innovation and recruitment. The staff and faculty volunteers at McRI have been very active in spreading the capabilities and excitement that microscopy can bring to students of all ages via weekend lectures, tours, and special events. In cooperation with the State Microscopical Society of Illinois, McRI has participated in a *Young People's Microscopy Course* for local Chicago youth. Staff volunteers at McRI have taken part in the American Chemical Society's Chemistry Day in Chicago, teaching elementary and high school students the capabilities of microscopes in determining chemical information. Through scholarships, McRI has been able

to financially assist full-time students and teachers so that they may participate in courses available at the Institute. McRI extends further than forensic, environmental, and industrial realms. The National Guard Bureau requested that McRI educate the Civil Support Teams' emergency first responders in the identification of unknown and potentially dangerous substances via courses in polarized light microscopy, infrared microspectroscopy, fluorescence microscopy, and white powder identification.

McRI celebrated its 45th anniversary in 2005. The staff is eager for the 25,000th enrollment since the opening of the Research Institute by Dr. McCrone.

For more information on the McCrone Research Institute and all information presented in this article, please reference www.mcricri.org. A special thank you to Mr. Sebastian Sparenga for information in regards to this article.

**Do you have something to add
to the YFSF Website?**

**The YFSF is giving its website a
new look and we want to include you!**

We are looking to add the following:

- photos from previous YFSF sessions
- advertisements for internships
- potential forensic science mentors
- any other contributions you feel are interesting or important

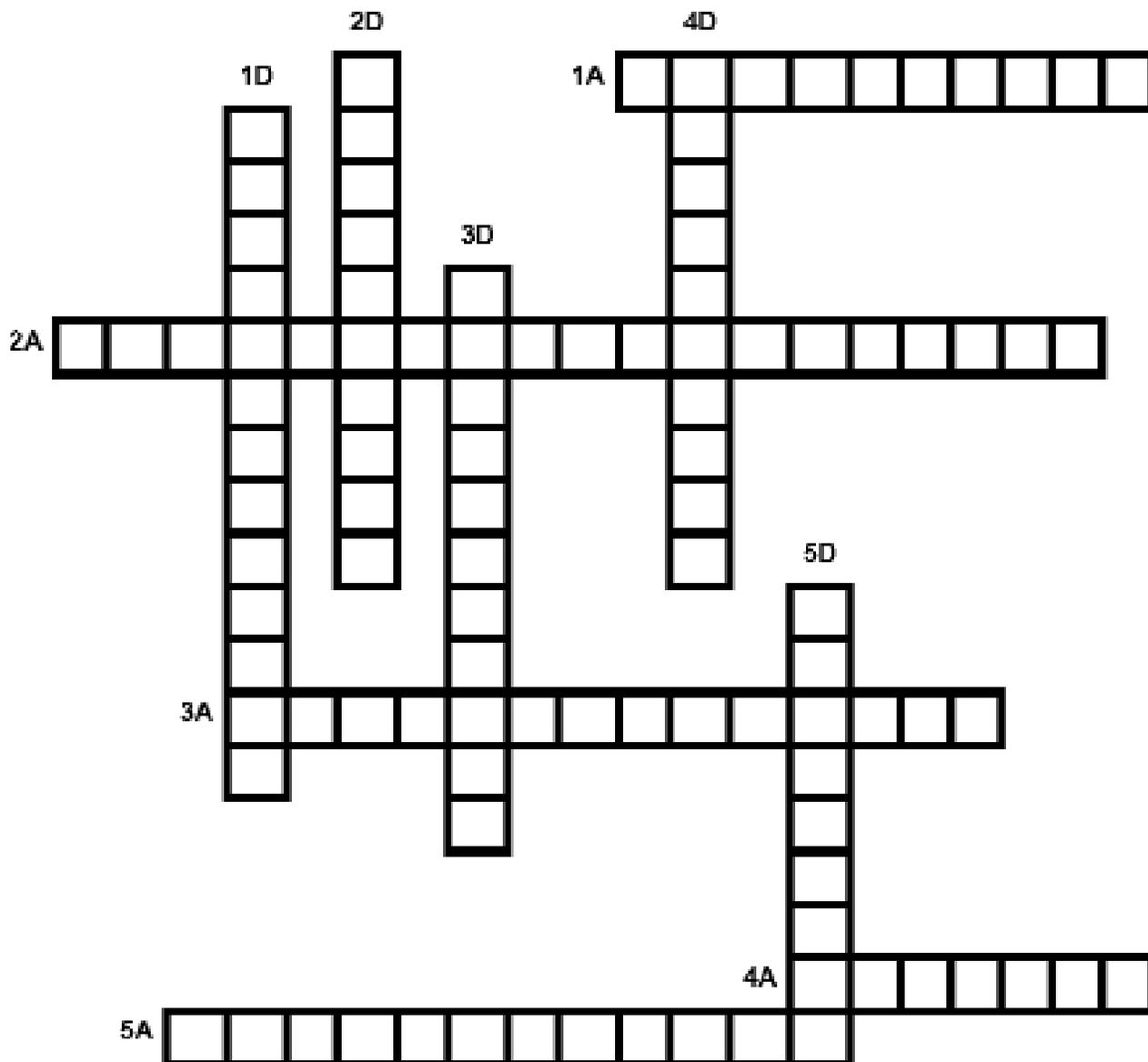
**Please send all contributions to:
Amy Aylor
yfsfwebmaster@gmail.com**

About the YFSF

The YFSF is dedicated to the education, enrichment, and professional development of young forensic scientist. YFSF participants can be non-AAFS-members while organizers must be AAFS members from any section within the AAFS. The Forum provides a medium to educate and network with young forensic scientist to facilitate their establishment within the forensic science community. The YFSF is composed of a Special Session, a Poster Session, a Bring Your Own Slides Session, and a Breakfast Session during the AAFS annual meeting. Outside the Academy meeting the YFSF works to further the endeavors of young forensic scientists through the YFSF newsletter and the YFSF website (<http://www.aafs.org/yfsf/index.htm>). YFSF President **Allison Curran** (allison.curran@fiu.edu) and YFSF Secretary **Jeannette Perr** (jeannette.perr@fiu.edu) can answer any questions about the YFSF and are looking to many different levels of young forensic scientist participating next year's session.

—Jeannette Perr, PhD
YFSF Secretary

FORENSIC SCIENCE WORD PUZZLE



Designed by Jennifer Mercer (2006)

The following analyses follow under the general description of which AAFS Section according to the description of the Forensic Science Foundation's So You Want to Be a Forensic Scientist! Answers will appear in the next YFSF newsletter.

ACROSS

- 1A. Blood Alcohol Detection
- 2A. Forgery Detection
- 3A. Glass Analysis
- 4A. Polygraph Examination
- 5A. Skeletal Identification

DOWN

- 1D. Cross Examination
- 2D. Assessment of Mental Illness
- 3D. Accident Reconstruction
- 4D. Bite Mark Identification
- 5D. Autopsy