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## From the Desk of Dr. John Allison- *Professor and Director of Forensic Chemistry, TCNJ*



Always exciting times at TCNJ! Four TCNJ students, **Patrick Czekan-ski**, **Lauren Munoz**, **Erin Sigwart** and **Renee Butler** were supported as Forensic Chemistry research assistants on campus this summer. Their research projects included the detection of latent fingerprints, laser desorption mass spectrometry, questioned document analysis, and applications of fiber-optic UV-Vis spectroscopy. TCNJ also had ten students working as interns at the New Jersey State Police Laboratories during the Summer of 2005. In Fall 2005, student research in questioned document examination continues, by **Colin Wynne**. **Stephanie Senkewicz** and **Shawn Silverstein** are working to understand a presumptive chemical test for cocaine. **Sylwia Stachura** is developing methods based on laser desorption mass spectrometry to analyze pigments present in paint chips from automobiles, in a TCNJ/NJ State Police Collaboration.

In a collaborative effort between myself at TCNJ and **Prof. Jay Siegel** at Indiana University/Purdue University at Indianapolis, a proposal was written and recently funded. It will provide support for students at both schools to pursue research in the identification and analysis of pigmented inks– the new archival inks now available to some inkjet printers that do not fade as do simpler organic dyes.

Also, we recently learned that TCNJ Chemistry major **Sylwia Stachura** has been selected to receive a Scholarship from the NJAFS, the New Jersey Association of Forensic Scientists. She will receive the award at their December meeting. Last year, the recipient of the Scholarship was **Harry Rose**, also then a TCNJ Chemistry/Forensic Chemistry student. If you're not familiar with this organization, I encourage you to go to the NJAFS website, [www.njafs.org](http://www.njafs.org). They provide an interesting history of the forensic sciences in New Jersey and useful information for students considering careers in forensic science, again with a focus on careers in the state of New Jersey.

Work is underway at TCNJ to prepare for the upcoming American Academy of Forensic Sciences Annual Meeting, which will be held in February 2006 in Seattle. The presentations listed on the following page are scheduled for this meeting, that involve TCNJ students, faculty and alumni.

## **CRIMINALISTICS SECTION-**

Identification of Organic Pigments in Automotive Coatings Using Laser Desorption Mass Spectrometry. Sylwia Stachura, John Allison, Thomas A. Brettell, Vincent Desiderio

The Analysis of Pigmented Inks. Jay Siegel, John Allison, Gina Londino

Cyanoacrylate Fuming of Latent Fingerprints - Chemical Studies and Their Forensic Applications. John Allison, Michael Fasola, Patrick Szekanski

## **QUESTIONED DOCUMENTS SECTION-**

Fiberoptic Reflectance UV-Visible Spectroscopy of Paper Currency, Driver's Licenses, and Other Questioned Documents. John Allison, Joyce Shabo, Adam Ross, Renee Butler, Erin Sigwart, Lauren Munoz

In our newsletters, we try to provide something for everyone. We know that high school and college students, high school teachers, college faculty, and professional forensic scientists are on our mailing list. For this issue, we compiled a list of books covering many of the areas of forensic science. We hope you will find the list of interest.



Best wishes, Merry Christmas, and Happy Holidays-

Dr. John Allison

## **The Forensic Chemistry Bookstore**



There are many great books available on the dozens of disciplines of forensic science. A cross-section is presented here. In some cases, you can purchase them for as little as \$12! If you find any of them interesting, you may locate them in your school or local public library. If you don't, encourage them to buy a copy! If you work at a law firm, these will be useful reference texts. If you're interested in Forensic Science, read!

**[Disclaimer:** We've attempted to identify recent publications, one representative from each area of forensic science. Many other excellent books are available. These are just examples. Most of them can be purchased through internet sites such as [www.amazon.com](http://www.amazon.com). In some cases, ordering directly from the publisher can result in a 10% discount.]

## More Bookstore...

- With roughly 70% of all murders in the US committed with a firearm, investigating gunshot residues can be an important part of solving a crime. The text Current Methods in Forensic Gunshot Residue Analysis by A. J. Schwoeble, David L. Exline (2000) discusses the process as well as how to give testimony in this field.
- Analyzing bloodstain evidence is an important aspect of many investigations. The book Interpretation of Bloodstain Evidence at Crime Scenes (Practical Aspects of Criminal and Forensic Investigations), 2nd Edition by Stuart H. James, Florida Eckert, and William G. Eckert (Editors) (1998) is packed with information on the field, with more than 400 photographs, and 20 case studies.
- Statistical data has become crucial in presenting Forensic Science results in court. The book Statistical Science in the Courtroom by Joseph L. Gastwirth (Editor) (2000) contains a set of articles written by experts, in both statistics and law, on the subject.
- What really happens in the lab to evidence gathered at a crime scene? The book Crime Lab: A Guide for Nonscientists by John Houde (1998) makes the process easy to understand. The book introduces a variety of scientific methods, at a level appropriate for nonscientists.
- Written by an experienced crime scene investigator, the book Crime Scene Evidence: A Guide to the Recovery and Collection of Physical Evidence by Mike Byrd (2001) is designed to be carried in the field or used for reference.
- A deductive profiling method, developed by the author, is described in his book Criminal Profiling: An Introduction to Behavioral Evidence Analysis by Brent E. Turvey (1999). In it, he uses his unique method to analyze cases such as the JonBenet Ramsey case.
- The book Handbook for Death Scene Investigators by Jay D. Dix and Mary Fran Ernst (1999) has been described as "a handy pocket guide especially designed for a burgeoning new job arena--death scene investigators".
- If you're interested in DNA analysis, and the use of short tandem repeat markers, the book Forensic DNA Typing: Biology and Technology Behind STR Markers by John M. Butler (2000) may be useful. In addition to basic information on the science, examples of DNA evidence ranging from the President Clinton-Monica Lewinsky affair to identifying the remains of the Tomb of the Unknown Soldier are presented.
- Questioned document analysis involves the study of images on paper that can be analyzed to reveal evidence. This manual, from the FBI Laboratories, and providing examples from FBI case files, is a useful resource. The book They Write Their Own Sentences : The FBI Handwriting Analysis Manual (1988) is also probably the least expensive book listed here - \$12!
- If you're going to learn about fingerprint analysis, why not learn from an FBI specialist such as the author of Introduction to Fingerprint Comparison by Gary W. Jones (2000). The book not only includes useful information, but examples and quizzes so that readers can develop their skills.
- Like any field, there is information that is required, but scientists need to also understanding the responsibilities that accompany forensic work. The book The Forensic Anthropology Training Manual by Karen Ramey Burns (1999) is a useful training manual for analyzing skeletal and dental remains.
- Insects found at a death scene can provide information concerning time and possibly place of death. The book Forensic Entomology: The Utility of Arthropods in Legal Investigations by Jason H. Byrd (Editor) and James L. Castner (Editor) (2000) provides scientists new to the field with a useful background in entomology to approach such evidence.

## Even More Bookstore...

- If you've ever thought of being a forensic photographer, the field is now much more than taking a few photos of a crime scene. The book The Practical Methodology of Forensic Photography, 2nd Edition by David R. Redsicker (2000) discusses both traditional methods and state-of-the-art techniques such as thermal photography. This book provides useful information in a "how to" format.
- While individuals probably won't purchase the three-volume set Encyclopedia of Forensic Sciences by Jay A. Siegel (Editor), Pekka J. Saukko (Editor), Geoffrey C. Knupfer (Editor) (2000), it is a comprehensive reference in forensic science. A must-have for libraries and law offices, this Encyclopedia contains over 200 articles written by the world's leading scientists on topics from Accident Investigations to Toxicology. Shouldn't your public library have a copy? That's something worth investigating.
- There are many general audience books available that tell the stories of crimes and the investigations that followed. For example, Hidden Evidence: Forty true crimes and how forensic science helped to solve them by David Owen, Thomas T. Noguchi and Kathy Reichs (2000) provides information on cases from the Oklahoma City bombing to the Lindbergh kidnapping.
- Forensic Computer Science is one of the fastest growing fields in Forensic Science. The book Digital Evidence and Computer Crime by Eoghan Casey (2000) discusses both approaches to investigations and legal issues (CD-ROM included!)
- While blood spatter and fingerprints seem to gather much of the attention in the evidence business, the book Footwear, The Missed Evidence: A Field Guide to the Collection and Preservation of Forensic Footwear Impression Evidence by Dwane S. Hilderbrand (1999) provides useful information on forensic footwear evidence, written by an authority in the field.
- If you have a background in the basics in Pathology, and would like to understand how it is used in forensic science, the book Guide to Forensic Pathology by Jay Dix, Robert Calaluce (1999) provides a concise overview of the field.
- Writers are not usually scientists. So how do you make sure that your latest murder mystery passes the test of being scientifically correct? Two investigators from the Monmouth County (NJ) Prosecutor's Office provide "the inside scoop" in Murder One : A Writer's Guide to Homicide (Howdunit Series) by Mauro V. Corvasce, Joseph R. Paglino (1997).

This newsletter has been brought to you by Dr. John Allison, Director of Forensic Chemistry and Stacey Kohler, Administrative Assistant. Please feel free to contact us through e-mail if you have any additional questions.

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