

2008 Cedar Crest College Summer Forensic Science Training Institute Workshops Allentown, PA

The following courses are being funded under NIJ Grant# 2007-DN-BX-K212. Any government laboratory employee who attends these workshops will be funded for all registration and travel related costs.

Registration: These workshops are being by offered by the Cedar Crest College Forensic Science Training Institute in conjunction with the Northeastern Association of Forensic Scientists (NEAFS) and is being supported by a grant from the National Institute of Justice. NEAFS members **who work in local and state public forensic science laboratories** will be given priority in registration by being allowed to register early for this workshop (see table for dates). After the NEAFS only registration period, registration will be made available to all others pending space availability.

Fees: **All registrants who either register early as NEAFS members or are working forensic science practitioners in local and state public forensic science laboratories will have their registration and travel expenses reimbursed or compensated.** Those registrants who fall into this category **must** send in a registration fee upon registering for a workshop and must contact Janine Kishbaugh (610-606-4666, ext. 3643) for travel arrangements and information. Registrants who do not fall into this category will be responsible for their own travel and are responsible for all expenses including the registration fee.

Workshop	NEAFS members Registration Only	Full Registration
Good Measurement Practices in the Proper Use and Calibration of Balances in the Forensic Science Laboratory	January 7, 2008- March 7, 2008	March 10, 2008- May 30, 2008
Digital Photography	January 7, 2008- March 11, 2008	March 12, 2008- June 4, 2008
DNA Mixture Interpretation	January 7, 2008- March 17, 2008	March 18, 2008- June 9, 2008
Statistical Analysis of Laboratory Data	January 7, 2008- March 25, 2008	March 26, 2008- June 18, 2008
Animal Hair Workshop	March 3, 2008- May 6, 2008	May 7, 2008- July 30, 2008

Workshop Descriptions

Good Measurement Practices in the Proper Use and Calibration of Balances in the Forensic Science Laboratory

June 6, 2008

**Instructor: Thomas Brettell, Ph.D.
Cedar Crest College
Forensic Science Program**

The objective of this workshop is to present a thorough and concise synopsis of the procedures required to properly use and calibrate a laboratory balance. The topics covered are targeted towards preparing forensic science laboratories for accreditation under ISO/IEC 17025 General Requirements for the competence of testing and calibration laboratories.

As forensic science laboratories strive to upgrade their accreditation to meet ISO/IEC 17025 standards, personnel must understand the proper use of the balances and weights. This understanding includes the meaning of the measurement and the variables that exist in this measurement, such as uncertainty. An important part of this workshop will involve detailed discussions of those accreditation requirements that cause a significant degree of concern in this area. The goal of the workshop is to present suggestions for developing viable, practical suggestions for making proper measurements with laboratory balances for achieving accreditation under an ISO accreditation program for a forensic science laboratory.

Maximum Number of Registrants: 30

Registration Fee: \$50

Forensic Applications of Digital Photography

June 11-13, 2008

**Instructor: Brian Gestring, M.S.
 Cedar Crest College
 Forensic Science Program**

Proper documentation of physical evidence at the crime scene and in the forensic laboratory is critical. It is not uncommon for evidence to be altered or even destroyed during collection or subsequent analysis. For this reason, it is essential to overlap photography with other forms of documentation to create a permanent record of the evidence. In essence, proper documentation can allow analysis of otherwise lost data.

In order to effectively use any photographic system, it is vital to have a good working knowledge of photographic theory and practice. Students enrolled in this course will learn the fundamentals of photography and then expand them into use with modern digital systems.

Since digital imaging is still in its infancy, it is important for users to understand its strengths and limitations so that evidence is never compromised. For example, while digital imaging offers new methods of weak image enhancement, resolution restrictions still preclude digital imaging from use on certain forensic applications. Digital users also need to formulate policies for achieving images and ensuring image integrity.

Maximum Number of Registrants: 16

Registration Fee: \$150

Statistical Interpretation of Forensic DNA Evidence

June 16-17, 2008

Instructors: Pasquale Buffolina, Ph.D.
Nassau County (NY) Medical Examiner's Office
Laboratory Director, Department of Forensic Genetics

Lawrence Quarino, Ph.D.
Cedar Crest College
Forensic Science Program

Maximum Number of Registrants: 30

Registration Fee: \$100

Statistical Interpretation of Forensic DNA Evidence is a workshop recommended for forensic DNA scientists and will provide a comprehensive understanding of the statistical evaluation of forensic DNA evidence. The fundamental theorems of statistics and population genetics will be covered. Emphasis will be placed on the generation and application of population DNA databases as they operate in accredited forensic DNA laboratories throughout the nation.

This course will also provide a detailed understanding of the qualitative and quantitative assessment of DNA mixtures. Modern advancements in DNA technology have increased the sensitivity of DNA detection methods and have improved the ability to detect minor contributors in DNA mixtures. The inherent difficulties associated with the interpretation of DNA mixtures, including STR artifacts which resemble true alleles, stochastic effects associated with low level amplification, and DNA degradation, will be covered. An emphasis will be placed on the deduction of CODIS eligible DNA profiles where individual contributors can be deduced from a mixed sample. In complex mixture situations where profile deduction cannot be determined with confidence, the significance of the Combined Probability of Exclusion and the Likelihood Ratio approaches will be discussed. True casework examples will be used to demonstrate mixture scenarios.

Statistical Analysis of Laboratory Data

June 25-27, 2008

Instructors: Stephen Morgan, Ph.D.
Department of Chemistry and Biochemistry
University of South Carolina

Richard Kliman, Ph.D.
Cedar Crest College
Director of Bioinformatics Program
Department of Biological Sciences

Maximum Number of Registrants: 30

Registration Fee: \$150

Through a combination of lectures and problem-solving sessions, this course will teach theory and application of statistical techniques that can be put to immediate use in the forensic workplace. Participants will learn how to understand the strengths and weaknesses of data, recognize and reduce different types of errors, carry out significance tests, and present the results of statistical analyses in using correct terminology. Topics will include This sampling, confidence intervals, hypothesis testing, handling outliers in data, calibration, t-tests, F-tests, one-way ANOVA, specification testing, interlaboratory testing, statistical process control, limit of detection, and the application of Bayesian methods to forensic data . The complete analysis of selected laboratory data sets will be discussed in the context of forensic laboratory practice and courtroom testimony. The use and interpretation of output from several commercial statistics programs will also be discussed.

Animal Hair Identification
Max M. Houck, M.S.

August 6-8, 2008

Instructor: **West Virginia University**
 Forensic Science Initiative

Animal hairs are a commonly available source of evidence that are routinely overlooked. This course will cover the basics of the taxonomy of mammals, the identification of hairs, and the various methods for classification of animal hairs to specific taxonomic levels. Particular attention will be paid to game, fur, and domestic animal hairs. Aspects of testimony will also be covered.

Maximum Number of Registrants: 16

Registration Fee: \$150

Registration Form

Name (as it will appear on Workshop Certificate) _____

Affiliation _____

Mailing Address _____

City _____ State _____ Zip _____

Telephone _____ Fax _____

NEAFS Member Number _____ Email _____

I have enclosed a check for \$_____ payable to Cedar Crest College.

I require a receipt: **Yes** **No**

Mail to and contact: Janine Kishbaugh
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