

KRISTY ANN SEKEDAT (MALAK)

CURRICULUM VITAE

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Education

John Jay College of Criminal Justice, New York, NY	<i>M.S. 2010 (Forensic Science)</i>
Michigan State University, East Lansing, MI	<i>B.S. 2001 (Chemistry)</i>
Macomb County Community College, Warren, MI	<i>1996-1997</i>
Grosse Pointe North High School, Grosse Pointe Woods, MI	<i>High School Diploma 1996</i>

Employment/Research History

Forensic Scientist - Forensic Science Consultants, Williamston, MI *November 2012 - Present*

- Preparation of hair proficiency tests submitted to crime laboratories throughout the country.

Forensic Scientist 9 - Controlled Substances, Michigan State Police, Lansing, MI *October 2012 - Present*

- Expert in controlled substances analysis. Daily use of GCMS, GC, and FTIR instrumentation.
- Participant in the Hydrogen Validation Group for new GCMS instruments.

Criminalist III - Hair & Fiber Unit, NYPD Police Laboratory, Queens, NY *February 2004 – June 2012*

- Expert in hairs, fibers, physical fit, and trace evidence collection and recognition disciplines. My casework involves processing physical evidence and collection, analysis, and evaluation of trace evidence. This includes strict chain of custody adherence, comparison of questioned samples to known samples, and reporting conclusions following NYPD SOP while maintaining case file records. Daily use of a polarized light microscope and stereomicroscope. Responsible for QC within unit.
- Extensively involved in the Biotracks Unit from September of 2004 thru March 2007 (NIJ-funded, recidivism study); responsibilities included triage of cases comprised of more than 3000 items and communicating with Evidence Collection Teams, Detective squads, District Attorney's offices, and OCME; developed and maintained Access database of all Biotracks cases. Fundamental statistics were calculated to determine: type of physical evidence most likely to produce a DNA profile, case-to-offender CODIS hits, assessed cross-borough arrest rate. Participated in DNA working group.
- Validation and maintenance of ICP-OES for analysis of general unknowns.
- Responsible for training and managing interns.
- Instructor in the Criminal Investigations Course at the Police Academy and Homicide Investigations Course.
- Attended numerous training courses including Forensic Fiber & Textiles course at NC State University and Introductory and Advanced Microscopy courses at The McCrone Institute (Chicago).
- ASCLD/LAB and ISO accredited. Experienced in auditing training and safety manuals.
- Experience with the LIMS system (entire lab converted to LIMS in 2010).

Masters Thesis - John Jay College of Criminal Justice, Manhattan, NY *2010*

- Title: *Discrimination and Characterization of Eco-Fibers by Pyrolysis-Gas Chromatography-Mass Spectrometry.*
- Acquired experience with Chemstation software and py-GC/MS analytical techniques, textile fiber characterization.
- Became familiar with EPA methodologies.

Adjunct Lecturer - John Jay College of Criminal Justice, Manhattan, NY *Fall 2002 – Spring 2003*

- Taught undergraduate level General Chemistry and Natural Science classes. Instructed both labs and recitations. Responsibilities included writing weekly lab quizzes and final lab examinations.

Intern - Counter-Terrorism Forensic Science Research Unit - FBI Academy, Quantico, VA *Summer 2002*

- ORISE grant from Oak Ridge Institute funded research project for determining trace amounts of cocaine on U.S. currency using LC/MS as part of an-ongoing study.
- Results were presented at the 2003 AAFS meeting in Chicago.
- Other projects include training in GC, MS, GC/MS, and LC instruments and software.

Environmental Health Technician - Ingham County Health Department, Lansing, MI *2000 - 2001*

- Collected water and soil samples for analysis of arsenic content present in area drinking wells as part of the Lake Lansing Project. Compiled data and presented research to Ingham County officials.

Summer Intern - Amway Corporation, Ada, MI *Summer 2000*

- Research conducted in the R&D Analytical Services Department. Constructed an on-line HPLC method for identifying antioxidants in plant extracts. Developed a thorough understanding of the HPLC mechanical system and software. Gained experience with the following detection systems: fluorescence detector, UV/Vis detector, and mass spectrometer. Delivered research findings to colleagues with a PowerPoint presentation and a written report.

Summer Intern - Michigan State Police Crime Laboratory, Sterling Heights, MI *Summer 1999*

Rotated in the following units:

- *Microchem* — Learned techniques used in testing for blood, semen, saliva, and urine. Also learned how to use alternative light sources to detect physiological stains. Prepared stock solutions for dyes and A-P tests. Aided supervisor in processing rape kits and clothing.
- *Arson* — Learned the testing process for accelerants, including the preparation of syringes. Also gained familiarity with a scanning electron microscope and a comparison microscope.
- *Drug* — Gained experience with GC, GCMS, IR, TLC, spot tests, and column chromatography. Reinforced basic lab skills.
- *Latent Prints* — Read lessons on the classification of fingerprints and learned how to process latent prints with dusting powders, superglue fuming, and ninhydrin.

Other experiences include watching court testimonies given by colleagues, learning about the chain of custody, and assisting in the processing of high-profile crime scenes.

Certifications

New York State Certified Instructor – Awarded in 2009

Presentations

10th Annual Forensic Science Symposium – March 24, 2012. Cedar Crest College, Allentown, PA.

Bibliography

- Kammrath, BW, Purcell, DK, Grandison, A, Sekedat, KA, Kubic, TA, and Reffner, JA. The Forensic Characterization and Discrimination of Eco-Fibers: The Microscopic, Spectrophotometric, Chromatographic and Chemical Characterization and Discrimination of Eco-Fibers. Presented at AAFS February 2010
- Kammrath, BW, Purcell, DK, Grandison, A, Sekedat, KA, Kubic, TA, and Reffner, JA. Green Forensic Science: The Characterization of Eco-Fibers. Poster Session at EAS, September 2009.
- Kammrath, BW, Purcell, DK, Sekedat, KA, Grandison, A, Kubic, TA, and Reffner, JA. The Microscopic and Chemical Characterization of Eco-Fibers. Presented at NEAFS, November 2009.
- Purcell, DK, Kammrath, BW, Sekedat, KA, Grandison, A, Kubic, TA, and Reffner, JA. Environmentally Friendly Forensics: The Characterization of Eco-Fibers. Poster Session at the Trace Evidence Symposium, August 2009.
- Jourdan, TH, Malak, KA, Cavett, V, Eckenrode, BA. Continuing Exploration of Cocaine Contamination of U.S. Currency. Presented at AAFS, February 2003.