

Sarah Solano

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720-236-7724

Education:

Metropolitan State University of Denver, Denver, CO. *Graduated Summer 2013*

Bachelor of Science in Chemistry, Concentration in Criminalistics.

Professional Experience:

Science Matters in Colorado *Teacher* *10/2013 – present*

I teach elementary aged students various science-related subjects in an after school club throughout the metro area

MSUD Genetics Laboratory *Genetic Researcher* *8/2012 – present*

I use DNA sequence data to assess species status of previously unstudied populations of pebblesnails. The results greatly aid ongoing efforts by various governmental agencies to conserve and manage pebblesnails. Specifically, I isolate DNA, set up polymerase chain reactions (PCR), sequence DNA, and DNA data analysis using the Sequencher program. Furthermore, I clean, calibrate and run the ABI310 Genetic analyzer for other lab personnel and professors.

Aurora Police Department *Crime Laboratory Intern* *2/2013 – 10/2013*

- Assisted Crime Scene Investigators at 80+ crime scenes including homicides, death investigations and assaults
- Dust and lift latent prints using magnetic and Hi-Fi powder
- Process prints using ninhydrin and cyanoacrylate fuming
- Photograph and videotape crime scene
- Collect, package and record evidence
- Performs video and image clarification on surveillance
- Swab evidence for possible DNA
- Perform Blood Alcohol Concentration test using GC-FID
- Assist in determining manner of death at autopsy
- Photograph and collect evidence at autopsies including taking finger and palm prints from the decedents
- Identify suspected drugs using presumptive test methods
- Performed presumptive tests for the presence of blood
- Take notes, draw sketches and diagrams, and write reports

Summer Science Institute, MSUD *Camp Counselor* *5/2013- 8/2013*

- Developed and implemented mock crime scene for hypothetical investigation by middle school students
- Lectured on CSI and crime laboratory practices

Skills/Techniques

- Crime Zone, Omnivore, Sequencher and Windows programs
- NIK Kits, presumptive spot testing of drugs, microcrystal tests for drugs
- Comparison microscopy and polarized light microscopy
- DNA extraction, amplification, and sequencing techniques
- Alternate Light Source (ALS) using CrimeLite to identify bodily fluids and chemically processed prints

Related Coursework

- Analytical Chemistry*
- Organic Chemistry*
- Biochemistry*
- Instrumental Analysis*
- Cell and Molecular Biology
- Criminal Procedures
- Criminalistics I: Forensic Chemistry*
- Criminalistics II: Forensic DNA Biology*
- Ethics
- Forensic Anthropology workshop

*and associated laboratory class

Seminar

Can a Snail Catch A Killer? An assessment of non-human DNA used in a forensic case

Wrote and submitted research proposal to Metropolitan State University Research Committee (November 2012). The research involves the identification of pebblesnails using mtDNA analysis. The results of this research answered the following question: Can a small endemic animal with limited motility found with a suspect be included as evidence to a crime scene using mtDNA analysis? The progress and results of this research was previously presented at the Criminalistics Seminar at MSUD (December 2012).

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References

David Ord	720-935-1074	Crime Scene Investigator II, Aurora Police Department
Darvin Harrell	303-907-4738	Crime Scene Investigator III, Aurora Police Department
Michael Brewer	720-883-5582	Crime Scene Investigator II, Aurora Police Department
Faye Borquez	303-517-5887	Crime Scene Investigator III, Aurora Police Department
Dr. Hsiu-Ping Liu	303-352-7013	Associate Professor of Biology, MSUD
Dr. April Hill	303-352-7123	Director of Forensic Science, Professor of Chemistry, MSUD
Colin Sasaki	303-805-9287	Owner, Science Matters in Colorado

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