



*OUTSIDE THE TEXTBOOK
AND INTO THE WORLD OF
THE FORENSIC EXPERT*

HOW EXPERTS CAN INFLUENCE HIGH SCHOOL
STUDENTS



CRIME SCENE

Introductions

NANCY KOCHIS

- Bachelors in Biological Sciences (NIU), Masters in Educational Leadership (USF), Masters in Forensic Science (UFL), Death Investigation Certificate (UFL)
- Forensic Professional Organizations – IAI, COFSE and on the Education Committee, and several science organizations
- Teach at LaSalle-Peru High School - Honors Forensic Science and Honors Biology
- Started the Forensic program in 2009
- Teaching since 2001
- Married to husband Andrew, 3 sons and 3 grandchildren
- Enjoy reading true crime, going to the movies and spending time with family, grandchildren and friends

NICOLE FUNDELL

- Bachelors of Science, Chemistry with a Math minor from Loras College
- Forensic Scientist specializing in Firearms, Footwear and Tire Track examinations
- Illinois State Police since 2001
- Professional Organizations: Association of Firearms and Toolmark Examiners (AFTE)
- Married to husband Ritch, 3 children
- Enjoy hunting, hiking, working out and spending time with my family

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My Class

HONORS FORENSIC SCIENCE

- 1 Year Senior level class
- Textbook – *Forensic Science An Introduction* 4th Edition by Saferstein and Roy
- Reference textbooks:
 - *Forensic Science Fundamentals & Investigations* by Bertino and Bertino
 - *Forensic Science An Introduction to Scientific and Investigative Techniques* by James, Nordby and Bell
- Other references: attend conferences/classes (Sirchie, IAI and AAFS), *Forensic Magazine*, *Evidence Technology*, websites



\$500 ANNUAL SCHOLARSHIP FOR THE LEGAL PROFESSION

CRIMINAL JUSTICE.
FORENSIC SCIENCE
AND LAW

MY CLASS

- The class consists of lectures, laboratory experiments, web assignments/research, major projects and presentations from forensic experts



LABS

Blood Spatter Chamber



Hands on Labs



TOPICS COVERED

- History and major contributors
- Crime scene processing
- Physical evidence, class versus individual, forensic databases
- Death investigation – forensic anthropology, entomology, pathology
- Properties of matter and glass
- Drug evidence and forensic toxicology
- Microscopic evidence – different scopes used
- Serology – blood and body fluids, blood typing, blood spatter

TOPICS CONTINUED

- DNA – tools used and proper collection and packaging
- Crime scene reconstruction
- Trace evidence – hairs, fibers, inks, paint, soil
- Fingerprints and other impressions, methods to detect and lift, new this year facial recognition and biometrics
- End of the year crime scene projects (2 weeks to collect, package, analyze and compare the evidence) collaboration
- Other new additions:
 - Mobile devices, firearms and ballistics

DISPLAY FOR STUDENTS BY STUDENTS



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Process for my Contacts

MY METHOD FOR CONTACTS

- When I 1st started my class in 2009:
- Researched the internet – DEA, ATF, FBI
- Made phone calls!
- Next, I contacted area experts – Coroner/Pathologist for my county; State Police Crime Lab – Ballistics and Impressions, DNA, Chemistry; Area Police Departments (some of which are former students); Fire Marshall/Fire Chief; make contacts through conferences and forensic classes
- Joined the Forensic Advice Forum in Facebook – made appeals to experts from around the world

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Experts in My Class

LIST OF EXPERTS

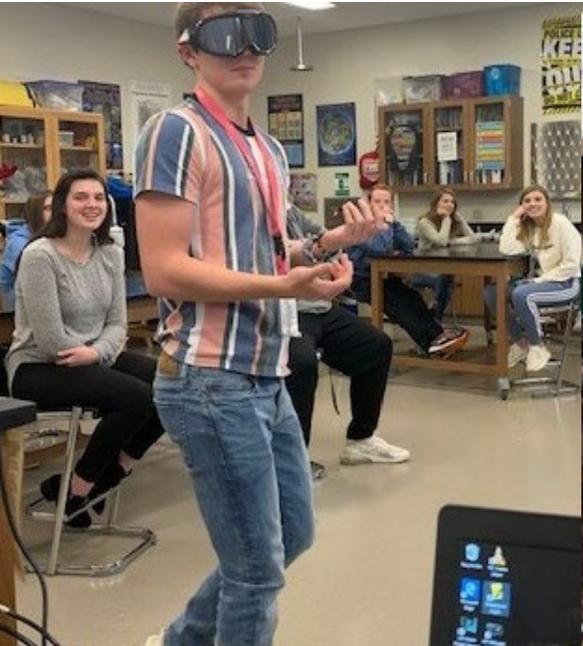
- ATF – Jeffrey Marshall Special Agent
- DEA – Greg Czackowski Special Agent
- Undercover Drug Officer - Brian Zebron
- Retired Detective and Forensic Artist from Chicago - Luis Santoyo
- Social Media and the law - Judge Vescogni
- Forensic Pathology - Dr. Eric Santos
- Deputy Coroner for LaSalle County – Olivia Ferrari (former student)
- Area Officers, detectives, CSI

EXPERTS CONTINUED

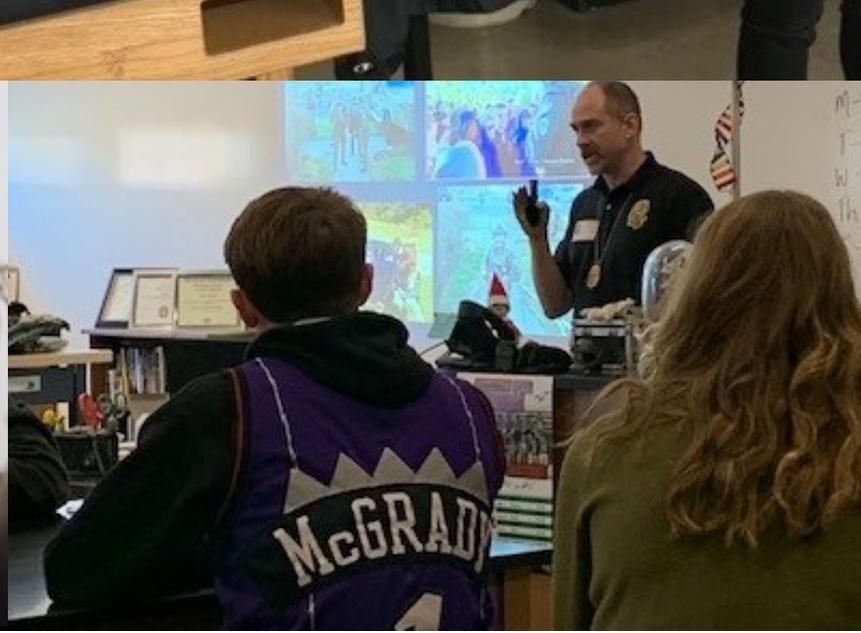
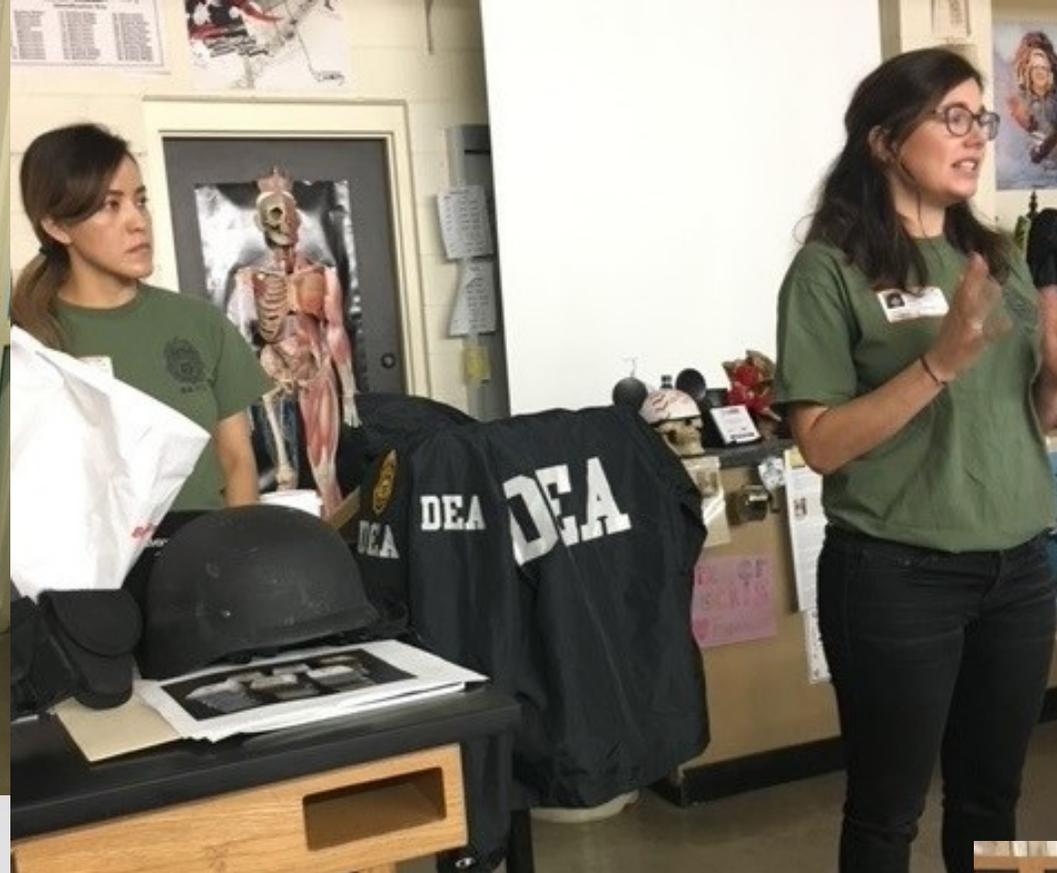
- Fire evidence – County Field Marshall and Fire Chief
- State Police Crime Lab Experts: Nicole Fundell – Ballistics and Impressions; Katherine Sullivan – DNA
- Retired CSI from Chicago – Patrick Jones (John Wayne Gacy Case)
- Eureka College Criminal Justice Program – Dr. William Lally
- CSI Effect – Brian Towne Prosecutor for Illinois
- Dr. Jason Kolowski – Forensic Science

EXPERTS DURING REMOTE (COVID)

- Digital Forensics and Cyber Security – Sabrina Koncaba NC
- Fingerprint Assoc. LTD in England – David Goodwin
- Blood Spatter Expert – Belinda Potter Kansas City PD
- 3 D Crime Scene Processing - Brenda Butler from Faro Technology
- Forensic Archaeology/Anthropology (Arizona) - Steven Wang
- Forensic Pathology – Dr. Katherine Maloney Chief ME Buffalo NY
- Author of Forensics The Science Behind the Death of Famous People - Dr. Harry Milman (The Carrie Fisher Case)

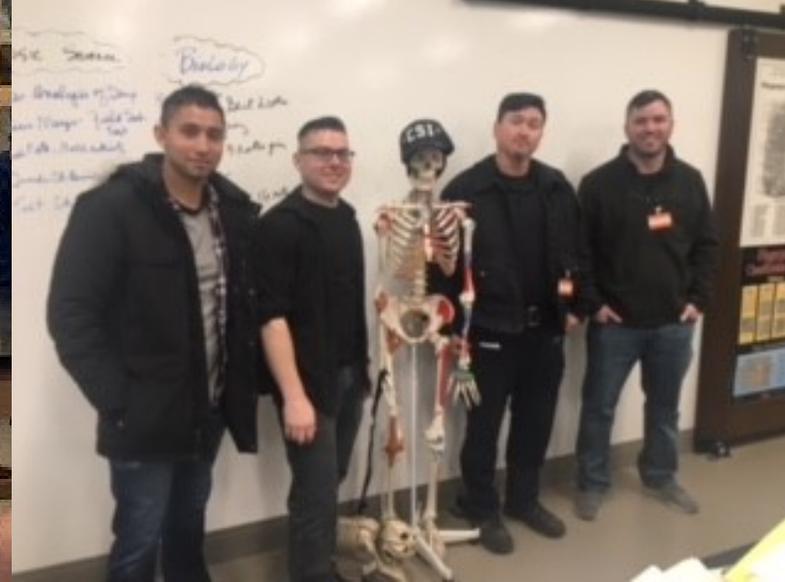
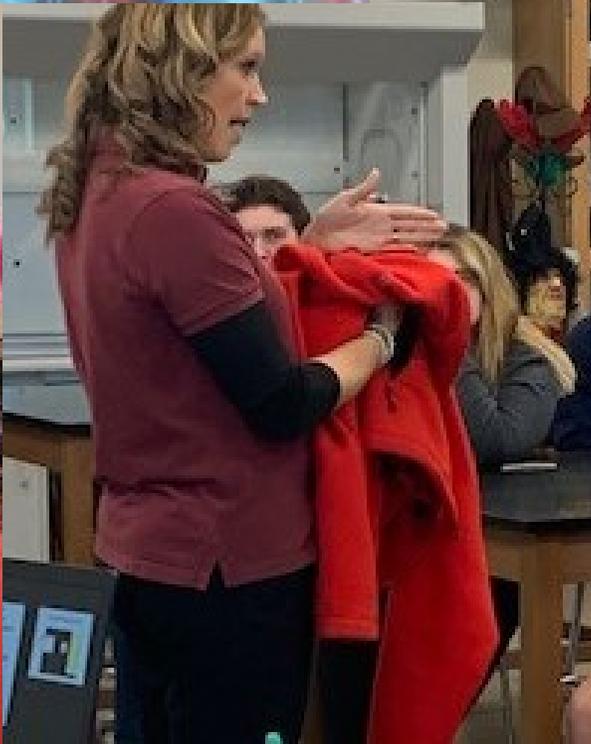


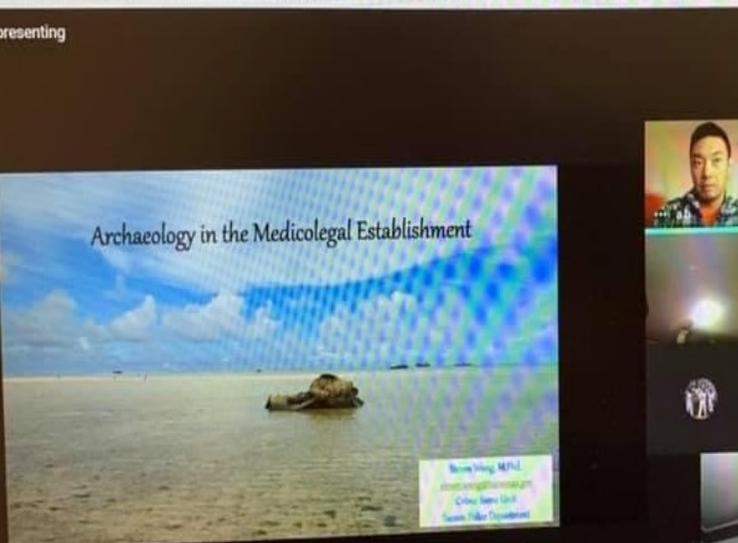
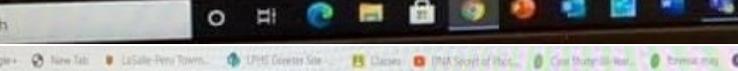
Thank you



Hardy-Weinberg in Action

Locus	Genotype	Formula	Frequency Allele 1	Frequency Allele 2
D3S1358	15,17	2pq	0.2475	0.2100
D1S1656	15,19.3	2pq	0.1436	0.0910
D2S441	11,14	2pq	0.3094	0.2600
D10S1248	15,15	p ²	0.1733	
D13S317	13,13	p ²	0.1114	
Total for 5 loci				





Kansas City Police Crime Lab

Job Responsibilities

- ▣ Laboratory Analysis of Evidence





CRIME SCENE

Impact on Students

AUBREY TESTA

“It’s nice to see what people do with their degree and what all there is available in the field. When the experts came in it opened my eyes to see all the different opportunities available. You get firsthand knowledge from them that you would not get from a website. I loved being able to learn from the professionals.”

Graduated from Lewis University with Bachelors in Forensic Criminal Investigation

Currently hired as Probation Officer for LaSalle County

CLARA AVENARIUS

“Having adults who are using these skills in their everyday jobs speak to our class was really valuable and showed the importance of the information we were learning in the classroom. Beyond the vein of real-world application, it was also helpful to comprehend the process of what we were learning in class.”

Graduate of Drake with Bachelor of Arts in Law, Politics and Society

Bachelor of Arts in International Relations

Currently finished 1st year of law school

HALEY HOLLOWAY

“I believe it is crucial for students interested in forensics to learn more about the topic through professionals. Not only does it give students access to real life scenarios, but experts in the field can offer valuable advice to encourage and guide students in the right direction. Being able to discuss educational paths and the ins and outs of forensic related careers with these experts is something I will value for the rest of my life.”

Currently enrolled at Western Illinois University to pursue a degree in law enforcement and forensic psychology

JACK MERTES

“The forensic experts that spoke to my class helped shape my career. I never realized how intrigued I was with the Federal Law Enforcement until I listened to the experts talk about their daily lives in my forensic class.”

Currently at Marquette University in Wisconsin

Waiting on interview for internship with the Milwaukee PD

MADISON LOGER

“I find it crucial for experts to come and talk to high school students. High school is a time when many students are set on a career path or are completely lost. Myself, I was set on studying veterinarian medicine in college. I was intrigued by forensic science as a senior. After hearing from the experts, I decided to pursue criminal justice and psychology.”

Graduated with honors from Eureka College in Criminal Justice

Currently a Juvenile Detention Officer in Illinois

CADEN BUETTNER

“The forensic experts that spoke in Mrs. Kochis forensic science class were very important to me. She taught us a plethora of valuable information regarding forensic science. Hearing the different forensic experts speak provided a great way to compare what we learned to real life examples. When the DEA agents came in my interest in forensics was truly piqued. I learned about the requirements regarding employment with the DEA.”

Currently a senior at Western Illinois University

Double major in Law Enforcement Justice Administration and Emergency Management

3 minors – Homeland Security, Security Administration, Criminalistics

Started the process to do internship with DEA this school year



CRIME SCENE

Quotes from the Experts

NICOLE FUNDELL

“I fell in love with forensic science my senior year of high school by solving a crime for my final in my Advance Chemistry course. Teachers played roles in the physical evidence that I had to collect. I knew from that day on I wanted to be a Forensic Scientist. I feel honored to be a part of this class to get students excited just like I did so many years ago. One expert really can change a person’s pathway.”

Impression Expert at the Illinois State Police Crime Lab in Joliet, Illinois

DR. ERIC SANTOS

“As professionals, nothing makes a more lasting impression on students than ACTIVE participation. The potential impact you make, will be remembered long after the experience itself.”

Forensic Pathologist for LaSalle County

BRIAN ZEBRON

“For many years I have been honored with the opportunity to speak to Mrs. Kochis forensic class. I admire the fact that she brings in specific experts to help educate the students. The experts give firsthand experiences of what professionals are seeing in their careers.”

Undercover Drug Enforcement working with TRIDENT (Tri-County Drug Enforcement Narcotics Team)

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Conclusion

FUTURE OF FORENSICS

- Here is what the future holds for forensic science
- Private detectives and investigators employment rate is projected to increase to 8% from 2019 to 2029 and for CSI's it is expected to increase by 14%
- <https://www.bls.gov/ooh/protective-service/private-detectives-and-investigators.htm>
- My appeal to you is to share your vast expertise to high school students in your area
- We need to hook these students and show them there is a wealth of forensic/criminal justice/law fields waiting for them!

CONTACT INFORMATION



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