INTRODUCTION

The field of forensic science, while always a crucial aspect of solving crimes, has become more popular in recent decades. Books, TV shows, and movies about missing persons, murders, and other criminal acts have increased interest in how crimes are solved and the people and jobs involved in the process.

A career working in forensics science is intriguing for many individuals. A key draw is the role that forensics plays in supporting law enforcement and assisting in solving crimes. Careers in forensic science range from highly educated scientists and medical professionals to research assistants who gather evidence and keep track of data.

Finding the path that's right for you means thinking about your own interests, skills, and talents. Important skills for working in this field include problem solving, stamina, and dedication. Curiosity, empathy, and compassion are crucial qualities as well.

It's also worth thinking about how much money you want to make. A position that requires a four-year degree will earn you more money than one requiring a two-year degree. All the profiles in this volume include education requirements and typical earnings. Remember, however, that how much money you make is not the entire story. Benefits, job security, and where you work are important factors as well.

The *Conversations With...* spread throughout this volume, show the variety of career paths available in forensic science, how to achieve them, and what to expect when you get there. They are interviews with real individuals working in the field.

There are many jobs that might not seem related to the field of forensics, but are strongly connected. Accountants, anthropologists, architects, economists, fire inspectors, photographers, nurses, social workers, and wildlife biologists all can focus on the forensic aspect of their job—the techniques used in connection with the detection of crime.

Here are some areas to consider if you want to develop a career working in forensic science:

- *Document Examination.* A forensic document examiner determines the authenticity of records using a variety of scientific principles and methods. This can include examining a document's alterations, obliterations, handwriting, and potential forgeries.

- *Anthropology.* A forensic anthropologist aids law enforcement with the location and recovery of human remains at crime scenes. They clean and prepare the bones for examination, analyze skeletal remains, and assess trauma to bone.

- *Architecture.* A forensic architect helps resolve problems, track down design and constructability issues, expose code violations, and provide valuable information necessary to resolve conflicts that arise relative to crime scenes.

Conversation With...

LAURA C. FULGINITI, PHD, D-ABFA

Forensic Anthropologist
Maricopa County Office of the Medical Examiner
Phoenix, Arizona
In the field, 35 years

A forensic anthropologist aids law enforcement with the location and recovery of human remains at crime scenes. They clean and prepare the bones for examination and analyze skeletal remains to establish biological profiles of the deceased. Forensic Anthropologists are also responsible for assessing trauma to bone, disease processes affecting bone, and offering expert testimony.

What was your individual career path in terms of education/training, entry-level job, or other significant opportunity?

I have a BA from the Colorado College where I studied anthropology. At that time anthropology was a four-field discipline, and I received instruction in all four: biological (physical), cultural, archaeology, and linguistics. My major focus was in biological anthropology and my minor focus was in archaeology. Many universities, community colleges and other higher education institutions have dispensed with this approach, and students focus their studies in one of the four fields or a specific subfield like forensic anthropology.

I earned an MA and PhD from the University of Arizona, also in anthropology. Here again I studied all four fields, but I earned a certificate in forensic anthropology (FA). My major focus was biological anthropology, and I completed a minor in anatomy (through the medical school).

During my graduate studies I worked in the FA laboratory under Dr. Walter Birkby. He was one of the primary early practitioners and trained many students. Our program included the standard aspects of FA such as development of the biological profile, taphonomy and postmortem processes, scientific identification using dental and medical records, and trauma assessment. We also learned photography, evidence collection and processing, crime scene protocols, hair and fiber analysis, cremains analysis, obtaining and processing radiographs, and expert testimony techniques. Dr. Birkby involved us in all aspects of his caseload; and, consequently, we also learned how to behave at crime scenes, how to complete a case from autopsy to report, and how to testify about our findings.

What do you wish you had known going into this profession?

I was at a disadvantage with limited language skills. I didn't have good writing skills. I was definitely lacking the ability to communicate to non-technical people. It was an issue because I was too technical for them. I had to learn on the job. I wish I had a better understanding of the business side. If I had a degree in information technology, it would have expanded my career choices and definitely would have helped me move up the career ladder. I strongly suggest looking at degree programs in information systems. This is what I didn't get, the business side, how to budget and calculate costs. It's extremely important to enter this field with good fundamental knowledge.

Are there many job opportunities in your profession? In what specific areas?

This profession will be in high demand, especially in health care, finance, and education. Every industry uses computer systems. Somebody needs to understand all these processes, how applications connect and integrate, and how information is passed between multiple systems. It's a hot field and it's going to get even hotter.

How do you see your profession changing in the next five years? What role will technology play in those changes, and what skills will be required?

We use PeopleSoft, which is a massive business software product. We write programs using a proprietary language; we develop applications within applications. The trend I see is decreased demand for programmers and increased demand for systems analysts. Today, software packages are highly configurable products. As a systems analyst, you need to be able to mold these products to best address the needs of your organization.

What do you enjoy most about your job? What do you enjoy least about your job?

I like that I do a variety of things. I interact with people. I do system design work, which I like. I do support. I do development. It's far from being mundane. I like challenges and problem solving. What I like least is the pressure and deadlines, but it's part of the job.

Can you suggest a valuable "try this" for students considering a career in your profession?

If you like to build diagrams and work with flow charts and you're methodical and curious and really want to understand how processes work, then systems analyst could be a good fit. You're not actually coding anything; you're doing analysis and you're doing graphs. Find an internship. This will tell you, "Oh, I actually hate doing this" or "I do like it." And find a mentor, somebody who will be willing to share their experience.

This interview was originally conducted in 2016.

Economists also work for international organizations, research firms, and think tanks, where they study and analyze a variety of economic issues. Their analyses and forecasts are often published in newspapers and journals. Forensic economists apply economic theories and methods to legal matters. Forensic economists typically conduct research, prepare reports, and formulate plans aimed to address economic problems in relation to monetary or fiscal policies.

WORK ENVIRONMENT

Immediate Physical Environment

Economists spend most their time in government or private offices, classrooms (in the case of university economists), and other locations where social science research can be conducted. Additionally, they may be asked to present information to government agencies, conferences, courtrooms, and other environments.

Human Environment

Economists may conduct their research alone or with collaborators. In either case, economists meet with many different types of professionals, including corporate leaders, elected and appointed government officials, students, academic peers, and the media.

Technological Environment

Economists should be familiar with computers, including many different types of office, research, and modeling software. Such programs include basic word processing and spreadsheet systems, chart and graph generators, and specialized databases. Additionally, economists need to use other forms of basic office technology, such as cellular and smart phones, presentation technologies, personal organizers, and scanners.

EDUCATION, TRAINING, AND ADVANCEMENT

High School/Secondary

High school students who are interested in economics should take courses in economics, accounting, business, statistics, math, computer science, and data processing. As half of all professional economists work for federal, state, or local government organizations, high school students may also benefit from studying political science, social studies, government, and history. High school students

Judge/Hearing Officer

Snapshot

Career Cluster(s): Law, Public Safety, Corrections & Security

Interests: Law & Justice; Application of the Law; Hearing Cases

Earnings (Yearly Average): $124,200

Employment & Outlook: Slower Than Average Growth Expected

OVERVIEW

Sphere of Work

Judges and hearing officers apply the law by overseeing the legal process in courts. They also conduct pretrial hearings, resolve administrative disputes, facilitate negotiations between opposing parties, and issue legal decisions. In criminal matters, they are responsible for weighing the validity of forensic evidence presented in court.

Work Environment

Judges and hearing officers do most of their work in offices and courtrooms. Some may be required to travel to different regions within their state. The work can be stressful and requires a great deal of concentration. They may also be on call for urgent matters.

Judges oversee the legal process in courts, and weigh evidence in criminal trials. Photo via iStock.com/dcdebs. [Used under license.]

Occupation Interest

Individuals who become judges usually start out as lawyers, and as such are highly organized, analytical people who have a desire to uphold the law. This can take many forms, from criminal prosecutions and defense to tax, labor, and corporate law. Becoming a judge

wise, evidence they collect may not be usable in court, and they could face prosecution.

OCCUPATION SPECIALTIES

Skip Tracer
Skip tracers specialize in locating people whose whereabouts are unknown. For example, debt collectors may employ them to locate people who have unpaid bills.

WORK ENVIRONMENT

Immediate Physical Environment

Private detectives and investigators work in many environments, depending on the case. Some spend more time in offices, researching cases on computers and making phone calls. Others spend more time in the field, conducting interviews or performing surveillance. In addition, private detectives and investigators may have to work outdoors or from a vehicle, in all kinds of weather, to obtain the information their client needs.

Human Environment

Although investigators often work alone, some work with others while conducting surveillance or executing large, complicated assignments. Some may also choose to employ a team of investigators. Investigators must be comfortable dealing with clients and members of the public, sometimes in highly stressful situations. They may also need to deal professionally with the police and give evidence in court.

Technological Environment

Private detectives and investigators must be able to use all tools at their disposal for solving cases, including standard computer software, databases, and a familiarity with social media and the Internet. Sophisticated camera equipment may also be required, as well as standard field tools such as binoculars. Private detectives and investigators should ideally have their own mode of transportation because travel is often required.

types of animals, such as birds or amphibians, whereas wildlife biologists are more likely to study specific ecosystems or animal populations, such as a particular at-risk species. Wildlife biologists also do applied work, such as the conservation and management of wildlife populations.

Zoologists and wildlife biologists conduct research for a variety of purposes. For example, many zoologists and wildlife biologists work to increase our knowledge and understanding of wildlife species. Traditionally, many wildlife biologists researched ways to encourage abundant game animal populations to support recreational hunting and tourism. Today, many also work with public officials in conservation efforts that protect species from threats and help animal populations return to and remain at sustainable levels.

Most zoologists and wildlife biologists work on research teams with other scientists and technicians. For example, zoologists and wildlife biologists may collaborate with environmental scientists and hydrologists to monitor water pollution and its effects on fish populations.

Zoologists usually specialize first in either vertebrates or invertebrates before homing in on a species. Examples of specialization include: cetelogists (marine mammals like whales and dolphins); entomologists (insects like beetles and butterflies); herpetologists (reptiles and amphibians such as snakes and frogs); ichthyologists (wild fish like sharks and lungfish); malacologists (mollusks like snails and clams); mammalogists (mammals such as monkeys and bears); ornithologists (birds like hawks and penguins); and teuthologists (cephalopods such as octopuses and cuttlefish). Zoologists can also specialize in an aspect of zoology such as anatomy (the structure of organisms); embryology (the development of embryos and fetuses); ethology (the study of animal behavior); histology (the study of microscopic anatomy like cells and tissues); physiology (the study of the normal function of the living systems); soil zoology (the study of animals that live fully or partially in soil); teratology (the study of abnormal physiological development); and zoography (describing plants and animals).

When they are not in the field or laboratory, most zoologists and wildlife biologists are high school, university, or college professors, committed to both research and teaching responsibilities. Some work in zoos, animal sanctuaries, and nature preserves. Others are hired by government agencies to study how animals and their habitats are affected by pollution and industrial development and to make recommendations on how to better protect these species. Pharmaceutical and biological supply companies employ some zoologists and wildlife biologists to conduct applied research. Law enforcement agencies may utilize their skillset

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Dictionary of Occupational Titles (DOT)
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