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How do you get a job in Forensic Science?

University of North Texas Health Science Center at Fort Worth

Topic: How do you get into forensic genetics?

Oral History Interviewees: Dr. Rhonda Roby, Dr. Joseph Warren, Dr. John Planz, Dr. Bruce Budowle, Dr. Arthur Eisenberg

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Dr. Rhonda Roby:

So, did Dr. Eisenberg make a pitch for the program and everything?

Dr. Joseph Warren:

I think if someone was--depending upon the age group of the person--if someone was just in grade school, I would say, “Pay attention in your science courses, and your math courses, and English too. Your language courses because communication is extremely important part of our field.” Someone in high school, I would suggest, again, doing well in your science courses. Look at advanced placement courses, particularly advanced placement biology, chemistry. If your core, if your school offers a statistics course or intro to statistics, take that. College-level: major in a science, and take coursework in genetics, and molecular biology, and biochemistry, and again coursework in statistics.

Dr. John Planz:

In any of the forensic sciences, they’re really looking for people trained in hard-core basic sciences. You have to have a good background in math, more so statistics than in calculus and things like that but it depends on the field of forensics you go into. But in the biological end of things you’re really looking for your physics, math, biology, biochemistry, organic chemistry, analytical chemistry, those kinds of backgrounds, and any of the crime lab sciences. Many of the disciplines within the crime labs--DNA testing and biology's only one portion of a typical crime lab's operation --They also do a lot of trace evidence work where that’s analytical chemistry, instrumentation analysis; that kind of work, chemistry, hard-core chemistry, identification kind of work. They have a pretty good program for that up in Denton actually. But those are the kinds of degrees that you need to have as a foundation courses to get into virtually any of them. A bachelor’s degree is definitely preferred over a BA degree, so BS instead of a BA. A criminal justice degree doesn't help in getting into a crime lab. It might help with getting into the law enforcement, but not necessarily. If you want to be an active analyst in a crime laboratory, you’re not going to get the background that you need. You need the hard-core science. You could minor in something like criminal justice and that might help you a little. But it's the hard-core sciences that they’re going to be looking for.

And the field has specialized. All of the disciplines are developing standards for education, and training, and methods. The DNA community was well ahead of the curve in that area. Since the late 1990s already, we had guidelines that the community adopted that basically were reshaping to now to what are national standards. And those are constantly being reviewed, and updated and things like that. The criteria for the various job positions, if you will, in the forensic DNA lab are very clearly spelled out. Many of the other disciplines are now following that path as well--developing standards for their particular disciplines.

So the first thing to do is decide what area you might be interested in, and then do your homework. In most cases there are many forensic science programs that universities throughout the country. Many of them aren’t very useful because they only give you a smattering of a couple of forensic courses here and there, but nothing solid and consolidated. You don't get that hard-core science background. You get introduced to a lot of interesting things but I’ve talked to, over the years, many students in these programs who wonder y’know--they have a forensic science degree but they can't even get an interview at crime laboratory. It's because they don't have the base education that the science disciplines require.

So those are issues that have been going on for at least the last 10 years now with people trying to get into the field. And there are jobs in the field in all of the disciplines, all over the country, and there is a dearth of qualified individuals to fill those jobs. So you know the best thing to do is do your homework. See what's required.

But look at me I never even thought… I knew a forensic anthropologist when I was in my doctoral program, Dr. Gill-King up in Denton, a good friend of mine. He always said I should go into forensics and I said, "I'm not interested in that stuff." That wasn't my thing at all, but I got sucked into it and basically here and 20 years later still doing it.

Dr. Bruce Budowle:

If I were advising anyone, I would advise them particularly in the area of forensic sciences to get a hard degree. A science degree. Chemistry, biology, molecular biology, biochemistry, as opposed to going getting a general forensic science degree because I think it prepares one better for the challenges. I believe you can learn forensic science in specialized programs or on-the-job training, but the hard science gives them the foundations to be good, solid scientists, to address questions, to think of hypotheses, consider alternate hypotheses so we can do the best with interpretations of evidence. So I would stress that, and also you never know your future. You may want to be a forensic scientist at one point. You may want to go off to the FDA, USDA. You may want to go into industry or teach. This gives you a more solid foundation. Gives you more flexibility, versatility for the future

Dr. Joseph Warren:

Then apply to our graduate program. [laughter]

Dr. Arthur Eisenberg:

I think we have probably one of the best graduate programs in the country, in the world in terms of forensic genetics. We have a program, a Masters of professional, a professional master's program we've trained a lot of analysts have gone, we sort of keep the best-and we then send the rest out throughout the country, throughout the state and sort of incestial inbreeding, but it's worked so well to help us grow our laboratory. We know the quality of these students and they're hired throughout the state and throughout the country.

Unfortunately, joking around with friends and family, I always say that so I have pretty good job security because there's always going to be crime and there's always going to be a need for this type of testing. I think the job prospects are still very good and I don't think that the field has been saturated. There's going to have to be a lot of people who are going to replace us old dinosaurs and when we become extinct in our bones are dug up.

It's important to have that very strong educational training and that's what we provide here. We certainly train individuals who want to become more research scientists. We're pretty proud of our educational training program.

Dr. Rhonda Roby:

Cause it's a great program. I mean, it's really hard to really pat yourselves on the back and everything. But the group of scientists that are here, the faculty that we have is just premiere, and I'm proud to be a part of it. But this group, as a whole, has a considerable amount of experience, and we are very focused on genetics, and genetic aspects of forensic sciences. We're not looking at toxicology. We're not looking at crime scene investigation. We're really focused on genetics and DNA technology right now, and wherever this can move to. And so it's incredible the people you have working here. And I'm not sure that that they know what leaders in the field really work in this, are in this department.