

# Investigate the Career Path of a FORENSIC CHEMIST

In high school in Scottsdale, Arizona, Brandon Jones had his doubts about chemistry. His lab reports were mediocre, and he felt disorganized. But his teacher encouraged him to persevere.

“He really was the first person who got me into chemistry,” Jones says. His teacher was a huge CSI: Crime Scene Investigation fan, who made “all sorts of CSI jokes” and declared that his favorite compound was cesium iodide (CsI).

Whether it was through humor or something else, Jones’ teacher succeeded in interesting Jones in chemistry. After finishing high school, Jones earned a bachelor’s degree in chemistry from Arizona State University. He then went on to work at a quality-control vitamin company, where he ensured vitamin products met purity standards and matched the descriptions on product labels.

A year later, Jones started graduate school in forensic chemistry at American University in Washington, D.C. His graduate thesis was on synthetic cannabinoids, which were starting to become a problem around 2012, Jones says.

Synthetic cannabinoids are human-made chemicals that target the cannabinoid receptors in the brain. When sprayed on plants and smoked, synthetic cannabinoids can have a mind-altering effect similar to that of marijuana. People could legally sell the sprayed plants at that time, and research on them was sparse.

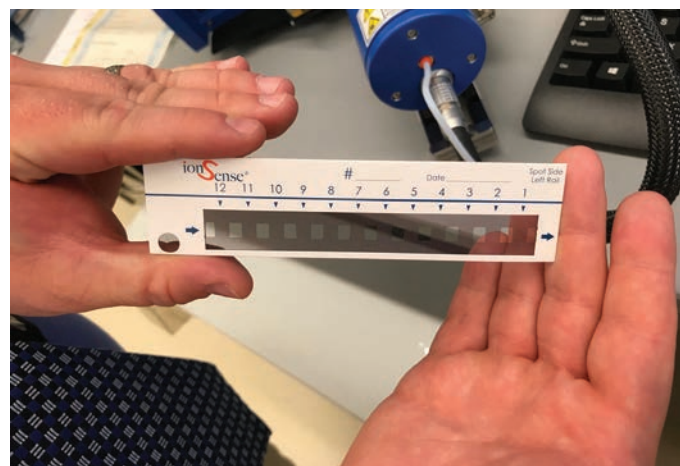
So Jones studied the substances in this emerging area, using gas chromatography-mass spectrometry (GC-MS). GC-MS is a method that can identify chemicals in a sample.

Jones struggled to find a job in forensics right after graduating, so he took a position as a substitute teacher.

Meanwhile, concerns over synthetic cannabinoids grew, and about a year later, Jones’ experience researching the drugs helped him land a position at Prince George’s County (Maryland) Drug Lab.

Jones is now working at the D.C. Department of Forensic Sciences (DFS), where he established a dedicated chemistry unit and develops new forensic techniques.

— Lis Gallegos and Raadhia Patwary



CHRISTINE SUH



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## BRANDON JONES

**B.S.:** Chemistry, Arizona State University

**M.S.:** Forensic Science, American University

**WHAT HE DOES NOW:** Lead Chemist, D.C. Department of Forensic Sciences

### What was the focus of your graduate research involving synthetic cannabinoids?

My research mostly involved developing a practical method to extract the synthetic cannabinoids off of different matrices (plants and liquids) and to analyze them using GC-MS.

### When you started a new chemistry lab at DFS, what challenges did you face?

Doing it from scratch was a bit of a struggle. I went out to other forensic labs and talked to them about what kinds of problems they were dealing with. It’s all the behind-the-scenes stuff—working with other agencies to get stuff to us, having all the regulations set in place—that often becomes the hardest part.

### What is one of your favorite parts of the job?

If we find something new such as an unknown drug, trying to figure out what it is is a lot of fun—it’s usually a little bit of a mystery to unravel.

### How do you use your previous experiences to help you as a forensic chemist?

A lot of the aspects of teaching and tutoring come in handy when explaining forensic chemistry to attorneys. You have to break the chemistry down into much simpler terms.

### What advice would you give to high school chemistry students?

If they know a place where they would want to work, just reach out. They’re usually happy to give tours or talks on what they’re doing, what kind of stuff they run... or at least allow you to shadow a chemist for a day. I know that it might seem intimidating, but all you have to do is reach out and ask.

*Note: This interview was edited for length and clarity.*

« Have you ever spotted a mysterious drop of liquid and wondered what it was? Equipment in forensic labs can rapidly reveal what is in a sample.