Fenn Plans to Trade In Her Lab Coat for a Business Suit

After a productive stint as a postdoctoral researcher at Massachusetts General Hospital, Ashley Fenn, PhD, is preparing to take her career in an unexpected direction.


Ashley Fenn, PhD

It's not often that you go into a research lab expecting to become a scientist and end up with a job as a management consultant.

But somehow, it seems par for the course for Ashley Fenn, PhD, whose career has already taken plenty of twists and turns along the way.

In a recent interview, Fenn spoke with us about the early stages of her career, her time as a postdoctoral researcher in the lab of Filip Swirski, PhD, at Mass General's Center for Systems Biology, and the factors that led to her shifting her career path from bench scientist to management consultant.

IN THE BEGINNING

As a child, Ashley was sure she wanted to be a veterinarian. But during her freshman year at Colorado State University, she found her calling doing research in an ecology lab on hibernation in marmots and squirrels.

"I would hike up into the mountains of Colorado and Alaska, and we would trap squirrels and marmots and bring them back to the lab. I spent a summer on the Alaskan Tundra studying Arctic ground squirrels," she reminisces.

Though she found her undergraduate research to be a great experience, she decided on a different path for her PhD. “It was fun, but at the end of it I wanted to have more of an impact on human health.”

INVESTIGATING THE ROLE OF WHITE BLOOD CELLS IN ARTERIOSCLEROSIS

After completing her PhD in neuroimmunology at Ohio State University, Fenn came to Massachusetts General Hospital three years ago to study immunology as a postdoctoral fellow in the Swirksi lab.

Her initial project in was designed to follow up on a hypothesis that was born of previous research the lab team had done on a condition called atherosclerosis. As it often happens in science, however, a project that began with one endpoint in mind soon led in an entirely different direction.

Arteriosclerosis is the thickening and hardening of the arteries that results from a buildup of plaque, consisting of cholesterol, calcium and other substances on the arterial walls. The accumulation of plaque usually begins with small tears, or lesions, in the tissue lining the artery walls.

These lesions set off a chain-reaction response in the body's immune system. The reaction starts with monocytes; the large, immature immune cells that will typically travel through the bloodstream for several days before settling into their intended destinations in the organs and tissues of the body.

A lesion in the artery disrupts that travel process, however. Rather than continuing their journey through the bloodstream and into the organs and tissues, the monocytes start to accumulate at the site of the lesion.

Once there, the monocytes differentiate (or mature) into macrophages, a type of white blood cell that is designed to engulf and digest pathogens, cellular

debris, lipids and dying cells. These macrophages remain at the lesion, proliferate, fill up with oxidized lipids, and eventually die, contributing to exacerbated inflammation and plaque buildup.

In their initial study, Ashley and her colleagues set out to determine what was prompting the macrophages to multiply so rapidly at the lesion site. They reasoned that because macrophages ingest oxidized cholesterol, cholesterol sensing pathways inside the cell may be triggering replication pathways.

While this hypothesis seemed promising, it did not pan out in the lab. When the team tested it in mouse models that were genetically engineered to have impaired intracellular cholesterol processing signals, they did not see any difference in the behavior of macrophages.

In an unexpected twist, however, Ashley and her colleagues discovered that the mouse models with impaired cholesterol metabolism had much lower levels of another type of white blood cell called a T-cell.

The team is now investigating how cholesterol levels affect T cells. Because the body loses its ability to both process cholesterol and produce new T cells as it ages, there may be a connection between the two that has yet to be identified.

Ashley has been listed as a co-author on three publications since joining the Swirski lab, but says she is most proud that her work—and the work of everyone in the lab—has been a true collaborative effort. "Everyone is a part of everybody's work."

FROM THE LAB BENCH TO THE BOARD ROOM

Working collaboratively and turning over projects quickly are what Ashley loves the most about working in a science lab. The chance to do both in a

different setting is what motivated her next career move. Later this year, she will be hanging up her lab coat and taking a new position in the field of management consulting.

“Money was a factor,” she acknowledges, explaining that the position will pay more than an academic faculty position she might hope to get after another two years of postdoctoral training. She adds, “I like turning over projects quickly, and get slightly bored if I stay in one area too long.”

As a management consultant, Ashley will work on projects that last eight to ten weeks. She will work collaboratively to address issues such as why market shares are declining for a retail client, or how an oil company can be more energy efficient.

She discovered management consulting by participating in the Mass General Postdoc Association's Consulting Club, where she took part in a volunteer group that provided consultations for real clients in the Boston area. She enjoyed the work enough to pursue a full-time position in the field.

While her next role won't be in the laboratory, she believes that working as a scientist has prepared her well for a future life in management consulting.

“In my scientific career I have had to become an expert (or at least highly informed) on many different areas of science. In consulting, you are given a new business problem to solve every 8-10 weeks on average. This means you have to quickly build up expertise in whatever industry and whatever problem type you are trying to solve.”

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About the Author: This article was written by Hayley Mattison, PhD, as part of a communications internship coordinated by the Office of Research Career Development.