

Career choices

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Welcome to PHYSICS TODAY's second annual careers issue! The theme for this year is early careers.

On page 40, Patrick Mulvey of the American Institute of Physics's Statistical Research Center summarizes the results of a survey regarding the initial employment of physicists who earned their PhD in 2017 and 2018. (PHYSICS TODAY is published by AIP.) One recent trend that Mulvey and his collaborators discovered is a switch in the most common type of first position. It used to be a postdoc; now it's what he calls a potentially permanent position, most of which are in the private sector.

Few new PhDs land a potentially permanent position in academia, even after a postdoc or two. Still, a tenure-track position remains the most desired destination for 60% of the postdocs who responded to Mulvey's survey. The two other feature articles in this issue offer advice on how to obtain one of those coveted positions.

Matthew Anderson of San Diego State University provides the perspective, on page 52, of a professor whose task it is to help his or her department find the best candidate. Omar Magaña-Loaiza of Louisiana State University in Baton Rouge provides the perspective, on page 30, of a successful candidate.

Please don't take this year's focus as evidence that PHYSICS TODAY discounts the private sector or what physicists do in their middle and late careers. I intend to visit those and other topics in future careers issues. Still, I'd like to complement this year's articles with observations gleaned from my first job at this magazine: obituaries editor.

I joined PHYSICS TODAY in June 1997. Back then, magazines were replete with advertising. They could afford to print more pages than they can today. For obituaries, that meant running six—even eight—an issue. Most of the obituaries I solicited and edited recounted the sort of career that I hope Anderson and Magaña-Loaiza will continue to enjoy: that of a university researcher and teacher. But there were some less typical obituaries published in my first full year, 1998, that have stuck with me.

Gaspar Valenzuela was born in Coelemu, Chile, in 1933. He moved to the US to study electrical engineering. His first job was in the radio division of Westinghouse Electric in Baltimore. He remained in Maryland to work at the Applied Physics Lab-



oratory (APL) and then get his PhD at the Johns Hopkins University. After returning to APL, he switched the focus of his research from developing millimeter-wave systems to developing an application of them: measuring from space what sailors and oceanographers call the sea state or how rough the sea's surface is. His obituary on page 94 of the February 1998 issue describes how fruitful that line of research became after he moved to his final professional home, the US Naval Research Laboratory in Washington, DC.

Glenn Dyer was born in 1939 in rural New Brunswick, where he attended a one-room schoolhouse. A scholarship funded by media magnate Lord Beaverbrook enabled him to attend university, where he studied physics. Like Valenzuela, he opted first for a career in industry—in his case, at Technical Operations, which made measurement instruments in Burlington, Massachusetts. There, he acquired the skills and confidence to start his own company, Dyer Energy Systems, in 1974. From his obituary on page 104 of the October 1998 issue, we learn of the new heat engine he designed and his abiding interest in farm tractors.

Dyer and Valenzuela were too young to serve in World War II, but many of the physicists whose obituaries appeared in 1998 had fought or done war-related R&D. Among them was Rutherford Adkins, who was born in Alexandria, Virginia, in 1924. He was an undergraduate at Temple University in Philadelphia when, in 1941, he was drafted. Trained as a pilot at Tuskegee Army Air Field in Alabama, he flew 14 combat missions in Western Europe. A photograph from his Wikipedia entry shows him standing next to a P-51D Mustang, presumably the one he piloted. After his discharge, he resumed his education and chose physics. He went on to become a nuclear physicist and university administrator. At the time of his death, he was president of Fisk University in Nashville, Tennessee. His obituary appeared on page 90 of the September 1998 issue.

I don't know why Adkins became a physicist after fighting the Luftwaffe, why Dyer started his own company, or why Valenzuela changed his line of research. But their lives remind us of the choices we have, even in difficult times.

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