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Editors Note

Spring Forward

Spring is upon us and commencement time is here. Big names and personalities will fan out across the nation to address students during this time of transition. Martin Luther King III will speak to seniors at Cornell University. Brown University President Ruth Simmons will address graduates at Morehouse College. Spike Lee will be at Kean University. Colin Powell at Marymount University. NAACP President and CEO Bruce Gordon will speak at Gettysburg College, his alma mater.

They will speak of the future and the opportunities that await graduates and perhaps note, as President Bush emphasized at Oklahoma State University's commencement, that this "generation will face unprecedented choices because of technology."

Over the past decade, advances in technology have profoundly changed the way most of us live our lives, made us more efficient and led to medical breakthroughs. As a result, the job market is changing. According to the National Science Foundation, science and engineering careers in the United States will grow by 26 percent in the next decade. By 2012, we will have 1.25 million more positions in these fields.



And, according to the Bureau of Labor Statistics, they will pay well. Twenty of the 25 occupations the government agency lists as having the highest median annual earnings —including anesthesiologist, computer and information system manager, flight engineer and physicist — are in science, technology, engineering or medicine.

But who will fill these lucrative jobs?

According to the National Science Foundation, African Americans represented only 6.9 percent of those employed in science and technology occupations in 2000. Although that was up from 2.6 percent two decades earlier, the rate is still far below the proportion of Blacks in the population. The key to turning this situation around is through the education pipeline.

A report from the Government Accountability Office, "Higher Education: Federal Science, Technology, Engineering, and Mathematics Programs and Related Trends," shows promising findings for minority students. The number of African American students in STEM (science, technology, engineering and math) fields increased 69 percent between the 1995-96 and 2003-04 academic years. This increase, however, is mostly due to increases at the bachelor's and master's degree levels.

The number of African Americans pursuing doctorate degrees in the STEM disciplines still barely registers. In 2004, Whites earned 42 percent of doctorates in the physical sciences; Blacks earned just 1.5 percent, according to a study by the National Opinion Research Center at the University of Chicago. In the life sciences, Whites earned 53 percent of doctoral degrees, compared to 3.1 percent for Blacks.

In this issue we highlight a number of African Americans who have successfully navigated the challenges of pursuing an education and career in the STEM disciplines. We talk with Shirley Ann Jackson, who has a Ph.D. in theoretical physics and is the president of Rensselaer Polytechnic Institute in Troy, N.Y., the oldest technical university in the nation. In addition, we profile leaders breaking ground in a variety of STEM fields.

My hope is that one day soon, these visionaries — including Stanford University mathematician Jonathan Farley, who appears on our cover; Ayanna Howard, a Georgia Tech robotics engineer; and Mark Dean, who played an integral role in the evolution of the personal computer — will be as familiar and inspiring to our youth as a Spike Lee or Colin Powell.

Victoria L. Valentine Editor in Chief