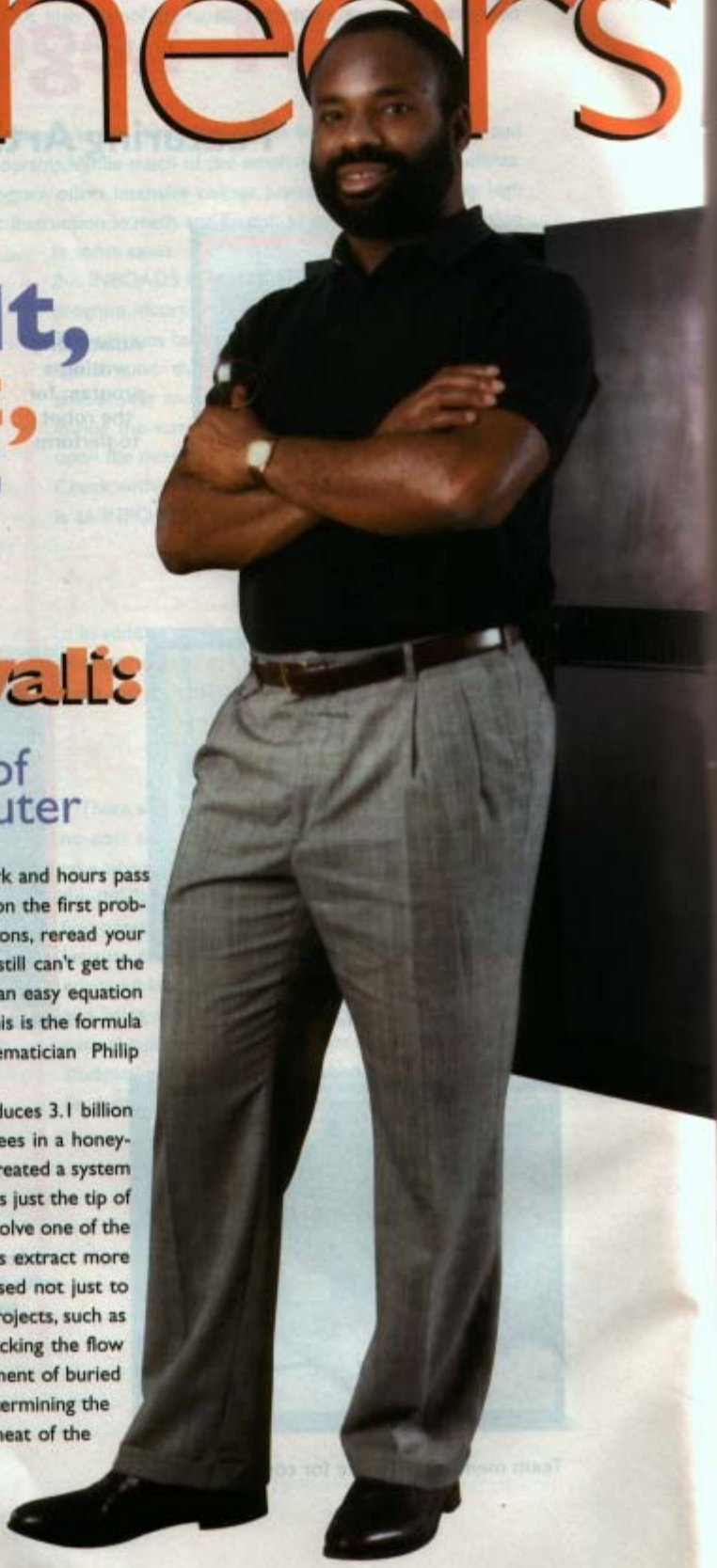
Engineers

Conceive It, Believe It, Achieve It



Philip Emeagwali:

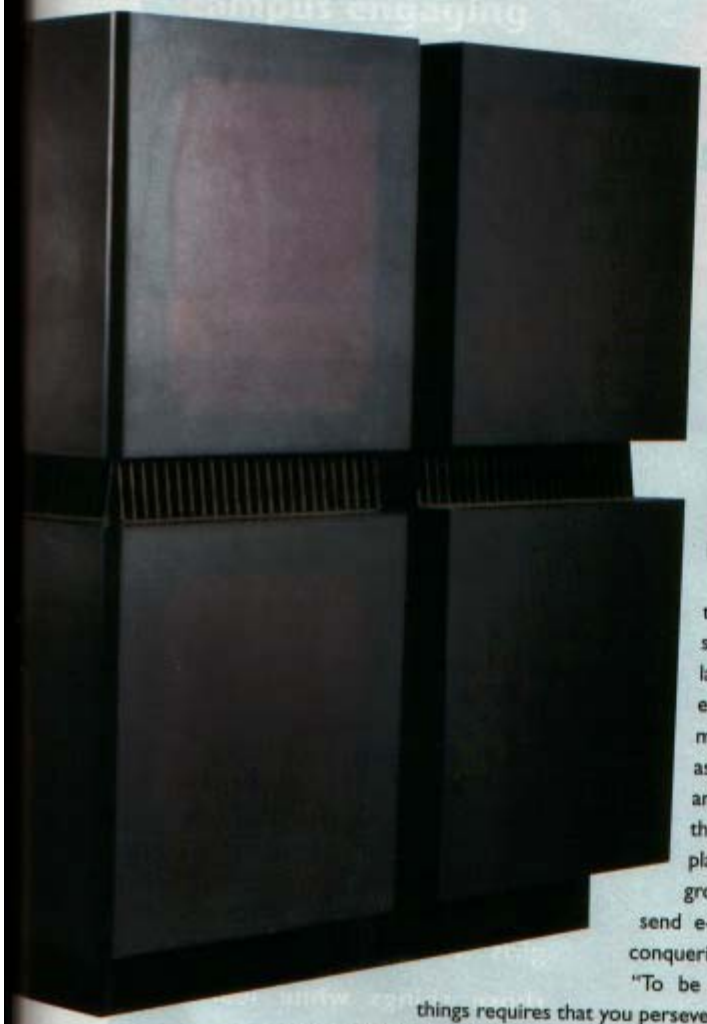
The Inventor of the Super Computer

Have you ever started on your math homework and hours pass and you're still working on it? In fact, you are still on the first problem. In that time, you've tried four different equations, reread your notes, even called one of your classmates. Yet you still can't get the right answer in the back of the book. Well, here is an easy equation for you: Conceive + Believe +Achieve = Success. This is the formula for success that has aided the famous mathematician Philip Emeagwali.

Emeagwali invented a supercomputer that produces 3.1 billion calculations per second based on the concept of bees in a honeycomb. With the philosophy that more is better, he created a system that used 65,000 computer processors. But that was just the tip of the iceberg. That same supercomputer helped him solve one of the hardest questions in the world: how can companies extract more oil from rocks. Now his supercomputer is being used not just to find oil but for several other major international projects, such as improving the accuracy of weather predictions, tracking the flow of blood in the human heart, calculating the movement of buried nuclear waste, tracking the spread of AIDS, and determining the long-term effects of gases in the air and how the heat of the sun is burning up the Earth.

"When I was in elementary school, my father made me solve one hundred mathematics

in Action



problem each day. That daily practice laid a solid mathematical foundation that helped me become a better mathematician." That foundation remained in tact even after Philip had to drop out of school after the eighth grade, when his parents could no longer afford tuition for school. He taught himself from 6 a.m. until midnight — even as his family moved from refugee camp to refugee camp in Nigeria during a civil war. He got the equivalent of an General Equivalency Diploma from the University of London and went on to get several degrees, including a Ph.D. in Scientific Computing from the University of Michigan; two Master's degrees from the George Washington University, one in Ocean and Marine Engineering and the other in Civil and Environmental Engineering. He has another Master's degree in Applied Mathematics from the University of Maryland.

When you sit in a math class or read a math textbook, the numbers can become overwhelming. It is easy to get so focused (or frustrated) at the numbers and the formulas that the purpose of these equations gets lost. These equations are the stepping stone to making the world more efficient, more cost effective, more simple. When asked why he enjoys doing what he does, Emeagwali answered, "Computers, the Internet and petroleum touch the life of many people and help make the world a better place. Without petroleum, all cars, trains, aircrafts will be grounded. Without computers and the Internet, we cannot send e-mail to our friends." Who would have thought that conquering that math problem could help him change the world?

"To be successful in most things requires that you persevere, stay focused, take some measured and calculated risks," he said.

Emeagwali insists that he wasn't born a genius. It was drive and ambition coupled with hard work that allowed him to achieve these great accomplishments.

With a laundry list of accomplishments including the Bell Award (considered the Nobel Prize of computing) and an even longer list of goals, it is surprising that Emeagwali does anything other than math problems. However, he plays tennis and enjoys running. He also enjoys spending time with his wife – another award winning scientist – and his eight-year old son. He is inspired by boxers Dick Tiger and Smokin' Joe Frazier, as well as Yoruba art and history. He also spends time speaking at schools on math, computers, and racism in the field.

Emeagwali is not just an inspiration to scientists and mathematicians. Everyone can learn something from his example. Whatever your circumstance, you can accomplish your dreams through hard work and perserverance.

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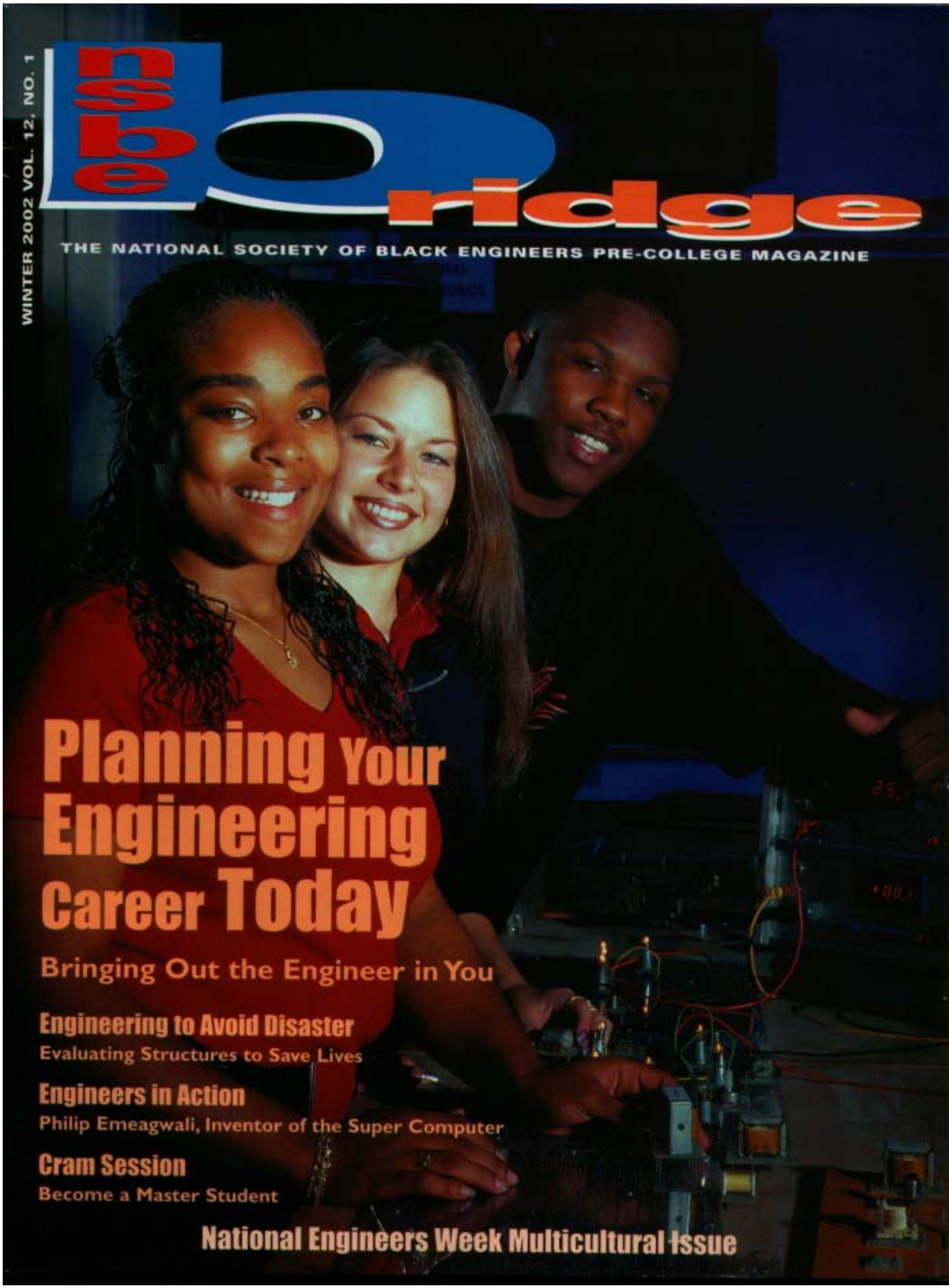

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