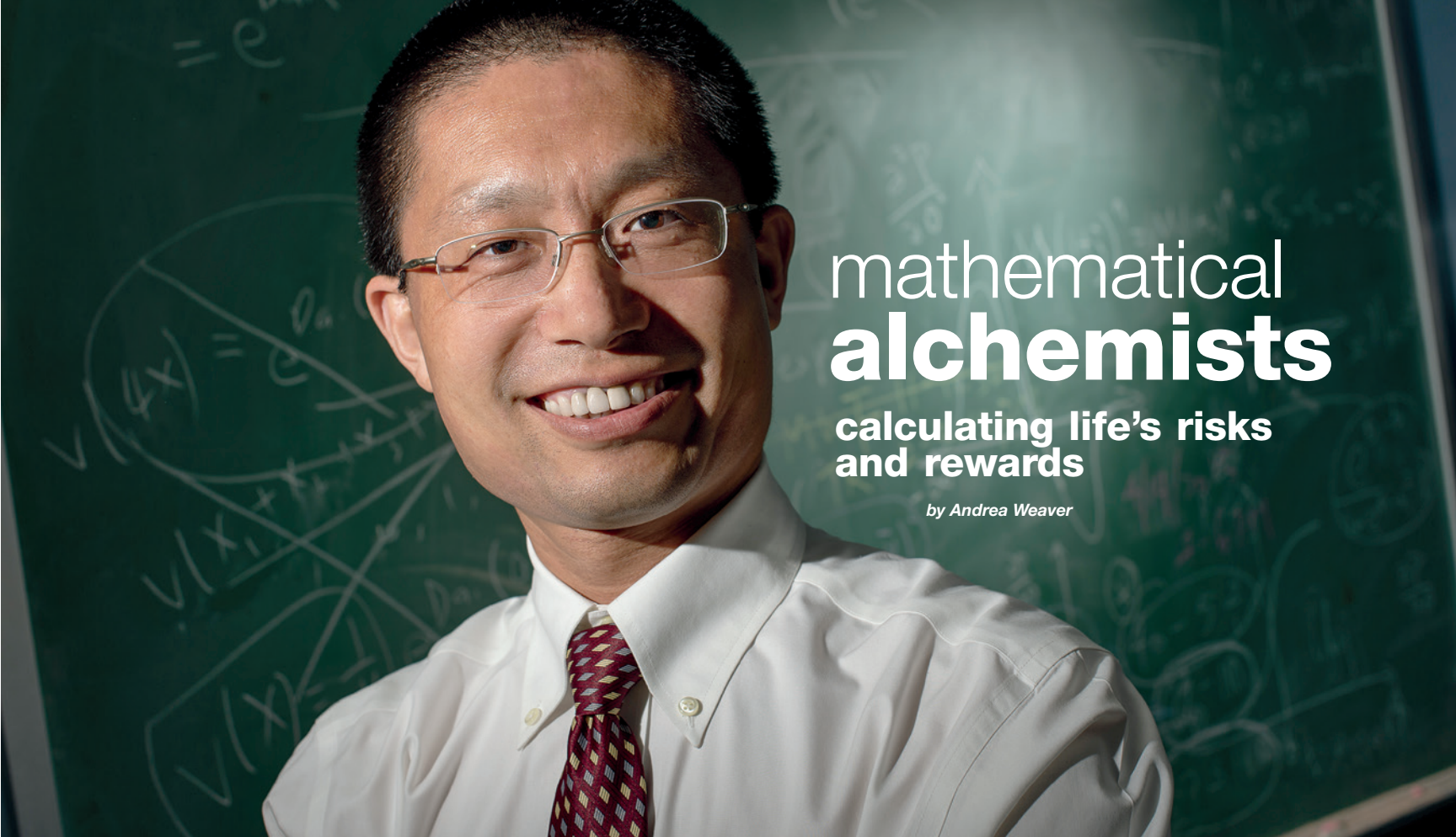




mathematical alchemists

calculating life's risks and rewards

by Andrea Weaver

Unless you fundamentally understand mathematical and statistical formulas, actuaries may seem like wizards.

However, these modern-day risk managers don't rely on magic to morph ordinary statistics into extraordinary results. Instead, actuaries draw on their analytical skills to evaluate data, calculating the odds of risks versus rewards for insurance companies, banks and investment firms, colleges and universities, governmental agencies and healthcare corporations, among others.

"Actuaries help organizations plan for the future and protect themselves from loss," explains Yishi Wang, an associate professor in the UNCW Department of Mathematics and Statistics. "By understanding the very nature of risk, actuaries play a key role in the psychological, physical and financial stability of society."

Wang discovered a lifelong interest in math and statistics as an undergraduate student at the University of Science and Technology in Beijing, China. He went on to earn a master's degree at Zhongshan University in China and then a Ph.D. at the State University of New York at Binghamton.

"I wanted to be a programmer when I first got into college," he remembers with a smile. "Then I realized there's some kind of power – stats and math – behind all of those computer algorithms." Actuaries harness that power, Wang said, and apply it to risk management scenarios in real-world situations.

He acknowledges that while actuaries cannot control the risks, they can use mathematical models to quantify uncertainties and minimize their possible economic impact.

The job market demand for actuaries has exceeded the supply for more than 30 years, according to Wang, and opportunities in the field are expected to grow by 27 percent through 2020. Given those odds – plus average annual salaries in the six figures for experienced consultants – it's no surprise that UNCW students' interest in actuarial science is on the upswing.

"Students are drawn to actuarial science because of its interdisciplinary nature," he said. "A curious mind is always a plus, whether they are interested in math, statistics, physics, computer science, economics or finance."

Actuaries take seven to nine comprehensive professional exams en route to becoming full-fledged practitioners. Since 2012, more than 60 students have participated in special topic courses that Wang designed to prepare them for two rigorous exams that actuaries must pass to enter the field.

To further assist the students, Wang recruited Wilmington resident Thomas Egan, a fellow of the Society of Actuaries, to serve as a program advocate and adviser. Overall, 10 students have passed the initial actuary exam and five have passed the second level. Two of those have passed four exams and are working with leading companies in the financial industry, Wang said.

It all begins with curiosity in the classroom. "I ask myself, 'What kind of positive influence do I want to have on my students?'" Wang said. "I try to influence them to be passionate about learning." 