

# Advance women

Making strides in medicine, finance, law, and media



## REBEKAH DREZEK

**AGE:** 33

**POSITION:** Bioengineer, Rice University, Houston

**CV:** Drezek studied electrical engineering as an undergraduate at Duke University and received master's and doctoral degrees (1998 and 2001) in electrical engineering at the University of Texas at Austin. In 2002, she joined the faculty at Rice University and started her own lab.

**WHY THE BUZZ:** The optical instruments that Rebekah Drezek is creating may not only help doctors detect breast and ovarian cancers earlier, they will someday allow for less expensive and less invasive diagnostic procedures than those in use today. This year she received a \$3 million Era of Hope Scholar Award from the Department of Defense's Breast Cancer Research Program to support her work developing miniaturized imaging tools, such as needle-sized fiber optic probes. Within five to ten years, doctors could be using the probes—which provide high-resolution, real-time images of tissue—to examine breast tissue (possibly averting the need for a biopsy), guide surgery, and monitor the effectiveness of drug treatments or radiation therapy. At the same time, Drezek is creating a customized probe to screen for ovarian cancer in high-risk patients.

Drezek is also engineering nanoscale particles—tiny gold-coated silica spheres—to be applied to or injected into the body, where they would recognize the molecular features of specific types of cancer (for example, breast cancer) and attach to the cancer cells. When illuminated with a laser, these particles would glow brightly, helping surgeons see the borders of a tumor during surgery, greatly increasing the odds that all cancerous cells will be removed. Rebecca Richards-Kortum, chair of bioengineering at Rice University and Drezek's Ph.D. advisor at UT Austin, says, "Before long, I think you'll be seeing doctors using the techniques Rebekah is developing now."

—Jen Uscher

*Jen Uscher has written for Consumer Reports, Popular Science, and other publications.*

## KAREN MURPHY

**AGE:** 36

**POSITION:** Senior director of finance and treasurer, Chicago Bears Football Club, Lake Forest, IL

**CV:** Murphy, a Wisconsin native and lifelong sports fan, holds a business B.A. from the University of Wisconsin-Madison. After four years at Ernst & Young in Chicago, she headed to the Walt Disney Company in Burbank, California. In 1999, an Ernst & Young friend told her about a controller position at the Bears; she sent her resume, and two weeks later had the job. She was promoted to her current post within three years.



**WHY THE BUZZ:** Murphy led the \$630 million renovation of historic Soldier Field, a project that finished on time and only slightly over the original \$606 million budget. Other accomplishments: Transitioning the club to a quarterly budget system and finding a new, cost-saving health plan. Colleagues laud her steady nerves; during the renovation, "she constantly stayed organized and acted as a critical liaison to the many entities involved with the project," says Bears CEO Ted Phillips.

"She has great instincts," important in an industry "that's always changing and growing," says Vicki Vannieuwenhoven, vice president of finance for the Green Bay Packers. "She's definitely the person I call [for help], and others do as well."

—Lisa Bertagnoli

*Author and journalist Lisa Bertagnoli contributes frequently to Crain's Chicago Business and the Chicago Tribune.*