



## CONTENTS / Fall 2007

## FEATURE STORIES

**Get personal, save lives**

Nursing researchers advocate self-directed CPR kits to teach rescue skills

**Sensing a solution**

Tiny sensors implanted in the body show promise in combating acid reflux disease, pain and other health problems

**The right move****Information gold mine****Mixing chemistry & art****Air of discovery****Unearthing another earth**

## DEPARTMENTS

**Foreword****Research Bytes****Student Profile****Alumni Profile****Faculty Essay****About Research**

## OTHER ISSUES

Fall 2006

Fall 2005

# Research passes media's acid test

## Research passes media's acid test

He'll never outrank Harry Potter in Google searches, but J.C. Chiao is becoming a celebrity.

The electrical engineering associate professor's research on a wireless system to detect gastroesophageal reflux disease (GERD) has drawn coverage from more than 50 media outlets in seven countries. He has found Internet articles written in Chinese, Russian, German, Spanish and French.

TV and radio stations, newspapers, magazines, Web sites and discussion boards—all have touted his work combining RFID and sensor technologies to create a less-invasive way to track acid reflux.

"I've been surprised and a little overwhelmed," said Dr. Chiao, who is quick to credit colleagues at UT Southwestern Medical Center at Dallas and UT Arlington for much of the attention.

According to [aboutGERD.org](http://aboutGERD.org), the disease affects 5-7 percent of the global population. And it doesn't discriminate: Men, women and children suffer. More than 4.5 million U.S. doctor visits each year are GERD related. Couple the disease's prevalence with a dearth of diagnosis methods, and it's no surprise that Chiao's research has created a buzz.

"Our device is also very close to practical applications," he said, "unlike some advanced discoveries that will take another five to 10 years to get to patients."

### They said it ...

"Imagine pushing a button at the first substernal burning twinge to activate your implanted esophageal acid-sensing RFID tag and wirelessly transmitting the data to your cellphone for review at your next doctor's appointment."  
— *medGadget*

"The new system combines radio frequency identification (RFID)—used in stores to track inventory and in identification chips in pets—and impedance monitoring, which tracks reflux through electrical impulses."  
— *MSN*



"The researchers say the system may offer an easier, more comfortable method of following normal eating, drinking and other activities that may play a role in acid reflux."  
— *Austin American-Statesman*

"The chip is designed to be less invasive than current reflux tracking methods."  
— *WBAP radio*

"The RFID-enabled sensor can be inserted into the esophagus and attached to the esophagus wall, where it transmits to an RFID reader

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“Equipped with an electrical impulse sensor, the chip measures particular impulses that indicate the presence of acidic or nonacidic liquids in the esophagus. ... The chip is encased in plastic, and the patient should not feel its presence at all.”

– *RFID Update*

— *Mark Permenter*

connected like a necklace around the patient’s neck.”

– *RFID Journal*

“Researchers have tested the device in the lab to ensure it accurately identifies the acidity of substances and can send results through human tissue.”

– *MedMarket Diligence*