

# Hartford Hospital attracts geneticist, entrepreneur

By Diane Weaver Dunne

**S**cientist and entrepreneur Gualberto Ruano has big plans for Hartford Hospital and his new company, Genomas. He plans on building a brand new industry — the personalized health care industry — in Hartford, while providing the hospital's patients with treatments based on their genetic makeup.

"It's exciting to see a new firm come to this hospital," he said. "It's a win-win all the way around."

Ruano plans to recruit about 20 employees to work in biostatistics, modeling and information technology data management at Genomas' new labs in the renovated Crane Building on Jefferson Street, adjacent to the hospital.



Gualberto Ruano

*"I am a businessman  
and geneticist,  
but deep down,  
I am a doctor.  
That is where my heart is."*

— Gualberto Ruano,  
founder, Genomas

"Our business goal is to establish Genomas as the leading company in the nation for delivering personalized treatment to doctors and patients based on the individual's genomic constitution," Ruano says.

As head of Genomas, the biotechnology anchor for Hartford Hospital Genetics Research Center, Ruano and hospital officials celebrated the center's opening with a ribbon cutting ceremony last week. He has been named director of cardiovascular genetics at the center and is currently collaborating with the hospital's cardiology and mental health researchers.

City officials, including Hartford Mayor Eddie Perez, were on hand to officially welcome Ruano and his latest venture to the city.

Perez called the partnership a "formula for success."

Genomas currently has a staff of four, including Ruano.

The partnership between Genomas and Hartford Hospital includes the shared licensing of intellectual properties, with the hospital providing Genomas with lab space.

This fall, Ruano will be looking for about \$5 million in venture capital funding.

Currently, he is bankrolling the venture primarily by himself. His firm was awarded two research grants from the Hartford Research Foundation, and he has submitted grant applications to the National Institutes of Health.

Ruano isn't new to either genetics research or starting up a new business. The Yale University-trained doctor and scientist earned both a M.D. and Ph.D. degrees in New Haven, and Genomas is his third genetics-related business.

His last company, Genaissance Pharmaceuticals in New Haven, was created to develop personalized medications based on individualized DNA markers. Although he sold his interests in Genaissance last year, the company reported significant increases in revenues last quarter and for 2003. The firm is operating at a loss, but continues to expand its market with new products.

Bios Laboratories, also in New Haven, was Ruano's first company, which he describes as a "pick and shovel" warehouse of technologies and systems for helping researchers do their job.

Genomas takes a different approach from Genaissance, with a new business model. The traditional biotech business model revolves around drug discovery, basic research and laboratory technology, he explains.

Genomas' business model revolves around personalized health care delivery that customizes disease prevention programs based on an individual's genetic makeup. Ruano is convinced that personalized treatment is the right answer for health care.

"I am a businessman and geneticist, but deep down, I am a doctor. That is where my heart is. I am always, always thinking that all of this genetic knowledge is great stuff. ... But how do you get that into the doctor-patient relationship?"

While the Genaissance business model and those of other firms is to develop diagnostic tools and drugs, Ruano's new model turns that notion upside down by looking first at the medical problem, which in Genomas' case will be metabolic syndrome.

Metabolic syndrome, identified three years ago by the Centers for Disease Control, is a cluster of medical conditions that increases an individual's risk of heart disease and diabetes. That cluster of medical conditions includes three or more of the following abnormalities: abdominal obesity (a waist measurement of 35 inches or more for women, 40 inches for men); high triglycerides; low HDL levels; high blood pressure; and high glucose levels.

*Continued on back*

Various medical studies indicate that at least 47 million Americans exhibit these abnormalities, with the percentage increasing as individuals age. For example, about 35 percent of all Americans aged 50 to 59 exhibit these conditions. That percentage jumps to 50 percent for those over 60.

Taking a business perspective makes sense when considering the potential market, Ruano says.

Treatment for metabolic syndrome is the integration of drugs, exercise and diet. But researchers have found that individuals respond differently to the same treatments. The answer, they believe, lies in a person's genes.

Dr. Paul Thompson, who focuses on preventive cardiology research at the hospital, recruited Ruano last fall because he determined that genetics

must have a role in how well patients respond to various treatment programs. He wondered why there were different outcomes when individuals followed the same diet and exercise regimens. He contacted Ruano to help him determine how individual genetic differences affect those outcomes.

Genomas proposes to find a treatment plan that would work best for each individual through its proprietary PhysioType database, which identifies DNA markers. Ruano says this personalized treatment plan will be ready by late 2005.

For Hartford Hospital, the addition of Ruano, a prominent genetic researcher and businessman, will enhance its recruitment efforts. "This is as good as it gets," said Hartford Hospital CEO John Meehan at the ribbon cutting ceremony. The new partnership, he added, will help distinguish Hartford Hospital from the other 5,000 hospitals in the country and

help it attract and retain the best and the brightest.

"This marries [Ruano's] interest in science, research, health care and entrepreneurial skills [and] will now move us along in ways we might not have done," Meehan said.

In addition to focusing on metabolic syndrome, Ruano also will collaborate with Hartford Hospital researchers looking at genetic differences between schizophrenic patients, their siblings and a control group.

This collaboration gives Hartford Hospital physicians the opportunity to take advantage of the latest genome research and translate it into viable treatments that can be useful at the doctor and patient level, Meehan adds.

Genomas will lead Hartford Hospital's genetic research efforts. Since 1999, the hospital has been involved in a five-year effort to promote biomedical research. ■