# By Luke Graham // Contributor Wendi Hansen

With each passing handshake, Christopher Garcia grew disinterested and disheartened.

It was 2004, he was 46 years old and a senior executive at the Federal Aviation Administration (FAA), where he

had started 25 years earlier as an air traffic controller. He had just finished the National Defense University advanced management program and was primed to advance at the FAA.

At the time, he oversaw more than 600 employees who managed, built, and implemented cybersecurity instant response teams and centers across the country. His role wasn't just important, it was vital: detect, respond to and protect against cyber terrorism for all U.S. transportation systems.

On this frustrating day, however, he was looking to add another degree to his resume and was having to navigate a gauntlet of nearly two dozen representatives from the nation's top computer and cybersecurity universities.

The same thing kept coming up as he met with each rep. They wanted him to take programming classes. But since he was in a position at the FAA where he'd never program or code again, programming classes would be pointless.

# <mark>A Sure-fire</mark> Investment

### It can be hard to decide

where to put your hard-earned money. IRAs, 401Ks and the stock market are the normal choices, but one anonymous Regis donor invested in someone who always delivers: Don Archer.

This generous gift has been designated to create an endowed chair in the College of Computer & Information Sciences (CC&IS) to honor Archer and his commitment to student success.

"It's a great thing for myself and the college," Archer said. "I wasn't expecting it and I am thrilled. To say it was a very nice surprise is an understatement."

The gift and the honorary chair increase the already gleaming prestige of CC&IS' programs, while highlighting the personal relationships that make it what Shari Plantz-Masters calls "the college of computing for the common good."

While gifts often are made anonymously, this one is special because it specifically names the inspiration for it rather than the person giving. The donor's generosity embodies the selfless ideology that Regis faculty work hard to instill in all their students.

After nearly 30 years of unquestionable dedication to the success of his students, Archer is getting a welldeserved honor that will immortalize his name at Regis University. "I was rather cranky after spending two hours getting told that," he said.

Finally, Garcia reached the end of the room and found one man, leaning back in his chair. Skeptical, Garcia extended his hand.

"Hi," the man said. "I'm Don Archer from Regis University."

# The resurrection of a program

Don Archer grew up loving how to put things together. There was something about the quietness and ultimate completeness of it. It made sense to him and eventually landed him in the Navy as an engineer.

He went on to a successful career with USWest Advanced Technologies, retiring as the director of education and training in 1995 to take up another challenge: chair of the Graduate Computer Information Systems program at Regis, where he'd been an affiliate faculty member since 1988. It was far from a budding, blossoming program.

He was the lone graduate faculty and there were only 87 students. The program had barely a faint heartbeat.

"I was told not to take it," Archer said. "My name would be stuck with a program that died. I thought it was a good challenge."

But something was brewing. The dot-com boom was taking off and Archer found himself with some real life in the program.

Archer immediately partnered with technology leaders Oracle, IBM and Sun Microsystems to get students access to the latest software.

"I went to all the major players ... and I asked them what students should learn," he said. "I wanted our students to transfer it to what they did at work the next day. I found the curriculum the industry leaders were looking for. We focused on working professionals."

It was a new frontier and everybody wanted in.

# Leading the way in the market

For Archer, simply having students and a program wouldn't put Regis on the cybersecurity map. There had to be strategy.

He started recruiting faculty. His first hire was Trisha Litz for her experience in computer information systems. Litz is now the undergraduate program coordinator for the Business Technology Management program. He then went back to get his most trusted former colleagues. He hired Shari Plantz-Masters, a leader in computer and information technology



and current dean of the now-College of Computer & Information Sciences (CC&IS) at Regis, and her husband Bill, a software engineer, from USWest as affiliate faculty. He continued to hire more and more affiliate faculty from within the industry.

"I wouldn't hire a full-time faculty member," he said. "I wanted people who knew the industry and could let us know what was next."

In 1998, he hired Dan Likarish to oversee the security outgrowth systems engineering program. Because of the dot-com boom, they developed e-commerce security coursework — the early platform of cybersecurity.

The first courses focused on supply chain, safe transactions and the need for a firewall. It wasn't the cybersecurity we think of today, but the groundwork was set.

"Our emphasis was in protecting customer data," Likarish said. "That's what people were demanding. They would get out of our class and take back what they learned into their company."

Archer and Likarish eventually attended a National Security Agency (NSA) conference where government agencies began to relay the importance of securing and protecting data.

This was an opening for Regis. The University had started to develop connections at the NSA and Homeland Security. Piggybacking on the e-commerce security classes, and listening to what affiliate faculty were telling them, Regis developed its first certificate in Information Assurance in 2002.

Shortly after, Archer and Likarish started to develop curriculum for a master's degree in information assurance in partnership with Homeland Security and the NSA.

It was a pivotal point in the program's history.

Its cybersecurity curriculum was certified in 2005 and the NSA designated Regis as a Center of Academic Excellence in Information Assurance Education in 2007. It became the first nonmilitary institution in Colorado to earn the prominent designation.

It allowed Regis to become a choice school for these agencies and the National Defense University to place students. It also helped lay the groundwork for the school to become its own college in 2014.

"It's the big moment," Likarish said of the designation. "If you look for growth in the program and ask students 'Why are you coming to Regis?' It's 'We saw you on that certification list.' It's a critical designation that differentiates us from the other programs."

Lieutenant Colonel Brad Rhodes helps lead a cybersecurity exercise at

Regis' Denver Tech Center campus. Rhodes leads the

Colorado National Guard cyber operations team the first responders if the

government or a company suffers a serious cyber attack.

In our eyes, Regis is doing it right and we feel fortunate to be a part of the circle of trust.

# Go big or don't grow

The NSA designation had unforeseen perks: It provided connections within military sectors that Archer and Likarish shepherded. Regis would become a leader in cybersecurity by partnering with the Colorado Army and Air National Guard to provide cybersecurity training for local, state and national agencies.

That was four years ago. Soon Regis, the National Guard and the state were conducting twice-yearly cybersecurity trainings. As hackers deployed more malicious viruses and malware, as they became more aggressive and cunning, and as government infrastructures became notable risks for hacking, Regis cybersecurity trainings grew. And grew.

Recently several dozen men and women mostly dressed in camouflage fatigues hunkered over computer screens in second-floor classrooms at Regis' Denver Tech Center Campus while several brigadier generals and colonels debriefed guests from the state, private industry and Homeland Security.

It was a Sunday, the second day of a two-day exercise, and two teams – one called "red," another "blue" – were battling over the safety of a dam. The red team was conspiring to destroy it; the blue team was charged with protecting the dam's cyber networks from infiltration.

Unfortunately, the red team won the competition. Fortunately, it was a simulation, although a hastily assembled Lego-made dam met its demise.

Representatives from the FBI, Homeland Security, a handful of private firms, several water departments, and employees from five states attended the weekend training. All assembled at Sunday's end to debrief.

"This is a well-respected place where students, companies and the government can go to, to use this place to see their vulnerabilities," Likarish said. "If this wasn't allowed to be nurtured and have a life of its own, we wouldn't be in the position we'd be in."

Each training is based on a real incident — this one stemmed from a 2013 networkcyberattack of a small dam in upstate New York by Iranian hackers.

"Regis has its finger on the pulse when it comes to technology and is willing to partner with the likes of us guardsmen to grow in ways other colleges will not," said Laura Cobert, the information assurance manager for the U.S. Department of Defense. "Our partnership with the University has allowed us the opportunity to train with its students, faculty, other states, governments and military organizations in order to increase our cyber skills and knowledge. In our eyes, Regis is doing it right and we feel fortunate to be a part of the circle of trust."



# Coding the future

Maybe more so than ever, cybersecurity is at the forefront of the private and governmental sectors. It's estimated that \$655 billion will be spent on cybersecurity initiatives by 2020, according to Business Insider Intelligence, a news site that tracks the industry. Others put that number at \$1 trillion.

In Colorado alone, the market is bustling. The National Cybersecurity Center in Colorado Springs estimates there are 10,000 cybersecurity job openings just in Colorado. The Denver market for computer security professionals has grown 176 percent a year since 2010, according to Burning Glass Technologies, a technology company that analyzes the labor market. With Boulder and Denver at the forefront of cloud security and the Front Range serving as the fourth-largest conglomerate of data storage vendors in the world, the need for skilled graduates has never been higher.

"Now the selling point is this: I can guarantee you a job," Archer said.

## Mission at work

From the first handshake more than a decade ago, Garcia liked Archer. And Archer knew exactly what he was doing.

"I thought, 'Wow.'" Garcia said. "It was the beginning of a beautiful partnership."

In 2007, Garcia graduated with a master's degree in computer science. That same year he became the information security director of the FAA oversee-ing 3,000 employees and a nearly \$50 million budget.

He found real-world, instantaneous uses in his position while pursuing his degree at Regis. One day he attended a class lecture on a code of ethics in information technologies. The next day he implemented one at the FAA. He also changed the way they monitored employee internet usage at work after hearing a Jesuit-focused lecture on needing to respect each other as human beings and earning trust in each other.

"Being able to do that - that was the CC&IS difference," Garcia said.

Garcia now serves on the CC&IS advisory board and in 2016 he became the coordinator for the Information Technology Management program.

It's come full circle in the way Archer promised him more than a decade ago with that handshake.

"The work Regis and CC&IS do is extremely important. Especially now," Garcia said. "It's going to grow by leaps and bounds and continue to grow. The reason is Regis' reputation at all levels. The way we bring people together and the level of service we can provide. No other university can do that."

# Teaching Tomorrow's Tech

### **Regis University's College of**

Computer & Information Science (CC&IS) provides its students and the community with opportunities to explore their digital interests, gain hands-on computer experience and expand their technical skill sets while having fun in the process. The following Regis-sponsored community organizations focus on giving students from all backgrounds a chance to immerse themselves in the exciting world of coding, technology and cybersecurity.

### CoderDojo:

CoderDojo provides young people, ages 7-18 of all backgrounds, with tools they will need in an everincreasingly technological world. This free program instills a passion for technology while building skills in the areas of problem solving, teamwork and self-confidence.

### Rocky Mountain Collegiate Cyber Defense Competition:

This program provides collegiate teams the opportunity to test their cybersecurity skills, knowledge and abilities in real-life crisis scenarios. It gives participants an opportunity to interact with industry professionals, putting them a step above the rest.

### Cybergirlz:

This fairly new Regis initiative pairs middle and high school girls with women working in the cybersecurity and technology fields. The goal: to bridge the gender gap and provide young women an opportunity to explore and grow their interests in technology.