Colt Jesse

On manipulating light: "You can do all sorts of weird and interesting things with light. You can change it into electrical energy and change it back into light energy. With infrared devices, you can see things you couldn't normally see."

–Colt Jesse, July 22, 2009

Colt Jesse didn't know he'd landed a photonics job until after he'd started working at Infrared Associates, Inc. He was pursuing an associate degree in electronics engineering technology at Indian River State College when he got the job. "I didn't realize that it was optics-related when I started working here," he recalls. "That actually made me move toward the optical side of the engineering courses." But Colt's glad he stumbled into the world of photonics. "You can see things using photonics that you couldn't normally see," he says. "Especially working at Infrared Associates with all the infrared detectors, you can tell what some mysterious substance is, just by looking at it with spectroscopy."

Getting a degree didn't come easy for Colt. He was working 40 or more hours per week at Infrared Associates and trying to complete his degree at the same time. "The hardest part was trying to get classes to fit around my work schedule," he says. But the classes were interesting and fun for him. In high school, he struggled with liberal arts classes but understood science and math easily. In college, he was able to focus on the studies he enjoyed and understood best.

Colt's work consists of a flurry of activities, dealing with many different stages in the creation of infrared light detectors. He describes his job this way: "I start by growing the material we use to make the detectors. It's a crystal matrix that's actually grown from mercury, cadmium, and telluride. It usually takes one whole day to grow and cool the crystals, so I begin by mixing the appropriate metals and putting them into the furnace to let them do their thing. Then I assemble detectors into final units, or I perform spectroscopic analyses on the materials I'd grown the day before to determine the cut-off wave lengths of their response. Sometimes I dice up the detectors into their final chips or design new arrays for new products we're making."

Infrared light detectors have many applications, but one of the coolest can be seen on TV. According to Colt, “Infrared Associates’ detectors are mainly used for measuring temperatures and spectroscopy in scientific and medical equipment. If you’ve ever seen the television show *Mythbusters*, they use a touchless thermometer to point at something and measure its temperature. Our detector is in that thermometer.”

Colt loves his job. And he’s eager to show others the potential of the photonics field. “If you’re science-minded, and looking for a field that’s new and interesting, that is always advancing, always changing, then look into photonics,” he says. “We need more people to discover how interesting photonics is and how great a career it can be. Even now, with a tough economy, photonics is still rewarding and advancing.”

Colt’s education took an unusual route. For him, “the cart came before the horse.” He got a job in photonics, realized how much photonics interested him, and then pursued the education that would assure him of a rewarding, advancing career.

Colt Jesse earned an associate in applied science degree in electronics engineering technology from Indian River State College in Ft. Pierce, Florida. He lives in Stuart, Florida, where he is also an amateur computer programmer.