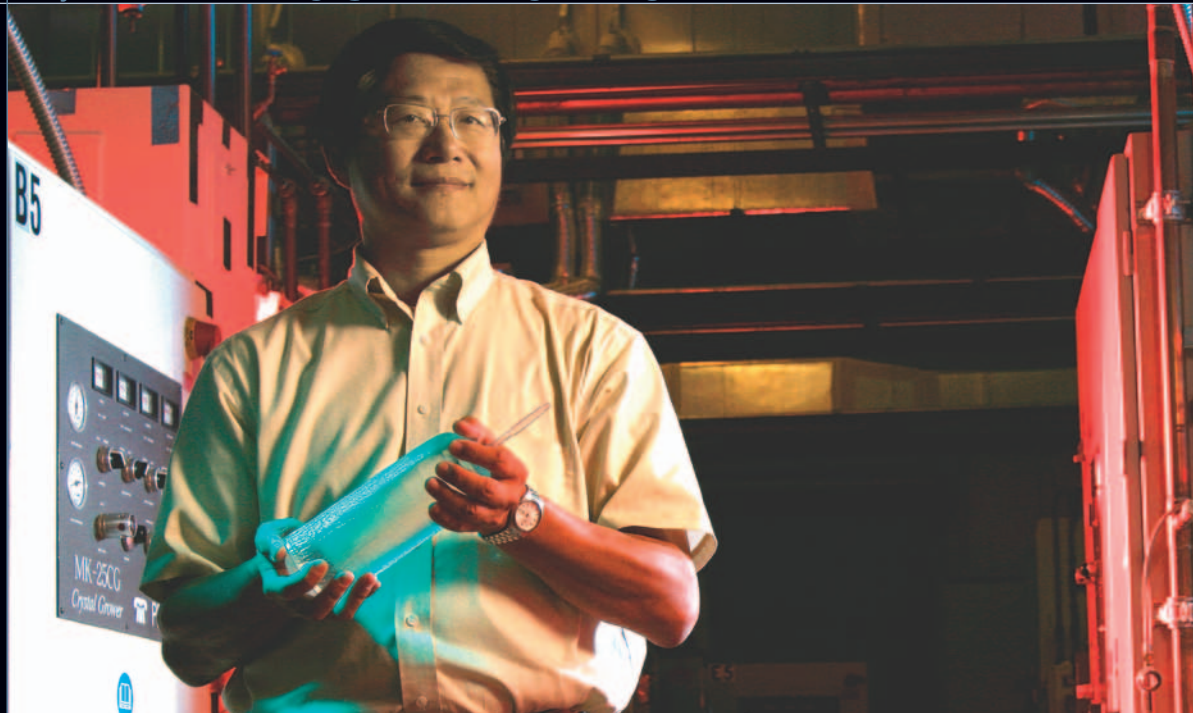


The Chai of CRYSTAL PHOTONICS

By C. S. White SCIENTIST-TURNED-ENTREPRENEUR



When one first meets Bruce Chai, it is likely he or she is struck by his overwhelming sense of calm and purpose. The soft-spoken gentleman's almost Zen-like sense of well being may seem unusual for a scientist-turned-entrepreneur making inroads in a competitive field requiring tireless invention and innovation.

It is so competitive, in fact, there's not even a Web site about his company, Crystal Photonics, Inc. (CPI). Unusual in a day and age when Web sites have become a business marketing staple.

"Everyone wants to know what we're thinking, then they copy us," says Chai quietly. "A Web site doesn't help us because it would create competitors in a business that has a limited clientele."

And, he's not modest about why he

gets customers with little marketing — including corporate giants like Philips, Siemens and GE — turning a business that he started from the ground up ten years ago into one making upward of \$15 million a year and more.

"Because I have a reputation for getting things done, they come to us. It's a sort of reverse marketing."

It's no wonder. Chai's company specializes in manufacturing optical

crystal for use in a variety of applications, many of which have monumental impact on our daily lives. CPI provides the "eye" for PET Scanners used in cancer detection, special optical filters for the missile early warning system used in Apache helicopters and equipment operating in Iraq, and crystal substrate used in LEDs, to name a few.

THE BIG PICTURE

The down-to-earth scientist's sixth sense for business fundamentals and how they apply to the big picture plays a role in his company's success, too.

Chai says that although there are only a few U.S. companies similar to his,

OPTICS

OUR BRUCE CHAI



PHOTO BY CHARLES HODGES

it's the international ones, located in far off places like China and the former Soviet Union bloc, that give CPI a run for its money.

Most significantly, these companies are able to pay their employees an absurdly low salary by U.S. standards.

"Here, salaries start at fifty thousand while overseas they can pay only five thousand [in China] and ten thousand [in Russia]. As a result, to compete globally CPI must be highly automated with as few people as possible."

Plus, the equipment alone is costly. New furnaces required to make the crystals are \$200,000 each.

The company, which Chai started in

1995 in a rented lab at University of Central Florida (UCF) — with three refurbished furnaces for a quarter of the cost of one new one — is now housed in a massive 76,000-square-foot facility with 90 furnaces (bought new) and 30 employees. In 2003, CPI was named the Ernst & Young Entrepreneur of the Year®.

Succeeding despite the challenges, Chai sees a certain grace, even fait accompli, at work.

"It's hard for me to believe I'm where I'm at today," he says, believing that if he hadn't started CPI where and when he did, it wouldn't have worked.

"We started with \$150,000 dollars, but starting a business in Central Florida made it easier to accomplish something with nothing. Land is reasonable and cost of living is comfortable. If I had tried this in California, the cost of the building alone would have been ten times more."

JACK OF ALL TRADES

The scientist's diverse interests have a hand in his success, as well. Who would have thought a rock jock-turned-engineer-then-scientist would end up also the CEO of a multi-million-dollar company?

"Sometimes your interests are out of your control," says Chai sagely.

Born in Shanghai, Chai was raised and educated in Taiwan before going to Yale University for his PhD in geology, a subject that wasn't his "true love," but one in which he excelled.

Ironically, upon receiving his doctorate, he still wasn't sure what he wanted to do. When Allied Chemical in Harristown, NJ, offered him a job to supervise the material research center, he took it. It was there he learned to

grow crystals, earning him a budding reputation as a leader in the field.

It was precisely his reputation that led UCF's Center for Research and Education in Optics and Lasers (CREOL) to Chai's door in search of an optical materials specialist. He joined the team in 1989 as a tenured professor teaching optics, engineering and physics. Happy in his job, starting a business was not top of mind. Until, that is, new inroads were being made in using crystals to produce the promising blue laser light.

The scientist launched CPI with the goal of commercially growing crystals for blue lasers, an uncertain proposition at best. Unfortunately, no one, including Chai, has yet been able to grow the blue crystal large enough for commercial use. Determined, he adapted once again to the situation set before him, making CPI what it is today.

Chai, who came from Taiwan to America in 1970 with only two suitcases in hand, attributes his work ethic to the attitude of a first generation immigrant: work hard and never take anything for granted. Thirty-four years later his entrepreneurial spirit is alive and well.

CEO Chai looks at running the multi-million-dollar business with the objectivism of a scientist: His talents as a businessman, engineer and scientist all play a role in his achieving what many try to their entire lives — a certain state of happiness. A nirvana, if you will.

"We help fight cancer, protect our soldiers and save energy," he says. "I think it works because I put all my heart into the company — making money happened to be a result of my desire to contribute to society through my talents." 