

## Scientist Uncovers Chipmakers' Micro-Art

Melanie Yeager, Knight-Ridder/Tribune

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Tallahassee, Fla. – Dan Zuras admits he never thought he'd be alive when a scientist discovered the microscopic Road Runner image he engraved on a computer chip 16 years ago.

But then again, at the time, who knew the minute circuitry of microprocessors would grace the pages of wall calendars in the 1990s?

Wee pictures of everything from animals to license plates have become the signatures of chip creators. But knowledge of this practice generally stayed within industry circles – until Florida State University researcher Michael Davidson discovered the imprints left by engineers under his high-power microscope.

Davidson, director of FSU's optical microscopy program, has generated publicity and revenue for FSU's National High Magnetic Laboratory by selling brightly colored photographs of his microscopic discoveries. His depictions of everything from beer to vitamins have become designs for products ranging from neckties to bedroom comforters.

Four years ago, while shooting the criss-cross circuitry of computer chips, Davidson zoomed in on a smiling face. The discovery gave him a jolt.

It was Waldo of the popular children's book that asks the question "Where's Waldo?" and presents a maze of faces in which to find him. Upon further study, Davidson found Daffy Duck of Warner Bros. cartoon fame. Both images were left by the chip's creator.

"When I first saw Waldo, I didn't know why he was there," Davidson, 48, said. "I was wondering if he was there to perform a special function on the chip."

Davidson did not spend much time contemplating the matter. He just went on with his photography. But he did pick the chip with the hidden faces for a 1956 calendar, "Chip Shots, a Calendar of Microprocessors."

The chip's designer – Kevin Kuhn – contacted Davidson after seeing the calendar to say he was the artist. Once Davidson realized the treasure trove of minuscule drawings existed, he actively began to search them out and place them in the Silicon Zoo, which may be accessed at:

<http://micro.magnet.fsu.edu/creatures>

Davidson said since he created the Web site in late 1998, interest has grown exponentially. He continually answers e-mail and phone calls about the gallery of 60 images. And reporters call from as far away as Poland.

"I did not expect it to get anywhere near the response it's getting," Davidson said.

The creators of the microscopic images also are amazed at their new fame.

"It's really kind of just something for fun," said Kuhn, 40, who designs

chips at Silicon Graphics in Santa Cruz, Calif.

He said it's like viewing an empty wall in your house that cries out for art. Completed chip designs have void spaces that beg for an image.

Zuras, a 45-year old chip designer at Hewlett-Packard Co. in Palo Alto, Calif., said, it sometimes takes two years to create a computer chip. "If you do something that takes a long period of time, and you're proud of it, you want to sign it," Zuras said.

Zuras opted for the Road Runner to symbolize the speed of the Hewlett-Packard's 64-bit combinatorial multiplier integrated circuit.

But Zuras said he hasn't done a design in about 10 years. It takes valuable time to make signature art, he said, and many companies frown on the practice.

Kuhn admits he's been prolific. Several of his productions are highlighted on Davidson's Web site. One unusual piece shows the silhouette of a wedding couple inscribed Ellen & Yeuk-Hai, May 25, 1996. Kuhn said it was a surprise for the groom, who was a co-worker.

Kuhn recently placed renditions of FSU's Seminole chief Osceola and the Lady Seminole on the MIPS R12000 microprocessor. Davidson said the logos are so tiny – smaller than the width of human hair – that more than 10 billion would fit into the Osceola logo painted in the center of Doak Campbell Stadium.

Davidson said he continues to scour the surfaces of computer chips looking for the new unique signature art to showcase. With 250 more, he believes he'll have enough to produce a popular coffee table book. ■



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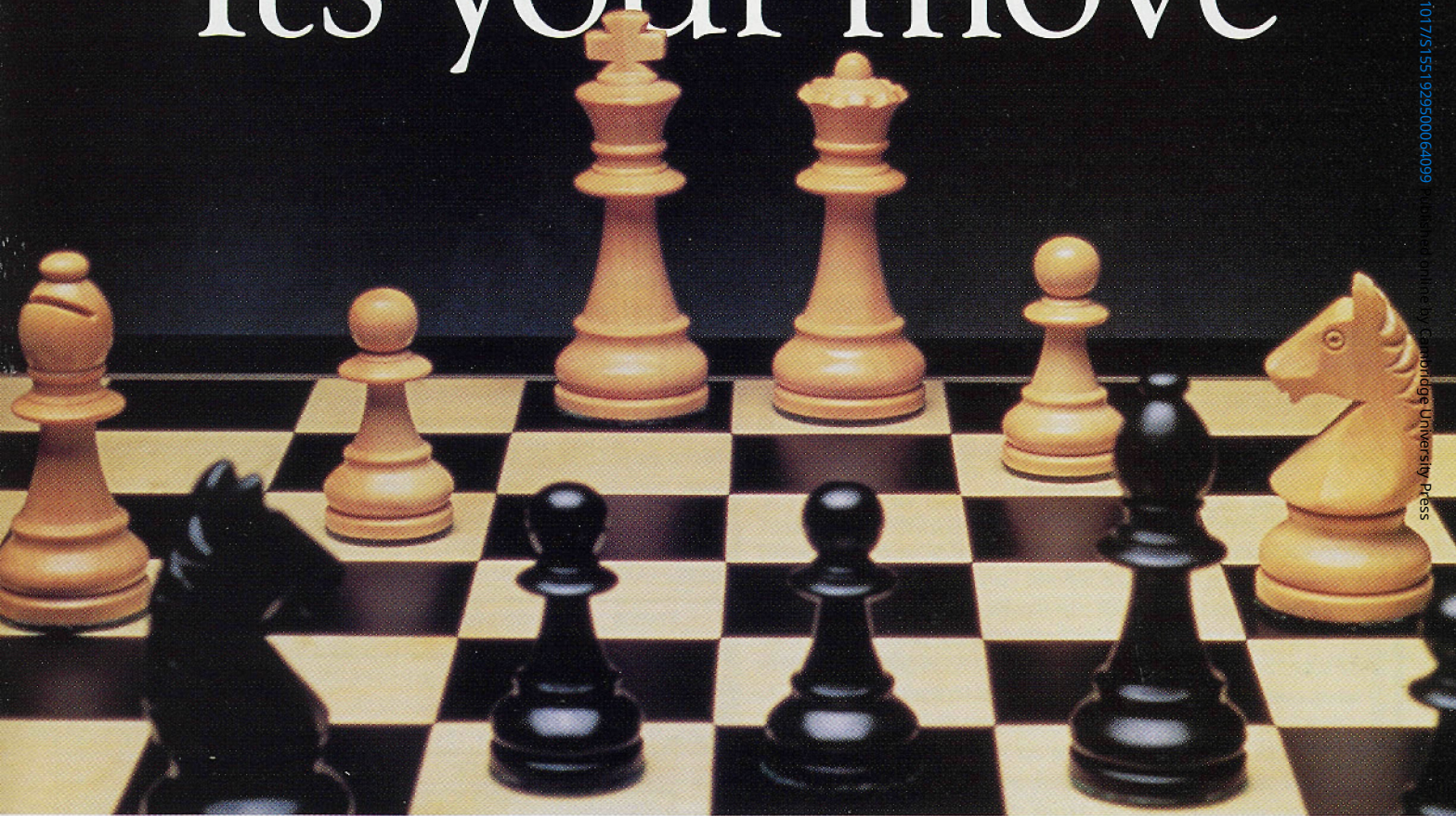
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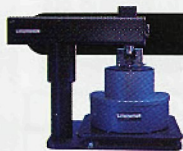
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