



YVETTE MARIE DOSTATNI / THE TIMES

Dr. Ted Niemiec of Munster poses with two of the holography lenses he made. An exhibit of Niemiec's medical holograms is on display through August at the Museum of Holography in Chicago.

The Imagemaker

**Munster doctor Ted Niemiec
keeps busy in the field of holography**

BY JANE LANGENDORFF
Times Correspondent

Meet Ted Niemiec — physician, holographer, photochemist, teacher, visiting professor and guest lecturer, musician, composer, computer programmer, research scientist and, oh yeah, a nice guy and family man.

Niemiec, 37, said family life in Munster with wife, Paula, and 2-year old son, Teddy, is "the most important of earthly things, and other than that, everything else works together."

Everything else for Niemiec is a lot. He is a physician of Occupational Medicine and Urgent Care at St. Anthony's Medical Center, Inc., and Director of Education at the Museum of Holography in Chicago, where his exhibit of medical holograms is on display through August.

"Holography," said the museum's Executive Director, Loren Billings, "is a (three-dimensional) facsimile of the real object or subject." More than 350,000 people from all over the world have come to visit the exclusive museum, she said.

Holography, still in its embryonic stages, is not only a fascinating art form employing three-dimensional imaging, but is also a growing, beneficial tool in medicine and industry.

Niemiec began hearing about holography during grade school years, he said, and the imaging process interested him.

An Indiana native raised in Hammond, Niemiec is the oldest of eight children, and he was so attracted to science and math books that he was reading his father's college textbooks while still in grade school. The books were always close to his nose, he recalled, because he couldn't see too well.

A third-grade teacher mistakenly seated him in the back of the room where, in those days, students who didn't perform too well were asked to sit. He couldn't see, and the blackboard was a blur.

studies, and later attended Indiana University School of Medicine in Indianapolis.

Niemiec met his wife, Paula, while he was on the faculty at the University of Chicago and she was his nurse. During his five years of training there, Niemiec did both his residency and a fellowship, which included endoscopic diagnosis and therapy, imaging and ultra sound research. He presented his ultra sound research at the First World Congress in Washington, D. C. in 1988.

Niemiec also served on the teaching faculty at the University of Chicago where he trained medical students and physicians.

"I went to school (not so much to obtain a grade), but to learn as much as I could" about everything — all kinds of sciences and arts, he said.

Niemiec plays both piano and guitar, and could have pursued a career in music composition. He has received royalties for soundtracks for plays and theme music he's written for TV programs.

Niemiec has been a visiting professor at Purdue University Calumet where he taught laser optics, physics, human anatomy and physiology.

He also has written professional computer programs.

In the future, Niemiec predicts that optical computing, through holographic means, will be much faster than electronic computing — in the areas of logic, display and memory.

Holography, Niemiec said, is beginning to be used for anti-counterfeiting purposes in making currency.

He also said that automobile instrument panels in the near future might be displayed holographically. Instead of looking down, the driver will be able to look straight ahead, into "three-dimensional space," and see the panel holographically. Auto companies already have contacted Holographic Design Systems with such an idea.

In medicine, Niemiec said, "I can envision being able to replace biopsies with holographic images through non-invasive means. People won't have to have tissue removed to deter-

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What is holography?

■ Holography, in simplest terms, is the ability to produce three-dimensional representations down to molecular exactness.

■ A hologram, technically, consists of a holographic plate and the image that plate produces. A hologram is actually a recording on a light sensitive medium of the light waves that reflects from an object illuminated with laser light, forming in complete and full dimension an image of that original object.

■ Colorful, three-dimensional, eye-catching holograms have been used in industry for credit cards, security devices, bus passes, stationery and informational material for the Canadian government.

■ Holography already has been established in areas of medicine and laser dentistry.

About the museum

■ The Museum of Holography, 1134 W. Washington Blvd., Chicago, is open Wednesday through Sunday from 12:30 p.m. to 5 p.m. Ted Niemiec's exhibit of medical holograms is on display through the end of August. Tours and lectures must be scheduled at least two weeks in advance by calling (312) 226-1007. The cost for student groups, weekdays, is \$2 per person and \$3 per person for adults. The cost for student groups, weekends and evenings, is \$3 per person and \$3.50 per person for adults.

About the school