The Huntsville Times

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$200,000 required by GOP

Some local hopefuls stunned by demand

By JOHN ANDERSON
Times Staff Writer

An expert on congressional races for the Republican Party recently paid a call here on the party's likely candidates for Congress and told them what help to expect from Washington.

He got their attention.

"I felt like somebody took a bat and hit me between the eyes," Frank G. Doolittle, a likely candidate for the GOP nomination in the 5th Congressional District, said of the meeting.

James Asquith, an announced GOP candidate for the seat, agreed.

"I was stunned as to the rules that he laid down. I'm mad as hell about it, frankly."

Certain others of the GOP campaigners in the district said they weren't particularly upset by the message.

Greg Graves, a consultant for the National Republican Congressional Committee, met last Monday with five of the six definite or likely GOP candidates for Congress from this area. He told them what his committee will require before throwing its weight behind the GOP nominee in the general election.

While other party committees can help congressional candidates, the congressional committee carries primary responsiblity in the national party for electing GOP members of Congress.

Curious lens links Hungary, UAH

By MARTIN BURKEY
Times Science Writer

An engineer at the University of Alabama in Huntsville and a Hungarian scientist are hoping that thawing Cold War relations will result in a profitable peacetime collaboration.

On a 1987 visit to Huntsville, Dr. Pal Greguss toured the lab of UAH civil engineering professor Dr. John Gilbert.

Greguss, a professor in the Applied Biophysics Lab at Technical University in Budapest, pulled from his pocket a small device and asked if Gilbert was interested.

Several other people had passed off the curious, Life-Saver-shaped lens as a curiosity from a stagnant East Bloc country, but Gilbert said a whole row of light bulbs immediately went on in his mind.

"As soon as I saw the lens, I knew what I wanted to do with it," Gilbert recalled.

Greguss offered to leave it with him while he got the requisite visitor's tour of The Space & Rocket Center. Over the next three hours, Gilbert and some of his students did some hastily rigged tests. By the time Greguss returned, Gilbert was convinced he could turn the curiosity into a business.

"There were only three or four in the world, and here he offers to leave one with me," he said. "Other people had told him it was nice but there was no use for it. I told him, 'I can think of a thousand uses for it.' I don't think he was taken seriously."

The deal had to pass the Hungarian and American trade agencies, but the timing seemed right, and so Optechnology was created with Gilbert as president and "Changing the World's Perspective" as its motto.

"Hungary is in a bad state of economic affairs," Gilbert said. "They want hard currency. I'm interested in the high-tech end."

Glenn Baeske/Huntsville Times

UAH engineering professor Dr. John Gilbert demonstrates the "panoramic annular lens" Saturday at the Space & Rocket Center. Rain drops on the lens appear as white spots in the photo, illustrating the lens's remarkable depth of field.

Greguss patented his invention in 1984 as the "panoramic doughnut lens." Gilbert thought it sounded more high-tech to call it a "panoramic annular lens." It also pleased Greguss that the initials spelled out his first name.

Gilbert thinks the first use for the PAL will be measurement and inspection in confined spaces. Combined with a digitizing camera and a computer system, it could be used to look for leaks or roots in underground pipes, the position of offset joints and deterioration in concrete pipes. It could also identify

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Haiti ruler quits

Thousands celebrate

By MICHAEL NORTON
The Associated Press

PORT-AU-PRINCE, Haiti — Haitian ruler Lt. Gen. Prosper Avril, who rose to power 18 months ago in a revolt by soldiers demanding democratic rule, resigned Saturday during a popular uprising against his military regime.

The embattled Haitian leader turned over power to Maj. Gen. Herard Abraham, the army chief of staff, who said he would transfer rule to a civilian-led government within 72 hours.

Diplomat sources, speaking on condition of anonymity, said Avril would leave the country within two days. But there was no word on where he would go and how he would get there.

Within hours of the announcement that Avril was stepping down, groups of people burned houses and cars belonging to his supporters.

The television station Tele-Haiti said teen-agers shouted slogans outside the house of a special police agent in the slum suburb of Martissant, and that the agent and backers "wildly" opened fire, killing six.

Lens

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corrosion caused by chemical deposits or cracks caused by thermal or mechanical stress common in nuclear power plant plumbing.

The lens could be used in store security systems or to observe the clientele in a casino.

Gilbert is working with NASA's Marshall Space Flight Center, the Research Triangle Institute in North Carolina and the University of Florida to win NASA and American Cancer Society money to develop a smaller prototype that could go probing for problems in arteries, lungs, throats and other organs and body parts. He is also involved with a Marquette University scientist to develop an inspection system for fuel tanks and similar applications.

PAL is a single piece of glass with spherical surfaces that produce a 360-degree doughnut-shaped image. Unlike a fisheye lens or similar lenses, it has little or no distortion, Gilbert said.

"People have been trying to do this since 1878," Gilbert said. "Since that time, many devices have been patented. All suffer some sort of limitation. They're very bulky and very complicated. There are a number of components difficult to manufacture or miniaturize. Or they had rotating elements that would scan the field of view. That precludes you from obtaining an image in real time of an entire cavity."

Early work on panoramic lenses was done during World War I to develop a lens for submarine periscopes. More recently, the military has been interested in using panoramic lenses to look at incoming ballistic missiles.

"This has a flat cylindrical perspective," Gilbert said. "It takes an image and projects it on a flat plane with minimal distortion. It has an infinite depth of field. You can make measurements of an entire cavity at one time and don't have to change the focus while making measurements. Current television systems must scan and refocus when viewing an inner cavity."

The present lens is about 35 mm in diameter. The University of Florida is looking for a device about six mm in diameter as an alternative to surgery.

"I committed to these guys I can produce something like that through our technology," Gilbert said. "I think it will take some time to get it miniaturized to the point it can be put into a human body with some amount of ease. The timeline we're looking at is two years."

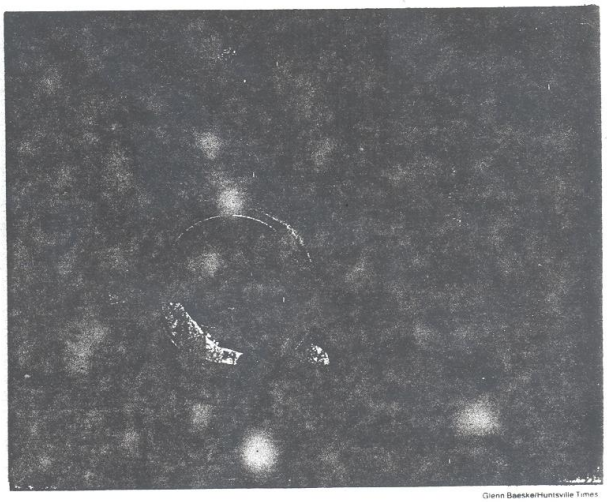
Gilbert said he has still wilder ideas for the lens in space. He said it could be used to study two spacecraft connected by a thin tether several miles long. It might also be the space construction worker's plumb line of the future.

"When you build on Earth, the key is to have a line of sight," Gilbert said. "You use a plumb line, then with a transit establish a line of sight. In space, there's no gravity for a plumb line. You're going to have to continuously execute maneuvers for stability and control. It could be difficult to align all of these parts and capture a panoramic view. This could be an important tool for the civil engineer."

The lens also has potential in commercial photography and advertising. It might be used to set up a trade display "in the round," Gilbert said. It could be used to project films in a cylindrical theater.

He said it might become more commercially attractive if he can develop a way to fill in the hole in the middle of the image.

Under the deal with Greguss, the lenses will be made in Hungary. Gilbert has 10 lenses in his lab now to evaluate their optical properties. By April 1991, Gilbert and team hopes to have manufactured a prototype device for automated inspection.



Glenn Baeske/Huntsville Times

Dr. John Gilbert of UAH aims to change the world's perspective with this "doughnut" lens.