NEWS From GEORGIA TECH'S
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LASER DEVELOPED AT TECH
FOR CATARACT DETECTION

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ATLANTA, GA....Earlier prediction of cataract formation may be possible within five years through instruments which would probe the eye with low powered laser beams.

The technology is being developed by researchers at Georgia Tech and Emory University and eventually may be used routinely in ophthalmologists' offices.

"No other diagnostic instruments would offer such detailed information about the eye," said Tech chemist Dr. Nai-Teng Yu, one of the project's principal researchers. "It would allow physicians to study the eye at the molecular level and make earlier and more accurate judgments about cataract development."

Dr. Yu has conducted this research effort for the past five years with Dr. John F. R. Kuck, Jr. of Emory University in Atlanta. The National Eye Institute sponsors their work.

The diagnostic equipment under development will use Raman spectral analysis, a scientific technique through which changes in the molecular activity of a substance can be detected.

With this approach, ophthalmologists or medical technicians could shine a low powered laser beam into the patient's eye, then judge where the cataracts are forming by the way laser light is scattered while passing through the lens.

(more)

This scattering of light is known by scientists as Raman Emission," Dr. Yu said. "Our equipment will allow us to collect and measure that light and analyze it for molecular changes from the norm with the computer."

The research team has not experimented yet with animals but they hope to do so this year. Later, human subjects will be tested, Dr. Yu said.

The equipment assembled for the current research project must be simplified before it will be inexpensive enough for widespread application. Dr. Yu plans to start development of a commercially acceptable device this fall.

The Tech researcher believes that this diagnostic equipment will be ready for public use within three to five years.

"This method will be of particular benefit to diabetic patients," he said. "Diabetics are more prone to cataract formation than others are. This technique will allow their doctors to detect early signs of cataract formation and perhaps take steps to delay further growth."

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