

SPOTLIGHT

RIGHT: This topographic image illustrates thermal dip pen nanolithography.

TOP: Blood-testing requirements vary depending on the severity of a PKU patient's condition, but frequent monitoring is especially important for children.

Faculty Research in the News

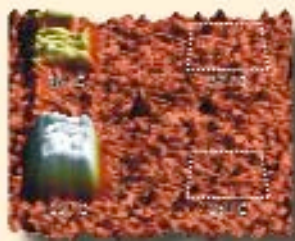
Georgia Tech researchers' work is covered in the news media.

Science, *Scientific American*, *Science News* and *New Scientist* magazines reported on a key Georgia Tech physics discovery by School of Physics Assistant Professor **Alex Kuzmich** and graduate student **Dmitry Matuskevich** to transfer a quantum bit from the atomic world to the photonic world — a first step toward quantum networking and communications. Also reporting the story were *Laser Focus World*, *Photonics Spectra*, *Optics and Photonics News* and *Computer Zeitung*, a German computer magazine.

See the article on page 39.

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The Associated Press reported on a new Georgia Tech study of fatal accidents on rural highways in the Southeast. The study, by **Karen Dixon** in the School of Civil and Environmental Engineering, reported on factors that contribute to making rural two-lane roads dangerous — including shoulder drop-offs and lack of seat-belt use in pickup trucks. The story was picked up and/or localized by dozens of media



outlets, including *The Chicago Tribune*, National Public Radio, *Boston Herald*, *Seattle Times*, *Savannah Morning News*, *Columbus (Ga) Ledger-Enquirer*, *Charleston (S.C.) Post*

and *Courier*, *Columbia (S.C.) State*, *Jackson (Miss.) Clarion-Ledger*, *Macon Telegraph*, *The Philadelphia Inquirer*, MSNBC.com and WSBTV.com. Reuters news service also covered the story.

See the article on page 4.

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The New York Times, *Chemical Engineering Progress*, *Electronic Design*, *Solid State Technology*, *Semiconductor International*, *Materials Today* and *Electronic Engineering Times* reported on the thermal dip pen nanolithography process developed by Georgia Tech and the Naval Research Laboratory. The technique allows the production of circuitry patterns with smaller dimensions than conventional lithography-based systems. Professor **William King** in Mechanical Engineering is the lead researcher on the project. *MicroTec* and *Micro/Nano* also reported on the technique.

See the Research News article @ gtresearchnews.gatech.edu/newsrelease/tdpn.htm

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Chemical & Engineering News reported on work by Assistant Professor **Donald Doyle** and graduate student **Lauren Schwimmer** in the School of Chemistry and Biochemistry. The researchers have learned how to commandeer the complex machinery that cells use to recognize and respond to such important molecules as steroid hormones, thyroid hormones and vitamin D. The work could lead to improved sensors and new pharmaceuticals. *Advance for Laboratory*



PHOTO BY NICOLE CAPRELLI

Professionals and *Bio.com* also covered the story.

See the article on page 21.

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Los Angeles Times column "In the Lab" reported on implantable pressure sensors being commercialized by Advanced Technology Development Center (ATDC) company CardioMEMS. The sensor is based on technology licensed from the Massachusetts Institute of Technology and the Georgia Tech lab of Professor **Mark Allen** in the School of Electrical and Computer Engineering.

See the article on page 45.

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"Math Trek," an online feature of *Science News*, described the Traveling Salesman Problem, which involves determining the optimal routes between multiple destinations. Finding optimal routes is computationally difficult, but has important applications in such areas as semiconductor design and material handling. The article mentioned work by Georgia Tech Professor of Industrial and Systems Engineering **William Cook**, who set a record for solving the TSP problem for 24,978 cities. His work was also mentioned in *Network World*.

See the RESEARCH HORIZONS article @ gtresearchnews.gatech.edu/reshor/rh-f04/tsp.html

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Research & Development magazine published an article about the future of independent R&D organizations; it included comments from Georgia Tech

Vice President and Georgia Tech Research Institute director **Stephen Cross**. He described GTRI's opportunities in homeland security and defense.

See the RESEARCH HORIZONS article @ gtresearchnews.gatech.edu/reshor/rh-f03/cross.html

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Computer Zeitung, a German computer magazine, published a photograph and brief article showing potential applications for the Georgia Tech Research Institute (GTRI) optical sensor aboard an unmanned aerial vehicle. GTRI researchers, including **Dan Campbell**, are studying how the sensor could be used in the Dragon-Eye UAV to detect biological or chemical weapons.

See the RESEARCH HORIZONS article @ gtresearchnews.gatech.edu/reshor/rh-f04/danger.html

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AAMI News, the online publication of the Association for the Advancement of Medical Devices, posted an article about the Georgia Tech Research Institute's work with Atlanta medical device company MetGen on developing a home-testing device for PKU. The genetic disease requires regular testing to ensure that a specific protein stays within a safe range; the device would allow the testing to be done by patients without the need for travel to a major medical facility. GTRI Chief Scientist **Jeff Sitterle** heads the project.

See the RESEARCH HORIZONS article @ gtresearchnews.gatech.edu/reshor/rh-f04/pku.html