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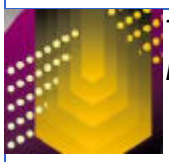
THE UPDATE

Volume 1
Number 3
July, 2004



The goal of our monthly update is to provide information on timely matters that may impact your practice and professional interests.

LOW COST PRINTABLE SILICON BREAKTHROUGH

Scientists at the University of Illinois at Urbana-Champaign (UIC) have demonstrated the path to ultra high , mechanically flexible ultra-thin transistors employing a process enabling new applications in consumer electronics e.g. inexpensive wall-to-wall displays , intelligent, disposable radio frequency identification(RFID) tags (substituting for ordinary product bar codes), and applications that require significant computing power. Conventional silicon devices are limited by silicon wafer size , typically less than 12 inches in diameter . Rather than increasing wafer size and cost , UIC scientists intend to slice the commercially available size wafer and disperse it in such a way as to position the sliced sections where needed on larger, low cost substrates e.g. flexible plastics. Separating silicon processing from the fabrication of other transistor components enables these devices to be integrated with a wide range of materials , including low-cost plastics. For additional information visit www.news.uiuc.edu

REDUCING X-RAY EXPOSURE DURING SURGERY

Collaboration between students and mechanical engineering faculty at Virginia Tech has led to the development of a new, low-cost , disposable , battery powered ,hand-held surgical tool that will reduce the harmful exposure of X-rays to patients with broken bones. Using this new surgical tool, a doctor can precisely locate holes for screws needed to rejoin broken bone elements. For example , when surgeons must set a long bone e.g. femur , a titanium nail is inserted into the marrow cavity. To hold the bone in place , screws must be drilled into small holes in the nail. Using this device, allows the doctor to employ electronic sensors in lieu of X-rays to find the exact location in the magnetic field of the screw holes , thereby also reducing the amount of X-rays a surgeon is exposed to on a routine basis and eliminating the need for costly and cumbersome X-ray equipment.

INDOOR MOLD AND DAMPNESS: RESPIRATORY LINKS ?

A new Institute of Medicine report suggests scientific evidence may link mold and other factors related to damp conditions in homes and other buildings to asthma symptoms in some asthmatics as well as to coughing , wheezing and other respiratory tract symptoms in otherwise healthy people . While the available scientific evidence does not support an association between indoor dampness or mold and the wide range of other health complaints that have need ascribed to them, the report infers that the possibility of a link cannot be ruled out.

LESS TURBULENCE FOR AIR TRAVEL

Researchers at NASA 's Langley Research Center, Hampton , VA recently reported development of a Turbulence Prediction and Warning System (TPAWS) to detect turbulence associated with windstorms as part of the NASA Aviation Safety and Security Program. By measuring the motions of the moisture in the air , TPAWS technology employs an enhanced turbulence detection radar system to detect potential atmospheric turbulence. TPAWS constitutes a software signal processing upgrade to existing predictive Doppler wind shear radar systems installed on airplanes. NASA has already teamed with Delta Air Lines, Rockwell Collins and others for an in-service evaluation of the TPAWS/Rockwell Collins production- prototype on a Delta Boeing 737-800. The prototype is expected to fly for six to nine months and if its evaluation is successful, the TPAWS radar system may be adopted for new and existing aircraft.

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