TECHNOLOGY ROUNDUP

A NEWS BULLETIN FROM
Technology Information Services Division
Pakistan Scientific & Technological Information Center PASTIC

Sep-Oct, 2009 Vol. 1, No.2

Editorial Board

Patron / Advisor
Dr. Syed Azhar Hussain, Chairman PSF

Ms. Nageen Ainuddin
Mr. M. Aqil Khan
Dr. Saima Huma Tanveer
Ms. Saima Majeed
Ms. Shazia Parveen

Tech News Headlines

- Wings that Waggle could cut Aircraft Emissions By 20%
- New Micro Honeycomb Materials reduce Aircraft Noise
- Nanotechnology Cleaning up our Water
- Autonomous Robot detects Shrapnel in Flesh
- Engineers designed more efficient, Quieter Bus
- Rejected Watermelons: The newest Renewable Energy Source
- Step toward Quantum Computers

Fourth Coming Tech Events

National

- International Conference on Recent Advances in Human Nutrition with Special Reference to Vulnerable Groups
- International Conference on Frontiers of Information Technology
- 7th International Plastic and Packaging Industry exhibition

International

- Third International joint Conference on Biomedical Engineering Systems and Technologies
- 1st International Rechargeable Battery Expo
- BIT 3rd World Congress of Industrial Biotechnology

Trade & Tech Offers

- MARS TRADERS

Rubbing Fastness Tester to determine the color fastness of textiles pure to spin or blending print and dye cloth scrub fastness of color test.

- A TO Z VARIETY

Manufacturers and suppliers of high tech Electronic items.

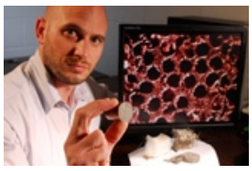
PASTIC National Center
Quaid-I-Azam University Campus
P.O. Box 1217, Islamabad

Phone: 051-9248103-4
Fax: 051-9248113
Email: director@pastic.gov.pk
www.pastic.gov.pk

Wings that Waggle could cut Aircraft Emissions By 20%

A research funded by the Engineering and Physical Sciences Research Council proposes a new approach which dramatically reduce mid-flight drag, using tiny air powered jets which redirect the air, making it flow sideways back and forth over the wing. The jets work by the Helmholtz resonance principle - when air is forced into a cavity the pressure increases, which forces air out and sucks it back , causing an oscillation the same phenomenon happens while blowing over a bottle. The idea came from Weggling a piece of wing from side to side in a wind tunnel. The research is still at concept stage. If successful this technology would also have a major impact on the aerodynamic design and fuel consumptions of cars, boats and trains.
www.epsrc.ac.uk

New Micro Honeycomb Materials reduce Aircraft Noise

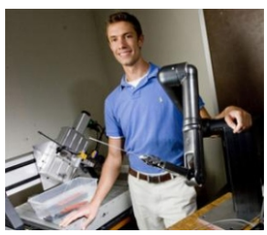


Georgia Tech Research Institute (GTRI) research engineer Jason Nadler has developed a new micro channeled material that reduces aircraft engine noise by wearing it down through a process called viscous shear. Noise from commercial and military jet aircraft causes environmental problems for communities near airports, obliging airplanes to follow often complex noise abatement loud. Structures composed of many tiny tubes or channels can reduce more effectively than conventional methods.
www.sciencecentric.com

Nanotechnology-Cleaning up our Water

Chemical engineers created nanoparticles out of gold and palladium to break down pollutants in groundwater. Dr. Michael Wong, a chemical engineer at Rice University in Houston is trying to come up with a way to clean up polluted ground water. One of the most common pollutants in United States groundwater is trichloroethylene (TCE), and Wong used nanoparticles (made out of gold and palladium) ten thousand times smaller than a human hair and hydrogen to break TCE into something non-toxic. Dr. Wong planed to test it at military sites first and then move onto industrial sites and dry cleaning businesses.
www.sciencedaily.com

Autonomous Robot detects Shrapnel in Flesh



Bio Engineers at Duke University have developed a laboratory robot that can locate tiny pieces of metal within flesh without the need of human assistance. The successful proof of feasibility experiments lead the researchers to believe that in the future, such a robot could not only help to treat shrapnel injuries on the battlefield, but might also be used for such medical procedures as placing and removing radioactive "seeds" used in the treatment of prostate and other cancers. It could also be useful in removing foreign,metallic objects from the eye.The researchers are encouraged that simple and reasonably safe procedures will become routine in the near future.
www.duke.edu.com

Engineer designed more efficient, Quieter Bus

An engineer has designed an electric bus that runs on battery power. An automotive engineer Bruce Emmons created a 40 foot battery powered electricity bus just like a giant golf cart. Inside the bus batteries and motor controllers drive electric motors in the

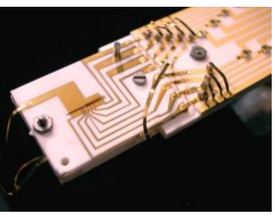
wheels. Instead of the bus being made from regular steel, everything is built of high-strength stainless steel (as lightweight as aluminum) making the bus half the weight of a normal bus. Steel tubes also support the front bumper and are designed to turn inside out in a crash to absorb energy and soften the blow. With no transmission, drive shafts or other bulky mechanics taking up space, the floor can be low, making it easier to get in and out and to provide a quieter and smoother ride. Emmon's next goal is to get it from the lab to buses all over the city streets. Right now the bus is just a prototype. It has the potential to make different types of hybrid such as a fuel cell or hydrogen bus.
www.autokinetics.com

Rejected Watermelons: The newest Renewable Energy Source

Watermelon juice can be a valuable source of biofuel. Researchers have shown that the juice of rejected watermelons can be efficiently fermented into ethanol. Wayne Fish worked with a team of researchers at the South Central Agricultural Research Laboratory in Lane, Oklahoma, US, to evaluate the biofuel potential of juice from 'cull' watermelons-those not sold due to cosmetic imperfections, and currently ploughed back into the field. About 20% of each annual watermelon crop is left in the field because of surface blemishes. Researcher shown that the juice of these melons is a source of readily fermentable sugars, representing a heretofore untapped feedstock for ethanol biofuel production. Using the juice for ethanol production, either directly or as a diluent for other biofuel crops, it can also be a source of lycopene and L-citrulline, the two 'nutraeuticals' for which enough demand currently exists to make extraction economically worthwhile and still be fermented into ethanol after removing these compounds from cull juice.

www.biomedcentral.com

Step toward Quantum Computers



Raising prospects for building a practical quantum computer, physicists at the National Institute of Standards and Technology (NIST) have demonstrated sustained, reliable information processing operations on electrically charged atoms (ions) overcomes significant hurdles in scaling up ion-trapping technology from small demonstrations to larger quantum processors potential to be different types of a hybrid such as a fuel cell or hydrogen bus. Through its use of ions, the NIST researchers showcases a promising architecture for a quantum computer, a potentially powerful machine that theoretically could solve some problems that are currently intractable, such as breaking today's most widely used encryption codes. Relying on the unusual rules of the submicroscopic quantum world, qubits can act as 0s and 1s simultaneously, unlike ordinary digital bits, which hold only one value at any given time. Quantum computers also derive their power from the fact that qubits can be "entangled," so their properties are linked, even at a distance. Ions are one of a number of different types of quantum systems under investigation around the world for use as qubits in a quantum computer.
www.nist.gov./index.html

FORTHCOMING EVENTS

NATIONAL

International Conference on Recent Advances in Human Nutrition with Special Reference to Vulnerable Groups
14-17 December, 2009, Faisalabad, Pakistan
www.uaf.edu.pk

International Conference on Frontiers of Information Technology
16-18 December, 2009, Abbotabad,Pakistan
www.fit.edu.pk

7th International Plastic and Packaging Industry Exhibition
31 May-03 June 2010
www.plasticpakistan.com

INTERNATIONAL

Third International joint Conference on Biomedical Engineering Systems and Technologies
20-23 January, 2010, Valenica, Spain
www.biostec.org

1st International Rechargeable Battery Expo
3-5 March 2010, Tokyo, Japan
www.batteryjapan.jp

BIT 3rd World Congress of Industrial Biotechnology
25-27 July 2010, Oingdao, China
www.bit.ibio.com

Trade & Tech Offers

Mars Traders

Motorized Crockmeter
Crock Meter Motorized is an advance version of Crockmeter, operated by a geared motor
Standards: AATCC 8/165, ISO 105/D02, BSEN 20105
Specification: Rubbing Fastness Tester to determine the color fastness of textiles to dry or wet rubbing, wet friction color fastness test of cotton chemical fiber all kinds of, pure to spin or blending print and dye cloth scrub fastness of color test.

Company Contact
Mr. Ziauddin Qureshi [Chief Executive]
Address: A-51, Sector 11-B, North Karachi-75850, Pakistan
Mobile : 92-301-8235127
Phone: 92-21-2016522, 92-301-8235127
Fax : 92-21-5206702, 1-630-981-0641
www.marstraders.com

A TO Z Variety

Direct main importer dealer, manufacturers whole seller suppliers sole agent distributor of high tech Electronic items in Pakistan.

Company Contact
Mr. Haroon [Sales]
Address: 72 M , Block 6 , PECHS
Karachi 75400, Pakistan
Phone: 00 92 21 4388940 ,
Mobile: 00 92 3002529922 ,
Fax: 00 92 300 252 99 22
E-mail: atozvariety786@yahoo.com