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Tech Briefs INSIDER 09/30/08

In this edition, sponsored by Algor, Kepco, and MicroE:

- * Computer Program Predicts Genes in DNA Sequences of Fungi
- * Techs of the Week: Non-Woven Technology, Anti-Reflective Coating
- * Patents for Sale: Next-Generation SSL, Environmental Sensing
- * Submit Your Entry to the 2008 "Create the Future" Design Contest
- * Question of the Week: Will the Fed's Bail-Out Plan Help the U.S. Economy?

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Download Free Stress Analysis Software

ALGOR DesignCheck finite element analysis (FEA) software is a first-pass linear static stress analysis tool that allows you to virtually test the behavior of product designs. DesignCheck includes direct CAD/CAE data exchange with popular CAD solid modelers, and an extensive suite of results evaluation and presentation options. These capabilities are available within FEMPRO(R), an easy-to-use single user interface that includes sketching, modeling, and meshing tools. DesignCheck's capabilities are extensible to a wide range of analysis capabilities, including CFD and multiphysics.

Visit <http://link.abpi.net/1.php?20080930A1> to learn more.

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SOFTWARE PREDICTS FUNGAL GENES

Researchers at the Georgia Institute of Technology have developed a computer program that trains itself to predict genes in the DNA sequences of fungi.

Understanding the recently sequenced fungal genomes can help in developing and producing critical pharmaceuticals. Gene prediction can also help to identify potential targets for therapeutic intervention and vaccination against pathogenic fungi.

Mark Borodovsky, director of Georgia Tech's Center for Bioinformatics and Computational Genomics, and his colleagues expanded the eukaryotic genome self-training software program they developed in 2005 to address the issue that fungal genes are more complex than other eukaryotes. Unlike other programs that require a pre-determined training set along with the genome sequence, GeneMark.hmm-ES (BP) only requires the genome sequence. The program is able to iteratively identify the correct algorithm parameters from the anonymous sequence.

"The enhanced program predicted fungal genes with higher accuracy than either the original self-training algorithm or known algorithms with supervised training," noted Borodovsky. "And because we didn't need any additional training information for our program, the sequencing teams could immediately proceed with gene annotation right after the genomic sequence was in hand, without spending time and effort to extract a set of validated genes necessary for estimating parameters of traditional algorithms."

Visit <http://link.abpi.net/1.php?20080930A2> to learn more.

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KEPCO'S SERIES KLP ARE LXI COMPLIANT

Using high-frequency switch-mode topology & small size, KLP provides 1200 watts of well-regulated, controllable d-c power over an expanded operating region, not just a single point. Standard: GPIB, RS-232, and isolated analog programming. Optional: Ethernet interface compliant to LXI Class C specifications.

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TECHS OF THE WEEK

Several non-woven technologies offer extremely low basis-weight at full roll width; a smooth, high-quality paper-like surface that easily accepts printing, folding, and metalizing; and extra strength and toughness. The double-layer non-woven comprises one layer with filaments that are aligned machine-direction. The other layer comprises filaments aligned in the cross-direction (CD). Aligning filaments minimizes overlap, and the technology achieves an exceptionally thin profile, low basis-weight, and toughness.

<http://link.abpi.net/1.php?20080930A4>

Able to withstand abrasion even with steel wool, anti-reflective coating formulations for display applications offer high durability and

reflectivity that ranges from 1.2% down to 0.5%. Reducing ambient light reflectance improves image clarity on liquid crystal and plasma displays and rear-projection televisions, especially in daylight or outdoor conditions. All the formulations offer exceptional adhesion to the substrate, a neutral color, and exceptional durability based on extensive laboratory testing. <http://link.abpi.net/1.php?20080930A5>

The Technologies of the Week describe inventions offered for license through the yet2.com marketplace. Visit their site at <http://link.abpi.net/1.php?20080930A6> to search over \$2.5 billion of licensable technologies.

TECHNOLOGY BRIEFS

Patents for Sale

Next Generation SSL Technology

Internet authentication and data security protocols are the leading factors in restricting Internet use for E-commerce and other consumer Internet business. This technology ensures all transmissions between parties, not just a particular session or page, is uniquely authenticated and encrypted, using the government standard Advanced Encryption Standard (AES) cipher with a different key per page. Three issued U.S. patents and four pending applications.

<http://link.abpi.net/1.php?20080930A7>

Revenue Generating, Environmental Sensor Portfolio

A broad, multi-national patent portfolio is available covering environmental condition detection systems and accessories. The entire patent portfolio is for sale along with assignment of the existing royalty bearing, residential field of use license. Six different technologies are included in the portfolio. Environmental condition detectors include smoke alarms, fire alarms, carbon monoxide alarms, combination alarms, etc. Eight issued U.S. patents, six foreign counterparts, and one U.S. patent application.

<http://link.abpi.net/1.php?20080930A8>

NextTechs Technologies, LLC is a Global Technology Investment Bank engaged in technology offers and needs-intermediation in over 41 industries and 141 research disciplines. Search NextTechs' Technology Portfolio at: <http://link.abpi.net/1.php?20080930A9>.

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Sponsor Message

Two new Mercury II high performance encoders: Analog output and 0.5 micrometer digital output

Mercury II 1900 analog output encoder with 6mm-wide tape scales or linear glass scales and stick-on index marker; Mercury II 1600 0.5 micrometer digital output encoder with 6mm-wide tape scales and stick-on index marker.

Get high performance, tiny sensor, and unmatched flexibility.

Visit <http://link.abpi.net/l.php?20080930A10> to learn more.

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CREATE THE FUTURE & WIN

The 2008 Tech Briefs "Create the Future" Design Contest, presented by SolidWorks Corp., has generated brisk response with over 500 entries thus far. New ideas vary from a non-invasive glucometer to a solar-powered backwater purification system. Check out all the great design ideas, get tips on winning entries, and submit your own idea by clicking here: <http://link.abpi.net/l.php?20080930A11>

Sponsored by SolidWorks Corp. (<http://link.abpi.net/l.php?20080930A12>), the contest is co-sponsored by

- * COMSOL Inc. (<http://link.abpi.net/l.php?20080930A13>),
- * Hewlett-Packard (<http://link.abpi.net/l.php?20080930A14>), and
- * National Instruments (<http://link.abpi.net/l.php?20080930A15>)

The contest welcomes innovative design ideas in the following categories:

- * Machinery, Equipment, and Component Technology
- * Consumer Products
- * Medical
- * Safety and Security
- * Transportation
- * Sustainable Technologies

The Create the Future contest awards a Grand Prize of \$20,000 and six First Prizes (one for each category) of Hewlett-Packard workstations. All qualified entrants receive a Create the Future Design Contest T-shirt. So, exercise your imagination, demonstrate your design and engineering skills, and share your best ideas for new products.

QUESTION OF THE WEEK

Last week's question concerned the Large Hadron Collider (LHC), the controversial \$9 billion machine designed to smash opposing beams of protons together at close to the speed of light. The machine is designed to simulate conditions that existed microseconds after the Big Bang occurred, which proponents expected would help them understand the origin of the universe. Opponents fear it could create a black hole that will ultimately destroy the Earth. We asked if you thought the LHC was too risky. Sixteen percent of you said yes, 84 percent said no. Here's more of what you had to say:

"There are always Chicken Littles crying about the sky falling. There were even physicists in the development of the atomic and hydrogen bombs claiming that the bombs would detonate all the oxygen on earth. 100 years from now, our descendants will be laughing at how foolish and primitive the beliefs were in our day." -Tony

"The Hadron Collider's greatest risk is a collapse of the power grid,

not the effects at the target. Though large, the accelerated particle energy is only the force applied to it, no more. In perspective, our universe is full of collisions large and small, but the ones that show themselves are very large indeed." Wayne Baldrige

"No, not too risky. The better question is, 'Is it too expensive?' Unlike other atom smasher designers, this one requires the magnets to be cooled to -270 deg C. When a magnet fails, it takes months to replace - allowing time to slowly warm the section needing repair, and then slowly cooling that section after repair. It's been stated that these failures occur fairly regularly. Not a very efficient way to spend \$9 billion dollars. It is more likely that our tax money is going to get sucked into a black hole than the earth itself." J Kopp

This week's question concerns the proposed \$700 billion bail-out plan for U.S. financial firms. The House of Representatives has rejected a bill that would give the government power to buy soured securities from Wall Street firms and banks, institute debt insurance for bailed-out firms to protect troubled assets, and impose restrictions on executive compensation. The bill's supporters say the measures are needed to stabilize a faltering economy; critics argue the bill would cost taxpayers more and won't help homeowners faced with foreclosure or sinking home values. What do you think?

Will the Federal bail-out plan help the U.S. economy? Yes or no?

Submit your answer and post your comments at:

<http://link.abpi.net/1.php?20080930A16>

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Event Alert

Innovative Polymer and Composite Solutions for Managing Wear in Aerospace

Live Presentation: Wednesday, October 22, 2008, 2:00 PM EST

Sponsored by: DuPont Vespel

Improved performance, life, reliability, cost, and sustainability of systems are driving needs in aerospace systems. One facet of addressing these important needs is through improvements in friction and wear components. This webinar, sponsored by DuPont Vespel, will provide insights into the science of friction and wear. This includes the types of wear, influencing factors, and critical material properties to consider in developing solutions for wear and friction applications. In addition, practical application information and examples will be shared, to help you optimize your designs to meet the challenges you face, to stretch life and performance of your applications.

Visit <http://link.abpi.net/1.php?20080930A17> to learn more.

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- Spencer Chin, Senior Editor

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