

September 16, 2010

## Today's Topics:

[The rise of deep labs](#)

[One war of many, no end in sight](#)

[Scanning our future](#)



### Unlocking secrets to cheaper ethanol

New insight into the structure of switchgrass and poplars is fueling discussions that could result in more efficient methods to turn biomass into biofuel. Researchers from Oak Ridge National Lab and Georgia Tech used small-angle neutron scattering to probe the structural impact of an acid pretreatment of lignocellulose from switchgrass. [Read/Comment](#)

## Guest Commentary:



### Don't let the R&D tax credit slip away

In 1981, the U.S. enacted the most generous R&D tax credit in the world, but since then it has fallen behind other nations and has kept companies guessing by adopting a stop-and-go approach to renewing the credit. Making these credits permanent, and expanding their scope, can only have positive effects on the nation's GDP. [Read/Comment](#)

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hard and soft materials.

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## Supercomputer sees well enough to drive a car someday

An engineer from Yale University has developed a supercomputer based on the human visual system that operates much more quickly and efficiently than ever before. Dubbed NeuFlow, the system takes its inspiration from the mammalian visual system, mimicking its neural network to quickly interpret the world around it. [Read/Comment](#)

## New technology to recover coal from sludge passes commercial-scale test

A new technology for removing water from ultrafine coal slurry has been successfully tested at the commercial scale at an operating coal cleaning plant. The technology offers the possibility of reducing the coal slurry impoundment problem from the source.

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## Quantum electron tornados could set materials in motion

A European physics team has succeeded in producing rotating electron beams, called vortex beams, or rotating electron beams, which make it possible to investigate the magnetic properties of materials. At some point in the future, they say, they could manipulate tiny material components using these "tornados". [Read/Comment](#)

## How bacteria acquire immunity

In a new study, Rice University scientists bring the latest tools of computational biology to bear in examining how the processes of natural selection and evolution influence the way bacteria acquire immunity from disease. [Read/Comment](#)

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## Glaciers boost mountain growth in Andes

A new study has found that glaciers in the southern reaches of the Patagonian Andes have acted as a kind of protective shield throughout the mountain range's 25-million-year history, providing the first evidence to contradict the widely held belief that glaciers inhibit mountain growth. [Read/Comment](#)

## Toward resolving Darwin's "abominable mystery"

Flower diversification stumped Darwin, and the reason for the incredible diversity of flowers is still poorly understood. Recently, however, extensive statistical analysis done at the University of Calgary shows that the size of the geographical area is the most important factor when it comes to biodiversity of a particular flowering plant family.

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## From R&D Magazine:



### A Spark of Success

For R&D companies, innovation is like catching lightning in a bottle. They can't predict when lightning will strike, but they can find a better bottle.

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## Tools & Technology:



### New range of HPLC columns

Thermo Fisher Scientific Inc. announced the Thermo Scientific Synchronis HPLC column range. This range delivers consistent, predictable separations, from run to run and column to column, according to the company. [Read/Comment](#)

## Tools & Technology:



### Next generation of ductless fume hood technology

AirClean Systems announced the release of its latest innovation- INDEPENDENCE. Independence ductless fume hood incorporates AirClean Systems' breakthroughs in gas phase filtration, filtration monitoring, airflow control and monitoring, and user-friendly operator interaction.

[Read/Comment](#)