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## BioTechCircle News®

March 2009

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### Featured March articles

Green technology is in, as evidenced by the large number of great "green" articles we have been finding, spanning multiple categories and subcategories. Their titles are highlighted in **green**. Here are our **featured** non-green articles.

**Study Finds That Students Benefit From Depth, Rather Than Breadth, in High School Science Courses**

<http://www.virginia.edu/uvatoday/newsRelease.php?id=7912>

**Los Alamos Researchers Create 'Map of Science'**

[http://www.lanl.gov/news/index.php/fuseaction/nb.story/story\\_id/%2015965](http://www.lanl.gov/news/index.php/fuseaction/nb.story/story_id/%2015965)

**HHMI Gives 50 Early Career Scientists a Jump on Their Next Big Idea**

<http://www.hhmi.org/news/ecs20090326.html>

**TR10: Biological Machines**

<http://www.technologyreview.com/biomedicine/22111/>

**Advancing Systems Biology for Medical Applications**

<http://www.esf.org/publications.html>

**A Hole in the Genome**

<http://www.technologyreview.com/biomedicine/22135/page1/>

NOTE: It has always been our philosophy to highlight well-written biotech articles that you, our global readers, may access on the Web at no cost. Starting with the January 2009 report, we regret having to discontinue citing excellent articles that move to paid-subscription status after a brief time, often before we are able to post these monthly reports. If there are any free web-based periodicals you would like us to cover, please send an e-mail to: [jogucwa@techmanage.com](mailto:jogucwa@techmanage.com)

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**In this articles section: links to 53 free Web articles in 11 major categories.**

The major categories are in alphabetical order and further subdivided to make it easy for you to locate news and developments in technology, the business and the markets in the life science areas of interest to you.

**Note: if the links don't connect you directly, please copy and paste the entire URL into your web browser.**

Here are the major categories and the page where each category starts:

Agri-Biotech (1 article) – Page 2  
Biobusiness Management (7 articles) – Page 2  
Industry (5 articles) – Page 4  
Investments/Government Support (2 articles) – Page 5  
Novel Applications (1 article) – Page 5  
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Research Advancements (7 articles) – Page 10  
Research Tools (8 articles) – Page 11  
Strategic Relationships (1 article) – Page 13

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## AGRI-BIOTECH

### *Subcategory: Microorganisms*

#### **Yellowstone Arsenic No Match for Toxic-loving Alga in MSU Study**

Montana State University

10-Mar-09

A simple one-celled algae called Cyanidioschyzon could someday help reclaim arsenic-laden mine waste and aid in everything from space exploration to creating safer foods and herbicides.

<http://www.montana.edu/cpa/news/nwview.php?article=6911>

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## BIOBUSINESS MANAGEMENT

### *Subcategory: Bioethics*

#### **Policies Regarding IRB Members' Industry Contacts Often Lacking**

Sue McGreevey

Harvard University Science

25-Mar-09

Many academic institutions do not have clear policies covering industrial relationships of members of institutional review boards (IRBs), committees charged with ensuring that clinical studies uphold patient rights, follow ethical guidelines.

<http://harvardscience.harvard.edu/culture-society/articles/policies-regarding-irb-members-industry-contacts-often-lacking>

**Authors, Journal Editors Respond to Possible Cases Of Plagiarism Identified by UT Southwestern Analysis**

UT Southwestern Medical Center 05-Mar-09

By bringing cases of potential plagiarism out into the open, researchers have shed light on the peer-review process and scientific publication.

They note a wide range of reactions.

<http://www.utsouthwestern.edu/utsw/cda/dept353744/files/519817.html>

*Subcategory: Collaboration*

**Make New Friends**

Lisa Henderson Applied Clinical Trials 01-Mar-09

In the "new" economy, as well as "old" models of the drug development business, how to do more with less means alliances and friendships within or outside your company, Henderson writes.

<http://appliedclinicaltrialsonline.findpharma.com/appliedclinicaltrials/CRO%2FSponsor/Make->

*Subcategory: Government/ Approvals*

**A Model Dilemma**

Catherine Shaffer Drug Discovery & Development 02-Mar-09

Cell-based toxicogenomics studies are emerging as an alternative to animal testing. But for now, animal models are the necessary choice, as regulations, accuracy and other factors need to be considered.

<http://www.ddmag.com/article-cell-based-toxicogenomics-studies-030909.aspx>

**Systems Biology for Medical Applications (SysBioMed)**

European Science 01-Mar-09

Reviews the most comprehensive examination and analysis of 'Investigator- Driven Clinical Trials' (IDCT) in Europe and proposes particular steps towards better clinical research in Europe.

<http://www.esf.org/nc/research-areas/medical-sciences.html>

*Subcategory: Patent/Intellectual Property Issues*

**Markets Are Better Than Patents in Promoting Intellectual Discovery, Says Caltech-led Team of Economists**

Caltech 05-Mar-09

For improving intellectual curiosity and creativity, a market economy in which inventors can buy and sell shares of the key components of their discoveries actually beats out the winner-takes-all world of patent rights as a motivating force.

[http://mr.caltech.edu/media/Press\\_Releases/PR13232.html](http://mr.caltech.edu/media/Press_Releases/PR13232.html)

**Has the Us Patent System Gone Too Far?**

James Turner Christian Science Monitor 12-Mar-09

Reformers push to limit what is protected under the U.S. Patent system. Part of the problem is that the current system is overloaded; legislation would change patents from a “first to invent” to “first to file” test.  
<http://features.csmonitor.com/innovation/2009/03/12/has-the-us-patent-system-gone-too-far/>

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## INDUSTRY

### *Subcategory: Education*

#### **Study Finds That Students Benefit From Depth, Rather Than Breadth, in High School Science Courses**

University of Virginia

04-Mar-09

Students in courses focusing on mastering a particular topic were impacted twice as much as those in courses touching on every major topic. Thus, teaching fewer topics in greater depth is a better way to prepare students for success in college science.

<http://www.virginia.edu/uvatoday/newsRelease.php?id=7912>

### *Subcategory: Evolution Research*

#### **Darwin Is Too Hot for Turkish Officials: Evolution Article Gets Censored**

Discover

11-Mar-09

Turkey’s science agency reportedly forced editors of its science magazine to remove a cover story on the life and work of Charles Darwin in what appears to be a sign of the Turkish government’s official discomfort with the theory of evolution.

<http://blogs.discovermagazine.com/80beats/2009/03/11/darwin-is-too-hot-for-turkish-officials-evolution-article-gets-censored/>

### *Subcategory: Hospitals/ Health Care*

#### **U.S. Hospitals Slow to Adopt Electronic Health Records, Citing Cost**

Todd Datz

Harvard University Science

25-Mar-09

Study finds less than 2% of surveyed hospitals had implemented comprehensive EHR; less than 8% had basic EHR in place. Policymakers hope stimulus money will help doctors and hospitals implement electronic records.

<http://harvardscience.harvard.edu/medicine-health/articles/us-hospitals-slow-adopt-electronic-health-records-citing-cost>

### *Subcategory: Miscellaneous*

#### **What's the Score?**

Economist

12-Mar-09

Science inspired the world wide web. Two decades later, the web has repaid the compliment by changing science by, for example, permitting professional scientists to recruit thousands of amateurs to help.

[http://www.economist.com/science/displaystory.cfm?story\\_id=13277389](http://www.economist.com/science/displaystory.cfm?story_id=13277389)

**Los Alamos Researchers Create 'Map of Science'**

Los Alamos National Laboratory

11-Mar-09

Map of Science illustrates the online behavior of scientists accessing different scientific journals, publications, aggregators, etc. Colors represent the scientific discipline of each journal, based on classified disciplines.

[http://www.lanl.gov/news/index.php/fuseaction/nb.story/story\\_id/%2015965](http://www.lanl.gov/news/index.php/fuseaction/nb.story/story_id/%2015965)

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## INVESTMENTS/GOV. SUPPORT

*Subcategory: Academia/Laboratories*

**HHMI Gives 50 Early Career Scientists a Jump on Their Next Big Idea**

Howard Hughes Medical Institute

26-Mar-09

Fifty of the nation's best early career science faculty from 33 institutions will have more time and resources to focus on their boldest, potentially transformative, research ideas with support from new initiative of Howard Hughes Medical Institute.

<http://www.hhmi.org/news/ecs20090326.html>

*Subcategory: Federal*

**Obama Links Scientific Research to Protecting 'Free Thinking'**

Dan Vergano

USA Today

10-Mar-09

President Obama's orders on science and stem cell research have a symbolic importance that's even greater than their impact on science, say policy experts.

[http://www.usatoday.com/news/washington/2009-03-08-obamastem\\_N.htm](http://www.usatoday.com/news/washington/2009-03-08-obamastem_N.htm)

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## NOVEL APPLICATIONS

*Subcategory: Energy/Fuel*

**Turning Sunlight into Liquid Fuels: Berkeley Lab Researchers Create a Nano-sized Photocatalyst for Artificial Photosynthesis**

Lynn Yarris

Lawrence Berkeley Laboratory

10-Mar-09

Cobalt oxide nanocrystals can effectively be used to split water molecules, one of the half reactions critical to an artificial photosynthesis system for producing liquid fuels from sunlight.

<http://newscenter.lbl.gov/press-releases/2009/03/10/turning-sunlight-into-liquid-fuels-berkeley-lab-researchers-create-a-nano-sized-photocatalyst-for-artificial-photosynthesis/>

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## ORGANIZATIONS

*Subcategory: Hospitals/ Health Care*

**Tech Rx for Health Care**

Julia Ioffe

Fortune

12-Mar-09

Despite the challenges of different software platforms that don't talk to one another and older physicians unwilling to give up their charts and prescription pads, some hospitals are starting to go paperless.

[http://money.cnn.com/2009/03/12/technology/ioffe\\_healthcare.fortune/index.htm?postversion=2009031211](http://money.cnn.com/2009/03/12/technology/ioffe_healthcare.fortune/index.htm?postversion=2009031211)

*Subcategory: Research Centers/ Parks*

**Mitsubishi's New Chemistry R&D Center Is All about Comfort**

R & D Magazine

06-Mar-09

Describes the KAITEKI Institute, Inc., a global research institute focused on meeting 21st century challenges in energy, the environment, and healthcare. Corporate philosophy is 'Good Chemistry for Tomorrow.'

<http://www.rdmag.com/ShowPR~PUBCODE~014~ACCT~1400000101~ISSUE~0903~RELTYPE~IDN~PRODCODE~00000000~PRODLETT~BY.html>

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**PEOPLE PROFILES**

*Subcategory: Bioethics*

**Giving Madoff a Run for His Money: Biotech Exec Fakes Cancer**

Discover

12-Mar-09

Executive admits that he lied to a federal judge about having stage 3 colorectal cancer in order to avoid a trial being brought by the U.S. Securities and Exchange Commission for lying about the development of a synthetic blood substitute.

<http://blogs.discovermagazine.com/discoblog/2009/03/12/giving-madoff-a-run-for-his-money-biotech-exec-fakes-cancer/>

*Subcategory: Bioinformatics*

**Integrating Clinical and Genomics Data**

Alissa Poh

Bio-IT World

24-Mar-09

Poh describes role of John Quackenbush, professor of biostatistics and computational biology, a theoretical physicist leading research in translational medicine, bridging genomics, bioinformatics, and IT in an effort to shed light on cancer biology.

<http://www.bio-itworld.com/issues/2009/mar-apr/quackenbush-cover-story.html>

*Subcategory: Research Advancements*

## TR10: Biological Machines

Emily Singer Technology Review 01-Mar-09

Michel Maharbiz's novel interfaces between machines and living systems could give rise to a new generation of cyborg devices, Singer writes.

<http://www.technologyreview.com/biomedicine/22111/>

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## PLATFORM TECHNOLOGIES

### *Subcategory: Cell Therapy*

#### **EuroSTELLS (Development of a Stem Cell Tool Box) Final Report**

European Science 06-Mar-09

Click on Eurostells.pdf (827K). Fosters innovative and multi-disciplinary collaborations among project investigators and their laboratories.

<http://www.esf.org/publications.html>

#### **Mechanism Directing Stem Cells to Their Destination Identified**

B. D. Colen Harvard University 25-Mar-09

Mechanisms telling stem cells how to get to where they need to go is a major problem in stem cell therapies. Using a relatively simple means to enhance homing/engraftment, mobilization of blood stem cells in bone marrow transplantation may be possible.

<http://harvardscience.harvard.edu/foundations/articles/mechanism-directing-stem-cells-their-destination-identified>

#### **Skin Biology Illuminates How Stem Cells Operate**

Corydon Ireland Harvard University Science 24-Mar-09

Adult skin stem cells have treated burn victims for decades; such stem cells might one day be used to treat ulcers by replacing damaged tissue.

<http://harvardscience.harvard.edu/foundations/articles/skin-biology-illuminates-how-stem-cells->

#### **Stem Cell Breakthrough Could End Ethical Dilemma**

Ian Sample The Guardian 01-Mar-09

Scientists have found a way to make an almost limitless supply of stem cells that could safely be used in patients while avoiding the ethical dilemma of destroying embryos.

<http://www.guardian.co.uk/science/2009/mar/01/stem-cells-breakthrough>

### *Subcategory: Diagnostic Test Systems*

#### **TR10: Paper Diagnostics**

Kristina Grifantini Technology Review 01-Mar-09

Coupling advanced microfluidics with one of humankind's oldest technologies: paper, results in a versatile, disposable test that can check

a tiny amount of urine or blood for evidence of infectious diseases or chronic conditions.

<http://www.technologyreview.com/biomedicine/22113/>

### *Subcategory: Drug Discovery*

#### **Saving Time and Sample**

David Hayes Drug Discovery & Development 02-Mar-09

Drug discovery research is being pushed towards increasing scale, complexity. Instead of measuring proteins one at a time, researchers now use multiplex bead-based platforms to detect proteins for target identification through clinical analysis.

<http://www.dddmag.com/article-multiplex-bead-based-platforms-for-target-identification->

### *Subcategory: Genomics*

#### **Winning the Race?**

James Netterwald Drug Discovery & Development 02-Mar-09

Race to develop a sequencing technology that can sequence the human genome the fastest and cheapest generates competition that will likely last for some time, as each of these technologies has unique features that transcend speed and cost.

<http://www.dddmag.com/article-next-generation-and-third-generation-sequencing-technologies-030909.aspx>

#### **With Genomes, Bigger May Really Be Better**

Howard Hughes Medical Institute 04-Mar-09

Large genomes can make it easier to find regions of DNA that control gene activity. In small genomes, functional elements are packed tightly together. In bigger genomes functional elements are separated and therefore easier to find.

<http://www.hhmi.org/news/eisen20090304.html>

### *Subcategory: High Throughput Screening*

#### **Are the Lab Rat's Days Numbered?**

Colin Nickerson Boston Globe 30-Mar-09

New efforts to build complex living "microtissues" from cultured cells represent some of the most promising progress toward reducing the need for laboratory creatures. More complicated 3-D structures will consist of cells taking form from each other.

[http://www.boston.com/business/healthcare/articles/2009/03/30/are\\_the\\_lab\\_rats\\_days\\_numbe](http://www.boston.com/business/healthcare/articles/2009/03/30/are_the_lab_rats_days_numbe)

#### **Seeking Out Sepsis**

Mike Ma Drug Discovery & Development 02-Mar-09

Instead of culturing blood, SepsiTst searches for a molecular signature of sepsis, detecting more than 345 germs related to sepsis. Cost is about



it develops normally or whether it turns cancerous, may depend upon signals from multiple microenvironments, according to work using unique microenvironment microarrays (MEArrays).

<http://newscenter.lbl.gov/feature-stories/2009/02/24/it-takes-a-village-cell-microenvironments-hold-key-to-future-cancer-and-regenerative-medicine-therapies/>

### ***Subcategory: Tissue Engineering***

#### **A New Way to Assemble Cells into 3-D Microtissues**

Paul Preuss

Lawrence Berkeley Laboratory

05-Mar-09

By programming cells with short lengths of synthetic DNA on their surfaces, scientists can control how different cell types bind together to form complex artificial microtissues for potential applications in medicine, in medical and biological research.

<http://newscenter.lbl.gov/press-releases/2009/03/05/3-d-microtissues/>

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## **RESEARCH ADVANCEMENTS**

### ***Subcategory: Geriatrics***

#### **Protein Quality Control Is a Key to Longevity in Naked Mole Rats**

Barshop Institute

18-Feb-09

Naked mole rats have an amazing feature: a disposal system that gets rid of damaged proteins more efficiently than other mammals, maintaining the good proteins throughout their long life span. Also see: <http://www.technologyreview.com/biomedicine/22196/>

[http://physiology.uthscsa.edu/news/news\\_view.asp?id=100](http://physiology.uthscsa.edu/news/news_view.asp?id=100)

### ***Subcategory: Immunology/ Infectious Diseases***

#### **Scientists Identify Human Monoclonal Antibodies Effective Against Bird and Seasonal Flu Viruses**

Dana-Farber Cancer Institute

24-Feb-09

Researchers report the identification of human monoclonal antibodies (mAb) that neutralize an unprecedented range of influenza A viruses, including avian influenza A (H5N1) virus, previous pandemic influenza viruses, and some seasonal influenza viruses.

<http://www.dana-farber.org/abo/news/press/2009/scientists-identify-human-monoclonal->

### ***Subcategory: Musculoskeletal***

#### **Researchers Develop DNA "Patch" For Canine Form of Muscular Dystrophy**

NIH News

16-Mar-09

Using a novel genetic technology called "exon skipping" that covers up genetic errors, researchers develop a successful treatment for dogs with the canine version of Duchenne muscular dystrophy, a paralyzing, and ultimately fatal, muscle disease.

<http://www.nih.gov/news/health/mar2009/nichd-16.htm>

### *Subcategory: Neurology*

#### **Alzheimer's Disease Neuroimaging Initiative (ADNI)**

Alzheimer's Disease

15-Mar-09

High-density genome wide analysis of participants in Alzheimer's Disease Neuroimaging Initiative (ADNI) is <95% complete. Scientists globally may access for further analysis. See also <http://www.bio-itworld.com/news/2009/03/16/alzheimers-gwas.html>

<http://www.loni.ucla.edu/ADNI/>

#### **Diverse 'Connectomes' Hint at Genes' Limits in the Nervous System**

Steve Bradt

Harvard University Science

09-Feb-09

Genetics may play a surprisingly small role in determining the precise wiring of the mammalian nervous system. Neurons in a small mouse muscle vary markedly in layout and are far longer than expected.

<http://harvardscience.harvard.edu/foundations/articles/diverse-connectomes-hint-genes-limits-nervous-system>

#### **Stem-Cell Repair Kit for Stroke**

Michael Day

Technology Review

09-Mar-09

Within just 7 days of injecting a novel matrix of neural stem cells and a biodegradable polymer directly into the damaged part of damaged rat brains, new nerve tissue grew to fill stroke-induced cavities.

<http://www.technologyreview.com/biomedicine/22263/>

#### **A Hole in the Genome**

Emily Singer

Technology Review

01-Mar-09

A small chunk of DNA linked to schizophrenia, mental retardation, and autism may change the way we think about disease, Singer writes.

<http://www.technologyreview.com/biomedicine/22135/page1/>

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## **RESEARCH TOOLS**

### *Subcategory: Computing Systems*

#### **Merck Execs See 'Sage' as Key Ingredient for Disease Biology**

Kevin Davies

Bio-IT World

03-Mar-09

Sage is an open-access platform for sharing and disseminating complex data representing disease biology. Vision: "to create open access, integrative bionetworks, evolved by contributor scientists, to accelerate the elimination of human disease."

<http://www.bio-itworld.com/news/03/03/09/Merck-Sage-disease-biology.html>

### *Subcategory: Evolution Research*

## **Dinohicken' Scheme Puts Evolution in Reverse**

MSNBC News

05-Mar-09

Researchers start with a chicken embryo and work backward, hoping to bring back a tail to a chicken. Implications for insights on human spinal cord birth defects.

<http://www.msnbc.msn.com/id/29537188/>

### *Subcategory: Imaging*

## **Imaging the Glycomes of Living Organisms**

Paul Preuss

Berkeley News

12-Feb-09

Describes a series of techniques to manipulate glycans, sugars that occur throughout living things and are particularly abundant on the surfaces of cells.

<http://newscenter.lbl.gov/feature-stories/2009/02/12/imaging-the-glycomes-of-living->

## **Seeing Proteins Inside Cells**

Stuart A. Borman

Chemical & Engineering News

09-Mar-09

Using in-cell nuclear magnetic resonance spectroscopy (NMR) to study proteins in their natural biological environment, the cell, could lead to broader understanding of how proteins perform biological functions inside cells, in both health and disease.

<http://pubs.acs.org/cen/news/87/i10/8710notw6.html>

### *Subcategory: Nanotechnology*

## **Single Molecule Tracking Helps Reveal Mechanism of Chromosome Separation in Dividing Cells**

Leila Gray

University of Washington

06-Mar-09

Describes a nano-scale machine that separates chromosomes before cell division. Implications for certain cancers or birth defects, like Down syndrome or Trisomy 18.

<http://uwnews.org/article.asp?articleID=47860>

### *Subcategory: People Profiles*

## **About Face**

Economist

05-Mar-09

People's creditworthiness, it seems according to research, can be seen in their looks. Describes assessment of pictures of potential borrowers that had been posted on a lending website.

[http://www.economist.com/science/displaystory.cfm?story\\_id=13226709](http://www.economist.com/science/displaystory.cfm?story_id=13226709)

### *Subcategory: Personalized Medicine*

## **Key Advance In DNA Sequencing With Nanopores**

Stu Borman

Chemical & Engineering News

09-Mar-09

DNA sequencing with a nanopore is a potential route to sequencing a human genome for about \$1,000. May ease way to personalizing drug, medical treatments according to a patient's genomic makeup. See also <http://www.technologyreview.com/biomedicine/22217/>

<http://pubs.acs.org/cen/science/87/8710sci2.html>

### **MGH to Use Genetics to Personalize Cancer Care**

Stephen Smith

The Boston Globe

03-Mar-09

Reading the genetic fingerprints of patients' tumors. may spare patients from traditional hit-or-miss approach to cancer care, when expensive drugs with harmful side effects are often given without knowing whether they will work.

[http://www.boston.com/news/local/massachusetts/articles/2009/03/03/mgh\\_to\\_use\\_genetics\\_to\\_personalize\\_cancer\\_care/](http://www.boston.com/news/local/massachusetts/articles/2009/03/03/mgh_to_use_genetics_to_personalize_cancer_care/)

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## **STRATEGIC RELATIONSHIPS**

### *Subcategory: M&A Activities*

### **Big Pharma's New Landscape**

Alyssa Abkowitz

Fortune

12-Mar-09

Abkowitz looks at what each deal, between various top pharmaceutical companies, would bring to the changing landscape of the pharma industry.

<http://money.cnn.com/2009/03/11/news/companies/pharma.fortune/index.htm?postversion=2009>

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