



## BioTechCircle News®

December 2008

---

### Featured December articles

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

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.

### **Cellular Senescence a Double-Edged Sword: New Study Holds Implications for Aging, Cancer and Evolution**

Lynn Yarris

Berkeley Lab

02-Dec-08

Scientists have identified a molecular cause behind the ravages of old age and in doing so have also shown how a natural process for fighting cancer in younger persons can actually promote cancer in older individuals.

<http://newscenter.lbl.gov/press-releases/2008/12/02/cellular-senescence/>

### **Production Line for Artificial Skin**

Prof. Dr. Heike Mertsching

Fraunhofer IGB

01-Dec-08

A fully automated process improves production of artificial tissue: medical scientists can perform transplants with skin produced in the laboratory. Tissue is also suitable for testing chemicals at a low cost without requiring animal experiments.

[http://www.igb.fraunhofer.de/WWW/Presse/Jahr/2008/en/PI\\_skin-production.en.html](http://www.igb.fraunhofer.de/WWW/Presse/Jahr/2008/en/PI_skin-production.en.html)

### **Melanoma Spawns Tumors with Deadly Efficiency**

Sean J. Morrison

Howard Hughes Medical Institute

04-Dec-08

New studies show that at least one of every four melanoma cells has the capacity to seed the development of new tumors. The finding suggests that targeting just a small subset of melanoma cells will not be enough to stop the cancer from growing.

<http://www.hhmi.org/news/morrison20081204.html>

### **Study of Ancient and Modern Plagues Finds Common Features**

Anne A. Oplinger

NIH News

21-Nov-08

Common determinants of disease emergence that transcend time, place and human progress. A better understanding of these determinants is essential for preparing for the next emerging or re-emerging disease.

<http://www.nih.gov/news/health/nov2008/niaid-21.htm>

---

**In this articles section: links to 60 free Web articles in 10 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 (9 articles) – Page 2  
Biobusiness Management (7 articles) – Page 4  
Industry (6 articles) – Page 5  
Investments/Government Support (4 articles) – Page 7  
Organizations (1 article) – Page 7  
Personalized Medicine (2 articles) – Page 8  
Platform Technologies (10 articles) – Page 8  
Research Advancements (11 articles) – Page 10  
Research Tools (9 articles) – Page 12  
Therapeutic Category (1 article) – Page 14

---

## **AGRI-BIOTECH**

### ***Subcategory: Crops***

#### **Lignocellulose: A Complex Biomaterial**

Stephen K. Ritter

Chemical & Engineering News

08-Dec-08

Explains the complex structure of lignocellulose, the most abundant organic material on Earth, which is the primary component of plant cell walls and its breakdown to glucose.





Some biotechnology companies are reacting to the funding drought by cutting back and shrinking to essentials.

<http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2008/11/30/BUBM14CSKM.DTL>

### *Subcategory: Patent/Intellectual Property Issues*

#### **Same Troll, New Name**

Paul Livingstone

R & D Magazine

24-Nov-08

A defensive patent aggregator is merely a new chapter in the rapidly evolving business of intellectual property trading, which promises to heat up as potentially valuable patents continue to roll out in record numbers, says Livingstone.

<http://www.rdmag.com/ShowPR.aspx?PUBCODE=014&ACCT=140000101&ISSUE=0811&RELTYPE=PR&ORIGRELTYPE=EDNT&PRODCODE=00000000&PRODLETT=NU>

#### **Europe Rejects Stem Cell Patent**

Andrea Gawrylewski

The Scientist

01-Dec-08

The European Patent Office (EPO) issued its final ruling in November 2008, rejecting a much-contested embryonic stem cell patent which the US Patent Office upheld.

<http://www.the-scientist.com/blog/display/55249/>

### *Subcategory: Personnel Issues*

#### **Mentoring Magic**

Jennifer Evans

The Scientist

01-Dec-08

The most fundamental thing a mentor can do for a lab is to help to maximize a lab's productivity through an environment of collaboration and respect.

[http://www.the-scientist.com/templates/trackable/display/article1.jsp?type=article&o\\_url=article/display/55235&id=55235](http://www.the-scientist.com/templates/trackable/display/article1.jsp?type=article&o_url=article/display/55235&id=55235)

### *Subcategory: Privacy/ Records Management*

#### **Cleveland Clinic Makes Physician Disclosures Available Online**

Cleveland Clinic

03-Dec-08

As part of its continued commitment to transparency, Cleveland Clinic is implementing several measures to enhance patient and general consumer access to timely information.

[http://my.clevelandclinic.org/news/2008/cleveland\\_clinic\\_physician\\_disclosures.aspx](http://my.clevelandclinic.org/news/2008/cleveland_clinic_physician_disclosures.aspx)

---

## **INDUSTRY**

### *Subcategory: Big Pharma*

#### **Measured Metamorphosis**

Susan J. Ainsworth                      Chemical & Engineering News                      01-Dec-08

Discusses how drug companies are continuing efforts begun last year to cut costs, refocus business units, and craft more acquisitions and alliances to beef up less than robust new product pipelines.

<http://pubs.acs.org/cen/coverstory/86/8648cover.html>

*Subcategory: Bio Pharma*

**Biotechs Scramble**

Lisa Jarvis                                      Chemical & Engineering News                      01-Dec-08

Reports that biotech firms have been resorting to job cuts, reverse mergers, and other creative deal-making to fund their R&D efforts.

<http://pubs.acs.org/cen/news/86/i48/8648notw3.html>

*Subcategory: Educational Issues*

**Asian Students Top Global Math, Science Study**

R & D Magazine                                      11-Dec-08

Summarizes Trends in International Mathematics and Science Study (TIMSS) of more than 60 participants and 425,000 students assessed.

Full report available at: [http://timss.bc.edu/TIMSS2007/intl\\_reports.html](http://timss.bc.edu/TIMSS2007/intl_reports.html)

<http://www.rdmag.com/ShowPR~PUBCODE~014~ACCT~1400000101~ISSUE~0812~RELTYPE~IDN~PRODCODE~00000000~PRODLETT~EY.html>

*Subcategory: Generics*

**Drugmaker Delay on Generics Cost EU3 Billion, EU Says**

Matthew Newman                                      Bloomberg                                      28-Nov-08

European Union regulators accused drugmakers of costing consumers in 17 countries as much as 3 billion euros (\$3.9 billion) by using patent lawsuits and other tactics to keep cheaper generic medicines off the market.

<http://www.bloomberg.com/apps/news?pid=20601100&sid=acK.out4MFBw&refer=germany>

*Subcategory: Geographic focus*

**BioQatar: Luring Biotech Dollars to the Desert**

Kevin Davies                                      Bio-IT World                                      12-Dec-08

With cancer and diabetes as major health problems, Qatar is seeking to attract investors in fundamental and applied research, and technology development.

<http://www.bio-itworld.com/news/2008/12/12/BioQatar-symposium-lures-biotech-to-desert.html>

*Subcategory: Patent/Intellectual Property Issues*

**Providing Medicines For The Poor**

William Schulz                                      Chemical & Engineering News                      01-Dec-08

Reports 2 sides of debate on how the pharmaceutical industry can best

meet the medical needs of impoverished people around the globe:  
removal of patent protection on some drugs vs. intellectual property rights.  
<http://pubs.acs.org/cen/business/86/8648bus4.html>

---

## INVESTMENTS/ GOV. SUPPORT

### *Subcategory: Academia/ Laboratories*

#### **UCL Provost's Venture Prize**

University College of London 12-Dec-08

An unconventional new prize, offering academics the freedom to explore paradigm-shifting ideas, has been launched.

<http://www.ucl.ac.uk/research/venture-prize/>

### *Subcategory: Energy/ Fuel*

#### **Taking Pulp to the Pump**

Peter Fairley Technology Review 12-Dec-08

Swedish company Chemrec receives a stream of grants and investments backing a process for turning the black liquor left over from pulp and paper bleaching into a clean-burning synthetic biofuel.

<http://www.technologyreview.com/energy/21811/?a=f>

### *Subcategory: Federal*

#### **Public Funds Back a Growing Number of Innovations**

Stephanie Condon R & D Magazine 03-Dec-08

Trends indicate that more and more commercially successful innovations are backed by federal dollars, say researchers.

<http://www.rdmag.com/ShowPR~PUBCODE~014~ACCT~140000101~ISSUE~0812~RELTYP~IDN~PRODCODE~00000000~PRODLETT~AB.html>

### *Subcategory: Hospitals/ Health Care*

#### **HHMI Collaborative Innovation Awards Help Bring Researchers Together to Tackle New Ideas**

Howard Hughes Medical Institute 20-Nov-08

A \$10 million pilot program enable eight teams of scientists to devote substantial time and energy to pursuing collaborative, potentially transformative research.

<http://www.hhmi.org/news/20081120.html>

---

## ORGANIZATIONS

### *Subcategory: Bio Pharma*

## **Building Integrative Biology at Boehringer Ingelheim**

John Russell

Bio-IT World

20-Nov-08

Discusses biotherapeutics and integrative biology approaches and systems biology approaches for company's new direction. Focus to be on immunology and inflammation and on cardiovascular disease.

[http://www.bio-itworld.com/BioIT\\_Article.aspx?id=85212](http://www.bio-itworld.com/BioIT_Article.aspx?id=85212)

---

## **PERSONALIZED MEDICINE**

### *Subcategory: Imaging*

#### **Next Generation Sequencing Speeds Personalized Medicine**

Douglas Brown, Ph.D

Scientific Computing

26-Nov-08

New sequencing technologies are under development that dramatically increase the speed and reduce costs. Table of key developers of genome sequencers and their latest generation of products.

<http://www.scientificcomputing.com/Next-Generation-Sequencing-Speeds-Personalized-Medicine.aspx>

### *Subcategory: Oncology*

#### **Bringing Personalized Medicine to Cancer Patient**

Alissa Poh

Bio-IT World

10-Dec-08

Discusses basic hurdles to be overcome for personalized medicine to become more than a castle in the air for cancer research.

<http://www.bio-itworld.com/news/2008/12/10/Astrazeneca-roundtable-personalized-medicine-cancer-patients.html>

---

## **PLATFORM TECHNOLOGIES**

### *Subcategory: Drug Discovery*

#### **RNA Interference Inhibits Respiratory Syncytial Virus Replication and Disease Pathogenesis without Inhibiting Priming of the Memory Immune Response**

Ralph A. Tripp and

Journal of Virology

01-Dec-08

Wenliang Zhang

Researchers have demonstrated for the first time that RNA interference can be used as a tool in the development of vaccines.

<http://jvi.asm.org/cgi/content/abstract/82/24/12221?maxtoshow=&HITS=10&hits=10&RESULTFORMAT=&author1=tripp%2C+R.&searchid=1&FIRSTINDEX=0&resourcetype=HWCIT>

### *Subcategory: Evolution Research*

#### **Navigating the Nucleosome**

Charles Choi

The Scientist

01-Dec-08



### **Reversing the Conventional DNA Wisdom**

Anne Trafton

MIT News

04-Dec-08

Researchers have found evidence that two DNA copying machines frequently start from the same site and move in different directions.

<http://web.mit.edu/newsoffice/2008/reverse-dna-1204.html>

### **Just a Little Squeeze Lets Proteins Assess DNA**

Nancy C. Horton

Physorg.com

16-Dec-08

DNA-binding proteins were thought to use full-body hugs for accurate readings of the information coded in the DNA's sequence, but to find its target, a protein just needs a quick squeeze as it moves along the DNA strand, suggests new research.

<http://www.physorg.com/news148662760.html>

### **New Research Shows How Gene Function Drives Natural Selection in Important Class of Genetic Elements**

Regina Baucoma

Physorg.com

12-Dec-08

Researchers thought that most transposons were passive "junk" DNA; however, they have been found to have sudden bursts of activity, dramatically increasing a genome's size.

<http://www.physorg.com/pdf148131257.pdf>

### *Subcategory: Tissue Engineering*

#### **Production Line for Artificial Skin**

Prof. Dr. Heike Mertsching

Fraunhofer IGB

01-Dec-08

A fully automated process improves production of artificial tissue: medical scientists can perform transplants with skin produced in the laboratory. Tissue is also suitable for testing chemicals at a low cost without requiring animal experiments.

[http://www.igb.fraunhofer.de/WWW/Presse/Jahr/2008/en/PI\\_skin-production.en.html](http://www.igb.fraunhofer.de/WWW/Presse/Jahr/2008/en/PI_skin-production.en.html)

---

## **RESEARCH ADVANCEMENTS**

### *Subcategory: Addiction*

#### **Triggering Addiction**

Markus Heilig

The Scientist

01-Dec-08

Reports that long term neuro-adaptations occur in the alcohol-addicted brain which provide a very different motivation for relapse than the pleasure-seeking response of those who have that genetic susceptibility.

[http://www.the-scientist.com/templates/trackable/display/article1.jsp?a\\_day=1&index=1&year=2008&page=30&month=12&o\\_url=2008/12/1/30/1](http://www.the-scientist.com/templates/trackable/display/article1.jsp?a_day=1&index=1&year=2008&page=30&month=12&o_url=2008/12/1/30/1)

#### **The Science of Stress**



NAPE, that tells your brain your stomach is full.  
<http://www.hhmi.org/news/shulman20081126.html>

### *Subcategory: Oncology*

#### **Lactic Acid Found to Fuel Tumors**

Duke Med News

20-Nov-08

Researchers found that lactic acid is an important energy source for tumor cells and have discovered a new way to destroy the most hard-to-kill, dangerous tumor cells by preventing them from delivering lactic acid.

[http://www.dukehealth.org/HealthLibrary/News/lactic\\_acid\\_found\\_to\\_fuel\\_tumors](http://www.dukehealth.org/HealthLibrary/News/lactic_acid_found_to_fuel_tumors)

#### **Melanoma Spawns Tumors with Deadly Efficiency**

Sean J. Morrison

Howard Hughes Medical Institute

04-Dec-08

New studies show that at least one of every four melanoma cells has the capacity to seed the development of new tumors. The finding suggests that targeting just a small subset of melanoma cells will not be enough to stop the cancer from growing.

<http://www.hhmi.org/news/morrison20081204.html>

#### **Precious Metal Could Lead to next Generation of Cancer Treatments**

University of Warwick

01-Dec-08

A precious metal, osmium, which has never before been used in a clinical setting is being developed as an anti-cancer agent.

[http://www2.warwick.ac.uk/newsandevents/pressreleases/precious\\_metal\\_could/](http://www2.warwick.ac.uk/newsandevents/pressreleases/precious_metal_could/)

#### **Researchers Solve Piece of Large-scale Gene Silencing Mystery**

Rachel Shulman

Washington University in St. Louis

04-Dec-08

If researchers could harness the silencing machinery involved in nucleolar dominance to limit the expression of rRNA genes, they could potentially slow the growth rate of tumor cells and thereby slow the progression of diseases like cancer.

<http://news-info.wustl.edu/tips/page/normal/13073.html?emailID=22171>

---

## **RESEARCH TOOLS**

### *Subcategory: Computing Systems*

#### **Community Proteomics Analysis**

Ian Gorton, Christopher S.

Scientific Computing

26-Nov-08

Oehmen and Jason E.

McDermott

Proteomics analysis of complex communities is extremely difficult. Describes how an analysis of a microbial community relied on the Middleware for Data-Intensive Computing (MeDICi) pipeline to cut the

time-to-solution.

<http://www.scientificcomputing.com/Community-Proteomics-Analysis.aspx>

### **Semantic Sense for the Desktop**

Erica Naone Technology Review 16-Dec-08

New software, called Nepomuk, can uncover more useful information by focusing on the connections between data; it can locate relevant files if they don't mention the keyword used to search.

<http://www.technologyreview.com/computing/21840/?a=f>

### **Supercharged File Sharing**

Kurt Kleiner Technology Review 15-Dec-08

File sharing accounts for about 70 percent of all network traffic; Provider Portal for Applications (P4P) reduces file-trading traffic by connecting computers that are nearer and sharing files at the lowest resource cost.

<http://www.technologyreview.com/communications/21830/?a=f>

### *Subcategory: Disease Prevention*

### **Study of Ancient and Modern Plagues Finds Common Features**

Anne A. Oplinger NIH News 21-Nov-08

Common determinants of disease emergence that transcend time, place and human progress. A better understanding of these determinants is essential for preparing for the next emerging or re-emerging disease.

<http://www.nih.gov/news/health/nov2008/niaid-21.htm>

### **Scientists Count Messages Made by a Single Gene**

R & D Magazine 05-Dec-08

Describes a technique for looking more precisely at a fundamental step of a cell's life, a gene, DNA, being read into a message, mRNA.

Technique could provide a window into the process by which genes are switched on inappropriately, causing disease.

<http://www.rdmag.com/ShowPR~PUBCODE~014~ACCT~1400000101~ISSUE~0812~RELTYP~MIC~PRODCODE~00000000~PRODLETT~BR.html>

### *Subcategory: Genome Sequence*

### **The Day I Had My Genes Tested**

James Randerson Guardian 09-Dec-08

DNA analysis for diseases such as cancer and Alzheimer's is growing in popularity, but scientists are doubtful of its value. James Randerson pays £825 to try it.

<http://www.guardian.co.uk/lifeandstyle/2008/dec/09/healthandwellbeing-medicalresearch>

### **IBM Reveals Five Innovations That Will Change Our Lives in the Next Five Years**

Angela Sullivan IBM 25-Nov-08

Genetic mapping will radically transform healthcare over the next 5

years and allow you to take better care of yourself, IBM predicts. Mapping tells you what health risks you are likely to face in your lifetime, specific things you can do to prevent them.

<http://www-03.ibm.com/press/us/en/pressrelease/26170.wss>

***Subcategory: Imaging***

**Simultaneous Tracking of Fly Movement and Gene Expression Using GFP**

Dhruv Grover, et al.

BMC Biotechnology

16-Dec-08

Demonstrates that GFP (Green Fluorescent Protein) can readily be used to assay longitudinally fly movement and tissue-specific patterns of gene expression.

<http://www.biomedcentral.com/1472-6750/8/93/abstract>

***Subcategory: Mouse/ Rat Models***

**ORNL To Move "Mouse House" Research**

Mike Bradley

Oak Ridge National Laboratory

04-Dec-08

The U.S. Department of Energy's (DOE) Oak Ridge National Laboratory is moving its colony of 8,000 mice known as the Collaborative Cross to the University of North Carolina.

[http://www.ornl.gov/info/press\\_releases/get\\_press\\_release.cfm?ReleaseNumber=mr20081204-00](http://www.ornl.gov/info/press_releases/get_press_release.cfm?ReleaseNumber=mr20081204-00)

---

## **THERAPEUTIC CATEGORY**

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

**Scientists Build 'Roach Motel' for Nasty Bugs of the Bacterial Variety**

Aaron Hoover

Infection Control Today

24-Nov-08

Tiny microscopic spheres trap and kill harmful bacteria; could lead to new coatings to disinfect common surfaces, combat bioterrorism or sterilize medical devices, reducing an estimated 1.4 million infection-related deaths each year.

<http://www.infectioncontroltoday.com/hotnews/roach-motel-for-bacteria.html>

---

Copyright 2008, Technology Management Associates, Inc.. All rights reserved. Please do not reprint or host on your Web site without explicit permission.