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## BioTechCircle News®

October 2008

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Featured October articles. We had a hard time selecting our favorites Here are our "top 5" picks of the 60 links this month.

### **Plant Tweak Could Let Toxic Soil Feed Millions**

Scientists made plants tolerant of poisonous aluminum by tweaking a single gene, AlATR. This may allow crops to thrive in the 40 to 50 percent of Earth's soils currently rendered toxic by the metal.

<http://blog.wired.com/wiredscience/2008/10/plant-tweak-cou.html>

### **Everyday Products Carry A Hidden Global Cost**

You can understand your effect on the planet by calculating your water footprint at [waterfootprint.org](http://waterfootprint.org). For example, one cup of coffee takes 140 L of water to make, hundreds of times the volume of the drink itself. Table of common goods.

<http://pubs.acs.org/cen/coverstory/86/8640coverbox1.html>

### **Mimicking Body Biosensors**

Describes a method to make artificial antibodies that may be just as effective as the real thing. These natural proteins are widely used in diagnostic tests but are expensive to synthesize in the lab and only last a few months.

<http://www.technologyreview.com/biomedicine/21603/>

### **Inkjet Printing Finds a Way to The Heart**

If a printer drops cells one by one into the right spots and repeats the process for many layers, it creates a 3D organ. Much like a printer chooses different colors, the machine can position different types of cells to drop.

<http://www.rdmag.com/ShowPR.aspx?PUBCODE=014&ACCT=140000101&ISSUE=0810&RELTYPE=LST&PRODCODE=00000000&PRODLETT=AO>

### **When Cancer is Just the Beginning**

Rarely, the body reacts to cancer by generating immune cells that chew

their way into the brain. Could research with this handful of patients create a new therapeutic cancer vaccine?

<http://www.the-scientist.com/2008/10/1/38/1/>

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**In this articles section: links to 60 free Web articles in 15 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 (5 articles) – Page 2  
Biobusiness Management (1 article) – Page 3  
Diagnostic Tools (1 article) - Page 4  
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## **AGRI-BIOTECH**

### ***Subcategory: Animal***

#### **Beyond the Abyss: Caught on Camera**

Scientific Computing

20-Oct-08

Scientists filming in one of the world's deepest ocean trenches have found groups of highly sociable snailfish swarming over their bait nearly 5 miles beneath the surface of the Pacific Ocean. This is the first time cameras have been sent to this depth.

<http://www.scientificcomputing.com/Beyond-the-Abyss-Caught-on-Camera.aspx>

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

### **Plant Tweak Could Let Toxic Soil Feed Millions**

Brandon Keim

Wired

02-Oct-08

Scientists made plants tolerant of poisonous aluminum by tweaking a single gene, AlATR. This may allow crops to thrive in the 40 to 50 percent of Earth's soils currently rendered toxic by the metal.

<http://blog.wired.com/wiredscience/2008/10/plant-tweak-cou.html>

#### *Subcategory: Energy/Fuel*

### **Don't Blame Biofuels for Food Crisis**

Alexis Madrigal

Wired

07-Oct-08

The State of Food and Agriculture 2008 projects that biofuels production only adds 15% to world food prices, and that despite rising ethanol capacity, overall food prices are headed down. Other experts disagree.

<http://blog.wired.com/wiredscience/2008/10/un-report-paint.html>

#### *Subcategory: Environment*

### **Everyday Products Carry A Hidden Global Cost**

Melody Voith

Chemical & Engineering News

06-Oct-08

You can understand your effect on the planet by calculating your water footprint at [waterfootprint.org](http://waterfootprint.org). For example, one cup of coffee takes 140 L of water to make, hundreds of times the volume of the drink itself. Table of common goods.

<http://pubs.acs.org/cen/coverstory/86/8640coverbox1.html>

#### *Subcategory: Microorganisms*

### **'Bug Farm' Cleans Montana Plant's Pollution**

Keriann Lynch

Manufacturing.net

22-Oct-08

The largest biofilter in the world houses approximately four trillion microscopic bacteria that clean the air of formaldehyde and methanol released during a fiberboard manufacturing process. The biofilter cleans about 9,000 cubic feet of air per minute.

<http://www.manufacturing.net/News-Bug-Farm-Cleans-Montana-Plant->

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## **BIOBUSINESS MANAGEMENT**

#### *Subcategory: Environment*

### **Attack of the Green Tech Geeks**

Anya Kamenetz

Fast Company

01-Nov-08

Discusses impact of sophisticated sensors and software systems to measure and manage gas, electricity, and water usage; power-grid surges; traffic congestion; pollutants in rivers and other bodies of water; the effects of green roofs and solar panels.

## DIAGNOSTIC TOOLS

### *Subcategory: Antibodies*

#### **Mimicking Body Biosensors**

Katherine Bourzac

Technology Review

28-Oct-08

Describes a method to make artificial antibodies that may be just as effective as the real thing. These natural proteins are widely used in diagnostic tests but are expensive to synthesize in the lab and only last a few months.

<http://www.technologyreview.com/biomedicine/21603/>

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## DRUG DELIVERY

### *Subcategory: Proteomics*

#### **Bacterial Stress Reliever**

Stu Borman

Chemical & Engineering News

06-Oct-08

The structure of the stressosome, one of the most complex regulatory machines in bacteria, has been obtained for the first time. Findings could lead to the use of stressosomes as drug delivery systems or bionanotechnology scaffolds.

<http://pubs.acs.org/cen/news/86/i40/8640notw9.html>

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## INDUSTRY

### *Subcategory: Bio Pharma*

#### **Pharma Giants Prowl For Biotech Startups**

Jason Millman

Hartford Business

13-Oct-08

Major pharmaceuticals are eager to win a piece of the biotech action, such as new drugs based on stem cell research. Biotech startups that develop products with the promise of commercial success can count on buyers to step in with lucrative offers.

<http://www.hartfordbusiness.com/news6842.html>

#### **Study: Safety A Problem For New Generation Drugs**

Lindsey Tanne

Manufacturing.net

21-Oct-08

Nearly 25% of widely used new-generation biological drugs for several common diseases produce serious side effects that lead to safety warnings soon after they go on the market, the first major study of its kind found.

<http://www.manufacturing.net/News-Study-Safety-A-Problem-For-New-Generation-Drugs.aspx?menuid=36>

***Subcategory: Bioethics***

**O Death, When Is Thy Sting?**

Economist

02-Oct-08

As the demand for organs rises, doctors are under pressure to shift the line that divides life from death. This article and the 3 pages of reader comment are well worth reading.

[http://www.economist.com/science/displaystory.cfm?story\\_id=12332939](http://www.economist.com/science/displaystory.cfm?story_id=12332939)

***Subcategory: Education***

**Real World Design Governor's Challenge!**

Department of Energy

20-Oct-08

Describes annual event that provides high school students, grades 9 – 12, the opportunity to work on real world engineering challenges in a team environment. 2008/2009 Challenge will focus on aeronautics and energy usage.

<http://www.scied.science.doe.gov/RWDC/index.html>

**Summer Students Successfully Complete Janelia Undergraduate Research Program**

Howard Hughes Medical Institute

06-Oct-08

The Janelia Undergraduate Scholars Program, which is in its first year, hosted 14 undergraduate students from the U.S. and U.K. The students worked on research projects under the guidance of Janelia Farm scientists.

<http://www.hhmi.org/news/20081003undergrad.html>

***Subcategory: Energy/ Fuel***

**Why Clean Tech Is Taking Biotech's Shine**

Connie Johnson Hambley

Business Week

07-Oct-08

Much of the growth in clean tech is being fueled by investors, inventors, and entrepreneurs with deep biopharma credentials, underscoring how tightly interwoven these seemingly disconnected industries are.

[http://www.businessweek.com/technology/content/oct2008/tc2008103\\_906261.htm](http://www.businessweek.com/technology/content/oct2008/tc2008103_906261.htm)

***Subcategory: Misc. Medical Devices***

**Biotech's Hidden Stepsister**

Alla Katsnelson

The Scientist

01-Oct-08

Medical devices are getting more complex, FDA requirements for testing them are becoming more stringent, and ensuring that new devices will be reimbursed by insurance companies is becoming

increasingly difficult.

<http://www.the-scientist.com/2008/10/1/32/1/>

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## INVESTMENTS/ GOV. SUPPORT

### *Subcategory: Cell Lines*

#### **Embryonic Stem Cell Researchers Lack Funding**

Arlene Weintraub

Business Week

25-Sep-08

With no government, and little private support, embryonic stem cell outfits are barely hanging on. Weintraub discusses how the next President may determine their fate.

[http://www.businessweek.com/magazine/content/08\\_40/b4102058696838.htm](http://www.businessweek.com/magazine/content/08_40/b4102058696838.htm)

### *Subcategory: Computing Systems*

#### **FDA Awards up to \$2.5 Billion to Modernize Information Technology over Ten Years**

FDA News

30-Sep-08

The FDA is creating a high-tech, efficient, data management system designed to protect and promote the health of the American public. Two new data centers will be the cornerstone of the IT infrastructure and bioinformatics modernization.

<http://www.fda.gov/bbs/topics/NEWS/2008/NEW01893.html>

### *Subcategory: Education*

#### **Testing for Tech Literacy**

Douglas MacMillan

Business Week

28-Oct-08

As U.S. students fall further behind in math and science, the Education Dept. commissions the first nationwide assessment on technology.

[http://www.businessweek.com/technology/content/oct2008/tc20081027\\_279347.htm](http://www.businessweek.com/technology/content/oct2008/tc20081027_279347.htm)

### *Subcategory: Federal*

#### **NIH Grants \$55 Million in Institutional Development Awards**

National Institute of Health

23-Oct-08

Reproductive biology; mechanisms linking the epidemic of obesity to cardiovascular disease; cardiovascular causes, consequences of diabetes and obesity; nanomedicine, drug delivery, therapeutics, and diagnostics; neural mechanisms of schizophrenia.

<http://www.nih.gov/news/health/oct2008/ncrr-23.htm>

### *Subcategory: Immunology/ Infectious Diseases*

#### **Google.org Battles Bugs & Viruses**

Google

21-Oct-08

Google.org's Predict and Prevent initiative is supporting efforts to identify hot spots where diseases may emerge, detect new pathogens circulating in animal and human populations, and respond to outbreaks before they become global crises.

[http://www.google.com/intl/en/press/pressrel/20081021\\_googleorg.html](http://www.google.com/intl/en/press/pressrel/20081021_googleorg.html)

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## MEDICAL DEVICES

### *Subcategory: Cardiology/ Vascular Diseases*

#### **Operating inside a Beating Heart**

Rachel Kremen

Technology Review

21-Oct-08

A robotic system could help surgeons perform a common valve repair while the heart beats on. The system uses 3-D ultrasound images to predict and compensate for the motion of the heart.

<http://www.technologyreview.com/biomedicine/21582/>

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## NOVEL APPLICATIONS

### *Subcategory: Energy/ Fuel*

#### **Humdinger's Wind Power Alternative**

Business Week

06-Oct-08

Green innovator plans to harness the power of wind to generate electricity through a cell phone-sized, safe, and renewable power generator that could be used to power LED lights and small household electronics, such as radios.

[http://www.businessweek.com/innovate/content/oct2008/id2008106\\_231604.htm](http://www.businessweek.com/innovate/content/oct2008/id2008106_231604.htm)

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## ORGANIZATIONS

### *Subcategory: Computing Systems*

#### **Microsoft's Growing Push into Life Sciences**

John Russell

Bio-IT World

09-Oct-08

Microsoft and others are awakening to opportunities in healthcare and to biomedical research as a key piece of that enterprise. Discusses strategic directions of Microsoft's U.S. Health & Life Sciences Group.

[http://www.bio-itworld.com/BioIT\\_Article.aspx?id=82176](http://www.bio-itworld.com/BioIT_Article.aspx?id=82176)

### *Subcategory: Oncology*

#### **Why All the ImClone Interest? Its Pipeline**

Catherine Arnst

Business Week

03-Oct-08

With 5 drugs in development, ImClone has one of the strongest oncology pipelines in the business. Marketing costs are relatively low for cancer drugs, because oncologists are generally very knowledgeable about the latest treatments.

[http://www.businessweek.com/technology/content/oct2008/tc2008102\\_149704.htm](http://www.businessweek.com/technology/content/oct2008/tc2008102_149704.htm)

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## PEOPLE PROFILES

### *Subcategory: Oncology*

#### **23andme Launches Breast Cancer Networking Project**

Caroline McCarthy

cnet News

02-Oct-08

Using its Web-based social network, 23andMe hopes to build a community around women who have encountered breast cancer, increasing the scientific understanding of the inherited aspects of the disease affecting 200,000 newly diagnosed people per year.

[http://news.cnet.com/8301-13577\\_3-10056770-36.html](http://news.cnet.com/8301-13577_3-10056770-36.html)

### *Subcategory: Proteomics*

#### **George Palade Dies**

Andrea Gawrylewski

The Scientist

08-Oct-08

The cell biologist, "a real giant of the biological sciences in the last century," discovered the ribosome and other cell components, earning him a Nobel, a Lasker, and a National Medal of Science award.

[http://www.the-scientist.com/templates/trackable/display/news.jsp?type=news&o\\_url=news/display/55079&id](http://www.the-scientist.com/templates/trackable/display/news.jsp?type=news&o_url=news/display/55079&id)

### *Subcategory: Virology*

#### **Nobel Prize for Medicine Awarded to Virus Hunters**

Discover

06-Oct-08

The prize was awarded jointly to France's Françoise Barre-Sinoussi and Luc Montagnier, who worked together to identify the HIV virus that causes AIDS, and to German's Harald zur Hausen who discovered the human papilloma viruses that cause cervical cancer.

<http://blogs.discovermagazine.com/80beats/2008/10/06/nobel-prize-for-medicine-awarded-to-virus-hunters/>

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## PERSONALIZED MEDICINE

### *Subcategory: Genomics*

#### **Scripps, Navigenics, and Microsoft Sponsor Trial on Personal Genetic Testing**

Bio-IT World 09-Oct-08  
Companies launch research study to assess the behavioral impact of personal genetic testing. Goal is to discover if participating in personal genomic testing improves people's health by their making positive lifestyle decisions and medical monitoring.  
<http://www.bio-itworld.com/els-scripps-gene-testing-impact.html>

### **Personal Genome Project**

Personal Genome Project 01-Oct-08  
Volunteers from the general public are working together with researchers to advance personal genomics. Recruiting volunteers willing to share their genome sequence, many types of personal information with the research community, general public.  
<http://www.personalgenomes.org/>

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## **PLATFORM TECHNOLOGIES**

### *Subcategory: Cell Therapy*

#### **Prostates Grown from Stem Cells**

Jocelyn Rice Technology Review 23-Oct-08  
A single adult stem cell from the prostate of a mouse can develop into an entire functional organ, proving that a population of stem cells exists in the adult prostate. It could provide insight into how prostate cancer develops.  
<http://www.technologyreview.com/biomedicine/21594/page1/>

### *Subcategory: Diagnostic Test Systems*

#### **European Researchers Harness Unique Properties of Boron to Develop New Drugs and Diagnostics**

European Science Foundation 21-Oct-08  
Boron is now attracting fast growing research interest and investment from the pharmaceutical industry in the quest for novel drugs to tackle cancer and infectious diseases, potentially overcoming limitations and side effects of current products.  
<http://www.esf.org/research-areas/medical-sciences/news/ext-news-singleview/article/european-researchers-harness-unique-properties-of-boron-to-develop-new-drugs-and-diagnostics-507.html>

#### **Sensitive Nanowire Disease Detectors Made by Yale Scientists**

Yale University 10-Oct-08  
Nanowire sensors coupled with simple microprocessor electronics are both sensitive and specific enough to be used for point-of-care (POC) disease detection. Could be a large market both in the U.S. and in underdeveloped countries.  
<http://opa.yale.edu/news/article.aspx?id=6121&f=20At>

### *Subcategory: Evolution Research*

#### **Origin-Of-Life Chemistry Revisited**

Stephen K. Ritter                                      Chemical & Engineering News                                      20-Oct-08

Ritter describes how reanalysis of the famous 1950s spark-discharge experiments reveals a richer collection of amino acids were formed. These could have been polymerized by carbonyl sulfide (volcanic gas) to form peptides leading to proteins.

<http://pubs.acs.org/cen/news/86/i42/8642notw4.html>

### *Subcategory: Gene Therapy*

#### **Man's Best Friend Recruited in the Hunt for Disease Genes**

European Science Foundation                                      16-Oct-08

Dogs are helping in the hunt for genetic mutations that lead to diseases in humans. Many canine diseases could share the same genetic basis in humans and dogs, as dogs get very similar diseases to humans.

<http://www.esf.org/research-areas/life-earth-and-environmental-sciences/news/ext-news-singleview/article/mans-best-friend-recruited-in-the-hunt-for-disease-genes-503.html>

### *Subcategory: Genomics*

#### **Unpicking the Complexity of Human Diseases**

European Science Foundation                                      13-Oct-08

The mysteries of the human genome are slowly being revealed, but the more we uncover the more complicated the picture becomes, scientists say. "For diabetes, weight and age are still better predictors of risk than the gene profile."

<http://www.esf.org/research-areas/life-earth-and-environmental-sciences/news/ext-news-singleview/article/unpicking-the-complexity-of-huamn-diseases-499.html>

### *Subcategory: Materials*

#### **Cell-Wall Set Point**

Celia Arnaud                                                              Chemical & Engineering News                                      20-Oct-08

Understanding how cell-wall enzymes from different bacteria make cell-wall polymers with different chain lengths could lead to a better understanding of cell-wall architecture and to improvements in other systems for making polymers.

<http://pubs.acs.org/cen/news/86/i42/8642notw1.html>

#### **Polymer Pulls Ion Pairs from Water**

Rachel Petkewich                                                              Chemical & Engineering News                                      27-Oct-08

Describes bifunctional material which may be used to purify water through desalination, to remove phosphate from waterways or transuranic cations from radioactive waste and for controlling hyperkalemia, caused by excessive potassium in the blood.

<http://pubs.acs.org/cen/news/86/i43/8643notw4.html>

### **Inkjet Printing Finds a Way to The Heart**

R & D Magazine

21-Oct-08

If a printer drops cells one by one into the right spots and repeats the process for many layers, it creates a 3D organ. Much like a printer chooses different colors, the machine can position different types of cells to drop.

<http://www.rdmag.com/ShowPR.aspx?PUBCODE=014&ACCT=140000101&ISSUE=0810&RELTYPE=LST&PRODCODE=00000000&PRODLETT=AO>

#### *Subcategory: Monofluidics*

### **Light Wave R&D Takes a Surprising Turn**

R & D Magazine

01-Oct-08

Certain light beams called Airy beams for their discover, do not diffract or spread but instead travel around corners and propel particles around corners. Could have major applications in microfluidic engineering and cell biology.

<http://www.rdmag.com/ShowPR.aspx?PUBCODE=014&ACCT=140000101&ISSUE=0809&RELTYPE=PHOT&PRODCODE=00000000&PRODLETT=JZ>

#### *Subcategory: Proteomics*

### **Protein Aggregates Probed**

Jyllian N. Kemsley

Chemical & Engineering News

13-Oct-08

Discusses new data on the structure of inclusion bodies, large insoluble aggregates, perhaps offering insights that could lead to new ways to extract active protein from the aggregates or prevent their formation entirely.

<http://pubs.acs.org/cen/science/86/8641sci1.html>

### **Getting to Grips with the Complexity of Disease Proteins**

European Science Foundation

20-Oct-08

Drug molecules seldom act simply on one protein but on protein complexes and networks. A deeper understanding of these 'cooperative assemblies' should lead to better targeting of drugs.

<http://www.esf.org/research-areas/medical-sciences/news/ext-news-singleview/article/getting-to-grips-with-the-complexity-of-disease-proteins-506.html>

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## **RESEARCH ADVANCEMENTS**

#### *Subcategory: Drug Discovery*

### **Bacteria Gladiators**

Megan Scudellari

The Scientist

01-Oct-08

When a new antibiotic isolated from *Rhodococcus fascians* is dripped

onto a paper disc in the middle of a plate full of other bacteria, all the bacteria near the filter disc die. Describes a successful antimicrobial project "followed by ten unknowns."

<http://www.the-scientist.com/article/display/55028/>

### *Subcategory: Hematology*

#### **Nervous System Rallies Immune System Forces Against Invading Pathogens**

Howard Hughes Medical Institute 18-Sep-08

Specific cells in the nervous system coordinate initial defenses against toxic bacteria. Those first responders are part of the hard-wired immune system that fends off invading microbes until the adaptive immune response is mobilized.

<http://www.hhmi.org/news/20080919aballay.html>

### *Subcategory: Immunology/ Infectious Diseases*

#### **European Research Effort FUMINOMICS Tackles Dangerous Mould**

European Science Foundation 18-Sep-08

*Aspergillus fumigatus* is a ubiquitous mold that lives in the soil and on plant debris and disperses its spores through the air. The mold is harmless to most people, but its infection can be fatal for those with a seriously diminished immune system.

<http://www.esf.org/research-areas/medical-sciences/news/ext-news-singleview/article/european-research-effort-fuminomics-tackles-dangerous-mould-485.html>

#### **Silencing a Protein Could Kill T-cells, Reverse Leukemia**

Penn State University 22-Oct-08

Blocking the signals from a protein that activates cells in the immune system could help kill cells that cause a rare form of blood cancer.

Could provide more efficient ways of targeting diseases such as leukemia.

<http://live.psu.edu/story/35475>

### *Subcategory: Oncology*

#### **When Cancer is Just the Beginning**

Julia C. Mead The Scientist 01-Oct-08

Rarely, the body reacts to cancer by generating immune cells that chew their way into the brain. Could research with this handful of patients create a new therapeutic cancer vaccine?

<http://www.the-scientist.com/2008/10/1/38/1/>

### *Subcategory: Pediatrics/ Neonatology*

#### **New Blood Test for Down Syndrome**

Howard Hughes Medical Institute 06-Oct-08

A new prenatal blood test accurately detected Down syndrome and two other serious chromosomal defects in a small study of 18 pregnant

women. If confirmed in larger trials, the test would offer a safer and faster alternative to invasive prenatal tests.

<http://www.hhmi.org/news/quake20081006.html>

### *Subcategory: Reproduction*

#### **GenderBending**

Economist

23-Oct-08

Discusses ideas explaining why relatives of those who are gay gain some advantage that allows genes predisposing people to homosexual behavior to be passed on collaterally.

[http://www.economist.com/science/displaystory.cfm?story\\_id=12465295](http://www.economist.com/science/displaystory.cfm?story_id=12465295)

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## **RESEARCH TOOLS**

### *Subcategory: Biomarker*

#### **Building Bundles of Biomarkers**

Mike May

Drug Discovery & Development

01-Jul-08

Groups of biomarkers tracked over time help to unravel diseases, and this requires multiple approaches to identify and validate new markers, writes May.

<http://www.dddmag.com/Article-Identifying-and-Validating-Biomarkers.aspx>

#### **Cell Illuminators Win Chemistry Nobel**

Brandon Keim

Wired

08-Oct-08

The scientist responsible for identifying and isolating green fluorescence protein (GFP), used to observe cellular function, reportedly just wanted to figure out how crystal jellyfish glow, has never been interested in applications.

<http://blog.wired.com/wiredscience/2008/10/cell-illuminato.html>

### *Subcategory: Evolution Research*

#### **Sensitizing NMR**

Jyllian Kemsley

Chemical & Engineering News

27-Oct-08

Dynamic nuclear polarization (DNP) is making NMR a newly powerful tool for identifying reaction intermediates, probing enzyme kinetics, and imaging in vivo.

<http://pubs.acs.org/cen/coverstory/86/8643cover.html>

#### **New Research Shows MicroRNAs Emerged Early in Evolution**

Howard Hughes Medical Institute

01-Oct-08

The ability of microRNAs to silence gene expression likely evolved from a more ancient defense against viruses, bacteria, and other mobile genetic elements that can mutate host DNA.

<http://www.hhmi.org/news/bartel20081001.html>

### *Subcategory: Gene Sequences*

#### **What Gene Tests Can Really Tell You**

John Carey

Business Week

23-Oct-08

Many academics contend that the claims of the new gene-testing startups are premature and overblown. Gene sequencing technology must advance to the point where researchers can examine and compare the entire genetic codes of tens of thousands of people.

[http://www.businessweek.com/magazine/content/08\\_44/b4106068133766.htm](http://www.businessweek.com/magazine/content/08_44/b4106068133766.htm)

#### **The Story in Your Genes**

Business Week

23-Oct-08

Most of the billions of letters of paired bits of DNA are the same in every person. But they differ at perhaps 10 million places, the differences called SNPs. Even if all SNPs were tested, the information may not be medically useful.

[http://www.businessweek.com/magazine/content/08\\_44/b4106068137613.htm](http://www.businessweek.com/magazine/content/08_44/b4106068137613.htm)

#### **Reading the Entire Genetic Code**

John Carey

Business Week

23-Oct-08

New tools are being announced that will read the entire human genetic code in a few hours and at a price of \$5,000 per genome.

[http://www.businessweek.com/magazine/content/08\\_44/b4106068139205.htm](http://www.businessweek.com/magazine/content/08_44/b4106068139205.htm)

#### **The Hole Story**

Economist

16-Oct-08

Alpha-hemolysin is used by Staphylococcus aureus, a disease-causing bacterium, to punch holes in cells' outer membranes; the cell's ions leak through the hole, resulting in a change of current. Concept may be applicable to DNA sequencing.

[http://www.economist.com/science/displaystory.cfm?story\\_id=12415210](http://www.economist.com/science/displaystory.cfm?story_id=12415210)

### *Subcategory: Imaging*

#### **Printing in 3D Gets Practical**

Rachael King

Business Week

06-Oct-08

Military surgeons are creating models of prostheses with 3D printers; the 3D printer can print out a mask from a digital map of the person's face that surgeons can use as a guide for reconstructive surgery. 3D printer prices are falling below \$10,000.

[http://www.businessweek.com/technology/content/oct2008/tc2008103\\_077223.htm](http://www.businessweek.com/technology/content/oct2008/tc2008103_077223.htm)

#### **Spotting Nascent Protein Crystals**

Carmen Drahl

Chemical & Engineering News

20-Oct-08

A microscopy technique that harnesses a special optical effect could

detect smaller protein crystals than can any other optical method. The technique may reduce the time and expense required to screen crystallization conditions.

<http://pubs.acs.org/cen/news/86/i42/8642news2.html>

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## STRATEGIC RELATIONSHIPS

### *Subcategory: Collaboration*

#### **Now Open for Drug Chemistry**

Emily Carlson and Erin National Institute of General Medical Sci. 10-Oct-08

Discusses goal for new resource: to make the finest data available for others to build computational tools that more precisely identify drug candidates.

<http://publications.nigms.nih.gov/computinglife/drugchemistry.htm>

### *Subcategory: M&A Activities*

#### **Millennium President Deborah Dunsire on the Takeda Takeover**

Alissa Poh PharmaWeek 09-Oct-08

When you merge a small, relatively young US biotech with Japan's 227-year-old pharmaceutical powerhouse, there are bound to be some hiccups along the way, say observers. Reviews integration, other merger issues.

[http://www.pharmaweek.com/Business\\_and\\_Markets/feature\\_10\\_7.asp](http://www.pharmaweek.com/Business_and_Markets/feature_10_7.asp)

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