



BioTechCircle News®

August 2009

In this articles section: links to 62 free Web articles in 13 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 (3 articles) – Page 1
Biobusiness Management (2 articles) – Page 2
Contract Services (1 article) – Page 2
Industry (6 articles) – Page 3
Novel Applications (4 articles) – Page 4
Organizations (1 article) – Page 5
Personalized Medicine (1 article) – Page 5
Pharmaceuticals (1 article) – Page 5
Platform Technologies (16 articles) – Page 6
Research Advancements (15 articles) – Page 9
Research Tools (10 articles) – Page 12
Strategic Relationships (1 article) – Page 14
Therapeutic Category (1 article) – Page 14

AGRI-BIOTECH

Subcategory: Animal

Mary Had a Lot of Lambs: Researchers Identify Way to Speed up Sheep Breeding

Chris Bentley

Cornell University

06-Aug-09

Researchers have discovered an unusual form of a gene that prompts ewes to breed out of season as well as conceive at younger ages and more frequently.

<http://www.news.cornell.edu/stories/Aug09/sheepMelatonin.html>

Subcategory: Microorganisms

Marine Microbes Creating Green Waves in Industry

BBSRC

07-Aug-09

New technology designed to analyze large numbers of novel marine microbes could lead to more efficient, greener ways to manufacture new drugs for epilepsy, diabetes, flu and other viruses, as well as improving the manufacture of agrochemicals.

http://www.bbsrc.ac.uk/media/releases/2009/090807_marine_microbes_creating_green_waves.h

Subcategory: Miscellaneous

From Nature, A Past And Future

Carmen Drahl

Chemical & Engineering News

10-Aug-09

Golden anniversary for natural products research society, the American Society of Pharmacognosy (ASP) brings celebration, introspection.

<http://pubs.acs.org/cen/science/87/8732sci1.html>

BIOBUSINESS MANAGEMENT

Subcategory: M&A Activities

Mega Mergers Can't Cure the Pharmaceutical Industry

Preston Henske and Tim van Biesen

Business Week

26-Jul-09

Big pharmaceutical companies may gain more from collaborating on research and development than from mega mergers, say industry observers, as mergers have typically contributed to declines in R&D productivity.

http://www.businessweek.com/technology/content/jul2009/tc20090724_243995.htm?link_pos

Subcategory: Personnel Issues

Learning From UCLA

Jyllian N. Kemsley

Chemical & Engineering News

03-Aug-09

Outlines details of the experiment that led to a researcher's death, prompting evaluations of academic safety practices.

<http://pubs.acs.org/cen/science/87/8731sci1.html>

CONTRACT SERVICES

Subcategory: Clinical Trials

Companies Outsourcing a Lower Percentage of Total Clinical Budgets: Survey

Global Services Media

07-Aug-09

Outsourcing represents a smaller portion of clinical trial budgets today than it did three years ago, according to a recent study.

<http://www.globalservicesmedia.com/Content/industry-healthcare200908077146.asp>

INDUSTRY

Subcategory: Collaboration

Dr. BlackBerry: Eight Apps Making Medicine More Mobile

Al Sacco

CIO.com

29-Jul-09

BlackBerry smartphones and physicians go together like Popeye and spinach. Here's a look eight medical-related BlackBerry applications that doctors, nurses and their assistants are using to improve your healthcare experience.

http://www.cio.com/article/498472/Dr._BlackBerry_Eight_Apps_Making_Medicine_More_Mo

Subcategory: Education

Teacher Training Means More Science at Montgomery County Elementary Schools

Howard Hughes Medical Institute

31-Aug-09

Describes professional development classes and workshops helping teachers improve their understanding of important science topics through inquiry-based teaching to instruct students about science.

<http://www.hhmi.org/news/eslp20090831.html>

Institute Takes Fear Out of Teaching Elementary School Science

Howard Hughes Medical Institute

31-Aug-09

Many elementary school teachers have little to no science background, and some are even fearful of science. Describes program for teachers from kindergarten through fifth grade for hands-on experience on how to use science kits in their classrooms.

<http://www.hhmi.org/news/cityscience20090831.html>

Undergraduate Scholars Live the Scientific Life at Janelia Farm

Howard Hughes Medical Institute

11-Aug-09

Projects include identifying the neurons that control feeding behavior in fruit flies, designing better labeling molecules for use with sophisticated microscopy, increasing dragonfly longevity, developing computer programs for automated image analysis.

<http://www.hhmi.org/news/jus20090811.html>

What to Do with Big Bad Industry?

Ben Eisen

Inside Higher Ed

30-Jul-09

Discussion on continuing medical education required for doctors and conflict of interest claims when pharmaceutical companies are involved in providing that continuing medical education.

<http://www.insidehighered.com/news/2009/07/30/cme>

Subcategory: Miscellaneous

Caltech Scientists Help Launch the First Standard Graphical Notation

California Institute of Technology

11-Aug-09

Visual language, standards for graphically representing biological information, should make it easier to exchange complex information, so that biological models are depicted more accurately, consistently, and in a more readily understandable way.

http://media.caltech.edu/press_releases/13281

NOVEL APPLICATIONS

Subcategory: Energy/ Fuel

UMass Amherst Researchers Develop New Geobacter Microbe Strain to Produce More Electricity and Open New Applications

Janet Lathrop

University of Massachusetts

27-Jul-09

Findings open the door to improved microbial fuel cell architecture and should lead to "new applications that extend well beyond extracting electricity from mud."

<http://www.umass.edu/newsoffice/newsreleases/articles/90975.php>

Subcategory: Imaging

A Cell-Phone Microscope for Disease Detection

Anne-Marie Corley

Technology Review

23-Jul-09

Researchers have demonstrated fluorescent microscopy using a physical attachment to an ordinary cell phone. Device could identify and track diseases like tuberculosis (TB) and malaria in developing countries, rural areas.

<http://www.technologyreview.com/biomedicine/23059/>

Subcategory: Microorganisms

Wastewater Produces Electricity and Desalinates Water

Penn. State University

06-Aug-09

Describes a next-generation process using a modified microbial fuel cell that cleans wastewater and generates electricity also can remove 90% of salt from brackish water or seawater.

<http://live.psu.edu/story/40817>

A Step Forward for Microbial Machines

Emily Singer

Technology Review

21-Aug-09

A bacterial genome was transplanted into yeast, altered, then transplanted back into a hollowed bacterial shell to produce a viable new microbe. Technique could aid in the expanding effort to create microbes to produce fuels or clean up toxic chemicals.

<http://www.technologyreview.com/biomedicine/23297/>

ORGANIZATIONS

Subcategory: Miscellaneous

Sabotage At Energy Department Facility

Jyllian Kemsley

Chemical & Engineering News

29-Jul-09

Reports that the FBI arrested a former employee of the SLAC National Accelerator Laboratory for allegedly destroying more than 4,000 protein crystal samples belonging to the Joint Center for Structural Genomics (JCSG).

<http://pubs.acs.org/cen/news/87/i31/8731notw3.html>

PERSONALIZED MEDICINE

Subcategory: Regulatory/ Government

How Biotech Hurts Health Care

Saul Kaplan

Business Week

27-Jul-09

To reform the U.S. health-care system, the government shouldn't be creating a road map to biosimilars, however long the trip, says Kaplan. It should open the floodgate to "biodissimilars" and to the personalized medicine options they will enable.

http://www.businessweek.com/innovate/content/jul2009/id20090726_841135.htm?link_positi

PHARMACEUTICALS

Subcategory: Proteomics

Bionanomachines—Proteins as Resistance Fighters

R & D Magazine

14-Aug-09

Experimental measurements of protein friction could help researchers to better understand key cellular processes such as cell division which is driven by such molecular machines.

<http://www.rdmag.com/News/Feeds/2009/08/general-bionanomachines-proteins-as-resistance->

PLATFORM TECHNOLOGIES

Subcategory: Assay Systems

New Standards for Genotox

James Netterwald, PhD, MT Drug Discovery & Development 01-Aug-09
(ASCP)

Genotoxicity testing has become highly automated, supersensitive, and highly specific with the addition of more powerful reporter systems.

Netterwald describes do-it-yourself versus outsourcing approaches.

<http://www.dddmag.com/Article-New-Standards-for-Genotox-073109.aspx>

Subcategory: Biomarker

A "Super Sensor" for Cancer and CSI's

Tel Aviv University 03-Aug-09

About the size of a stick of gum, a new invention is able to quickly and precisely detect pathogens and pollution in the environment, and infinitesimally small amounts of disease biomarkers in blood.

<http://www.aftau.org/site/News2?page=NewsArticle&id=10151>

Subcategory: Cell Therapy

Reprogrammed Human Cells Shed Light on Rare Disease

Courtney Humphries Technology Review 20-Aug-09

Induced pluripotent stem (iPS) cells - stem cells derived from reprogrammed adult cells - help study the effects of disease in a patient's own cells, which are otherwise impossible to access.

<http://www.technologyreview.com/biomedicine/23288/>

Subcategory: Cloning Techniques

Changing A Cell's Biological Battery

Lauren Gravitz Technology Review 26-Aug-09

A new method tested in monkeys for replacing mitochondrial DNA could one day prevent devastating mitochondrial diseases that impair muscles, nerves, even entire organ systems, and have no known cure.

<http://www.technologyreview.com/biomedicine/23314/>

Subcategory: Energy/ Fuel

Stacking the Deck for Organic Solar Power

R & D Magazine 04-Aug-09

Organic photovoltaics, which rely on organic molecules to capture sunlight and convert it into electricity, have significant advantages

over traditional rigid silicon cells. Discusses need to identify what's happening in the material, latest efforts.

<http://www.rdmag.com/News/2009/08/Energy-Stacking-The-Deck-For-Organic-Solar-Power/>

Plastics That Convert Light to Electricity Could Have a Big Impact

University of Washington

04-Aug-09

Researchers make images of tiny bubbles and channels, roughly 10,000 times smaller than a human hair, inside plastic solar cells. The researchers are able to measure directly how much current each tiny bubble and channel carries.

<http://uwnews.org/article.asp?articleID=51232>

Subcategory: Environment

Math Model Accurately Mimics Cell Division in Carbon-cycling

Virginia Bioinformatics

14-Aug-09

A quantitative, mathematical model of DNA replication and cell division for the bacterium *Caulobacter crescentus* has been developed. The bacterium plays a key role in global carbon cycling in its natural freshwater, seawater and soil environments.

https://www.vbi.vt.edu/public_relations/press_releases/math_model_mimics_cell_division

Subcategory: High Throughput Screening

Toxic Assets

Alan Dove, PhD

Drug Discovery & Development

01-Aug-09

The need for speed in early toxicity studies is driving new high-throughput technologies for cell lines and live animals. Dove reviews latest systems.

<http://www.ddmag.com/Article-Toxic-Assets-073109.aspx>

Subcategory: Human Therapeutics

Cell on a Chip

Lauren Gravitz

Technology Review

05-Aug-09

The drug heparin is widely used to prevent blood from clotting in medical procedures ranging from dialysis to open-heart surgery. The first artificial cell organelle may help researchers find a way to make bioengineered heparin and other synthetic drugs.

<http://www.technologyreview.com/biomedicine/23122/>

Subcategory: Miscellaneous

Cornell's Robotic Submarine Wins International Competition

Lauren Gold

Cornell University

04-Aug-09

New vehicle, Nova, was the only sub to complete every element of international competition course, which included dodging barbed wire,

firing torpedoes and retrieving a pinging briefcase. Uses include shipwreck search.

<http://www.news.cornell.edu/stories/Aug09/cuauvWins.html>

SLAC Researchers Reveal the Dance of Water

SLAC National Accelerator Lab.

11-Aug-09

Water exhibits 66 known anomalies, including a strangely varying density, large heat capacity and high surface tension. New research helps explain these anomalies on the molecular level at temperatures which are relevant to life.

<http://home.slac.stanford.edu/pressreleases/2009/20090811.htm>

Subcategory: Neurology

Protein Folding: Diverse Methods Yield Clues

Rice University

06-Aug-09

Describes a new method using the tools of nanotechnology to grab a single molecule and pull it apart, helps measure the forces that hold proteins together in the hopes of finding clues that could lead to new treatments for Alzheimer's and Parkinson's.

<http://www.media.rice.edu/media/NewsBot.asp?MODE=VIEW&ID=12894&SnID=763867953>

Subcategory: Proteomics

HIV's Genomic Architecture

Celia Arnaud

Chemical & Engineering News

10-Aug-09

The RNA genome of an HIV-1 virus contains many highly structured regions, and some scientists believe it might be appropriate to think of RNA structure as another level of the genetic code.

<http://pubs.acs.org/cen/news/87/i32/8732news2.html>

Scripps Research Scientists Find Early Evolution Maximized the "Spellchecking" of Protein Sequences

Scripps Research Institute

06-Aug-09

Discusses how an enzyme responsible for adding one amino acid, alanine, to proteins has come to have its own spellchecker. The findings provide a glimpse into how enzyme functions have evolved.

<http://www.scripps.edu/news/press/080609.html>

Nanoconstruction with Curved DNA

Courtney Humphries

Technology Review

11-Aug-09

A key advantage of using DNA as a construction material is that it is programmable. Since the DNA shapes are the size of an average virus, perhaps they could be designed to enter a cell like a virus in order to release a drug.

<http://www.technologyreview.com/biomedicine/23155/>

Chemists Explain the Switchboards in our Cells

University of California,

03-Aug-09

Discusses a theory that explains how molecular "switches" work. Findings may significantly help efforts to build biologically based sensors for the detection of chemicals ranging from drugs to explosives to disease markers.

<http://www.ia.ucsb.edu/pa/display.aspx?pkey=2063>

RESEARCH ADVANCEMENTS

Subcategory: Cardiology/ Vascular Diseases

Protein Treatment Repairs Heart Damage

Amanda Schaffer

Technology Review

24-Jul-09

Discusses protein injection therapy that could eventually prove valuable for heart-attack patients who have lost cardiac-muscle cells and some cardiac function, especially since existing therapies are unable to regenerate or restore these lost cells.

<http://www.technologyreview.com/biomedicine/23060/>

Creating a Heart Patch

Karen Hopkin

Technology Review

25-Aug-09

Describes a method that uses the body as a bioreactor to build working blood vessels in a bioengineered cardiac patch. Represents a crucial step toward generating a bioengineered material capable of repairing damaged heart tissue.

<http://www.technologyreview.com/biomedicine/23303/>

Subcategory: Immunology/ Infectious Diseases

Interrupting Bacterial Chatter to Thwart Infection

Howard Hughes Medical Institute

30-Jul-09

Interfering with communication among bacteria can prevent them from mounting a unified, perhaps deadly assault on their host organism. A different kind of medicine than traditional antibiotics may hinder development of drug-resistant bacteria.

<http://www.hhmi.org/news/bassler20090730.html>

Subcategory: Materials

Chemicals Leach From Packaging

Sarah Everts

Chemical & Engineering News

31-Aug-09

Plastic, rubber, cardboard, metal, and glass packaging act as a barrier against all sorts of contamination, but they are also a source of contamination. "You will always have leachables," says expert. "What are they, and what is their safety margin?"

Tiny Rifts Create Fragility of Brittle Bone Disease

Denise Brehm

MIT News

04-Aug-09

The weak tendons and fragile bones characteristic of osteogenesis imperfecta (brittle bone disease) stem from a genetic mutation that causes the incorrect substitution of a single amino acid in the chain of thousands making up a collagen molecule.

<http://web.mit.edu/newsoffice/2009/brittlebone-0804.html>

Bone-setting Glue

Lauren Gravitz

Technology Review

18-Aug-09

Shattered bones pose a difficult problem for surgeons, who currently must use tiny screws and plates to hold fragments in place long enough for the break to heal. A new glue, inspired by aquatic worms, could help repair shattered bone.

<http://www.technologyreview.com/biomedicine/23270/>

Subcategory: Neurology

A Proliferation of Amyloid Arrangements

Howard Hughes Medical Institute

16-Aug-09

The existence of a wide variety of amyloid stacking patterns may explain one of the perplexing features of human prion disease; the human prion protein, known as PrP, causes 2 forms of Creutzfeldt-Jakob disease (CJD, vCJD).

<http://www.hhmi.org/news/eisenberg20090816.html>

Little-known Protein Found to Be Key Player

Rice University

29-Jul-09

A little-understood protein called "atlastin," previously implicated in the rare genetic disorder hereditary spastic paraplegia (HSP), plays an unexpected and critical role in building and maintaining healthy cells.

<http://www.media.rice.edu/media/NewsBot.asp?MODE=VIEW&ID=12866&SnID=1521497554>

Subcategory: Oncology

Nanoparticles Target Ovarian Cancer

Anne Trafton

MIT News

30-Jul-09

Treatment delivers a gene that produces the diphtheria toxin, which kills cells by disrupting their ability to manufacture proteins. The toxin is normally produced by the bacterium *Corynebacterium diphtheriae*.

<http://web.mit.edu/newsoffice/2009/ovarian-0730.html>

Subcategory: Ophthalmology

Gene Therapy Creates a New Fovea

Emily Singer

Technology Review

14-Aug-09

The brain apparently can adapt to new sensory capacity, even in

people who have been blind since birth. Physicians injected a gene encoding a functional copy of the protein into a small part of one eye in 3 patients, who all showed vision improvement.

<http://www.technologyreview.com/biomedicine/23239/>

RESEARCH TOOLS

Subcategory: Cell Lines

Beyond the Stem Cell Debate

James Netterwald, PhD, MT Drug Discovery & Development 01-Aug-09
(ASCP)

Expansion of hESC (human embryonic stem cells) lines, further use of iPS (induced pluripotent stem) cells, development of better tools for stem cell analysis will increase the likelihood that solid stem cell-based therapies are produced in the future.

<http://www.ddmag.com/Article-Beyond-the-Stem-Cell-Debate-073109.aspx>

Subcategory: Computing Systems

GenomeQuest on Cloud Mine for Next-Generation Sequencing Data

Kevin Davis Bio-IT World 29-Jul-09

Announces a new sequence data management solution that provides a web-accessible, cloud computing environment for researchers to “align and mine” next-generation sequencing data.

<http://www.bio-itworld.com/news/genomequest-cloud-next-gen-sequencing-data.html>

New Computer Simulation Helps Explain Folding in Important

David Landau University of Georgia 29-Jul-09

In humans, misfolded-protein disorders include Alzheimer’s and Parkinson’s diseases. Describes a 2-step computer simulation showing how a crucial protein—glycophorin A—becomes an active part of living cells.

http://www.uga.edu/news/artman/publish/090729_LandauResearch.shtml

Subcategory: Forensics

UBC scientists find new way to extract diluted and contaminated DNA

The University of British Columbia 10-Aug-09

By exploiting the physical traits of DNA – electric charge, length and flexibility – scientists have been able to extract DNA from samples that would otherwise not produce enough clean DNA for analysis.

<http://www.publicaffairs.ubc.ca/media/releases/2009/mr-09-096.html>

Subcategory: Genome Sequence

UNC Decodes Entire HIV Genome

Laboratory Equipment

06-Aug-09

The structure of an entire HIV genome has been decoded for the first time. Widespread implications for understanding the strategies that viruses, like the one that causes AIDS, use to infect humans, could accelerate the development of antiviral drugs.

<http://www.laboratoryequipment.com/news-unc-decode-hiv-080609.aspx>

Subcategory: Imaging

Jet-propelled Imaging for an Ultrafast Light Source

Berkeley News

28-Jul-09

A particle gun that fires liquid droplets less than a millionth of a meter in diameter, faster than hundreds of thousands of times a second, is poised to revolutionize biological imaging.

<http://newscenter.lbl.gov/feature-stories/2009/07/28/jet-propelled-imaging/>

Subcategory: Lab-on-a-chip/ DNA Chips/

New Microchip Technology Performs 1,000 Chemical Reactions at Once

Rachel Champeau

University of California, Los Angeles

03-Aug-09

Microfluidic technology performs more than a thousand chemical reactions at once on a stamp-size, PC-controlled microchip, which could accelerate the identification of potential drug candidates for treating diseases like cancer.

<http://www.newsroom.ucla.edu/portal/ucla/new-microchip-technology-performs-97160.aspx>

Subcategory: Nanotechnology

Nanotech Toolkit

Ann M. Thayer

Chemical & Engineering News

10-Aug-09

Reviews latest instrumentation developed for nanotechnology researchers, who still desire cutting-edge technologies; industry is responding by starting to look for easy-to-use and robust instruments.

<http://pubs.acs.org/cen/coverstory/87/8732cover.html>

Subcategory: Neurology

Device Tracks How You're Sleeping

Emily Singer

Technology Review

28-Jul-09

Novel sensor technology embedded in a soft headband allows a new sleep-tracking device to determine a user's sleep patterns at home. The data, sent wirelessly to a bedside display unit, can also be uploaded to a website.

<http://www.technologyreview.com/biomedicine/23077/>

Subcategory: Oncology

A More Sensitive Cancer Breathalyzer

Lauren Gravitz

Technology Review

31-Aug-09

Using gold nanoparticles, scientists have created sensors with an unprecedented sensitivity for sniffing out compounds present in the breath of lung-cancer patients.

<http://www.technologyreview.com/biomedicine/23331/page1/>

STRATEGIC RELATIONSHIPS

Subcategory: Collaboration

Integrating Lead Discovery

Alissa Poh

Bio-IT World

03-Aug-09

Many pharmaceutical companies have been partnering with vendors to customize software for data consolidation. Describes Amgen Lead Discovery Informatics (ALDI), partnership between Amgen and in-silico solutions specialist Genedata.

<http://www.bio-itworld.com/2009/08/03/BP-amgen.html>

THERAPEUTIC CATEGORY

Subcategory: Pain Management

Computer System Improves Pain Therapy for Cancer Patients

Heidelberg University

11-Aug-09

Pain therapy for cancer patients is often inadequate. The use of an innovative electronic system – combined with guidance by an experienced clinical pharmacist – has been successfully tested.

[http://www.klinikum.uni-heidelberg.de/ShowSingleNews.7870.0.html?&cHash=d482deb30a&tx_ttnews\[backPid\]=7868&tx_ttnews\[pS\]=1249991284&tx_ttnews\[tt_news\]=4605](http://www.klinikum.uni-heidelberg.de/ShowSingleNews.7870.0.html?&cHash=d482deb30a&tx_ttnews[backPid]=7868&tx_ttnews[pS]=1249991284&tx_ttnews[tt_news]=4605)

Copyright 2009, Technology Management Associates, Inc.. All rights reserved. Please do not reprint or host on your Web site without explicit permission.