



BioTechCircle News®

June 2009

Featured June articles

Environmental technology titles are highlighted in **green**. Starting this month, rather than citing interesting articles twice (here and in the body of this report), you'll find non-green articles that particularly attracted our attention highlighted below in **yellow**.

In this articles section: links to 67 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:

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AGRI-BIOTECH

Subcategory: Animal

Greening the Herds: A New Diet to Cap Gas

Leslie Kaufman

The New York Times

04-Jun-09

Describes experiment to determine whether a change in diet, mimicking the spring grasses that the animals evolved long ago to eat, will help dairy cows belch less methane.

<http://www.nytimes.com/2009/06/05/us/05cows.html>

Subcategory: Crops

Scientists Solve Poppy Puzzle with New Gene Discovery

Biotechnology and Biological Science Research Council

01-Jun-09

By using generic traits, preserved over generations, plant breeders are developing new varieties for more yield, with less input, on less land and in the face of a changing climate. Otherwise, the growing food security crisis will not be met.

http://www.bbsrc.ac.uk/media/releases/2009/090601_scientists_solve_poppy_puzzle.html

BIOBUSINESS MANAGEMENT

Subcategory: Biomanufacturing

Best Practices for Formulation and Manufacturing of Biotech Drug

Satish K. Singh, Nitin

BioPharm International

01-Jun-09

Rathore, Arnold McAuley,

Anurag S. Rathore, PhD

Presents best practices to meet 3 significant technical challenges experienced in drug product manufacturing: maintaining product stability during frozen storage, performing visual inspection of drug product vials, and controlling protein particulates.

<http://biopharminternational.findpharma.com/biopharm/Downstream+Processing+Articles/Best-Practices-for-Formulation-and-Manufacturing-o/ArticleStandard/Article/detail/601406>

Subcategory: Education

Will Higher Education Be the Next Bubble to Burst?

Joseph Marr Cronin and

The Chronicle of Higher Education

22-May-09

Howard E. Horton

Those questioning whether it's worth spending \$1,000/sq. ft. for a home are asking whether it's worth spending \$1,000/week to send their

Laboratory Compliance: Making The Grade

Paul Smith

Pharmaceutical Processing

01-Jun-09

Smith uses a pyramid to illustrate laboratory compliance: procedures, policy and general approach used in a laboratory to ensure that the analytical results generated are meaningful, valid and suitable for the decisions which will be made from the data.

<http://www.pharmpro.com/ShowPR.aspx?PUBCODE=021&ACCT=0013590&ISSUE=0906&RELTYPE=ATO&PRODCODE=4255&PRODLETT=A&CommonCount=0>

Subcategory: Startups

Study: Lack of Capital Not a 'Death Sentence' for Start-Ups

Dr. David Townsend

North Carolina State University

02-Jun-09

Ventures with moderate levels of undercapitalization can still be successful and that a great management team is not more important than a top-notch technology product when it comes to securing sufficient amounts of capital.

<http://news.ncsu.edu/news/2009/06/wmstownsencapitalization.php>

CLINICAL TRIALS

Subcategory: Neurology

A Skin Test for Alzheimer's Disease

Emily Singer

Technology Review

18-Jun-09

A novel test that detects enzymes that are dysfunctional in patients with Alzheimer's disease--and that are found both in the brain and in skin cells--is about to undergo large clinical trials.

<http://www.technologyreview.com/biomedicine/22892/>

Subcategory: Regulatory/ Government

Clinical Research Under Scrutiny

Jill Wechsler

Applied Clinical Trials

01-Jun-09

The FDA is increasing oversight and enforcement activity for medical products and conduct of clinical trials. Pressure is on to monitor studies more carefully and to fully disclose clinical trial activity and study results in public databases.

<http://appliedclinicaltrialsonline.findpharma.com/appliedclinicaltrials/US/Clinical-Research-Under-Scrutiny/ArticleStandard/Article/detail/602041>

DRUG DELIVERY

Subcategory: Nanotechnology

Scientists Create Custom Three-dimensional Structures with "DNA Origami"

Dana-Farber Cancer Institute

20-May-09

Combining the art of origami with nanotechnology, researchers have folded sheets of DNA into multilayered nanoscale objects. Structures could be forerunners of custom-made "smart" delivery vehicles that would sneak drugs into patients' cells.

<http://www.dana-farber.org/abo/news/press/2009/scientists-create-custom-three-dimensional-structures-with-dna-origami.html>

INDUSTRY

Subcategory: Data Integration

EHRs, EDC, and the Hum of HIMSS

Wayne R. Kubick

Applied Clinical Trials

01-Jun-09

Kubick reports on exhibits at the Healthcare Information and Management Systems Society (HIMSS) event featuring intelligent hospital beds, mobile computing communications and storage devices, and more.

<http://appliedclinicaltrialsonline.findpharma.com/appliedclinicaltrials/Technology+Viewpoint/EHRs-EDC-and-the-Hum-of-HIMSS/ArticleStandard/Article/detail/602037>

Subcategory: Educational Issues

Creating Scientifically Literate Physicians: AAMC/HHMI Committee Defines Scientific Competencies for Future Physicians

Howard Hughes Medical Institute

04-Jun-09

New report defines scientific competencies for future medical school graduates and for undergraduate students who want to pursue a career in medicine.

<http://www.hhmi.org/news/SFFP20090604.html>

Subcategory: Environment

Berkeley Lab Scientists Contribute to Major New Report Describing Climate Change Impacts on the U.S.

Berkeley News

16-Jun-09

“Global Climate Change Impacts in the United States” report covers changes in rainfall patterns, drought, wildfire, Atlantic hurricanes, food production, fish stocks and other wildlife, energy, agriculture, water supplies, and coastal communities.

<http://newscenter.lbl.gov/press-releases/2009/06/16/climate-change-impacts/>

Subcategory: Generics

Generic Biotech Drugs: Cure or Quagmire?

Arlene Weintraub

CIO Today

17-Jun-09

The \$60-billion-a-year biotechnology industry -- fearing an end to the unlimited pricing freedom it has enjoyed -- has emerged as the biggest opponent of Obama's generic plan.

<http://www.cio-today.com/news/Biotech-Drugs--Cure-or-Quagmire->

Subcategory: Genomics

Off-the-Shelf Genetic Testing On Display

Emily Singer

Technology Review

09-Jun-09

Reviews the first annual Consumer Genetics Show, featuring startups offering genetic tests and discussions on some of the controversies that have grown along with the field.

<http://www.technologyreview.com/biomedicine/22765/>

Subcategory: Geographic focus

Massachusetts Continues To Lure Biotech Industry

Steve LeBlanc

Manufacturing.net

22-Jun-09

Discusses successes and critiques of state's \$1 billion, 10-year initiative designed to make Massachusetts a magnet for the biotech industry.

<http://www.manufacturing.net/article.aspx?id=204400>

Subcategory: Miscellaneous

What's on Life Sciences TV?

Kevin Davies

Bio-IT World

29-May-09

Describes SciVee.tv, which contains a broad selection of videos of scientists giving lectures, presenting posters (postercasts), summarizing their latest publications (pubcasts), and conducting interviews.

<http://www.bio-itworld.com/news/2009/05/29/scivee.aspx>

Subcategory: Personalized Medicine

Network Biology 2.0 Symposium Attracts Prominent Lineup

John Russell

Bio-IT World

28-May-09

Highlights event discussing different approaches for taking diverse data, transforming that into models, validating those models, and using the model to infer new insight.

<http://www.bio-itworld.com/pb/2009/05/28/network-biology-2.html>

INVESTMENTS/GOV. SUPPORT

Subcategory: Big Pharma

Lilly, Others Pump VC Into Biotech Firm

J.K. Wall

Indianapolis Business

10-Jun-09

Invests in stapling technology to create medicines to treat otherwise “undruggable” diseases and cancers, which could represent a ‘fourth estate’ in therapeutics, emerging as a major class akin to small molecules, antibodies and vaccines.

<http://cms.ibj.com/ASPXPages/6iframes/FrontEndArticlesDetailPage.aspx?ArticleID=39411&NoFrame=1>

Subcategory: Federal

Grant Funding Opportunities

National Institutes of Health

01-Jun-09

NIH Institutes and Centers will support the American Recovery & Reinvestment Act of 2009 (ARRA) by funding projects that will stimulate the economy, create or retain jobs, and have the potential for making scientific progress in 2 years.

<http://grants.nih.gov/recovery/>

NOVEL APPLICATIONS

Subcategory: Disease Prevention

Soap-sniffing Technology Encourages Hand Washing to Reduce Infections, Save Money

University of Florida

03-Jun-09

Using sensors capable of detecting drugs in breath, new technology monitors health-care workers’ hand hygiene by detecting sanitizer or soap fumes given off from their hands.

<http://news.ufl.edu/2009/06/03/hand-hygiene/>

Subcategory: Materials

New, Light-driven Nanomotor Is Simpler, More Promising, Scientists

University of Florida

04-Jun-09

A new type of “molecular nanomotor” driven only by photons, or particles of light, is the first built entirely with a single molecule of DNA — giving it a simplicity that increases its potential in areas ranging from medicine to manufacturing.

<http://news.ufl.edu/2009/06/04/sun-nanomotor/>

ORGANIZATIONS

Subcategory: Big Pharma

Wyeth’s Best Practices Winner Boosts Adaptive Clinical Trials

eCliniqua

01-Jun-09

Wyeth Research wins Bio-IT World Best Practices Award in the

Clinical Trial Design category for developing trial simulation software to streamline the process of designing and running adaptive clinical trials (ACTs).

<http://www.ecliniqua.com/2009/06/01/wyeth-bp-win.html>

Subcategory: Hospitals/ Health Care

Financial Coaches Help Cancer Patients at Dana-Farber

Dana-Farber Cancer

17-Jun-09

Describes free, individual financial coaching services offered to patients and their caregivers, assisting with budgeting, debt management, estate planning, and insurance.

<http://www.dana-farber.org/abo/news/press/2009/financial-coaches-help-cancer-patients-at-dana-farber.html>

PERSONALIZED MEDICINE

Subcategory: Genomics

Hospital to Collect Patients' Genomic Data

Emily Singer

Technology Review

12-Jun-09

Hospital plans to collect blood samples for genetic analysis from all consenting patients and then feed that information into a large database, allowing scientists to analyze patients' genomes alongside detailed medical histories.

<http://beta.technologyreview.com/biomedicine/22799/>

PLATFORM TECHNOLOGIES

Subcategory: High Throughput Screening

New Strategy Rapidly Reveals Targets for MicroRNA Gene Regulation

Howard Hughes Medical

17-Jun-09

In speeding the mapping of microRNAs to their targets, high-throughput screening using HITS-CLIP allows researchers to instantly see all the microRNA binding sites on all the messenger RNAs.

<http://www.hhmi.org/news/darnell20090617.html>

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

Proteins In Gel

Dr. Andeas Holländer

Fraunhofer-Gesellschaft

01-Jun-09

A gel has been developed that can be applied to the surface of a biochip. Only about 100 to 500 nano-meters thick and consisting mainly of water, the gel allows the protein to behave normally.

<http://www.fraunhofer.de/en/press/research-news/2009/06/ResearchNews062009Topic5.jsp>

Subcategory: Microorganisms

Geographic Isolation Drives the Evolution of a Hot Springs Microbe
Rachel Whitaker University of Illinois 27-May-09
Populations of *Sulfolobus islandicus* are more diverse than previously thought; their diversity is driven largely by geographic isolation, opening a new window on microbial evolution.
<http://news.illinois.edu/news/09/0527microbe.html>

Subcategory: Nanotechnology

UCF Researcher's Nanoparticles Could Someday Lead to End of Chemotherapy
Zenaida Gonzalez Kotala University Central Florida 16-Jun-09
Taxol-carrying nanoparticles engineered so they carry the drug only to the cancer cells, allowing targeted cancer treatment without harming healthy cells.
<http://news.ucf.edu/UCFnews/index?page=article&id=00240041037381429012136c33d79005>

Subcategory: Proteomics

Engineered Circuits Can Count Cellular Events
MIT News 29-May-09
Cells have been designed that can count and "remember" cellular events, such as the number of times a cell divides.
<http://web.mit.edu/newsoffice/2009/counting-0528.html>

Analysis of Protein-Building Enzyme Sheds Light on Protein Evolution
Laura Bonetta Scripps Research Institute 01-Jun-09
Having more than one function on a single protein is an efficient way to expand an organism's arsenal of tools and capabilities. But it also presents a design challenge. How do you arrange the activities so that they don't interfere with one another?
http://www.scripps.edu/newsandviews/e_20090601/yang.html

Faster Protein Folding Achieved Through Nanosecond Pressure Jump
University of Illinois 02-Jun-09
A new method to induce protein folding by taking the pressure off of proteins is up to 100 times faster than previous methods, and could help guide more accurate computer simulations for how complex proteins fold.
<http://news.illinois.edu/news/09/0601pressure.html>

Subcategory: Proteonomics

Molecular Typesetting – Proofreading Without a Proofreader
University of Leeds 23-Jun-09
Ensuring that proteins are built correctly is essential to the proper functioning of our bodies. Research has shown that the RNA polymerase

slides both forwards and backwards along the RNA sequence it has created and cuts off letters that are in error.

http://www.leeds.ac.uk/media/press_releases/current09/typesetting.htm

RESEARCH ADVANCEMENTS

Subcategory: Food

Scientists Have Designed a Fatty Formulation That Can Make You Feel Fuller for Longer.

Biotechnology and Biological Science Research Council 02-Jun-09

Two meals with the same fat content can have different satiety effects.

It is reported possible for fat to be present in a way that makes you feel fuller. The satiating effect lasts for 12 hours after the initial meal.

http://www.bbsrc.ac.uk/media/releases/2009/090602_fat_to_make_you_feel_fuller.html

Seeking Saltiness

Carmen Dahl Chemical & Engineering News 01-Jun-09

New pieces of salt-taste biology are emerging as companies seek new ways to reduce salt levels in their products while also preserving the salty taste that consumers find appealing.

<http://pubs.acs.org/cen/science/87/8722sci1.html>

Subcategory: Immunology/ Infectious Diseases

Study Takes Aim at Opportunistic Fungal Pathogens

MIT News 18-Jun-09

In what represents one of the largest comparative genomics studies to date, scientists have cracked the genetic code of several *Candida* fungal species that cause bloodstream infections in patients with suppressed immune systems.

<http://web.mit.edu/newsoffice/2009/candida-0618.html>

Subcategory: Metabolism: Obesity, Diabetes

Researchers Engineer Metabolic Pathway in Mice to Prevent Diet-induced Obesity

Wileen Wong Kromhout University of California Los Angeles 02-Jun-09

Researchers successfully constructed a non-native pathway in mice that increased fatty acid metabolism and resulted in resistance to diet-induced obesity.

<http://www.newsroom.ucla.edu/portal/ucla/ucla-researchers-create-synthetic-93281.aspx>

Subcategory: Neurology

Balancing DNA Pathways

Linda Wang Chemical & Engineering News 22-Jun-09

Neurological disorders such as Fragile X syndrome and Huntington's

disease are caused by abnormally long repetitions of DNA triplet sequences; unfortunately, this type of genomic expansion can be induced by DNA repair.

<http://pubs.acs.org/cen/news/87/i25/8725notw8.html>

Scientists Devise Accelerated Method to Determine Infectious Prion

Eric Sauter

Scripps Research Institute

01-Jun-09

A transgenic mouse model and a rapid, sensitive cell-based procedure significantly reduces the time to identify specific strains of infectious prions which cause "mad cow" and other fatal neurodegenerative disorders affecting animals and humans.

http://www.scripps.edu/newsandviews/e_20090601/prion.html

Protein Regulates Movement of Mitochondria in Brain Cells

University of Rochester

15-Jun-09

A protein in the brain is discovered that plays a key role in the function of mitochondria – the part of the cell that supplies energy, supports cellular activity, and potentially wards off threats from disease.

<http://www.urmc.rochester.edu/pr/news/story.cfm?id=2518>

Requests to the Right Ear Are More Successful Than to the Left

Alexis Madrigal

Wired

23-Jun-09

Humans tend to have a preference for listening to verbal input with their right ears. Brain scientists hypothesize that the right ear auditory stream receives precedence in the left hemisphere of the brain, where most linguistic processing is carried out.

<http://www.wired.com/wiredscience/2009/06/earcigarette/>

Subcategory: Oncology

After a Century, Link Between Chromosomal Instability and Centrosome Defects in Cancer Cells is Unraveled

Dana-Farber Cancer

08-Jun-09

The extra centrosomes in cancer cells exert an unequal pull on some chromosomes, causing the daughter cells to inherit an irregular number of them; explains, in part, why tumors are often filled with cells of varying quantities of chromosomes.

<http://www.dana-farber.org/abo/news/press/2009/after-a-century-link-between-chromosomal->

Discovery of the Cell's Water Gate May Lead to New Cancer Drugs

University Gothenburg

17-Jun-09

The flow of water into and out from a cell may play a crucial role in several types of cancer. Scientists have found the gate regulating the flow of water into yeast cells, raising hopes of developing a drug that inhibits the spread and growth of tumors.

http://www.science.gu.se/english/News/News_detail/Discovery_of_the_cell_s_water_gate_may_lead_to_new_cancer_drugs.cid884779

Subcategory: Reproduction

Sperm's Genes Packaged with Instructions for Development

Howard Hughes Medical Institute

14-Jun-09

New research shows that a father's sperm passes along a previously unrecognized set of instructions that helps guide the early development of his children. The instructions likely tell the developing embryo when specific genes should be turned on or off.

<http://www.hhmi.org/news/cairns20090614.html>

Subcategory: Virology

Scientists Identify New Lethal Virus in Africa

Mike Stobbe

Drug Discovery & Development

01-Jun-09

A lethal new virus in Africa causes bleeding like the dreaded Ebola virus. The so-called "Lujo" virus infected five people in Zambia and South Africa. Four of them died, but a fifth survived, perhaps helped by a medicine recommended by the scientists.

<http://www.dddmag.com/news-Scientists-Identify-New-Lethal-Virus-in-Africa-060109.aspx>

RESEARCH TOOLS

Subcategory: Biomarker

Building Bundles of Biomarkers

Mike May

Drug Discovery & Development

01-Jun-09

Groups of biomarkers tracked over time help to unravel diseases, requiring multiple approaches to identify and validate new markers. Notes the movement from qualitative to quantitative methods.

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

Choose Your Marker

Alan Dove, PhD

Drug Discovery & Development

01-Jun-09

The complex diseases drug companies are trying to treat present a more nuanced problem, blurring the boundaries between biomarker discovery, drug development, and diagnosis.

<http://www.dddmag.com/article-biomarkers-for-drug-development-020109.aspx>

Subcategory: Computing Systems

Cloud Storage Alternatives to Amazon and Google

Sajai Krishnan

Bio-IT World

22-Jun-09

Cloud compute and cloud storage are analogous in that both are bringing the benefits of commodity economics at very large scales in an easy-to-manage service model. Graphic illustrates vendors in current and emerging areas.

<http://www.bio-itworld.com/comment/2009/06/22/cloud-storage.html>

http://www.boston.com/business/healthcare/articles/2009/06/01/researchers_program_cells_to_count_and_self_destruct/

Subcategory: Oncology

VBI Researchers Develop New Method for Breast Cancer Biomarker

Susan Bland

Virginia Tech

09-Jun-09

New one-step bioanalytical approach allows scientists to look at how the levels of proteins change in breast cancer cells when they are treated with hormones or cancer drugs like tamoxifen.

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

THERAPEUTIC CATEGORY

Subcategory: Cardiology/ Vascular Diseases

Researchers Test Nanoparticle to Treat Cardiovascular Disease in Mice

University of California,

04-Jun-09

Researchers have developed a lipid-based nanoparticle that can attack plaque a major cause of cardiovascular disease.

<http://www.ia.ucsb.edu/pa/display.aspx?pkey=2029>

Subcategory: Disease Prevention

One Way to Lower Health Costs: Pay People to Be Healthy

Knowledge

24-Jun-09

Health costs as little as \$3 a day. At least, that's all it took in one recent study for several patients to forgo bad behaviors that put their health at risk. A good idea? Or not?

<http://knowledge.wharton.upenn.edu/article.cfm?articleid=2266>

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