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## BioTechCircle News®

**March 2008**

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Featured March article:

### **New Breath-Based Diagnostic**

People with cancer, asthma, and many other diseases carry trace amounts of distinctive biomarkers in their breath. Detecting these markers could allow doctors to diagnose such diseases in their early stages, noninvasively, and before symptoms arise.

<http://www.technologyreview.com/Biotech/20411/>

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**In this articles section: links to 65 free Web articles in 12 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:

Biobusiness Management (8 articles) – Page 2  
Clinical Trials (2 article) – Page 3  
Drug Delivery (1 article) – Page 4  
Industry (3 articles) – Page 4  
Investments/Government Support (4 articles) – Page 5  
Novel Applications (3 articles) – Page 6  
Organizations (1 article) – Page 6  
Pharmaceuticals (1 article) – Page 7  
Platform Technologies (16 articles) – Page 7  
Research Advancements (12 articles) – Page 10  
Research Tools (13 articles) – Page 13

## BIOBUSINESS MANAGEMENT

### *Subcategory: General/ Administrative*

#### **How to Avoid Becoming a Biotech Zombie, Part 3**

Joseph J. Villafranca, James Bio-IT World 01-Mar-08  
E. Bonine

There are many biotech business models, but two proven models stand out: the idea-generation factory and the fully integrated company. Each entails a different strategy, different implementations, different risks, and different rewards.

<http://biopharminternational.findpharma.com/biopharm/ArticleStandard/Article/detail/499139>

### *Subcategory: Government/ Approvals*

#### **Heparin Contaminant Identified by FDA**

Haydia Haniff BioPharm International 19-Mar-08

The FDA has identified the “heparin-like” contaminant in the active pharmaceutical ingredient (API) of recalled heparin products: over-sulfated chondroitin sulfate.

<http://biopharminternational.findpharma.com/biopharm/ArticleStandard/Article/detail/504149>

### *Subcategory: Market Research*

#### **Good for iPods, But Bad for Patients**

John M. Maraganore The Boston Globe 22-Mar-08

Says patent changes sought by information technology firms would be nothing short of disastrous for the millions of patients around the world that have benefited from biomedical breakthroughs in diagnosing, treating, and curing disease.

[http://www.boston.com/bostonglobe/editorial\\_opinion/oped/articles/2008/03/22/good\\_for\\_ipods\\_but\\_bad\\_for\\_patients/](http://www.boston.com/bostonglobe/editorial_opinion/oped/articles/2008/03/22/good_for_ipods_but_bad_for_patients/)

### *Subcategory: Nanotechnology*

#### **Nanotech Strategy**

David Hanson Chemical & Engineering News 03-Mar-08

Nanotechnology Environmental & Health Implications (NEHI) focuses on 5 major research areas: instrumentation and analytical methods; nanomaterials and human health; nanomaterials and the environment; human exposure assessment; risk management methods.

<http://pubs.acs.org/cen/government/86/8609gov2.html>

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

## **Health Canada Publishes Draft Biosimilar Guidance**

FDA News

24-Mar-08

Health Canada has begun creating a biosimilar regulatory framework, offering a draft guidance containing requirements for those seeking to submit applications for “subsequent-entry biologics” once patents on biologic products start to expire.

<http://fdanews.com/newsletter/article?issueId=11425&articleId=105152>

### *Subcategory: Privacy/ Records Management*

## **Dealing with the Data Deluge: Three Things IT Should Do**

Salvatore Salamone

Bio-IT World

26-Mar-08

While 70% of the digital universe is created, captured, or replicated by individuals away from the datacenter, enterprises have responsibility or liability for 85% of the data. Offers 3 recommendations to life science IT departments.

[http://www.bio-itworld.com/BioIT\\_Content.aspx?id=74004](http://www.bio-itworld.com/BioIT_Content.aspx?id=74004)

## **More Sophisticated Cyberattacks the Norm**

Bio-IT World

27-Feb-08

The implications of nearly-universal camouflaging techniques to hide cyber attacks on life sciences organizations that have proprietary and workers’ personal information to protect is that there is an increased chance of data theft.

[http://www.bio-itworld.com/full\\_newsletter.aspx?id=72680](http://www.bio-itworld.com/full_newsletter.aspx?id=72680)

### *Subcategory: Startups*

## **Building Businesses**

Ann M. Thayer

Chemical & Engineering News

31-Mar-08

Turning university research into products takes time, money, and initiative as 4 nanotechnology companies' experiences show.

<http://pubs.acs.org/cen/coverstory/86/8613cover.html>

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## **CLINICAL TRIALS**

### *Subcategory: Government/ Approvals*

## **Research Disclosure Rules Raise Questions**

Jill Wechsler

Applied Clinical Trials

01-Mar-08

Demand is growing for greater access to study data to increase research transparency, reduce reporting bias, and better inform patients and practitioners about more safe and effective treatments.

<http://actmagazine.findpharma.com/appliedclinicaltrials/ArticleStandard/Article/detail/500540>

*Subcategory: Pediatrics/ Neonatology*

**Making Reality of Pediatric Rhetoric**

Peter O'Donnell

Applied Clinical Trials

01-Mar-08

Discusses positive results of the European Medicines Agency's requirement of companies to file special pediatric clinical trial plans with virtually all new products.

<http://actmagazine.findpharma.com/appliedclinicaltrials/ArticleStandard/Article/detail/500432>

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**DRUG DELIVERY**

*Subcategory: Nanotechnology*

**Nanomedicine System Engineered To Enhance Therapeutic Effects of Injectable Drugs**

University of Texas

02-Mar-08

A proof-of-concept study used mesoporous silicon particles as a multistage delivery system for imaging and therapeutic applications. Only about 1ne of every 100,000 molecules of intravenous agent reaches its desired destination.

<http://publicaffairs.uth.tmc.edu/media/newsreleases/nr2008/nanomedicine.htm>

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**INDUSTRY**

*Subcategory: Energy/ Fuel*

**TR10: Cellulolytic Enzymes**

Alexandra M. Goho

Technology Review

01-Mar-08

Cellulosic biofuels have many advantages over both gasoline and corn ethanol. Discusses research into making cheaper, more efficient enzymes for breaking down cellulose.

[http://www.technologyreview.com/read\\_article.aspx?ch=specialsections&sc=emerging08&id=2](http://www.technologyreview.com/read_article.aspx?ch=specialsections&sc=emerging08&id=2)

*Subcategory: Generics*

**Biogenerics Conference Addresses Scientific and Regulatory Issues Surrounding Biosimilars**

Laura Bush

BioPharm International

12-Mar-08

the US Congress is expected to pass legislation before the end of 2009, creating an abbreviated pathway for the approval of follow-on biologics, also called biosimilars. Issues include capability of analytical methods to demonstrate similarity.

<http://biopharminternational.findpharma.com/biopharm//ArticleStandard/Article/detail/502423>

*Subcategory: Personalized Medicine*

**Health Professionals, Public Unprepared to Use Genomic Medicine**

Drug Discovery & Development

19-Mar-08

Resarchers say there is a need for a large-scale effort to educate both health professionals and the public about genomic medicine, and to develop and evaluate new ways to deliver genetic services.

<http://www.ddmag.com/News-Study-Claims-Public-Unprepared-for-Genomic-Medicine.aspx>

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**INVESTMENTS/ GOV. SUPPORT**

*Subcategory: Federal*

**NIH Launches Center to Study Genomics and Health Disparities**

National Institute of

17-Mar-08

The NIH Intramural Center for Genomics and Health Disparities (NICGHD) is establishing a new venue for research about the way populations are impacted by diseases, including obesity, diabetes and hypertension.

<http://www.nih.gov/news/health/mar2008/nhgri-17.htm>

*Subcategory: Miscellaneous*

**Slowing Economy Dampens 2008 R&D Spending**

R & D Magazine

01-Mar-08

Highlights: 2008 industrial R&D is expected to increase 3.4%, government defense spending sees 4.8% growth, non-profit growth is 3.6%, academic spending is flat, offshore outsourcing continues to affect future R&D performance.

[http://www.rdmag.com/pdf/RD0802\\_FundForecast.pdf](http://www.rdmag.com/pdf/RD0802_FundForecast.pdf)

*Subcategory: Nanotechnology*

**Stock Market**

Ann M. Thayer

Chemical & Engineering News

31-Mar-08

Thayer reports on indexes that track results of a pool of publicly-traded nanotech companies.

<http://pubs.acs.org/cen/coverstory/86/8613cover1.html>

*Subcategory: State*

**Yale Cancer Center Receives Grant to Initiate Statewide Clinical Trial**

Bioscience Technology

26-Mar-08

The statewide network will seek to remove existing barriers to clinical trials, promote public education and trial participation, and allow greater access to innovative cancer therapies.



## PHARMACEUTICALS

### *Subcategory: Genomics*

#### **Gene Expression Differences Between Those of European and African Ancestry Affect Response to Drugs and Infections**

University of Chicago

28-Feb-08

Expression levels for nearly 5% of 9,156 human genes varied significantly between individuals of European and African ancestry. Study seeks to understand why different populations experience different degrees of toxicity when taking certain drugs.

<http://www.uchospitals.edu/news/2008/20080228-expression.html>

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## PLATFORM TECHNOLOGIES

### *Subcategory: Biomanufacturing*

#### **Future Technology Needs for Biomanufacturing: Special Session at IFPAC 2008 Identifies Goals and Gaps**

Albert Lee, PhD, Keith O.

BioPharm International

12-Mar-08

Webber, PhD, Dean Ripple, PhD, Michael J. Tarlov, PhD, Elizabeth J. Bruce

Discusses desired state of biomanufacturing 10 years from now; some targets: online monitoring of cell metabolism; online protein aggregation detection; ability to perform rapid (<15 min) glycosylation measurements.

<http://biopharminternational.findpharma.com/biopharm/ArticleStandard/Article/detail/502426>

### *Subcategory: Cell Therapy*

#### **No Knee-Jerk Reaction**

Economist

13-Mar-08

A small sample of healthy cartilage cells from a damaged knee are used to grow millions more cells in a lab, and then inserted in the knee. In 90% of the cases, the implanted cells grow without rejection, since they share an identity with nearby cells.

[http://www.economist.com/science/displaystory.cfm?story\\_id=10843087](http://www.economist.com/science/displaystory.cfm?story_id=10843087)

#### **Identifying the Genes that Put the "Stem" in Cell**

Howard Hughes Medical Institute

21-Mar-08

Researchers have identified a network of hundreds of genes that keep embryonic stem cells in their characteristic malleable state, able to develop into any cell type when the time comes. Implications for reprogramming adult cells for therapeutic use.

<http://www.hhmi.org/news/orkin20080325.html>

#### **RE1-Silencing Transcription Factor (REST) Protein's Dual Role**

University of Texas MD

23-Mar-08

Researchers show RE1-silencing transcription factor (REST) plays a dual role in embryonic stem cells: maintaining self-renewal (ability to make more cells of its own type) and pluripotency (the potential to become any type of cell in the body).

<http://www.mdanderson.org/departments/newsroom/display.cfm?id=FF415F53-A516-41EC-A6CC5B62EC6EDF46&method=displayFull&pn=00c8a30f-c468-11d4-80fb00508b603a14>

### *Subcategory: Computing Systems*

#### **Language of a Fly Proves Surprising**

James E. Rickman

Los Alamos National Laboratory

10-Mar-08

Viewing the world through the eyes of a common fly and partially decoding the insect's reactions to changes in the world around it reveals how neural networks function and could provide the basis for intelligent computers that mimic biological processes.

[http://www.lanl.gov/news/index.php/fuseaction/home.story/story\\_id/12757](http://www.lanl.gov/news/index.php/fuseaction/home.story/story_id/12757)

### *Subcategory: Drug Discovery*

#### **The Search for Unusual Suspects**

Vicki Glaser

Bio-IT World

01-Feb-08

In the search for novel intellectual property (IP) that can maximize product life, medicinal chemists are embracing fragment-based design strategies, using an approach called scaffold hopping.

[http://bio-itworld.com/BioIT\\_Content.aspx?id=69996](http://bio-itworld.com/BioIT_Content.aspx?id=69996)

#### **New Mathematical Model Offers Smarter Way to Understand How Information Travels in Cells**

University of Michigan

24-Mar-08

Researchers found that a signaling pathway naturally transmits information not just in a forward direction, but also backwards. That implies new considerations if drugs are to adequately address key targets.

<http://www.med.umich.edu/opm/newspage/2008/math.htm>

### *Subcategory: Genome Sequence*

#### **Social Networking Hits the Genome**

Emily Singer

Technology Review

26-Mar-08

If you've ever wanted to know just exactly how much DNA you share with your ridiculously tall brother or doppelganger best friend, you'll soon be able to find out. "I think the idea of social networking has untapped potential," says expert.

<http://www.technologyreview.com/Biotech/20464/>

### *Subcategory: Imaging*

## **Engineering Solutions For Clinical Diagnostics**

Bioscience Technology

01-Mar-08

Discusses the use of a relatively cheap and easy-to-use biosensor for detecting serum-based protein biomarkers; it is based on one-step immunomagnetic bead-based capture, using an in situ assembled optical diffraction grating detection system.

<http://www.biosciencetechnology.com/ShowPR~PUBCODE~090~ACCT~9000000100~ISSUE~0803~RELTYPE~PR~ORIGRELTYPE~PAA~PRODCODE~00000000~PRODLETT~AV.html>

### *Subcategory: Miscellaneous*

## **New Web Site For Women's Health Research Information**

Bioscience Technology

10-Mar-08

A new one-stop on-line resource for women's health research is intended to help consumers and researchers to more quickly access the latest information available on scientific developments for important issues related to women.

<http://www.biosciencetechnology.com/ShowPR~PUBCODE~090~ACCT~9000000100~ISSUE~0803~RELTYPE~RLSN~PRODCODE~00000000~PRODLETT~Y.html>

## **A Catalytic First**

Sarah Everts

Chemical & Engineering News

17-Mar-08

*Clostridium difficile*, a common anaerobic microbe in the human gut has an enzyme that pulls off a difficult reaction needed for energy metabolism by turning its substrate directly into a radical.

<http://pubs.acs.org/cen/news/86/i11/8611notw8.html>

## **The Expanding Environment of USB Data Acquisition**

R & D Magazine

01-Mar-08

With more than 2 billion USB-enabled interfaces now being used, it is also now moving into the industrial and research areas. USB use is likely to grow even more with work on new specifications recently announced, such as USB 3.0.

<http://www.rdmag.com/ShowPR~PUBCODE~014~ACCT~1400000100~ISSUE~0710~RELTYPE~TEST~PRODCODE~00000000~PRODLETT~Q.html>

### *Subcategory: Nanotechnology*

## **Different Inside And Out**

Rachel Petkewich

Chemical & Engineering News

03-Mar-08

A new strategy for establishing distinct chemical functionalities on the inside and outside of mesoporous silicon could advance design of sensors and drug delivery systems.

<http://pubs.acs.org/cen/news/86/i09/8609notw8.html>

### *Subcategory: Proteomics*

#### **LNA-Mediated MicroRNA Silencing in Non-Human Primates**

Business Wire

26-Mar-08

The first demonstration of microRNA silencing in non-human primates provides an important validation of emerging clinical program to develop a novel class of LNA-based therapeutics capable of silencing disease-associated microRNAs.

[http://www.businesswire.com/portal/site/google/?ndmViewId=news\\_view&newsId=20080326005978&newsLang=en](http://www.businesswire.com/portal/site/google/?ndmViewId=news_view&newsId=20080326005978&newsLang=en)

#### **Virtually Created Enzymes**

Elizabeth Wilson

Chemical & Engineering News

10-Mar-08

Scientists have computationally designed a series of new enzymes that catalyze a multistep reaction, including the breaking of a carbon-carbon bond-in laboratory experiments.

<http://pubs.acs.org/cen/news/86/i10/8610notw4.html>

#### **'Designer Enzymes' Created by Chemists at UCLA, U. of Washington**

University of California

19-Mar-08

Designer enzymes for reactions not normally catalyzed in nature will have applications for defense against biological warfare, by deactivating pathogenic biological agents, and for creating more effective medications.

<http://newsroom.ucla.edu/portal/ucla/designer-enzymes-created-by-ucla-46985.aspx>

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## **RESEARCH ADVANCEMENTS**

### *Subcategory: Computing Systems*

#### **ClinPhone Combines Three Tools in One**

Ann Neuer

Bio-IT World

24-Mar-08

Discusses a combined electronic data capture (EDC) and interactive voice response (IVR) or Web response (IWR) systems that are linked together that eliminates the need to enter the same data twice.

[http://www.bio-itworld.com/BioIT\\_Article.aspx?id=74080](http://www.bio-itworld.com/BioIT_Article.aspx?id=74080)

### *Subcategory: Environment*

#### **Measuring Asia's Pollution Exports**

Technology Review

26-Mar-08

Moderate-resolution imaging spectroradiometer (MODIS) satellite results indicate that any reduction in our emissions may be offset by the pollution aerosols coming from East Asia and other regions.

<http://www.technologyreview.com/Infotech/20465/>

### *Subcategory: Gastroenterology*

#### **Rolling the Dice on Crohn's Disease**

James Netterwald                      Drug Discovery & Development                      01-Mar-08

Researchers worldwide are using genomic tools to gain ground in the fight against Crohn's Disease and other common human diseases.

Netterwald reviews recent studies.

<http://www.dddmag.com/Article-Genomics-Tools-Aid-Researchers-Fighting-Crohns-Disease.aspx>

### *Subcategory: Geriatrics*

#### **How Worms Protect Their Chromosomes: A Surprising Tail**

Bioscience Technology                      14-Mar-08

Researchers have discovered that the roundworm *C. elegans* constructs the protective tips of its chromosomes, known as telomeres, differently than do mammals, a finding that could deepen our understanding of the inter-relationship of aging and cancer.

<http://www.biosciencetechnology.com/ShowPR~PUBCODE~090~ACCT~9000000100~ISSUE~0803~RELTYPE~RLSN~PRODCODE~00000000~PRODLETT~AL.html>

### *Subcategory: Hematology*

#### **Bacterial Battle Generates New Antibiotics**

Emily Singer                      Technology Review                      17-Mar-08

Scientists encouraged bacteria to produce a novel antibiotic by pitting them against a microbial enemy. The approach could provide a new way to discover novel antibiotics and shed light on how and when bacteria churn out these toxic compounds.

<http://www.technologyreview.com/Biotech/20425/>

### *Subcategory: Immunology/ Infectious Diseases*

#### **HIV Breakthrough: Researchers Identify Protein That Fights**

University de Montreal                      03-Mar-08

Scientists explain how the protein FOXO3a shields against viral attacks and how the discovery will help in the development of an HIV vaccine. FOXO3a is found in "elite controllers," men whose HIV did not show any symptoms.

[http://nouvelles.umontreal.ca/index.php?option=com\\_content&task=view&id=1083&Itemid=206](http://nouvelles.umontreal.ca/index.php?option=com_content&task=view&id=1083&Itemid=206)

#### **Scientists Uncover How Superbug Staph Aureus Resists Our Natural Defenses**

University of Washington                      24-Mar-08

Researchers found that Staph aureus has a mechanism that allows it to produce lactic acid in the presence of NO, which allows it to maintain its chemical balance and keep growing and thriving in the harsh host environment.

<http://uwnews.org/article.asp?articleID=40595>

*Subcategory: Metabolism: Obesity, Diabetes*

**New Techniques Link Networks of Genes to Obesity**

Drug Discovery & Development

17-Mar-08

Genetic susceptibility to obesity involves changes in entire networks of genes and is not limited to mutations in several specific genes. The accurate reconstruction of these networks will be critical to identifying the best therapeutic targets.

<http://www.dddmag.com/news-New-Techniques-Link-Networks-of-Genes-to-Obesity.aspx>

*Subcategory: Nephrology/ Urology*

**Study Ties Genetic Variations to Schizophrenia**

Benedict Carey

The New York Times

28-Mar-08

A new study has found that rare and previously undetectable genetic variations may significantly increase the risk that a person will develop schizophrenia, showing how new gene-scanning technology helps understand the biology of mental disorders.

<http://www.nytimes.com/2008/03/28/science/28gene.html>

*Subcategory: Neurology*

**Identification of Synaptic Targets of Drosophila Pumilio**

Gengxin Chen, et. al.

Computational Biology

29-Feb-08

Recent findings demonstrate that Pum (Drosophila Pumilio), a translational regulator, also plays an important role in the nervous system, both at the neuromuscular junction (NMJ) and in long-term memory formation.

<http://www.ploscompbiol.org/article/info:doi/10.1371/journal.pcbi.1000026>

*Subcategory: Oncology*

**Accurate Identification of Tumor Origin Using MicroRNAs**

Bioscience Technology

24-Mar-08

Reports study findings demonstrating microRNAs' significant potential to act as effective biomarkers that may be applied in a diagnostic test designed to identify the primary tumor site in patients with cancer of unknown primary (CUP).

<http://www.biosciencetechnology.com/ShowPR~PUBCODE~090~ACCT~9000000100~ISSUE~0803~RELTYPE~RLSN~PRODCODE~00000000~PRODLETT~BC.html>

**Molecular Genetics of Stem Cells**

Howard Hughes Medical Institute

26-Mar-08

Reports study on gene regulation as it relates to stem cells: the development and function of the blood system, the relationship between cancer and stem cells, and the mechanisms responsible for self-renewal of stem cells.

## RESEARCH TOOLS

### *Subcategory: Biomarker*

#### **Moving From Bench To Bedside**

Celia Henry Arnaud                      Chemical & Engineering News                      24-Mar-08

Discusses the process of turning basic science and technology into practical applications for disease diagnosis and treatment, applying spectroscopy to measurement of diagnostic, prognostic, and predictive biomarkers.

<http://pubs.acs.org/cen/coverstory/86/8612cover2.html>

#### **Determining Function**

Catherine Shaffer                      Drug Discovery & Development                      01-Mar-08

Functional proteomics, a systems-based approach that takes into account relationships between molecules, looking at both the ‘big picture’ and the minutiae of spatial or mechanical interactions between the molecules, leads to better biomarkers.

<http://www.dddmag.com/Article-Functional-Proteomics-Helps-Identify-Better-Biomarkers.aspx>

#### **Technology in Action: Massive Improvement**

Christine Miller and Ning Tang                      Drug Discovery & Development                      01-Mar-08

New highly-parallel screening and profiling approaches promise to speed the discovery of important biomarkers, without the need for deep knowledge of disease mechanisms.

<http://www.dddmag.com/Article-Advancements-in-mass-spectrometry-help-biomarker->

#### **New Breath-Based Diagnostic**

Katherine Bourzac                      Technology Review                      14-Mar-08

People with cancer, asthma, and many other diseases carry trace amounts of distinctive biomarkers in their breath. Detecting these markers could allow doctors to diagnose such diseases in their early stages, noninvasively, and before symptoms arise.

<http://www.technologyreview.com/Biotech/20411/>

### *Subcategory: Bioterrorism*

#### **Spotting H2O2**

Bethany Halford                      Chemical & Engineering News                      17-Mar-08

Scientists have developed a simple, inexpensive sensor that selectively detects hydrogen peroxide vapor, important in counterterrorism and in industrial settings, where exposure to the chemical is an important

health issue.

<http://pubs.acs.org/cen/news/86/i11/8611notw4.html>

### *Subcategory: Computing Systems*

#### **Helicos' Kristen Stoops on Next-Generation Data Management**

Bio-IT World

12-Mar-08

Discusses a \$1.35 million single-molecule DNA sequencing instrument a very high-performance image analysis platform and server that does the image analysis on the fly.

[http://www.bio-itworld.com/BioIT\\_Article.aspx?id=73222](http://www.bio-itworld.com/BioIT_Article.aspx?id=73222)

#### **Attention Viewers:**

James Netterwald

Drug Discovery & Development

01-Mar-08

Netterwald discusses the recent adoption of high-content screening (HCS) and the data management tools required to get value from the massive amount of data through retrieval and analysis.

<http://www.dddmag.com/Article-High-content-screening-researchers-need-data-management->

### *Subcategory: Genome Sequence*

#### **Applied Biosystems and the \$60,000 Human Genome**

Bio-IT World

13-Mar-08

Company believes its platform validates the promise of next-generation sequencing technologies, which is to lower the cost and increase the speed and accuracy of analyzing human genomic information to move closer to personalized medicine.

[http://www.bio-itworld.com/BioIT\\_Article.aspx?id=73336](http://www.bio-itworld.com/BioIT_Article.aspx?id=73336)

### *Subcategory: Imaging*

#### **Multiphoton Microscopy Gives Researchers 'Window' into Insulin-**

BioOptics World

07-Mar-08

Islet cell transplantation is currently considered the most promising method for curing type 1 diabetes. There had been no clear way to directly view and monitor how transplanted insulin producing cells function after they are infused into a patient.

[http://www.bioopticsworld.com/display\\_article/322429/131/none/none/NEWSA/Multiphoton-microscopy-gives-researchers-'window'-into-insulin-secreting-cell](http://www.bioopticsworld.com/display_article/322429/131/none/none/NEWSA/Multiphoton-microscopy-gives-researchers-'window'-into-insulin-secreting-cell)

#### **Virus Capsid Reveals Surprises**

Celia Arnaud

Chemical & Engineering News

03-Mar-08

Resolution of single-particle electron cryomicroscopy (cryo-EM) allows tracing the backbone of the 22-megadalton capsid, or outer protein shell, of the  $\epsilon$ 15 bacteriophage, a virus that infects the bacterium *Salmonella anatum*.

<http://pubs.acs.org/cen/news/86/i09/8609notw7.html>

### **The Fine Structure of a Frozen Virus**

Jocelyn Rice

Technology Review

19-Mar-08

A technique called single-particle electron cryomicroscopy involves flash-freezing whole viruses in a watery solution. Electron microscope images allowed the researchers to distinguish between structures as close together as 4.5 angstroms.

<http://www.technologyreview.com/Biotech/20436/>

#### *Subcategory: Neurology*

### **Switches For The Body Electric**

Carmen Drahl

Chemical & Engineering News

24-Mar-08

Generation of nerve impulses responding to light under the right chemical circumstances could lead to a better understanding of, and new treatments for, conditions such as spinal cord injury, Parkinson's disease, and vision loss.

<http://pubs.acs.org/cen/science/86/8612sci1.html>

#### *Subcategory: Oncology*

### **A Bigger Picture: Peter Kuhn Looks at Circulating Tumor Cells**

Eric Sauter and Mika Ono

Scripps Research Institute

03-Mar-08

Benedyk

Cancer tumor cells are known to move around. Presents a method of detection called fiber-optic array screening technology (FAST) that can directly scan 50 million cells to identify likely rare cancer cells in less than 2 minutes.

[http://www.scripps.edu/newsandviews/e\\_20080303/kuhn.html](http://www.scripps.edu/newsandviews/e_20080303/kuhn.html)

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## **THERAPEUTIC CATEGORY**

#### *Subcategory: Cardiology/ Vascular Diseases*

### **Damaged Veins Heal Faster with Heparin Treatment, U-M Laboratory Study Finds**

University of Michigan

13-Mar-08

Low-molecular weight heparin, or LMWH, a form of anti-clotting medication that is often given to hospitalized patients may prevent existing clots from damaging delicate vein walls and may accelerate healing in a clot-damaged area of vein wall.

<http://www.med.umich.edu/opm/newspage/2008/heparin.htm>

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