



June 2009

Biotech News

- Researchers pioneer a new approach for treating flu that targets both the hemagglutinin (H) and neuraminidase (N) portions of the virus, by utilizing 'click chemistry' to create a new sialic acid derivative that interferes with the virus' attachment to cells for infection. <http://news.rpi.edu/update.do?artcenterkey=2587>
- Scientists discover that shear stress stimulates growth of blood stem cells, possibly leading to stem cell based treatments for people with diseases that currently require bone marrow transplants, given that only about a third of patients who require bone marrow transplants have matching donors. http://www.sciencenews.org/view/generic/id/43761/title/For_blood_stem_ce
- Neurobiologists combine gene engineering and nanoparticles to create a non-viral gene delivery method to activate a neuronal signaling mechanism that prompts adult brain stem cells to differentiate into neurons, and raises possibilities for new treatments of Parkinson's, Alzheimer's and other neurodegenerative disorders. <http://www.nanowerk.com/news/newsid=10753.php>
- Researchers develop new method to introduce unnatural amino acids into proteins, which theoretically allows the placing of fluorescent probes at any position in any protein, and enables single-molecule fluorescent studies in mammalian cells. <http://newswire.rockefeller.edu/?page=engine&id=929>
- Bioengineers develop a breakthrough, and significantly less costly, method for quantifying DNA methylation at single-nucleotide resolution, using padlock probes, which could lead to more efficient and cost-effective methods for studying certain diseases such as cancer. http://www.jacobsschool.ucsd.edu/news/news_releases/release_sfe?id=839

Society News

Interested in bioengineering? Attend [AIChE's Annual Meeting](#) at the Gaylord Opryland Hotel in Nashville, TN from November 8-13. It will be the place to discuss a wide range of subjects relevant to the latest research and the newest technologies in the field of bioengineering. Topics of interest include:

- [Advances in Algal Biorefineries](#)
- [Advances in Metabolic Engineering](#)
- [Bio and Pharmaceutical Process Design](#)
- [Biobased Fuels and Chemicals](#)
- [Biomass Processing to Liquid Biofuels beyond Ethanol](#)
- [Biomaterial-Cell Interactions in Tissue Engineering](#)
- [Biosensors, Bioprocess Monitoring and Control](#)
- [Stem Cells in Tissue Engineering](#)
- [Gene Delivery from Tissue Engineering Scaffolds](#)
- [MEMS and Biosensors](#)
- [Metabolic Engineering for Tissues and Organs](#)

- [Self Assembled Biomaterials](#)
- [Systems Biotechnology](#)

[Click here](#) to view all session topics.

Save the date for AIChE's Annual Meeting in Nashville Tennessee on November 8-13, 2009!

Mark your calendar! SBE's next webinar on "Designing Efficient Metabolic Networks for Biofuels Production" is scheduled for Thursday June 25 from 2 to 3 PM EST.

Our speaker will be Friedrich Sreenc of the BioTechnology Institute at the University of Minnesota. The presentation will demonstrate the use of Elementary Mode Analysis to identify all possible pathways that are embedded in a metabolic network and use this information to reduce the metabolic network to the most efficient operation. Several case studies related to biofuels production will show that this rational approach leads to highly productive organisms. [Click here](#) for more information.

Save the date! SBE's 2nd International Conference on Stem Cell Engineering

will be held at the Hyatt Harborside Hotel in Boston, MA from May 2-5, 2010.

This Gordon-style conference will emphasize how efforts in stem cell biology and engineering can combine to aid in the development of stem cell therapeutics and bioprocesses. Co-chairs are Peter Zandstra from the University of Toronto and George Daley from Harvard University. [Find Out More](#), or [Join our Stem Cell Conference Mailing List](#) to keep up to date as details firm up.

Are you interested in developing renewable fuels metrics along the supply chain?

At its recently completed spring meeting in Tampa, the AIChE conducted an industry roundtable and exploratory workshop to address renewable fuels metrics along the supply chain. Interested companies are invited to assist in developing measurement criteria which will be used to help guide technology developers and inform the federal government of our efforts in this area. For additional information and to join our monthly teleconference, please email sustainability@aiiche.org.

Check out some other options for bio-related Training/Continuing Education this summer.

[Learn more](#)

Undergrads!! Did you know that there is a \$1,000 prize for the best use of a biological reaction to power a car in the annual Chem-E-Car competition, sponsored by Chevron? _

[Click here to learn more](#)

Join Now

Not a current SBE member? It's never too late to join or renew. Costs are \$75 for regular members, \$25 for graduate students, \$10 for AIChE, ACS and IBE members, or free for undergraduates. Join now at <http://www.aiiche.org/apps/ecommerce/bio/index.asp>.

Member benefits include:

- Subscription to SBE's semi-annual BioSupplement to Chemical Engineering Progress.
- Discounts on leading biological engineering conferences including SBE and SBE cosponsored meetings and courses.
- Access to online membership directory.
- A voice in education, employment and technology advancement topics.

Comments?

SBE's *e-Connections* is edited by Adrian Andrew Fay, Web Science Editor, with input from SBE staff. Contact us at bio@aiiche.org

***The Society for Biological Engineering (SBE) is a new technological community of AIChE
Its mission is to promote the integration of biology with engineering and realize its benefits
through bioprocessing, biomedical, and biomolecular applications.
For comments and contributions to SBE Connections, email bio@aiiche.org***