

# NEWS in Science and Technology

from the



## CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING

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The following is an Executive Summary of the Academy's quarterly Bulletin (Vol. 19,3) that includes topics and issues in science and technology deemed by the Academy to be both timely and relevant to Connecticut's interests. Each item is briefly summarized from press releases and reports of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine. Hyperlinks are included to the original online source, where more detailed information is available.

NOTE: Online versions of this newsletter and the Bulletin are available on the Academy website at [www.ctcase.org](http://www.ctcase.org).

### FEATURE: NEW MATH, SCIENCE INITIATIVE

#### ➤ A New Initiative to Promote interest in Math and Science

*The Connecticut Academy of Science and Engineering is taking a unique approach to the problem of low technological literacy among the public, approaching it as a "customer satisfaction" issue and using as a model for engagement the highly successful network of national, state and local arts councils.*

- The Connecticut Initiative for Science and Technology:
  - o Originally conceived 6 years ago by CASE Governing Council:
    - "Critically important for the economic health of Connecticut to proactively engage the public, especially our young people, in science and technology."
  - o Takes unique approach to developing interest in science-, engineering-, technology-based programs:
    - Modeled on successful support structure for sports and arts programs in local communities.
    - Views technology-based programs as "product" for which demand must be promoted and developed.
    - Calls for creation and testing of support system similar to arts councils in the United States.
  - o Advisory group of over 20 Connecticut organizations co-chaired by Elaine Pullen (Gerber Scientific, Inc.) and Michael Werle (CASE) created to study existing offerings in science, math, and engineering, and guide development of Initiative:
    - Developed first concept for infrastructure 3 years ago.
    - 100 Connecticut government, educational, business, community leaders helped develop plan.
    - Hoffman Foundation of West Hartford, Connecticut Department of Economic and Community Development, Pfizer Corporation provided planning-level support.
    - Public and private funding now being sought for multi-year expansion of trial.
  - o "Many pieces already in place" to replicate arts council model
    - Connecticut Center for Science and Exploration (CTCSE) to be major partner.
    - High level of receptivity among community leaders.

- Pilot extracurricular programs introduced at middle school level in 2004, supported by Connecticut Career Choices program of Governor's Office for Workforce Competitiveness.
- Assistance provided by Westinghouse Science Corporation to develop and oversee program to provide speakers for middle schools.
- o Next steps include:
  - Working with 3-4 regionally-based organizations to test system.
  - Securing support for and instituting the Connecticut Science & Technology Collaborative (state-level oversight committee).

[See [http://www.ctcase.org/bulletin/19\\_3/initiative.pdf](http://www.ctcase.org/bulletin/19_3/initiative.pdf)]

### ENERGY

#### ➤ Report Examines Pipeline Safety

*The National Academies' Transportation Research Board (TRB) has released a new report examining safety issues related to energy transmission pipelines. The report concludes that:*

- The federal government should develop guidelines for land-use decisions to minimize risks to public, pipeline workers, and environment.
- "Judicious" land-use decisions can reduce risks by reducing probabilities and consequences of incidents.
- It is feasible to use risk-informed approach to establish land-use guidance for local governments.
- The federal government could play a useful role by providing leadership in development of land-use guidance.
- There is evidence that guidelines can be developed that would help preserve natural habitat while maintaining rights-of-way.

[See <http://books.nap.edu/catalog/1106.html>]

### FOOD & AGRICULTURE

#### ➤ Composition of Altered Food Products Should Be Basis for Federal Safety Assessment

*A new report from the National Research Council and the Institute of Medicine urges federal agencies to assess the safety of genetically altered food on a case-by-case basis before their commercial release, regardless of how the foods were produced. The report:*

## FOOD & AGRICULTURE (continued)

- Suggests that foods containing new compounds or unusual amounts of naturally occurring substances, regardless of the method used to create them, be subject to greater scrutiny.
- Finds that while genetic engineering is not an inherently hazardous process, the resulting food, along with foods created from other methods of genetic modification, should be examined to determine if the inserted genes produce toxins or allergens.
- Offers guidelines for federal agencies responsible for safety assessment.
- Urges development of better epidemiological and survey tools to detect changes in the public's health that may be caused by these foods.
- Finds that safety evaluation of foods from cloned animals should also focus on the product itself rather than process used to create it and recommends that cloned animals engineered to produce pharmaceuticals be kept out of the food chain.

[See <http://books.nap.edu/catalog/10977.html>]

## HIGH TECHNOLOGY

### ➤ NASA Should Commit to Hubble Servicing Mission

An interim "letter report" from the National Research Council's Committee on the Assessment of Options for Extending the Life of the Hubble Space Telescope (HST) urges NASA to commit to a servicing mission for HST. The report suggests that:

- NASA not make any decisions that preclude future shuttle missions to HST until the agency examines the engineering and technology requirements of both robotic and human repair missions.
- "Compelling scientific returns" will result from a servicing mission that accomplishes the scientific objectives of the originally planned SM-4 mission:
  - Addition of two new instruments (a Wide Field Camera-3 and the Cosmic Origins Spectrograph (COS))
  - Battery and gyroscope replacements
- NASA begin immediately to take an "active partnership" role that includes HST-related demonstrations in robotic space experiments currently underway in other agencies.

[See <http://www.nap.edu/catalog/11051.html>]

### ➤ Food Pyramid Scheduled for Overhaul

The Department of Agriculture (USDA) has announced a revision of the 12-year-old USDA Food Guide Pyramid.

- Food Guide Pyramid will be renamed Food Guidance System:
  - Revision parallels revision of Dietary Guidelines for Americans currently underway.
  - First phase of revision, now complete, included technical research as well as professional and consumer input.
  - Second phase of revision includes development of new graphic image, educational materials.
- USDA currently seeking public input on configuration of new graphic, strategies to improve awareness and motivation, methods to assist consumers in personalizing the system, strategies to improve educational messages, interactive tools to demonstrate and disseminate delivery channels for the message.

[See <http://www.cnpp.usda.gov/pyramid-update/>]

### Our Thanks to Academy Sponsors

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