

# NEWS in Science and Technology *from the*



## CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING

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The following are topics and issues in science and technology deemed by the Academy to be both timely and relevant to Connecticut's interests. Each item, briefly summarized from press releases and reports of the National Academy of Sciences, the National Academy of Engineering, and the National Institute of Medicine, includes a hyperlink to the original online source, where more detailed information on the subject is available.

NOTE: This newsletter is also available online at the CT Academy website at [www.ctcase.org/newsletters/](http://www.ctcase.org/newsletters/).

### HIGH TECHNOLOGY

#### ➤ Photonics in CT: Harnessing Light's Power

- World still in early phases of technological revolution that uses photons, particles of light, to perform work.
- Two key inventions responsible: the laser and the very-low-loss optical fiber, which are essential to modern, optical fiber based telecommunication systems.
- Connecticut ideally positioned as a world center of photonics manufacture, development and research, home to several major photonics companies, including: JDS Uniphase, Coherent DEOS, TRUMPF Inc., Advanced Fuel Research, CiDRA, and Zygo.
- UConn and Yale doing photonics research.

[See [http://www.ctcase.org/bulletin/photonics\\_long.pdf](http://www.ctcase.org/bulletin/photonics_long.pdf) or *CASE Bulletin*, vol 17, 1, Spring 2002]

#### Recent relevant CT Academy Reports

- "Status of Connecticut Critical Technologies," 1997
  - "Evaluation of Critical Technology Centers," 1996
- [for more information, see [www.ctcase.org/reports](http://www.ctcase.org/reports)]

### HEALTH

#### ➤ Promise and Peril of Stem Cell Research

A National Research Council and Institute of Medicine committee reports that:

- Medical researchers, seeking cures for debilitating diseases, see almost unlimited potential in stem cells, holding promise for patients with leukemia, diabetes, victims of stroke, Alzheimer's, Parkinson's and more.
- Additional publicly sponsored research is needed to ensure more scientists with a broader spectrum of perspectives and to provide widely accessible results.
- Public funding also offers more opportunities for regulatory oversight and scrutiny.
- Establishment of a national advisory board is recom-

### HEALTH (continued)

mended to ensure federally funded work is scientifically sound and meets mandated codes of conduct.

[See <http://www.nap.edu/books/0309076307/html/>]

#### Recent relevant CT Academy Reports

- "Economic Impact of AIDS Health Care in Connecticut," 1990
- "Electromagnetic Field Health Effects," 1992

[for more information, see [www.ctcase.org/reports](http://www.ctcase.org/reports)]

### GENERAL

#### ➤ Public Policy Based on Best Advice Possible

National Academy of Engineering president stresses:

- Critical need, in a society increasingly dependent on technology, for public policy informed by the best advice possible.
- Importance, more than ever since 9/11, of National Academies' role of trusted, unbiased, authoritative adviser.
- Academies' reputation attributed to scrupulous process, the major features of which include:
  - Advice generated by committee of unpaid experts whose areas of expertise span those needed to address an issue and who have been carefully vetted to ensure no conflicts of interest and a balance of biases
  - Committees that seek broad input from all interested parties, with information-gathering meetings open to the public and announced well in advance
  - Reports that are based on fact, not opinion and that are peer-reviewed by a group comparable in expertise to that of the committee

[<http://www.infocusmagazine.org/1.2/president.html>]

## Recent relevant CT Academy Reports

- "Science and Technology Policy: Lessons from Six American States," 1994
- "A State Science and Technology Policy," 1992

[for more information, see [www.ctcase.org/reports](http://www.ctcase.org/reports)]

## EDUCATION & COGNITION

### ➤ Autism: Early Intervention Key

For autism and related developmental disorders, a National Research Council report:

- Recommends routine early screenings, similar to those currently done for vision and hearing problems.
- Urges prompt educational intervention, citing long recognized benefits of intensive schooling within the first decade of life.

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- Notes that experienced professionals can reliably diagnose autism as early as age 2.
- Calls for providing significantly more instruction to teachers and classroom aides in academic and social skills.
- Advises extra funds be set aside by state and federal agencies over the next five years to train those who work with or are accountable to children with autistic spectrum disorders and their families.

[See <http://www.nap.edu/books/0309072697/html/>]

## ENVIRONMENT

### Recent relevant CT Academy Reports

- "Study of Radiation Exposure from the Connecticut Yankee Nuclear Power Plant," 2001
- "A Study of Bus Propulsion Technologies Applicable in Connecticut," 2001
- "Efficacy of the Connecticut Motor Vehicle Emissions Testing Program," 2000
- "Indoor Air Quality in Connecticut Schools," 2000
- "Efficacy of MTBE Use in Connecticut," 1999

[for more information, see [www.ctcase.org/reports](http://www.ctcase.org/reports)]

## BIOSCIENCE/BIOTECHNOLOGY

### Recent relevant CT Academy Report

- "Building Agricultural Biotechnology in Connecticut," 1997

[for more information, see [www.ctcase.org/reports](http://www.ctcase.org/reports)]

*You have been selected to receive this newsletter because of your role in science and technology policy-making in Connecticut. If you are aware of other individuals who might benefit from this publication, please contact the Academy at (860) 527-2161*

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