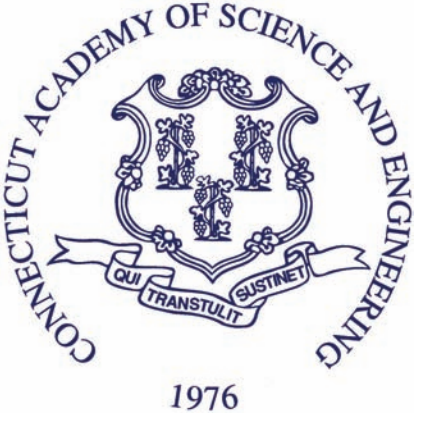
Connecticut Academy of Science and Engineering



Annual Report

2006-2007

Connecticut Academy of Science and Engineering

The Connecticut Academy is a non-profit institution patterned after the National Academy of Sciences to identify and study issues and technological advancements that are or should be of concern to the state of Connecticut. It was founded in 1976 by a Special Act of the Connecticut General Assembly.

Vision

The Connecticut Academy will foster an environment in Connecticut where scientific and technological creativity can thrive and contribute to Connecticut becoming a leading place in the country to live, work and produce for all its citizens, who will continue to enjoy economic well being and a high quality of life.

Mission Statement

The Connecticut Academy will provide expert guidance on science and technology to the people and to the state of Connecticut, and promote the application of science and technology to human welfare and economic well being.

Goals

- *To provide information and advice on science and technology to the government, industry and people of Connecticut.*
- *To initiate activities that foster science and engineering education of the highest quality, and promote interest in science and engineering on the part of the public, especially young people.*
- *To provide opportunities for both specialized and inter-disciplinary discourse among its own members, members of the broader technical community, and the community at large.*

Connecticut Academy of Science and Engineering
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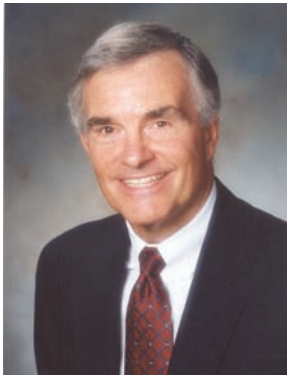


The state of the Academy at the end of the 2007 fiscal year, June 30, 2007, is excellent. The past year was highlighted by the diversity of projects conducted on behalf of the Connecticut General Assembly and state agencies. Also, the Academy's membership reached an all time high with the election of 26 new members and a total membership at year end of 226 of Connecticut's leading scientists, physicians, and engineers. Financially the Academy ended the year in good condition and is well positioned to maintain financial stability through the 2008 fiscal year.

Three studies started last year for the Connecticut General Assembly were completed this year: advanced communications technologies, energy alternatives and conservation, and evaluating the impact of supplementary science, technology, engineering, and mathematics programs. Also, the Academy was pleased to present each study's findings before the committees of the General Assembly that commissioned the studies. It is worthy to note that the results of these studies were well received by the General Assembly. For the energy study, energy legislation included several innovative ideas emerging from our report: the summer savings program for electricity usage; the option for municipalities to exempt fuel efficient vehicles from property tax; and the development of a real-time energy report for use on television, and voluntary e-mail and cell phone energy alerts to inform the public of regional and statewide electricity usage and the need to conserve energy during critical peak energy load periods. The advanced communications study resulted in legislation creating a Broadband Internet Council for the purpose of keeping the state's leadership informed of advances in communications technologies to provide an environment for business and citizens that will enable them to meet the challenges of global economic competition.

Additionally, the Academy was asked to study other issues of high interest and concern for the state and its economic well-being. These projects included: a study of the feasibility of utilizing fuel cells to generate power for the New Haven Rail Line conducted for the Connecticut Department of Transportation that will be completed early in the 2008 fiscal year; guidelines for the development of a strategic plan for the Connecticut stem cell research program that was conducted for the Connecticut Department of Public Health and the Connecticut Stem Cell Research Advisory Committee; and technical reviews for Connecticut Innovations and the Connecticut Clean Energy Fund of projects being considered for funding. Details regarding these important projects are provided within this report.

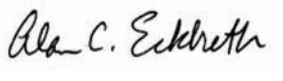
Dr. Michael P. Snyder, Yale University, was named the winner of the 2007 Connecticut Medal of Science award in recognition of his pioneering work in the area of genomics and proteomics. He was selected for this honor by an Academy Selection Committee.

The Academy's quarterly *Bulletin* continues to inform the public and provide the leadership of the state with timely notice of developments of interest at both the state and national levels. This year the *Bulletin's* feature articles discussed a wide range of topics, including "Distributed Generation: One Solution to CT's Burgeoning Energy Needs," "UConn Scientist Plays Key Role in International Marine Census," "Using Animals and Deep Sea Exploration to 'Capture the Imagination' of Future Scientists at Mystic Aquarium & Institute of Exploration," and "Biodiesel Holds Promise as New Energy Source, Economic Boon for Connecticut." Also, the Academy continued its efforts to support science and technology initiatives in the state through its active participation in the Alliance for Connecticut Technology, STEMCONN07—an international stem cell research symposium—and as a member of the Exhibit Oversight Group of the Connecticut Science Center.

The CONNvene initiative—a platform to advance a statewide science, technology, mathematics, and science dialogue and strategy—that included participation of the Academy's leadership was completed. The implementation of the initiative's recommendations and others that will evolve from its findings will provide a valuable insight for the state's leadership in its effort to better meet Connecticut's 21st century economic development, quality of life, and workforce needs.

The Academy's work over the past year has been significant and a valuable resource for the state. The year ahead will bring new challenges and expectations. As the year ended, the Academy was named in legislation to conduct a "needs-based analysis of the University of Connecticut Health Center's facilities plan" on behalf of the General Assembly.

We believe the Academy will continue to make important contributions in key areas to enable the state to continue to enjoy economic well-being and be a highly desirable place to live. We thank the individuals and organizations that have assisted us in the past year—our members, patrons, clients and colleagues—and look forward to working with old friends and new partners in the year ahead.



Alan C. Eckbreth
President
July 1, 2007

Governance

The property, affairs and activities of the Academy are managed by a Council of 11 Members, which serves also as the Board of Directors of the Corporation. In addition, the chairs of the ten Technical Boards serve as *ex officio,* non-voting members of the Council. The Council meets quarterly. There are three Standing Committees of the Academy: Finance, Membership and Nominating.

The members of the Council and chairs of the Standing Committees for the 2007 fiscal year were as follows:

Council of the Academy

Officers:
President – Alan C. Eckbreth, Consultant & United Technologies Research Center (ret.)
Vice-President/President Elect – Myron Genel, Yale School of Medicine
Treasurer – Peter G. Cable, Applied Physical Sciences Corporation
Secretary – Gale F. Hoffnagle, TRC Environmental Corporation, Inc.
Past President – Michael J. Werle, TEaMS, Inc.

Councilors:
James C. Hogan, Jr., Connecticut Department of Public Health
Herbert S. Levinson, Transportation Consultant & University of Connecticut (ret.)
Frederick J. Leonberger JDS Uniphase Corporation (ret.)
Louis A. Magnarelli, The Connecticut Agricultural Experiment Station
Sandra K. Weller, University of Connecticut Health Center
Gary W. Yohe, Wesleyan University

Chairmen of the Technical Boards:
(See pages 5-6 for a listing of the chairs.)

Council Advisors:
John P. Cagnetta, Northeast Utilities (ret.)
Anthony J. DeMaria, Coherent*DEOS LLC
J. E. Goldman, GB Energy Systems, Inc.
Harvey S. Sadow, Boehringer Ingelheim Corporation (ret.)

Executive Director
Richard H. Strauss

Chairmen of the Standing Committees

Finance:
Peter G. Cable, Applied Physical Sciences Corporation

Membership:
James C. Hogan, Jr., Connecticut Department of Public Health

Nominating:
Myron Genel, Yale University School of Medicine

Technical Boards

The Members of the Academy are divided into ten Technical Boards (TBs) that represent both their technical and public policy interests.

The TB responsibilities in their designated policy areas include: serving as a forum for examining science-based issues; providing the resources for assembling and overseeing *ad hoc* committees to respond to inquiries placed with the Academy; and generating guidance in instances where science and technology are expected to offer new opportunities or challenges for the development of sound state policy. In each of the above, the TBs may encourage the participation of expert non-members.

The Chairs and mission statements of the TBs for the 2007 fiscal year were:

AGRICULTURE, FOOD AND NUTRITION:
Louis A. Magnarelli, The Connecticut Agricultural Experiment Station
The production, distribution, safety, and nutrition of food, including development of biotechnology to improve the quality of food and the environment.

COMMUNICATION AND INFORMATION SYSTEMS:
Lou Manzione, University of Hartford
All means of communicating voice, data, and other combinations of business and personal information, including the development of new hardware and software technologies, with special attention to complementarity and interchangeability with transportation systems.

ECONOMIC DEVELOPMENT:
Earl R. Thompson, United Technologies Research Center (ret.)
Economic opportunities afforded by Connecticut's technological base and its human and natural resources, with a special role in assessing the potential economic impact of new technologies.

ENERGY PRODUCTION, USE AND CONSERVATION:
Lee S. Langston, University of Connecticut
The production, use, conservation and distribution of energy with special attention to meeting future demand and environmental quality standards.

ENVIRONMENT:
Barry Chernoff, Wesleyan University
The physics, chemistry, geology, biology, ecology and engineering of the environment as these relate to issues of economic development, energy use, transportation, public health and the quality and utilization of Connecticut's atmosphere, land, water and sea natural resources.

HEALTH CARE AND MEDICAL TECHNOLOGY:
Gualberto Ruano, GENOMAS, Inc.
The delivery, quality and cost of medical care and related problems, including preventative health care and the development of biotechnology for improving human health.

HUMAN RESOURCES:
Kathleen F. Maurer, The Hartford
The effective utilization of people in ways that will contribute to human development and economic growth, including applications of technology to improve both basic and advanced skills to make people more employable, and with attention to the impact of urban growth and development.

PUBLIC HEALTH:
Michele Barry, Yale University School of Medicine
The impacts on the public health of communicable diseases and of materials and energy of man-made and natural origin in the environment.

TECHNOLOGY:
Frederick J. Leonberger JDS Uniphase Corporation (ret.)
The development and utilization of knowledge for the purpose of providing material goods and services, including the utilization of research results to design and manufacture of materials and products, with particular attention to developing effective means for transferring technology from the academic to the industrial community and within the industrial community, and for the improvement of manufacturing technology.

TRANSPORTATION SYSTEMS:
David E. Crow, Pratt & Whitney (ret.)
The movement of people and material within and across Connecticut, including vehicles and infrastructure, with special attention to complementarity and interchangeability with communication systems.

New Members

The membership of the Academy is limited by its State Charter to 250 persons. The Bylaws of the Academy provide that members must live or work in Connecticut and are to be elected by the current members on the basis of their accomplishments in science, engineering and/or technology. In particular, scientists and engineers may be considered for membership on the basis of fulfillment of either or both of the following criteria:

- Scientific distinction achieved through significant original contribution in theory or application;
- Unusual accomplishments in the pioneering of new and developing fields of applied science and technology.

In addition, members of the national academies are automatically considered for membership by resolution of Council.

At the close of the 2007 fiscal year, the Academy had a total of 226 members, including this year's 26 newly elected Academy members, as follows:

Achenie, Luke E.K.
Professor of Chemical, Materials and Biomolecular Engineering, University of Connecticut

Auslander, Judith
Senior Fellow, Member of the Technical Ladder, Pitney Bowes

Bansal, Rajeev
Professor and Associate Department Head, Department of Electrical and Computer Engineering, University of Connecticut

Banucci, Eugene G.
Founder and Chairman of the Board, ATMI, Inc.

Bottomly, H. Kim
Deputy Provost, Science, Technology and Faculty Development; and Professor of Immunobiology, Yale University School of Medicine

Bucklin, Ann C.
Head, Department of Marine Sciences; and Director, Marine Sciences and Technology Center, University of Connecticut

Canalis, Ernesto
Director of Research and Professor of Medicine and Orthopedic Surgery, St. Francis Hospital and Medical Center and University of Connecticut School of Medicine

Caspersson, Sten A.
Fellow Engineer; Project Manager, High Temperature Nuclear Power Reactors, Westinghouse Electric Company, LLC

Newly elected members of the Academy at the Annual Meeting on May 22, 2007 (Photo: Al Malpa)

Cleary, Paul D.
Dean of Public Health; C.E.A. Winslow Professor of Epidemiology and Public Health; Chair, Department of Epidemiology and Public Health, Yale University School of Public Health
Institute of Medicine – elected member

Dam, Hans G.
Professor of Marine Sciences, University of Connecticut

Demurjian, Steven A.
Professor and Associate Department Head, Department of Computer Science & Engineering, University of Connecticut

Elimelech, Menachem
Roberto C. Goizueta Professor of Environmental & Chemical Engineering; Chairman, Department of Chemical Engineering; and Director, Environmental Engineering Program, Yale University
National Academy of Engineering – elected member

Girvin, Steven M.
Eugene Higgins Professor of Physics and Applied Physics, Yale University
National Academy of Sciences – elected member

Grabel, Laura B.
Fisk Professor of Natural Science, Biology Department, Wesleyan University

Hartnett, Michael J.
President and CEO, Roller Bearing Company of America

Jordan, Eric H.
Professor of Mechanical Engineering, University of Connecticut

Kissa, Karl M.
Senior Optical Engineer, JDSU Corporation

Kling, Charles L.
Consulting Engineer, Westinghouse Electric Company, LLC

LaLande, Marc
Chair, Department of Genetics and Developmental Biology; Associate Dean for Research Planning and Coordination; School of Medicine, University of Connecticut Health Center

Lin, Haifan
Professor of Cell Biology; and Director, Yale Stem Cell Program, Yale University School of Medicine

Olgac, Nejat
Professor of Mechanical Engineering, University of Connecticut

Rockwell, Sara
Professor, Departments of Therapeutic Radiology and Pharmacology; and Director, Office of Scientific Affairs, Yale University School of Medicine

Rowe, David W.
Director, Center for Regenerative Biology and Skeletal Biology; and Professor, Department of Oral Rehabilitation, Biomaterials and Skeletal Development, School of Dental Medicine; and Professor, Department of Genetics and Developmental Biology School of Medicine, University of Connecticut Health Center

Urry, C. Megan
Israel Munson Professor of Physics & Astronomy; and Director, Yale Center for Astronomy and Astrophysics; and Chair, Physics Department, Yale University

Wisner, George R.
President, Wisner Associates; and Chairman, Board of Directors; and Fair Director, Connecticut Science Fair; United Technologies Corporation (ret.)

Zhu, Quing
Associate Professor of Electrical Engineering, University of Connecticut

One of the principal purposes of the Academy is to provide science and technology information and advice on public policy issues, upon request of a government agency or private organization. Information regarding inquiries received, continued, or completed during the fiscal year is listed below:

Advanced Communications Technologies: The objective of this study was to conduct an assessment of the benefits of creating a world-class digital/ communications infrastructure for businesses and individuals in Connecticut; and to identify suggestions for accomplishing this goal. A suggestion from this study, to create a Broadband Internet Council, was included in 2007 legislation adopted by the General Assembly. The purpose of the Council is to keep the State informed of advanced communications technology developments to help assure Connecticut maintains a leadership position to allow its businesses and residents to compete globally. Study Period: *May 2006 – December 2006. Final report issued.*
Source: Connecticut General Assembly

Energy Alternatives and Conservation: The objective of this study was to conduct an assessment of energy alternatives and conservation actions for reducing reliance on oil and fossil fuels over the next 10 years, which are applicable to Connecticut and would spur innovation, diversity and consumer choice, including but not limited to: providing an analysis of the state of emerging energy alternatives and renewable fuels and their applicability for use in Connecticut; assessing technological opportunities for supporting energy independence for current and future motorized transportation; and identifying new ideas to promote energy conservation. The study included several innovative suggestions that were included in 2007 legislation adopted by the General Assembly including a summer incentive program for electric users to use less electricity; development of a real-time energy report and creation of cell phone and email energy alert systems. Study Period: *May 2006 – December 2006. Final report issued.*
Source: Connecticut General Assembly

Evaluating the Impact of Supplementary Science, Technology, Engineering, and Mathematics Educational Programs: The objective of this project was to identify methodologies and tools for assessing the benefits and impacts of supplementary science, technology, engineering and mathematics educational programs in an effort to assist the state in making program funding decisions. This study has been used by the State Department of Education as a tool for those submitting proposals to the department. Study Period: *May 2006 – December 2006. Final report issued.*
Source: Connecticut General Assembly

A Study of the Feasibility of Utilizing Fuel Cells to Generate Power for the New Haven Rail Line: The objectives of the study are to define the applications for

electric power on the New Haven Line; to determine the technical feasibility of fuel cell power plants to meet these requirements; to identify the economic consequences of using fuel cells; to recommend the best applications for use of fuel cells; and to identify additional effort required preparatory to issuing a request for bids on the most promising fuel cell applications. *At end of FY07, Draft Report was being developed. Final Report will be issued in early FY08.* Study Start Date: *November 2006*
Source: Connecticut Department of Transportation on behalf of the Connecticut General Assembly

Guidelines for Developing a Strategic Plan for Connecticut's Stem Cell Research Program: Both rapidly expanding state and international investments in stem cell research highlight the importance of Connecticut's focusing its resources as effectively as possible and adapting the program as necessary to achieve optimal results. Consequently, the Connecticut Stem Cell Research Advisory Committee identified the need to develop a strategic plan to ensure the long-term viability and sustainability of Connecticut as an International Center of Excellence for Stem Cell Research. This study provided guidance and advice in developing the strategic plan. Study Period: *March 2007 – May 2007. Final report issued.*
Source: Connecticut Stem Cell Research Advisory Committee and the Connecticut Department of Public Health

Additionally, the Academy completed several Technical Reviews of proposals considered for funding by Connecticut Innovations and the Connecticut Clean Energy Fund.

Most inquiries are referred to the Technical Boards for a response, or to the Academy Executive Director. One, or more, of the ten Technical Boards is selected to assemble appropriate experts to conduct a study and prepare the response to the Inquirer. The Academy provides technical support, prepares reports, and otherwise conducts the pertinent business of the Academy in these efforts.

The Academy also receives requests from state agencies, private organizations, and private inquirers for sources of technical information and technical experts on a variety of topics. While not a referral service, the Academy will provide or suggest resource persons in this state or elsewhere as appropriate.

Grants and Contracts

The Academy continues to be funded by a plan under which the State of Connecticut and the private sector share a substantial portion of the general support of the Academy.

The following major sources of funding were recognized in fiscal year 2007 for a variety of studies and technical assistance (see Public Policy Inquiries):

$23,417 from the Connecticut Department of Economic and Community Development for Technical Assistance Services.

$55,650 from the Connecticut Department of Transportation to begin work on *A study for the Feasibility of Utilizing Fuel Cells to Generate Power for the New Haven Rail Line*; and participation in other activities.

$101,435 from the Connecticut General Assembly for the completion of the following studies that were started in FY2007: *Advanced Communications Technologies; Energy Alternatives and Conservation; Evaluating the Impact of Supplementary Science, Technology, Engineering, and Mathematics Educational Programs.*

$10,000 from the Connecticut Clean Energy Fund for Technical Reviews of technologies under consideration for funding.

$ 8,500 from Gerber Scientific, Inc. to manage and oversee the awarding of the H. Joseph Gerber Medal of Excellence as part of the Academy's Student Awards Program.

$5,000 from the Connecticut Science Center, and $8,640 from the Connecticut State Department of Education to oversee a hands-on science pilot program for elementary school students in the Hartford Public School System.

$5,093 from Connecticut Innovations for a Technical Review of a technology under consideration for funding.

Patrons

In addition to support from the State of Connecticut (see the section on Contracts and Grants), the Academy seeks support and financial contributions from leading industrial and commercial institutions headquartered or having major operations in Connecticut. The total received in fiscal year 2007 was $20,835, for which the Academy is most appreciative.

The following Patrons of the Academy are recognized below for their support and financial contributions in fiscal year 2007. The Academy's Patrons receive all general literature and major reports of the Academy and are invited to its Annual Meeting.

Leading Patron

The Connecticut Light and Power Company
Pfizer, Inc.

Annual Meeting Sponsors

Coherent, Inc.
Connecticut Center for Advanced Technology
Connecticut Development Authority
Connecticut Economic Resource Center
Connecticut Innovations, Inc.
Gerber Scientific, Inc.
Pitney Bowes
University of Connecticut Health Center
University of Connecticut, School of Engineering
Yale University
Yale University School of Medicine

Annual Meeting Contributor

Connecticut Technology Council, Inc.

Publications

In response to the provision of the Academy charter to "*…encourage both specialized and interdisciplinary discourse among its members and with other members of the technical community by means of …publications…*" the Academy undertakes the following activities:

The Bulletin

This quarterly publication of the Academy promotes the exchange of technical and research information among the various technical communities in Connecticut. The *Bulletin* generally includes a feature article, news from the National Academies, and information regarding science and technology developments of interest in the state of Connecticut.

Additionally an Executive Newsletter, a one-page summary of the *Bulletin*, is published quarterly. This newsletter provides busy industry, academic and government leaders with highlights of the most important issues presented in the *Bulletin*.

The *Bulletin's* editorial staff includes Martha Sherman, Managing Editor, and Executive Editors: Academy Members Dr. George Foyt, United Technologies Research Center (ret.) and Dr. Edward C. Monahan, University of Connecticut at Avery Point.

Copies of the ***Bulletin*** are sent to Academy members, other academic and industrial scientists, state legislators, commissioners of the state's executive departments, patrons of the Academy, as well as a variety of interested people.

Academy Website

The Academy's website can be found at www.ctcase.org. Information available on the website includes:

Home Page
Technical Boards
Science Fairs and Expositions
Connecticut Medals of Science and Technology
H. Joseph Gerber Medal of Excellence
The ***Bulletin***
Executive Newsletter (*an executive summary of the* ***Bulletin***)
Other publications and reports
Patrons
Related sites

Connecticut Medals of Science and Technology

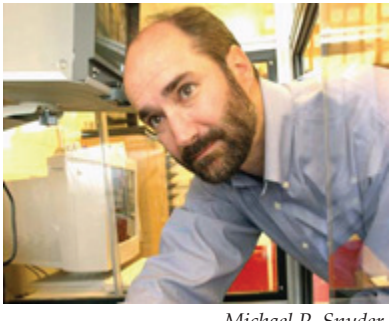
The Connecticut Medals of Science and Technology are awarded in alternate years by the State of Connecticut through the Board of Governors of Higher Education. The Connecticut Medals are modeled after the National Medals of Science and Technology, which are awarded annually by the president of the United States.

The Connecticut Medal of Science is awarded in recognition of extraordinary achievements in scientific fields crucial to Connecticut's economic competitiveness. The Connecticut Medal of Technology is awarded in recognition of extraordinary achievements by an individual in fields of technology that are demonstrated to have made a difference in Connecticut's industrial competitiveness.

Previous recipients of the Connecticut Medal of Science include Frederick M. Richards, Sterling Professor Emeritus of Molecular Biophysics and Biochemistry, Yale University, 1995; Ronald R. Coifman, Professor of Mathematics, Yale University, 1996; and William C. Stwalley, Board of Trustees Distinguished Professor and Head, Physics Department, University of Connecticut, 2005.

Previous recipients of the Connecticut Medal of Technology include H. Joseph Gerber, founder of Gerber Scientific, Inc., 1995; Charles H. Kaman, founder and CEO of Kaman Corporation, 1996; Anthony J. DeMaria, Chief Scientist, Coherent-DEOS, LLC, 2004; and Gene Banucci, Founder and Chairman, ATMI, Inc., 2006.

2007 Connecticut Medal of Science



Michael P. Snyder
(Photo: Michael Marsland, Yale University)

Michael P. Snyder, PhD
Professor, Department of Molecular, Cellular and Developmental Biology
Director, Yale Center for Genomics and Proteomics
Yale University

Michael Snyder's early research focused on cell biological methods by which cells select the direction to grow and divide. His laboratory determined the basic mechanisms by which these processes occur, which is important for understanding the formation of specialized cell shapes and tissues.

His most influential research is in the area of genomics and proteomics, in which he is a pioneer. Dr. Snyder's laboratory was the first to initiate gene characterization on a large scale. Prior to his work, researchers studied genes one or a few at a time. Dr. Snyder's laboratory demonstrated for the first time that it was possible to analyze thousands of genes and proteins at once. This work spawned the functional genomics field in which large numbers of genes and proteins are analyzed simultaneously, and became the foundation for what now many call "Systems Biology."

More recently, Dr. Snyder's research has involved working with human embryonic stem cells, and his laboratory was the first in the state of Connecticut to do so. His laboratory discovered a novel-signaling pathway important for embryonic stem cell self-renewal and used this information to make one of the first "cell free media free of animal components." These efforts are considered important for ultimately using human embryonic stem cells for therapy.

Dr. Snyder is a member of the Board of Directors of the Genetics Society of America and is the president of the US Human Proteome Organization.

Overall, Dr. Snyder's research and discoveries have had enormous impact on science around the world.

This summary was adapted from Dr. Snyder's nomination for the Connecticut Medal of Science that was submitted by his nominator, Dr. Sherman M. Weissman, Sterling Professor of Genetics and Medicine, Yale University School of Medicine. Professor Weissman is a member of the Connecticut Academy of Science and Engineering.

The Academy sponsors, supports, or participates in a number of special activities in response to the mandate of its Charter to: *"...promote interest in science and engineering on the part of the public, especially young people."*

This year the Academy recognized student of the Connecticut Science Challenge, Connecticut Science Fair, Connecticut Junior Science and Humanities Symposium, Connecticut Invention Convention, and the National Siemens Competition in Math, Science and Technology at the Academy's Annual Meeting and Awards Dinner on May 22, 2007. Funding for all student and school awards is provided from contributions to the Academy's Student Awards Fund by the Members of the Academy and by Gerber Scientific, Inc for its sponsorship of the H. Joseph Gerber Medal of Excellence.

The H. Joseph Gerber Medal of Excellence – An Award of the Connecticut Academy of Science and Engineering Sponsored by Gerber Scientific, Inc.

This award is in recognition of H. Joseph Gerber's (1924-1996) technical leadership in inventing, developing and commercializing manufacturing automation systems for a wide variety of industries worldwide. An elected member of the National Academy of Engineering and the Connecticut Academy of Science and Engineering, Mr. Gerber received the National Medal of Technology in 1994 followed by the Connecticut Medal of Technology in 1995.

Joe Gerber's contributions to the technological capabilities of manufacturing were the result of a life grounded in genius, and shaped by vision and determination. As an inventor and as founder, Chief Executive Officer, Chairman of the Board and President of Gerber Scientific, Inc., Mr. Gerber was a leader for nearly half a century in inventing and producing factory automation equipment designed to solve global manufacturing problems. Mr. Gerber shaped his companies and the industries they served with a vision—of increasing human potential through technology; of eliminating tedious, time-consuming manual tasks through automation that increases productivity; and of creating technology that directly and immediately revolutionized manufacturing for companies both large and small. Today, Joe Gerber's genius continues to dominate in the manufacture of apparel and flexible materials, signs and commercial graphics, and lenses for eyeglasses.

Mr. Gerber made the following comments upon his receipt of the National Medal of Technology in 1994: "This award is more than a symbol of personal achievement as it is the highlight of a long and productive career for me. It is an affirmation that manufacturing automation has enhanced every aspect of human life and profoundly impacted the standard of living of every person and nation in the world. I am only one of the many who have contributed to our nation's rich technological heritage and one of the fortunate few to be recognized for his achievements."

Left to right:

CASE president Alan Eckbreth, H. Joseph Gerber Medal of Excellence winners Russell Slater, Miles Lubin, George Hansel, and Gerber Scientific, Inc.'s Jay Wickliff.

(Photo: Al Malpa)

The 2007 H. Joseph Gerber Medal of Excellence was awarded to the winners of the Connecticut Science Talent Search and the Connecticut Science Fair's Life Sciences and Physical Sciences Senior Divisions. Each of the winners received a solid silver medal and a $1,000 honorarium.

Miles C. Lubin, Staples High School, Westport, CT
Connecticut Science Challenge — 1st Place
Project Title: *A Parametric Statistics-based Heuristic for Finding the Nearest Neighbor in Metric Space*

Russell L. Slater, Greenwich High School, Greenwich, CT
Connecticut Science Fair — 1st Place, Life Sciences – Senior Division
Project Title: *Medicated Hydrophilic Wound Dressings*

George J. Hansel, Greenwich High School, Greenwich, CT
Connecticut Science Fair — 1st Place, Physical Sciences – Senior Division
Project Title: *New Techniques in Fluorescence Microscopy*

National Intel Science Talent Search and the Connecticut Challenge

The national Intel Science Talent Search, administered by Science Service, is sponsored by the world's largest chipmaker, Intel Corporation. Formerly

known as the Westinghouse Science Talent Search, the national contest is America's oldest and most highly regarded science competition for high school seniors that is intended to stimulate student interest in science, math and technology. Alumni include 6 Nobel Laureates, 3 National Medal of Science winners, and 35 members of the prestigious National Academies of Sciences and Engineering. High school students from around the United States participate in this prestigious annual science project competition. Additionally, the projects of the state's finalists and semifinalists are subsequently judged for state honors in the Connecticut Science Challenge.

This year a total of 1,705 students representing 46 states, the District of Columbia, Puerto Rico, the Virgin Islands and five overseas schools entered the national competition, including 21 students from Connecticut. A total of 40 students won honors as finalists and 300 students were selected as semi-finalist winners. Three students from Connecticut were awarded semi-finalist honors. Each of Connecticut's semifinalist winners and their respective schools received awards of $1,000.

The 2007 Connecticut Science Challenge first place winner was **Miles C. Lubin** for his project *A Parametric Statistics-based Heuristic for Finding the Nearest Neighbor in Metric Space.* He was also a winner of the H. Joseph Gerber Medal of Excellence. (*Please see the H. Joseph Gerber Medal of Excellence for a listing of the winners of this award.*)

Second place honors in the Connecticut competition, which included a $500 award from the Academy, went to national finalist **Sophie Cai**, Ridgefield High School, Ridgefield, CT for her project *A Novel Technique for Revealing Serial and Parallel Mechanisms in Visual Processing*. Also, honorable mention, which included an award of $250 from the Academy, was awarded to **Ayesha Samant**, Convent of the Sacred Heart, Greenwich, CT for her project *The Impact of Structure and Pore Size on the Controlled Release of Fluorescein Isothionate from Poly (ethylene co-vinyl-acetate) Matrices.*

These winners also received a Certificate of Recognition from the Academy and an Official Statement of recognition from Governor M. Jodi Rell.

Connecticut Science Fair

The 2007 Connecticut Science Fair was held in March at Quinnipiac College in Hamden.

To promote interest in science and engineering, and to recognize those high school students whose science projects are judged to be the best of the senior division in each of the two major categories, Life Sciences and Physical Sciences, the Academy provides special awards each year to the top two winners of the Connecticut Science Fair.

Student winners are honored at the Academy's Annual Dinner May 22. (Photo courtesy: Al Malpa)

The winners received the H. Joseph Gerber Medal of Excellence, including a solid silver medal and a $1,000 honorarium. In addition, they received a Certificate of Recognition from the Academy and an Official Statement of recognition from Governor M. Jodi Rell. (*Please see the H. Joseph Medal of Excellence for a listing of the winners of this award.*)

Connecticut Junior Science and Humanities Symposium

The Connecticut Junior Science and Humanities Symposium is sponsored by the University of Connecticut and is part of the national US Army Junior Science and Humanities Symposia Program. The Academy joined with other corporations and institutions in support of this event.

The 2007 symposium was held in March at the University of Connecticut. The symposium has been effective in enhancing student motivation, stimulating original research and promoting the setting for exciting scientific meetings. It is intended to recognize students who have demonstrated intellectual achievement and promise. This event provides a forum for selected high school students to present a variety of technical papers and posters, meet in small discussion groups with leading scientists from Connecticut industries, and utilize special facilities at the university to explore technical and ethical challenges of current science. The Academy recognizes the top five oral presenters and their respective schools. The winners are as follows:

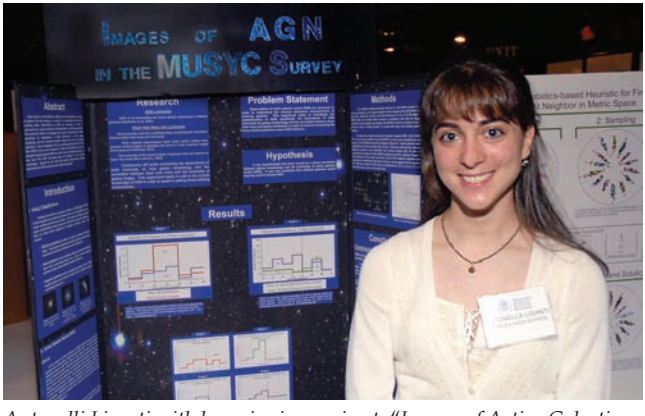
Antonella Lisanti, Staples High School, Westport, CT
Topic: *Images of Active Galactic Nuclei in the MUSYC Survey*

Tatiana Cooke, Greenwich High School, Greenwich, CT
Topic: *Population Survival of Ced-3 Deficient C. elegans in a Soil Environment*

Mary Keneally, New Canaan High School, New Canaan, CT
Topic: *Haptoglobin-Related Protein in Chimpanzees*

Willie Mandeville, New Milford High School, New Milford, CT
Topic: *Applying the Lotka-Volterra Model of Interspecific Competition to Invasive Plant Infiltration*

Andrew Taylor, Newtown High School, Sandy Hook, CT
Topic: *The Stimulation, Fabrication and Testing of Novel Metamaterial at a Near-Infrared Frequency*



Antonelli Lisanti with her winning projecct, "Images of Active Galactic Nuclei in the MUSYC Survey. (Photo courtesy: Al Malpa)

These students and their schools were recognized by the Academy at the JSHS awards ceremony. The students received Certificates of Recognition, and books containing bookplates with the seal of the Academy were presented to both the students and their school libraries in the name of the Academy. Each high school was also recognized with a Letter of Commendation and a $300 donation to its science department to further science and mathematics education from the Academy. Additionally, Governor M. Jodi Rell issued an Official Statement to each high school in recognition of this outstanding achievement.

Connecticut Invention Convention

The Connecticut Invention Convention is a program that seeks to provide students in grades K-8 with a meaningful opportunity to develop and encourage creative thinking and invention. The Invention Convention

program is designed to integrate all aspects of a student's educational experience in an effort to solve real-life problems by understanding and using creative skills. The convention provides an opportunity for student inventors to participate in a friendly competition and to share their ideas with each other as well as adult inventors, engineers, patent attorneys and other professionals.

For 2007, the Academy recognized the 15 middle school student winners of the Invention Convention with Certificates of Recognition and monetary awards ($50 US Savings Bonds).

CPTV Family Science Expo

The 15th Annual CPTV Family Science Expo was held in April 2007 at the Connecticut Expo Center in Hartford. This innovative program, for children in kindergarten through eighth grade, encourages the understanding of science applications in our everyday lives and how science affects the future. The Academy participates in the development of the CPTV Family Science Expo as a member of the event's Science Advisory Committee.

Annual Meeting

The thirtieth Annual Meeting and Dinner of the Academy was held May 22, 2007, at the Mystic Aquarium/Institute for Exploration, and the Mystic Hilton Hotel, Mystic, Connecticut. The event included a business meeting for members that provided a review of the activities and affairs of the Academy. Approximately 240 Academy members and guests had an opportunity to meet with student science competition award winners, who displayed their projects, during the event's reception. During dinner, the twenty-six newly elected members of the Academy were recognized.

The keynote address, "*Deep Water Exploration and Telepresence,*" was delivered by Dr. Robert D. Ballard, President, Institute for Exploration and a member of the Connecticut Academy of Science and Engineering. Dr. Ballard spoke about using advanced technology to create a new field of research in deep water archaeology; and of his efforts to inspire young people to purse learning in science, math, and technology through exploration and discovery.

CASE member Robert D. Ballard, president of the Institute for Exploration, addresses the 2007 Annual Meeting on "Deep Water Exploration and Telepresence." (Photo: Al Malpa)

The Annual Meeting concluded with the Academy's celebratory Student Science Competition Awards Ceremony. The students and schools recognized by the Academy are listed under the "Special Activities" section of this report. Approximately $6,000 was awarded to this year's winning students and their schools.

The Academy recognizes and thanks the following companies and organizations for their generous donations in support of the Annual Meeting: Coherent, Inc.; Connecticut Center for Advanced Technology; Connecticut Development Authority; Connecticut Economic Resource Center; Connecticut Innovations, Inc.; Connecticut Technology Council; Gerber Scientific, Inc.; Pitney Bowes; University of Connecticut Health Center; University of Connecticut, School of Engineering; Yale University; and Yale University Medical School.

CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING, INCORPORATED

Financial Statements

YEAR ENDED JUNE 30, 2007
(with comparative totals for 2006)

CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING, INCORPORATED

CONTENTS

JOHN C. BURNS, CPA, LLC
CERTIFIED PUBLIC ACCOUNTANT AND CONSULTANT

Independent Auditor's Report

Council of the Academy
Connecticut Academy of Science
and Engineering, Incorporated
Hartford, Connecticut

I have audited the accompanying statement of financial position of the Connecticut Academy of Science and Engineering, Incorporated (Academy) as of June 30, 2007 and the related statements of activities, cash flows, and functional expenses for the year then ended. These financial statements are the responsibility of the Academy's management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. I believe that my audit provides a reasonable basis for my opinion.

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Connecticut Academy of Science and Engineering, Incorporated as of June 30, 2007, and the changes in its net assets and its cash flows for the year then ended in conformity with accounting principles generally accepted in the United States of America.

Information at June 30, 2006 and for the year ended June 30, 2006, is presented for comparative purposes only and was extracted from the financial statements prepared by net asset class for that year, on which an unqualified opinion dated November 14, 2006, was expressed.

In accordance with Government Auditing Standards, I have also issued my report dated November 30, 2007, on my consideration of the Academy's internal control over financial reporting and on my tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of my testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with Government Auditing Standards and should be considered in assessing the results of my audit.

John C. Burns CPA, LLC

John C Burns, CPA, LLC
November 30, 2007

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Statement of Financial Position

	2007	2006
ASSETS		
Cash, Including Interest-Bearing Deposits of $199,352 in 2007 and $254,662 in 2006 (Note 3)	$201,417	$254,662
Accounts Receivable – Contracts (Note 2)	90,950	70,000
Accounts Receivable – Other	52	-
Prepaid Expenses	1,245	1,213
Other Assets	704	852
Furniture and Equipment, Net of Accumulated Depreciation of $26,464 in 2007 and $27,668 in 2006 (Note 2)	3,525	- 2,710
TOTAL ASSETS	$297,893	$329,437
LIABILITIES AND NET ASSETS		
LIABILITIES		
Accounts Payable and Accrued Expenses	$15,129	$12,384
Contract Revenue Received in Advance (Notes 2 and 4)	53,163	101,436
TOTAL LIABILITIES	68,292	113,820
NET ASSETS (Notes 2 and 5)		
Unrestricted:		
Board Designated	7,825	0
Undesignated	181,054	194,761
TOTAL UNRESTRICTED NET ASSETS	188,879	194,761
Temporarily Restricted:	40,722	20,856
TOTAL NET ASSETS	229,601	215,617
TOTAL LIABILITIES AND NET ASSETS	$297,893	$329,437

Statement of Activities

	2007			2006
	Unrestricted	Temporarily Restricted	Total	Total
Revenues & Other Support				
Contracts (Note 4)	$267,985	$0	$267,985	$253,229
Contributions (Note 2)	23,490	22,270	45,760	36,445
Membership Dues	20,500	0	20,500	19,300
Interest Income	11,003	691	11,694	8,617
Report Fees and Miscellaneous Income	575	0	575	40
Contributed Services (Note 2)	56,932	0	56,932	13,893
Total	380,485	22,961	403,446	331,524
Net Assets Released from Restrictions (Notes 2 and 5): Satisfaction of Program Restrictions	3,095	(3,095)	0	0
Total Revenues and Other Support	383,580	19,866	403,446	331,524
Expenses (Note 2):				
Program Services:				
Science and Technology Initiatives	13,554	0	13,554	15,696
Publications	30,470	0	30,470	28,162
Technical Guidance and Information	185,429	0	185,429	110,034
Awards	6,261	0	6,261	7,309
Total Program Services	235,714	0	235,714	161,201
Support Services:				
Management and General	153,412	0	153,412	145,045
Fund Raising	336	0	336	309
Total Support Services	153,748	0	153,748	145,354
Total Expenses	389,462	0	389,462	306,555
Change in Net Assets	(5,882)	19,866	13,984	24,969
Net Assets at Beginning of Year	194,761	20,856	215,617	190,648
Net Assets at End of Year	$188,879	$40,722	$229,601	$215,617

Statement of Functional Expenses

	2007				
	PROGRAM SERVICES				
	Science & Technology Initiatives	Publications	Technical Guidance & Information	Awards	Total Program Services
Professional Services	$12,400	$20,845	$109,794	$ 0	$1143,039
Professional Services - In Kind (Note 2)	0	0	56,932	0	56,932
Rent and Parking (Note 6)	795	795	799	0	2,389
Office Expenses	75	1,545	666	0	2,286
Insurance	186	186	186	0	558
Transportation	14	223	1,737	0	1,974
Council Activities	0	0	0	0	0
Membership Activities	0	0	0	0	0
Awards and Prizes	0	0	0	6,261	6,261
Printing	0	6,792	14,271	0	21,063
Miscellaneous	0	0	960	0	960
Total Expenses before Depreciation	13,470	30,386	185,345	6,261	235,462
Depreciation (Note 2)	84	84	84	0	252
Total Expenses	$13,554	$30,470	$185,429	$6,261	$235,714

2007				
SUPPORT SERVICES				
Management & General	Rund Raising	Total Support Services	2007 Total Program & Support	2006 Total
$110,395	$ 0	$110,395	$253,434	$227,211
0	0	0	56,932	13,893
7,692	199	7,891	10,280	10,767
8,368	0	8,368	10,654	11,063
1,715	46	1,761	2,319	2,146
1,210	0	1,210	3,184	2,255
3,786	0	3,786	3,786	3,474
14,057	0	14,057	14,057	11,851
0	0	0	6,261	7,309
1,823	0	1,823	22,886	11,911
3,591	70	3,661	4,621	3,619
152,637	315	152,952	388,414	305,499
775	21	796	1,048	1,056
$153,412	$336	$153,748	$389,462	$306,555

Statement of Cash Flows

	2007	2006
Cash Flows from Operating Activities		
Change in Net Assets	$13,983	$24,969
Adjustments to Reconcile Change in Net Assets to Net Cash Provided by (Used) in Operating Activities:		
Depreciation	1,048	1,056
Change In:		
Accounts Receivable - Contracts	(20,950)	(46,200)
Accounts Receivable - Other	(52)	150
Prepaid Expenses and Other Assets	116	34,130
Accounts Payable and Accrued Expenses	2,745	1,632
Contract Revenue Received in Advance	(48,273)	15,722
Total Adjustments	(65,366)	6,490
Net Cash Provided by (Used in) Operating Activities	(51,383)	31,459
Cash Flows from Investing Activities		
Additions to Furniture and Equipment	(1,862)	0
Net Cash Used in Investing Activities	(1,862)	0
Net Increase (Decrease) in Cash	(53,245)	31,459
Cash - Beginning of Year	254,662	223,203
Cash - End of Year	$201,417	$ 254,662

CONNECTICUT ACADEMY OF SCIENCE
AND ENGINEERING, INCORPORATED

NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2007
(with comparative totals for 2006)

NOTE 1 – NATURE OF OPERATIONS

The Connecticut Academy of Science and Engineering, Incorporated (Academy) was established to foster science and engineering, to promote the application of science and engineering to human health and welfare, and to study and report upon any subject within its competence when appropriate.

The Academy is a not-for-profit organization established under Special Act No. 76-53 of the State of Connecticut and incorporated under the Non-stock Corporation Act of the State of Connecticut. The Academy is exempt from federal income tax under Section 501(c) (3) of the Internal Revenue Code and is also exempt from state income tax.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Net Asset Classes

The net asset classes of the Academy consist of the following:

Unrestricted Net Assets

Unrestricted net assets consist of net assets over which the governing board has control to use in carrying out the operations of the Academy in accordance with its charter and bylaws and are neither permanently restricted nor temporarily restricted by donor-imposed restrictions. The governing board has designated $7,825 of unrestricted net assets for the Academy's Endowment

Temporarily Restricted Net Assets

Temporarily restricted net assets consist of net assets whose use is limited by donor-imposed restrictions, which either expire with the passage of time (time restriction) or can be fulfilled and removed by actions of the Academy pursuant to the restrictions (purpose restriction). The Academy reflects contributions as temporarily restricted support based on the purpose of the restrictions stipulated by the donor. The Academy's temporarily restricted net assets consist of monies restricted for Endowment and Student Award purposes.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

When donor-imposed restrictions expire, that is when a stipulated time restriction ends or the purpose of the restriction is accomplished, temporarily restricted net assets are reclassified to unrestricted net assets and reported in the accompanying statement of activities as net assets released from restrictions

Contributions

Contributions received or promises to give without donor-imposed restrictions are reflected as unrestricted support. Contributions received or promises to give with donor-imposed restrictions are reflected as either temporarily or permanently restricted support in the accompanying financial statements. Contributions or promises to give with donor-imposed conditions are not recognized as contributions or promises to give in the accompanying financial statements until the period when the conditions are met.

Contributed Services

Contributed services have been provided by a number of unpaid volunteers who have contributed their time. The members of the Academy and their peers have donated significant amounts of time to the Academy's program services. Contributed services are recognized if the services received create or enhance nonfinancial assets or require specialized skills, are provided by individuals possessing those skills, and would typically need to be purchased if not provided by donation. Contributed services that do not meet the above criteria are not recognized (Note 4).

For the years ended June 30, contributed services and related expenses provided for the Technical Guidance and Information Program reflected in the accompanying financial statements are as follows:

	2007	2006
Professional Services	$56,932	$13,893

Furniture and Equipment

All acquisitions or donations of furniture and equipment are reflected at cost or their fair value at the date of gift. Depreciation is provided for over the estimated useful lives of the assets, which range from five to seven years, on a straight-line basis.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (cont.)

Accounts Receivable - Contracts and Contract Revenue Received in Advance

Accounts receivable - contracts consist of fees earned on contracts in progress, but not yet received. In the opinion of management, all accounts receivable at June 30, 2007 and 2006 are deemed collectible.

Contract revenue received in advance consists of contract fees received, but not yet earned.

Functional Expenses

The costs of providing the various programs and other activities have been summarized on a functional basis on the accompanying Statement of Activities. Accordingly, certain costs have been allocated among the programs and supporting services benefited.

The Academy's Program Services are as follows: "Science and Technology Initiatives" represents the development, operation and management of the Connecticut Initiative for Science and Technology; "Publications" represents the production and distribution of quarterly bulletins; "Technical Guidance and Information" represents the providing of information and advice on science and technology to government, industry and citizens of Connecticut; and "Awards" represents a student awards program to recognize achievements related to science and technology.

The Academy's Support Services are as follows: "Management and General" represents expenses incurred in support of the general operation and management of the Academy; and "Fund Raising" represents expenses related to fund raising activities in support of the Science and Technology Collaborative and the operation and general affairs of the Academy.

Use of Estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates..

CONNECTICUT ACADEMY OF SCIENCE
AND ENGINEERING, INCORPORATED

NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2007
(with comparative totals for 2006)

NOTE 3 - CONCENTRATION OF CASH CREDIT RISK

The Academy maintains cash accounts at various local banks. Accounts at the banks are insured by the Federal Deposit Insurance Corporation (FDIC) up to $100,000. At June 30, 2007 and 2006, cash balances at banks covered by FDIC insurance aggregate approximately $201,417 and $254,662, respectively and amounts not insured aggregated approximately $93,941 and $153,993, respectively

NOTE 4 – CONTRACT ARRANGEMENTS AND SUBSEQUENT FUNDING RISKS

During the years ended June 30, 2007 and 2006 the Academy applied to the Connecticut General Assembly, other State Agencies and public companies for funding in the form of Personal Service Agreements. The Academy has obtained various contracts aggregating $213,213 and $199,700 during the years ended June 30, 2007 and 2006, respectively

Future similar operations beyond June 30, 2007 are dependent on continued funding from the State or other similar organizations.

Certain services are provided by the members of the Academy on a volunteer basis, but do not meet the criteria to be recognized in the accompanying financial statements (Note 2).

Contracts, accounts receivable - contracts and contract revenue as of and for the year ended June 30, 2006 consisted of the following:

CONNECTICUT ACADEMY OF SCIENCE
AND ENGINEERING, INCORPORATED

NOTES TO FINANCIAL STATEMENTS
JUNE 30, 2007
(with comparative totals for 2006)

Agency	Total Contract Amount	Accounts Receivable - Contracts	Contract Revenue Year Ended June 30, 2007
Connecticut Department of Education	$ 8,640	$ 0	$ 8,640
Connecticut Department of Public Health	46,750	13,750	46,750
Connecticut Department of Economic and Community Development	45,230	13,200	23,417
Connecticut Office of Policy and Management/ Connecticut General Assembly	150,000	0	101,435
Connecticut Department of Transportation	89,000	64,000	55,650
Gerber Scientific Products, Inc	30,000	0	8,500
Connecticut Science Center	8,500	0	8,500
Connecticut Clean Energy Fund	10,000	0	10,000
Connecticut Innovations, Incorporated	5,093	0	5,093
Totals	$ 393,213	$ 90,950	$ 267,985

NOTE 5 - NET ASSETS

Net assets released from donor-restriction by incurring expenses satisfying the purposes of contributions restricted to various Academy programs or restricted as to time periods, amounted to $3,095 and $4,103 for the years ended June 30, 2007 and 2006, respectively. At June 30, 2007 and 2006, net assets of $40,722 and $20,856, respectively, were temporarily restricted.

Net assets temporarily restricted at June 30, 2007 consisted of $27,335 and $13,387 for the Endowment and Student Awards, respectively. Net assets temporarily restricted at June 30, 2006 consisted of $10,959 and $9,897 for the Endowment and Student Awards, respectively

NOTE 6 – LEASE OBLIGATION

The Academy's lease for office space expired October 31, 2002. The Academy is currently operating on a month-to-month lease for its office space. The monthly rental is $828 and includes one parking space. Rent expense amounted to $9,932 for the years ended June 30, 2007 and 2006, respectively

JOHN C. BURNS, CPA, LLC
CERTIFIED PUBLIC ACCOUNTANT AND CONSULTANT

Independent Auditor's Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance With Government Auditing Standards

Council of the Academy
Connecticut Academy of Science
and Engineering, Incorporated
Hartford, Connecticut

I have audited the financial statements of the Connecticut Academy of Science and Engineering, Incorporated (Academy), as of and for the year ended June 30, 2007, and have issued my report thereon dated November 30, 2007. I conducted my audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States.

Internal Control Over Financial Reporting

In planning and performing my audit, I considered the Academy's internal control over financial reporting as a basis for designing my auditing procedures for the purpose of expressing my opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Academy's internal control over financial reporting. Accordingly, I do not express an opinion on the effectiveness of the Academy's internal control over financial reporting.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatement on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the Academy's ability to initiate, authorize, record, process, or report financial data reliably accordance with generally accepted accounting

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principles such that there is more than a remote likelihood that misstatement of the Academy's financial statement that is more than inconsequential will not be prevented or detected by the Academy's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies that results in more than a remote likelihood that material misstatement of the financial statements will not be prevented or detected by the Academy's internal control.

My consideration of the internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. I did not identify any deficiencies in internal control over financial reporting that I consider to be material weaknesses, as defined above.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Academy's financial statements are free of material misstatement, I performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of my audit, and accordingly, I do not express such an opinion. The results of my tests disclosed no instances of noncompliance or other matters that are required to be reported under Government Auditing Standards.

This report is intended solely for the information and use of the Council of the Academy, management, Connecticut Office of Policy and Management, Connecticut Department of Transportation, Connecticut Department of Public Health, Connecticut Department of Economic and Community Development, Connecticut State Department of Education and state awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.

John C. Burns CPA, LLC

John C. Burns CPA, LLC
November 30, 2007

JOHN C. BURNS, CPA, LLC
CERTIFIED PUBLIC ACCOUNTANT AND CONSULTANT

Independent Auditor's Report on Compliance with Requirements Applicable to Each Major Program and on Internal Control Over Compliance in Accordance with the State Single Audit Act and on the Schedule of Expenditures of State Financial Assistance

Council of the Academy
Connecticut Academy of Science
and Engineering, Incorporated
Hartford, Connecticut

Compliance

I have audited the compliance of the Connecticut Academy of Science and Engineering, Incorporated (Academy) with the types of compliance requirements described in the Office of Policy and Management Compliance Supplement that are applicable to each of its major state programs for the year ended June 30, 2007. The major state programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs. Compliance with the requirements of laws, regulations, contracts and grants applicable to each of its major state programs is the responsibility of the Academy's management. My responsibility is to express an opinion on compliance based on my audit.

I conducted my audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in Government Auditing Standards, issued by the Comptroller General of the United States; and the State Single Audit Act (C.G.S. Section 4-230 to 4-236). Those standards and the State Single Audit Act require that I plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major state program occurred. An audit includes examining, on a test basis, evidence about the Academy's compliance with those requirements and performing such other procedures,

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as I considered necessary in the circumstances. I believe that my audit provides a reasonable basis for our opinion. My audit does not provide a legal determination on the Academy's compliance with those requirements.

In my opinion, the Academy complied, in all material respects, with the requirements referred to above that are applicable to each of its major state programs for the year ended June 30, 2007.

Internal Control Over Compliance

The management of the Academy is responsible for establishing and maintaining effective internal control over compliance with requirements of laws, regulations, contracts and grants applicable to state programs. In planning and performing my audit, I considered the internal control over compliance with requirements that could have a direct and material effect on a major state program in order to determine my auditing procedures for the purpose of expressing my opinion on compliance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, I do not express an opinion on the effectiveness of the Academy's internal control over compliance.

A control deficiency in an entity's internal control over compliance exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect noncompliance with a type of compliance requirement of a state program on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to administer a state program such that there is more than a remote likelihood that noncompliance with a type of compliance requirement of a state program that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies that result in more than a remote likelihood that material noncompliance with a type of compliance requirement of a state program will not be prevented or detected by the Academy's internal control.

My consideration of the internal control over compliance was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. I did not identify any deficiencies in internal control over compliance that I consider to be material weaknesses, as defined above.

Schedule of Expenditures of State Financial Assistance

I have audited the basic financial statements of the Connecticut Academy of Science and Engineering, Incorporated as of and for the year ended June 30, 2007, and have issued my report thereon dated November 30, 2007. My audit was performed for the purpose of forming an opinion on the

basic financial statements taken as a whole. The accompanying schedule of expenditures of state financial assistance is presented for purposes of additional analysis as required by the State Single Audit Act and is not a required part of the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and, in my opinion, is fairly stated, in all material respects, in relation to the basic financial statements taken as a whole.

This report is intended solely for the information and use of the Council of the Academy, management, Connecticut Office of Policy and Management, Connecticut Department of Transportation, Connecticut Department of Public Health, Connecticut Department of Economic and Community Development, Connecticut State Department of Education and state awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.

John C. Burns CPA, LLC

John C. Burns CPA, LLC
November 30, 2007

CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING, INCORPORATED — SCHEDULE 1

SCHEDULE OF
EXPENDITURES OF STATE FINANCIAL ASSISTANCE
YEAR ENDED JUNE 30, 2007

State Grantor Pass - Through Grantor Program Title	State Grant Program Identification Number	Expenditures
Connecticut Office of Policy and Management/ Connecticut General Assembly	None (Note A)	$101,435
Connecticut Department of Transportation	None (Note A)	55,650
Connecticut Department of Public Health	None (Note A)	46,750
Connecticut Department of Economic and Community Development	None (Note A)	23,417
Connecticut State Department of Education	None (Note A)	8,640
Total State Financial Assistance		$ 235,892

See independent auditors' report and notes to schedule of expenditures of state financial assistance.

CONNECTICUT ACADEMY OF SCIENCE
AND ENGINEERING, INCORPORATED

NOTES TO SCHEDULE OF EXPENDITURES
OF STATE FINANCIAL ASSISTANCE
JUNE 30, 2007

NOTE A - GENERAL

State of Connecticut funding is provided from the Connecticut Office of Policy and Management, the Connecticut Department of Transportation, the Connecticut Department of Public Health, the Connecticut Department of Economic and Community Development and the Connecticut State Department of Education, operating budgets through Personal Service Agreements and letters of agreement. Accordingly, the funds are not attributed to a specific State Department and do not have State Grant Program Identification Numbers.

NOTE B - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accounting policies of the Academy conform to generally accepted accounting principles as applicable to not-for-profit agencies. The following is a summary of the more significant policies relating to the aforementioned programs:

Basis of Accounting

The financial statements contained in the Academy's annual audit report are prepared on the accrual basis of accounting. Contract revenues and other revenues are recognized upon notification of unconditional contributions of donors or when services are performed. Expenditures are recorded when the obligations are incurred.

Expenditures of State Financial Assistance

The Schedule of Expenditures of State Financial Assistance, contained in this report, is prepared based on regulations established by the State of Connecticut Office of Policy and Management. In accordance with these regulations (Section 4-236-22), certain grants are not dependent on expenditure activity, and accordingly, are considered to be expended in the fiscal year of receipt. These grant program receipts are reflected in the expenditures column of the Schedule of Expenditures of State Financial Assistance.

CONNECTICUT ACADEMY OF SCIENCE
AND ENGINEERING, INCORPORATED

SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED JUNE 30, 2007

SECTION I - SUMMARY OF AUDIT RESULTS

Financial Statements

The type of auditor's report issued was unqualified.

Internal control over financial reporting:
- Material weakness(es) identified - none
- Significant deficiency(ies) identified that are not considered to be material weaknesses – none
- Noncompliance material to financial statements noted - none

State Financial Assistance

Internal control over major programs:
- Material weakness(es) identified - none
- Significant deficiency(ies) identified that are not considered to be material weaknesses – none

The type of auditor's report issued on compliance for major programs was unqualified.

Audit findings disclosed that are required to be reported in accordance with Section 4-236-24 of the Regulations to the State Single Audit Act - none

- The following schedule reflects the major program included in the audit:

State Grantor and Program	State Grant and Program Identification Numbers	Expenditures
Connecticut Office of Policy and Management/ Connecticut General Assembly	None (Note A)	$101,435
Connecticut Department of Transportation	None (Note A)	55,650

CONNECTICUT ACADEMY OF SCIENCE
AND ENGINEERING, INCORPORATED

SCHEDULE OF FINDINGS AND QUESTIONED COSTS
YEAR ENDED JUNE 30, 2007

SECTION II - SUMMARY OF FINDINGS RELATED TO FINANCIAL STATEMENTS REQUIRED UNDER GENERALLY ACCEPTED GOVERNMENT AUDITING STANDARDS

- I issued reports, dated November 30, 2007, on internal control over financial reporting and on compliance and other matters based on an audit of financial statements performed in accordance with Government Auditing Standards
- My report on compliance indicated no reportable instances on noncompliance.
- My report on internal control over financial reporting indicated no significant deficiencies.

SECTION III - FINDINGS AND QUESTIONED COSTS FOR STATE FINANCIAL ASSISTANCE

- No findings or questioned costs are reported relating to the Academy's State financial assistance programs.

MAJOR STUDIES OF THE ACADEMY

2007

- Guidelines for Developing a Strategic Plan for Connecticut's Stem Cell Research Program

2006

- Energy Alternatives and Conservation
- Evaluating the Impact of Supplementary Science, Technology, Engineering and Mathematics Educational Programs
- Advanced Communications Technologies
- Preparing for the Hydrogen Economy: Transportation
- Information Technology Systems for Use in Incident Management and Work Zones
- Improving Winter Highway Maintenance: Case Studies for Connecticut Consideration
- An Evaluation of the Geotechnical Engineering and Limited Environmental Assessment of the Beverly Hills Development, New Haven, CT

2005

- Assessment of a Connecticut Technology Seed Capital Fund/ Program
- Demonstration and Evaluation of Hybrid Diesel-Electric Transit Buses
- An Evaluation of Asbestos Exposures in Occupied Spaces

2004

- A Study of Railcar Lavatories and Waste Management Systems

2003

- An Analysis of Energy Available from Agricultural Byproducts, Phase II: Assessing the Energy Production Processes
- Study Update: Bus Propulsion Technologies Available in Connecticut

2002

- A Study of Fuel Cell Systems
- Transportation Investment Evaluation Methods and Tools
- An Analysis of Energy Available from Agricultural Byproducts, Phase 1: Defining the Latent Energy Available

2001

- A Study of Bus Propulsion Technologies in Connecticut

2000

- Efficacy of the Connecticut Motor Vehicle Emissions Testing Program
- Indoor Air Quality in Connecticut Schools
- Study of Radiation Exposure from the Connecticut Yankee Nuclear Power Plant

1999

- Evaluation of MTBE as a Gasoline Additive
- Strategic Plan for CASE

1998

- Radon in Drinking Water

1997

- Agricultural Biotechnology
- Connecticut Critical Technologies

1996

- Evaluation of Critical Technology Centers
- Advanced Technology Center Evaluation
- Biotechnology in Connecticut

1994

- Science and Technology Policy: Lessons from Six American States

1992

- A State Science and Technology Policy
- Electromagnetic Field Health Effects

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