



CT STEM-Related Educational Asset Directory

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Business/Education Partnerships

1. **Connecticut Business and Industry Association** Contact, Lauren Kaufman, Vice President and Executive Director CBIA Education Foundation kaufmanl@cbia.com 860-244-1938
 - 1.1. **Connecticut State Scholars Initiative**, a collaborative partnership among the following: Office of the Governor; the state Departments of Education and High Education; the Greater Danbury Chamber of Commerce; The Greater New Haven Chamber of Commerce; The United Illuminating Company; GE Commercial Finance; Dow Chemical Company; The Bilco Company; and the Housatonic Valley Economic Development Partnership. The initiative focuses on the need for more students to graduate with a solid academic foundation by encouraging and motivating all high school students to complete a defined, rigorous academic course of study that prepares them for successful transition to college or university coursework or vocational and technical training necessary to enter today's competitive job market. The Connecticut State Scholars pilot program has been launched in the communities of Danbury and New Haven and at Vinal Technical High School in Middletown and as of June 2007 still continuing in Danbury and New Haven. Contact Dayl Walker at 860-244-1935 or email her at walkerd@cbia.com
 - 1.2. **Career Connections (formerly YES Academy)**. A program of Capitol Workforce Partners which contracts with CBIA to run aspects of the program around careers and employability skills. This program offers youth an opportunity to participate in one-on-one mentoring, educational classes and team building exercises to be better prepared for employment. Approximately 75 high achieving 17 and 18 year olds are expected to participate. The objective is to provide area businesses with job ready, motivated young people to help them meet their goals. In turn, these youth will obtain on-the-job skills and experience to help further their education and career aspirations. For more information, please contact Dennis Mink at 860-522-1111 ext. 343 or email him at dmink@capitalworkforce.org or phone Dayl Walker at 860-244-1935 or email her at walkerd@cbia.com
 - 1.3. **Pipeline from the Technical High Schools to the College of Technology**: The \$884,000 grant was funded through the Advanced Technological Education program of the National Science Foundation, November 2006 to September 2008. The project focuses on recruiting and retaining students in manufacturing, as well as helping them obtain the appropriate level of academic skills and employability skills they will need to succeed in post-secondary education or employment after high school. The grant will also focus on giving educators work-based learning experiences to keep them current with industry practices. The program will offer school-to-career opportunities, such as student and teacher internships, job shadowing, company visits, math labs, employability skills workshops, teacher professional development workshops and apprenticeship programs. The first year of the program will concentrate on four technical high schools: Howell





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Cheney in Manchester, A.I. Prince in Hartford, Eli Whitney in Hamden and Platt in Milford. The grant will complement the work being done through the Regional Center for Next Generation Manufacturing (RCNGM), a National Science Foundation Center grant administered through the Connecticut Community College's College of Technology. Continuing grant in 2007. For more information contact Nancy Andrews at 860-244-1957 or andrewsn@cbia.com

1.4. **ProED:** The web site has been created for Connecticut educators to assist them in identifying resources for implementing No Child Left Behind requirements in their districts, schools, and classrooms. The CBIA Education Foundation, with support from the CT State Department of Education, has identified effective practices that improve student performance in language arts, mathematics, and science. This dynamic database of resources, literature, and curriculum has been compiled from a variety of national sources and is intended to make it easier for administrators and practitioners to find useful information that has been proven successful in a variety of settings.

<http://www.proedresources.com/>

1.5. **Project Opening Doors: Connecticut's National Math and Science Initiative (NMSI).** Announced September 6, 2007, \$13.2 million over six years. CT is one of only seven states selected from 28 applicants to receive NMSI's first grants. Partners in this project are: the CT Business and Industry Association, CT State Department of Education, CT State Department of Higher Education, and CT Academy for Education in Mathematics, Science & Technology, along with the CT Science Center." The grant will help fund training and incentive programs for Advanced Placement (AP) and pre-AP courses and exams for the next six years. A major goal is to prepare students to excel in math, science and English and encourage them to explore science- and technology-based careers. Contacts: Dr. Jean Purcell, Jeanne.Purcell@ct.gov, CT State Department of Education; or Lauren Weisberg-Kaufman, kaufmanl@cbia.com, CT Business and Industry Association.

2. **Connecticut Building a Presence for Science Network:** an electronic network of science educators in all schools, colleges and informal science centers to support implementation of standards-based science programs throughout the state. As of July 2007, there are 1,523 Points of Contact representing more than 99% of the State's 1,375 public and private K-12 schools, colleges and universities, and informal science centers. 100% of Connecticut's 166 public school districts are represented. Financial support for the Connecticut Building a Presence for Science Network is sustained through a grant from Bristol-Myers Squibb. For more information, contact Statewide Facilitator, David Lopath lopath@comcast.net or Newsletter Moderator, Eloise Farmer eloisefarmer@charter.net or call 860-346-1177.





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3. **Connecticut Center for Advanced Technology (CCAT):** CCAT participates in the development and enrichment of multi-cultural, collaborative, project-based education that engages students, enhances technical competence, and stimulates innovation and enterprise. We work with educators and businesses to develop educational programs that engage K-16 students seeking to establish and maintain successful careers in a technological environment. Education Initiatives Contact, Susan Palisano spalisano@ccat.us 860-282-4224
 - 3.1. **ScienceACT (Activism, Communication, and Technology)** is a six-month, after-school enrichment program promoting scientific exploration and interactive, on-line collaboration. Students address real-world problems relating to sustainable energy and energy sufficiency in the United States. The ScienceACT program involves students in three distinct phases.
 - 3.2. **LaunchQuest** is a partnership among CCAT, National Aerospace Leadership Initiative (NALI) and UP Aerospace, the world's only private company with a fleet of space-flying sounding rockets, to offer students the opportunity for their own science and technology investigations to be conducted on a rocket fired into space. Students from throughout Connecticut, including teams from Project Lead the Way sites, the CT Pre-Engineering Program, University High School of Science and Engineering, and the Science Center of CT will be participating, as well as NASA Explorer Schools and teams from schools in Ohio and Pennsylvania, CCAT's NALI partner states.
 - 3.3. **CyberACT™** is a software program that enables students to collaborate and converse in real time over the Internet while creating media presentations designed to affect public policy. CyberACT™ is being used by student involved in both the LaunchQuest and ScienceACT programs.
4. **Connecticut Science Center (CSC):** The CSC represents a new symbol of innovation, learning and vitality that will inspire the next generation of researchers, discoverers, inventors, healers, teachers, and better informed citizens. The Center's Mission is to create an engaging and sustainable science center that serves families and schools and has a significant impact on student and adult learning in Connecticut. The Center will be a hub of activity for kids and families. A wide variety of programs will be offered for both children and adults. Facility to open in 2008. Education Initiatives Contact, Christine Moses, Director of Program Outreach cmoses@ctsciencecenter.org 860-727-0457
 - 4.1. **The AT&T Learning Connection** is a new resource to help improve science education in Connecticut. For teachers, this means a place to locate resources which directly support the state Science Framework, and, once we open, to help plan activities around your class trip to the Center. For students, it will be a place to share information with students across the state; to conduct experiments and compare your results to others. And for parents, it will be an opportunity to become involved in your child's education, by finding activities





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that you can do together, and learning what science concepts and processes your child will be expected to understand, whatever grade he or she may be in.

- 4.2. **The GE Foundation Institute for Inquiry.** A week-long professional development workshop in inquiry-based learning and teaching that helps educators practice teaching techniques, and prepares them to incorporate these strategies into their lesson plans and school curricula for the coming year. Participants are asked to apply and based upon interviews and the written application, teachers and administrators will be invited to attend an Institute. Educators seeking additional information about future Institutes are invited to contact Holly Harrick at 860-727-0457 x111 or email hharrick@ctsciencecenter.org
5. **The Connecticut Digital Library (iCONN)** provides online access to journals, magazines, newspapers, and eBooks/encyclopedias to all Connecticut residents for free. Try iCONN at www.iconn.org. Access it directly from any library or school in Connecticut, or use it from home with your CT public library card number to login. A title list of the publications accessible in CONN can be found at <http://www.iconn.org/TitleLists.aspx>. iCONN is administered by the Connecticut State Library.
6. **Connecticut Girls and Technology Network** is a statewide volunteer collaborative of educators, policy and business people who share a common concern for the continued and improved inclusion of girls in tech-related learning, activities, and workforce development. The Network engages middle-school girls in hands-on experiences that expose them to the variety of educational and vocational options involving technology. In partnership with Connecticut colleges and universities, the Network facilitates a number of **Girls & Tech Expos** that bring girls from across the state together to participate in a day of tech exploration. The Network is administered by Lucy Brakoniecki at the Connecticut Women's Education and Legal Fund lbrakoniecki@cwealf.org 860-247-6090.
7. **Connecticut Innovations, Inc.** Manager, Scholarships and Special Programs, Laura Valenti (860) 257-4001 ext.446 or ctinnovations@mail.cslf.org
8. **Connecticut Pre-Engineering Program (CPEP)** is dedicated to providing programs that encourage young students to pursue careers in the fields of mathematics, science, engineering and technology. CPEP has grown in size as well as mission during its thirteen years of operation. CPEP programs reach 9,200 students and more than 70 teachers annually. CPEP targets under represented minority and women students at the upper elementary, middle and high school levels in Connecticut's larger urban school districts through hands-on programs in its after school, Saturday, Summer Enrichment, mentor and in school programs for students. Contact, Bruce Dixon - Email: dixonb@cpep.org (860) 769-5283





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9. **CONNvene:** Governor M. Jodi Rell led a statewide initiative to identify critical issues related to advancing STEM education in Connecticut. More than 100 CT citizens worked eight months to establish a coordinated and comprehensive statewide "Implementation Schema"—a map, not a blueprint—to measurably improve student interest and achievement in STEM in Priority School Districts while seeking to address ways to increase the achievement of **all** students to better meet Connecticut's 21st Century economic development, quality of life, and workforce preparation needs. CT Academy for Education Contact, Richard Cole rcole@ctacad.org 860-346-1177
10. **CURE** is the educational and business support network organization for bioscience in Connecticut, with over 100 members. Its mission is to build networks and critical mass for the industry within the state, to keep Connecticut competitive in bioscience, and to tell the Connecticut bioscience story. Contact: Paul Pescatello curenet.org
 - 10.1. **BioBus Program** is a 40-foot, custom-designed mobile laboratory delivering bioscience to students in their schools. Outfitted with the latest in bioscience equipment, computers and supplies, the BioBus presents hands-on experiences in the life sciences above and beyond the normal classroom curriculum. The BioBus accommodates two instructors and up to 24 students or visitors per teaching session. Since June of 2001, the BioBus has accommodated more than 189 schools, more than 19,500 students have participated in hands-on, inquiry-based laboratory sessions, more than 12,000 individuals have boarded Connecticut's BioBus at community-related events, and more than 400 teachers have participated in BioBus professional development workshops, gaining important knowledge on how to bring bioscience into the classroom. Contact: Sarah Shoemith Berke, Ph.D., Director of BioBus Educational Programs, Ph: (203) 777-8747 ext 212, e-mail: sberke@curenet.org, To schedule a visit, go to http://www.ctbiobus.org/request/session_request.htm.
11. **General Electric:** EDGE Lab/UConn at Stamford, Contact: Chris Kalish, Director 203-961-2542
12. **NASA Educator Resource Center.** Located at Eastern Connecticut State University on the first floor of the new Library, the Center's mission is to provide educators with free and low-cost curriculum materials. Many resources are available, including lithographs, a limited number of posters, educational briefs, educator guides, and videos. All materials are free and may be taken out of the center. The center is open by appointment and several times each week. To view resources on-line, go to www.easternct.edu/depts/nasa/available_resources.htm. Contact Dr. Janelle Bland Day, Eastern Connecticut State University, Webb Hall, Room 144, 83 Windham Street, Willimantic CT 06226 Email: BlandJ@easternct.edu 860-465-4532





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13. **Office for Workforce Competitiveness:** Contact: Mary Ann Hanley, mary.ann.hanley@po.state.ct.us 860-258-4304
- 13.1. **Center for 21st Century Skills:** Connecticut Innovation Academy (formerly Information Technology Leadership Academy (ITLA): CT State Department of Education funded Interdistrict Cooperative Grant of \$163,589.00. The Center for 21st Century is a collaboration with Education Connection, Connecticut Career Choices, the Connecticut College of Technology (COT), the five urban priority districts: Danbury, Hartford, New Haven, Stamford, and Waterbury and nine suburban districts: Bethel, Brookfield, New Fairfield, New Milford, Newtown, Plymouth, Thomaston, Region #1 and Region #15. The IT R&D curriculum is designed to develop students' academic skills, transferable skills and knowledge of technology careers through the completion of an IT Research and Design (R&D) project. The Program developed and managed by Education Connection. Contact: Michael Mino, mino@educationconnection.org 860-567-0863
- 13.2. **Connecticut Career Choices** is a workforce development initiative focused on the implementation of curriculum aligned with both industry and state standards that can be adapted to any high school within Connecticut. In addition to curriculum development, experiential learning programs are being set up through Battelle's Technology Practice. Industry interactions include: classroom visits/speakers, company visits/tours, job shadowing experiences for students, teacher externships, and a Tech Expo will take place in May 2007.
- 13.3. **Connecticut Innovation Challenge** engages Connecticut high school students and teachers in a comprehensive Information Technology Research and Design project and challenges them to use technology to think creatively and work collaboratively. All CIC participating students and teachers will have access to a password protected online learning environment available via the Connecticut Education Network. To REGISTER go to <http://www.ctcareerchoices.org/challenge>. For more information, contact Steve Wilmarth by email at wilmarth@educationconnection.org
- 13.4. **Model PreK-5 Mathematics Curriculum Initiative:** in partnership with the CT State Department of Education, EDUCATION CONNECTION, and CT Academy for Education.
- 13.5. **University of Hartford.** Through the Office of Workforce Competitiveness (OWC), Connecticut makes an annual \$50,000 grant in a NASA-sponsored partnership that is focused on increasing public awareness of aerospace education, developing curricula, providing scholarships, and expanding research opportunities in NASA-related fields. Contact Chittaranjan Sahay, sahay@hartford.edu
14. **Project Lead the Way**, has developed a four year sequence of courses which, when combined with college preparatory mathematics and science courses in high school, introduces students to





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the scope, rigor and discipline of engineering and engineering technology prior to entering college. Regional Coordinator for Connecticut is Gregory Kane at the CT State Department of Education, gregory.kane@po.state.ct.us CT colleges and schools that are involved can be identified at <http://www.pltw.org/schoollist.asp?toSelect=CT>

15. **Proton Energy:** Wallingford and UConn, CT Pathways to Innovation Contact: Sue Quatrella, Education Connections quatrella@educationconnection.org 860-567-0863
16. **Science Alliance of Fairfield County:** a joint initiative of science-based cultural institutions facilitated by The Business Council of Fairfield County. In summer 2006, the Alliance will conduct a Summer Science Academy to help elementary schools in Bridgeport, Norwalk and Stamford to increase their effectiveness in teaching science and preparing their students for the Connecticut Mastery Tests, which will be testing science achievement for the first time in 2006-7. The Academy will provide on-site, teacher training, offer follow-up field trips, and disseminate curricula materials via the Internet. Alliance members include: The Bartlett Arboretum & Gardens, Connecticut Audubon Society, Connecticut's Beardsley Zoo, Discovery Museum and Planetarium, The Maritime Aquarium at Norwalk, Stamford Museum and Nature Center, Stepping Stones Museum for Children, and SoundWaters. The Business Council of Fairfield County, Contact: Chris Bruhl, cbruhl@businessfairfield.com 203-359-3220
17. **SmartBridges:** a five-year old initiative provides an information-sharing and networking structure for 30 local organizations involved in providing Information Technology training and employment opportunities to youth. 2/3's of the organizations are located in Stamford, Norwalk and Bridgeport. The most visible aspect of SmartBridges is the Youth Techno Expo, an Information Technology fair for students, grades 4-12. Annually, about 15 youth teams from Stamford, Norwalk and Bridgeport exhibit, with their projects adjudicated by IT professionals from Business Council member firms and organizations. The Business Council of Fairfield County, Contact: Chris Bruhl, cbruhl@businessfairfield.com 203-359-3220
18. **Yankee Ingenuity: Pratt & Whitney/University of Hartford: Cybergrant:** a \$3,000 grant to establish a Career Fair for Women in Engineering that will target high school students in an effort to encourage more young women to prepare for careers in engineering and science. A date to be determined for a Fall Career Fair 2007. Contact: Louis Manzione manzione@hartford.edu

National Science Foundation-Funded STEM Grants

1. In FY 2007, NSF provided 290 awards totaling approximately \$45 million to 21 institutions in Connecticut as well as \$370,000 in fellowship support. Details of these awards can be found at <http://dellweb.bfa.nsf.gov/AwdLst2/default.asp>.





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2. **Building a Bridge to Improve Student Success:** *A Collaborative project between Western CT State University and area high schools.* 2005-06, \$175,000 grant. Program has spread to all four CT State University Campuses through 2007-08 General Assembly appropriations. Goals of the project were to decrease the number of students need remediation in college by (a) providing high school students with a clearer idea of college expectations, and (b) building relationships between the English and mathematics faculty in the university and high school so that good communication regarding standards and expectations could occur. As a result of this collaboration there was an almost 20 percent improvement in number of students requiring remediation when entering the university during the trial period. That number continues to improve. Contact: Dr. Linda VadenGoad, dean of the School of Arts and Sciences, 203-837-9401, vanden-goadL@wcsu.edu
3. **Collaborative Industry/Community College System ATE Professional Development Project:** \$638,262. The project supports comprehensive professional development for community college faculty, high school mathematics, science and technology teachers and limited numbers of pre-service teachers. Project goals are to: (1) strengthen relationships among business and industry, the CCCS, state comprehensive and vocational high schools, and other ATE institutions; (2) build a stronger feeder system for the state's two-year ATE programs in three areas: manufacturing, engineering technologies and computer science/information technology; and (3) increase the supply of technically trained AS graduates. CBIA Contact, Lauren Kaufman kaufmanl@cbia.com 860-244-1938
4. **Computer Science, Engineering, and Mathematics Scholarships Program:** \$385,000. The Program has three primary objectives: to enhance both the quantity and quality of high school students entering Connecticut College's existing math and computer science program, especially those from underrepresented minorities such as women and students of color; to increase retention of students who are enrolled in the math and computer science programs through extensive support services and through programs which increase the knowledge and skills of the students; and to expand the number of high school students considering math and computer science as career options by encouraging the scholarship students to become leaders and role models. Connecticut College, Contact Gary Parker
5. **Computer Security and Data Assurance Associate Degree Program,** \$688,414. This project is developing an associate degree program in computer security and data assurance at Norwalk Community College. The new program leads students either to immediate employment or to a related four-year degree at Western Connecticut State University. The project provides faculty members with relevant workplace experiences so they can better prepare their students for careers in the computer security field. Although the project's primary audience is two-year college faculty and students, the goal is to create a computer security career pathway from secondary schools to two-year colleges and on to universities. Norwalk Community College, Contact Rose Ellis
6. **Connecticut Pathways to Innovation (CPI):** \$881,605.00 National Science Foundation-funded Advanced Technology Education Project that will run from July 1, 2007 to June 30,





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2010. CPI is a three year, multi-phased educational opportunity for underserved and underrepresented students to develop workforce skills in the area of information technology. The project will provide an educational continuum of articulated courses, and experiential learning activities, including Biotechnology; Innovation, Research & Development; Nanotechnology Research & Development. The coursework will begin in high school and result in increasing the number of underserved minority students pursuing post-secondary technical certifications and four-year STEM related degrees at the Connecticut Community College of Technology. STEM professionals from the *IBM Corporation* and *Connecticut Technology Council* will interact with students and teachers, both face-to-face and online through a variety of “Experiential Learning” activities. Courses will be developed by the Center for 21st Century Skills@EDUCATION CONNECTION and will be disseminated via the Connecticut Education Network (CEN), a high-speed, fiber-optic education network connects Connecticut school districts and post-secondary institutions. Co-principal Investigators are: Michael Mino, Director, Center for 21st Century Skills @ EDUCATION CONNECTION and Dr. Karen Wosczyzna-Birch, Director, Connecticut Community College System’s College of Technology and Principle Investigator, NSF ATE Regional Center for Next Generation Manufacturing.

7. **Implementing Physics by Inquiry Using Undergraduate Peer Instructors and Cooperative Group Learning**, Collaborative Project: \$33,548. The primary objective of the Physics by Inquiry project is to adapt and investigate how the PbI curriculum can be implemented without the need for physics graduate student teaching assistants as it is currently being implemented by its developers. Instead, formal cooperative group learning techniques and undergraduate teaching assistants are being used. Southern CT State University, Contact Karen Cummings
8. **Machine Learning Laboratory Experiences for Introducing Undergraduates to Artificial Intelligence**. \$109,469. Central Connecticut State University and Gettysburg College have developed hands-on projects for students involving the design and implementation of a learning system. The projects use machine learning to tie together the core artificial intelligence (AI) topics. In addition to creating projects for classroom use, undergraduate students have worked on related research. The project URL is <http://uhaweb.hartford.edu/compsci/ccli> Contact: Ingrid Russell irussell@hartford.edu
9. **Regional Center for Next Generation Manufacturing**: \$1,571,849 CT Community-Technical Colleges’ College of Technology. The Connecticut Community College System, through its College of Technology (COT), is developing an ATE Regional Center for Next Generation Manufacturing (RCNGM). The Center is the regional focal point for the education of an agile manufacturing workforce skilled in the implementation of advances in technology and capable of meeting the changing needs of the manufacturing industry. The RCNGM is a partnership of the Community Colleges’ College of Technology with the Manufacturing Institute of the National Association of Manufacturers, the Education Foundation of the Connecticut Business and Industry Association (CBIA), the Connecticut Center for Advanced Technology, government agencies, and secondary and higher education institutions. The RCNGM builds on the successes of several ATE, CSEMS and CCLI grants received by the partners. A continuing





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grant in 2007. Contact Karen Wosczyzna-Birch: kwosczyzna-birch@commnet.edu (860)-244-7608 or 860-255-3746

10. **STRONG-CT: Science and Technology Reaching Out to New Generations in CT**, \$1,999,905: 2005-2010 STRONG-CT project is a collaborative between University of Connecticut, Manchester Community College, Three Rivers Community College and Quinebaug Valley Community College. The focus of STRONG-CT is to prepare life science students beginning at the community colleges who normally would not be afforded this opportunity (disadvantaged, first generation, female, or minority students). The point person on this project for the Community Colleges is Eleanor Weseloh, Director of Mathematics, Science and Health Careers at Manchester Community College (860-512-2702, eweseloh@mcc.commnet.edu). University of CT, Principal Investigator is Hedley Freake hedley.freake@uconn.edu.
11. **Toward Machine Ethics**, \$99,861. Collaboration among Trinity and UCONN to explore the ethical ramifications of behavior involving machines, or *machine ethics*. Machine ethics is concerned with the consequences of machine behavior towards human users and other machines. Activities include: implementation of a prototype system in a limited domain incorporating an ethical dimension to its advantage; a position paper addressing objectives of and objections to machine ethics; creation of a website, organization of an AAI Ethics symposium. A portion of the budget went toward undergraduate student support for work on this project. The grant was awarded in 1/05 and extended to 6/30/06. This collaboration continues in 2007 with UConn and UHartford but no longer includes Trinity. Contact: Dr. Michael Anderson anderson@cs.hartford.edu.

CT Department of Higher Education's 2008 Teacher Quality Grant Program

The Connecticut Department of Higher Education has awarded \$577,044 from the Connecticut Teacher Quality Partnership Grant Program, which is authorized by Title II of the federal No Child Left Behind Act of 2001. The program supports professional development activities designed by colleges and school districts working together to raise teacher quality and student achievement.

1. **USING LESSON STUDY TO DEVELOP ELEMENTARY MATHEMATICS TEACHER LEADERS: ALBERTUS MAGNUS COLLEGE, (\$95,427)**. CONTACT: Loel Tronsky, Assistant Professor of Psychology and Education, 203/773-8561. This 6-day institute in July and Saturday school-year sessions will train 24 elementary teachers from New Haven, Ansonia, Hamden and Stratford in rational numbers and in effective ways to assess student learning and tailor lessons to individual learning styles.
2. **COMBINING INQUIRY AND ECOLOGY IN ELEMENTARY SCIENCE EDUCATION: SACRED HEART UNIVERSITY (\$109,060)**. Contact: Paul Massey, Professor of Education, 203/396-8350. During this 9-day July institute and school year sessions, 32 teachers will be trained to teach life sciences using inquiry-based approaches and science kits supplied by districts. A field trip to Long Island Sound is offered, and teachers may receive 3 graduate credits at the end of the





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project. Participating districts are Norwalk, Bridgeport, Monroe, Trumbull, Fairfield and Waterbury.

3. **ACCESS: ACADEMIC CONTENT AND COMMUNICATION EQUALS STUDENT SUCCESS: UNIVERSITY OF CONNECTICUT (\$104,512).** Contact: Megan Staples, Assistant Professor of Mathematics Education, 860/486-2097 or Mary Truxaw, Assistant Professor of Mathematics Education, 860/486-2880. This week-long workshop in July and bi-weekly school year sessions will train 25 grades 4-10 Hartford teachers in algebraic reasoning, numerical and proportional reasoning and problem-solving, with an emphasis on higher-order thinking. Teachers will also learn to build students' language skills in math, especially for ELL students.
4. **UNIVERSITY OF NEW HAVEN-GREATER NEW HAVEN SCIENCE, NUTRITION AND ENGINEERING EDUCATION: UNIVERSITY OF NEW HAVEN (\$122,802).** Contact: Matthew Griffiths, Associate Professor of Physics, 203/932-7255. Some 24 elementary teachers from New Haven and West Haven may attend a week-long summer workshop on nutrition, recycling and ecosystems. During the school year, University faculty will help teachers implement new skills and analyze student work which will be showcased in a June 2009 science celebration hosted by the University.

Individual STEM-Related Grants from Various Sources

1. **Connecticut State University System Programs:** The four campuses of the CSU System fund, obtain outside funding for, and participate in various STEM-related educational programs, which include by campus:
 - 1.1. **College Board AP Biology Training Program, Eastern CT State University,** Program provides training to high school teachers throughout Connecticut and New England on how to do the types of laboratory and field research activities needed to provide a high school AP Biology course and prepare high school students to pass the AP Biology College Board exam. Annual summer institutes provide the hands-on training to teachers with follow-up Eastern campus visits by teachers and their high school students, as well as visits to the participating high schools College Board master teacher partners in Connecticut. Contact, Dr. Elizabeth Cowles - Department of Biology at Eastern Connecticut State University.
<http://www.easternct.edu/personal/faculty/cowlese/apbio.htm>.
 - 1.2. **Institute for Sustainable Energy, Eastern CT State University:** Located at Eastern Connecticut State University, the Institute's mission is to identify, develop and become an objective energy and educational resource regarding the means for achieving a sustainable energy future. Currently, the Institute for Sustainable Energy is involved in four types of sustainable energy education initiatives: a) educational outreach to K-12 schools/ universities and professional development for individuals in the energy industry, b)





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maintaining a clearinghouse of energy sustainability information, c) developing energy solutions for communities and d) helping with public policy on energy issues throughout Connecticut. The Institute for Sustainable Energy is involved in a variety of K-12 energy education curriculum development and implementation initiatives, while providing seminars, workshops and symposiums for professional development to the energy industry. The Institute is assisting Connecticut communities in the development of sustainable energy plans, has developed the “Green Campus” initiative at Eastern. Contact Laurel Kohll KOHLL@eastern.edu

- 1.3. **Chlamydomonas Teaching Center, Eastern CT State University:** CSU-AAUP grant. A Web site with information on tested laboratory protocols, methods, resources, and links to other educational sites for undergraduate teaching and research with the unicellular green alga, *Chlamydomonas reinhardtii* – one of the most used organisms in the world for molecular and cell biology undergraduate teaching and research. Contact, Dr. Michael Adams, Department of Biology at Eastern Connecticut State University. See <http://149.152.32.229/~mikeadams/>
- 1.4. **Project Wonderwise, Eastern CT State University:** Funded Toyota USA Foundation. A long-running NEA award-winning program that collaborates with national 4-H programs in a variety of states and U.S. territories to provide multimedia bilingual (Spanish/English) hands-on science learning experiences in many types of ecological issues to 4-6th grade teachers/students. One of the nine science education video/CD-ROM/ and teacher activity packages, “The Urban Ecologist”, was developed by Dr. Carmen R Cid, wetland ecologist and Dean of the School of Arts and Sciences at Eastern Connecticut State University. <http://wonderwise.unl.edu>.
- 1.5. **Learning Tools in Earth Science, Eastern Connecticut State University and Southern Connecticut State University:** Program funded by a Connecticut State University System grant. A multimedia resource developed by Eastern and Southern Connecticut State University faculty to improve learning in Earth Science. This WEB-based video learning tool can be used to: a) practice mineral identification skills by manipulating images of identified minerals and unidentified rocks (seeing state-of-the-art 360o views of all major minerals), and b) to take video-based virtual geology education field trips to sites in Connecticut, Greenland and Georgia. <http://www.easternct.edu/depts/LTES/LTES-ver5>.
2. **ConnCAP Program:** Nellie Mae Foundation - \$87,508 grant to support long-term summer and after school academic support program for minority students in grades 7 – 12 low-income communities in the Hartford area.
3. **ConnCAPP Program:** Department of Higher Education and other private funding. Windham and New London region. This nationally-recognized long-running program exposes students to





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science and technology learning during the campus residential component of the program. Contact Rob Pote, Assistant Director poter@wcsu.edu

4. **Connecticut Community College System** programs not funded through business or NSF grants include:
 - 4.1. **Career Pathways Initiative in Nursing and Allied Health:** United States Department of Labor, Employment and Training Administration, Connecticut Community Colleges. \$2,147,325 grant: total funding, including match: \$9,926,353. Targeted degrees at Community Colleges include: Nursing, Radiological Technology, Respiratory Therapy, Medical Assistant, and Physical Therapy Assistant. Specific goal is to increase the number of credentialed students graduating in specified programs and entering the workforce. Strategies to meet goal include: improve retention, enhance academic and career support systems, enhance marketing to high-schools and workforce investment boards, develop a system-wide allied health certificate, enhance online instructional capacity, strengthen career ladder programs. Partners: Office of Workforce Competitiveness, Workforce Investment Boards, Hospitals, Health Care Organizations, Connecticut Hospital Association, Anthem Blue Cross and Blue Shield, Connecticut Distance Learning Consortium, State Department of Education, State Department of Labor, Connecticut Business and Industry Association, Area Education Health Centers. Contact Shelly Hartnett, Project Director rhartnett@commnet.edu
5. **Connecticut Energy Education:** Program is funded by the Connecticut Energy Efficiency Fund. Web-based tool for teachers and students. The program provides lessons in the Fundamentals of Energy, Air Quality and Climate Change, and in Energy Efficiency. It is written for use in high schools in Connecticut, but many lessons are also adaptable to other grades or locations. <http://www.ctenergyeducation.com>
6. **National Governor's Association grants to Connecticut include:**
 - 6.1. **Improve Teacher Knowledge and Skills and/or Recruitment and Retention:** National Governor's Association - \$100,000 grant to provide job-embedded professional development for up to 10 multi-disciplinary teams representing rural, suburban, and urban school districts; initiate and support classroom-based and school-based action research projects with each team; and identify, train, and support a cadre of candidates who are making mid-career transitions into education through the Alternative Route to Certification (ARC) and who are seeking teaching positions in hard-to-staff areas. Contact: Ilene Berman.
 - 6.2. **Streamlining Educational Governance:** National Governor's Association – \$50,000 grant to the Governor will convene a Pre-K-16 Education Council that will coordinate efforts to support the implementation of recommendations made by the High School





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Advisory Committee; advise the State Board of Education and the Board of Governors for Higher Education; and develop consensus around the two-year and 10-year goals for the Pre-K-16 Council. Contact: Ilene Berman, Program Director.

7. Sacred Heart University Programs include:

7.1. Ecology of the Breeding Population of Horseshoe Crabs in New Haven Harbor:

Wildlife Trust grant involves teacher training and high school students at The Sound School starting spring 2006. Teachers will learn how to gather data and study the ecology of horseshoe crabs in New Haven Harbor. This work will include training in the utilization of sonar tags and receiving equipment to track the movement of crabs in the harbor. Two undergraduate students are also working on this project. Jennifer H. Mattei, Ph.D., Chair & Associate Professor, Department of Biology, Sacred Heart University matteij@sacredheart.edu 203-365-7577

7.2. **Horseshoe Crab Ecology in Long Island Sound:** National Fish and Wildlife Foundation grant. Sacred Heart University and The Maritime Aquarium will train teachers on how to become research assistants (with their students) concerning horseshoe crab ecology in Long Island Sound. Starts with a pilot program this spring with a full program to be run in the spring of 2007. Jennifer H. Mattei, Ph.D., Chair & Associate Professor, Department of Biology, Sacred Heart University matteij@sacredheart.edu 203-365-7577

7.3. **Horseshoe Crab Research at Milford Point:** CT State Department of Environmental Protection grant. Program involves teaching young students that participate in the CT Audubon Coastal Center late spring and early summer programs. Undergraduate research assistants help the Audubon naturalist to teach kids how to measure and tag horseshoe crabs and why it is important. This program has been running for 6 years. Jennifer H. Mattei, Ph.D., Chair & Associate Professor, Department of Biology, Sacred Heart University matteij@sacredheart.edu 203-365-7577

8. University of Connecticut Programs include:

8.1. **Association for Science Teacher Education 2009 national meeting.** Neag School of Education faculty and staff are the program organizers, which will be held in Hartford, Conn. Contact: John Settlage (860)486-1151 or john.settlage@uconn.edu

8.2. **Crossroads National Conference** host site. Neag School of Education faculty are program facilitators and key note presenters for this National Science Foundation funded Science Education program. Contact: John Settlage (860)486-1151 or john.settlage@uconn.edu

8.3. **Global-Ed Project at UConn.** UConn faculty from the Department of Political Science and the Neag School of Education developed a computer-assisted foreign policy simulation for the Internet. Teams of students from Connecticut middle and high schools





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and from dozens of schools in the U.S are involved in complex negotiations and group decision-making exercises while the UConn researchers study gender-based differences in learning and communication. School participation varies each semester. Contact: Professors Scott Brown or Mark Boyer (860) 486-0418 or gloaled@uconn.edu

- 8.4. **Project M³ - Mentoring Mathematical Minds.** Currently used in 43 states, Canada, the Netherlands and Singapore, Project M³ steers often-overlooked students from low income and minority backgrounds into advanced math classes. During this five year project (2002-2007), the research team led by Kathy Gavin, associate professor in the Neag School of Education, developed and published new math curriculum units for grades 3, 4 and 5 and provided ongoing teacher professional development. Field test results consistently showed significant gains on the criterion-referenced unit tests. In addition, project students, the majority of whom come from at-risk populations in 11 schools in Connecticut and Kentucky, made statistically significant gains on the Iowa Tests of Basic Skills and open-ended items from the NAEP and TIMSS assessments. Moreover, Project M³ students consistently out-performed a comparison group on the ITBS and the open-ended assessments. Teachers' expectations of students, especially those in low SES schools, have increased significantly since they now realize their students are much more capable of high level mathematics than they ever realized. Contact: Kathy McDermott, program coordinator: (860) 486-8881 or email: projectm3@uconn.edu.
www.gifted.uconn.edu/projectm3/
- 8.5. **Project M² – Mentoring Young Mathematicians** (Advanced Curriculum for Primary Level Students). Building on the successes of Project M³ (explained above) Neag professor Kathy Gavin and Tutita Casa have been awarded a new five year (2007-2012) \$2,000,000 National Science Foundation grant to develop and field test curriculum units in geometry and measurement for grades K-2. The goals of the project are to increase the mathematic achievement of all students in grades K-2; develop students' understanding of targeted mathematical content and processes; target the participation of traditionally underrepresented students in advanced mathematics curriculum; integrate and support young students' real-world experiences with mathematics and science. Contact: Kathy McDermott, program coordinator: (860) 486-8881 or projectm3@uconn.edu or www.gifted.uconn.edu/projectm3/
- 8.6. **Raising Expectations for All English Language Learners (REALL).** Eliana Rojas, Assistant Professor of the Neag School of Education's Bilingual/Multi-Cultural Education program, believes students learn mathematics better when taught in their native language, and she has federal backing to put her theory into practice. The U.S. Department of Education recently awarded Rojas a \$1.5 million grant "to prepare teachers of English Language Learners to accelerate their students' academic achievement by focusing on the preparation and professional development of bilingual and Teachers of English to Speakers of Other Languages (TESOL) math teachers, in order to provide appropriate and





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effective instruction to adolescents who are learning the English language. Contact: Carissa Rutkauskas, (860) 486-5103 or bilingual@uconn.edu

- 8.7. **Science Teacher Professional Development.** Neag School of Education and Connecticut Science Center (CSC) partnership to promote science education research and professional development across Connecticut. Contact: David Moss (860) 486-0249 or david.moss@uconn.edu
 - 8.8. **Teachers for a New Era: UCONN Carnegie Corporation \$5 million grant.** UCONN is one of 11 recipients nationwide that will foster innovative programs that will inform curriculum development and evaluation of teacher preparation. The intended result of this program will be better prepared teachers who will have a profound impact on the academic achievement of K-12 pupils across the state and throughout the nation. Contact: Donalyn Maneggia at 860-486-1407
 - 8.9. **Technology Enhanced Science Education in Middle School.** Neag School science educators John Settlage and David Moss have received funding through a U.S. Dept. of Education grant evaluate new middle school science curricula using state-of-the-art computer simulation technology. Contact: John Settlage (860)486-1151 or john.settlage@uconn.edu
 - 8.10. **UConn Mentor Connection.** For nine years, the UConn Mentor Connection has been bringing about 70 of Connecticut's bright high school students to campus for three weeks during the summer. Each student works side-by-side with a university faculty member for real world experience in developing creative projects and conducting scientific investigations. Many of the students are from the state's priority school districts. Contact: Heather Spottiswoode: (860) 486-0283 or mentorconnection@uconn.edu
9. **University of Hartford Programs include:**
- 9.1. **After-School Computer Academy for Hartford in-school females age 16-18: \$41,800 Capital Workforce Partners grant** – University of Hartford. Summary: The program provides after-school computer training for Hartford in-school females age 16-18 who are in need of computer proficiency training. The program runs twice a year, enrolling 12-13 students per cycle. Contact Gail Champlin champlin@hartford.edu
 - 9.2. **Machine Learning Laboratory Experiences for Introducing Undergraduates to Artificial Intelligence: \$109,469 NSF grant** – University of Hartford. Summary: Ingrid Russell and her colleagues at Central Connecticut State University and Gettysburg College have developed hands-on projects for students involving the design and implementation of a learning system. The projects use machine learning to tie together the core artificial intelligence (AI) topics. In addition to creating projects for classroom use, undergraduate students have worked with Russell on related research. Contact I. Russell.





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- 9.3. **Million Solar Roofs Initiative:** \$10,000 CT Clean Energy Fund grant – University of Hartford. Summary: University of Hartford prepared and presented informational seminars about solar photovoltaic systems and their installation. These seminars were provided free of charge to the public. In addition to the seminars, the program’s website (<http://www.solarconnecticut.org/>) contains educational information on how solar energy works as well as news and resources. Contact Subhash Chandra, chandra@hartford.edu
- 9.4. **Petroleum Research Fund:** \$50,000 American Chemical Society grant – University of Hartford. The grant supports advanced scientific education and fundamental research in the ‘petroleum field’. Undergraduate students carry out all of this research and our introduced to a combination of synthesis, spectroscopy, magneto chemistry, and catalytic transformations of organic species, all within a single system. Contact Laura Pence lpence@hartford.edu
- 9.5. **Project Crecer:** \$61,411 Capitol Workforce Partners grant – University of Hartford. Summary: Project Crecer is a summer program for Latino high school students. The program has academic and employment portions. Project Crecer has been ongoing as a summer program for 20 years. Latino high school students attend morning academic sessions and are placed in jobs in the afternoon. Contact Gail Champlin champlin@hartford.edu .
- 9.6. **Upper Albany Main Street Program (City of Hartford):** \$135,000 Community Development block grant – University of Hartford. The Upper Albany Main Street (UAMS) Program works toward making the Upper Albany Commercial District a thriving business and cultural center. One component of this program is providing technological literacy training to community members. University of Hartford students work with 25 business owners in the community on projects ranging from simple technology training and assistance to website building. Contact Marilyn Risi risi@hartford.edu
10. **Yale University** has a strong commitment to public education and makes its resources available to strengthen K-12 education in New Haven and in Connecticut. These resources include facilities, courses, and the talents and services of faculty, students, and staff. Comprehensive partnerships with area schools and communities have become an important part of the university’s efforts. The following is a list of STEM-related programs in which Yale sponsors and participates:
- 10.1. **Astronomy Public Observing Nights:** Twice a month, participants are welcomed to look through one of the many telescopes at the Leitner Family Observatory and have questions answered about astronomy. The astronomical objects viewed change seasonally, and range from the Moon to the planets (such as Jupiter, Saturn, Mars and Venus) to nearby star clusters and galaxies. Also, the first Thursday of every month, lectures are given by members of the Department of Astronomy. Past topics have





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included "Galaxies in the Nearby Universe," "Astronomy at the Movies," and "Lunar Dust: The Dangers of a Dirty Moon." Lectures are followed by observing through the telescopes. While the lecture series runs rain or shine, all observation time is weather permitting. **Info:** www.astro.yale.edu/publicnights/. **Contact:** Hugh Crowl, hugh@astro.yale.edu. **FREE and open to the public**

- 10.2. **Biomedical Science Training and Enrichment Program (BioSTEP):** BioSTEP provides intensive, short-term summer research training for undergraduates, especially students from groups underrepresented in biomedical sciences at research-intensive universities. Trainees conduct research for ten weeks at Yale in laboratories and present their research findings orally or in poster format at the end of the program. The program offers weekly workshops on topics relevant to biomedical science and weekly luncheon seminars with Yale faculty. Students gain an in-depth view of the lives, careers, and scientific expertise of Yale's physician-scientists. Participants also meet with admissions representatives of the medical school and graduate school admissions offices. BioSTEP students have numerous opportunities to meet and socialize each other as well as with current Yale students. Program coordinators organize weekend day trips and evening events for BioSTEP students to enjoy the beaches, cities, and scenery of New England. Each participant receives a stipend and housing at no cost. Travel to and from New Haven is fully paid for or reimbursed. **Info:** <http://info.med.yale.edu/omca/programs/biostep.htm> **Contact:** Linda Jackson, Program Coordinator, at 203-785-7545 or linda.jackson@yale.edu
- 10.3. **Center for Research on Interface Structures and Phenomena (CRISP) "Experiences for Youth" (CRISPEY):** The CRISPEY program offers many activities and events throughout the year that reach out to young students primarily in the New Haven area. Students gain an increased awareness of the importance of Materials Science in their everyday lives through classroom presentations, laboratory demonstrations, laboratory open house events, New Haven Science Fair mentorship, and exciting hands-on workshops. A common goal throughout all of these programs is to make science come alive through real life applications. Young students discover that the science of materials is everywhere around them, particularly at the forefront of cutting edge technology. These educational activities are designed to increase interest and diversity in science and engineering. **Info:** www.crisp.yale.edu/education_k-12.html. **Contact:** Ms. Heather Edgecumbe, Education and Outreach Coordinator, at 203-392-8959 or edgecumbeh1@southernct.edu. **Eligibility:** New Haven area students.
- 10.4. **Center for Research on Interface Structures and Phenomena (CRISP) Fellowships for Teachers:** The CRISP Research Experiences for Teachers (RET) fellowship program offers New Haven area teachers a six-week summer research experience.





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Fellows become part of an interdisciplinary research team at Southern Connecticut State (SCSU) and Yale University, working together with University faculty and graduate students. Each interdisciplinary team consists of a network of researchers with diverse backgrounds in engineering, physics, applied physics, chemistry, and industry, researching a topic of common interest in Materials Science. Participants will meet other research groups at SCSU and Yale and learn about research being performed in CRISP laboratories at Yale University. Fellows either receive a stipend or course credit in SCSU's M.S. in Science Education Program. **Info:**

www.crisp.yale.edu/education_teachers.html **Eligibility:** New Haven area high school and middle school teachers.

- 10.5. **Center for Research on Interface Structures and Phenomena (CRISP) Fellowships for Undergraduates:** The CRISP Research Experiences for Undergraduates (REU) fellowship program is an eight-week summer research experience. Students will participate in collaborative research projects taking place in both Yale University and Southern Connecticut State University laboratories. Fellows become part of an interdisciplinary research team working together with University faculty and graduate students. Each interdisciplinary team consists of a network of researchers with diverse backgrounds in engineering, physics, applied physics, chemistry, and industry, researching a topic of common interest in Materials Science. **Info:** www.crisp.yale.edu/education_undergrad.html **Contact:** Ms. Heather Edgecumbe, Education and Outreach Coordinator, at 203-392-8959 or edgecumbeh1@southernct.edu and Dr. Christine Broadbridge, Education Director, at Christine.broadbridge@yale.edu. **Eligibility:** Undergraduate students nationwide
- 10.6. **Dynamic Education Marvels of Science (DEMOS):** Yale student volunteers teach weekly science classes at local elementary schools, using striking demonstrations and hands-on activities to teach basic scientific principles. The DEMOS group also performs science assemblies and planetarium demonstrations for local elementary schools and runs semiannual, day-long science festivals for New Haven families. **Info:** www.yale.edu/demos. **Contact:** Dwight Hall Main Office at 203-432-2420 or dwighthall@yale.edu. **Eligibility:** New Haven Public School students in grades K-6.
- 10.7. **EVoking Learning and Understanding Through Investigations Of the Natural Sciences (EVOLUTIONS):** Evolutions is an after-school club for New Haven Public School students. Evolutions runs for the entire academic year and emphasizes science literacy, critical thinking, college preparation, career awareness, mentoring, community service, and transferable skills development. Past field trips have included Boston Museum of Science, Ground Zero in New York City and universities including New York University, the University of Rhode Island, Brown, Harvard and MIT. All program graduates receive academic credit and letters of recommendation. Application is required. **Info:** www.yale.edu/peabody/education/afterschool.html.





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Contact: Jamie Alonzo, Coordinator, at 203-432-6577 or peabody.afterschool@yale.edu. **Eligibility:** New Haven Public School students in grades 9-12.

- 10.8. **Have Bones, Will Travel:** Have Bones, Will Travel is a program offered by the Yale School of Nursing to elementary, middle, and high schools in New Haven. The program aims to educate students about the marvels of the human body through creative and fun activities in order to better understand the decisions that impact their long-term health. **Info:** nursing.yale.edu/Community/bare-bones.html **Contact:** Linda Pellico, Assistant Professor in Nursing, at 203-737-5392 or linda.pellico@yale.edu. **Eligibility:** Regional students in grades K-12.
- 10.9. **Health Professionals Recruitment and Exposure Program (HPREP):** HPREP is a nationwide high school science enrichment program aimed at recruiting African-American, Native American, and Latino high school students into careers in the sciences and health professions. Each year over 30 New Haven high school students attend eight Saturday sessions run by Yale minority graduate and professional students. Students participate in small group discussions on various health topics within medicine and public health. A special emphasis is placed on health issues disproportionately affecting minority communities. **Info:** info.med.yale.edu/omca/hprep. **Contact:** Yale School of Medicine Office of Multicultural Affairs at 203-785-7545. **Eligibility:** New Haven Public School students in grades 10 and 11.
- 10.10. **Girls' Science Investigations (GSI):** Girls' Science Investigations is a program for girls who are interested in learning more about science. The program meets for four Saturdays at Yale University. This year's themes include The Invisible World, The Material World, The Chemical World and The Mechanical World. Students have an opportunity to observe scientists run demonstrations as well as participate in hands-on experiments. Examples include working with cloud chambers, diffraction gratings, UV Bead Bracelets, photosensitive paper, boiling water with ice and much more! GSI also contains an "Ask a Scientist" session which gives students an opportunity to ask scientist questions about science and careers in science. **Info:** www.yale.edu/physics/GSI/ **Contact:** Bonnie Fleming, Assistant Professor in Physics, at gsi_newhaven@hepmail.physics.yale.edu. **Eligibility:** Girls in grades 6-8.
- 10.11. **Minorities in Medicine Movement:** Minorities in Medicine Movement promotes diversity in medical professions by encouraging youth interest in medicine. Volunteers strive to inspire and encourage youth from racial/ethnic groups that are underrepresented in medicine, provide these students with resources, practical information, and exciting experiences in the medical field that will nurture their interest in medicine and help them achieve their particular goals. Activities are rooted in mentoring relationships and





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will include field trips, lectures, panels, and workshops led by physicians, medical students, researchers, and other health professionals and medically-minded individuals.

Contact: Dwight Hall Main Office at 203-432-2420 or dwighthall@yale.edu.

Eligibility: New Haven Public School students in grades 9-12.

- 10.12. **New Haven Science Fair Program:** The citywide Science Fair is held each year at Yale University's Commons. Over 8000 students and 43 schools participate in the science fair competition, which promotes skills in critical thinking, the scientific process, and research communication. In conjunction with the city-wide fair, this program offers mentoring for students and professional development for teachers in order to help them carry out investigative hands-on projects. In addition, the program supports Family Science Nights and summer internships for New Haven high school students. **Info:** www.nhsciencefair.org. **Contact:** Jack Crane at 203-393-0157. **Eligibility:** New Haven Public School students in grades K-12.
- 10.13. **Science Education Outreach Program (SEOP):** SEOP brings Yale graduate students and post-doctoral fellows into the classroom to carry out hands-on genetics projects for middle school students. Its aim is to a) teach students about DNA and genetics b) enhance students' enthusiasm for science, inspire them to pursue scientific careers, c) provide interactions with scientists to demystify stereotypes and d) provide the Yale trainees an opportunity to share their love of science with city students and develop a spirit of community service. The program started in 1995 and involves teams of three Yale people per classroom. Lessons include, 1. Genotype and Phenotype, 2. Chromosome Structure and Mitosis, and 3. DNA and Molecular Biology. **Info:** www.seop.yale.edu **Contact:** Paula Kavathas, Professor of Laboratory Medicine, Genetics and Immunobiology, at 203-785-6223 or paula.kavathas@yale.edu. **Eligibility:** New Haven Public School students in 7th grade.
- 10.14. **Science Saturdays:** Yale's Department of Engineering presents a series of Saturday morning lectures by Yale professors and local scientists who discuss their fascination with their fields of study and share their research findings. Past topics have included: astronomy, biology, chemistry, engineering, forestry, medicine, psychology, and physics. The talks are appropriate for students in the 7th grade and up. **Info:** www.eng.yale.edu/science. **Contact:** Ainissa Ramirez, Assistant Professor of Mechanical Engineering, at 203-432-2156 or ainissa.ramirez@yale.edu. **FREE and open to the public.**
- 10.15. **SMaRT: Science and Math Achiever Teams:** SMaRT is a mentoring program which pairs Yale student volunteers with New Haven public school students in grades 5-8. Participants meet once a week with their mentor to work on a math or science project of their choice. At the end of each semester, the students' projects are displayed at the Science Expo Open house to which the entire community is invited. SMaRT also





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- organizes at least one field trip per semester. **Info:** www.yale.edu/prgsmart. **Contact:** Dwight Hall Main Office at 203-432-2420 or dwighthall@yale.edu. **Eligibility:** New Haven Public School students in grades 5-8.
- 10.16. **Summer Undergraduate Research Fellowship (SURF):** SURF is an eight-week program meant to familiarize students completing their sophomore or junior year with the kind of work they can expect to do in graduate school. Students are immersed in an academic, professional setting involving a working relationship with a faculty mentor, a program of individual research, and participation in a series of program workshops and panel discussions. All students give a final presentation to their peers, submit a written paper and attend the Leadership Alliance Conference to present their research at the meeting. The program is particularly interested in identifying and providing research experience to talented under-represented minority students, but all students may apply. Students are housed at no cost and meals are provided. Students also receive a stipend upon successful participation in the program. Travel to and from New Haven is covered. **Info:** www.yale.edu/graduateschool/diversity/surf.html **Contact:** Office for Diversity & Equal Opportunity at 203-432-0763 or grad.diversity@yale.edu
- 10.17. **Ulysses S. Grant Foundation Program:** The Ulysses S. Grant Foundation offers a six-week academic summer program on the Yale campus for New Haven middle school students. In the morning, Yale undergraduates teach interactive interdisciplinary classes in humanities, science and math, and conduct sports and extracurricular activities in the afternoon. In addition, students enjoy a variety of local and regional field trips. Financial aid is available. **Info or an application:** www.yale.edu/usgrant. **Contact:** Janna Wagner, Board Chair, at janna@aya.yale.edu. **Eligibility:** New Haven public and private school students entering grades 6 to 9. Application is required.
- 10.18. **Yale Center for Excellence in Genome Sciences & Yale Center for Genomics and Proteomics:** The Centers offer tours and introductory lessons in genomics and proteomics to Greater New Haven students of all ages and their teachers. Lessons include lectures from Yale scientists and fun lab activities, such as having the student isolate their own DNA and learn about state-of-the-art biotechnology. We work with the Evolutions, an after school program through the Yale Peabody Museum of Natural History and other Yale sponsored K-12 science mentoring programs. **Info:** <http://cgp.yale.edu/>. **Contact:** Nancy Kerk, Coordinator for Yale Corporate Program in the Sciences & Administrative Director for Yale Center for Genomics and Proteomics, at 203-432-8060 or nancy.kerk@yale.edu. **Eligibility:** Regional students in grades K-12.
- 10.19. **Yale Center for Excellence in Genome Sciences & Yale Center for Genomics and Proteomics Teacher Workshops:** The Yale Center for Excellence in Genome Sciences and the Yale Center for Genomics and Proteomics offers programs for teachers





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- of all grades that include lectures, hands-on experiments, and computer-based lab workshops. Participating teachers receive a stipend, CEUs and laboratory equipment borrowing privileges. Topics include the Human Genome Project, genetically modified plants, and laboratory workshops feature state-of-the-art biotechnology. **Info:** <http://cgp.yale.edu/>. **Contact:** Nancy Kerk, Coordinator for Yale Corporate Program in the Sciences & Administrative Director for Yale Center for Genomics and Proteomics, at 203-432-8060 or nancy.kerk@yale.edu. **Eligibility:** Open to all educators.
- 10.20. **Yale New Haven Teachers Institute (YNHTI) summer fellowships:** YNHTI is an educational partnership between Yale University and the New Haven Public Schools designed to strengthen teaching and learning in local schools. Each participating fellow works together with a Yale faculty mentor to prepare a curriculum unit to be taught the following year. The fellowship runs from March to July. Participating teachers are awarded a stipend, CEUs and given borrowing privileges at the University libraries and access to other campus facilities and resources for 1 year. **Info:** www.yale.edu/ynhti and www.teachers.yale.edu. **Contact:** Josiah Brown, Associate Director, at 203-432-1080 or josiah.brown@yale.edu or teachers@yale.edu. **Eligibility:** New Haven Public elementary, middle and high school teachers.
- 10.21. **Yale Peabody Museum of Natural History Peabody Fellows Program:** This professional development program offers middle school and high school teachers innovative curricula and hands-on, inquiry-based learning methods that link biodiversity with Connecticut's life and earth science standards. Teachers attend a one-week summer institute and receive a stipend, CEUs from Yale University, Yale library borrowing privileges, use of Museum specimens and ongoing support from the Peabody's educators. **Info:** www.peabody.yale.edu/education/fellows. **Contact:** Mary Anderson, Community Liaison, at 203-432-5715 or mary.anderson@yale.edu. **Eligibility:** Open to all educators, intended for teachers of grades 5-10.
- 10.22. **Yale Peabody Museum of Natural History Teacher Workshops:** The Yale Peabody Museum offers many professional development opportunities for in-service and pre-service teachers, ranging from afternoon workshops to weeklong summer institutes. Topics include anthropology, archaeology, astronomy, biology and geology. Curriculum units developed by participants are published by the Yale Peabody Museum Public Education Department. **Info:** www.yale.edu/peabody/education/index.html **Contact:** Yale Peabody Museum Education Office on 203.432.3775 or peabody.education@yale.edu. **Eligibility:** Open to all educators.
- 10.23. **Yale Peabody Museum of Natural History Summer Programs:** The Yale Peabody Museum of Natural History has a wide variety of fun and educational summer camps available for students entering grades 3-9. All programs include behind-the-scenes visits to the Museum's exceptional collections as well as field trips. A number of full





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and partial need-based scholarships are available to qualified participants. **Info:** www.yale.edu/peabody/events/camps.html **Contact:** Yale Peabody Museum Events Office at 203-432-6466 or peabody.events@yale.edu. **Eligibility:** Students entering grades 3-9.

- 10.24. **Yale Physics Olympics:** The theme of the annual Yale Physics Olympics is "physics is fun!" and its aim is to have participants enjoy themselves while applying basic ideas from physics in a practical context. The event takes place on a Saturday in October and takes the form of a pentathlon, consisting of five 40-minute events. Each event is a task or simple experiment which the students perform as a team. Teams are ranked based on accuracy of their results or measurements in the experiments and prizes are awarded to the winning teams. The event is organized in cooperation the University of Liverpool, which holds a similar event with similar tasks on the same day making this a truly international event! **Contact:** Peter Parker, Professor of Physics and Astronomy at 203-432-3650 or peter.parker@yale.edu. **Info:** www.yale.edu/physics/physics-olympics/index.html. **Eligibility:** Regional students in grades 9-12.
- 10.25. **Yale Summer Medical and Dental Education Program (SMDEP):** Yale SMDEP is a six-week intensive summer program for highly motivated first and second year college students who are considering a career in medicine. This program exposes students to an academic and learning environment very similar to what they would encounter as a first-year medical student at Yale School of Medicine. In both classroom and seminar settings, teachers cover topics in basic and clinical sciences as well as highly individualized instruction in writing and communication skills. The SMDEP program does not offer MCAT preparation or review. Yale SMDEP has five primary components, Science modules, Writing and communication class, Clinical Exposure, Career planning and guidance and Biomedicine in the 21st Century. Through organized and informal social activities, SMDEP students develop a new network of relationships and experiences that are remembered and valued for years. All students receive a stipend and limited reimbursement for travel expenses. Students are housed at no charge and receive a discount in the Yale-New Haven Hospital cafeteria. **Info:** <http://info.med.yale.edu/omca/programs/mmep.htm>. **Contact:** Linda Jackson, Program Coordinator, at 203-785-7545 or linda.jackson@yale.edu

Work in Progress

Last Updated December 19, 2007

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