



June 2010

INITIATIVE

*A partnership among business, education, community and town government to assist students in Grades K-12 with an awareness of the world of work through career exploration activities.*

## Business/Education Comments

By John Annick, Co-Chair

We began our journey in May 1996 and now celebrate our fifteenth year! We thank our business partners who make it all possible. Without their help, we wouldn't be able to support the many career exploration experiences for Trumbull students.

Some highlights of 2009-10 include:

- awarding 20 grants, for a total of \$17,951
- sponsoring meetings with speakers on
  1. Community Conversations on Education
  2. Skill proof (An index of job skills linked to job postings)
  3. Career Pathways and 4. Workplace Inc. on the WIRED project of Workforce Innovation in the Regional Economic Development for School-to-Career
    - continued supporting the field trips to MIT (Dr. Langer's Biotech Lab), and Cold Springs Harbor (Dr. Watson's DNA Lab.
    - supporting the ACE Mentor Program
    - continuing support of Trumbull Education Channel
    - promoting S.O.S.(Student Office Services that provide career experiences for Trumbull's special needs students

Our year will close with our Annual Recognition event to be held at the Trumbull Library Community Room on June 8.

### Special Recognition Awards

**Special Award** to James Somers, who retired from Peoples United Bank and as Co-chairperson of BEI. Jim has been an active supporter of BEI over the past twelve years.

**Ray Avery Award** to Galaxy Diner owners, Nick Skenderis and Peter Loukrezis, for their support to many school and community causes especially the Trumbull High School band.

**Making a Difference Awards** to the following:

- For the One Book One Town program that realized a community involvement of Trumbull residents in the reading of "The Selected Works of T.S. Spivet" by Reif Larsen - Jackie Carlino, Kathleen Perry, Linda Panovich-Sachs, Donna Soucey and the Library Director, Susan Horton.

- For the Annual Autumn Pumpkin Classic Race that Marilyn Greenberg and Virginia Imri have made a financial success to support the THS Scholarship Program and the Trumbull Chamber of Commerce grants.

- For the Beardsley Zoo - for their support and education of Trumbull students in programs with the Trumbull Schools.

- For the Trumbull High School Gear Up Program speaker and motivator to the THS students – Sharon Brennan.

- For the Trumbull High School Student and his active participation in BEI Foundation meetings and events – David France.

### BEI Foundation Contributors

Our financial contributors make the Minigrant Program possible. We extend a major thank you to all our financial and in-kind contributors including:

Akzo Nobel Functional Chemicals LLC  
 Aquarion Water Co. of CT  
 Birarelli Insurance  
 Cartensen Memorial Fund  
 Executive Office Services (EOS)  
 Greg Annick and family  
 Newtown Savings Bank  
 People's United Bank  
 Tashua Knolls Restaurant  
 Trefz Foundation  
 Trumbull Chamber of Commerce  
 Trumbull Rotary Club  
 Unilever US Foundation  
 United Illuminating  
 Weinstein & Anastaasio, P.C.

Please support our programs through your contributions. JOIN US and be a part of this special effort to bring together business and education!

### Mini-Grants Awards for 2009-10

This year BEI celebrates 15 years since the Foundation initiated its' mission to assist Trumbull students to know more about the work world through career exploration activities, programs and events. This year BEI would like to give special recognition to the following projects which competed for state or national honors:

**ACE Mentor Program** - The Connecticut teams were two of three finalist invited to Washington, DEC to present their designs to a jury of top construction industry CEO's.

**Bothball Robotics Tournament** - THS earned first place honors for on-line project documentation and process simplification (the KISS award) and earned second place overall in NY/NJ Region.

**DECA Club** - Competed in World Marketing and DECA Club finals in Louisville, Kentucky. Student Kevin Meeson finished top ten finalist in the country and Erica Ozolins received yellow ribbon for top 20 in written exam. There were 13,000 student representatives competing from US, Canada, Puerto Rico and Guam.

**MIT Trip** - This is the 10th anniversary of BEI support for this educational trip to Dr. Langer's MIT Labs. Recently, the Science Academy members and Honors Biology students from Trumbull Agriscience and Biotechnology visited Dr. Robert Langer's laboratories at MIT. Robert Langer runs one of the biggest academic labs in America, "helps and advises more than 100 undergraduate and graduate students, has authored 1000 scientific papers and holds more than 300 patents"(Nature 438, 22-24 (2009)). Dr. Langer also happens to be a most generous and unassuming "monster" scientist who takes time out of his very busy schedule to talk to a dozen high school students, answering questions such as "What was your major in college?", answer: chemical engineering; "How do you get your ideas?": answer: I observe. The Science Academy listened attentively to presentations

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 Business Education Initiative**

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from scientists working in Dr. Langer's labs on subjects such as chemotherapy delivery to cancer cells using magnetic particles ( Shan Jiang), directing stem cells to particular organs in order to repair heart tissue after myocardial infarction or perhaps to increase the pancreatic cells that produce insulin and thus combat diabetes ( Jeff Karp ) and tissue engineering used to create skin and other organ tissue ( Che Hutson ). Vanessa Prusinski, a Trumbull High school graduate, University of Notre Dame alumnus and former Merck chemical engineer is now a graduate student of Dr. Robert Langer's. She stopped by to say "hello" and talk to the group about her research in ovarian cancer. Following the presentations and discussion, students embarked on a tour of some of Dr. Langer's laboratories. Pedro Valencia, a chemical engineer showed students his custom made nanovehicles under a microscope and Jant Zoldan instructed students about stem cells and allowed us to observe embryonic stem cells.

Science Academy students are awarded study credit for their participation in all of the activities during the academic year. More importantly, they leave with a better understanding of the field of Biotechnology and its applications in medicine and industry. (Denise Weed - THS)

**Dolan DNA Learning Center** - The Trumbull High School and Christian Heritage School A.P. Biology students visited the Dolan DNA Learning Center, Cold Spring Harbor Laboratory, in March 31. Twenty-three THS and six CHS students participated in the trip with Doug Winters (THS) and Jamie Cosgrove (CHS).

The experience included the following endeavors: (1) conducting a 3.5 hour *DNA Restriction Analysis* laboratory investigation, (2) viewing a 25-minute video on *DNA: The Secret of Life*, and (3) taking a 1-hour walking tour of the Cold Spring Harbor Laboratory facility. Students were fully engaged and completely on-task during each of the day's events.

*DNA Restriction Analysis* involves the manipulation of *lambda phage* DNA by employing the use of restriction enzymes (*EcoRI* and *HindIII*) to cut the DNA into a unique number of fragments, each of a different number of nucleotide base pairs in length. Since no two restriction enzymes cut at the same recognition site on a sample of DNA, the resulting fragment pattern that each has on the phage DNA identifies which restriction enzyme has been used. As part of the exercise, students (organized into 14 different groups) needed to measure out microliter ( $\mu\text{L}$ ) aliquots of each restriction enzyme and phage DNA to establish experimental set-ups, including an "unknown" enzyme one, and gauge the results against a control. After the samples were incubated for 30-40 minutes, the "cut" DNA was subjected to gel electrophoresis to separate and visualize the fragments. Pouring the gels and establishing the gel trays was included in

the protocol.

By the end of the investigation, all 14 groups had successfully digested the *lambda phage* DNA to obtain the fragment pattern consistent with each of the restriction enzymes used. They then identified which enzyme was in their "unknown" sample by comparison to the *EcoRI* and *HindIII* standards. Their results can be viewed at [www.dnalc.org](http://www.dnalc.org). Many thanks to Tedi Setton, our lab instructor for the session.

As part of the day's itinerary, careers in biotechnology were discussed both in the lab and on the walking tour of the Cold Spring Harbor Laboratory facility. Students were afforded the opportunity to see and learn about what current research is being done at the lab, what type of educational and lab backgrounds the research staff and students had before coming to CSHL, and what types of programs are offered to prepare students for a 21st century career in the biological and chemical fields. (Doug Winters - THS)

**ACE Mentor Program** - Two teams from the New Haven and Bridgeport High School areas won second and third places in a national design competition for their designs of an arts center in Stratford and a green row housing project in East Haven.

For the first time in the four years of the competition, which is organized by the Construction Industry Round Table and the ACE Mentor Program of America, two teams from the same state have taken top honors.

During the past year, fourteen practicing architects, engineers, and construction managers in Connecticut mentored the two student teams in a free after-school program sponsored by ACE, which stands for architecture, construction and engineering. Its mission is to attract more high school students into the design and construction industry. ACE operates in 36 states and has 72 affiliates.

The Connecticut teams were two of three finalists invited to Washington, D.C. to present their designs to a jury of top construction industry CEOs.

The Bridgeport Team consisted of several of Trumbull High School students. The Bridgeport team's cultural center, which they named A Creative Experience (ACE) Center for the Arts, is situated in the former Army Engine Plant along the Housatonic River. It includes a theatre, exhibition space, and classrooms.

Thirteen of the 15 students on the winning Connecticut teams are seniors. Eleven are going on to college next fall, 8 in architecture and engineering.

The ACE affiliate in Connecticut was established ten years ago and has involved more than 1,200 students. Currently ten teams, with 150 students, operate throughout the state.

**Animal Care in the Community** - The Specialized Resource Program is a language-based program for children diagnosed with autism. An applied behavior analysis approach is used to enrich the verbal behavior of our

students as well as increase the generalization of skills. Students with autism learn best with hands-on experience and this project will give them a rich opportunity to explore animals and specific careers in the outside community. These students are very fond of animals and this topic is very motivating to them. Community trips will consist of taking tours of a veterinarian clinic, barn, zoo, aquarium, horse farm and dairy farm and interviewing/shadowing various animal care employees. Role playing will be used as follow up activities to reinforce the information learned through the pre-teaching and community experience. (Cheryl Wallace - Frenchtown Elementary).

**Applied Broadcast Journalism** - The trip to NBC studios gave us an up-close look at exactly how a studio operates and what goes on behind the scenes. Our tour enlightened us to the clever techniques and practices of the studio in order to create the best show with minimal expenses and complexity. We learned that a team of experts constantly works with great passion to produce the final outcome. The tour was enlightening and contributed to the ideology that drives our own news show.

At NBC, even on a high-budget grand scale, they still recognized methods of minimalism in order to produce an efficient outcome. The studio resourcefully decides to use one room to film multiple shows, using only different angles to create the appearance of more locations. More and more often, the team utilizes camera tricks and green screens, to create illusions and fine-tune elaborate scenes. This requires teams of professionals to edit and conceptualize before the actual shooting.

We saw that large rooms with lights and monitors with skilled professionals scurrying about them were the epicenters for production. The teams consistently double check, research and contribute in ever fashion, even in small ways such as making graphics that make a big difference in the classiness of the appearance. The true purpose of news was revealed through the explanations on the tour. Overall, the experience increased the morale of SJ Today as a program. SJ Today better understands how interconnected each job really is. Everyone on the trip got a taste of the career of broadcast journalism and seeks a familiarity with the methods of professional news in order to convey the most articulate message to the public. (Brian Highland - St. Joseph's High School).

**Biotechnology Explorations** - This project gave the students the opportunity to perform polymerase chain reaction and DNA separation using gene chip technology. After the lab the students toured the labs at Cold Spring Harbour further exploring the correlations between the student lab and the working labs. This trip provided students with the opportunity to see the career possibilities for science and math majors. (Lisa Cellini - SJHS).

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**Botball Robotics Tournament** – Students in grade levels 9-12 get the opportunity to design, program, build and operate robots. The students participate in the Botball tournament for which they design and construct robots from kits provided by the Botball organizers. Two student leaders attended a training workshop in March and returned to provide instruction to the rest of the team.

Trumbull High School's Robotics Club competed in the New York/ New Jersey Regional Botball® Robotics Tournament on May 15 at The Peddie School in Hightstown, NJ. THS earned first place honors for on-line project documentation and process simplification (the KISS award). These, combined with success in the seeding and double elimination competition rounds, earned Trumbull High School second place overall in the NY/NJ Region comprising. (Hans Drenkard - THS).

**Careers & Animals** – Students in the Specialized Resource Program at Frenchtown Elementary School are exposed to careers in the community that educate them about different jobs caring for animals. This grant has given children the opportunity to explore many different aspects of animal care. It has given them hands-on, real life experiences into many different jobs. This experience helped the student's gain knowledge of how to care for these animals, their habitats and also meet their caretakers. It has been an exciting education experience. (Kara Peterson - Frenchtown Elementary).

**Engineers Teaching Algebra** – This project is a workshop centered around discovery and inquiry and students become actively engaged in the applications of engineering and mathematics. This project can be directly associated with any profession that is affiliated with the field of engineering. A one day workshop, presented by Mr. Mark Love, an engineer with international experience in highway design and transportation, challenges students to think for themselves and become engaged in activities that are relevant to the Information Age. These activities are focused on highway traffic and safety problems. The workshop encourages students to further their math education and see the connection between technology, engineering and mathematics. (Gina Zuk – Madison Middle School).

**School Store** - Sixth, Seventh and Eighth grade students at Hillcrest Middle School worked together to open and run a school store. Under the guidance of Mrs. Malathi Muralidharan and Mrs. Petrina Gunsolley students ordered supplies, kept inventory, sold merchandise, counted cash, made change and kept an accounting record. Our grade six students created surveys that were given to the entire student body. The survey contained questions about the types of items the school store should carry and an appropriate name for the school store. Students involved in the

operation of the school store met every other week during lunch and sold the merchandise. Students learned the importance of book keeping and keeping accurate records. The merchandise ordered were counted and sorted by special education students in their life skills classes. The school store has become an integral part of lunch at Hillcrest Middle School. Our students look forward to volunteering their time, making contributions and being a part of a school based program. (Petrina Gunsolley and Malathi Muralidharan - Hillcrest Middle School).

**JA Our Nation** – The “Our Nation” activities provided practical information about businesses’ need for individuals who can meet the demands of the job market. The JA “hands-on” games and activities introduced the concept of globalization of business as it relates to production materials and the need for students to be entrepreneurial in their thinking to meet the requirements of high growth, high demand careers worldwide. The need for STEM (science, technology, engineering and math) skills was emphasized. (Harriet Rago – Junior Achievement – Middlebrook School)

**Supreme Court Field Trip** - 14 students made a trip to the Connecticut Supreme Court in Hartford in October 2009. Students had the opportunity to see how attorneys create arguments and think on their feet. These are two essential qualities that all litigators need. The students who went on this trip competed this past March in the Connecticut High School competition sponsored by the CCLCE and they performed extremely well. This trip paved the way for many of their successes. It gave them the background and foundation for what would be expected of them. The trip also served as a great teambuilding exercise and an unparalleled bonding experience. This year's trip proved to not only to be an educative experience but helped these students/ teammates to another level in the legal world. (Eric August – Trumbull High School)

**S.A.D.D. Club** – The Students Against Destructive Decisions Club is working with students from Trumbull High School in an outreach program to the community of Trumbull. The goal is to promote awareness about the harm done by underage drinking and drug use. The goal is to impact many students with a Red Ribbon Campaign and involvement in the Underage Drinking Forum. Activities include purchasing red ribbons, pins and other supplies for the Red Ribbon Week outreach program, sending letters to local businesses in Trumbull explaining the purpose of our club and requesting their support in our endeavours, and providing certificates of appreciation to local businesses that support our organization.

**The Cost of Doing Nothing** - Careers in environmental protection involve jobs that help reduce the negative environmental impacts of today's actions, restore damaged ecosystems to health, or build sustainable ways of life for the future. Fifty years ago, most of today's environmental careers did not exist. Today, the field of environmental jobs is one of the fastest-growing job markets. I educated my students about careers in the field of Environmental Outreach: Education, Communications, Advocacy, and Fundraising. Environmental communications specialists are responsible for communicating knowledge about the environment to the public, government, and businesses. Environmental outreach specialists can be found teaching in schools, writing for publications, and lobbying legislators. Environmental educators are hired to work in schools and in industry to teach the public about the environment. Environmental journalists report on environmental issues for magazines, newspapers, journals, television, and radio. Some work for environmental advocacy groups or organizations.

This project educated students about environmental issues so that they could teach others about the environment. They were journalists reporting, teachers educating, and advocates promoting environmental awareness to students in Frenchtown and town residents. The project centers around Earth Day 2010 and for the week of May 3rd – 7th, 23 students will educate 665 students and 28 teachers in grades K-5 as well as the Trumbull community about what they can do to make a difference. (Lisa Demshak - Frenchtown Elementary).



**THS DECA Club** - The week of April 24-27th the five qualifying members of the THS Honors Marketing program made the trip to Louisville, Kentucky to compete against the World's Marketing and DECA students. Over 13,000 student representatives from various high schools throughout the United States, Canada, Puerto Rico and Guam were tested on topics such as business operations, business management, entrepreneurship and business administration. The competition was extremely rigorous as they included both a written exam as well as a series of role play components.

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All competitive activities are aligned with the National competency skill standards. These competency-based competitive events have been designed, administered, validated and judged by area and retired professionals who are involved in the areas of marketing, merchandising, finance, tourism and management. **Principles of Hospitality and Tourism** - Erica Ozolins- Yellow ribbon medal for top 20 in the written exam. **Principles of Finance** - Kevin Meeson- Top 10 Finalist in the country

**Oceanography/Marine Science** – The goal of this inquiry-based project is to explore careers in Oceanography through the investigation of the impact of carbon dioxide on our oceans aboard Research Vessel Oceanic in Long Island Sound. The project will also create awareness of Green Careers in Oceanography.

**When I Grow Up** - Second graders at Booth Hill School were exposed to a variety of careers in depth. Some of these were deep sea divers, storm jumpers, math careers, zoo keepers, politicians, hospital employees, radio careers, music careers, green careers, farmers, artists to name a few. All of the work on this project was done in the media center. Each student in each class researched a different career. Students read about their career choice and learned to take notes on their favorite and difficult parts of their career choice. They also learned how to take notes, write a paragraph and how to make an oral presentation to their class. During the time of the oral presentation, the students took notes on other careers that they found interesting. This was a great way for students to share their information with each other. (Reenie Demkiw - Booth Hill Elementary).



**Yale Mock Trial Competition** – 25 students attended and competed in an actual mock trial competition against students from other high schools across the state. The competition at Yale was the same structure as the high school competition sponsored by the CCLCE. The competition proved to be an invaluable asset to helping the students prepare for the high school competition. The students had to prepare and direct cross examinations, opening and closing statements and master the art of objecting. The students worked diligently in the days before this competition to better their overall ability and it was evident in both the Yale Competition

and the high school competition. The Yale Competition helped give these students practical experience in a mock trial setting. (Eric August – Trumbull High School)

## Trumbull High School Celebrates School to Career

By JoAnn O'Connell

This has been a banner year at Trumbull High School with many successful career related initiatives. The school year was kicked off with the annual Career Exploration and Community Service Fair in October attended by more than 500 students. Participants came from 25 local business and service organizations. The Rotary provided speakers who visited classes on the day of the fair to provide career related information that was job specific. The speakers' bureau was well received by both the THS staff and students.

Twenty one students from grades 10 – 12 participated in the Architecture, Construction and Engineering ACE Mentor Program.

Fifty seven juniors and seniors attended our GEAR UP PROGRAM sponsored by BEI and Housatonic Community College. The mission of the GEAR UP PROGRAM is to engage every junior and senior without definite post high school plans to become aware of his or her options and to put into place a PLAN OF ACTION. Many of our students have demonstrated a commitment to Community Service and Career Exploration through our Career Internship Program as well as through substantive volunteerism involving many hours of service to local organizations.

## Summer Career Opportunities for Trumbull Students

This summer, Trumbull Continuing Ed is offering, for the first time, a **Future Teachers Intern Project** to encourage high school students to explore the teaching profession. This career/internship project provides students a work based learning, structured training and mentoring opportunity to explore teaching. By working directly with children enrolled in summer Explorations at Frenchtown School, students acquire knowledge and learning styles of elementary students. Students completing this 4 week program and submitting a portfolio of worksite activities will receive 1/2 credit.

For elementary students, specific programs are offered during the morning in July at Frenchtown School to foster student interest and spark future career exploration. Included in these offerings are art adventures, pet care, farming, cooking, scrapbooking, digital photo, movie production and understanding simple machines, engineering and computers. Similar opportunities are available for middle school students located at Madison Middle School, including music, both strings and percussion, drawing and painting, web design, robotics, dance, and magic.

These programs are intended to spark an interest that could lead to exploring a specific career. For more information contact 203-452-4554 or our website: [www.trumbullcted.org](http://www.trumbullcted.org).

## *“How do we ensure that Trumbull’s children are prepared to take a productive and fulfilling role in the 21st century?”*

By Gary Cialfi

The question warrants responses from the community at large. Community Conversations was launched in February, 2009 in an effort to provide opportunities for discussion and a three year plan in which to address the responses.

Student focus groups have been established for the purpose of addressing student self-management planning. The objective is to identify how educators and parents can assess the transition process from elementary to middle school, middle school to high school, and from high school to higher education and/or the workplace. The focus groups have proven to be an invaluable resource for determining how we can best teach and prepare our students with skills that include self-reflection, goal-setting, and the ability to compare their previous social and academic performance to their current performance. Eventually, a survey will be developed and distributed for the collection of additional input to compliment the contributions of the focus groups. Educators and parents will be able to use this information to continually strengthen our transition processes.

A second response to preparing students for productive and fulfilling roles in the 21st century is being addressed through systematic programs that promote critical thinking, creative problem-solving, collaborating, and communicating through effective speaking, writing, and technology applications. This 21st century learning is being driven by a variety of teaching strategies which include performance based assessments (PBA) and capstone projects. PBAs and capstone projects provide a way for students to demonstrate the application of knowledge and skills they have acquired. They engage students in a real world-learning experience that targets a specific learning objective. The capstone project may easily take into account a specific career pursuit or conceivably, an internship.

The 2010-2011 school year will provide opportunities to build upon the progress that has been accomplished. This Phase Two of the three year plan will also include an ongoing commitment to developing new avenues for communicating effectively with the community.

