

# CFT NEWS

Newsletter of the Division of Engineering Technologies and Computer Sciences at Essex County College

## FIRST Robotics Competitions



A group of MET/MEC students participated in the FIRST Robotics Competition. FIRST (For Inspiration and Recognition of Science and Technology) Robotics Competition is an international event for high school students sponsored by corporations and universities. This year, about 700 teams and over 20,000 students participated in 17 regional competitions and the championship event at Walt Disney World's EPCOT, including teams from Brazil, Canada, and Great Britain.

ECC, as a college sponsor, teamed up with the Newark Science High School (team #752). Dr. Gail Van Ekeren of Science High School and Prof. Jianping Yue of ECC mentored the team. About 30 high school students spent every afternoon after school for 6 weeks working with ECC students in ECC's Manufacturing and Robotics Lab in the Center for Technology. They built a robot named "Genesis" and participated in both the regional and national competitions. In the regional competition held on March 21-23, 2002 at Columbia University, the team was ranked 10<sup>th</sup> among 38 teams and won the Rookie All Star Award. The team placed ahead of many teams sponsored by famous universities such as: Cambridge University/Hill Road 6th Form College (UK), Polytechnic University/Science Skills Center High School, NJIT/Technology High School, New York City Technical College/Thomas Jefferson High School, New York University/Stuyvesant High School, Polytechnic University/Brooklyn Technical High School, Cornell University/Ithaca High School, and Polytechnic University/Paul Robeson High School. More information about FIRST can be found on the web site <http://www.usfirst.org>.

ECC students actively participated in designing and building the robot. They brought their own tools and bought necessary parts. Several students went to the regional competition. Many students wrote a report on the event as part of the robotics lab projects in Prof. Yue's *MET 202 Modern Manufacturing Systems and Ro-*



FIRST Team #752. Top photo: ECC students (from left) Talal Kallas, Mario Motayne, Jose Gonzalez, Aman Tsehaye, Victor Mejia, Fernando Chavez, Kodjo Agbenouwope, Daniel Mulvaney, Silvio Montesdeoca (Other team members not shown: Robert Chardavoine, Silver Luna, and Niran Sooknanan). Bottom photo: Dr. Gail Van Ekeren (7<sup>th</sup> from right) and Prof. Jianping Yue (1<sup>st</sup> from left) with Science High School students.



botics class. They found the FIRST experience both challenging and rewarding. Daniel Mulvaney noted that the competition "was a very fun and enlightening experience." "This is the most interesting project I ever did in my college life," Kodjo Agbenouwope said. He added, "I also perceive through this project how the theory could be different from the practice. Something that can be done within 5 minutes in theory may take 5 hours in the practice." Aman Tsehaye learned, "It takes teamwork to accomplish such a project. All the groups had to ... put their work together to accomplish the finished product."

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## News Brief

### Project GRAD

Project GRAD Newark is a partnership with Newark Public Schools, and ECC, Rutgers among others, and is currently established in 16 schools. This collaborative effort between schools, community, business and higher education addresses the educational needs of Newark Public School students. In addition, this project offers a \$6,000 scholarship to all participants (students) who maintain a cumulative 2.5 grade point average and complete all requirements through their high school years.

### ECC's Summer Institute

ECC's summer institute theme "The Earth and Beyond: Why Limit Ourselves" engaged participants in project design, development and evaluation through course content designed by ECC faculty. About a hundred 9th and 10th graders from Malcolm X, Shabazz and Central High Schools got instruction in Biology, Computers, Humanities/Communications, and Mathematics.

## Panel Discusses "Replacing the Twin Towers"

*New York New Visions is a coalition of many architects and planners working on the World Trade Center Problem.*

On March 26, 2002, the lower lobby of the CFT became the location of a timely and informative panel discussion titled "Replacing the Twin Towers." Featuring four New York architects associated with the group New York New Visions, the panel presented and discussed several aspects of the latest thinking on the replacement of the World Trade Center. Issues included street patterns, infra-structure, open space, and a suitable memorial.

The panelists consisted of Prof. Lance Brown, AIA, Chair of the School of Architecture at The City College of the City Univer-

sity of New York, Peter David Cavaluzzi, AIA, principal at Ehrenkrantz & Kuhn Architects, Mark Ginsberg, AIA, partner at Curtis & Ginsberg Architects, and Jill N. Lerner, AIA, principal at Kohn Pederson Fox Architects. New York New Visions is a coalition of many architects and planners working on the World Trade Center problem. The event was well attended by students and faculty of Essex County College as well as faculty from NJIT.

## CFT Welcomes Two New Faculty Members



Prof. Rosa Otero



Prof. Veronica Zhang

Two new full-time faculty members have joined the Engineering Technologies and Computer Sciences Division filling two important teaching positions. **Prof. Rosa Otero** is an assistant professor of Architectural Technology and will also be the coordinator of that program. **Prof. Veronica Zhang** is an instructor of Computer Science.

Prof. Otero holds a Master's degree in Architecture from Virginia Polytechnic Institute & State University and is a Ph.D. candidate at the University of Pennsylvania, School of Fine Arts. Her experience includes an assistantship at Virginia Tech as well as employment at various architectural firms including, most recently, The Hillier Group in Newark. Prof. Otero is working on rejuvenating the architectural technology program

here at ECC which has not had a full-time coordinator since its inception.

Prof. Zhang earned a Master's degree in Computer Science from New Jersey Institute of Technology as well as an Oracle Professional Certification. Prior to coming to ECC, she worked as a software engineer at Get-Paid Software and as a database developer at various software firms. Prof. Zhang is an alumnus of ECC.

The faculty and staff of the CFT are very pleased to welcome Profs. Otero and Zhang to the Division.

## Faculty Summer Activities

Prof. **Assadipour, Hosseln** updated his CAD books (AutoCAD, MicroStation, and Pro/E), did consulting work at New Brunswick Scientific (Edison, NJ) where he also conducted seminars on Design/CAD (using SolidWorks), CAM, TQM, and SPC.

Prof. **Theophilus Acquaye** was involved with the fifth Project GRAD Newark summer institute at Essex County College. He also served as an instructor in Computer Aided Design in ECC's summer institute "The Earth and Beyond: Why Limit Ourselves?" This program served one hundred 9th and 10th graders from Malcolm X Shabazz and Central High Schools.

Prof. **John Enrlquez** completed the Cisco Certified Network Professional (CCNP) Instructor Training-Semester 5 Advanced Routing and Semester 6 Remote Access on June 3-14 and July 8-19, 2002 at New Hampshire Technical Institute, Concord, New Hampshire.

Prof. **Mark Galt** served as Judge, Greater New York Area Math Fair and co-leader Mathematics Group, GEAR-UP (Gaining Early Awareness and Readiness for Undergraduate Programs).

Prof. **Charles Jones** completed the Cisco Certified Network Professional (CCNP) Instructor Training-Semester 5 Advanced Routing and Semester 6 Remote Access on June 3-14 and July 8-19, 2002 at New Hampshire Technical Institute, Concord, New Hampshire.

Prof. **Rosa Otero** did research earlier in the summer (May/June) at the Archives of Architecture and Construction of the University of Puerto Rico. She is studying Henry Klumb, a German architect who was a student of Frank Lloyd Wright and practiced in Puerto Rico

Prof. **Alvin Williams** completed the Cisco Certified Network Professional (CCNP) Instructor Training-Semester 5 Advanced Routing and Semester 6 Remote Access on June 3-14 and July 8-19, 2002 at New Hampshire Technical Institute, Concord, New Hampshire.

Prof. **Ned Wilson** began a year long program as a fellow in the Library of Congress Cities and Public Spaces seminar funded by the National Endowment for the Humanities and the Community Colleges

Humanities Association. In addition, Dr. Wilson attended the Center for World Studies summer institute on "Violence in the Context of Colonialism and Globalization" and led a seminar for the Hill Center on the phenomenology of Charles S. Peirce.

Prof. **Jianping Yue**, presented and published two papers: 1) "Do Basic Mathematical Skills Improve Spatial Visualization Abilities?"; and 2) "Spatial Visualization Skills at Various Educational Levels," Proceedings of the 2002 American Society for Engineering Education Annual Conference & Exposition, Session 2438, Montreal, Quebec, Canada, June 16-19, 2002. In addition Professor Yue completed the Cisco Certified Network Professional (CCNP) Instructor Training-Semester 5 Advanced Routing and Semester 6 Remote Access on June 3-14 and July 8-19, 2002 at New Hampshire Technical Institute, Concord, New Hampshire.

Prof. **Bernard Zivotofsky** participated in three programs during summer 2002. All were Chautauqua Short Courses for College Teachers sponsored by the National Science Foundation as part of a Faculty Development Program: 1) University of Dayton, Ohio, "Changing Science Courses to Promote Critical Thinking" taught by Craig Nelson; 2) Rensselaer Polytechnic Institute (RPI) Troy, NY, "Nanotechnology and Nanostructured Materials and Devices;" 3) NASA's Jet Propulsion Laboratories (JPL) at Cal Tech., Pasadena, California, July 23 through July 26, "Exploration of the Solar System and the Possibility of Life" coordinated by Gilbert Yanow.

## Hi Tech Grant



Networking Lab

Essex County College is greatly expanding its network technology programs through a \$480,200 High-Tech Workforce Excellence grant from the state Commission on Higher Education.

"We want ECC to be the provider of choice for professional network certification," said Professor Alvin Williams, who runs the program with fellow Professor Charles Jones. The rigorous Microsoft Authorized Academic Training and Cisco Local Academy programs are offered through the college's Engineering Technology & Computer Science Division.

One of the major goals of the network certification program is to increase the number of under represented minorities in the information technology field. "Our unique contribution is that we can ensure that high-tech firms will have a highly skilled minority workforce that is on the inside creating solutions, not on the outside looking for a way to get in," said ECC Director of Development Irene James.

In fact, Prof. Jones said the grant will help people get the training that they may otherwise not be able to afford. "Many commercial training programs are just too expensive for a lot of people," he noted.

The expansion at the Center for Technology will be phased in over the next several years where plans call for a doubling of microcomputer stations. Through renovations and reallocation of existing space, the center will realize a 600 percent in-

crease in enrollment capacity from the current 125 student limit to 875 students in fall 2003.

In addition to the CCNA program, ECC also provides Microsoft Certified Systems Engineer (MCSE) training. As a result of the grant award, the college will soon provide training for Cisco Certified Network Professional (CCNP) and Oracle Certified Professional (OCP). ECC is also working to make several of the certification programs (such as Network Technology) into an associate degree offering.

Prof. Jones and Prof. Williams are currently working with Irene James on a National Science Foundation Proposal to develop a model network technology enhancement demonstration project with multiple student entry and exit points. The various entry and exit points will allow a student to either work or continue his/her education at various stages. These stages range from vocational training in high school or ECC's Training Inc. or a certificate in Internetworking, or an Associate in Applied Science to a Bachelors Degree in Information Technology offered at the New Jersey Institute of Technology.

## The SMART Classroom

This past summer, Room T103 of the Center was transformed in to a SMART CLASSROOM. Room T103 is now cutting edge technology, employing touch-sensitive screens, hand writing recognition software and a projection device. During registration, Nadine Shaw, head of MPT, gave a brief introduction to the features. Training will be ongoing.

The Smart board has a number of features. The Smart Notebook allows one to write notes on the screen and save the

notes in script or text form. Powerpoint presentations can also be done in notebook format, allowing the user to superimpose notes on the slide projections. These can also be saved in a few different formats.

Faculty are currently exploring the most fruitful ways to use this technology. Various faculty will discuss their experiences during the semester

## New CIM System and Laboratory Improvements

A new computer-integrated manufacturing (CIM) system is being installed in the Center for Technology (CFT). The CIM system was purchased through a state equipment leasing grant and the College's matching fund. It is part of a continuous effort by the college to provide state-of-the-art equipment and updated technology to support the curriculum, serve the students and community, and train the local industry workforce. The CIM system was manufactured by Intelitek, a manufacturing education company located in Manchester, New Hampshire. It consists of three SCORBOT-ER IX and one SCORBOT-ER 14 robots, a ProLIGHT 1000 CNC milling machine, a ProLIGHT 3000 CNC lathe, a laser engraver, an automatic part storage and retrieval system, a closed loop pallet conveyor, a barcode scanning system, and a PLC-controlled assembly and quality control station. The SpectraLIGHT CNC lathe and mill will also be upgraded, together with the stand-alone ProLIGHT 1000 CNC mill and ProLIGHT 3000 CNC lathe, to provide more working environments for training. Students in the *MET 202 Modern Manufacturing Systems and Robotics* class in Spring 2002 will be the first to work hands-on with the new system.

In addition to the nearly \$400,000 computer-integrated manufacturing (CIM) system, ECC also bought new equipment upgrading the mechanical and materials laboratories. The equipment included an Amatrol bench consisting of hydraulic actuator, instrumentation, and valve modules, as well as a pneumatic module. Several Terco material testing machines included 4 MT3005 twist and band test machines, 4 MT3016 impact testers, and 4 MT3017 tensile/Brinell test machines. The MT3017 machines also came with 4 sets of MT3047 computer measuring devices and Dell Optiplex GX240 computers. This equipment, along with existing equipment, will provide strong support for the laboratories of several manufacturing, mechanical, and civil construction technology courses including *ENR 220 Mechanics of Materials*, *MET 201 Manufacturing Processes and Materials*, and *MET 215 Fluid Mechanics*.



View of the CIM system classroom

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*... state-of-the-art equipment and updated technology to support the curriculum, serve the students and community, and train the local industry workforce.*

## CFT Students Earn Scholarships

Several CFT students received scholarships to help further their college education during the 2001-02 academic year. **Walter Aucayle** (*MET*), **Kodjo Agbenouwope** (*MET*) and **Ronald Kumordzi** (*EET*) were recipients of the Research & Development Council of New Jersey Technician Scholarship for 2001 in the amount of \$1,500. **Yessica Pena** (*Engineering*) and **Douglas Bonuke** (*Architecture*) were awarded the Construction Roundtable Scholarship by the Independent College Fund of New Jersey. They received \$5,000 each. **Alain Pierre Antolne** (*CET*) participated in the Edward O. Davis Memorial Student Summer Employment Scholarship during summer 2001. He received \$2,500. **Andrew Bliss** (*CET*) and

**Richard Lindsay** (*CET*) won scholarships from the Construction Industry Advancement Program of New Jersey (CIAP) and will receive \$1,000 each.

**Yessica Pena** (*Engineering*) and **Riyad Regragu** (*Computer Science*) were the winners of the ETCS Division scholarship and received \$350 each. Other ECC scholarships were awarded to **Maha Abbassi** (*Computer Science*), **Richard Adjel** (*Engineering*), **Beatriz Calderon** (*Computer Science*), **Bosede Olaogun** (*CIS*), and **Raj Vadivel** (*Computer Science*).



*These students persevered through several semesters of academics combined in many cases with the rigors of full time employment and other responsibilities. We extend our congratulations to them and wish them success in their further education and in their careers.*

### 74 CFT Students Graduate in 2001-2002 Academic Year

When Essex County College held its thirty-third annual commencement on June 2, 2002, the Engineering Technologies & Computer Sciences Division sent a record number of degree and certificate candidates to the podium. Others received degrees and certificates in August and December 2001 for a total of seventy-four. Following is a list of those students.

**Applied Computer Science AS:**

Dajuan Hutchins, Wojciech Poskrobko.

**Architectural Technology AAS:**

Miguel Franqui

**Civil Const. Engr. Tech. AAS:**

Michel Georges, Richard Lindsay, Alain Pierre Antoine.

**Computer Science AS:**

Maha Abbassi, Nebiat Abraham, Franklin Barthelus, Beatriz Calderon, Jason Callender, Jean Michel Chery, Warrick Ekwueme, Ejike Enworom, Bloneva Holbert, Robert Mamaril, Kristofferson Mercado, Kurt Miller, Hung Nguyen, Dandy Opara, Kavita Ramnarais, Riyad Regragui, Andre Reihing, Leonardo Rojas, Isaiah Samoita, Rajendrackumar Vadivel, Peter Vaughan-Williams, Gina Vera.

**CAD Technology Cert.:**

Manuel Arocha, Silvio Montesdeoca,

Keith Arthur, Douglas Bonuke, Joao Catarino, Dayanara Lopez, Felix Oppong, Nipaben Patel, Jazmin Rivera, John Thomson.

**Electronic Engineering Technology AAS:**

Orville Arscott, William Bailey, Toure Benthall, Andrew Blissett, Maurice Budhu, Fred Exantus, Sirius Jean-Charles, Ronald Kumordzi, Emmanuel Ofori, Andreas Papis, Reddy Perez, Isaiah Roper.

**Engineering AS:**

Alex Achoka, Richard Adjei, Anderson Andou, Steve Chokpelle, Giancarlo Gamboa, Hector Lafuente, Judhylin Marmolejos, Temitope Ojewale, Emmanuel Okefiena, James Onwunali, Yessica Pena, Kofi Quayson, Jonathan Velasquez.

**Manufacturing Engineering Tech AS:**

Marshall Hill, Tai Su, Aman Tsehaye.

**Mechanical Engineering Tech AS**

Paul Debrah, Jose Tamayo.

**Network Technology Cert.:**

Dritan Bitincka, Jocelyn Espinal, Michael Kelly, George Masira, Akinfela Oyenyin, Yulanda Philbert.

Editors CFT News:  
Mark Galit, John Gribbin,  
Rosa Otero,  
Ned Wilson, Jianping Yue and  
Veronica Zhang.

Special thanks to Alvin Williams and Theophilus Acquaye for their collaborations.

### A CAD Contest

The second annual Computer-Aided Design (CAD) contest was successfully completed on April 10, 2002. Many students submitted their design projects to the competition. The winners were **Vinlclo Quinteros** (first place), **Dmitry Melitchkin** (second place), **Silvio Montesdeoca** (third place), and **Paul Facey** (honorable mention). The winning CAD drawings are on display in the lobby on the first floor of the Center for Technology.

**3RD ANNUAL CAD CONTEST**  
ECC – Center for Technology

Deadline for submission:  
**Frliday, March 14, 2003**

Submit to Prof. Yue, Prof. Acquaye,  
and/or Prof. Assadipor

### CYBER SECURITY SEMINAR

Presenter:

**Robert Statica**

Special lecturer & CCS Internet Operations  
Manager  
Associate Director, Cryptography & Telecommunications Lab  
College of Computing Sciences  
New Jersey Institute of Technology

The seminar will focus on the main issues of cyber security, main threats, attacks, counter measures, national infrastructure protection, private communication in a public world, network security, e-penetration, social issues, etc.

**Tuesday, November 12, 2002**  
**7:00-9:00 pm**

Center for Technology  
Essex County College

Contact Prof. Hossein Assadipour 973-877-1891

