ENGINEERING By Design

News from Rowan University College of Engineering

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March 2003

FRESHMAN CLINIC

Two Clinic Experiences Double the Learning Curve

All engineering freshmen participate in two clinic experiences. Hands-on, multidisciplinary opportunities prepare students for a rapidly changing and highly competitive marketplace.

Freshman Clinic I - "In the first semester, freshman clinic students have an opportunity to see first-hand, not everything, but a little bit of what goes on in the other engineering disciplines," said Professor Joseph Orlins (CEE). In the first semester, students are randomly divided into sections. Each section revolves through a sequence of laboratory experiences and lectures that introduce them to each of the College's four engineering disciplines – Mechanical, Chemical, Civil and Environmental, and Electrical and Computer Engineering.

Reverse Engineering: The Human Body

Respiration, metabolism, pulmonary mechanics, the cardiovascular system, the strength of bones, biomechanics, and even the mechanics of sneaker material provide an introduction to engineering principles. In this reverse engineering clinic, freshmen become familiar with the concepts of mass and energy balances; fluid flow; work, energy and efficiency; forces and levers; material strength and stresses; and electrical signal processing.

Industrial Processes: An Experience Enrobed in Chocolate

Students get their first taste of industrial processes with this module on chemical engineering unit operations. Freshmen learn about industry concerns such as production rate and quality control; economic benefits of waste reduction; consumer demands for uniformity in size and nutritional content; and other aspects of food, pharmaceutical and other manufacturing industries. The hairnets can be attributed to the segment on Good Manufacturing Practices.

Freshman Clinic II - Multidisciplinary groups of students work on reverse engineering projects. "We have used a common consumer product, such as the coffee machine, as a vehicle to illustrate engineering science and practice," explained Professor Robert Hesketh (ChE).

As students disassemble a product or reverse a process, they:

- Explore engineering principles.
- Investigate the contribution of multidisciplinary engineering teams.
- Undertake a competitive assessment of similar products.
- Consider consumer concerns and the economics of production.

Students from all disciplines work side-by-side - all year long, The great thing about the freshman engineering experience is the hands-on nature of the projects.

-Clinic Coordinator Professor Joseph Orlins

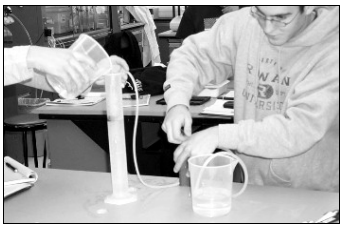
Inside This Issue

FRESHMAN CLINIC

Freshmen discover that taking real life measurements can be a bit trickier than taking measurements in a lab.

Freshmen begin to master computer software programs like Excel® and Matlab®. They also get opportunities to write reports and give presentations.

Problem solving and teamwork, hallmarks of Rowan Engineering, came into play as a freshman clinic team restored this green-house for Glassboro High School.



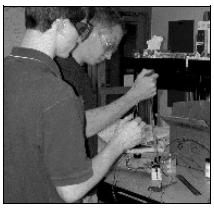
Freshman clinic experiences have a common thread:

Engineering Measurement

Freshman Clinic I - Six sections of freshmen rotated through four clinic modules. Each three week clinic session introduced the students to principles specific to each engineering discipline, while the concepts, problem-solving experiences and labs exposed them to engineering fundamentals. Whether trying to uniformly coat cookies in chocolate, measure the drug delivery of a cough drop, determine gear ratios in a robot, assess light penetration through a tinted window, or determine the stress load of a bridge, the one constant was learning to measure and analyze data.

Freshman Clinic II - Each freshman has been assigned to a multidisciplinary group that will investigate a product or a process. The products being examined this semester are dorm-sized refrigerators, water filters used by back-packers, and blood pressure monitors. One group will investigate processes by studying the human body as a closed system. Another group will explore the process of micro-brewing. Whether involved with a process or a product, students will become familiar with units of measurement, statistics, economics, design elements and other concepts that define parameters of the manufacturing of a product or the design of a system.

Student Chapters of Engineering Organizations



If we show younger students what engineering is all about, we could attract more of them to the field

- Katie Gallagher (CEE)

Professional Engineering Organizations sponsor events and activities that provide students with opportunities to:

- **Travel.**
- **Meet other engineering students.**
- **Network with professionals.**
- **Present results of research.**
- **Participate in competitions.**
- **Mentor young students.**
- **Get involved in community service.**
- **Have fun!**

As a freshman, I was wondering if I would be able to fit in. The juniors and seniors in Rowan's ASCE really made me feel comfortable *-Kelly Ann Winn (CEE)*

Rowan's entry for the 2002 AIChE Chem E Car Competition was built of K'NEX®, but a toy it was not. Michael Gifford (ChE) explained how the team did a great deal of research, learning not only how to build an environmentally friendly aluminum-air fuel cell to power the car, but to safely transport the chemical components of the car. The car, the "Dahminator," named in tribute to AIChE advisor Prof. Dahm, followed Murphy's law, giving the team a good lesson in what can go wrong, but their first prize poster proved that their grasp of the concepts, their design, and their communication skills put them in the driver's seat.

Rowan teams have been very successful in the ASCE's Canoe Competitions. A first place win in last year's Metropolitan Regional Event took them to the Nationals in Madison, WI. This year Rowan will host the regionals at nearby Kandle Lake.

Thoughts from the Dean

The College of Engineering, together with our nation and the world, mourned the loss of the crew of space shuttle Columbia, STS-107, on February 1, 2003. The work of the crew was inexplicably linked to discovery. It is important that we mourn this loss but let it inspire us to even more discovery. In engineering, discovery is a conduit to innovation and invention, to remarkable high-tech development that embraces both function and beauty. Discovery is encouraged when the environment broadens the scope of our knowledge, exposes us to new experiences, and allows us to learn through doing.

To learn through doing is a hallmark at Rowan, where we are committed to "hands-on, minds-on" learning throughout engineering education. This hallmark is readily seen in our clinics, providing discovery and learning opportunities for all of our bright, energetic students. In this issue we have highlighted the Freshman Clinic, the first of the clinic experiences that all engineering students share on our campus. This multidisciplinary team environment also serves to improve the image of the engineering profession. The prospect of bringing diverse skills to a team environment and having those contributions recognized is an important recruiting and retention tool for Rowan Engineering. The ability to function in teams and utilize individual strengths also adds value to our engineers' contributions in the larger workforce.

Engineering workforce issues continue to be a concern of national interest. Engineering degrees bring highly prized skills into a wide spectrum of sectors in the American workforce such as economic growth, advances in medical care, enhanced security systems, and ecologically sound resource management. At Rowan, our goal is to provide an engineering education that will not only prepare graduates to gain their first job, but to lay the foundation that will evolve to support them in their last job, a significant range of time.

Speaking of time, it is quickly moving forward and spring graduation will soon be here. This year's celebration will mark the fourth engineering class to graduate from Rowan University. News from alumni continues to increase and alums frequently express great affection for the faculty and high regard for the education they received. Graduates provide updates on their career experiences and tell us that the efforts we make to enhance and improve the value of the student experience also increases the value of their degrees. This feedback is a critical part of our assessment process, and I encourage friends, alumni and industrial partners to continue to let us know your thoughts. Stop by in person or email us at engineering@rowan.edu. This newsletter is packed with awards, events, and faculty and student activities. We hope you enjoy the issue and share in our enthusiasm for Rowan Engineering!

Regards,

Dianne Dalond

Opportunity Comes to Rowan Engineering

COMING EVENTS

MARCH 13
SCIENCE TEACHERS WORKSHOP

MARCH 14
TEAMS COMPETITION

MARCH 19-20
STRUCTURAL ASSESSMENT SEMINAR

APRIL 7
HENRY M. ROWAN SPEAKER SERIES

APRIL 25
ROWAN HOSTS ASCE CONCRETE CANOE COMPETITION

The Henry M. Rowan Speaker Series Presents...

Congressman Curt Weldon

Monday, April 7

Congressman Weldon will address some of the issues concerning Homeland Security. He will also discuss the economic development of the southern New Jersey region.

David Hatheway

The Henry M. Rowan Speaker Series is sponsored by the Dean's Advisory Council of the College of Engineering at Rowan University. Speakers from industry, government organizations, and academia offer insights that expand classroom experiences to real world concerns. These annual events foster discussion about contemporary issues of both national and regional importance. Topics have included Homeland Security, The Future of Avionics, and the Global Energy Crisis.

On February 6, the Speaker Series featured David Hatheway, Project Executive of the New Philadelphia Eagles Stadium. Hatheway provided an insider's view of the management of large-scale construction projects like stadiums.

"Our goal for the series is to feature prominent figures in engineering, technology and related fields - individuals who complement the work of our faculty," explained Chet Dawson, Chair of the Advisory Council. The opportunity to engage in these topical discussions and to exchange ideas with distinguished professionals is a benefit to the Rowan community, Dawson said.

Black History Month

Rowan Engineering sponsored a presentation by **Dr. Eugene DeLoatch**. DeLoatch is President of the American Society of Engineering Education (ASEE) and Dean of Engineering at Morgan State University, Baltimore.

In his talk, "*The U.S. Engineering Work Force: What's Missing?*", DeLoatch addressed the relative absence of African Americans from the U.S. Engineering work force. DeLoatch has worked ardently to encourage qualified individuals to pursue careers in science and engineering. He has dedicated much of his career to enabling minority students to meet that challenge.

DeLoatch has been recognized for his commitment to attaining and promoting excellence in engineering through research and education, and for his efforts to recruit underrepresented populations to the field.

Williamstown High School's Science Teachers' Favorite Demo Workshop

Thursday, March 13

Rowan Engineering hosts the 6th annual workshop for Delaware Valley science teachers. Teachers will present class demonstrations, activities, lessons and labs. Topics will represent nine content areas of a typical science curriculum, from elementary science to advanced physics.

"This **Science Teachers' Workshop** brings to reality the Articulation Agreement signed between Williamstown High School and Rowan University's College of Engineering," said Melanie Basantis, Director of the College's Outreach Office. "It exemplifies win-win partnering between secondary and higher education, with support from South Jersey Mechanical Contractor's Association (SJMCA), while providing a valuable service to K-12 educators. It is all encompassing and is sure to provide unique teaching tools and methods to participants."

HIGHLIGHTS OF ENGINEERS' WEEK
FEBRUARY 2003

16	17	18	19	20	21	22
		S-PAC		Tech Career Fair	Order of the Engineer	

Engineers must be proficient, professionally astute, and clearly aware of their responsibility to society.
– *The Institute of Electrical and Electronics Engineers*

TEAMS Competition

Friday, March 14

Honored Guest -
Congressman Rob Andrews

Rowan Engineering will host TEAMS (Tests of Engineering Aptitude, Math & Science) for students in grades 9–11. The experience is designed to introduce students to an "engineering team" work environment. The nationwide competition is organized by the Junior Engineering Technical Society (JETS).

The IEEE's Student Professional Awareness Conferences (S-PAC) bring a range of professional insights to students. "This is an opportunity to go beyond the classroom," said Michael Muhlbaier, President of Rowan's IEEE Student Chapter. "Engineers share their experiences from the real world." Topics in past years included: *How to get ahead* and *How to handle office politics.* Rowan Professor Peter Jansson (ECE) was one of this year's speakers, relating his experiences as a consultant.

South Jersey Technical Career Fair

Engineering's Spring Recruiting Event has evolved into a one day recruiting event for all technical majors at Rowan. The Colleges of Engineering, Liberal Arts and Business and the CAP Center combined resources to increase the number of prospective employers, making available more career, internship and networking opportunities.

Melanie Basantis, Director - Engineering Outreach Office

Order of the Engineer Ring Initiation Ceremony

Rowan Engineering hosted the second annual induction ceremony for seniors, alumni and licensed engineers. The organization, established in 1970, fosters a spirit of pride and responsibility in the engineering profession and bridges the gap between training and experience.

JUNIOR-SENIOR CLINIC PROJECTS

WATT?
How Long Will Your Light Shine?

A Consortia of 5 major companies: Conectiv, PSEG, GE, Dark-to-Light and PHI, is funding a Junior-Senior Clinic Project to intelligently determine remaining lamp life in streetlights.

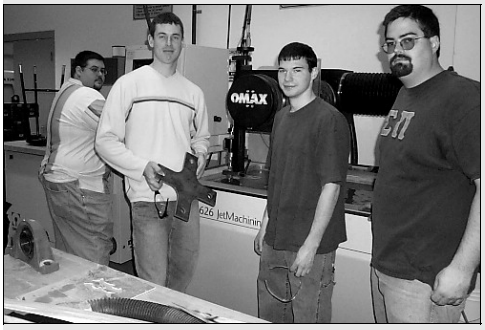
Last fall, Jeffry Tisa (ECE) was designated Student Project Manager. Tisa explained that at the team's first meeting, PHI revealed an idea that would revolutionize the way power companies maintain their street lighting systems. The team learned that the cost of changing one bulb runs from $100 - $200. To save money, power companies prefer "group re-lamping," replacing an entire stretch of lights at one time. Building on PHI's work, the team found a cost-effective way to measure how much light is left in a streetlight lamp. They are designing a smart light fixture that will transmit pertinent data to a hand-held device.

Last semester's team - Fred Glasser, James Hampshire, David LaMaina, Brett Steinberg, Apostolos Topalis, and Tisa found themselves in a real life situation. "If you don't deliver, there is no second chance," Tisa said. Being the student manager put him in a "weird" position, he confessed, but the experience was positive. Assignments were carried out; there was good teamwork. "More importantly, the group took initiative and presented new ideas," Tisa said, "They spoke out when they disagreed with something or thought an idea could be improved."

The team, directed by ECE Professors Peter Jansson and John Schmalzel, is looking forward to moving the project from paper to reality.

Homeland Security - Protecting Our Natural Gas PipeLine

The Technology	The Testing
Virtual Reality	Ultrasonic
Artificial Intelligence	Thermal
Data Fusion	Acoustic
	Magnetic



A major undertaking: A team of professors, 12 students and $500,000. "Rowan is the only college doing this specific work," said Prof. S. Mandayam.

Protecting the U.S.'s 180,000 miles of gas pipeline is serious business. The National Science Foundation (NSF), the Department of Energy and ExxonMobil have awarded funds to Rowan Engineering to combine virtual reality and artificial intelligence for a pipeline inspection system. The team is using Rowan's state-of-the-art virtual reality system to map sections of pipeline and "travel" through the line to view the condition of the pipe and to pinpoint the geographic location of any defects. The team is also designing a system that would feed data from the four test modes into an artificial intelligence network in order to identify and characterize defects in the pipe.

Design Build Test

Students have completed two phases of a project sponsored by **Damar, Inc**., Cherry Hill, NJ. Daniel Smith, Jesse Cugliotta and Claire Odud ('02) designed and built a test station to study the force, torque and friction associated with seal housings and rotating shafts. The team analyzed the impact of those forces on the seals. They also worked to determine a standard for installation of the seals. In phase two, students did a series of experiments to study the mechanical behavior and performance of the elastomer seals. The second semester clinic team, Peter Niehoff, Jan Hofmann and Jessica Hainey, was able to make recommendations to improve the design and suggest parameters that could be adjusted for different applications.

The Lakehurst Naval Station is sponsoring two Junior-Senior Clinic Projects that will effectively reduce the manpower needed to accomplish some of the tasks aboard an air craft carrier.

These projects are great opportunities for students to participate in demanding, real-life projects. They also open a pipeline for a stream of related projects that will benefit both undergraduate education and graduate research. - *ME Professor Hong Zhang.*

AT YOUR COMMAND:
Building Robots for the Military

Jacob Kephart (ME), Dan Zatta (ME) and Nehemiah T. Jandroep (ECE) are working on Phase I of a two-phase project to create a mobile robot platform that will be used to send sensor data, receive commands from a computer, and move accordingly.

Working with a toy car or a similar mechanical device is not child's play. The goal of the project is to create a mobile robot that can navigate from one point to another while navigating around the equipment -and the humans, on the deck of an aircraft carrier.

Human Motion Data Acquisition

In the preliminary stage of their clinic project, ME students Matthew Eberhardt, Dianne Barclay and Norman Castro appeared to be dancing…or calling penalties…or directing traffic.

In fact, they were running through the motions used by air traffic controllers who guide planes at ground level. This junior-senior clinic team is studying the range of motions that are used in signaling to pilots – all in preparation for a project that will eventually allow the controller to guide an unmanned aircraft.

The object of this project, sponsored by Lakehurst Naval Station, is to design and build an experimental data acquisition system for characterization of human motion. This semester, the team will identify the human gestures that are used to signal the aircraft. Then they will attach sensors to strategic points on jackets and gloves so that the exact positions of the controller's elbows, wrists, thumbs and index fingers can be transmitted as signals. The team must also create the circuitry and software that will receive and interpret those digital signals. The data must be distinct and consistent so that the set of signals can guide unmanned aircraft through maneuvers on an aircraft carrier.

FACULTY NEWS

Awards and Recognitions

Professor Clay Gabler (ME)
Ralph R. Teetor Educational Award

Recent Grants

Professor Jess Everett (CEE)
Air Force Center for Environmental Excellence
Assessment of Enhanced Bioremediation at Altus and Travis AFB

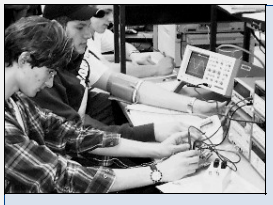
Professor Yusuf Mehta (CEE)
Wisconsin Department of Transportation
Evaluation Of Interlayer Bonding In Hot Mix Asphalt Pavements

Professors Yusuf Mehta and Beena Sukumaran (CEE)
Wisconsin Department of Transportation
Investigation Of New Devices For Use In Determining Mechanistic Properties And Performance

Presentations

Professor Yusuf Mehta (CEE)
(Laicovsky, J., Miller, L., Miller, A. and Mehta, Y. A.)
Evaluate The Effect Of Coarse Tire Rubber On Laboratory Rutting Performance Of Asphalt Concrete Mixtures
18th Solid Waste Conference, Philadelphia, PA, March 2003

Professor Jess Everett (CEE)
(Everett, J., Kennedy, L.)
Geomicrobiological Treatment for Engineered and Natural Attenuation of Chlorinated Organics
Air Force Center For Environmental Excellence
Technology Transfer Workshop, San Antonio, TX



New Frontiers

Freshmen who work with Professor Robi Polikar (ECE) on the reverse engineering of automated blood pressure monitors are heading into new frontiers at Rowan Engineering.

With NSF funding, Polikar and a team of professors are integrating aspects of biomedical engineering across the engineering curriculum. As students investigate the electrical and mechanical engineering concepts used in the monitor, they will discover some basic applications of biomedical engineering. They will also be exposed to some anatomy and physiology topics that relate to the device. Rowan Engineering is preparing to meet the demands of this fast-growing field.

STUDENT NEWS

Scholarships and Awards

ASME Awards

Rodney Johnson (ME)
ASME Diversity Action Grant
Awarded $1500 to conduct "Engineering is Great for All"- an outreach program for minority high school students.

Boeing Scholarships

Lisa A. Petronis (ME), Daniel J. Smith (ME), Jeffrey C. Gladnick (CEE)
Awards for excellence in scholarship and character.

Construction Industry Advancement Program

Stacey Bush (CEE), Sarah Ross (CEE), Rosie Tortorice (CEE)
2003 Scholarship Awards - Awarded to undergraduates in civil engineering and construction technology who completed 12 weeks of employment in the construction industry.

Delaware Valley Engineer's Council

Johanna Kline (ChE)
2003 Council Scholarship
2003 Best Paper Award

New Jersey ACI Concrete Cylinder Competition

ASCE Members: Lea Volturo, Kelly Winn, Katie Gallagher, Jim Laicovsky, Crystal Mattson
Two Rowan teams tied for Second Place

Professional Engineers Society of Southern N. J.

Stacey Bush (CEE), Rabon Jones II (ME)
Outstanding Student Award 2002

Presentations

D. Snyder, C. Agin, K. Winn, V. Lenoci, D. DeFeo, D. D'Orazio
Engineered and Natural Attenuation of Chlorinated Solvents by Iron Monosulfide
Annual Meeting of the Institute of Biological Engineering
Athens, GA. 2003

S. Gladding, G. Canty, J. Everett
Remediation of Abandoned Coal Mines Using Alkaline Injection Technology
18th International Conference on Solid Waste Technology and Management
Philadelphia, PA. March 2003

Rowan Engineering - Making an Impact

On Sabbatical: Designing NASA's Next-Generation Testing

On January 21, Professor John Schmalzel put aside his responsibilities as department chair of Rowan's Electric and Computer Engineering. On April 1, he will depart for NASA's John C. Stennis Space Center. Professor Schmalzel was awarded a National Research Council (NRC) Fellowship to join forces with the multidisciplinary group of scientists and engineers who make up the Test Technology Development Group.

The group is part of the Propulsion Test Directorate, the arm of NASA that tests all propulsion systems – rocket engines and rocket motors. During his sabbatical, Professor Schmalzel will work with the group to determine the next generation of testing methods and parameters. They will be looking at what kind of measurement techniques, instruments, and communication schemes can be used to test rocket engines.

"The Columbia disaster reminds us that these are all very complex systems," said Professor Schmalzel. "In order to make sure that you know what's going to happen next, there have to be a lot of sensors - and information integration, going on continuously." Sensors determine what's occurring during the ascent and descent, while in orbit, and during testing before the launch. This kind of monitoring is called the Vehicle Health Monitoring System (VHMS).

Professor Schmalzel's mission: looking for ways to process the data that comes from Stennis' collection of ground-based sensors. Better integration of that data will result in a more intelligent system, a safer system.

This sabbatical offers both challenge and excitement. "At least a couple of times a month, this place starts roaring and rocking as they test these engines," said Professor Schmalzel. And even after this latest tragedy, he still believes that that is important.

For the crew of Columbia and all those who made STS 107 possible, let us never forget the price that must be paid by those who endeavor to redefine frontiers in space. Nor let it dissuade us from the challenge, for surely all mankind benefits from the byproducts - but most importantly - from the intangibles of that quest.

- Professor John Schmalzel

Dean Dianne Dorland 2003 AIChE President

Dean of Engineering Dianne Dorland has earned another distinction. The American Institute of Chemical Engineers (AIChE) recently introduced Dean Dorland as president of the professional society for 2003. She is the first female to serve as leader of the 50,000-member organization

Dean Dorland has been a member of AIChE since 1969, and has served in other leadership positions over the years. She is currently on the Board of Directors and is a member of the Centennial Committee, planning the 100th anniversary of AIChE in 2008. She is also an AIChE Fellow.

During the AIChE annual meeting in Indianapolis this November, Dean Dorland was recognized for her ongoing dedication to excellence in chemical engineering education.

MEDIA WATCH

Television

Primetime Weekend (WPVI)

On February 8, Professor Shreekanth Mandayam, and ECE students Scott Papson, Francis Scazzuso and Justin Bram brought some renown to Rowan Engineering when they appeared in a segment about their work on the Natural Gas Pipeline Virtual Reality Project.

Journal

Chemical Engineering Education

Professor Robert Hesketh (ChE) was profiled as the journal's Featured Educator in the Winter 2003 issue.

Introducing...

Professor Ying (Gina) Tang

The newest member of the Rowan Engineering Faculty brings yet another perspective to the innovative engineering program. Professor Tang's research interests lie in Reconfigurable Manufacturing Systems. One of her areas of focus is the virtual production line design, to accommodate dynamic resource selections during manufacturing operations. De-manufacturing and disassembly of used/discarded products is another area of interest. She is introducing some of these concepts to Rowan students in a junior-senior clinic project.

Professor Tang (ECE) received B.S. and M.S. degrees from Northeastern University, China, in 1996 and 1998, respectively. After earning a Ph.D. from NJIT, Professor Tang relocated to Seattle, Washington to begin her teaching career. She and her husband are happy to be back on the east coast. Currently, she is member of IEEE and Sigma Xi, Technical Program Committee for the 2003 IEEE International Conference on Systems, Man & Cybernetics, and is Award Committee Chair for International Conference on Information Technology: Research and Education.

MATHCOUNTS

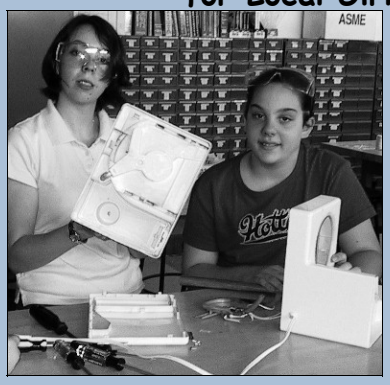
Nurturing Young Minds

This January, Rowan University hosted the annual MathCounts competition for students from 16 middle schools in the South Jersey region. The seventh and eight graders, armed with sharpened pencils, trooped into Rowan Hall. Engineering faculty and students stood ready to grade answers and give moral support. ECE Professor Peter Jansson has moderated this event for several years. He uses the opportunity to challenge the young students to apply themselves to math and science, and to keep an eye on areas of engineering that might interest them.

Students competed individually and as teams, testing their abilities against their peers from other schools in: a "sprint round" (a 40-minute problem-solving challenge for individuals), a team round (cooperative problem-solving) and a target round (testing individual students on math concepts). The top 10 students participated in a Jeopardy-like countdown round, complete with buzzers.

The MathCounts semi-finals were sponsored by the Professional Engineering Society of Southern New Jersey. Winners of this round will travel to Princeton University for the state championship.

Rowan SWE Engineers Some Fun for Local Girl Scouts



Friday Nights around Rowan Hall are full of giggles when the troops mingle with SWE. The troops are the Girls Scouts; their mentors are members of Rowan's student chapter of the Society of Women Engineers (SWE).

Throughout the year, local Girl Scouts partner with Rowan's female engineering students and faculty to work on the scout's engineering merit badge - and to have some engineering fun. Previous sessions gave the young ladies a chance to:

- Make their own all-natural lip gloss.
- Make a polymer ("goo" or "slime").
- Design and build a computerized bridge and test its strength.
- Conduct reverse engineering, dismantling appliances to see how they are constructed.
- Complete a circuit (such as a doorbell).

The New Jersey Epsilon Honor Society Induction

On February 4, Rowan Engineering inducted 16 students into the New Jersey Epsilon Honor Society. In order to qualify for membership, students must hold a position in the top fifth of the senior class or the top eighth of the junior class. The students must demonstrate exemplary character. Another requirement for membership is participation in a service project for the College.

The formation of the New Jersey Epsilon is the precursor to the establishment of a Tau Beta Pi chapter at Rowan University. Tau Beta Pi is the national honor society for engineering students. The organization requires that an honor society exist and operate under its policies and guidelines for two years before the formal establishment can occur. This was the second induction of Rowan students, bringing the engineering honor society closer to official status.

Alumni Corner

Special Invitation to Alumni

The College of Engineering is looking for "Alumni Ambassadors"
A special group of alumni who will help:

- Promote Rowan's engineering program.
- Recruit new students.
- Attract more employers.
- Improve networking opportunities among alumni.

Please contact Dr. Heidi L. Newell for details.

ENGINEERING By Design

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Associate Dean
Dr. Steven Chin
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