Enginuity

Summer 2008

Newsletter for
Kate Gleason College of Engineering Alumni

This has been yet another extraordinary year for the college; one filled with milestones and accomplishments. Student satisfaction with the quality of teaching within KGCOE is at an all-time high, and the demand in the marketplace for our graduates is outstanding. Looking back over the last several years, I am amazed by the extent to which the college has grown both in size and in stature. Over the last ten years, the number of FTE students has grown by over 45%. Among all private universities in the country, KGCOE now ranks among the top five in the number of BS graduates generated for our collection of disciplines. In 2006 (the most recent data from the American Society of Engineering Education is for 2006) , for example, KGCOE ranked second in the number of BS degrees in computer engineering, fourth in electrical engineering, fifth in mechanical engineering, and eighth in industrial engineering (tied with RPI). The most rapid growth percentage-wise has been in Industrial & Systems Engineering, where the undergraduate headcount has increased by 65% over the last four years. When one considers the high quality, the practical orientation, and the sheer volume of students that KGCOE graduates each year, it is no wonder that so many companies have put RIT on their short list for recruiting engineers.

I am also very proud of the recent successes of KGCOE faculty and staff in growing the number and diversity of research activities within the college. These research activities provide unique opportunities for our students to "learn by doing" and provide a mechanism

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IMAGINE RIT

INNOVATION + CREATIVITY FESTIVAL

On May 3, 2008, RIT unveiled its first Innovation and Creativity Festival – Imagine RIT. The Festival was a resounding success and visitors enjoyed amazing sights, sounds, and activities presented all over the campus.

KGCOE students and faculty met President Destler's challenge to "wow" visitors and presented interactive exhibits, lab tours, presentations, and talks for people of all ages and backgrounds to enjoy.

Several KGCOE exhibits won awards for creativity and innovation. Impact Technologies chose Dr. Risa Robinson's Smoking Machine and Dr. Robert Stevens's Generating Electrical Power from Waste Heat. ITT awarded Dr. Dorin Patru's Project METEOR, and Performance Technologies chose Implementation of Elliptical Curve Scalar Multiplication of Hybrid FPGAs – a senior design project guided by Dr. Marcin Lukowiak.

On this same day the 8th IEEE Student Design Contest took place. This annual competition attracts teams

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2007 KGCOE Distinguished Alum, Bart Guerreri

In the spring of 2007 Bart Guerreri was named the KGCOE 2007 Distinguished Alum - a well deserved honor for a very accomplished man. The following brief biography will demonstrate why he is so deserving of this award.

Upon graduation in 1967 with his BS degree in Mechanical Engineering, Bart went to work for Raytheon Company in Massachusetts, where he excelled as a design engineer and program manager for 13 years. He also worked at IBM's research laboratories in East Fishkill and Yorktown Heights, New York, on the advanced logic units for the IBM Mainframe computers.

Although both stimulating and rewarding, these jobs fell well short of satisfying Bart's entrepreneurial spirit. Therefore, it was inevitable that Bart would strike out on his own, founding DSD Laboratories in 1978. For three years, Bart was the only employee, designing interface systems for sensors, radars and satellites for integration into custom designed digital systems and displays systems for Command and Control of the War fighter, including aircraft and ground based command centers.

As his company began to grow, Bart was busy creating new products as well as writing and publishing articles. In particular, in late 1982 Bart began to develop a broadband Local Area Network system that would allow dissimilar computers to communicate. To keep DSD Labs focused on the projects at hand, Bart started another company called Link Telecommunications, which was devoted exclusively to the development of LINKNET, which became a multi channel system capable of simultaneous data, voice and video transmission. This product became so successful that it was adopted by both the Department of Defense and the US House of Representatives as the standard for their communication backbone.

Over the past 25 years, Bart has continued to create and innovate, launching a variety of corporate ventures along the way. Some have succeeded while others have floundered, but Bart is quick to say that, through it all, he has learned some invaluable lessons. One such lesson is that entrepreneurs and venture capitalists see the world in entirely different ways. However, no matter which world you might find yourself in Bart Says,"you are only as good as your word and your handshake."

Today, Bart is the leader of two companies: DSD Labs has become one of the most successful and well respected IT firms in the nation, specializing in domain engineering, security engineering, systems engineering and program management. Bart's other company is Backbone Security, which specializes in all aspects of computer security, garnered national notice for its efforts during the hours following the September 11th attack, responding to the FBI's critical need for a cyber network with secure links from its intelligence sources to the Hoover Building in Washington DC.

Bart addressed the KGCOE class of 2007 and had these words of wisdom to share.

What has worked for me can be summed up in two words, passion and persistence. Life is very exciting when your work is your play. If there is anyone of you that thinks you are not going to have setbacks in your professional career, you should rethink that philosophy. Never go against your instincts and never sacrifice integrity.

Britta MacIntosh, 2008 KGCOE Distinguished Alum

Britta graduated with a degree in Mechanical Engineering in 1989. Since that time, she has amassed an impressive record of accomplishments – and has demonstrated exceptional leadership ability in the field of energy systems and services as an engineer, project leader and senior-level manager.

Britta began her career as a design engineer for a consulting firm in Boston, where she learned a lot about commercial heating and ventilation systems and also found the time to earn an MS degree in Mechanical Engineering on a part-time basis at Northeastern University.

In 1991, Britta accepted a position as project engineer and manager at Select Energy Services, Inc. In her 13 years there, Britta's career truly flourished as she quickly established herself as a first-class project manager and leader, demonstrating a special ability to hire, train and motivate sales and engineering teams.

Milestones while at Select Energy Services included promotion to Manager of Design and Construction in 1997 and her appointment as Director of Business Development in 2001. Under her leadership, she closed over $270 million dollars in project bookings from 2001 to 2004, fueling unprecedented growth of nearly 200% in that three year period.

In 2004, Britta accepted the position of Vice President of Federal Programs at Sempra Energy Services where she was in charge of setting the company's direction and strategy to secure business in the Federal marketplace. In 2006, Britta advanced to her current position as Vice President of Business Development at NORESCO, the nation's premier energy service company, specializing in customer-driven energy solutions. As VP for Business Development, Britta directs sales and development staff to win, negotiate, and execute performance contracts in the Federal and Public Housing markets, with a focus on renewable energy projects.

Britta is a licensed Professional Engineer in five New England states, an avid cyclist and triathlete, a frequent speaker and moderator at energy and engineering conferences, and an active member of the Mechanical Engineering Department's Industry Advisory Board. She lives in Hopkinton, Massachusetts with her daughters, Caelin and Rachel.

Britta had this to say to the class of 2008,:

> *Make sure you love what you do. Be prepared for unexpected career changes by getting involved in your professional society, making contacts and staying in touch with them, volunteering for the tough assignments, and taking the initiative that will get you noticed. Give yourself time for other interests too. And finally, she urged everyone to think green!*

Bob Snyder, COS Distinguished Alum, 1983, and 2007 Volunteer of the Year, enjoys breakfast with his wife, Norma, before Imagine RIT. Bob taught in the ME department for 34 years! Bob is still very involved with RIT and can be found on campus many days throughout the year helping out with so many projects and events.

KGCOE Events at this Year's Brick City Homecoming

This year we celebrate 40 years on this campus. RIT has grown tremendously since those first few building were erected on this site. If you haven't been back in a while, you will be amazed at the expansion and the aesthetics of the campus now. **This is also the 10th anniversary of the naming of the college after Kate Gleason and the 25th anniversary of the establishment of the Center for Quality and Applied Statistics.**

So, make your plans now for a visit with something for everyone in the family planned for you to enjoy!
The Brick City Homecoming website will be live around the end of July and will provide you with all of the plans throughout RIT over the weekend. Go to: www2.rit.edu/brickcity/. Here is what KGCOE has planned for Saturday, October 11.

KGCOE College Reception 10-11 AM Erdle Commons (first floor)
Enjoy some refreshments while hearing what's new at KGCOE from Dean Harvey Palmer. Register to win and RIT Spirit Package! All are welcome.

Exhibits & Explorations

Globalization of Engineering Innovation 11:15AM-12:30PM Xerox Auditorium (09/2580)
Opening remarks by Dean Harvey Palmer. Invited panelists discuss the challenges and opportunities presented by globalization.

TEAK Project 11 AM-1 PM 09/2159
A hands-on engineering experience for middle school children – a program developed by our own engineering students.

Smoking Machine 11AM-1 PM 09/2180
See a machine that measures carcinogen deposits in a model respiratory.

KGCOE Hospitality Room 11 AM-3 PM Kelly Conference Room (09/2255)
Meet up with fellow alumni, leave notes for engineering friends on our Message Board, and enjoy beverages and snacks in our College of Engineering Hospitality Room. Maybe you'll see your favorite professor there!

Industrial & Systems Engineering Golf Tournament 1 PM
Riverton Golf Club, West Henrietta, NY. Contact Jacqueline Mozrall at jrmeie@rit.edu.

Scenes from BCH 2007

President Destler contemplates a ride on the Human Powered Vehicle!

Robots on parade at the KGCOE College Reception.

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of senior students from all over the United States and Canada. This year, two Microelectronic Engineering students, Andrew Wagner and Patrick Whiting (advisor Professor Davide. Mariotti), received the “Most Innovative Project Award,” confirming that Kate Gleason College of Engineering is a nest of innovative thinkers. In other words, President Drestler’s innovation dream is in fact a reality! The research conducted by Dr. Mariotti and his students will allow fabrication of devices and nanostructures at very low cost and has already attracted external funding.

From left to right: Mark Redding, President of Impact Technologies (Computer Science 1986), Jim Dzakowic (Mechanical Engineering 2002), Carl Palmer, Mark Baybutt (Computer Engineering 2007), Patrick Kalgren

The real winners for the day were the visitors as they saw things like: robots swarming a perceived threat – kids walking on water – robotic firefighters – a virtual fuel cell system – a wireless heartbeat monitor – how technology is making electronics smaller and smaller – how creativity is used to engage young women in engineering – an automated Internet-enabled home medication dispenser – and so much more.

Many thanks to Impact Technologies for their continued support to RIT and the Kate Gleason College of Engineering. Impact's underwriting for all KGCOE exhibits and interactive displays helped make the day an unqualified success.

Impact currently employs 52 alumni and co-op students from RIT, and is presently involved in some collaborative research work with Dr. Lynn Fuller, RIT professor of Microelectronic Engineering. They are researching the design and fabrication of Microelectromechanical systems (MEMS) based sensors for assessing the quality of oil.

Dr. Steven Day and his students kept kids of all ages entertained as they learned about some unique properties of combining water and corn starch. And they actually walked on water!

Amazing robots in the "WOW Center!"

Dean's Alumni Speaker Series Grows in Popularity with Students

In its second year, the Dean's Alumni Speaker Series once again garnered large enthusiastic audiences of faculty, students, alumni and staff from across the campus and the Greater Rochester region. Our alums shared their experiences and insights with considerable humor and imagination. Questions from the audience rounded out the presentations with discussions often continuing afterwards as students enjoyed pizza provided by KGCOE's Development and Alumni Relations team. The 2007-2008 presenters and their topics are listed below. We will post this coming year's speakers on our web site under news and events as soon as information is available. All alums are invited to attend these talks as well.

Raymond V. Malpocher, ME '70
Former CEO of Telex Communications
What it Takes to be a Successful CEO in Today's Equity Market

Victor Del Rosso, ME
President & CEO, Hi-Speed Checkweigher Co., Inc. (Mettler-Toledo) Retired
Building a Company – Spawning an Industry

Richard Vattimo, ISE
Vice President, Applications Services IBM Global Business Services Division
The Engineer as a Global Consultant

Mary Lynn Vickers, CQAS
Founder & Owner, The Phantom Chef Personal Chef Service
Becoming the CEO of Your Life – Creating Your Preferred Future

Douglas C. Pileri, CE '81
Vice President, IBM Global Services
How to Outwit your Global Future

If you would like to speak at next year's series or into the future, please contact Jasmine Seavey in our Alumni Relations Office at 585-475-5045 or email her at jasdar@rit.edu.

Doug Pileri engaged students with his talk about working in today's global climate

Mary Lynn Vickers talks with Kenya Athill, 5th year electrical engineering student

We are pleased to announce the addition of a new staff member, Jasmine A. Seavey, as the assistant director of development and alumni relations for KGCOE. Jasmine, who joined the Development and Alumni relations staff this past winter, will be working to strengthen alumni ties with KGCOE by providing opportunities to reconnect with faculty, fellow alumni, and the College.

Originally from Canton, NY, Jasmine joins us from St. Lawrence University where she gained experience in both the development and alumni relations fields. Jasmine holds a bachelor's degree in Public Relations from Utica College.

She would be delighted to hear from you about things the College can do for you as alumni. Contact Jasmine at 585-475-5045 or Jasmine.Seavey@rit.edu.

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to build stronger relationships with many of our industry partners. Research also is a primary way that faculty engage in lifelong learning, which can pay huge dividends for the students in the classroom. Finally, the outcomes of these research activities help build national visibility and recognition for the college. The primary source of funding for these research activities comes from government and industry, and I am pleased to say that the college has had another banner year in this regard. For the second year in a row, KGCOE faculty and staff were awarded over $4 million in external grants and contracts. This is a dramatic shift from the late 1990s, when the college averaged about $300,000 of external funding per year.

In previous newsletters you have learned a bit about WE@RIT, the women in engineering (faculty, staff and students) who are responsible for a comprehensive set of programs that not only support the recruitment and retention of women in the college but also reach out to the community to encourage young women, grades 4-12, to pursue engineering as a career. The impact of this program continues to grow. Last year, over 2000 young women participated in some WE@RIT activity. Furthermore, WE@RIT program received substantial national recognition this past spring. At the WEPAN National Conference (for Women in Engineering Pro-Active Network) in June, WE@RIT received the 2008 Women in Engineering Initiative Award. The importance of this WEPAN conference was reflected in the fact that 80 IBM engineers were in attendance. Secondly, Professor Margaret Bailey, Kate Gleason Endowed Chair and the Executive Director of WE@RIT, received the 2008 Maria Mitchell Association Women in Science Award, an honor bestowed on only one person in the nation each year. In the award letter, Margaret is praised for the extraordinary quality of the WE@RIT program and for her exceptional vision and leadership for the program. Additionally, the college is celebrating its best recruiting season in its history, due in large measure to the quality of the WE@RIT program and the extraordinary efforts of KGCOE women faculty, staff and students. In September, the college will welcome 102 women in the entering class of freshmen, over 19% of the class and a 43% increase over last year.

Other notable events for KGCOE this past year include the completion of a proposal to launch a BS degree program in chemical engineering. A distinguishing feature of this program will be the emphasis placed on tying together phenomena at the nano-scale with the behavior of systems at the macro-scale. While chemical engineers have always excelled at analyzing and designing processes with multiple length scales, modern chemical engineering applications require this knowledge to be extended to the nano-scale, and our program is designed to address this emerging need. A companion proposal for a BS degree in biomedical systems engineering is in preparation this summer. Collectively, these programs will significantly enhance the college's ability to address a broad range of technological challenges that face society today.

Finally, this past June, President Destler signed an agreement with high-ranking officials from Dubai and the royal family to open a new campus in this center of rapid economic development. KGCOE will be playing a major role in the development and growth of this new initiative. This new campus, called RIT Dubai, will be a part of Dubai Silicon Oasis, a high tech park and living community under development for an estimated 150,000 residents. Initial offerings will focus on part-time graduate students in electrical and mechanical engineering, finance, human resource development, networking and systems administration, and service leadership and innovation. By 2009, an increasingly diverse set of graduate offerings will expand to meet the needs of both full-time and part-time students as a full-fledged campus is being constructed. By 2010, RIT Dubai will begin to offer undergraduate programs to full-time students.

2008 Order of the Engineer inductees We are seeing more participation in organizations such as this every year.

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If you have an idea for a story or a feature that you would like to see in this publication, please contact Karen Ester at kmeeee@rit.edu or 585-475-7135.

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