

# VCU Engineering

2008-2009

ANNUAL REPORT



*Ahead of the Curve*

V i r g i n i a   C o m m o n w e a l t h   U n i v e r s i t y

VCU School of Engineering  
2008-2009 Annual Report

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FROM THE DEAN  
VCU School of Engineering



# Results

## Where we started

The School of Engineering was opened in 1996. It continues to be a remarkable example of the transformative power of public-private partnerships. The School initially had four departments: Mechanical, Biomedical, Electrical and Computer, and Chemical and Life Science Engineering. Computer Science was transferred to Engineering from the College of Humanities and Sciences in 2001. Each of these departments offers the BS, MS, and PhD degrees. The School initially occupied, and continues to use, a \$32 million building built entirely with private funding provided by the Engineering Foundation. The first class graduated in 2000. The School occupied a second building, shared with the School of Business, in 2008. The Engineering portion of this building was also privately funded by the Foundation. The School now occupies more than 300,000 square feet of the very highest quality classroom and laboratory space.

## Where we are

The faculty numbers 51, almost entirely tenured or tenure track. The School enrolled more than 1200 undergraduate and 230 graduate students in 2008, an increase of 20% in three years. We project an additional 5% increase for 2009. The average freshman SAT score for this years entering class is 1236, up from 1173 three years ago. This is still below the 1290 average freshmen SAT score for Virginia Tech, our principal competitor. Our freshman-to-sophomore retention rate last year was 81%, among the highest for U.S. schools of engineering.

In 2007 the School partnered with Business and the Arts to create the VCU da Vinci Center, a place where students learn to develop innovative products in an interdisciplinary team environment. The School is currently working with the School of Medicine and VCU

Life Sciences to develop the VCU Institute for Engineering and Medicine to be housed in the recently completed laboratory addition to the School. We have also successfully partnered with the College of Humanities and Sciences to establish a \$3.5 million Center for Nanomaterials Characterization to serve faculty and students in engineering, chemistry, physics, and medicine.

## Where we are going

The School has two objectives:

- Grow research expenditures per faculty member;
- Grow faculty enrollment without compromise of quality.

And two themes:

- Engineering with Business and the Arts for undergraduate education;
- Engineering with Medicine and VCU Life Sciences for research and graduate education.

Our goal is to be nationally recognized for creating a new, interdisciplinary approach to educating engineering students for success in a global economy; and for the translation of our research into clinical devices and systems that lower the cost of healthcare.

We are pursuing a “blue ocean” strategy to accomplish these goals. That is, we are moving to be where others aren’t and working in that space to establish a distinctive, competitive position. We are developing an innovative model of engineering education and research that will attract the best students, the best faculty, and the best employers. We intend for VCU to be the national model for innovation in engineering education and research.

—Russell D. Jamison, PhD

# Flash Back. Fast Forward.

## A BRIEF SUMMARY OF HISTORY IN THE MAKING



◆ **1993**

"A Strategic Plan for the Future of VCU" approved by Board of Visitors

◆ **1994**

Consultants support the idea of creating a school of engineering at VCU

Henry A. McGee, Jr. appointed Founding Dean

◆ **1995**

VCU School of Engineering Foundation is established

State Council of Higher Education for Virginia (SCHEV) approves B.S. programs in Mechanical Engineering, Electrical and Computer Engineering, and Chemical Engineering

◆ **1996**

School of Engineering opens with a freshman class of 100 students

◆ **1997**

Foundation raises \$35 million to fund a new building, scholarships, chairs, and operating support

Construction begins on West Hall, located at 601 West Main Street

◆ **1998**

SCHEV approved B.S. program in Biomedical Engineering

West Hall completed and dedicated on November 10

◆ **1999**

Robert J. Mattauch succeeds Henry McGee as second Dean on July 1

◆ **2000**

Founding Class graduates in May

SCHEV approves M.S. and Ph.D. graduate programs in Engineering

◆ **2001**

Computer Science becomes part of the School of Engineering

Accreditation Board for Engineering and Technology (ABET) accredits programs in Mechanical Engineering, Electrical and Computer Engineering, and Chemical Engineering, retroactive to Class of 2000

◆ **2003**

Undergraduate enrollment reaches 991

Microelectronics Center named for Ken and Dianne Wright

ABET accredits Computer Science

- ◆ **2004**  
 ABET accredits Biomedical Engineering  
  
 SCHEV approves B.S. degree in Computer Engineering
- ◆ **2005**  
 Undergraduate enrollment reaches 1009  
  
 Chemical Engineering renamed Chemical and Life Science Engineering  
  
 Construction begins on East Hall in November  
  
 VCU team wins Microsoft's Imagine Cup National Competition and places 13th in the World Competition
- ◆ **2006**  
 Design for Health and Life Sciences Engineering facility begins  
  
 Russell D. Jamison succeeds Bob Mattauch as third Dean on July 1  
  
 ABET accredits Computer Engineering

- ◆ **2007**  
 VCU mourns the sudden death of Associate Dean Bart Cregger in March  
  
 Foundation concludes a second campaign with more than \$65 million raised to fund expansion as part of the Monroe Park Campus Addition, scholarships, chairs, and professorships  
  
 SCHEV approves M.S. degree program in Nuclear Engineering Program
- ◆ **2008**  
 Biomedical Engineering, Computer Science, and Mechanical Engineering move into East Hall  
  
 Undergraduate enrollment reaches 1195  
  
 SCHEV approves B.S. degree program in Nuclear Engineering Program  
  
 East Hall dedicated on April 9  
  
 School of Engineering partners with School of the Arts and the School of Business to establish the da Vinci Center for Innovation in Product Design and Development
- ◆ **2009**  
 Health and Life Sciences Engineering facility completed in March  
  
 Dr. Eugene P. Trani retires as President on VCU on June 30
- ◆ **2010**  
 Projected undergraduate enrollment 1350  
  
 Establish Institute for Engineering and Medicine  
  
 Hire Senior Associate Dean for Research



## Our Three Deans

Pictured above, from left to right, are Henry A. McGee, Jr., Founding Dean; Robert J. Mattauch, Dean from 1999 – 2006, and Russell D. Jamison, current Dean. The continuity of strong leadership has enabled the VCU School of Engineering to thrive. Enrollment has grown from 100 undergraduate students in 1996 to more than 1400 undergraduate and graduate students in 2008.





# Catching up with **Bob Mattauch**

**W**hen it first opened its doors in 1996, the Virginia Commonwealth University School of Engineering was a fledgling program, offering undergraduate degree programs in mechanical, electrical and chemical engineering along with existing graduate programs in the field of biomedical engineering.

Since then, it has expanded to include graduate programs in the original areas, an undergraduate degree program in biomedical engineering along with both undergraduate and graduate programs in computer science. The school has formed strong alliances with the VCU School of Business and the School of the Arts resulting in the da Vinci Center for Innovation in Product Design and Development, where students from the three disciplines collaborate on product development. The school has also made alliances with the School of Medicine. The VCU School of Engineering also has a chapter of Tau Beta Pi, the only national honor society for engineering. It is the engineering equivalent of Phi Beta Kappa for arts and, like that organization, offers admission to undergraduates at the very top of their class and of exceptional character.

The evolution of the school has been guided by Dean Russ Jamison, Ph.D., former Dean Bob Mattauch, Ph.D., and founding Dean Henry McGee, Ph.D. The two former deans have maintained a keen interest in the school and the field of engineering since their respective retirements.

McGee (PhD Georgia Tech, 1955) came to VCU in early 1994 after a 20-year stint on the faculty at

Virginia Tech, including 10 years as chair of the Department of Chemical Engineering. McGee says he's still grateful for the opportunity then-President Eugene P. Trani, gave him when he was named Founding Dean of the new school.

"I owe a great debt of gratitude to Dr. Trani who gave me this opportunity," he says. "It certainly was the most exciting and rewarding job that I have had in my entire career."

One of his biggest challenges was finding a notable niche that VCU would fill in the world of over 100 engineering schools across the country, he says. He did not want to model the school on any existing program but was interested in finding and emphasizing the unique strengths that could be created and offered by the new School of Engineering at VCU.

"In today's world of engineering it's not enough to be an excellent mechanical or chemical engineer. You've got to somehow be more, and the bridges that have been developed here to link engineering to business and the arts on the one hand and to medicine on the other hand are excellent and notable linkages that would be hard to match at any other university," McGee says.

McGee retired in 1999 and lives in Richmond with his wife, Betty Rose. He has worked steadily to promote interest in engineering in the Richmond area. In 2005, McGee published a book documenting the founding and early history of the engineering school, "Ab Initio," from the Latin meaning "from the

# and Henry McGee

beginning”. “The funny sounding title was inspired by my professional work in theoretical chemistry, where one does chemistry with mathematics and computers, rather than test tubes and bottles. If you pursue this mathematical structure from first principles it’s called an ‘ab initio technique’. Hence the book title. I believe it fits what we did here,” McGee says.

In addition, McGee serves as assistant to the dean of engineering at J. Sargeant Reynolds Community College in Richmond, where he works to enhance and improve that program. Through J. Sargeant Reynolds, McGee has been collaborating with the Powhatan County Public School System to organize events and programs to introduce young people to careers in science, technology, engineering and mathematics — known as STEM areas of study. McGee also serves on the Board of Directors of the MathScienceInnovation Center, a joint program of all Richmond-area school systems to enhance education in STEM areas for K-12 students from across the metro area.

“That’s an important age to try and excite youngsters about engineering,” McGee says. “I am very much enjoying that kind of opportunity.”

McGee participates in the Richmond Joint Engineers Council and is a past president of the Georgia Tech Alumni Club of Richmond, where he helps to interview freshmen from the Richmond area who are entering his alma mater and who are semi-finalists for so-called President’s Scholarships. A couple of years ago, an outstanding young lady from Henrico County received one of these scholarships that awarded her

\$10,000 per year for all four years. McGee is also a deacon at River Road Church, Baptist where he teaches an adult Sunday school class that examines controversial topics at the interface between religion, science, and society.

The successor to McGee was Dean Bob Mattauch, a native of Pittsburgh and alumnus of Carnegie Mellon University (PhD, NC State, 1967) who served as dean from 1999 to 2006. He came to VCU from UVA in late 1995 as the School’s first teaching faculty member and founding chair of the Department of Electrical Engineering (now Electrical and Computer Engineering.) Mattauch had served on the faculty of the UVA Department of Electrical Engineering for 30 years, was initiator of semiconductor device and microelectronics research in the state of Virginia and was founder of UVA’s Semiconductor Device Laboratory.

For Mattauch, the challenges of his tenure as dean involved achieving accreditation of all degree programs within the School of Engineering, developing a graduate program, and growing the School’s enrollment from the initial 107 students to nearly 1000. An important challenge for Mattauch with the newly formed school, especially without a building, classrooms, or laboratories of its own was to build camaraderie among the students.

“We had to build a sense of community so that they knew they weren’t just hanging out there in a nebulous nothing,” he says. “We developed an esprit de corps very quickly,” meeting before and after class initially in the Bruger’s Bagel shop.

—continued



—**Bob Mattauch and Henry McGee, continued from page 5**

Through his efforts at creating this family atmosphere, Mattauch earned a nickname from the students: “Bagel Bob.” Mattauch would serve bagels and cream cheese to engineering students on Friday mornings. As the students lined up for their bagels, Mattauch would shake their hands and introduce himself. He became so well known for his Friday morning bagels that, upon his retirement, representatives of graduates and the student body presented him with a bronzed bagel on a plaque, which now hangs on the wall of his office in the West Hall of the School of Engineering.

Mattauch, a member of Tau Beta Pi, is also proud to have started a chapter of the honor society at the VCU School of Engineering.

He reports that when the VCU chapter, Virginia Epsilon, was installed, the national executive director, James Froula, said, “Congratulations VCU, you did in three years what it takes most universities 20 years to do.”

Since stepping down as dean, Mattauch has taught courses, remains active in research in his area of specialization and has been spending much more of his time with his wife and their five grandchildren. He is a civilian employee for the Army as a subject matter expert and enjoys his hobby of watercolors. He and his wife then use his art to create personalized greeting cards. Mattauch says that his interest in art relates to his history in engineering, as both are creative processes.

Dr. Mattauch points out that there is a marked difference between engineering and science, and is fond of the quote “Scientists explore what is; engineers create what has never been” of Ted von Karman, founder of the Jet Propulsion Laboratory.

He states, “What engineers do is profoundly creative — they design according to constraint. We to accomplish a specific task and the system that does that has to fit in a certain size, weigh a certain amount and consume not more than a given amount of energy, etc.”

He remains involved with the School of Engineering through his strong connections with students and his continued involvement as Chief Advisor to the Virginia Epsilon chapter of Tau Beta Pi.

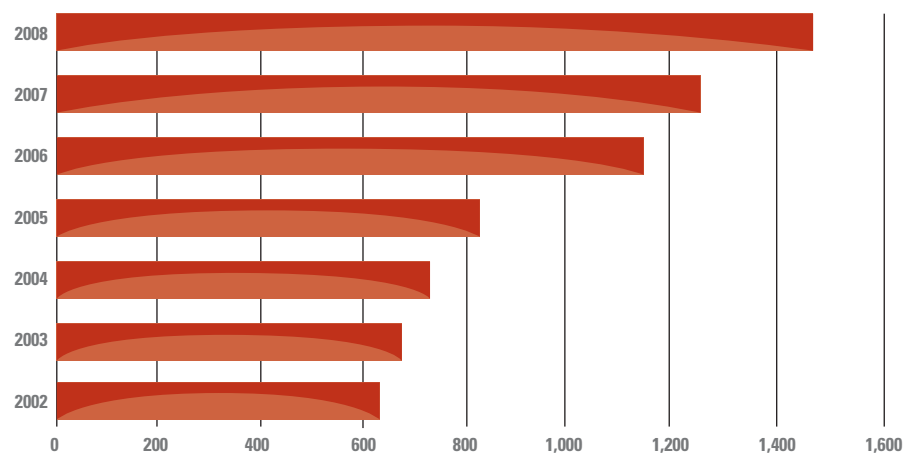
# Strength in Numbers

## From applications to SAT scores, the admissions picture remains in focus

College admissions is a highly competitive business. And for engineering schools, the competition has become extremely intense. Nationally, applications to engineering schools have been declining for the past several years. However, applications to the VCU School of Engineering are on the rise. What’s more, the School continues to attract a bright, accomplished, and increasingly diverse student body.

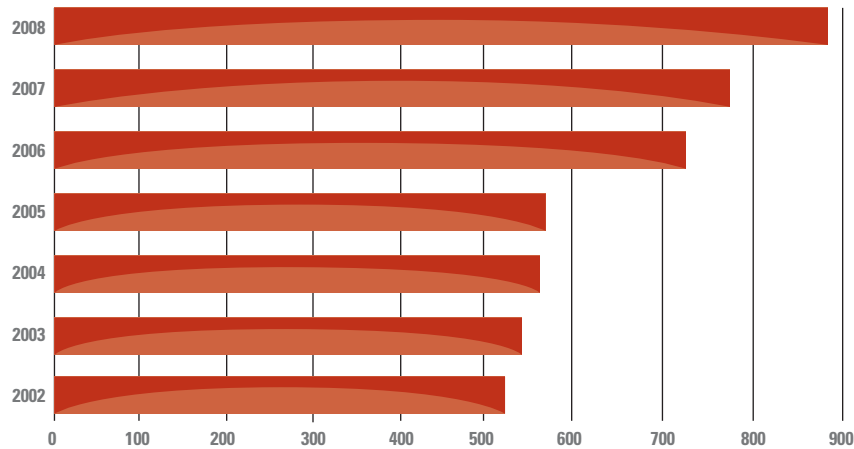
According to Anita Hazel Taylor, director of recruitment services, “Competition for the best and brightest engineering students is fierce because the applicant pool is declining. We must be more aggressive and creative in our recruitment efforts and never lose that personal touch, which has become a hallmark of our program.”

FIRST-TIME FRESHMAN APPLICATIONS

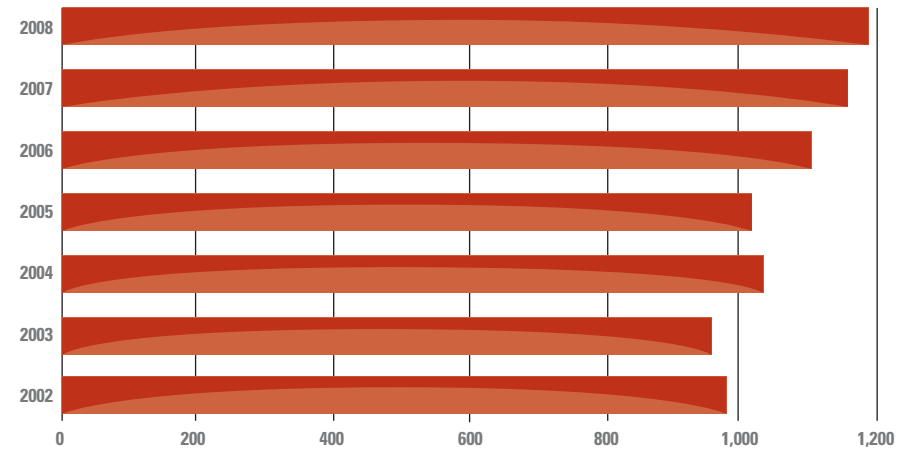




## ACCEPTANCES



## UNDERGRADUATE ENROLLMENTS



The School of Engineering participated in 12 outreach events this year and captured information from 763 prospective students. These events included college fairs, a booth at the Virginia State Fair, and several special programs for middle school students.

“We must reach out to middle school students and get them excited about engineering,” said Taylor. “If we wait until a student reaches high school, it may be too late to pique his or her interest in engineering.”

In addition to the outreach events, the Recruitment Services Office hosted 15 group visits from middle and high schools this year. More than 380 prospective students met Dean Jamison and other faculty members, toured the school, participated in hands-on engineering activities in the labs, and received packets of information about the school.

A record 640 prospective students and their families scheduled individual visits to the School of Engineering

this year. Of this group, 67 prospective students attended a class with a School of Engineering student ambassador.

Applications for admission to the VCU School of Engineering have more than doubled during the past 5 years, jumping from 738 in 2004 to 1482 in 2008. Perhaps more important, the quality of the applicant pool has also increased. The SAT score is a predictor of a student’s projected success in college and is one of the key criteria for admission decisions.

### Visiting Groups in 2008-09

|   |  |
|---|--|
| High Tech Academy                       | Cosby High School                      |
| St. Catherine’s School                  | Girl Scouts                            |
| Richmond Technical Center               | St. Gertrude’s High School             |
| Cox High School                         | Atlee High School                      |
| Benjamin Banneker Academic High School  | Patrick Henry High School              |
| School Without Walls (Washington, D.C.) | SVCC Summer Regional Governor’s School |
| McKinley Technology High School         | IC Norcom High School                  |
|   | Powhatan High School                   |



# Solid Footing

## Foundation reports financial stability and strength

Dear Friends:

The entire faculty and staff of the School of Engineering under the leadership of Dean Jamison, have successfully navigated through many challenges over the past year without losing focus on our primary objective of building an engineering program that creates value for our students and research partners. We continue to rapidly grow enrollment, expand our research base and enhance the value of a VCU Engineering across many fronts. As President of our Foundation, I am pleased to report that our Trustees remain firmly committed to ensure the School of Engineering is positioned to support future growth and to assist in positioning the program to ensure our students are well equipped to capture the opportunities that are part of our ever-changing global economy.

The Foundation plays a key role in the continued success of the school and provides financial support for facilities, scholarships, professorships, chairs, and programs. Because the cost of higher education has become increasingly difficult for many families, the Foundation strives to provide more scholarship funding for our students.

The School of Engineering is in the early planning stages for its next comprehensive capital campaign. The focus of this effort will be people and programs. The top priority is significantly increasing funding for scholarships. During the months ahead, the Foundation Trustees will be working closely with Dean Jamison to build our endowment and add resources to support the program.

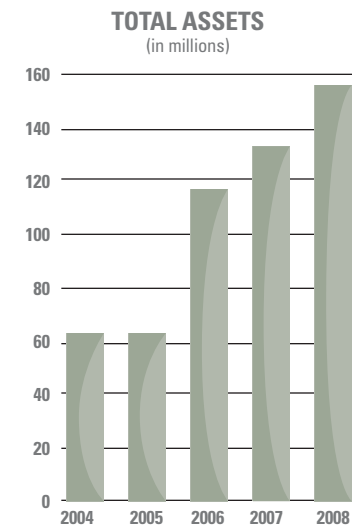
I want to personally thank the hundreds of individuals, corporations, philanthropic organizations and others who provide the critical financial resources that are essential to our continued success.

**Paul F. Rocheleau**

*President, VCU School of Engineering Foundation*

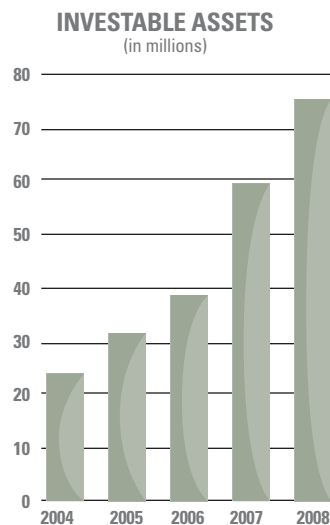
The VCU School of Engineering Foundation was founded in May 1995 and is organized exclusively for educational, scientific and charitable purposes. Within this charter, the Foundation provides guidance and financial support to the School of Engineering. Since its inception, the School of Engineering Foundation has raised more than \$100 million in cash, gifts and pledges; funded the construction of the School's two academic buildings, provided funding for endowments that support scholarships, professorships and chairs, and the trustees have spent countless hours in working with the University to build a program that has enriched the lives of over 1200 students over 13 years. The support for the VCU School of Engineering is nothing short of extraordinary!

One of the overarching goals of the Foundation is to build sustainable financial resources that can support the aspirations of the School even through economic stress and



changing State support for higher education. The Foundation has provided most of the facilities that houses the Engineering program and over time we project the endowment will be able to provide even greater financial support to our students and faculty.

Our endowment is managed by a committee of our Trustees. Since 2001, we have achieved portfolio returns in excess of 10% compounded annually, even including a drop over the past year. The Foundation endowment ended fiscal 2009 in a solid financial position, we are invested to create future value and to meet support the School through this challenging economic climate. On June 30, 2009, the value of the Foundation's endowment stood at \$68 million and total assets (including real estate) reached \$134,088,531 million.



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**2008-09  
Honor Roll of Donors  
is a testament  
to commitment**

Dear Friends:

The VCU School of Engineering Foundation is fortunate to receive generous financial support from alumni, parents, faculty, staff, trustees, corporations, foundations, and other friends. Last year more than \$8.6 million was contributed by a record 327 donors. This is a significant increase over the \$7.6 million that was contributed in the previous year.

The corporate community continues to be among the School's most loyal supporters. Special emphasis was placed on raising funds for the Senior Design Expo, and as a result, a record \$50,000 was donated to this annual program.

Raising critical support for scholarships was another focus of the Foundation's fund raising efforts. Several new scholarships were established this year to benefit students of the School, including the Prestwold Scholarship for Engineering Excellence and the Eugene P. Trani Leadership Scholarship established by founding trustee Robert C. Williams and his wife, Barbara.

Parent and alumni support continues to be strong despite the difficult economy. We look forward to awarding two new Parents Awards for Research and Teaching Excellence stipends during Family Day in October. Special mention goes to the Class of 2009 for setting a new senior class gift record, raising over \$1,700 from their classmates.

The Foundation is pleased to acknowledge those who have helped the School of Engineering achieve its success. The names of the donors who made gifts during the 2009 fiscal year are listed on the pages that follow. Every effort has been made to ensure the accuracy of this list. If your name is omitted, misspelled, or not listed appropriately, please contact the Foundation Office, (804) 828-2909.

Thank you for your continued support.

Sincerely,

Hugh A. Joyce  
*Chair, Advancement Committee*

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## Class of 2009 Sets New Class Giving Record

The Class of 2009 set a new record in senior class giving, raising over \$1,700 for the School of Engineering. Over 45% of the class participated in the Senior Class campaign, which supports a student emergency endowment. These funds benefit future generations of engineering students who may require financial assistance during unforeseen emergency situations.

The campaign was led by a Senior Gift Leadership Committee comprised of students from each of the School's departments. The committee reached out to students, parents, and members of the faculty to support the cause receiving gifts from 93 donors. The Class of 2009 celebrated their success at the Senior Class Reception at the State Capitol Rotunda last November.

An important tradition at VCU Engineering, the senior class campaign provides an opportunity for senior classes to leave their mark on VCU Engineering and share their legacy with future generations of engineering students.

### 2009 Senior Gift Leadership Committee

Tayloria Adams, ChE  
Akeem Baker, CS  
Hersch Bhatia, BME  
Juan Cabungcal, ME  
Roshan George, BME

Audrey Le, BME  
Maria Marundan, ME  
Skylar Roebuck, CpE  
Keya Wang, EE  
Cassandra Woodcock, BME

*The Class of 2010 Senior Class Campaign is currently underway. The goal is to raise \$2,010 for the student emergency endowment with gifts from 100% of the class.*

*“The Senior Class Campaign enables students like me, who may not have much of a financial safety net, to know that they’ve got help should something drastic arise. This campaign further strengthens the bonds of friendship and companionship that are already present in the School of Engineering – bonds that make it such a great community to be a part of.”*

– SKYLAR ROEBUCK, CpE

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— RUSSELL D. JAMISON, Ph.D.  
DEAN, SCHOOL OF ENGINEERING

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Dr. Hu Yang



# Transforming Lives

## Scholarships provide opportunity and access

### ■ VCU School of Engineering Scholarships Recognize Former President Eugene P. Trani

Robert C. Williams, a founding trustee emeritus of the Virginia Commonwealth University School of Engineering, and his wife, Barbara, have established the Eugene P. Trani Leadership Scholarships at the School of Engineering.

The scholarships recognize Dr. Trani's extraordinary contribution to the school during his 19-year term as president of the university and the key role he played in creating the School of Engineering. Dr. Trani retired as president of VCU and CEO of the VCU Health System on June 30.

Two full scholarships, one for an in-state student and one for an out-of-state student, will be funded annually at the VCU School of Engineering through the Bob and Barbara Williams Foundation.

"I am truly humbled and honored by what Bob and Barbara have done," Dr. Trani said. "Future generations of engineering students will benefit from the Williams' generosity."

*The scholarships I have received add to my motivation to maintain a strong GPA and complete my degree. I am passionate about improving the quality of life for others through creative problem-solving and independent thinking. I will apply the skills I acquire over the next few years to solve complex biomedical engineering problems and improve the healthcare industry.*

JOHN MARIN, BME '12



“Barbara and I wanted to do something special to serve as a lasting tribute to Dr. Trani’s legacy at VCU,” Bob Williams said. “His leadership and creativity have set a standard of excellence at the School of Engineering which we hope to extend through two new Leadership Scholarships from our Family Foundation Program.”

Mr. Williams, former chairman of James River Corporation, was among the corporate leaders who helped established the School of Engineering at VCU in 1996.

### ■ The Prestwoud Scholarship for Engineering Excellence and Community Service

The residents of the Prestwoud, a 1920s-era luxury condominium building located across Monroe Park from the School of Engineering, have established the Prestwoud Scholarship for Engineering Excellence and Community Service.

Many of the residents are long-time friends of the School of Engineering and Virginia Commonwealth University.

The Prestwoud Scholarship will recognize engineering students for their excellent academic achievement, dedication to community service, and commitment to research that fosters innovative and global changes in technology and medicine that positively impact local, national, and international communities. The scholarship will be renewable for up to four years.

“The Prestwoud Scholarship signifies the community’s ongoing support of the School of Engineering and its commitment to our students’ success,” said Russell D. Jamison, Ph.D., dean of the VCU School of Engineering. “The scholarship will help generations of engineering students pursue their studies at the school, and for this, we are deeply grateful for the generosity shown by our friends across Monroe Park.”

#### 2009 Prestwoud Scholarship Charter Donors

*The VCU School of Engineering Foundation wishes to thank the following charter donors for their generous support. A special word of thanks is given to Frank and Elinor Kuhn for their leadership on this project.*

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Mark and Joni Dray  
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Sara Lee Thacker  
Harold and Janice Walker



# Big Foot

**With nearly 300,000 sq. ft. of space, Engineering is hard to miss.**

*VCU's campus has grown dramatically in recent years and has transformed the skyline and landscape of the City of Richmond in many ways. One of the lasting legacies of the Trani administration is the VCU School of Engineering.*

The VCU School of Engineering opened in August of 1996. Three months later, ground was broken for a 118,000 sq. ft. building located at the southwest corner of West Main Street and Belvidere. In addition to the academic facility, a 30,000 sq. ft. Microelectronics Center was constructed on the south end of the building.

During the first two years, engineering students attended classes in various academic buildings on the Monroe Park campus while the Engineering building was completed. On November 10, 1998, the VCU School of Engineering dedicated its first building, now known as West Hall. Originally built to accommodate an enrollment of 800 students, West Hall served the school well since its doors opened.

In 2000, plans were laid to expand the School of Engineering facilities to better accommodate a growing student body and faculty. After considering

various options, the decision was made to jump across Belvidere and expand the School of Engineering facilities as part of the Monroe Park Campus addition, an ambitious project including a new School of Business building, a 480-bed residential college dorm, a 600-space parking deck, and a new home for the VCU Brandcenter. In November 2005, ground was broken for a 250,000 sq. ft. building that would house the entire School of Business and three of the five engineering departments. The School of Engineering moved the departments of Biomedical Engineering, Computer Science, and Mechanical Engineering, and several administrative offices into 131,000 sq. ft. of space in East Hall in December of 2007 and the facility was opened for classes in January 2008.

East Hall is a marvel of innovation, technology, and vision. The building is designed to allow students to integrate learning experiences seamlessly across disciplines. The Pauley Pavilion, East Hall's octagonal tower located on the southeast corner of West Main Street and Belvidere, anchors the Monroe Park campus addition and houses the da Vinci Center for Innovation in Product Design and Development.

In March 2009, the School of Engineering completed construction of a two-story, 25,000 sq. ft. addition to West Hall. The Health and Life Sciences Engineering Facility houses flexible lab space for collaborative research among Engineering faculty and their colleagues from other disciplines throughout the University.

Commenting on the impact of this new lab space across the entire university, Frank Gupton, Chair of the Chemical and Life Science Engineering Department said, "Most great innovations come from the interface of different disciplines. This new facility will foster interdisciplinary research among engineering and medicine, physics, chemistry, biology, and other departments."



|                  |                        |
|------------------|------------------------|
| <b>West Hall</b> | 118,304 sq. ft.        |
| <b>W-VMEC</b>    | 30,461 sq. ft.         |
| <b>East Hall</b> | 131,033 sq. ft.        |
| <b>HLSE</b>      | 24,728 sq. ft.         |
| <b>Total</b>     | <b>304,526 sq. ft.</b> |





Tin Myint, ME '06, Engineer, Dominion

# Perfect Placement

**Career Services Office assists students and alumni with finding their place.**



*"We are always extremely pleased with the VCU Engineering graduates who have joined our company. Their classroom preparation and business exposures lets them hit the ground running. VCU is certainly one of our 'go to' schools."*

MASON DIRICKSON  
VICE PRESIDENT, HUMAN RESOURCES, INFILCO DEGREMONT, INC.

The School of Engineering and the School of Business opened a joint office of career services in East Hall in January 2008. Prior to this, the University's Office of Career Services provide assistance to engineering students. In addition to advising, counseling and coaching students and alumni on their job searches, VCU's new Business and Engineering Career Center offers a variety of services to assist employers in their recruiting efforts. These services are designed to connect employers with students while aiding in the fulfillment of the students' career development. The recruiting activities include: employer showcases, employer information sessions, career fairs, workshops, on-campus interviews, mock interviews, etiquette dinners, and participation in student organizations.

The internship is a required part of the academic experience at VCU's School of Engineering. All Chemical and Life Science, Electrical and Computer, and Mechanical engineering students must complete an internship to graduate. An internship is not required for Biomedical Engineering or Computer Science majors.

In a highly competitive work world, proper business etiquette skills are extremely important. Networking and dining skills are an essential combination in success after graduation. "Interview meals" are becoming very

popular among employers. Additionally, business is often conducted during lunches, receptions and formal dinners beyond the interview. On April 14, 2009, Altria sponsored the 3rd Annual Etiquette Dinner. Over 100 students and faculty attended. The evening provided an opportunity for students to learn networking and business etiquette skills in a low stress, no risk environment.

Michele Pollard Patrick, President of National Protocol in Washington, D.C., facilitated the event and provided a presentation about all the potential dinner arrangements and proper etiquette at formal dinners. The purpose of the dinner was to provide the participants a chance to learn and practice formal eating in a safe environment, instead of making a faux pa during a formal dinner with a prospective employer.

#### TOP EMPLOYERS

|                     |                    |
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| Boeing              | Infilco Degremont  |
| Capital One         | Lockheed Martin    |

## Job Fair Open House

VCU, the Greater Richmond Partnership, and the Virginia Council on Advanced Technology Skills hosted a special job fair and career open house for former Qimonda employees in May. The memory-chip manufacturer closed its two production lines at its plant in eastern Henrico County this year, putting about 2,500 people out of work.

Qimonda, and its predecessors White Oak Semiconductor and Infineon, have had a close relationship with the School of Engineering since the school opened in 1996. The company has endowed four professorships and a scholarship, supported the building campaign, and had been the single largest employer of VCU engineering school graduates.

Several hundred participants attended the job fair, including many VCU alumni, and met perspective employers, did some networking and took skill assessment tests. Seminars on managing finances while in career transition, crafting a transition resume and applying for jobs with the federal government were offered during the fair. Eighteen employers participated in the fair, as well as 10 others that work with entrepreneurs or offer educational training.

# Nuts&Bolts

Departments welcome new faculty and report highlights.

## Biomedical Engineering

**Chair: Gerald E. Miller**  
**Full-Time Faculty: 9.5**  
**Undergraduate Students: 225**  
**Graduate Students: 62**  
**Annual Research Expenditures: \$614,748**

### Faculty

Ou Bai, Assistant Professor  
Gary L. Bowlin, Associate Professor  
Ding-Yu Fie, Associate Professor  
Thomas Haas, Professor  
Martin L. Lenhardt, Professor  
Gerald E. Miller, Professor and Chair  
Dianne T.V. Pawluk, Assistant Professor  
Jennifer S. Wayne, Professor  
Paul A. Wetzel, Associate Professor  
Hu Yang, Assistant Professor

VCU's Biomedical Engineering department was established in 1998 and is the largest accredited undergraduate biomedical engineering program in the Commonwealth of Virginia. The graduate program has been in existence since 1985. The biomedical engineering program has 5,500 square feet of established biomedical research facilities, including laboratories for biomechanical testing, biomedical instrumentation and microprocessor development, biofluid dynamics, modeling of human function, physiological system analysis, and medical image processing.

Among the most selective programs at the University, undergraduate enrollment in the Biomedical Engineering has increased from 175 in 2005 to 225 in 2008. During this same time period the graduate enrollment has grown from 58 to 62. There are 9 full-time and one-half-time faculty members in the department. Research expenditures grew to \$614,748 this year.

**Gary Bowlin**, Associate Professor of Biomedical Engineering, is among the VCU researchers who developed a lightweight, granular, dressing compound that quickly stems high-pressure bleeding in moderate to severe wounds. WoundStat received federal

approval and the endorsement of the DOD Joint Committee on Tactical Combat Casualty Care for wide-spread military use.

**Gerald E. Miller**, Chair of the Biomedical Engineering Department, has been named an Outstanding Engineering Alumnus by the Penn State College of Engineering.



The honor recognizes graduates who have reached exceptional levels of professional achievement. Dr. Miller's research interests include rehabilitation engineering, physiological fluid mechanics, artificial internal organs, epilepsy genesis and the use of physiological signals in the control of mechanical systems. He received a bachelor's degree in aerospace engineering from Penn State in 1971 and master's and doctoral degrees in bioengineering from Penn State in 1975 and 1978, respectively. Dr. Miller serves as co-editor of the Journal of Medical Device.

**Jennifer S. Wayne** serves as chair of the ASME Bioengineering Division and is Treasurer-Elect of the Orthopedic Research Society.

# Chemical and Life Science Engineering

**Chair: B. Frank Gupton**

**Full-time Faculty: 7**

**Undergraduate Students: 121**

**Graduate Students: 18**

**Annual Research Expenditures: \$1,024,597**

## Faculty

Stephen S. Fong, Assistant Professor

B. Frank Gupton, Professor and Chair

Mark A. McHugh, Professor

Michael H. Peters, Professor

Raj R. Rao, Assistant Professor

Kenneth J. Wynne, Professor

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Enrollment in the Chemical and Life Science Engineering Department has grown a dramatic 36% since 2008, increasing from 88 students to 121 students. The number of graduate students has grown from 16 to 18. There are 7 full-time faculty members in the department. Annual research expenditures grew to \$1,024,597 this year.

The new Health and Life Science Engineering Laboratory, set to open in fall 2009, will give faculty members the ability to expand their research capabilities with varied university departments as well as government and industrial groups.

**B. Frank Gupton** continues to serve as Interim Chair of the department. Dr. Gupton joined that faculty in December 2007 after retiring as executive director of process development for North American operations for Boehringer Ingelheim Chemicals, Inc., the largest privately held pharmaceutical company in the world.

# Computer Science

**Chair: Krzysztof (Krys) Cios**

**Full-time Faculty: 11**

**Undergraduate Students: 139**

**Graduate Students: 54**

**Annual Research Expenditures: \$381,275**

## Faculty

James E. Ames IV, Associate Professor

Susan S. Brilliant, Associate Professor

Hongsik Choi, Assistant Professor

Krzysztof Cios, Professor and Chair

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Fred Norman, CVC, LLC

Bryan Pfaffenberger, University of Virginia

Rich Redmond, VCU School of Business

Mike Rydel, Peak 10

Vinnie Schoenfelder, CapTech Ventures, Inc.

Jeff Solka, Dahlgren Division of the Naval Surface

Warfare Center

William R. Teel Jr., Energy Enterprise Solutions

Mike Tigner, Lee-Davis High School

Wietze A. de Vries, MeadWestvaco

Junping Wang, Division of Mathematical Sciences, NSF

Kevin R. Ward, VCU Department of Emergency Medicine

The Computer Science program has existed at VCU since 1983. In 1988 the program earned its accreditation—the first program in Virginia to achieve the recognition. The Department of Computer Science joined the School of Engineering in 2001. Computer Science continues to be the second largest department at the School of Engineering with an enrollment of 139 undergraduate students and 54 graduate students. Annual research expenditures grew to \$381,275 this year.

Each year the computer science department hosts a programming contest for students from the top math and

## Computer Science, continued

science high schools throughout Virginia. Students compete for School of Engineering scholarship awards based on their performance in the competition.

E.D.E.N. (Enhancing Diversity in an Engineering Nucleus), whose purpose is to increase the participation of women and minorities in computer science and engineering, received a \$10,000 Community Engagement Grant from VCU's Office of Community Engagement to support, It's Time to Press Play, a summer camp for middle-school students. Camp programming involved using video game programming to stimulate an interest in math and science. Students attending the camp created their own video games from concept through programming. The grant enabled majority of the 120 students to attend on full or partial scholarships.

### New Faculty

#### **Vojislav Kecman**

*Associate Professor, Department of Computer Science*

Dr. Vojislav Kecman received his M.S. and Ph.D. from the University of Zagreb. Dr. Kecman joined the computer science faculty in January 2009. His research interests include learning algorithms, bioinformatics, time series (financial, medical, weather, hydro, wind), pattern recognition, classification, function approximation, fuzzy logic, control systems, and systems dynamics.



## Electrical and Computer Engineering

**Chair:** Ashok Iyer

**Full-time Faculty:** 11

**Undergraduate Students:** 270

**Graduate Students:**

**Annual Research Expenditures:** \$1,382,535

### Faculty

Gary M. Atkinson, Associate Professor  
Supriyo Bandyopadhyay, Professor  
Alen Docef, Associate Professor  
Afroditi V. Filippas, Associate Professor  
Ashok Iyer, Professor and Chair  
Robert H. Klenke, Associate Professor  
James M. McCollum, Assistant Professor  
Hadis Morkoç, Professor  
Yuichi Motai, Assistant Professor  
Ümit Özgür, Assistant Professor  
Jerry H. Tucker, Associate Professor

### Advisory Board

James H. Aylor, University of Virginia  
William Goldbach, Danaher Power Solutions  
Stephen G. Jurczyk, NASA Langley Research Center  
D.E. Koonce, Dominion Technical Solutions, Inc.  
Terrence C. Leslie, Micron Technology, Inc.  
Andrew P. Shulick, MetAmorPhosis Management Consulting, Inc.  
Joseph W. Yoder, IBM ASIC Applications

### New Faculty

#### **James M. McCollum**

*Assistant Professor, Department of Electrical and Computer Engineering*

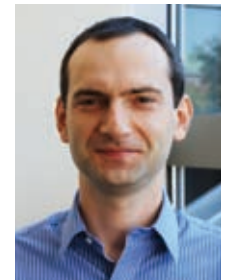
Dr. James McCollum received his B.S. in computer science and B.E.E. in electrical engineering in 2001 from the University of Dayton in Ohio and a M.S. in electrical engineering and a Ph.D. in computer engineering from the University of Tennessee, Knoxville, in 2004 and 2006, respectively. McCollum's research interests include Digital Design, High Performance Computing, Embedded Systems, Reconfigurable Computing, and Stochastic Simulation.



#### **Ümit Özgür**

*Assistant Professor, Department of Electrical and Computer Engineering*

Dr. Ümit Özgür received his B.S. in electrical engineering and physics in 1996 from Bogazici University, Turkey, and an M.A. and Ph.D. in Physics from Duke University in North Carolina in 1999 and 2003, respectively. Özgür joined the VCU Engineering faculty in August 2008. His research interests include nanophotonics, near-field optical microscopy, magnetic semiconductors and magneto-optical spectroscopy, nonlinear optics, light emitting diodes, ultrafast spectroscopy, and group III-nitride and zinc oxide optoelectronics.





# Mechanical Engineering

**Interim Chair:** Gary C. Tepper

**Full-time Faculty:** 15

**Undergraduate Students:** 350

**Graduate Students:** 50

**Annual Research Expenditures:** \$1,158,290

## Faculty

Stephanie G. Adams, Associate Professor  
Ross C. Anderson, Associate Professor  
Jayasimha Atulasimha, Assistant Professor  
Mohamed Gad-el-Hak, Professor  
Muammer Koç, Associate Professor  
P. Worth Longest, Assistant Professor  
James T. McLeskey, Associate Professor  
Manu Mital, Lecturer  
Karl M. Mossi, Associate Professor  
Ramana M. Pidaparti, Professor  
John E. Speich, Associate Professor  
Vishnu B. Sundaresan, Assistant Professor  
Hooman V. Tafreshi, Assistant Professor  
Gary C. Tepper, Professor and Interim Chair  
Amy L. Throckmorton, Assistant Professor

## Advisory Board

Klas Abrahamsson, Alfa Laval, Inc.  
Linda E. Allen-Hawkins, Altria Client Services  
Gerald Bischof, Dominion Generation  
Keith Burns, Hamilton Beach  
William H. Luke, MeadWestvaco Corporation  
Elbert G. Miller, VCU School of Business  
Patrick Prendergast, Alstom Power  
Jacob Pretko, DuPont Advanced Fiber Systems  
Michael M. Reischman, National Science Foundation  
Joseph H. Seipel, VCU School of the Arts  
Douglas W. Wagner, DuPont Advanced Fiber Systems  
Donald T. Wood, Honeywell International

With 350 undergraduate students and 50 graduate students, the Mechanical Engineering Department has the largest enrollment at the School. In 2005, the undergraduate enrollment was 250 and the graduate enrollment was 10. Since 2005, the faculty has grown from 10 to 15.

## New Faculty

### **Stephanie G. Adams**

*Associate Dean for Undergraduate Studies*  
*Associate Professor, Department of Mechanical Engineering*  
Dr. Stephanie Adams received a B.S. in 1989 from North Carolina A&T, a M.S. in 1991 from the University of Virginia, and a Ph.D. in 1998 from Texas A&M.

She joined the VCU Engineering faculty in August 2009. Prior to coming to VCU, Dr. Adams served in a similar position at the University of Nebraska – Lincoln School of Engineering. Her research interests include engineering education and pedagogy, collaborative and active learning, and engineering management, teams and team effectiveness.



### **Jayasimha Atulasimha**

*Assistant Professor, Department of Mechanical Engineering*  
Dr. Jayasimha Atulasimha received a B.S. in mechanical engineering in 2001 from the Indian Institute of Technology in Madras, India and a M.S. and Ph.D. in aerospace engineering from the University of Maryland



in College Park in 2003 and 2006 respectively. Dr. Atulasimha joined the VCU Engineering faculty in August 2008. His research interests include the behavior of smart materials at micro and nano scale, design and fabrication of MEMS devices, magnetostrictive, piezoelectric and magnetoelectric materials, experimental control in aerospace, automobile and biomedical applications, and nonlinear and hysteretic systems.

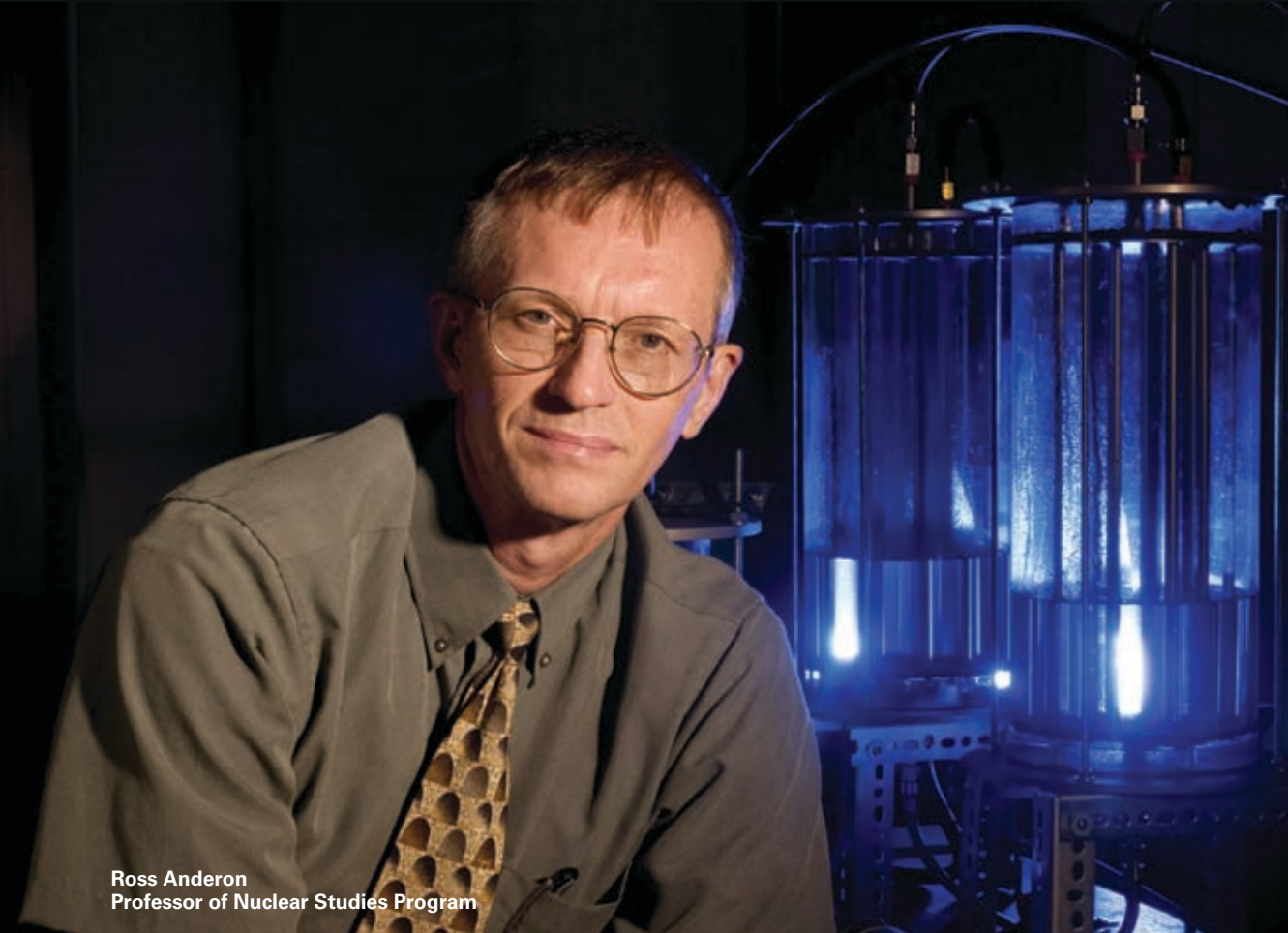
### **Vishnu Baba Sundaresan**

*Assistant Professor, Department of Mechanical Engineering*  
Dr. Vishnu Sundaresan received a B.E. in mechanical engineering in 2001 at the PSG College of Technology in Coimbatore, India and a Ph.D. in mechanical Engineering at Virginia

Polytechnic Institute and State University in 2007. He joined the VCU Engineering faculty in August 2008. Dr. Sundaresan's research interests involve active implantable material systems and applied membrane biophysics.



# Clean and Green



Ross Anderson  
Professor of Nuclear Studies Program

In an age where constant change is part of the culture, a quick response can be all the difference between opportunity found and opportunity lost.

The Virginia Commonwealth University School of Engineering's response to an inquiry by Dominion three years ago about the possibility of creating a nuclear engineering program from scratch shows what can be accomplished when opportunity calls and all hands are willing.

"We now have the most complete offering of nuclear engineering education in the Commonwealth of Virginia," said Russell D. Jamison, Ph.D., dean of the School of Engineering, speaking of the school's unprecedented rapid rollout of nuclear engineering studies.

The growing number of programs now encompasses an undergraduate track in nuclear engineering as well a new curriculum leading to a master's degree in mechanical and nuclear engineering. Further expansion of the curriculum is anticipated, along with growing student demand.

Two mechanical engineering senior design teams and one from electrical engineering have, with Dominion's help, fabricated a "see-through" reactor for hands-on experience. Their project was showcased at the Senior Design Expo in April 2009.

**VCU takes the lead in Nuclear Engineering in the State.**

Perfectly safe, the reactor has an electrical core instead of a nuclear one. But in all other aspects it functions as a nuclear reactor and provides VCU students with an extraordinary new learning tool.

In a down economy, the job prospects for nuclear engineers are better than they have been in 30 years. The American Nuclear Society has estimated that 700 nuclear engineers need to graduate every year to support the potential demand, as current nuclear engineers retire and more nuclear power stations are built.

That message has already hit home resoundingly with VCU engineering students.

When the School sampled its freshman class in mechanical engineering and asked how many would join if a nuclear engineering degree program were offered in the fall of 2009, it was stunned by the response.

“Forty percent said they would join,” remarked Mohamed Gad-el-Hak, Ph.D., chair of the Department of Mechanical Engineering.

To facilitate the growth of its nuclear engineering programs, VCU is hiring two nuclear engineering faculty. Plans call for hiring an additional two in the following year, and then one more after that.

Meanwhile, Dominion—VCU’s partner in creating nuclear studies programs—has already enrolled employees from three different sites in the current master’s track in nuclear engineering.

Dominion employee Ross Anderson, who holds a Ph.D. in nuclear engineering and is among the professors in the nuclear studies program, said about half of the students enrolled in the master’s track

program are at remote locations and attend class through a video hook-up. There are more than 30 students enrolled in the evening nuclear graduate program.

Matthew Heartwell, who has worked for Dominion for two years in project design, is among VCU’s new nuclear engineering students.

“I think nuclear is going to solve our energy crisis,” Heartwell said.

He and the other participating Dominion employees want to be among the first in line when their company begins expanding in the nuclear field. Dominion already is one of the nation’s largest nuclear operators with seven nuclear units in three states, including two units each at the North Anna and Surry power stations in Virginia.

Dominion has applied to the U.S. Nuclear Regulatory Commission to build an additional unit at North Anna. If Dominion does build an additional nuclear unit at North Anna, about 750 positions will likely be created, according to a Dominion spokesman.

In 2008, nuclear power stations at Surry and North Anna accounted for 41 percent of the electricity consumed by Dominion customers in Virginia. Nationally, about 20 percent of electricity comes from nuclear power.

A recent article in the Richmond Times-Dispatch noted that officials in Virginia Gov. Timothy M. Kaine’s administration consider nuclear power green, largely because nuclear power plants don’t release greenhouse gases.

Kaine was more emphatic about his position in heralding a recent partnership between AREVA,

a mammoth French nuclear company, and Northrop Grumman Shipbuilding to invest \$363 million and create 540 jobs at a new 368,000-square-foot nuclear reactor manufacturing plant in Newport News, VA.

“Emission-free nuclear energy produced in the United States is a positive step toward reducing greenhouse gases and reducing our dependence on foreign oil,” Kaine said.

Gad-el-Hak said the governor’s support of nuclear power—combined with the support of the VCU president and other university officials—energizes School of Engineering faculty members who have been guiding the development of nuclear engineering studies.

“It’s a fire in our bellies,” Gad-el-Hak said.

The School is gearing up to design and build a nuclear reactor simulator during the 2009-2010 academic year. This simulator will electronically model the North Anna Nuclear Power Station and will be designed and built by teams of students from the Electrical Engineering and Mechanical Engineering departments.

This simulator will be like those used for initial and ongoing training of the operators of commercial nuclear power stations, much in the same way that flight simulators are used in the training of commercial airline pilots.

Once the simulator is complete, it will be integrated into the nuclear engineering courses being offered through the Mechanical Engineering department. Students can be trained in nuclear plant startup and shutdown, and accident mitigation, complementing their theoretical classroom instruction.

# Parental Guidance

**Parents Council adds a new dimension of support.**

## The Parent Perspective

Dear Parents,

It has been such an exciting year at the School of Engineering! As we celebrate the accomplishments of the 2009 academic year we are eagerly looking forward to the upcoming year—and especially May 2010 when our son, Aaron, will graduate with a degree in electrical engineering.

Watching Aaron grow and excel at VCU Engineering has been a wonderful experience. Over the years, Terry and I have also greatly enjoyed our involvement with the School as members of the Parents Council. Our decision to join and eventually chair the Parents Council was a personal one. We felt it was important to support Aaron and the educational mission of the School. We quickly realized that by volunteering a small amount of our time and resources we could make a huge impact at the School.

The Parents Council helps the School of Engineering in many important areas including assisting with new student recruitment, being a resource for internship and job opportunities, raising support for the Parents

Award for Research and Teaching Excellence, and generally increasing exposure of the School of

Engineering in our communities. It is important to note that these activities are not reserved for members of the Parents Council alone, but rather something we all can do as parents to add new dimensions of support for the School.

Speaking with families of prospective students has been particularly rewarding for Terry and me. By participating in admissions events we are able to share our personal experiences at the School with families who are going through the college-search process. This lends a more personal touch to the decision making process--something we are proud to call the "Parents Council effect."

It is easy for us to share our thoughts about the School with prospective families because we are very pleased with the excellent education that Aaron is receiving as a student. As I hope you will agree, members of



the faculty and staff at VCU Engineering are deeply committed to the students at the School. We are proud to support their efforts by leading the campaign for the Parents Award for Research and Teaching Excellence.

A record number of parents supported the campaign this year and we look forward to awarding two new stipends to members of the faculty at Family Day in October. Terry and I graciously thank everyone for generously supporting the campaign and encourage all parents to lend their support to the award again this year.

There is a family atmosphere at the School of Engineering which makes it a truly special place. We encourage you to become more involved with the School this year and look forward to seeing everyone at Family Day on Friday, October 23, 2009.

Shirley Husz  
*Parents Council Co-Chair*

## The VCU School of Engineering Parents Council

The VCU School of Engineering Parents Council is a voluntary leadership group of parents committed to helping the School of Engineering meet the educational and developmental needs of students. Members remain dedicated to advancing the educational mission of the School to prospective students and their families living in their local communities.

*The goals of the Parents Council include:*

- Helping the School of Engineering attract new students by distributing information about the School to local high schools, notifying, and assisting staff at recruiting events.
- Acting as a community resource for families of engineering students during the academic year.
- Encouraging employers to recruit School of Engineering students as interns and providing career opportunities for recent graduates.
- Providing financial support to help the School fund the Parents Award for Research and Teaching Excellence.

If you would like to speak to a member of the Parents Council or if you have any questions about their role supporting the School of Engineering please contact Naomi Crown at [npcrown@vcu.edu](mailto:npcrown@vcu.edu) or by calling (804) 828-2909.

### Save the Date!

VCU Engineering Family Day 2009  
Friday, October 23, 2009

Online Registration available now at:  
[www.egr.familyday.vcu.edu](http://www.egr.familyday.vcu.edu)

## 2009 VCU School of Engineering Parents Council

**Terry & Shirley Husz**  
Chair Couple  
Mechanicsville, Virginia

**Walter & Grace Baker, Jr.**  
Richmond, Virginia

**Steven & Kathryn Dills**  
Ashland, Virginia

**Hamidullah & Seema Farhat**  
Hampton, Virginia

**Richard Fowler  
& Pamela Proffitt**  
Richmond, Virginia

**James & Atleacia Gibson**  
Chesapeake, Virginia

**Chris & Anne. Lundberg**  
Richmond, Virginia

**Paul & Yvonne Mann**  
Stafford, Virginia

**Cynthia Cheryl Marin**  
Sterling, Virginia

**William & Sheri McGuire**  
Farmville, Virginia

**Krishnan & Indi Namboodiri**  
Falls Church, Virginia

**Harry & Leslie Oldland III**  
Fredericksburg, Virginia

**Chaitanya & Urvashi Patel**  
Chester, Virginia

**Ajay & Sadhna Purohit**  
Richmond, Virginia

**Yiping Rao and Lijun Li**  
Glen Allen, Virginia

**Paul & Carol Rodi**  
Richmond, Virginia

**Bill & Molly Sammler**  
Petersburg, Virginia

**Robert & Doris Sempek**  
Midlothian, Virginia

**Anil & Annu Sharma**  
McLean, Virginia

**Kirk O. Tower**  
Mechanicsville, Virginia





**Operation Simple Team demonstrate their \$500 surgical table.**

### **da Vinci Day 2009**

On April 15, 2009 nearly 150 students, faculty, staff, alumni, and friends of Virginia Commonwealth University attended da Vinci Day 2009, sponsored by the da Vinci Center for Innovation in Product Design and Development. The inaugural public event raised the visibility of the da Vinci Center within VCU's internal audience and the greater Richmond community.

da Vinci Day was held on the birthday of Leonardo da Vinci; one of the great geniuses of human history and the essential Renaissance scholar, artist, and engineer. VCU created the da Vinci Center to honor and explore da Vinci's model of multi-dimensional creativity.

In 2007, VCU created the da Vinci Center to provide a framework for teaching and practicing the science and art of product development. Since its inception, the da Vinci Center has engaged teams of students from the Schools of Engineering, Business, and the

# People and Programs

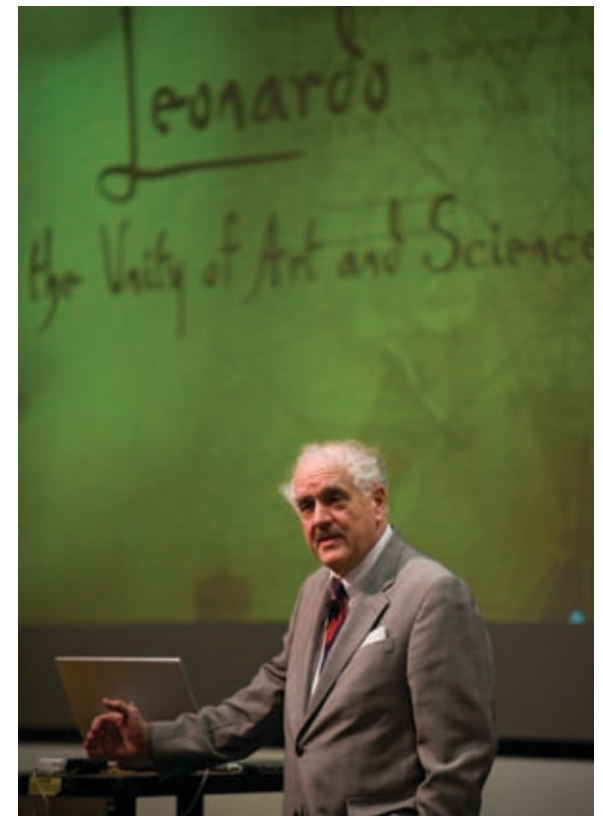
## da Vinci Day, Senior Design Expo, Diploma Ceremony and more.

Arts in projects that require them to develop new and improved approaches to product design and development. The projects developed through the da Vinci program engage the creative, the technical, and the commercial elements that comprise successful product development.

One such project showcased at da Vinci Day was the highly anticipated unveiling of the prototype for a \$500 operating table designed for the developing world — a 24-inch, easy-to-ship cube that assembles into a full-size, hospital-grade table that moves in three dimensions.

For optimal results in surgery, patients should be on a raisable, movable and partitioned operating table. However, a new standard operating table can cost up to \$80,000, a prohibitive cost in developing countries that often forces health care providers to work with just one table.

The prototype table the da Vinci “Operation Simple” team conceived is in four pieces – a base, a simple scissor jack, an axle and the segmented bed top. The price constraint dictated that components be readily available and mass produced. It fits into a 24-inch, cardboard cube, marked with a circled cross on the outside and the words “Operation Simple.”



**Dr. Bülent Atalay gave the inaugural da Vinci Day lecture.**

“We wanted to build the table for \$500, and the main difference between this table and a larger table is that it can be collapsed down for easy shipping and it comes in ready-to-assemble pieces,” said senior Michael Mercier, a mechanical engineering major from Herndon, Virginia. “It is very simple steps for the end user to complete.”

The students represent the second group at the da Vinci Center to work on Operation Simple, the quest for an affordable operating table to fill a burgeoning need in developing countries. Student team members include, Jennifer Farris (team leader, Graphic Design), Lauren O’Neill (Interior Design), Mike Garrett (Graphic Design), Michael Mercier (Engineering), Skylar Roebuck (Engineering), Chris Johnson (Engineering), Ana Cuison (Business) and Jennifer Koch (Business).

Phase I of the project involved a group of three students developing the concept for the table in Spring 2008. That team’s research included one member’s visit with hospital administrators in Bangladesh. Phase III will focus on production and marketing of the table and is to begin in Spring 2010.

An important component of da Vinci Day was the keynote lecture, “Leonardo and the Unity of Art and Science,” delivered by noted Leonardo scholar Bülent Atalay, Ph.D., of the University of Mary Washington. Dr. Atalay’s presentation paid homage to Leonardo and his intriguing relationship with art and science. Following his presentation, Dr. Atalay remained on-hand to sign copies of his highly acclaimed book, Leonardo’s Universe, coauthored with his good friend and former student Keith Wamsley.

As noted by Russ Jamison, Dean of the School of Engineering, “The da Vinci Center projects come from the real world and involve problems not remarkably different from the time of Leonardo. In the da Vinci Center, students and faculty explore and sometimes argue about the right approach to solving complex problems. It is this dynamic that makes the experience valuable and unique.”

*da Vinci Day 2010 is scheduled for April 15, 2010.*

## SENIOR DESIGN EXPO 2009

On April 24, 2009, over 150 students, faculty, staff, alumni, parents, and corporate friends of the School attended the Senior Design Expo in Qimonda Atrium and East Hall Lawn. Held each year, the Expo is a chance for senior students to step into the real world of engineering as they present their innovative design ideas and results of their senior design projects with the greater Richmond community.

The Senior Design Expo is quickly becoming a signature community event for the School and Virginia Commonwealth University. As noted by Bill Lamp, Principal, Engineers Plus in Richmond, Virginia, “Each year I look forward to seeing the prototypes and listening to their presentations. Many offer new perspectives and thinking, a few are award winning, but all highlight the talent, energy and potential that new engineers bring to the diverse world of problem solving.”

The Senior Design Program has been part of the School of Engineering curriculum since 1999 and is a requirement for graduation. The program teaches leadership skills in a collaborate environment and provides students the opportunity to develop projects that may lead to product innovation for the benefit of society.

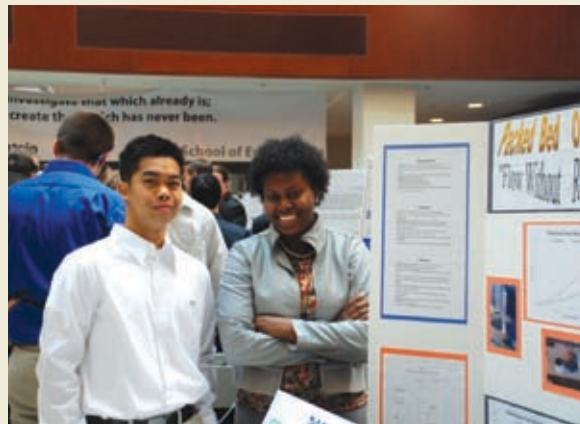
This year, 37 student teams participated in the Expo. Represented were teams from the departments of Chemical and Life Science Engineering, Computer and Electrical Engineering, and Mechanical Engineering. Winning teams from each discipline were chosen by a panel of faculty and corporate leaders and announced by the dean at an afternoon reception. Senior Design Expo 2009 winning teams included:

**Microwave Reactor** (Chemical and Life Science Engineering)  
**UAV Targeting and Imaging** (Computer Engineering),  
**Visual Collision Avoidance** (Electrical Engineering),  
**Hover Car Air Transport System** (Mechanical Engineering)



The Senior Design Expo also helps to raise awareness of engineering, science, and technology to middle and high school students living in the greater Richmond community. For the first time, local middle and high school students were invited to attend the Expo for a special morning preview to discuss projects with student team members, tour the facilities, and learn more about studying engineering in a university or college setting. Over 150 guests attended the morning event, which included students and educators from Saint Catherine's, Mount Vernon Middle School, the Chesterfield and Richmond Technical Centers, the Math Science Innovation Center, and Prince George, Hopewell, and Patrick Henry High Schools. A group of students was also present from WORTHY a high school mentoring program sponsored by Northrop Grumman.

Comments from educators attending the preview event were overwhelmingly positive. As explained by Andrei Dacko who teaches the Engineering Technology Program at Hopewell High School, "Attending the VCU Senior Engineering Design Expo with my Engineering Technology Program students was a perfect capstone to our year. It provided my students with an opportunity to connect their own learning, of engineering principles and technologies, to real life applications that were on a scale much larger than I am sure they imagined prior to attending this event. Perhaps the best thing about this event for my students was leaving.....amped and charged up about the mind-blowing possibilities that an engineering education can unleash!"



Ongoing corporate support of the Senior Design Expo is critical to designing the student projects and the success of the public event. This year alone, corporate gifts to the Senior Design Expo totaled just over \$50,000 and enabled student teams to purchase the supplies they needed for their projects and covered the costs of transporting some of the school groups to visit the event. The list of 2009 corporate supporters included: Dominion Resources, Inc., Engineers Plus, James River Air Conditioning Company, Inc., the Virginia Microelectronics Consortium, Clark Nexsen, PC, M & E Contractors, Tridium, Inc., the Virginia Aeronautical Historical Society, Flexicell, Teleflex, and the Jefferson.

*"The innate willingness to help students, and the focus on individual care, differentiated this from other parts of VCU. It was by pure accident that I was there, yet engineering has become such an integral part of me because of my time here."*

– CASSANDRA WOODCOCK, BME '09



## Diploma Ceremony

On May 15, 2009, the Class of 2009 became the 10th class to graduate since the School's inception in 1996. The 190 members of the graduating class represent 4 continents, 11 countries, and 12 states. During the ceremony, 29 master's degrees and 10 Ph.D. degrees were conferred.

The keynote speaker was Dr. Randal D. Pinkett, Co-Founder, President and CEO of BCT Partners, a multimillion-dollar management, technology and policy-consulting firm based in Newark, New Jersey. BCT Partners works with



corporations, government agencies and nonprofit organizations in the areas of housing and community development, economic development, human services, nonprofit and community technology, healthcare and education.

Pinkett holds a Bachelor of Science in Electrical Engineering from Rutgers University; a Master of Science in Computer Science from Oxford University; a Master of Science in Electrical Engineering from the MIT School of Engineering; a Master of Business Administration from the MIT Sloan School of Management; and a Doctor of Philosophy (Ph.D.) from the MIT Media Laboratory.

He is also the author of *Campus CEO: The Student Entrepreneur's Guide to Launching a Multimillion Dollar Business*, and the audio-book *The No-Money Down CEO: How to Start Your Dream Business with Little or No Cash*. He was also the winner of season four of Donald Trump's reality show, *The Apprentice*.

Other speakers included Julia Cain, ChE, '01, president of the School of Engineering Alumni Board and member of the VCU Alumni Association Board of Directors, who welcomed the Class of 2009 into the School's Alumni Association, and Cassandra Woodcock, BME '09, who gave the Class of 2009 student address.

*"Success is what you do for yourself. Greatness is what you do for others. Hopefully you will walk away from your experience at VCU with an appreciation of the fact that success is not your standard, but rather, greatness is your goal."*

Woodcock, a VCU Provost Scholar, graduated cum laude in biomedical engineering with minors in chemistry and biology. She is the past president and national delegate of Theta Tau, a student ambassador, and previous member of the Senior Gift Leadership Committee. Outside of engineering, Woodcock was also the director of the Notochords, VCU's a cappella ensemble.

During the ceremony, several students were recognized by faculty from their departments for demonstrating achievement in academics, extracurricular activities, and leadership. Seniors honored included Patrick Headley (Biomedical Engineering), John Hickman (Chemical and Life Sciences Engineering), Lloyd Mize, IV (Computer Engineering), Andrew Harris (Computer Science), Michael Hopkins (Electrical Engineering), and Ezekiel Brody (Mechanical Engineering).

Dean Jamison also announced the recipient of the 2009 Dean's Award for Distinguished Service. Established in 2002, the Dean's Award recognizes individuals whose service has helped the School of Engineering achieve its objectives. The year, Dr. Eugene P. Trani, President of Virginia Commonwealth University, received the award in recognition of his key role in establishing the School of Engineering.

— DR. RANDAL D. PINKETT, CHAIRMAN AND CEO, BCT PARTNERS

THE SCHOOL OF ENGINEERING IS PROUD TO AWARD THE 2009 DEAN'S AWARD FOR DISTINGUISHED SERVICE TO

## Dr. Eugene P. Trani

President of Virginia Commonwealth University

*Previous recipients include*

- 2003 **Paul Rocheleau**, Chairman, Virginia Life Sciences Investment, LLC, and President of the School of Engineering Foundation
- 2004 **John Sherman**, Former Vice Chairman of Scott & Stringfellow and immediate past President of the School of Engineering Foundation
- 2005 **Joe Farrell**, former President and CEO of the Pittston Company and former President of the School of Engineering Foundation
- 2006 **Henry Becker**, Former President of Qimonda, North American and member of the School of Engineering Foundation
- 2007 **Bill Berry**, Former CEO and Chairman of Dominion Resources and Virginia Power and member of the School of Engineering Foundation
- 2008 **Ken and Dianne Wright**, longtime friends of the School. Ken is a trustee of the School of Engineering Foundation and Dianne serves on the Massey Cancer Center Board

*The Dean's Award for Distinguished Service was established in 2002 to recognize individuals whose service has helped the School of Engineering achieve its objectives. It is among the highest honors awarded by the School.*

# Class Connections

## Alumni share news about marriages, births and careers



Dear Alumni,

In May, I had the pleasure of addressing the Class of 2009 during the Diploma Ceremony. It is amazing to think that there are now over 1900 graduates from the School.

As I stood on the stage shaking hands with the graduates and welcoming them into the School's Alumni Association, I couldn't help but reflect on my time at the School of Engineering; the faculty that guided me; the challenges I overcame; and the friendships I made—many of which remain with me to this day.

I remember being excited about leaving VCU and moving on to the next step in my life. I was thinking about job interviews, moving, starting a career, and not necessarily remaining in touch with the School.

It was years later, at the urging of a close friend and fellow SoE graduate, that I found myself involved with the School again as a member of the SoE Alumni Board. This has been a truly rewarding experience.

I've come to learn that we are lucky to be part of a family of VCU engineering alumni to network and stay involved with. There is a camaraderie that exists among SoE alumni that comes from our shared experiences as students.

In the months ahead, I encourage you to also do the same. Reconnect with the School and other engineering alumni and become part of the growing legacy of VCU Engineering.

Julia M. Cain, ChE '01  
*VCU Engineering Alumni Board President*

## Alumni Updates

### 1997

**Erika M. Olimpiew, CS**, is currently working at CSC, Consulting Incorporated. In May 2008, Erika earned a Ph.D. in Information Technology from George Mason University.

### 2000

**Dmitriy Shneyder, EE**, lives in Hopewell Junction, New York. On March 16, 2009, Dmitriy married Jelena Tuneva. He is Six Sigma Black Belt certified and working as an Advisory Engineer for IBM Microelectronics. Jelena was a postdoctoral researcher at Roswell Park Cancer Institute in Buffalo, New York. They spend all of their free time renovating their house.

### 2001

**M. David Allen, CS**, is living in Richmond, Virginia, and working for MITRE Corporation. David's first child, Lillian Allen, was born on July 27, 2008.

**Bradford A. Crosby, ChE**, is living in Richmond, Virginia, and currently working for the United States Navy. On May 17, 2009, Brad celebrated his sixth wedding anniversary with Kerri Crosby and earned his Master of Business Administration degree from the Darden Graduate School of  
*—continued on page 34.*

# VCU, Then and Now

## A perspective from a former student of the old Engineering Technology Program at VCU

by James A. McDonough, Jr.

Look at *OUR* School now! What a magnificent campus! A new School of Engineering building, new parking decks, all great facilities! But, how it has changed . . .

I graduated from the VCU School of Engineering Technology in 1973 and things have changed quite a bit—and for the good, I might say. I was part of the older structures—the remains of the old Richmond Professional Institute which merged with the Medical College of Virginia to form Virginia Commonwealth University in 1968. The old School of Engineering Technology went away; in fact, I was a student of the last graduating class from VCU before it was transferred to J. Sargeant Reynolds Community College, only to be replaced by this wonderful school we now have.

I entered university life in August 1971 and went through orientation which originated in class selections in the basement of The Mosque, now called the Landmark Theater across from Monroe Park. You must stop and realize what took place just two years prior to my entry to VCU: we had just put a man on the moon, the famous Woodstock Festival was held in upstate NY, and for those sports fans, the New York Jets and the Amazing Mets had just whipped up on teams from Baltimore in the Super Bowl and the World Series (something that was allegedly impossible). And, somewhat similar to current times, we had a war raging in Southeast Asia. But times at VCU were good.

You may find it odd, but the James Branch Cabell Library located at 901 Park Avenue was only a single story structure with the remaining three upper levels added in the mid 1970s. Across Park Avenue from the Library, located at Cathedral Place and Cherry Street, was the old Science Building, which was the location of the vast majority of our School of Engineering Technology classes. Next to this structure was a fraternity house which had a ping pong table where I spent time between classes taking in a game or two. These structures are no longer in existence and have been replaced by the new Dining Hall.

There were no parking structures in the early '70s to handle the many commuters to this University and parking was always a problem—not only for us students, but the local residents as well, as students would take parking spaces far down into the residential sections of Park, Grove and Floyd Avenues. My smartest move was purchasing my first motorcycle, a Yamaha 250, and finding a parking space between the bumpers of two cars right in front of the Science Building. Life was good.

Also across from the Library was the Hibbs Building, location of the VCU Bookstore in the basement and cafeteria on the first level. The streets in these areas were open to car traffic, but have been closed for the safety of the students and faculty. This general area of Park Avenue, just behind the Cathedral of the Sacred Heart, was the core area of my existence at VCU. As I continued into my second year in 1972, we had occasional classes at night in the NEW Business Building, now the Grace E. Harris Hall, located at the corner of Main and Harrison Streets. This was my first exposure to a brand new classroom at VCU, and was it nice compared to the older structures to which I was accustomed. VCU now has a new School of Business located at 301 E. Main Street in Snead Hall.

I look at the new, spacious VCU Bookstore and The Siegel Center on Broad Street and remember that VCU *did not* exist on Broad Street in the 1970s, with the majority of its core remaining on Franklin Street with the location of its administrative offices and the old Franklin Street Gym where VCU played its basketball games. What a change! What a wonderful School today!

I look at my class ring and see the year 1838 which signifies the beginning of our roots. Then I'm reminded of 1968, the formation of VCU-MCV. And now, I think of the 21st Century and see this wonderful School of Engineering that we now have. Congratulations VCU on providing first class engineering studies for generations to come.

— James A. McDonough, Jr. graduated with an A.S. in Engineering in 1973 and a B.S. in Business in 1992. Jim works at Infilco Degremont, Inc., as a Manager in Estimating.

Business at the University of Virginia.

**David M. Grammer, EE**, is living in Chester, Virginia, and working at the Naval Surface Warfare Center – Dahlgren. His daughter was born in February 2009.

**Renee F. Pylinski, EE**, resides in Dallas, Texas.

**Mark W. Taylor, BME**, is living in Washington, D.C. and working at Morgan, Lewis & Bockius LLP.

**Luis R. Vega, ME**, lives in Henrico, Virginia, and works at Dominion Virginia Power. Luis received a Masters of Business Administration from Averett University in 2006, and was married on May 9, 2009.

**Karmen Yu, EE**, is living in Richmond, Virginia, and currently working at the Federal Reserve Bank of Richmond.



## 2002

**Jason E. Bara, ChE**, lives in Denver, Colorado, where he is working at ION Engineering. Jason married Amber R. Estdad of Cleveland, Ohio, on May 23, 2009.

**Jason P. Gareau, CS**, and wife, Kate, are very excited to announce the arrival of their daughter, Stella Elizabeth, on December 31, 2008.

**Daniel K. Moon, BME**, graduated with a Masters in Bioengineering from the University of Pittsburgh in 2005, and a medical degree from Drexel University College of Medicine in 2009. In June 2009, Daniel began an internship at Hahnemann/Drexel University Hospital in Philadelphia and in 2010 he will start his residency in Physical Medicine and Rehabilitation at Temple University.

**Nimisha G. Mukherjee, BME**, is living in West Chester, Pennsylvania. Nimisha recently received a Ph.D. in Biomedical Engineering from the Georgia Institute of Technology and is now working at Fish & Richardson P.C.

## 2003

**Matthew G. Barnes, ME**, lives in Richmond, Virginia, and works for Amsted Rail, Inc. He is the project manager of a new joint venture in Russia to make tapered roller bearings

for freight car application.

**Mary E. Perkinson, ME**, has been named a Distinguished New Engineer by the Society of Women Engineers (SWE). Mary will receive her award at the SWE Awards Banquet on October 16, 2009, in Long Beach, California.

**Matthew C. Schieck, ME**, is living in Houston, Texas, and currently working for National Oilwell Varco.

**Yui A. Vo, ME**, lives in Richmond, Virginia, and has recently completed his fourth engineering work contract.

## 2004

**Jerry L Collier, ME**, is living in Midlothian, Virginia, and is working as a Senior Sales Engineer and Branch Manager for John Crane, Inc., Richmond branch.

**Mark A. Collins, ME**, is living in Glen Allen, Virginia, and working for Fossil Consulting Services, Inc. In January 2009, Mark obtained a Professional Engineers License for the Commonwealth of Virginia.

**Joanne M. Cunningham, CE**, lives in Redmond, Washington, and works as a software development engineer for Microsoft.

**James Estep, CS**, is working for G3

Systems, Inc.

**Marlee C. Foster, BME**, works for the U.S. Marine Corps. She was recently a participant in NATO conferences as the U.S. representative for personal protective equipment.

**Christopher William Gregory, EE**, is living in Carrboro, North Carolina. He recently completed a MS in Electrical Engineering from Duke University. Chris is working for RTI International as an electrical engineer. Among his fondest school memories are the mechanical engineering weekly cookouts and late nights in the study lounge!

**David B. Heise, BME**, resides in Sammamish, Washington, and works for Microsoft.

**Jennifer L. Howard, EE**, is living in Virginia Beach, Virginia, and working for Roach Consulting Engineers, P.C.

**Vincent L. Jones, EE**, is living in Richmond, Virginia, and working for Hauni-Richmond.

**Myo Thwin Myint, BME**, lives in Mandeville, Louisiana, and is completing his residency in pediatrics and child and adolescent psychiatry at Tulane University. In 2008, Myo Thwin completed a M.D. degree from VCU School of Medicine.

**Nicholas A. Pereira, EE**, is living in

Glen Allen, Virginia.

## 2005

**Brian Q. Le, BME**, lives in Richmond, Virginia. Brian is currently working for VCUHS. In 2006, he conducted research aboard NASA's Vomit Comet. Brian graduated from medical school at MCV and began his general surgery residency at MCV in July 2009.

**Stephanie S. Lee, CS**, is living in Orange, Virginia. She is a Systems Administrator with the National Ground Intelligence Center in Charlottesville, Virginia.

**Ramin Mortazavi, ME**, is a research assistant professor at the Chemistry and Chemical Engineering Research Center of Iran.

**Sarah Rigsbee, EE**, is living in Maryland and working at the Johns Hopkins University Applied Physics Laboratory.

## 2006

**Oualid B. Afi, ME**, resides in Glen Allen, Virginia, and works for DuPont. He has received numerous certifications including the Society of Maintenance and Reliability Professionals Certificate, Six Sigma Green Belt, Lubrication Technician Level I, and Vibration Analysis Level I.

**Greg A. Anderson, ME**, is living in

Petersburg, Virginia, and working for the United States Patent and Trademark Office.

**Seth C. Ashley, EE**, lives in Glen Allen, Virginia, and works for Alstom Power. He recently co-authored the article, "Iterative and feedback control for hysteresis compensation in SMA," with K.K. Leung, and G. Tchoupo, which appeared in the *ASME Journal of Dynamic Systems, Measurement, and Control*, Vol. 131, 014502, 2009.

**Nicholas C. Barden, ME**, is living in Richmond, Virginia, and working at Balzer & Associates, Inc.

**Cory D. Benson, ME**, resides in Richmond, Virginia, and works for Grattan Associates, PC Civil & Environmental Engineering. In April 2006, Cory passed the Fundamentals of Engineering exam with an EIT designation.

**Allan K. Bishop, ME**, is living in Chester, Virginia, and working for Hankins and Anderson.

**Claiborne L. Collier, BME**, is living in Herndon, Virginia, and working as an Information Assurance Staff Analyst for TWM Associates, Inc.

**Andrew T. Cotter, BME**, is living in Virginia Beach, Virginia, and working for LifeNet Health. His online article, "Effect of low dose and moderate dose

gamma irradiation on the mechanical properties of bone and soft tissue allografts," was recently published on *pubmed*, the National Center for Biotechnology Information website.

**Joel D. Driskill, ME**, lives in Huntsville, Alabama, and is a Level 2 Engineer for Boeing.

**Jonathan F. Iaquinto, ME**, works for URS Corporation in the EG&G Division.

**Stuart R. Kardian, ME**, is living in Smithfield, Virginia, and is currently working for Dominion Generation at the Surry Power Station.

**Daniel L. Kobb, ME**, is a Fire Protection Engineer for HC Yu and Associates.

**Justin J. Koca, ME**, is living in Richmond, Virginia, and currently working as a Generator Design Engineer at Alstom Power. In February 2009, Justin went to a powerplant for training and outage support. Shortly after arriving on site, he took over responsibilities as Lead Engineer and Site Manager on a major powerplant outage and finished the job over one week ahead of schedule and \$200,000 under budget.

**Adam J. Konrad, EE**, resides in



New Orleans, Louisiana. He works for Schlumberger Well Services but is getting ready to take a year off to move back to Richmond to work on his house.

**Yuriy V. Levitskiy, ME**, is living in Richmond, Virginia. He is currently working for Foley Material Handling, Inc.

**Jeffrey D. Lund, ME**, lives in Richmond, Virginia. He is employed as a Reliability Engineer at Honeywell-Resins and Chemicals.

**Edward J. McCumiskey, ME**, is pursuing a Ph.D. the University of Florida in the Department of Mechanical and Aerospace Engineering.

**Ryan M. Mohr, ME**, lives in Goleta, California, and works for the University of California at Santa Barbara.

**Brian Noel, EE**, is living in Arlington,

Virginia. Brian recently graduated with a Master of Science in Electrical and Computer Engineering from Carnegie Mellon University. He is working on nuclear power plants with MPR Associates in Alexandria, Virginia.

**Bhavik Patel, EE**, is living in Richmond, Virginia, and working for Dominion Virginia Power.

**Jacob L. Pretko, ME**, lives in Henrico, Virginia, and works for DuPont. In 2008 he received the Engineering Excellence Award for

major productivity improvements.

**Brian A. Pristera, ME**, is living in Concord, New Hampshire. After graduating from law school Brian intends to take commission as a Judge Advocate General with the U.S. military.

**Derek R. Rinaldo, ME**, is living in Nevada and working for the United States Navy. He recently completed a six month deployment to Iraq and Afghanistan. In September 2008, Derek received the Navy's Outstanding

Volunteer Service Award for time spent with Boy Scout Troop 349.

**Cameron Schumacher, ME**, lives in Springfield, Virginia, and works for Boeing.

**Bradley T. Trevillian, ME**, is living in Richmond, Virginia. He is a Certified Energy Manager working at Trane. In the 2008, Bradley received the Trane Sales Associate of the Year and the Existing Building Sales Elite Award. **Nicolas G. Zamora, ME**, lives in Arlington, Virginia, and works for Metal Storm, Inc. He has enjoyed a couple of bonuses over the last two years and a promotion to the position of Senior Mechanical Engineer.



nation and giving her the opportunity to interact with a wide variety of professionals, but she is also very happy to be living in gorgeous Fort Worth, Texas, where she recently purchased her first home in the historic district!

**Scott B. Francis, ME**, is living in Chester, Virginia, and working for Dominion Resources.

**Joshua A. Stolberg, ME**, is living in Richmond, Virginia, and working for Alstom Power. He recently became a member of the VCU School of Engineering Alumni Board. Josh is in the process of renovating his house and applying to graduate school.

## VCU Engineering

Check out VCU Engineering on the Web

[www.egr.vcu.edu](http://www.egr.vcu.edu)

ENGINEERING ALUMNI:

EVENTS <http://www.egr.vcu.edu/alumnievents>

UPDATES <http://www.egr.vcu.edu/alumniupdate.htm>

SUPPORT VCU [www.givenow.vcu.edu/enengineering](http://www.givenow.vcu.edu/enengineering)

*Join the VCU Engineering Alumni groups on Facebook and Linked In*

### 2007

**Vivek Agarwal, EE**, is living in Sandy, Utah. He is working at Intel Micron Flash Technologies where he has been promoted to a track tool owner position in the photolithography department.

**Tim Beatty, EE**, is living in Mechanicsville, Virginia, and currently working for EG&G. Tim recently received a Lean Six Sigma Green Belt Certification.

**Meghan R. Beatty, BME**, is an Applications and Sales Engineer for AtCor Medical, Inc. Not only is it her dream job, taking her all over the

### 2008



**Will Bertholf, EE**, is living in Virginia Beach, Virginia, and working for Northrop Grumman.

**B. Maria Busardo, ME**, is engaged to Jason M.E. Williams who is also a 2008 mechanical engineering graduate. A spring 2010 wedding is planned.

**Robert D. Filler, BME**, is living in Richmond, Virginia, and just finished his first year of medical school at the VCU School of Medicine.

**Jonathan F. Iaquinto, ME**, is living in Richmond, Virginia and is currently employed for EG&G Technical Services, Incorporated, as a System Safety Engineer contracted to the U.S. Navy.

**Keith D. Lemelin, ME**, is living in Richmond, Virginia, and working for Alstom Power.

**Gopal G. Parekh, ME**, is currently a graduate student at VCU Engineering.

**James C. Riegel, ME**, is living in Richmond, Virginia, and working for Siemens.

**Matthew R. Vaerewyck, ME**, resides in Poquoson, Virginia. Matthew works for PSI International, a subcontractor to NASA Langley.

*-continued on page 39*  
**Priscilla S. Wallace, ChE**, is living in

# VCU Engineering Calendar of Events

Visit [www.egr.vcu.edu](http://www.egr.vcu.edu) for information on upcoming events. Register your address and email with the School of Engineering to receive event invitations at <http://www.egr.vcu.edu/alumniupdate.htm>. (Events are Subject to Change)

## October 2009

- 10 VCU Engineering Open House for Prospective Students
- 23-25 VCU Fall Fest 2009
- 23 VCU Engineering Family Day

## November 2009

- 6 Class of 2010 Senior Reception at the State Capitol
- 7 VCU Engineering Open House for Prospective Students

## December 2009

- 6 VCU Engineering Open House for Home-Schooled Students
- 12 VCU Engineering December Diploma Ceremony

## February 2010

- 6 VCU Engineering Open House for Prospective Students
- 14 – 20 National Engineers Week

## April 2010

- 9 Dean's Reception for Admitted Students
- 10 VCU Block Party for Admitted Students
- 15 da Vinci Day
- 23 Senior Design Expo
- 23 - 24 Alumni Weekend 2010

## May 2010

- 21 VCU Engineering Diploma Ceremony
- 22 Virginia Commonwealth University Commencement



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**VCUBOOKS.COM**

The image displays a variety of VCU Engineering merchandise. On the left, a black hoodie features the 'VCU ENGINEERING' logo in orange and white. Next to it is a grey t-shirt with the same logo. A black baseball cap with the VCU logo is positioned above the t-shirt. In the center, a black folder or notebook has 'VCUengineering' printed on it. To the right, a white water bottle and a black mug both feature the 'VCU ENGINEERING' logo. In front of the water bottle are two white t-shirts with the VCU logo. To the left of the hoodie are a white cup and a white glass, both with the VCU logo. A small VCU sticker is placed on the surface in front of the hoodie.





Richmond, Virginia, and working as a Chemical Engineer in Quality for Boehringer Ingelheim Chemicals, Inc. She is getting married to VCU alumnus, Joshua D. Griffin (B.S. Information Systems) in September 2009. Priscilla recently became a member of the VCU School of Engineering Alumni Board.

## 2009

**Mohamed A. Ahmed Elmak, ME**, is living in Burke, Virginia. Mohamed graduated with University honors, *Magna Cum Laude*, in May 2009.

**Adetokunbo Aiyelawo, ME**, is living in Stafford, Virginia, and is working at the Naval Facilities Engineering Command. He plans to attend graduate school in a couple of years.

**Hersch Bhatia, BME**, is living in Rockville, Maryland, and will be attending medical school in the Fall.  
**Ezekiel Brody, ME**, is living in Reston,

Virginia, and is working as a Senior Associate Engineer at Altria Client Services.

**Jihaad D. Davenport, ME**, is living in Keysville, Virginia, and will be participating in the Technical Career Field Internship Program at McGuire VA Medical Center.

**Laura M. Elkovich, BME**, lives in Fredericksburg, Virginia, and works at NSWDC Dahlgren.

**John Giuseppe, EE**, is working at the Naval Sea Systems Command.

**Joey M. Garthaffner, ME**, lives in Chesterfield, Virginia, and works for the Department of Defense – Navy.

**Patrick Headley, BME**, is pursuing a master's degree at the VCU School of Engineering.

**Christopher R. Irving, EE**, resides

in Richmond, Virginia, and works for Hamilton Beach Brands.

**Trevor T. Kates, EE**, is living in Glen Allen, Virginia, and working at Dominion Virginia Power.

**Vincent Kuffour, EE**, lives in Richmond, Virginia, and works for Northrop Grumman. He received the Excellence in Senior Design Multicultural Award.

**Katherine A. Lundberg, ME**, is working at the Norfolk Naval Shipyard.

**Parthasarthy Madurantakam, BME**, is currently living in Richmond, Virginia.

**Pendleton R. McGuire, EE**, is living in Newport News, Virginia, and is working for Northrop Grumman.

**Michael Mercier, ME**, is living in Richmond, Virginia, and will be pursuing a graduate degree in mechanical engineering at the VCU

School of Engineering.

**Kristina A. Pridgen, ChE**, lives in Richmond, Virginia, and works for Boehringer Ingelheim Chemicals.

**Yuan J. Rao, BME**, is living in Glen Allen, Virginia, and will be attending medical school at Washington University in St. Louis.

**Daniel M. Sanders, EE**, is living in Prince George, Virginia, and working for Northrop Grumman.

**John D. Shannon, EE**, is living in Fredericksburg, Virginia, and working for NSWDC Dahlgren.

**Justin T. Simunek, ME**, lives in Richmond, Virginia, and works for Dominion Energy Management, a HVAC systems control company located in Ashland, Virginia.

**Anna S. Tung, ME**, is working at the Norfolk Naval Shipyard.

Have some exciting news to share with School of Engineering alumni? Submitting notes for publication in the alumni magazine is a wonderful way to stay in touch with fellow alumni. Please send information to <http://www.egr.vcu.edu/alumniupdate.htm>



# Thank You, Mr. President

## School of Engineering bids farewell to Dr. Trani

The VCU School of Engineering Foundation recognized Dr. Trani for all of his efforts on behalf of the School of Engineering during a reception in April at the home of Marguerite and Norwood Davis. Bill Goodwin, Chairman of the Foundation, and Paul Rocheleau, President of the Foundation, presented Mrs. Trani with a bouquet of flowers and Dr. Trani with a framed photo collage of the School of Engineering buildings.

## VCU SCHOOL OF ENGINEERING ALUMNI BOARD 2008-2009

**Julia M. Cain, ChE '01**

President, Alumni Board

**M. David Allen, CS '01**

Lead Database Tech Engineer  
Mitre

**Edward E. Buchanan, ME, '00**

Project Manager  
URS Corporation

**Bradford A. Crosby, ChE '01**

Contract Specialist  
United States Navy

**Joanne Cunningham, CS '04**

Software Design Engineer  
Microsoft

**Britton P. Ellis, CS '07**

Public Utility Accountant  
State Corporation Commission  
Department of Army

**Jason P. Gareau, CS '02**

**Tejinder K. Gill, EE '00**

**D. Matthew Grammer, EE '01**

Naval Surface Warfare Center – Dahlgren

**Christopher A. Groome, ME '00**

Vice President, Safety and Service  
Groome Transportation

**Ronald A. Hall, EE '02**

Program Manager  
US Government

**Charles A. Hodges, ME '03**

Manager, Engineering Services  
Currency Technology Office  
Federal Reserve Bank of Richmond

**Gertrude F. Johnson, ME, '03**

Mechanical Engineer  
Federal Energy Regulatory Commission

**Christopher R. Jones, EE '01**

**Waverly T. Jones, EE '02**

Engineer II  
Dominion

**Tin Myint, ME, '06**

Engineer  
Dominion

**Qui Nguyen, ME '06**

ISC and Diagnostic Operations  
Alstom Power

**Joel E. Passmore, CE '00**

Manufacturing Compliance Manager  
Boehringer Ingelheim Chemicals Inc.

**Nikki M. Passmore, EE '03**

PRA Engineer  
Dominion Resources Services, Inc.

**Mary E. Perkinson, ME '03**

Supervisor Crane Engineering and Quality  
Northrop Grumman Corporation

**Jessica L. Pruden, ME '06**

Product Development Engineer  
Amsted Rail Industries: Brenco, Inc.

**Jill M. Reese, CS '02**

Vice President  
Data Control LLC

**Jason T. Roe, EE '00**

ERNI Electronics

**David P. Voros, BME, '02**

Site Manager  
Philips Medical Systems

**Christopher B. Wash, CS, '04**

Consultant  
CapTech Ventures

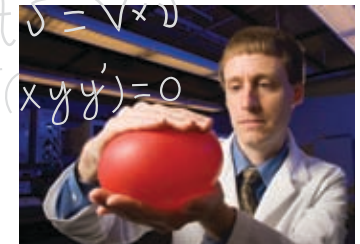
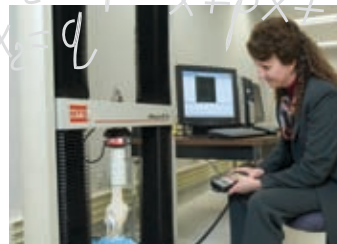
**Tonya A. Washington, ME '00**

Project Engineer  
Infilco Degremont, Inc.

**Dorsey S. Williams II, HVAC '66**

Vice President  
Breedon & Collier Co. Inc.

**Inspiration comes from more than just equations.**



$x_2 = -p$   
 $x_2 = d$   
 $x^2 + px + q = 0$   
 $dl = dx \sqrt{1 + (y'_x)^2}$   
 $|a| = \begin{cases} a, & a \geq 0 \\ -a, & a < 0 \end{cases}$   
 $\text{rot } \vec{\nu} = \nabla \times \vec{\nu}$   
 $F(x, y, y') = 0$   
 $\frac{dy}{dx} = p(x)y$

$P(x, y)dx + Q(x, y)dy = 0$   
 $S = \int_a^b 2\pi r dl$   
 $\vec{\nu} \cdot \vec{\nu} = 0$   
 $\frac{dy}{dx} = p(x)y$   
 $\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$   
 $|a| = \begin{cases} a, & a \geq 0 \\ -a, & a < 0 \end{cases}$   
 $\text{rot } \vec{\nu} = \nabla \times \vec{\nu}$   
 $F(x, y, y') = 0$

**... it comes from your support.**

Gifts to the Annual Fund support initiatives, academic programs, student scholarships, and faculty research that help our students remain ahead of the curve.

With your support, we can continue to fulfill our commitment to provide our students and faculty with the tools that will yield the next generation of innovative engineers.

[www.givenow.vcu.edu/engineering](http://www.givenow.vcu.edu/engineering)