



Introductory Note by Marianne T. Johnson

Manager, Student Development & Support
RISE & WIE
College of Engineering

I am pleased to invite you to share in the first official newsletter of the RISE Program. Throughout the academic year as well as during the summers and winters, RISE Program participants are excelling academically; supporting our campus through their leadership and service; traveling to other countries to study abroad and making discoveries through research that can literally change our basic daily mode of operation. It is important that all those who have a vested interest in students of the RISE Program begin to understand the scope of the many accomplishments they experience during their matriculation at the University of Delaware. We look forward to this newsletter being a vehicle to highlight our students and the many interests they have in addition to their primary goal of obtaining a degree in Engineering. The students, along with the Graduate Counselor, Leslie Mills have worked diligently to produce this newsletter and

we hope you will enjoy the articles enclosed. In the future, the newsletter will be accessible online through the RISE Program Facebook page which will be active fall semester 2010. We look forward to your feedback and continued support.

Editorial Team

Senior Editor: Marianne T. Johnson

Editor: Leslie N. O. Mills

Editorial Staff: Rashad Martin, Shaun Saunders, Selasie Buatsi, Brian Traylor, Tayler Wennick, , Eric Dahl, Ansah Cromwell, Manuela Tchouateu, Michael Geddish, Souleymane Bah.

The editors wish to extend their gratitude to all who contributed articles to this newsletter and aided in its publication.

AN INTERNATIONAL PERSPECTIVE BY CLAUDY JOINVILLE, SENIOR CE

The Journey

It has almost been four years since I left my Delaware home to embark on an unforgettable journey at the University of Delaware. Having come from Haiti three years earlier and unable to speak English, I'd managed to learn the language as quickly as possible. In fact this was my first big challenge upon entering this great country. Although my parents had repeatedly uttered the importance of quickly learning the language before enrolling in a local high school in the 10th grade, it wasn't until after my first day of school that their urgent words came rushing through my mind. *That day was the beginning of a long journey.*

The Value of Passion

My natural passion for language allowed me to learn English at a rather fast pace, increasing the possibility of success in the midst of a new culture. People had often warned me that English was arguably the hardest language to learn and that I was bound to struggle for some time. Surprisingly, because of my enthusiasm and passion for the language, I had *a lot of fun* learning it not merely because it was easy. In fact it was very difficult. But the immense passion I had for it



far outranked its complexity. From that experience I learned an invaluable lesson: *Nothing is easy or hard, it is one's approach to a problem that often determines its simplicity or complexity.* To illustrate what I mean by *approach*: In spite of my hard work, had I not exercised such passion and enthusiasm, I would have undoubtedly found it almost impossible to learn English, as many of my countrymen had at that time. Since then I've developed a great sense of passion for success.

The Challenges and Rewards

During my years at this university, there have been times of failures and successes, but I was able to learn from each experience regardless. I have been challenged not only academically but more importantly personally. Those challenges that I have faced throughout my four years have shaped my personality in countless ways. Although, in less than a month, I will receive my Bachelor's degree in Civil

Engineering, I have spent a lot of time learning about other aspects of life such as personality and character. I vehemently believe that those are often shaped according to the intensity of the challenge one has had to face. Apart from a great education, the gift of self-awareness and personal well-being are two of the biggest rewards I have received by attending the University of Delaware. As an engineering student, I have had countless long nights of studying and doing homework. After the first few weeks in freshman year, I was glad to learn about the RISE Program, and I've always been grateful for being a part of it. Since my first workshop, I was convinced that the program would play a major role in promoting our success as young engineering students. I personally admired tutors and mentors who were available to bolster our academic success.

Gratitude

I am very grateful to have had the opportunity to attend the University of Delaware. The education I have received is one that I deeply value, and the experience is one that I will always cherish. Very soon, I will walk out into the real world confident that I will continue to succeed and equipped with the mental prowess and academic competence needed to take on new challenges that await me.

A NOTE TO GRADUATING SENIORS

BY TARA DAVIS, SENIOR CE

Now as our journey approaches the end and graduation becomes a reality, the ending of this four year chapter we embarked on together marks our new beginning. Before we say goodbye and part our separate ways, remember the memories we shared and friendships that were fostered. Remember fondly the bonds that were developed within the walls of DuPont, Evans, and Spencer as we progressed through our majors. Our first year of college marked the beginning of this closing chapter with our mentors to guide us through a journey that remained unknown to us. The changes in majors and drops in our new classes were almost normal among the freshman class. The lack of experience in this learning environment resulted in GPAs that were unheard of before college and a dwindling resolve to accomplish our original goals. After our progress to sophomore year, friendships began to form to cope with the

stresses of engineering and the changes in class numbers were more apparent as the days continued. As we look back at these years of undergraduate engineering, remember the numerous E-Calc lab "parties" involving the completion of dynamic excel programs, or the numerous study sessions with newfound friends. Although we lacked a social life for four years, it becomes more apparent the meaning of this accomplishment. The progression to junior year is the year in which college took its worst toll.



Flashbacks to freshman year where it was embedded that there would be many losses in this field were remembered as familiar faces disappeared and you questioned whether you would continue. Junior year was the worst of them all and yet remember the hardships because this has made it worth all the more. Now that we've traveled back through the years, let us look to the present senior year. The preparation for graduation has begun and yet time seems to have fast-forwarded when we least expected it. All of us have at one time wished for graduation to be near, yet now as we approach our final days at University of Delaware, we hesitate to say good-bye. The school work would not be missed but our friendships and memories will always be remembered. So now as we prepare for this chapter closing, "As we go on, we remember all the times we had together and as our lives continually evolve, we will still be friends forever"

INTERVIEW WITH FRANK BLOODSWORTH

Q. Tell us about yourself

I am Frank Bloodsworth from New Castle, Delaware. I lived in Delaware my whole life. I like new challenges. I am very outgoing and I don't like repetition. I like trying new things, drawing and designing homes. I am a child of Christ. I am enjoying every little process that goes on in my life.

Q. Why did you decide to be a civil engineering major?

I decided to be a Civil Engineer because I like to build commercial buildings, residential homes, etc. Civil Engineering gave me the access to study structural design and constructability methods.

Q. How did you get to know about the RISE Program?

A friend named Mohamed Dicko told me about it back in Calc class in high school. He said they can really help with school and they have a great staff. So I decided to apply for it because I thought it could be beneficial. But actually it helped me out tremendously.

Q. How has your experience with the RISE Program been?

I can remember the days working in the office with my friends on long differential problems or banging my head on the wall because Brandon told me that my answer on the materials science exam was wrong. My experience was great! I even brought Ms. Johnson a breakfast from my job because she contributed a lot in my success. Mrs. LaMedica was extra helpful in making sure I had everything I needed: printing, a listening ear....



*Conducted by Selasie Buatsi
JUNIOR CE*

Q. Who has made the most significant impact on your college career through the RISE Program and why?

Jessica Nance was the most significant impact on my college career. At first we both butt heads in SEP, but later we became more like family and she helped me with calc, diffy Que, and chem. She was an excellent leader for NSBE and I was glad to have known her.

Q. Are you involved in any extra-curricular activities on campus?

Right now, I am part of the National Society of Black Engineers (Twwoooo hyppppe), and Warriors for Christ Bible Study.

Q. How do you balance that with school?

I balance out by knowing how to work around my activities. Time management isn't hard as a senior as it once was as a freshman.

Q. Who was your favorite professor and why?

Dr. Allen Jayne was my favorite professor. Dr. Jayne was so helpful because he uses so many practical

Q. In your opinion what personal qualities should a student possess to be a successful engineering student?

The student must have a passion to study engineering. If the student does it for money, or it's something to do or forced by parents, the student could have a difficult time being successful. If people are selected to be engineering students, they have the ability to succeed, it's up to them and how much work they put in.

Q. What is your fondest memory of the University of Delaware?

When Tuesday's and Thursday's became my free days, I had time to relax but also chill with friends as I worked on school work.

Q. What are your plans after graduation?

I will be going to Pittsburgh, PA to attend Carnegie Mellon University. I will be studying to receive my master's in Civil Engineering Infrastructure.

Q. Do you intend pursuing Civil Engineering as a career?

I intend to pursue Structural Engineering as a career after graduation.

Q. What advice will you give to students interested in Civil Engineering or engineering in general?

Do it because you love it. Do it because you want to see the end result. Put all or nothing into engineering. And make friends in the field; don't be by yourself in your major.

"I WOULD TELL YOUNG PEOPLE TO START WHERE THEY ARE WITH WHAT THEY HAVE AND THAT THE SECRET OF A BIG SUCCESS IS STARTING WITH A SMALL SUCCESS AND DREAMING BIGGER AND BIGGER DREAMS, I WOULD TELL THEM ALSO THAT A YOUNG WOMAN OR A YOUNG MAN CAN'T DREAM TOO MUCH TODAY OR DARE TOO MUCH IF HE OR SHE WORKS HARD, PERSEVERES AND DEDICATES THEMSELVES TO

MAY 2010

RISE Newsletter

RISE STUDENT ACTIVITIES (2009-2010)

MONTHLY WORKSHOPS, SYMPOSIA, STUDY BREAKS, HONORS OF DISTINCTION



RISE Newsletter

STUDENT ORGANIZATIONS

NSBE

The National Society of Black Engineers (NSBE) is a student run organization that seeks to improve the quantity and quality of black engineers across the nation. It was founded in 1975 in Purdue University and its mission is to increase the number of culturally responsible black engineers who excel academically, succeed professionally and positively impact the community. One does not need to be black or an engineer to join NSBE but needs to support the mission and stand for excellence.

Every year, the organization has one regional conference and one national conference in which engineers in training have an opportunity to network with numerous companies and graduate schools and their representatives from all over the USA. This academic year, our chapter's regional conference was held in Greensboro, North Carolina, and the national conference was held in Toronto, Canada. It is from these conferences that some of our members have secured jobs and graduate school acceptances.

For this semester we also had Lt. Osgood of the UD Air Force ROTC as a keynote speaker for a general meeting. Our Annual NSBE Banquet is on the 17th of May at 7pm in the Ewing Room in Perkins Student Center. Executive board positions yet to be filled for the academic year 2010/2011 are Membership Chair, Finance Chair, Fundraising Chair, and Publicity Chair.



SHPE

The University of Delaware offers multiple opportunities for personal growth, academic training and professional development. The Society of Hispanic Professional Engineers (SHPE) can provide you with a multitude of opportunities for the development of a very strong, and very complete professional profile. Being located near Philadelphia and surrounded by engineering companies offers the chapter of the University of Delaware with unmatched resources. SHPE has served as the connection between the student body and the surrounding companies. Networking events, on site visits, guest speakers, student-driven

project development, hosting company officials and aiding in their recruitment, as well as many other activities have helped the student body merge smoothly into the workforce. These are all available opportunities that SHPE can provide. In conjunction with career services and department specific professional societies, college-wide societies play a very important role in the generation of prepared engineers. Anybody can join SHPE, no matter your major or any other background. All that is needed is motivation and that your goals align with SHPE's mission, values and vision.

These can be broken up into:

- *Equality of all people through the use of science and technology*
- *Diversity and social responsibility*
- *Excellence in education, professional pursuit, and leadership.*
- *Integrity, empowerment, and continued improvement*

Our most recent efforts have been geared towards student-driven projects and on-site plant tours, but join and see what it is all about. Contact us at:

SHPE.UDel@gmail.com

FEATURED ARTICLES

SEA-XBR by Jachin Spencer**SENIOR EE**

I recently saw a presentation about The Sea Based X-band Radar (Sea-XBR). The Sea XBR is a huge X-Band Phased Array Radar mounted on a mobile floating oil rig, standing over 20 stories tall, longer than 3 football fields, and weighing about 50,000 tons (Displacement Weight). It is an amazing feat of Electrical, Civil, and Mechanical Engineering with the ability to "see" a metallic sphere about the size of a grapefruit at a range of about 2000km. The Sea-XBR is going to be the linchpin of the new Ballistic Missile Defense System, being built by the Department of Defense.



While the Sea XBR operates in a static position the face of the radar can vary its elevation angle from 2 to 90 degrees, and its azimuthal angle range of motion is ~270 degrees. Electrical and Computer engineers should be interested in radar, because it brings together all facets of the major. Signal processing is used to analyze the radar cross sections.

Radar stands for Radio Detection and Ranging. A good analogy for how radar works is someone looking for something using a flashlight. The flashlight is the optical transmitter, the spot illuminated by the flashlight is the Radar Cross Section, and the eye would be the receiver. The analogy best describes a Bistatic Radar (separate transmitter and receiver). XBR is a monostatic radar, because the receiver and transmitter use the same antenna. X-band refers to the 10-12 GHz band of the electromagnetic spectrum. X-band is commonly used for surveillance Radars, because of its balance between resolution and atmospheric attenuation.

Laptops for Developing Countries by Tayler Wennick**FROSH CE**

Culled from [bbc.co.uk](http://news.bbc.co.uk/2/hi/technology/1009177.stm)
<http://news.bbc.co.uk/2/hi/technology/1009177.stm>

The group behind the "\$100 laptop" has formed a partnership which it hopes will deliver computers to every primary school child in East Africa. The partnership between One Laptop per Child (OLPC) and the East African Community (EAC) aims to deliver 30 million laptops in the region by 2015. OLPC has also announced a partnership with a UN agency which aims to deliver 500,000 machines in the Middle East. Both the UN agency and the EAC first need to raise cash for the laptops. The two groups aim to find donors to help pay for the machines, which currently sell for more than \$200, despite intentions to sell them for less.

"At the end of the day, it all comes down to money," Matt Keller of OLPC told BBC News, talking about the EAC partnership. "Ideally, we would live in a world where governments can equip every kid to be educated, but that's not the case."



He said the EAC was currently drafting a letter to US President Barack Obama to ask if the US could provide assistance to pay for the project. The countries were also exploring links with the aid community, he said.

"This is a very ambitious project for which we will have to partner with various people and institutions to mobilize and fund the resources required to meet our objectives by 2015," said Ambassador Juma Mwapachu, secretary general of the EAC.

The organisation represents the governments of Tanzania, Rwanda, Kenya, Uganda and Burundi.

The partnership with the UN Relief and Works Agency (UNRWA) aims to distribute half a million laptops to Palestinian children throughout the Middle East. UNRWA looks after more than four million Palestinian refugees in five countries. It has been conducting trials with 1,500 machines in the region and has begun to distribute a further 2,100 to a school in Rafah, in the south of the Gaza strip. "For us it is vital to get computers to our kids," Adnan Abu Hasna of UNRWA says. "We think many people and individuals will support the idea."

OLPC has had difficulty selling its computers and its alternative vision of education around the world. The organization - a spin out from US university MIT - originally aimed to sell the low-cost laptops in lots of one million to governments in developing countries for \$100 each. However, it had difficulty getting governments to commit to bulk orders.

The rugged machines - which are designed specifically for children in the developing world and run both Linux and Microsoft Windows - are now offered in single units for around \$200 each.

FUN PAGE**Jokes**

- There are four engineers travelling in a car: a mechanical engineer, a chemical engineer, an electrical engineer and a computer engineer. The car breaks down. "Sounds to me as if the pistons have seized. We'll have to strip down the engine before we can get the car working again", says the mechanical engineer. "Well", says the chemical engineer, "it sounded to me as if the fuel might be contaminated. I think we should clear out the fuel system." "I thought it might be a lead grounding problem", says the electrical engineer, "or maybe a faulty plug lead." They all turn to the computer engineer who has said nothing and say: "Well, what do you think?" "Ummm - perhaps if we all get out of the car and get back in again?"

You may be an engineer.....

- If the only jokes you receive are through your e-mail.
- If you want an 8X CD-ROM for Christmas
- If you use a Computer Aided Design package to design you child's Pine Wood Derby car.
- If you window shop at Radio Shack.
- If you have modified your can opener to be micro-processor driven.
- If you see a good design and still have to change it.
- If your IQ is bigger than your weight
- If you can remember seven passwords and not your anniversary
- If you can type 70 words a minute but can't read your own hand-writing.
- If you take along a printout of the schedule of your family vacation
- If at a traffic intersection, you try to figure out the synchronization pattern between your car's blinkers or wipers and others.
- If you think that people yawning around you are sleep deprived.
- If you take a cruise so you can go on a personal tour of the engine room.
- If you carry on a one hour debate over the expected results of a test that actually takes five minutes to run.

Source: James Qiu (xjqu@bcr.uwaterloo.ca)

Words of Reflection from Michael L. Vaughan, MSEE, Senior Assistant Dean of Engineering

Our University of Delaware, College of Engineering has one of this Nation's earliest and most successful engineering support programs. For more than three decades, the mission of the Resources to Insure Successful Engineers (RISE) Program has been to recruit and encourage academically prepared, African American, Hispanic American, Native American students, and others who, as a group, remain underrepresented in engineering. The RISE Program is administered by a dedicated full-time staff and has many special features that make it unique. In conjunction with College recruitment effort, RISE seeks academically talented students who possess strong interpersonal and leadership skills. These students in large part are highly motivated, intellectually mature, and determined. RISE students are continually oriented toward success in engineering through engineering-related employment opportunities, participation in engineering societies, and involvement in undergraduate research and study abroad activities.

It is widely held that one of the most important technologies of our age is the digital environment in which we live and work. It is unfortunate that within our country and throughout our world there remains an imbalance in resources and skills that many need to participate fully as a digital citizen. This is compounded by the age-old issue of educational access. Further, I would suggest that increased access to hardware, internet connections and software resources are not nearly enough to truly close this gap. The RISE Program and programs like it have been designed to help close the educational access gap. In a speech in 1963, President John F. Kennedy said, "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream which, fulfilled, can be translated into benefit for everyone and greater strength for our nation."

Far too many young people in our country are caught in a knowledge wasteland. Some of them have access to tools and resources but they have no context with which to apply these tools. This is where a program like RISE can help. There are young people all

across this nation and beyond who have the stuff it takes to be effective and successful students, citizens and leaders but we must continue to help them develop their thirst for knowledge and the context of its application. RISE participants -- you must continue to strive for understanding and develop new and innovative ways to apply that understanding with passion to enhance our human condition. This is the true responsibility of an educated person.

It has been my extreme pleasure to be associated with the RISE Program for my many years at the UD. With the continued support of our various RISE partners, the RISE Program will continue to flourish and remain a companion resource to our strong engineering educational experience here within our College.

A career is a journey of many steps. The RISE Program can provide a paramount leap forward.

TO MY FELLOW FRESHMEN BY ERIC DAHL, FROSH CE

Freshman year for engineers is a time to build momentum: a time for students to acclimatize to their college environment before they are hit with the full force of an engineer's workload. It is designed to be like an entry ramp for merging onto the interstate, giving space for merging cars to speed up. Freshmen need that space to be able to prepare for the full speed and difficulty that comes with sophomore year and "real" engineering classes. We all remember our first time merging onto the interstate, though. Seeing all of the cars zooming past, the first instinct is to slow down; but your dad in the passenger seat is tensely saying, "accelerate... accelerate... you need to get up to speed." Getting prepared for sophomore year is not as easy as it seems. We all have non-engineering friends with easy classes who seem to breeze by with a

minimal amount of work, and we are forced to think our classes are not as hard as they ought to be. So we slack off a little. Not too much to hurt our grades, but enough to form a few bad habits and fall into a sense of false security. Now is the time to break those habits, fellow freshmen. We have finals and one summer to get up to speed, or we risk being rear-ended by our classes in the fall. Good luck.

<http://www.engr.udel.edu/rise/index.html>

