Looking at the state of affairs of the world today, one cannot but notice disquieting trends: population growth associated with inequality, environmental degradation, and an ever growing stress placed on our cities and on the planet as a whole. We may ask ourselves as engineers or ‘engineers-in-the-making’: ‘Are we doing the right things, or are we just doing things right?’ This question is particularly relevant in the context of the recent “sustainability” and “going green” vogues. I do not presume to propose an answer to this question, which may be the subject of prolonged debates. Instead, I will leave it for you to ponder and move on to talk about matters more specific to the engineering community at AUB.

I am sure we are all aware of the level and quality of education offered by the CEE Department. So, I do not need to restate that fact before saying that improvement is always a possible and desirable objective, even for our CE program! The quest of the faculty for continuous improvement should not be underestimated. As a matter of fact, from the initial feedback of the recent ABET accreditation process, it seems that we have “passed” with flying colors. The important question is “What do we get out of ABET in the event that we are accredited?” Dr. Ayoub put it well when he said: “this would for sure put us on the map as a recognized (at least in the United States) Civil Engineering Education Center. Consequently, this will open doors for the department, its students and graduates for better opportunities in acquiring faculty research grants, in getting a better chance for students of being accepted in graduate programs at top ABET accredited universities in the U.S., of getting a better chance for graduates to be accepted by the engineering community in job placement opportunities in the U.S., in individuals joining or forming a Lebanon Branch and consequently a Student Chapter at FEA of the American Society of Civil Engineers, etc… Overall good benefits”

Stepping away from the strictly academic side for a moment, I think we are one of the most cohesive departments at AUB. The Civil Engineering Society (CES) and CivilNews certainly play a substantial role in promoting this collective spirit; they should be strengthened and maintained to remain active in that realm so as to continuously contribute to sustaining and enhancing this environment.

On a final note, a number of colleagues and I were discussing our career paths and objectives the other day during some free time (yes we still have a few minutes to spare here and there!). It seems that everyone’s objectives revolve around prosperity and success, whether it is in the form of wealth, fame, authority, innovation or just mere satisfaction with one’s work. These objectives are perfectly sound, but must be anchored in fundamental values and principles that exemplify social and environmental responsibility; values that direct the use of knowledge in the interest of public good and to dealing with the environment responsibly in the interest of future generations. This is how we should view success. How can we achieve that? Well the first thing for sure is that there is no substitute for hard and smart work.

Of course hard work should not be our sole focus. There is more to life than work as is so well captured by this old and wise saying: Yesterday is history, tomorrow is a mystery, and today is a gift, that is why it is called present! So how should we go about developing ourselves while enjoying the things around us at the same time? Another question I will leave you to mull over…

Amir Salam
Dr. Maya Abou Zeid, one of our newest faculty members and also one of the first of two full-time female professors has excelled in the transportation field. Earning her Bachelor in Engineering in Civil Engineering from AUB, Dr. Abou Zeid decided to come back to the place where her academic journey began.

Her work experience entails being a teaching assistant at MIT for a graduate course as well as for professional one-week courses at MIT, Switzerland and Portugal. Going back a couple of years, Dr. Abou Zeid chose Civil Engineering arbitrarily because it was a major that was booming at the time, with many job opportunities and a lack of qualified engineers in the market to undertake them. When picking a company for her third-year summer internship, the transportation department at Dar Al Handasah seemed like the best choice, paving the way to a very rewarding career. Returning to Lebanon has been exciting for Dr. Abou Zeid. Having just finished her Ph.D. earlier this year, it has been fulfilling to be back in her home country with her family. Although she has only been back for three months, being in a familiar environment has helped her settle down easily. Surrounded by a prominent level of teaching and hard working students has also made the experience more enjoyable.

Dr. Hiam Khoury, another one of our first full-time female assistant professors, has joined the Civil Engineering department this semester as an asset to the new Construction Engineering program. Specializing in Construction Engineering and Management has significantly helped expand the program.

Starting off as an undergraduate intern at MAN Enterprise here in Lebanon, Dr. Khoury went on to becoming a hard-working engineer with a very diverse work background. This includes research at various institutes and universities, the publishing of various papers in prominent journals, and being a teaching assistant, a laboratory assistant, and a research investigator both here in Lebanon and abroad.

The thing that motivated Dr. Khoury the most to become a Civil Engineer was the desire to follow in her father’s footsteps. Interestingly enough, Dr. Khoury started out as an Architecture student at ALBA but ended up changing majors after realizing she loved design, but didn’t love the idea of being taught how to design. Dr. Khoury considered teaching positions at various universities in the US, but chose to move back to Lebanon instead. She has expressed that, so far, she feels extremely lucky and grateful to be at AUB, especially since she is not an AUB alumnus. The faculty, she says, has become more than formal co-workers to her, but rather friends who have made her short stay so far, a pleasant one.

On a personal note, in her free time, Dr. Khoury enjoys sports, especially basketball. She has also been playing the piano since the age of 10, with a love for all kinds of music, as well as salsa dancing. A message from Dr. Khoury to the students is: “Appreciate the construction program as much as the civil because, even though it is covered in 3 years instead of 4, it is as competitive and as interesting as all other areas. Also make sure you pick the right electives as those can determine where you end up in the future”. We’re glad to have Dr. Khoury on board and we wish her all the best!
BASHIR ASYALA: THE UNBEKNOWN SIDE

Mr. Bashir Asyala may be known to most of you as the smiling technician who helps with all the ground work at the materials lab, but unbeknown to most are his ferocious tennis skills. Mr. Asyala played tennis for 18 years, recently letting go of his long lived hobby. He has always been athletic and used to enjoy long distance running; it was in fact his sporty personality that first ignited his interest in the sport. Mr. Asyala explains that he believes that as a tennis player, and in fact as an athlete, the most important attitude is one of discipline and desire. According to him, playing tennis is a way of blowing off steam, and that is what he did just about every day after work until recently.

Mr. Bashir Asyala

Catherine French, I.T. Distinguished Professor at the University of Minnesota, has visited the CEE department at AUB for a week in December 2009 and gave a presentation entitled “Seismic design principles and role of experimental research in advancing performance-based engineering”. Professor French joined the University of Minnesota back in 1975 as an undergraduate student in civil engineering and graduated 4 years later in 1979. She then worked for a short period of time before joining the University of Illinois at Urbana-Champaign as a graduate student where she earned her master’s and Ph.D. in 1980 and 1984, respectively. It is during these years that Dr. French became interested in research and found her career interests; upon graduation, she decided to pursue a career in academia.

It just happened that the University of Minnesota had opened a new building in 1982 which had a brand new structures laboratory; as such, new faculty was being recruited and Dr. French joined shortly after completing her doctoral degree allowing her to participate in the development of the new laboratories and the setup of the program. Her research interests include work on:

- experimental investigation of reinforced and prestressed concrete structural systems subjected to earthquake or fatigue loadings, participation of the floor slab/panel systems in resisting lateral loads, bond strength and durability of reinforcement in concrete, evaluation and repair of damaged structures, and development and application of new materials.
- Besides earthquake engineering, Dr. French likes to do work related to bridge structures; after the collapse of the 35W bridge in 2007 which was right next to the university campus, she was involved in monitoring the implementation of the new post-tension system and helped develop structural monitoring systems. With regards to education, she especially likes teaching design because, unlike analysis where there is always an answer, design involves more creativity and many different approaches.

This was Professor French’s first time in Lebanon. Her visit to AUB was motivated by many reasons: The first is that her son has been here in Lebanon working in economic/financial related matters. The second is that she heard a lot about AUB and knows that some of the faculty are involved in ACI and earthquake engineering research (Prof. Hamad and Prof. Harajli for instance), and because she had read some of their publications, she was very interested in coming and meeting them in person. Lastly, it is also an opportunity for exchange programs to be facilitated between the two universities where both students and faculty can be a part of. As Prof. French puts it, the best way to make connections is to “physically visit”. When asked about her visit and AUB, the reply included “terrific faculty”, “probably the most beautiful campus I’ve ever been on”, and “great food”. Dr. French observed that professors here at the CEE department are significantly involved in the local community and noted having that advantage in the classroom. She also noted the importance of having students understand structural detailing very carefully.

In keeping up with the holiday spirit, the CEE department, with an initiative from Prof. Habib Basha, decided to opt for a more elaborate holiday decoration this time around. This task was undertaken and funded by the CES with the assistance of a few volunteering CEE students. We would like to thank our esteemed chairman for donating the Christmas tree to the department. Best wishes for the New Year from the Civil News team.

Alexandra C. Covero

In keeping up with the holiday spirit, the CEE department, with an initiative...
THE CIVIL ENGINEERING SOCIETY: RECENT DEVELOPMENTS

The civil engineering society has grown to be one of the largest and most active societies in the faculty of engineering. The civil society is not like any other society; it could be likened to a family. Looking back at the years that have passed, the society had around 55% of the students involved in the society, today this number has grown to an impressive 90% of the civil engineering student body. The society stands today with more than 300 members in total.

In an effort to bridge the gap between the faculty and students, the CES created the “Happy Hour” affair, which has become a successful recurring event ever since its instigation in the fall of 2008. This event offers a setting for both professors and students to come together in a relaxed atmosphere, enjoy some food and refreshments, and engage in discussions about varying topics ranging from career advice to general anecdotes and sharing of jokes.

The first Happy Hour event saw only around 25 students attending whilst the latest, which took place the week before Christmas of 2009, had an impressive 200+ attendees filling up WING D in its entirety. Just about all of the CEE faculty attended the event, including our esteemed Dean Hajj who was amazed by the turnout and identified us as “the ones who will build Lebanon in the future”.

The society has been offering its members software tutoring in such software as AutoCAD and Primavera, by bringing in outside professionals. It intends to continue with this service every coming year as to promote higher-level software skills, which is essential in tomorrow’s engineering career. This year, AutoCAD sessions will be given in both the fall and spring semesters and there are currently 35 students taking these extra curricular sessions this semester.

The increased interest in the society is not only limited to membership side of it but also the leadership; this academic year there was an outrageous number of nominees for the CES cabinet. However, due to the limited size of the cabinet, only two students from each year were allowed to nominate themselves. The results of the November 9, 2009 elections are summarized below:

- E4: Georges El Nachef and Suha Saleh
- E3: Ziad El Bizri [46] and Mohammad Yatim [46]
- E2: Hassan Al Hajj Hassan [32] and Omar Hamad [43]
- E1*: Patrick Obeid and Emile Zankoul

Cabinet position were assigned between the elected members as follows:

- President: Georges El Nachef
- Vice-President: Mohammad Yatim
- Secretary: Ziad El Bizri
- Treasurer: Omar Hamad
- Advertisement: Suha Saleh
- Record Keeper: Emile Zankoul
- Public Relations: Hassan Al Hajj Hassan
- Public Relations: Patrick Obeid

On a final note, we are proud to announce that the CES has been given a fully equipped meeting room to be shared with the IEEE society.

* The candidates ran un-opposed and were elected by default.
The annual Christmas dinner was held this year at the Intercontinental Commodore Hotel, Hamra, on the 22nd of December 2009. The dinner included for the second time students from all engineering departments and was the result of the collaborative efforts of the many student societies (CES, IEEE, ASME...) and engineering SRC’s at AUB. Tickets sold out as the event saw the eager participation of more than 300 students inscribing this occasion in the book of memories. The distinguished presence of Chairperson Sadek, Prof. Mabsout, Prof. Basha, as well as professors from other departments also marked the night. Students celebrated in a warm environment enjoying tasty Lebanese mezza followed by delicious cakes and a yule log cake especially addressed to the civil engineering students by the CES. Students, as well as one professor, danced the night out...

CEE ALUMNUS LETTER

Back in 2004, I joined AUB resolved to major in Civil and Environmental Engineering (CEE), a field I passionately admired since a very early age and to which I got introduced through my father. Today, I look back at the AUB CEE experience and realize it was among the best, for it is more than mere education. Students are prepared to be leaders in the field through a rounded and practical program with an exposure to contemporary trends. In addition, the right balance exists between coursework and research/projects, thus developing one’s analytical skills and sense of curiosity in learning. The third-year summer internship, which can be performed in academia or in industry, and the Final Year Project are such examples. In my case, I opted for a summer research internship at UC Berkeley in the Structural Engineering, Mechanics and Materials (SEMM) program, a great research experience with strong exposure, and worked along with peers on a Final Year Project researching sustainable construction and renewable energy at the AUB AREC Farm.

Following my graduation in 2008, I joined a leading management consulting firm, working on projects in the MENA region. Despite my passion for the CEE field, this job was quite fulfilling, bridging on the engineering education with management exposure in order to resolve clients’ most challenging problems. In addition to the aforementioned, the nature of the job couples an intensive lifestyle with a high learning curve, providing the opportunity to network with exceptionally talented people within the firm and high-caliber clients. Typically, projects are segregated by practice, i.e. industry, along a broad spectrum (for example, Telecommunications, Energy, Public Sector, and Media).

Students interested in working in the management consulting industry should bear in mind that engineering content is not necessarily applied however soft skills acquired in an engineering education are core. Personally, I believe that extensive report drafting, software and spreadsheet use on projects, presentation of projects/ internships, structured thinking required in solving engineering problems much used throughout the CEE education are particularly useful for the job.

Since students graduating with a Bachelors degree have no work experience, criteria used for interview invitation are academic performance -typically distinction level- in addition to social activism (through university clubs, societies, SRC, or Non-Profit Organizations, etc.) which reflect one’s social and leadership skills. Interviews typically do not measure thorough business knowledge but rather structured thinking, analytical skills and ease of communication by solving business cases or riddles. As a last note, those who decide to work in this industry should not mind intensive travelling –usually travelling every week- and long working hours. They should also have strong interpersonal and communication skills much needed for work presentation and client interaction.

Ultimately, my career ambitions lie in sustainable development, a fundamental field that regional Governments are becoming increasingly aware of. Still, communities’ awareness lags behind in this part of the world. Where passion for the topic and urging demand meet, I am hoping to have throughout my career an influential role, creating a change for the better through environmental awareness initiatives along with the development in due course of a related business such as environmental-friendly design and construction or environmental consultancy.

Roula Rbeiz
Ali Badran’s “I DRAW YOU WITH ROSES”

Second year Civil and Environmental Engineering student Ali Badran has recently published (last year) a book of poems entitled “أرسمك بالورد”. Mr. Badran’s interest in poetry was sparked at around the age of 10. This was a very emotional time for Ali as he was both in love and in despair as a result of the unfortunate passing of his older brother due to cancer.

Writing poems was more than just an interest; it was a way to express his feelings. Ali began taking this interest seriously at the age of 14, when friends and teachers first read his work and encouraged him to continue, as he was clearly gifted in the art of writing poetry. As a writer he is inspired in two ways. When he writes about love, he explains, “I want to love her in a special way few did before me, everyone can give red roses or chocolate, yet few can write a love poem.” When he writes for his brother however, he emphasizes that he is still neither able to understand, nor explain how he gets his inspiration.

He has said that his most preferred subject is love, and that the majority of his poems are indeed love poems. This does much to explain the title of his recently published book, which when translated literally means “I Draw You with Roses”. Below is an excerpt from one of his poems:

أرسمك بالورد
لا أفعل كبقية العشاق،
لا أكتب إسمك على جدران الطرقات.
فالأزهار تنمو،
و الأسماء تمحى،
و لا يبقى من الجدران حجر...
و لا أخط إسمك على زجاج سيارتي،
فكثيراً ما تكسر السيارات،
بل أرسمك على كفي
و آزين به جبهتي
و أطبعه في مقلتي
و أحفره هناك في قلبي
حيث لم يسكن من قبل بشر...
أرسمك بالورد
على جبهة الريح,
تتصير نسيماً عليلاً...
و ألوين عينيك بفحم الغيوم،
و أكتب "أحبك"
بماء المطر ...

Ali at his first book signing with Minister Yassine Jaber
THE DA VINCI TOWER – DUBAI, UAE

The revolutionary Dynamic Tower, also called the Da Vinci Tower, is the world’s first moving building, which challenges traditional architectural concepts and heralds a new era of architecture, becoming the symbol of a new philosophy that will change the look of our cities and our concept of living.

The 420-meter skyscraper designed by David Fischer, gains its dynamic character from the fact that each independent floor (either apartments or offices) will be able to spin a full 360 degrees around a central core by means of integrated energy generating mechanisms, which take the concept of “green” buildings to new heights. A total of 79 wind turbines, sandwiched between each of the 80 floors, together with solar panels covering the roofs of every floor will generate enough electricity to make this tower 100% self-sufficient. The potential energy production of the turbine system, estimated to be up to 94,800 MWh per annum, with the added effect of the solar cells will provide surplus energy that can be fed back into the grid and enough to be sold to about five of the neighboring towers.

The traditional vertical wind turbines have environmental and social effects, including the need for roads to build and maintain them in addition to the noise emissions and obstruction of views. In contrast, the Dynamic Tower’s wind turbine system is virtually invisible and the carbon fiber material of which they are made make them extremely quiet. It is worth mentioning that this innovative project has a secondary aspect of efficiency tied to it, making it the first of its kind; the skyscraper will be the first to be pre-built in a factory in the form of modules and installed around an onsite-constructed core. This venture will require a 20 times smaller workforce and one third the construction time of a similar conventional tower project.

The skyscraper, with an estimated price tag of $700 million and a completion date in 2010, has been having wide-spread interest; plans are already underway for a 70-storey version in Moscow and an American investment group has inquired about building something similar in the USA. The growing interest serves as a sign of a bright future for such projects, being self-sufficient, sustainable structures.

GO GREEN

Water-Powered Clock

This handsome water clock manufactured by Bedol works solely on natural power! The clock has a reservoir that you fill with tap water; then you add a dash of salt and you’re all set! A chemical reaction takes place and electricity is generated!
1 - Which of the figures should replace the question mark?

2 - Which figure should replace the question mark?

3 - What number should replace the question mark?

4 - Which of the figures does not fit in with the rest?

Key:
1. Every row contains one of each shape and the blue color is alternated between shapes.
2. The numbers at the top and the left corner are multiplied and the number at the right corner is added to the sum, which is placed in the middle.
3. The columns of the third block are the summation of the corresponding columns of the first two blocks. White + White = White, White + Black = White, Black + Black = White.
4. A copy of this figure is made up of an odd number of triangles. If the outer triangle is included, the number of triangles in the copy is 5.

Brain Teasers by LexVero

Your feedback, suggestions, comments, and contribution are welcome. Please direct them to civilnews@aub.edu.lb

CEE Department website: http://webfea.fea.aub.edu.lb/fea/cee. CES email: ces@aub.edu.lb