



GREATER METROPOLITAN WASHINGTON AREA AFFILIATE
Career directions for students in architecture, construction and engineering

www.acementor.org

Volume 1, Issue 10, July 2009

Letter from the President

My, how time flies - our ninth mentoring program is now complete. The school year is over and this newsletter highlights our two major events of the program, namely the scholarship breakfast and our project presentation night, plus reports from each of our mentor teams. Unfortunately, in addition to our record-breaking activities, I must also report a great loss - the passing of our recently appointed Executive Director, Mrs. Ranine Talbert, in March. Ranine had quickly taken to the ED role with passion, energy and drive, and was instrumental in the start of our Affiliate record-breaking year. She will be sorely missed by all of us.

Due greatly to Ranine's efforts, 2008-2009 was the best yet in our nine-year history, with a record of 16 school ACE teams and over 200 students. Our project presentation night had 11 presentations, utilizing the latest technology and very professional approaches. Our scholarship breakfast was very successful, and we awarded 12 scholarships totaling \$48,000. Growth and expansion; however, continue to spawn key issues. Finding sufficient funds and mentor resources to sufficiently respond to the unquenchable thirst of our students to learn and find out more about architecture, construction and engineering is our greatest challenge - but such challenges are also opportunities!

The major crisis in the construction industry of attracting the next generation to careers in our business continues to be a huge problem for all of us. The mission of the ACE Mentor Program is to do something positive about it. Attracting and selling our industry to high school students is both a challenge and an opportunity. Our students are great, smart and most interested in what we do, whether it be engineers, architects, construction trade workers or management. This has been witnessed first hand by our mentors, schools advisors, scholarship selection board members and those of us that have hired some students as interns. To be really successful, we in industry need to do more in supporting the program...the win-win scenario is obvious for all of us. We have many more schools interested in starting programs, but need sponsors and mentors to support these new teams. It sounds like a broken record, but we need your help to sustain the program. If we don't show the leadership and commitment to the students, we can't expect them to be responsive to us and seek careers in our business.

After a short summer break, the planning process for next year's program will begin in earnest. We are also mobilizing a new search committee for an Executive Director - please contact Christine Merdon at 202-572-2523 if aware of an individual suited for the position. Also, please contact me at 703-742-5701 or via e-mail Reseigh@pbworld.com, if you are interested in any type of participation - from mentoring to sponsoring. There's something for everybody!

Take a look at our website, www.ACEmentor.org, and enjoy the contents of this newsletter. Thank you for all your support, and we look forward to another great year.

Chris Reseigh, P.E.
President, Washington ACE Affiliate

A handwritten signature in black ink that reads "Chris Reseigh".



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2009 ACE Scholarship Breakfast at Historic National Airport Terminal



The ninth Annual ACE Mentoring Scholarship Breakfast was hosted by Paul Malandrino of the Metropolitan Washington Airports Authority (MWAA), and at the event, 12 students were awarded 2-year scholarships of \$4,000. Our keynote speaker, Allen Lew, Executive Director of the DC office of Public Education Facilities Modernization, inspired the audience of construction industry engineers, architects and contractors, as well as ACE supporters, mentors, schools advisors and parents, to strive for excellence and success in their varying roles and to encourage our youth to look at careers in our business.

As has been our custom, Tom Luebke of the Washington Architectural Foundation opened with a lively and creative ice-breaker for the attendees to demonstrate their design and construction skills (as well as their aesthetic talents) by building paper structures and competing for the highest and most creative objects. Allen Lew then assisted our Scholarship Chairman, Greg Stinner, of IMI in presenting the ceremonial checks to our student winners as listed below. A special thanks to the sponsors of the scholarships and the purchasers of tables, plus all the supporters and attendees for once again making this event a success.

| <u>Scholarship Winner</u> | <u>School Representing</u> | <u>Scholarship Sponsor</u> | <u>Amount of Scholarship</u> |
|---------------------------|----------------------------|----------------------------|------------------------------|
| Bianca Jackson | Suitland | Ranine Talbert Memorial | \$4,000 |
| Josue Fernandez | WT Woodson | Lane Construction | \$4,000 |
| Nina Randorf | George Marshall | Turner Construction | \$4,000 |
| Karla Osorio | Wheaton | Thomas J Paci | \$4,000 |
| Jason Singh | Wheaton | Turner Construction | \$4,000 |
| Daniel Delorme | WT Woodson | Atlantic Contracting | \$4,000 |
| Jacob Bennett | WT Woodson | Parsons Transportation | \$4,000 |
| Christopher Bishop | Hayfield | PB Americas | \$4,000 |
| Diego Sanchez | WT Woodson | Belstar | \$4,000 |
| Charvina Thompson | Booker T Washington | Sigal Construction | \$4,000 |
| Christian Chance | Booker T Washington | MWAA | \$4,000 |
| Danny Gramajo | Bell Multicultural | McGraw Hill Construction | \$4,000 |

ACE Mentor High School Team Reports

Coolidge Senior High School

This was the first year for the Coolidge ACE team, led by Julee Thomas and teachers Mr. Harold Williams and Mrs. Sivinesan, being very active with 10-15 students participating on a weekly basis. For black history month, Kenjie Davis (National Society of Black Engineers - NSBE) gave a presentation on famous black engineers and inventors, and Matheos Mesfin became student president of the first chapter of NSBE at Coolidge. Sandra Toju was selected after interviewing with the National Building Museum to be a part of their summer internship program and manage other students. The students and mentors also went on a "behind the scenes" tour at the US Botanical Gardens to learn how the facility went through a major renovation and lessons learned.

The valuable information students gained through these activities was critical when working on their capstone project, which was to bring to life the existing greenhouse at Coolidge, abandoned for decades. Coolidge alumni, Frank Jones and James Proctor, become an integral part of the team during work on this project. The Takoma Neighborhood Association also became deeply interested in the Coolidge team's greenhouse renovation project after the Coolidge ACE team made a presentation at one of their meetings. The students and mentors are currently working to receive grants to bring this project to fruition, since many individuals, including the Takoma Park Association, Coolidge students, alumni and administration, ACE mentors, etc., want to see the actual project built and integrated with the school curriculum.

Many thanks to all the students, mentors and ACE administration for making the first ACE team at Coolidge such a huge success!



Crossland High School

This year's program, led by Tonia Taylor of Tompkins Builders, consisted of approximately seven students (five architecture students, two IT students). Students participated in various activities to promote teamwork, as well as increase their knowledge in design and planning. Overall this was a wonderful year at Crossland. The students and faculty are eager for next year. A few of the activities conducted with the group this year were:

- Spaghetti and Gumdrop Structure – Students were split into groups and competed to build the tallest, strongest structures out of spaghetti noodles and gumdrops.
- Plan, Section, Elevation Activity – Students learned about different views through the use of an apple
- Design Build Contest – Students, in groups of 3, formed groups with 1 Architect and 2 Contractors, and were given a budget of \$150 to purchase materials to construct a design drawn by their Architect using popsicle sticks, paper and glue. Students competed to build a structure based on plans, within budget and within schedule.



- Students participated in two field trips, touring the Fort Belvoir Community Hospital and Saint Elizabeths project jobsites.
- For the end of the year project, students proposed the redesign of Iverson Mall, currently an undeveloped mall in Suitland, Maryland. This mall sits within close proximity of to the school. Students had a deep interest in doing this project due to its potential, and their interest and concern showed in their work. Students utilized Sketch-Up and AutoCad for the drawings. They also hand-drafted and created a scaled model of their project (see photo from group presentation at left).

Bell Multicultural High School

The ACE mentor group at Bell Multicultural High School in northeast Washington, DC had an overall very successful 2008-2009 season. Mentors Gunnar Lucko, Bill Sawicki, Kim Schiffgens, Susan Riazzi, Cary Simmons, Dan Noonan, Ben Cohen, and Perri Walsh, guided a talented and interested group of 10 students. We are particularly grateful for the strong support of teacher Mike Diffley, who made all the activities at Bell Multicultural possible.

During the fall semester the ACE group hosted the ever-favorite spaghetti-and-gumdrop structure competition, presented and discussed various professions, had sessions on scale drawings, project planning, and real estate development, and visited the office suite of AECOM in Arlington for an extended tour with detailed explanations of their professional work by our friendly hosts. In the new year, the landscape designers among the mentors



created an innovative new activity, building a topographic model out of Graham crackers, which was received enthusiastically by the students. Other sessions included a cost estimating exercise and project design basics.

In April, our senior student Danny Gramajo, accompanied by his parents, was the proud recipient of a college scholarship, awarded to him at the ACE annual scholarship breakfast at Reagan National Airport (pictured left). The remainder of the spring saw the team actively working on design drawings and a balsawood model of their chosen project, a family-friendly hospital. Another novelty was the consideration of interior design and the production of

poster boards with tile, fabric, and paint samples the students assembled to present their individual visions of a healing environment. The season was capped by an outstanding presentation at the American Institute of Architect headquarters in May, which showed once more dedication and interest in architecture, construction, and engineering that the students had developed through participating in ACE!

Hayfield High School

This was the first official year for Hayfield Secondary school, and accommodated the ACE Mentor program within their school campus. In the past, Hayfield students participated in the program at another school. Lakshmi Nalluri, of Gilbane, was the lead mentor, along Peter Fiebelman, Matthew Memberg and Cheryl Lough of HDR, and Brad Ciszewski of Gilbane. With teacher, Mr. Dereck Turner's, dedicated support and encouragement, the school got a jump start with an ACE presentation by the Turner/Gilbane JV team at Fort Belvoir Community Hospital project, and the late Mrs. Ranine Talbert.

20 students initially signed up. About 2 sessions into the program, with word of the program spreading, four more joined in. However, with most of the students being seniors, students began getting double and triple committed towards the end of the program and were forced to choose between their commitments for sports and other activities, as well as concentration on their grades. Nevertheless, with no lack of enthusiasm through the program curriculum, the students actively participated in class projects on various topics including structural engineering, landscape architecture and sustainability.

Through numerous brainstorming sessions for selection of the capstone project, the students finally settled on redesigning their own school sports field and to address various associated performance issues. Through multiple iterations and thought-processes, the design evolved and re-evolved. The mentoring curriculum also took the students out on field trips, one to an Architects HDR's office, and another to the Fort Belvoir Community Hospital jobsite. Both trips gave the students a peek into a day in a construction professional's work life. Most of the juniors currently in the program are interested in continuing next year and are also motivated to participate in the National CERT competition.

Woodson High School

The Woodson group kicked off the 2008-2009 ACE program in October, and maintained a strong showing throughout the year with an average attendance of between 15 and 18 students per meeting. The first part of the year was dedicated to various projects and activities, including gumdrop towers and card deck bridges. After the Christmas break, the students began working on their capstone project.

After much deliberation, the students decided that this year they would like to design a project outside of the United States. This evolved into an exotic resort settlement on a small island in Fiji. Part of the design feature was to build an aquarium space for visitors to experience the reef world in an everyday environment. As research for this enclosed aquarium, the students visited the Amazonia exhibit at the National Zoo. The students visited every aspect of the aquarium including behind-the-scenes mechanical and filtration areas and upcoming exhibition areas.

The project development began with outline programs and bubble diagrams, with each student presenting their option. From there, concepts began to take a life of their own. At each stage, the project incrementally grew in scope. Student teams were formed to design each of the many buildings, which included a main building, large and small hut complexes, and site plans organizing the entire site. As the deadlines loomed, the students pulled together with a fantastic presentation including 3-D models, built models, a full range of architectural and engineering drawings and virtual walkthroughs. The team was certainly proud of the work they had accomplished, and although there were a number of seniors, there is a strong contingent of lower classmen that are looking forward to next year.

We would like to give a special thanks to Ryan Seymore of GAA and the mentors who dedicated their time to the success of this team, to Mr. Chu, and to Woodson HS for the great facilities that made it possible.



Wheaton High School

We had another successful year, our fifth, at Wheaton HS in Montgomery County, MD, with 15 registered students. We got off to somewhat of a rocky start as several of our mentors got laid off from their jobs last fall and were unable to continue with the ACE program. Fortunately, Oswaldo Ortega of HOK chipped in and did a wonderful job covering the architecture side of the program, while Tom Paci took care of the engineering and construction aspects.

In the fall, we did sessions on designing a table, designing the tallest building in the world, and covering the basics of what we were doing on our jobs as professionals. Our capstone project was a green urban development powered by a wind farm in West Virginia. Turner Construction donated a model of a working wind turbine. The students experimented with the turbine to deliver the maximum power output. We varied the speed of the wind, the shape of the blades, the pitch of the blades, the number of blades, and the smoothness of the blades. The students got a very good insight to wind energy with this hands-on experience. We started building a scale model of the urban development that we may complete next fall.

Suitland High School



As another school year comes to a close, the students involved in the ACE Mentor Program at Suitland High School in Forestville, MD (pictured left), reflect on their successful journey throughout the year. The Suitland program, lead by Nadiyah Vass and Calvin Austin, got off to a great start. Some of the early lessons consisted of scaling a structure, the spaghetti and gum drop challenge, and the roles and responsibilities of the construction industry. The students played a game of Jeopardy in which the questions consisted of different scenarios involving the roles and responsibilities of construction and design industry professionals. Of course, questions had to be answered in the form of “who is.”

Our students also had two site visits this year. The first site visit was at the new St. Elizabeth’s Hospital expansion in Washington, DC. The second site visit was at the New Maritime Intelligence Center in Suitland, MD. At the site visits, the students learned the importance of structural design and the construction process.

To prepare for the end of the year project, each student was assigned an industry role. The team had decided to design the first energy- efficient mall in Prince George County, MD. Along with provided lessons on energy efficiency, each student had to research LEED categories such as sustainable sites, water efficiency, material and resources, and indoor air quality, and apply some of these principles to their mall. The research paid off. The students’ design was very successful. The name of the mall is Greenland Mall and it offers an environment which is great to shop, work and play.

This year at the annual ACE Scholarship Breakfast, Bianca Jackson, senior at Suitland High School, was awarded an ACE Scholarship (pictured right). Bianca will be attending Hampton University this fall where she will study Architecture. Everyone in the Suitland program is so proud of her!



Our students learned a lot of new ideas that they can carry on with them to college and throughout their careers. This year overall was a success for the Suitland team and we can’t wait to do it again next year.

Robert E Lee High School

2008-2009 was the inaugural year for Robert E Lee High School (located on Franconia Road, just near the Springfield Interchange, in Fairfax County) ACE mentor team. Chris Reseigh and Sarah Ice from Dewberry were the team’s mentors, and Mr. Phil Saunders was the school’s advisor. We had 8-20 students participate at the sessions.

Being the first year, we did not attempt a formal capstone project; however, students stayed busy working on the “Homes of Your Own” CD provided by the NHAB, and building paper bridges and testing them – what great fun we had! We also discussed careers in architecture, construction and engineering, green buildings, sustainability and materials usage. Our highlight was a field trip to Dulles Airport to witness construction of the underground people mover and meet the architects, engineers and construction managers involved.

Booker T Washington

The ACE Mentoring Program at Booker T Washington High School is mentored by a group from the US General Services Administration's (GSA) led by Winston Wright and Dawit Zena, and an engineer from Thornton Tomasetti. Student attendance has been as high as 16, with a core group of six students regularly attending sessions held every other Thursday. The contact person for ACE at Booker T is the school's Autocad teacher, who is a great help. In the end, GSA planned to bring in two of our students as summer interns – it will be the third year GSA has graciously brought students from our group in as summer interns. Thomas James and others at GSA contribute greatly to make the summer internship program a success.

At the beginning of the program, the students were engaged in activities that included architectural, engineering and construction topics. Architectural design of the FDA campus, the structural design of several international and US projects performed by Thornton Tomasetti, the electrical and mechanical engineering design and construction profession were some of the various topics discussed during sessions. A structural mini-project was also conducted.

During the second half of the year, the students began work on their capstone project. The mentors, led by architect Jon Lee, helped these energetic students choose from several project types and guided them in proceeding in an organized way. Structural engineers Dawit Zena and Lisa Chong assisted with the design and programming, and also explained possible structural framing systems. Electrical Engineers Gaftie Marlow and Winston Wright discussed the electrical and power needs for the project, Mechanical Engineer Michael Holness discussed possible mechanical systems for HVAC and plumbing, and contracting specialist Terrie Latimer, along with the other mentors, addressed project contracting and construction management aspects.



ACE Project Presentation Night is a Record Breaker!

On May 21, almost 200 students, parents, teachers and mentors packed the AIA Headquarters board room, located at 18th and NY Avenues, to overflowing capacity for 2009 Project Presentation Night. A record 11 teams made outstanding presentations of their capstone projects.

Technology, presentation skills and innovative ideas highlighted all the presentations. Entertainment and leisure facilities, along with eco/green building design themes were the most popular projects.

One team did a redesign of their school's cafeteria. Another team included a survey of one-thousand students to determine their opinion of what was necessary to renovate a nearby shopping mall.

At the end of each presentation, the lead mentors presented completion certificates to the students and appreciation certificates to the mentors and schools advisors involved with their teams. Thomas James, ACE Mentor Committee Chair of the event, presided over proceedings while everyone enjoyed the buffet food and drinks to finish off another great year!

Thanks to all who participated in making the 2009 ACE Project Presentation night such a joyful event!

More photos of project presentation night follow on page 8...



ACE Project Presentation Night is a Record Breaker, cont'd.



In Memoriam

RANINE TALBERT



We were saddened to report the passing of our ACE Mentoring Executive Director, Mrs. Ranine Talbert, in March of this year. Ranine had been appointed as our ACE Mentor Affiliate in September 2008, and her brief tenure was highlighted by her passion, energy and dedication to expanding and directing our program. For all those that met and worked with her, she will be sorely missed.

Our condolences prayers and thoughts go out to her husband, Marc, and family. In honor of Ranine, we have named one of our annual scholarships for Prince Georges County Students in her honor and memory.



rogram Sponsors

We thank all those who have supported the ACE Mentor Program:

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| Winston Wright | GSA | Booker T Washington |
| Dawit Zena | GSA | Booker T Washington |
| John Mullin | Hines | Cardozo |
| Tonia Taylor | Tompkins | Crossland |
| Julee Thomas | | Calvin Coolidge |
| Nadiyah Vass | Tompkins | Suitland |
| Gunnar Lucko | Catholic University | Bell Multicultural |
| Chris Reseigh | Parsons Brinckerhoff | Robert E Lee |
| Mark McKenna | Turner Construction | George Marshall |
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**Be Sure To Mark
Your Calendars
for These Events:**

- ACE Board of Directors Meeting:
September 10, 2009
- Mentor Orientation and Training:
September 10, 2009
September 17, 2009
September 24, 2009
- ACE Mentor Teams Start:
October 5, 2009

For more information, please contact:

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Washington Metropolitan Area, Inc.

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Editor's Note:

*This newsletter is published for the
members and sponsors of the ACE Mentor
Program to keep you informed on the
growth of our young engineers and
architects.*