



American Society of Civil Engineers
North Carolina Section

Northern Branch News



The News

May 2008

Volume XI, Number 9

Meeting Info

Program: Structural Health

Monitoring: safe performance of structures in infrastructural fields.

Speaker:

Dr. Manur Sundaresan,

UPCOMING (see also pg 6)

June: Ball Stadium Construction progress in Winston-Salem, NC

August: Douglas Jeremiah, PE, Conner, Gwenn & Schenk topic TBD.

Presidents Message

Welcome to the May 2008 edition of the newsletter!

May is the time of year that we, as the Northern Branch, celebrate new Life Members. The Life Member to be honored at our May 21st meeting is Jerry W. Scott, PE, Aff. M. ASCE. Life Member status is an honor awarded to members who have made a lifetime commitment to ASCE and the civil engineering profession by remaining membership for the full length of their career. To obtain Life Member status, ASCE Members, Associate Members and Affiliate Members must have:

- Reached the age of 65 years
- Paid dues in any membership grade except student member for 30 years
- Had 10 years continuous membership immediately preceding the attainment of Life Member

This year has been a success—all thanks to the members and newsletter sponsors and one way to demonstrate our success as a branch is our ability to provide for our local community. At the April meeting we awarded four \$750 scholarships to NC A&T students; and this demonstrates the success of the Northern Branch to be fortunate enough to support the local engineering school in such a positive way. Thank you all!

Elections will be held at the May meeting. This is a very important time of the year for the branch and its' members. Please consider nominating someone for a position or volunteering to help the branch out. Included in this newsletter are the responsibilities of each officer. Review the responsibilities and see where you, a co-worker, or another member would be a good fit. Please do not hesitate to contact us if you are interested in helping out in any way...we could always use the help.

The May meeting will be very interesting, especially if you are interested in structural engineering. Dr. Manur Sundaresan, a professor at NC A&T University, will be speaking to us about structural health monitoring. Please come out and attend the May meeting in Kernersville; we look forward to seeing each of you there and need your nominations and votes for new officers, thank you.

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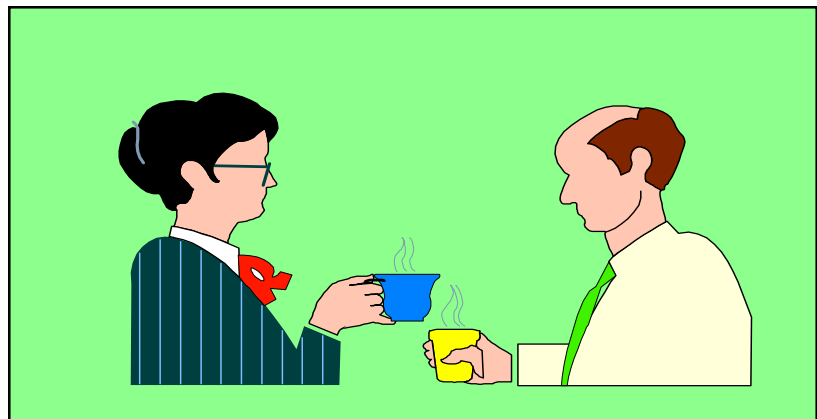
WEDNESDAY Meeting MAY 21, 2008

Auditing (Sec'y/Treas)

Chair: Shannon Austin

Phone: 336/499-3866

Balance in our checking account
= \$2,828.66 (4/30/2008)



North Carolina A&T College of Engineering

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The Chapter's Web page is www.angelfire.com/nc2/asce

Last Month's Meeting

The latest NC Northern branch lunch meeting was held April 24, 2008 at Fire Mountain Buffet in Kernersville. The meeting was kicked off by presenting three of this year's four North Carolina A&T Student Scholarship recipients with their award. Sean Allen (not present), Stephen Dodson, Jason Pontieri, and Tacarra Williams received \$750 each, for their efforts in and outside the classroom to advance their future careers in civil engineering. At the meeting, Nathan Huynh, NC A&T's 2007-2008 ASCE Student Branch's faculty advisor, also presented the branch with a plaque in appreciation for our volunteer efforts at the 2008 Carolinas Conference hosted by NCA&T. Shannon Sweitzer, of the

MEETING MINUTES CONTINUED ON PAGE 4.



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MEETING MINUTES CONT.

North Carolina Turnpike Authority (NCTA), came and spoke on the development of toll road projects in North Carolina. Mr. Sweitzer discussed NCTA's efforts to integrate engineering, financing, and operations. With the increased costs of construction, the lack of transportation funding, and the growing state population, Shannon discussed how important it is that North Carolina seek new funding sources – such as bond incentives, tolling, public/private partnerships, and taxes – to maintain existing and create new transportation infrastructure. He and the 17 other NCTA staff focus on taking a business approach to finding transportation solutions. Several toll road projects are being considered in the state now, such as the Cape Fear Skyway, the Monroe Bypass, and the Mid-Currituck Bridge. Projects such as these show the success of NCTA's efforts to establish new funding to improve North Carolina's roads. Mr. Sweitzer's presentation was very informative and gave the civil engineering professionals of the Triad a new outlook on the approach to transportation solutions for our state. We had a good group come out for his presentation, with 22 in attendance. The NC A&T Student Scholarship recipients were a nice addition to the usual professionals of the Northern Branch. **Prepared By:** Shannon Austin, *Secretary/Treasurer*



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2008 ASCE Northern Branch Scholarship Highlights

We have scholarship winners. The topic for this year was “**How can civil engineers better communicate to the public and the media the urgency and importance of caring for the nation’s overburdened infrastructure (i.e. bridges, dams, drinking water and sewer systems) ?**” Four scholarships were awarded during the April ASCE meeting. Some excerpts from our Scholarship winners are provided in the following clips from their essays:

Jason Pontieri mentions, "I feel that as a Civil Engineer of the future, we must come up with a way to evaluate these public systems, (roads, highways, bridges, dams, etc...) on a scale that is universal, so that we can better predict the life expectancy, the amount of maintenance needed, and also a dollar amount to go with each of these issues." He says "if the system is universal there will be less room for error when we move from state to state." He sums the issue this way, "In conclusion I feel that if the government would standardize a system like this there would be less confusion, hopefully fewer accidents, and a clearer message to the public as to why we must worry about certain structures the way we do".

Stephen Dodson suggests, "To effectively reach and communicate to the public about issues regarding our deteriorating infrastructure, all avenues of traditional and new methods of communication must be used. One effective way to inform the public of current infrastructure condition and arising problems would be to hold public council meetings...open for questions from those attending and have professionals on hand to give accurate answers and information. He also promotes "mailing of flyers and newspaper ads". Stephen mentions that "if a person is aware of what is going on in their own backyard, they are more willing to take action to insure that their needs are met. This is why as civil engineers we need to continuously look for ways to effectively communicate to the public methods that are relevant to today's society."

Sean Allen offers an idea to have an "Engineering State of the Union address". He says, if one were held annually and "civil engineers...speak before the nation on present circumstances and proposed solutions, the public would entrust these engineers as intelligent, societal, and credible leaders." He also expresses a thought about news by saying "First, bad news must turn into positive knowledgeable news" and cited an example of news that could be handled that way from an example in Greensboro of some chemicals found in the soil. He said " this event should not be looked at as a catastrophic engineering failure, however, the environmental engineers who discovered the problem and are trying to prevent future mishaps, should be commended for their hard efforts."

Tacarra Williams focused on how important it is to "educate the public about this growing issue." She says students should be educated about the issues "because the children of today are the builders of tomorrow." She mentions on the college level, State's "Department of Transportation can invite professors to their job sites where renovations are under way... or are needed." She also suggests "working directly with the media to reach the public sector...make appearances at local town meetings to bring these issues to the attention of local officials...and...to host public forums that would target both children and adults involved in the effort to conserve and/or rebuild America." Most importantly she says, "I hope to one day execute my ideas on this subject matter so that we can move forward into a better, safer America. I personally plan to work in the field of repairing or rebuilding infrastructures that are in need of assistance."

We appreciate all the essays that were submitted and thank our members for their attendance at meetings and our sponsors for this newsletter who have helped make it possible to offer scholarships on an annual basis. Thank you to everyone, both participants and supporters of the scholarship process in our local Branch. At this time, our understanding is that no other Branch in NC has offered or is offering Civil Engineering Scholarships on a local level in a similar manner (the ASCE NC Section offers scholarships) as the Northern Branch of ASCE has been doing. By the expressions we have seen from the applicants each year including this year, there are some good potential engineers coming along and we wish them much success. *Betty Farr, PE.*

Photo: left to right, Jason Pontieri, Stephen Dodson, Betty Farr, Branch Scholarship Committee Chair, and Tacarra Williams, Sean Allen (not in photo), was unable to attend.



CAREER ACHIEVEMENTS



Jason Philbin

Mr. Donnie Barrier, C.E.O. of **Barrier Geotechnical Contractors** is pleased to announce that **Mr. Jason Philbin** recently joined the firm as Director of Preconstruction Services. **Mr. Philbin** now manages and leads our preconstruction engineering team whose mission is to support the geotechnical engineering consultant community. His goal is to be a resource for his colleagues who are designing foundation, earth retaining, slope stabilization and ground improvement solutions. **Mr. Philbin's** career began 15 years ago as staff engineer with CON/SPAN Bridge Systems and ultimately earned his way to managing the regional engineering office in Charlotte for CONTECH Bridge Solutions. **Mr. Philbin** is a registered engineer in North Carolina, South Carolina, Virginia, and Ohio and holds both a Bachelors Degree and Masters Degree in Civil Engineering from the University of Kentucky.

Upcoming events this year. Please mark you calender!



- April 28, 2008, **Spring Technical Workshop at McKimmon Center, Raleigh, NC**
- May 21, 2008, **Structural Health Monitoring, Dr. Manur Sundareson, PE**
- June 18, 2008, **Winston-Salem Ball Stadium Project update, Kernersville, NC (ASCE Northern Branch meeting)**
- August 20, 2008, **Civil Engineering liens & Contracts, Conner-Gwynn-Schenck, Kernersville, NC (ASCE Northern Branch meeting), Tentative**
- September 11-12th, **Annual Conference, Marriott Executive Park, Charlotte, NC**
- September 17, 2008, **Denise Poulos from ECS: Wetland Topics**




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Member ASCE, NSPE, AISC

**Northern Branch
ASCE MEETING
In
Kernersville**

DATE: **Wednesday, May 21, 2008**

TIME: **12:00 PM – 1:00 PM Lunch Meeting**
(Plan to arrive between 11:30 and 11:45am to register)
Do not pay upfront-please find the meeting room and pay ASCE only.

LOCATION: **Fire Mountain Buffet**
1180 S. Main Street
Kernersville, NC

PROGRAM: **Structural Health Monitoring (applicable to Aerospace and
Infrastructure)-1 PDH**

This talk will provide a brief overview of the techniques that are currently being developed for ensuring the safe performance of structures in the aerospace and infrastructural fields. A brief review of results related to infrastructural health monitoring will be given. This will be followed by a description of a new sensor technology that employs acoustic emissions to locate cracks in structures and assess their criticality. Laboratory tests have shown the feasibility of detecting very slow crack growth rates using acoustic emission based structural health monitoring technique. A summary of our experiment as well as finite element results in this area will be presented. In addition, a vibration based technique to detect the incipient buckling in structural members will also be described.

SPEAKER:

Dr. Mannur Sundaresan is a Professor and Graduate Coordinator with the North Carolina A&T State University. He obtained his Ph. D. in Engineering Science and Mechanics at Virginia Tech in 1988. Before starting his doctoral studies he worked at the National Aerospace Laboratory, India for 11 years in developing composite aerospace structures. After his Ph. D., he joined University of Miami, Coral Gables as an Assistant Professor. From 1996 he has been at North Carolina A&T state University, Greensboro, NC. He is currently working in the area of smart structures and structural health monitoring using acoustic emission technique.

<u>COST:</u>	Members	\$15
	Guests	\$20
	Students	\$5

DIRECTIONS:

From Greensboro: Take the I-40-BR exit- EXIT 206- toward US-421 N / KERNERSVILLE / WINSTON-SALEM DOWNTOWN. Merge onto I-40 BR W / US-421 N. Take the S MAIN ST exit- EXIT 14. Turn LEFT onto S MAIN ST / NC-150. Continue to follow S MAIN ST. End at [1180 S Main St](#), Kernersville, NC 27284-7480.

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Below is a summary of the officer's responsibilities. We encourage any member who would like to be an officer to help the Branch-please consider volunteering! You can contact any of the current officers to volunteer and be nominated for an office. Nominations and election of officers is coming up. Thanks to all our members over the last year for your attendance at meetings. It really is enjoyable to meet together, see a great presentation, have a meal and associate with other engineers, whether new friends or old acquaintances.

**AMERICAN SOCIETY OF CIVIL ENGINEERS
NORTH CAROLINA SECTION
NORTHERN BRANCH**

OFFICERS' RESPONSIBILITIES

Revised April 25, 2000

President

- ◆ Sets the agenda for and presides over monthly meetings
- ◆ Established Branch Committees and oversees their activities
- ◆ Solicits ads for the Branch newsletter and sends up-to-date business cards to the Editor, as necessary
- ◆ Prepares the "President's Message" and all other announcements of interest to the membership for the Newsletter and sends all to the Editor
- ◆ Schedules and presides over Board of Directors meetings.
- ◆ Coordinates with Branch Representatives on Section activities
- ◆ Establishes Nominating Committee for appointment of officers for following year

Vice President

- ◆ Arranges monthly meetings, including location, speaker and meals.
- ◆ Assigns individual to serve as ASCE Branch Representative to PCETS
- ◆ Sends reminders and thank-you letters to speakers as necessary
- ◆ Serves on the NC Section Inter-Professional Activities Committee, usually
- ◆ Attends monthly Board of Directors meetings

Secretary-Treasurer

- ◆ Maintains up-to-date Branch membership information, and meeting attendance records
- ◆ Upon receipt of master copy of Newsletter from the Editor, sends copies to the Newsletter to the Branch membership at least one week prior to the monthly meeting.
- ◆ Brings name tags, attendance sign up sheets and ASCE Applications to monthly meetings
- ◆ Communicate Branch activities to the Section Newsletter (The Bulletin)
- ◆ Maintains Branch finances
- ◆ Attends monthly Board of Directors meetings
- ◆ Prepares the Annual Report for the incoming Secretary

Branch Representatives

- ◆ Serves on the NC Section Board of Directors as the Northern Branch Representative
- ◆ Attends monthly Section Board meetings which are held at various locations across North Carolina – making reports on Branch activities as necessary
- ◆ Reports on Section activities and/or initiatives to the Branch at monthly meetings. A one-page summary of the report should be submitted to the President for his/her information.
- ◆ Attends monthly Board of Directors meetings