President’s Message

I am writing my opening to this issue of NY Notes with a strong sense of urgency. I have mentioned before the fact that we require a new interest in the society. The board has put forth a series of membership activities that it would like to maintain as well as new initiatives and programs geared toward providing more value and hopefully new interest to the society. We are proud of our mission and the work we have accomplished – but we need your help.

The truth is that our membership (the chapter and NYSSPE as a whole) has been on a steady decline over the last decade. While we still have a strong membership base, it is crucial that this trend be reversed. The best way that our members can help is to get involved. And before you get turned off by my request for your involvement, please read a little further because I am not asking for much.

There are many activities that we would like to plan for the new society season (Sept. 2010 to June 2011). Our board has a number of dedicated people who provide time to putting these together but we need more people to get involved. There are a number of ways that you can do this without a significant time commitment. Any of the following would be of tremendous help: assist in organizing one event next year (dinner event, a pdh lecture, a site visit to a construction project of engineering significance, a youth event, etc.), attend our monthly board meetings (they last only one to two hours), write an article for our newsletter (published once every two months) or share your ideas for the society and help us to implement them. While any one of these ideas (as well as others I’m sure I have failed to mention) would take a minor time commitment on your part, they would be a considerable contribution to the society.

As this season comes to a close in June, I ask that you think of ways that you can bolster our society in the new season. We serve an important purpose and with your help we can continue to do so.
NYSSPE NY CHAPTER AWARDS DINNER

We are excited to announce the award recipients for the New York Chapter 2010 Engineering Awards:

Engineer of the Year
Hugh Lacy, P.E.

Young Engineer of the Year
Scott Snelling, PE

Project of the Year
The High Line (Burro Happold)

Please join us for our annual dinner reception on Wednesday June 9, 2010
Location and other details to be announced shortly.
The New York Chapter’s Town Hall Meeting was held on Wednesday, February 17, 2010 at Annie Moore’s Restaurant on 43rd Street adjacent to Grand Central Terminal in Manhattan. This meeting was one of a series of town hall meetings conducted by New York State Society for Professional Engineers all over our state from Staten Island to the Canadian border and from Buffalo to the state of Vermont. The speaker at our meeting was our State Society President Dr. James J. Yarmus, P.E., P.P., who invited our members to speak out about their concerns related to engineering and the society and to discuss issues affecting their careers. Dr. Yarmus is eminently qualified to lead us in this endeavor. He is a semi-retired professional engineer in private practice and the former president of our State Society’s Rockland Chapter. He has dedicated his term as our president to expand our state organization and to advocate and defend the Professional Engineering license and all its implications concerning the lawful and ethical practice of engineering.

Dr. Yarmus began his presentation by summarizing his vision and mission for our society and by listing the goals of his administration, his priorities, and current activities being emphasized. His administration will promote professional engineering practice, continuing education, individual career development, perception and image of engineers. Dr. Yarmus also stated that as a key part of all these objectives is the need for all our members to become more active individually and collectively in our society’s programs.

Dr. Yarmus in his detailed remarks reported on the status of our State Society’s lawsuit in support of New York’s education law mandating that New York City’s building commissioner be a licensed professional engineer. The New York City Council recently passed an exception to this law stating that the building commissioner need not be licensed if his primary assistant commissioner is licensed. In a preliminary decision, a state court has granted permission for this exception to continue. Our attorney’s are planning an appeal to this decision. Interested members and organizations are requested to support our lawsuit by contributing to our State Society’s voluntary legal fund. Also in the legal sphere, our State Society’s Practicing Institute of Engineering (PIE) has applied to the state education department to become a special certification agency for the growing class of special inspectors. This request is in accordance with the latest standard ISO 17011 and a special task force is now working on implementing rules and regulations in expectation that our application will be approved.

The State Society will continue its traditional efforts to make the state legislature aware of engineering and safety issues. In the current economic atmosphere, with N.Y. State confronted with a $7 billion deficit, engineering issues will not have the highest priority in Albany in 2010. Another serious problem is the paralysis in the N.Y. State Senate where the two major political parties are equally divided and subject to leadership stagnation. Our State Society’s legislative priorities include lobbying for passage of a requirement that an applicant posses a bachelor degree in engineering before qualifying for an engineering license. This proposal passed the N.Y. State Senate in 2005 but is opposed by the influential public employee unions. Another priority is infrastructure funding in the budget with emphasis on much greater support for maintenance expenditures, as well as maximum use of the federal stimulus package and highway trust fund. The State Society also supports the proposal that engineering design firms be allowed to have a maximum 25% of non-license ownership. Current rules mandate that such firms have 100% licensed ownership and this places N.Y. firms at a competitive disadvantage. The State Society also lobbies strongly for the use of quality based selection in procurement of services by design professionals for all public projects. The legislature passed this proposal in both 2005 and 2007 but in both years it was vetoed by the governor.

The State Society membership now numbers 2157 licensed engineers and all members are urged to increase their personal efforts to attract new members and to spur retention efforts. When acting on this request we are asked to emphasize the benefits associated with society membership such as no fees for the first six months and qualifications for 4 professional development hours of credit at no cost. All members receive subscriptions to an impressive list of publications including state and national magazines, newsletters and e-mails, and the national society’s annual engineering salary survey. These publications spearhead an aggressive public relations campaign to promote engineering achievements and ethical values, to publicize major projects, to direct attention and awards toward accomplishments of its members, and to contribute articles to other publications such as Engineering News Record.

Dr. Yarmus next called attendees’ attention to the action agenda promoted by the State Society. This agenda includes:

--Petitioning the New York State Department of Environmental Conservation to increase its regulation of the oil, gas, mining, and storm water management industries, as well as promoting more stringent rules controlling sites investigations and remediation.

--Publicly opposing as Syracuse proposal to eliminate the professional engineering requirement for the position of water commissioner.

--Publicly opposing the recent appointment of a non-licensed engineer to the position of public works commissioner in the upstate town of Colonie, New York.

--Requesting all government agencies to support expanded programs for engineering, mathematics, and science education.

The Question and Answer period was extensive and featured a...
number of suggestions from the members attending this meeting. Among these comments was:

- The State Society should conduct a series of young engineer forums to promote P.E. review courses and member recruitment since the under 40 age group is the Society’s future.
- more publicity about how political connections impede the performance of licensed engineers.
- more aggressive support for the Engineers Without Borders organization.
- reach out to college professors who are P.E.s to promote registration efforts and member recruitment.
- Increase our participation in college fairs.
- We need more emphasis on the need to expand continuing education efforts to maintain our licenses.
- to write more op-ed articles promoting engineering in the media.

Dr. Yarmus thanked the members for these ideas and promised to consider implementation at his earliest opportunity. He also recognized the opposition from several attendees of proposals to mandate a Masters Degree requirement for P.E. registration. Dr. Yarmus also invited members to communicate with him at any time about any subject. He invited all members to attend the Annual Convention held June 10-12, 2010 in Saratoga Springs, N.Y.

Now it’s up to all of us to support his programs!

Gerard Hillenbrand, P.E.

Professional Engineers Getting Involved:
Jeremy Edmunds, Alfred Brand and Erich Arcement at the 2010 Manhattan MathCounts

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Young PROfessionals’ News

WHY BECOME A PROFESSIONAL?

As a person grows to adulthood, through years of school, they search for a vocation for which they have a passion, and will provide fulfillment (and fun) for both now and for the majority of their life. For those of you that have chosen to pursue a career in engineering, congratulations and welcome. To those of you who are still unsure about your field of choice, we urge you to read on a little to see if what we have to say relates to you.

Engineers strive to use their unique understanding of how the world works and solve problems as efficiently, and often times as inexpensively, as possible. Their solutions affect every person every single day of their lives. Civil engineers provide efficient usable space through elegant skyscrapers. They provide mobility through roads and other transportation infrastructure. Mechanical engineers provide tools that move, including everything from large cranes, automobiles or even simple appliances. Electrical engineers provide power, whether it is in the form of a power plant to power a city or a super-efficient smartphone. These are only three fields of engineering; the list goes on far further than this article allows.

We have chosen to become engineers because we want to have the opportunity to do something that affects people for the better, to improve their quality of life. As an example, a civil engineer may be called upon to look at a congested intersection with a high number of accidents. The engineer, can, through careful planning, study, analysis and design, provide a solution that increases both safety and mobility: people will get to their destinations faster and fewer people will suffer from crashes. A prosthetic limb, designed and tested by a mechanical engineer, can give a person back their ability to run or play a game of catch. The work of engineers is tangible and can be felt by real people everyday.

Engineers are called upon to use their knowledge to find new and exciting solutions to help maintain and improve our overall quality of life. Our dedication to continuing this longstanding commitment is what makes so many of the everyday things that we take for granted work. It is because we want to make sure that this tradition of maintaining and improving aspects of our lives continue that we have become engineers.

Tom Pagano, E.I.T.
Robert Nadramia III, E.I.T.

More resources for young engineers can be found at http://www.nspe.org/Interest-Groups/YE/Resources/index.html
After a two week delay due to a major snowstorm, our annual engineer’s week reception was held on Thursday, February 24, 2010 at the Dibner Library Building of Polytechnic Institute of New York University. This annual event is organized by the Metropolitan Engineering Societies Council (MESC), an umbrella organization of 26 engineering societies, and dedicated to the advancement of the engineering profession in the modern, complex 21st century world. In addition to our member societies, this reception was sponsored by the following engineering organizations: STV Inc., Haks Engineers, P.C.; Con Edison; and the Polytechnic Institute of New York University.

After a delicious supper and networking opportunity, the attendees relocated to the polytechnic auditorium where they were welcomed by the MESC chairman, Wasyl Knach, P.E., who commented once again on the public perception of engineers in modern society. Mr. Kinach advocated more aggressive participation by the engineering community in professional and public activities as a remedy. Mr. Kinach next introduced Dr. Richard Thorsen, Polytechnic’s Vice-President, who welcomed all the guests to this annual reception, which this university proudly sponsors. Dr. Thorsen also serves as president of the National Academy of Engineering.

Dr. Thorsen asked the guests to think back to the year 1900 when there was no regular electricity, no automobiles, no paved roads, no consistent clean water supply, and the widespread prevalence of major disease which dramatically reduced the average living expectancy. Compare these conditions with what we experience today with its plethora of modern conveniences and the average life span exceeding 77 years of age. Engineers made major contributions to these modern achievements. Dr. Thorsen then reported on the results of a major public opinion survey which asked Americans to rate the professions in order of public trust. Engineers were rated number six in public respect following doctors, nurses, pharmacists, dentists, and other health care workers. Engineers finished just ahead of clergymen, professors and teachers.

Dr. Thorsen then proceeded to summarize the challenges confronting engineers in the 21st century where more than 50% of the population will relocate into major cities. This will increase the need for infrastructure expansion and maintenance, greatly expanded energy consumption and public health concerns. There are today six billion people on earth with eight billion people projected in 20 years. This increased energy usage will require the development of new energy sources using emerging technologies, and sustainable, practical public policies enhancing this required development. Also this increased energy usage will require as significant expansion of nuclear energy, with a majority of energy generation becoming nuclear-based by the year 2050. In this connection, we must remember that, contrary to prevailing public opinion, the Three Mile Island incident was a technical success in that the safety provisions in place shut down the malfunction reactors before any damage to the public. Engineers must respond to these challenges by interacting more completely with the general public and assuming a more active role in the formation of public policy.

Next Chairman Kinach introduced MESC programs chair George Golovchenko, P.E., who presented the Mayor’s Proclamation of Engineers Week. To read this proclamation Mr. Golovchenko introduced Commissioner Joel A. Miele Sr., P.E. Mr. Miele has served the engineering community with great achievements over a 35 year career including 15 years of service as commissioner of five N.Y. city agencies including the Building Department, the Department of Environmental Protection, and the bureau of standards and appeals. Mr. Miele is a graduate of Polytechnic, class of 1955 and has been very active in the N.Y. Chapter, and the National Society of Professional Engineers. He is a nationally recognized authority on municipal water supply systems and frequently lectures on this important subject. After Mr. Miele read the proclamation, copies were distributed to all attendees.

The keynote address of the meeting was given by Dr. Charles J. Camarda, a 1974 graduate of Polytechnic Institute with advanced masters and doctorate degrees from George Washington University and the Virginia Polytechnic Institute. Dr. Camarda currently serves as Distinguished Engineering Resident at Brooklyn Polytech. His is a veteran NASA Space Shuttle Astronaut and is the Senior Advisor for Innovation at NASA’s Office of the Chief Engineer. The title of his presentation was “Innovative conceptual design…. you can’t do that….and why and how you can!”

Dr. Camarda’s views on conceptual design and innovation were formulated as a result of his assignment as an investigator covering the tragic destruction of the Columbia Space Shuttle upon reentry into the earth’s atmosphere. In addition to the obvious engineering problems affecting the shuttle flight, Dr. Camarda concluded that certain NASA bureaucratic limitations also contributed to the tragedy. Among these limitations were impediments due to arrogance resulting from past successes, over-reliance on existing procedures, insufficient time and resources allotted to engineering research, a certain lack of critical thinking, limited understanding of multi-disciplinary ambiguous problems, and disregard of environmental limitations. This culture contrasts vividly with the fundamental design and research atmosphere existing 25 years ago when NASA became world famous for its breakthrough technology in space travel. This technology was typified by a “permission to fail” atmosphere which became replaced by “failure is not an option” culture where budget limitation viewed failures as intolerable.

Typical features of the old-fashioned “permission to fail” philosophy are a complete understanding of mechanical failures, repetitive testing of all components until destruction, detailed analysis of all test results, and extensive variation of parameters affecting all tests. Application of these features to the innovative design of new systems includes a complete understanding of the problem to be solved, the formulation of a concept for solution to the problem, the critical analysis of the concept including advanced, complex mathematical correlation of results, continual experimental testing of the concept, formatting of an efficient working team of engineers to implement the concept of using a building block approach, and optimization of the concept with a keen awareness of
Application of these features to the investigation of the Columbia tragedy began with a detailed search and analysis of shuttle debris located over hundreds of square miles of southeastern Texas. The investigating team also discovered that there was limited monitoring of the space flight including photographs of the shuttle take off. Luckily they discovered one photo of an impact of the shuttle wing with a projection ramp on the rocket support structure during lift-off. This impact damaged panels on the leading edge of the shuttle’s left wing. These panels consist of a series of square, heat-resistant, ceramic tiles which adsorbed the most critical portion of the damage. The investigating team also discovered that prior testing of these tiles was limited and only 50 tiles were subjected to destructive failure. The team concluded that this tile damage during lift-off was the cause of their catastrophic failure during the shuttle’s re-entry into the earth’s atmosphere.

Because unexpected damage to components can occur during all phases of a space mission, the team was then ordered to develop procedures and techniques for repairs to equipment in outer space. Among these assignments were:

--in orbit inspection of wing panels, as well as electricity generating solar panels, using hand-held cameras.
--in orbit testing of wing panels using flame torch devises, during space walks.
--in orbit investigation of individual tile coating, adhesive and substrate conditions.
--in orbit repairs to damaged tiles using spherically-shaped covers and gaskets covering the damaged elements
--in orbit tapping ad drilling tools to secure the covers and gaskets to the wing panels.

Dr. Camarda was involved as an innovator of several of these repair procedures and personally used them in space in the first return-to-flight mission of the shuttle as an astronaut in December 2005.

After the successful return of this mission, Dr. Camarda was selected Director of Engineering at the Johnson Space Center. In this capacity he worked with groups of engineers, scientists, and teachers from Pennsylvania State University, Massachusetts Institute of Technology, New York University, and Polytechnic, as well as selected student groups and caucuses at these institutions, to work on:

--alternate launch abort systems which result in less injury to rocket crews.
--development of advanced non-newtonian fluids to enable astronauts to “walk on water” by adding corn starch and other common additives to water.
--enhanced astronaut seat contours using “memory foam” to provide seats unique to each crew member, thereby enabling crews to withstand increasing accelerations.
--special drilling, digging, anchoring, sweeping, and collecting machinery for use on foreign surfaces such as found on the moon and the planets.

During the Question and Answer period, Dr. Camarda repeated his emphasis on an engineering design regimen that features diversity in conception, testing all concepts to the limit, complete analysis of each failure, and the reconceptualization of all mechanisms as result of this analysis. He also asked that designers do not ignore the artistic aspects of their innovations. He found the addition of architects to his design groups to be most helpful in this regard. He reminded the attendees that this characterization was typical of the groundbreaking developments of the world’s greatest engineer, Leonardo di Vinci.

The MESC chairman concluded this reception with a sincere thanks to the insights provided by Dr. Camarda, the hospitality provided by the poly alumni association, and for the enthusiastic participation of all attendees. Professional Engineers attending this reception qualified for one professional development hour of credit toward satisfying the continuing education requirements mandated by the N.Y. State Department of Education.

Great Meeting -- worthy celebration of Engineer’s Week!

Gerard Hillenbrand, P.E.
NEW YORK CHAPTER – NYSSPE 2010 ELECTION BALLOT

The 2010 Nominating Committee presents the following candidates for the positions of Officer and Director. Please a check mark beside the names of those for whom you wish to vote, or write in the name of another member who think should be elected. Please return the ballot to Alfred H. Brand PE before June 1, 2010.

President  Erich Arcement, P.E.
First Vice President  Gerard R. Hildenbrand, P.E.
Second Vice President  Lester Karstadt, P.E.
Secretary  Ivan Ramirez, P.E.
Financial Secretary  Mark Schiiffman, P.E.
Treasurer  Alfred H. Brand, P.E.

Director for 2010-2012  Alonzo C. Rand, P.E.
Jeremy Edmunds, P.E.
Robert W. Huoma, P.E.
David Reyes-Guerra, PhD., P.E.
Edward Findler, P.E.
Lloyd Merkelson, P.E.
Toby Hjansson, P.E.
Richard Lefever, P.E.
Diego Alaimo, P.E.
Eric Pawlowski, P.E.
Christain Wiederholz, P.E.

___ Vote for entire slate stated above

Write in Votes

NAME_________________________ POSITION

NAME_________________________ POSITION

NAME_________________________ POSITION

NAME_________________________ POSITION

The following Directors are continuing in their 2009 – 2011 term:

Marc Chiffert, P.E.  Paul B. Wood, P.E.
Howard N. Blitman, P.E.  William L. Gross, P.E.
Elies Elvoe, P.E.  Alvin Rohssler, P.E.
Irving M. Fogel, P.E.  Thomas Szeckley, P.E.
James F. Freer, P.E.  Karen C. Armfield, P.E.

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He'll probably be working for us in about 15 years.

He could head up highway design. Or program development or an environmental practice. For more than 70 years, DMJM Harris has been bringing together the most creative thinkers in every discipline. Our project managers build teams that know how to anticipate and address stakeholder issues, put together creative financial solutions and, of course, deliver sound and original engineering results.

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We welcome members to submit information for publication. Anyone interested in contributing can send the information via email to our editor, Karen Armfield, at karen.armfield@dmjmharris.com or via mail at:

DMJM Harris, 20 Exchange Place, 12th floor, NY, NY 10005
Attn: Karen Armfield
Sponsorship Opportunity for Monthly Dinner Meetings

Sponsorship opportunities for upcoming NYSSPE NY Chapter Monthly Dinner Meetings are currently available. Cost of Sponsorship is $500.

Benefits for Sponsor Company:
- 5 tickets to the sponsored dinner meeting
- Signage at each table indicating sponsorship
- Announcement recognizing sponsor at the dinner meeting

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